2010

Evaluating the Best of Coping Program: Enhancing coping skills in adolescents

Alina Carter
University of Windsor

Evaluating the Best of Coping Program: Enhancing Coping Skills in Adolescents

by

Alina Erin Carter

A Dissertation
Submitted to the Faculty of Graduate Studies
through the Department of Psychology
in Partial Fulfillment of the Requirements for
the Degree of Doctor of Philosophy at the
University of Windsor

Windsor, Ontario, Canada

2010

AUTHOR'S DECLARATION OF ORIGINALITY

I hereby certify that I am the sole author of this thesis and that no part of this thesis has been published or submitted for publication.

I certify that, to the best of my knowledge, my thesis does not infringe upon anyone's copyright nor violate any proprietary rights and that any ideas, techniques, quotations, or any other material from the work of other people included in my thesis, published or otherwise, are fully acknowledged in accordance with the standard referencing practices. Furthermore, to the extent that I have included copyrighted material that surpasses the bounds of fair dealing within the meaning of the Canada Copyright Act, I certify that I have obtained a written permission from the copyright owner(s) to include such material(s) in my thesis and have included copies of such copyright clearances to my appendix.

I declare that this is a true copy of my thesis, including any final revisions, as approved by my thesis committee and the Graduate Studies office, and that this thesis has not been submitted for a higher degree to any other University or Institution.

ABSTRACT

This study investigated the effectiveness of a coping skills program, called the Best of Coping (Frydenberg & Brandon, 2002a), for a sample of 74 (33 male and 41 female) at-risk adolescents between 13 and 16 years of age. Data collection included pretreatment, posttreatment, and follow-up assessments, with the intervention (TM) group compared to a waitlist control (WL) group at pretest to posttest (TM group $n = 33$ and WL group $n = 31$ after attrition). Adolescents completed surveys on measures of stress, coping, perceived mastery, symptomatology, life satisfaction, and happiness. Parent and teacher surveys were also collected. The findings supported the utility of the BOC program in improving adolescent coping. The TM group reported an increase in use of adaptive coping strategies and decrease in use of maladaptive coping strategies from pre- to post-treatment compared to the WL group. The TM group males reported a decrease in the use of worry as a coping strategy compared to TM group females and WL controls. Parents also reported an increase in the use of adolescent productive coping for the TM group compared to WL group. Both teacher and adolescent report demonstrated a decrease in the proportion of adolescents rated in the borderline to abnormal range on symptom impact for the TM group compared to the WL group. On average, all informants perceived the BOC program as helpful, especially adolescents and parents. Follow-up assessment demonstrated that many adolescent-reported improvements were maintained, and several parent- and self-report outcome variables improved from pretreatment levels. Program adherence, participant (gender, symptomatology, participation, interest and motivation) and instructor (training level, helpfulness and understanding) characteristics were examined to see if they were related to the

effectiveness of the program. Generally, these various characteristics did not impact outcome substantially, although some relations were found. Adolescents with greater pretreatment symptoms reported greater improvements in symptomatology from pre- to post-treatment than adolescents with fewer symptoms. The present study contributes to prior research by implementing several methodological standards, while remaining flexible to meet participant needs. Research contributions, clinical implications, and future research directions are discussed.

ACKNOWLEDGEMENTS

Thank you to my research supervisor, Dr. Rosanne Menna, for the support and guidance she has provided throughout my training. Not only did she provide her research expertise, but she also took on all of the clinical supervision for this project. The knowledge and experience I have acquired while working with her has been invaluable. To my committee members, Dr. Julie Hakim-Larson, Dr. Katherine Lafreniere, and Dr. Debbie Kane, as well as my external examiner, Dr. Dawn Anderson-Butcher, for their helpful comments and suggestions. Thank you to Dr. Dennis Jackson and Dr. John Reddon, for their statistical advice and suggestions. To Barb Zakoor, who has been a consistently reliable and helpful resource throughout my several years of graduate school, thank you for all of your help and guidance.

To Dr. Erica Frydenberg, for her permission to use and evaluate the Best of Coping program. I am grateful to have had the opportunity to learn and evaluate the program and to personally see how it can be of assistance to adolescents.

This research was supported through a Social Sciences and Humanities Research Counsel (SSHRC) Canada Graduate Scholarship, without which I could not have undertaken such an ambitious project.

Thank you to the Windsor-Essex Catholic District School Board for their permission to conduct this study in their schools. I especially would like to thank the adolescents, parents, and school personnel who participated in this study, dedicating much time and effort. Their participation and feedback was greatly appreciated and so valuable. I hope that they were able to take away from the experience as much as they contributed.

I would also like to extend my gratitude to all of the graduate student instructors who ran the groups. I appreciate all of your clinical skills, as well as sensitivity to the balance between the research and clinical components of this project. To the research assistants who assisted in data collection, measuring of adherence, and data entry, your time and efforts were truly appreciated.

There are several fellow graduate students that I have had the honour to know, who have been supportive in many ways throughout my training. Mary Simmering McDonald, Christine Purcell, and Lindsay Bates, I am thankful to have you in my life and appreciate your friendship and support. To Alison Spadafora, the one individual who traversed through the child clinical program with me since 2002. At times it felt like you were the only person who could truly appreciate my experiences, as you were right there going through it as well. I am so happy that we were able to finish our training together and support each other throughout. Thank you for all of your help and understanding.

To my family for all of their love and support. To my mom, Kathleen Heaney, your love, support, and patience throughout my life is an inspiration and something I am so privileged to have. To my grandmother, Elizabeth Heaney, I love and miss you and wish that you were here to share in this accomplishment.

To Alfredo Simas, thank you for all of your love, support, and encouragement throughout these years. I am grateful to be sharing my life with you and to have you by my side providing me with help, encouragement, and strength whenever I need it. Your family has also been an amazing support for which I am grateful. To Fuzzy, Bear, Cubbie, and especially to Taz who has been with me for 16 years, for their presence and companionship that has helped keep balance and happiness in my life.

CONTENTS

AUTHOR'S DECLARATION OF ORIGINALITY III

ABSTRACT IV

ACKNOWLEDGEMENTS VI

LIST OF FIGURES XIV

CHAPTER

I. INTRODUCTION 1

Context of the Problem and Rationale for the Present Study 1

1.1 Stress and its Impact on Adolescents 5

1.2 Adolescent Coping 8

Factors and Characteristics Related to Adolescent Coping 11

Coping and Psychological Well-Being 18

1.3 Interventions 22

Level of Interventions 22

School-Based Interventions 24

Evidence-Based Treatment/Interventions 26

1.4 Available Coping Interventions for Adolescents 29

1.5 The Best of Coping Program 31

Evaluation of the BOC Program 33

Limitations of Past Research 45

1.6 Rationale and Purpose of the Present Study 46

Research Hypotheses 48

II. METHOD 52

2.1 Participants 52

Equivalence of Groups 54

2.2 BOC Program Manuals....57
2.3 Measures....58
Adolescent Measures....58
Parent Measures....67
Teacher Measures....70
Instructor Measure....71
Rating Scale of Program Adherence....71
2.4 Procedure....72
Recruitment and Nomination....72
Study Design....76
2.5 Project Staff....83
Instructors....83
Research Assistants....85
III. RESULTS....86
3.1 Preliminary Analyses....89
3.2 Hypothesis Testing....98
Hypothesis 1....98
Hypothesis 2....116
Hypothesis 3....129
Hypothesis 4....132
Hypothesis 5....156
Hypothesis 6....162
Hypothesis 7....162
IV. DISCUSSION....170
4.1 Effectiveness of BOC Program for At-Risk Adolescents....170

Hypothesis 1 171
Hypothesis 2 174
Hypothesis 3 176
Hypothesis 4 179
4.2 Factors Related to the Outcome of the BOC Program 181
Hypothesis 5 181
Hypothesis 6 183
Hypothesis 7 183
4.3 Summary of Findings 188
4.4 Study Limitations and Strengths 189
4.5 Clinical Implications 196
4.6 Directions for Future Research 198
REFERENCES 202
APPENDIX A: LIST OF CHANGES TO THE BOC MANUALS 222
APPENDIX B: ADOLESCENT MEASURES 228
APPENDIX C: INTERNAL CONSISTENCY OF ADOLESCENT MEASURES 234
APPENDIX D: PARENT MEASURE 237
APPENDIX E: INTERNAL CONSISTENCY OF PARENT MEASURES 241
APPENDIX F: INTERNAL CONSISTENCY OF TEACHER MEASURE 243
APPENDIX G: TEACHER CLARIFICATION QUESTIONS 245
APPENDIX H: INSTRUCTOR POST SESSION CHECK-IN 247
APPENDIX I: RECRUITMENT MATERIALS 252
APPENDIX J: CONSENT FORMS 259
APPENDIX K: REMINDER LETTERS 274
VITA AUCTORIS 278

LIST OF TABLES

Table

1. Descriptions of the 10 Sessions Comprising the Best of Coping Program 32
2. Demographic Characteristics of the TM and WL Groups at Pretreatment Assessment 55
3. Recruitment Procedures by School and Wave 74
4. Experimental Design of Study 77
5. Means, Standard Deviations, and Ranges for Adolescent Report Outcome Variables by Group Assignment at Pretreatment Testing 90
6. Means, Standard Deviation, and Ranges for Adolescent Report Outcome Variables by Group Assignment at Posttreatment Testing 93
7. Means, Standard Deviations, and Ranges for Adolescent Report Outcome Variables by Group Assignment at Follow-Up Testing 95
8. Means, Standard Deviations, and Ranges for Adolescent Report Dependent Variables for WL Group at WL Follow-Up Testing 97
9. Pretest to Posttest Findings for Positive Stress Appraisal 100
10. Pretest to Posttest Findings for Overarching Coping Scales 101
11. Pretest to Posttest 2 X 2 Repeated Measures MANOVA Findings for ACS Adaptive Coping Strategies 103
12. Pretest to Posttest Findings for Perceived Mastery, Happiness, and Life Satisfaction 106
13. Parent Data Pretest to Posttest Findings for Adolescent Coping and Happiness 107
14. Teacher Data Pretest to Posttest for Adolescent Happiness 109
15. Pretest to Posttest Findings for ACS Coping Scales at Group Level 111

16. Pretest to Posttest Findings for Positive Stress Appraisal, CASQ-R Coping, Perceived Mastery, Life Satisfaction, and Happiness at Group Level 113
17. Parent Data Pretest to Posttest for Adolescent Coping and Happiness at the Group Level 114
18. Teacher Data Pretest to Posttest Findings for Adolescent Happiness at the Group Level 115
19. Pretest to Posttest Findings for Negative Stress Appraisal, Symptomatology, and Negative Coping Style 117
20. Pretest to Posttest 2 X 2 Repeated Measures MANOVA Findings for ACS Maladaptive Coping Strategies 119
21. Parent Data Pretest to Posttest Findings for Non-Productive Coping Style and Symptomatology 121
22. Teacher Data Pretest to Posttest Findings for Symptomatology 123
23. Pretest to Posttest Findings for Negative Stress Appraisal, Symptomatology, and Coping at the Group Level 125
24. Parent Data Pretest to Posttest Findings Between Groups for Adolescent Non-Productive Coping Style and Symptomatology at the Group Level 127
25. Teacher Data Pretest to Posttest Findings Between Groups for Adolescent Symptomatology at the Group Level 128
26. Perceived Effectiveness of the BOC Program at Posttest and Follow-Up for all Participating Adolescents 130
27. Parent and Teacher Report Perceived Effectiveness of the BOC Program at Posttest and Follow-Up for all Participating Adolescents 131

28. Pretest to Follow-Up One-Way Repeated Measures ANOVA Results for the Treatment Group..... 134

29. Pretest to Follow-Up One-Way Repeated Measures MANOVA Results for ACS Coping Strategies for the Treatment Group..... 136

30. Posttest to Follow-Up One-Way Repeated Measure ANOVA Results for the Treatment Group..... 137

31. Posttest to Follow-Up One-Way Repeated Measures MANOVA Results for ACS Coping Strategies for the Treatment Group..... 139

32. Parent Data Pretest to Follow-Up Results for the Treatment Group..... 147

33. Parent Data Posttest to Follow-Up Results for the Treatment Group..... 148

34. Teacher Data Pretest to Follow-Up Results for the Treatment Group..... 151

35. Teacher Data Posttest to Follow-Up Results for the Treatment Group..... 152

36. Pretest to Follow-Up and Posttest to Follow-Up Results for the Treatment Group at the Group Level..... 153

37. Correlations Between Instructor Variables and Change in Adolescent Outcome Variables From Pretreatment to Posttreatment..... 161

38. Correlations Between Adherence Level and Change in Adolescent Outcome Variables From Pretreatment to Posttreatment..... 163

39. Correlations between Adolescent Attendance and Investment in the Program and Change in Adolescent Report Outcome Variables From Pretreatment to Posttreatment..... 166

LIST OF FIGURES

Figure

1. Sample flow chart. 78
2. Adaptive coping scales that improved for the TM group at the individual level from pretest to posttest and follow-up. 140
3. Maladaptive coping strategies and style that decreased for the TM group at the individual level from pretest to posttest and follow-up. 142
4. Change in mean score of resources for the TM group from pretest to follow-up. 143
5. Change in mean score of perceived mastery of the TM group from pretest to follow-up. 144
6. Change in mean score of not cope for the TM group from pretest to follow-up. 146
7. Change in mean score of parent rated Reference to Others coping style for the TM group adolescents from pretest to follow-up. 150
8. Adaptive coping strategy and style that improved for the TM group at the group level from pretest to posttest and follow-up. 155
9. Maladaptive coping strategies and style that decreased for the TM group at the group level from pretest to posttest and follow-up. 157
10. Change in mean scores of solve the problem coping strategy and Non-productive coping for the TM group at the group level from pretest to follow-up. 158
11. Change in mean score of perceived happiness of the TM group from pretest to follow-up. 159

CHAPTER I

INTRODUCTION

Context of the Problem and Rationale for the Present Study

Adolescence is a period in the life span when there are a multitude of biological, social, cognitive, and psychological changes. Most adolescents traverse through this phase in development adaptively; however, there has been much research focused on adolescence as a time of risk because of the vast and rapid changes (Eccles et al., 1993; Roeser, Eccles, & Sameroff, 2000).

Some youth do not fare well during adolescence and develop behavioural and emotional problems. For example, depending on the sample, measures, and diagnostic criteria utilized, researchers have found that up to approximately 36% of adolescents meet the criteria for a diagnosable psychiatric disorder (Feehan, McGee, Raja, & Williams, 1994), although most prevalence estimates range between 10 and 20% (Wille, Bettge, & Ravens-Seiberer, 2008). In Canada, a mental health survey estimated that 18% of individuals between 15 and 24 years indicated experiencing symptoms consistent with a mental disorder (i.e., mood, anxiety, and substance dependence disorders) (Statistics Canada, 2003). In a more recent review of child and adolescent epidemiology research in the US, it was noted that between 3 and 18% of children and adolescents experience functionally impaired psychiatric disorders, translating into approximately one in every eight children (Costello, Egger, & Angold, 2005). Such statistics are humbling and disconcerting, demonstrating the prevalence of diagnosable psychological problems in adolescents, which require assistance.

Even for those individuals who are not experiencing psychological distress, there is more to life and general well-being than a mere lack of psychopathology. As discussed in the field of positive psychology, positive attributes or experiences, such as life satisfaction, interpersonal skills, and happiness, are important components of well-being (Frydenberg & Brandon, 2002a; Seligman & Csikszentmihalyi, 2001).

There are many factors that contribute to the development of psychopathology and general well-being of adolescents (Mash & Dozois, 2003). These factors have been divided into those that increase the likelihood of psychological problems or maladaptive life trajectories (i.e., *risk factors*) and those that decrease the likelihood of maladaptation, even in the face of adversity (i.e., *protective factors*). One risk factor is the presence of stressors in an adolescent's life, particularly multiple co-occurring stressors (Compas, Howell, Phares, Williams, & Guinta, 1989). Studies have found that stress level is related to psychological adjustment and internalizing and externalizing problems in adolescents, with higher levels of stress being associated with higher levels of problems (e.g., Compas, Connor-Smith, Saltzman, Harding Thomsen, & Wadsworth, 2001). Another factor demonstrated to have an impact on an adolescent's well-being is how he/she deals or copes with stressors experienced in life (Braun-Lewensohn et al., 2009; Compas, 1987; Compas et al., 2001; Dubow, Tisak, Causey, Hryshko, & Reid, 1991; Lazarus & Folkman, 1984; Lodge & Feldman, 2007; Recklitis & Noam, 1999; Wadsworth & Santiago, 2008). For example, researchers have found that attempts to avoid stressors or ventilate (e.g., yell) are associated with higher internalizing and externalizing symptomatology (Recklitis & Noam). Good problem solving and interpersonal strategies (e.g., seeking social support) have been found to be associated

with fewer symptoms (Recklitis & Noam). Researchers have also found that avoidant coping (e.g., distract oneself) partially mediates the relation between appearance-related victimization and self-esteem (Lodge & Feldman).

Given the relations between stress, coping, and adjustment, it is important to foster the development of adaptive coping strategies in adolescents. In order to prevent the creation of long-standing coping difficulties or maladaptive psychological functioning, one potential solution is through intervention. In fact, researchers have suggested that early intervention efforts may be more cost-effective than interventions targeted at the treatment of pre-existing disorders, as prognosis is poorer for children and adolescents who are more maladjusted (Landy & Menna, 2006; Weissberg, Caplan, & Sivo, 1989). Schools are ideal settings for such a program to be conducted, since they are places where adolescents are readily accessible (Menna & Ruck, 2004).

"The Best of Coping" (BOC) program (Frydenberg & Brandon, 2002a) is a 10 module program that is designed to teach adolescents how to better cope with stress. The present study was an evaluation of its effectiveness with identified "at-risk" adolescents in the school setting. At-risk adolescents were the focus of this study because they exhibit difficulties that place them at risk for developing more severe problems, including psychopathology. For example, a longitudinal study demonstrated that sub-clinical symptoms of depression in adolescence was a strong predictor of developing a major depressive episode as an adult (Pine, Cohen, Cohen, & Brook, 1999). Given the relations between psychological symptoms and coping, at-risk adolescents are more likely to be dealing with stressors ineffectively, and as such, could benefit from a program covering basic coping skills. Since the adolescents in the present study were identified either by

their parents, themselves, or school personnel as exhibiting difficulties dealing with life stressors or emotional and/or behavioural problems, the level of the intervention effort was at the *indicated* or *secondary prevention* level (Durlak & Wells, 1998).

The main objective of the present study was to conduct an independent evaluation of the BOC program (unrelated to the program creators), by comparing the program to a waitlist control group, in hopes of examining the cross-cultural generalizability of the program developed with Australian adolescents, to English-speaking Canadian adolescents. The present study added to the pre-existing evaluation literature by adhering to methodological standards set for evidence-based treatments or EBTs (Kazdin, 2004), such as examining client and therapist characteristics, and measuring the level of adherence to the program. In order to address the generalizability of the impact, a variety of measures of well-being and multiple informants were used, and program, therapist, and adolescent characteristics that may impact the effectiveness of the intervention were explored.

The review of literature is divided into several sections. First, stress during adolescence and its impact on psychological adjustment is presented, followed by a brief review of the literature on adolescent coping. Next, a discussion and justification for the content of an intervention program to be the teaching of coping skills is presented by discussing the association between coping and psychological adjustment. Characteristics of interventions are then examined, such as level of intervention and school-based programs, as well as a rationale for evidence-based treatments. Examples of interventions targeting coping skills in adolescence are then highlighted, with particular focus on the BOC program. A review of the BOC program's development and content,

and its evaluation research are presented. Finally, the rationale and background, research questions and hypotheses for the present study are presented.

1.1 Stress and its Impact on Adolescents

There are many adolescents who are experiencing some difficulties, whether they are emotional, psychological, and/or behavioural in nature. Even though the rates of diagnosable disorders are significant, there is a considerable proportion of youths who are at-risk or who have sub-clinical levels of emotional or behavioural problems (Mash & Dozois, 2003). As such, there is an even greater number of adolescents who could benefit from services. As highlighted by Wyn, Cahill, Holdsworth, Rowling, and Carson (2000), it has been estimated by the World Health Organization that between 20 to 30% of adolescents in schools could benefit from additional intervention efforts because they are demonstrating some difficulties. Researchers have also found that despite not meeting criteria for a disorder, there are a substantial number of youths who have significant impairment with sub-clinical levels of symptoms (Angold, Costello, Farmer, Burns, & Erkanli, 1999).

There are various factors that may lead adolescents to maladaptive life trajectories, which include experiencing and maladaptively dealing with stressful events. Interventions targeted at adolescents who are at-risk need to be relevant for the stressors that the adolescents are experiencing, as well as informed by how stress can impact psychological adjustment. There are various stressors that can occur, such as major life events (e.g., death of a loved one, family divorce), daily hassles (e.g., peer troubles/conflicts, tests in school), and life changes or transitions (e.g., transition from elementary to high school or from school to work) (Compas, 1995). In the present study,

s*tress* is defined as an interaction between the person and environment evaluated by the individual as challenging or overwhelming, that is perceived as exhausting his or her resources and jeopardizing his or her well-being (Lazarus & Folkman, 1984). This definition includes not only environmental or stressor characteristics, but also how the individual appraises the situation.

Although adolescents can experience a myriad of stressors, research has shown that the most frequent problems or stressors adolescents report relate to family, school, and peers (Boldero & Fallon, 1995; Carter, Menna, & Stanhope, 2004; Feldman, Hodgson, Corder, & Quinn, 1986). For example, in a study with 729 Canadian adolescents, Feldman and colleagues found that adolescents reported that school, family, and friends were most important out of a list of eight social and emotional stressors. The researchers reported that few adolescents (<10%) indicated that sexual matters, religious matters, work, and drugs and alcohol were important concerns. A study conducted with 1,013 Australian adolescents, which examined the type of stressful problems adolescents experienced during the past six months, demonstrated that the adolescents endorsed family and personal relationship problems, education, and health concerns (Boldero & Fallon). Another Canadian study, which included 392 adolescents, showed that the most frequently endorsed stressors were in relation to family, school, peers, and significant others (Carter et al.).

How stressful an adolescent perceives a stressor to be has been found to differ depending on the type of problem. For example, in a recent longitudinal study with 200 adolescents between 12 to 19 years, researchers found that perceived stress level was highest for parent-related stressors such as difficulties talking with parents, and lowest for

self-related stressors such as self-esteem issues (Seiffge-Krenke, Aunola, & Nurmi, 2009).

It has been established within the research literature that the level of stress a youth experiences is associated with poorer outcome (e.g., Grant, Compas, Thurm, McMahon, & Gipson, 2004). In a review of the literature, approximately 88% of the 60 studies reviewed indicated that stress contributed to child and adolescent psychopathology (Grant et al.). For example, Compas and colleagues (1989) examined the impact of major stressful events and daily hassles on psychological symptoms in a nine month longitudinal study with 309 American adolescents between 10 and 15 years. The findings demonstrated that the parents' stressful events and psychological symptoms, as well as the adolescents' life stressors were related to higher levels of youth psychological symptomatology (both internalizing and externalizing problems). The researchers found that after controlling for the initial symptom level, adolescent life stressors were still related to greater psychological problems.

When different transitions co-occur, there is also a greater risk of maladjustment. Simmons and colleagues (1987) examined the impact of the accumulation of various transitions in early adolescence, namely school change, pubertal change, early dating, moving to a different neighbourhood or school, and family disruptions, on the outcome variables of self-esteem, grade-point average (GPA), and participation in extracurricular activities. The researchers found that experiencing a greater number of transitions concurrently was related to lower self-esteem in female adolescents and lower GPAs for both female and male adolescents.

Researchers have also explored possible mechanisms that may explain how experiencing stressors can result in symptomatology. For example, in a longitudinal study with 1065 adolescent between 11 to 14 years of age, researchers found that stressful life events predicted anxiety sensitivity or fear of anxiety, which appeared to mediate the relation between experiencing life stressors and anxiety symptoms (McLaughlin & Hatzenbuehler, 2009b). With the same sample, the researchers also found that emotion dysregulation, which was comprised of measures of poor emotional awareness, dysregulated expression of anger and sadness, and rumination, provided an indirect effect for stressful life events on symptoms of depression and anxiety (McLaughlin & Hatzenbuehler, 2009a).

As such, there are various stressors adolescents experience that can impact their well-being. The characteristics of the stressor experienced by adolescents relates to how much of an impact it will have on their psychological adjustment. Those who are experiencing greater numbers of stressors concurrently, as well as stressors that are more pervasive and longstanding in nature, are more likely to experience the psychological impact of stress. It is therefore important to examine how adolescents deal with the stressors they experience and help buffer them against the impact of stressful life events through interventions that teach adaptive coping strategies.

1.2 Adolescent Coping

Coping can be defined in various ways, but generally is thought of as how an individual manages or deals with stress. Since the coping program being evaluated is based on Frydenberg and colleagues' model of adolescent coping, the present study defines *coping* as: "the behavioural and cognitive efforts used by individuals to manage

the demands of a person-environment relationship" (p. 29, Lewis & Frydenberg, 2004). Such a definition is similar to that of Lazarus and Folkman's (1984), which defines coping as "*constantly changing cognitive and behavioral efforts to manage specific external and/or internal demands that are appraised as taxing or exceeding the resources of the person"* (p. 141; italicized in original).

There are interrelated concepts of coping that require clarification. *Coping resources* are components in the environment (e.g., social support) or of an individual (e.g., problem solving ability), which assist in dealing with stressors (Compas, 1987). *Coping strategies* (e.g., engaging in relaxing diversions) are the particular cognitive or behavioural acts used in response to a stressful event (Compas). *Coping styles* (e.g., approach coping) are modes of dealing with stressors that an individual typically engages in as a response to similar stressors and/or over time (Compas).

There are a multitude of subtypes or categories of coping that are considered either adaptive or maladaptive, such as problem solving, support seeking, distraction, and self-blame (Compas et al., 2001). Depending on the measure (which primarily are self-report in nature), the number and breakdown of the various coping strategies and styles differ, although there are many similarities. For example, the Adolescent Coping Orientation for Problem Experiences Inventory: A-COPE (Patterson & McCubbin, 1987) consists of 54 items that load onto the 12 following scales: ventilating feelings, seeking diversions, developing self-reliance and optimism, developing social support, solving family problems, avoiding problems, seeking spiritual support, investing in close friends, seeking professional support, engaging in demanding activity, being humorous, and relaxing.

The Coping Across Situations Questionnaire (CASQ; Seiffge-Krenke, 1995) asks adolescents to indicate whether or not they used 20 coping strategies in relation to eight different problem areas (e.g., family, peers, school). Through factor analysis the 20 coping strategies were collapsed into the following three coping styles: active coping, internal coping, and withdrawal (Seiffge-Krenke).

The Adolescent Coping Scale or ACS is a coping measure consisting of 79 items, which collapse into 18 commonly utilized coping strategies by adolescents, plus one open-ended item (Frydenberg & Lewis, 1993b). The 18 strategies are: seek social support, focus on solving the problem, work hard and achieve, worry, invest in close friends, seek to belong, wishful thinking, social action, tension reduction, not cope, ignore the problem, self-blame, keep to self, seek spiritual support, focus on the positive, seek professional help, seek relaxing diversions, and physical recreation. These are further combined into three broadband categories of Solving the Problem, Non-productive, and Reference to Others coping style (Frydenberg & Lewis, 1993b, 2000).

Although the above are merely three examples of coping measures used with adolescents, they illustrate how these measures tend to account for both adaptive and maladaptive coping actions. They also demonstrate how coping is measured, both as styles and/or actual strategies used. These are some of the most frequently used measures within the adolescent coping literature (Compas et al., 2001).

With an understanding and background of how adolescent coping is measured, it is important to now examine how various factors and/or characteristics are related to adolescent coping. In the following section, factors that have been found to relate to coping are examined.

Factors and Characteristics Related to Adolescent Coping

Developmental level. Adolescence is an important period of the lifespan for the development of coping skills (Braun-Lewensohn et al., 2009). As adolescents develop cognitively and deal with more diverse stressors, it is thought that their coping strategies change (Ebata & Moos, 1994; Griffith, Dubow, & Ippolito, 2000; Seiffge-Krenke et al., 2009). It has been highlighted that at age 15 years, adolescents engage in more effective coping (Seiffge-Krenke, Weidermann, Fentner, Aegenheister, & Poeblau, 2001), and employ a greater variety of strategies (Williams & McGillicuddy-De Lisi, 2000) than at a younger age. In relation to perception of stress, Seiffge-Krenke and colleagues (2009) found that adolescents reported high stress levels up until the age of 15, after which the average stress level decreased. In relation to developmental changes in coping, these adolescents' use of active and internal coping, as measured by the CASQ, increased from early to late adolescence; in contrast, their reported use of withdrawal coping only increased during early adolescence (Seiffge-Krenke et al., 2009).

In a cross-sectional study with 375 American adolescents, from grades 7 (n = 148), 9 (n = 124), and 12 (n = 103), the use of avoidance and approach coping was examined (Griffith et al., 2000). The researchers found that the use of approach coping increased with grade level; however, the use of avoidance coping did not significantly differ. This increased use in approach coping with age was found to be particularly notable in relation to family stressors, as compared to school stressors.

In a longitudinal study with 168 (45% female and 55% male) students from six secondary schools in Australia, coping strategies used by the adolescents were measured three times in grades 7, 9, and 11 (Frydenberg & Lewis, 2000). The researchers found

that there were changes in the rates of use for various productive and non-productive strategies, as measured by the ACS, particularly between 14 and 16 years of age. Of the productive strategies, at 14 years of age the rates of engaging in social action, seeking spiritual support, physical recreation, and seeking professional help decreased from that at age 12. Of these, only the use of seeking professional help increased at age 16. Two other productive coping strategies—seeking social support and solving the problem—also increased between the ages of 14 and 16 years. Of the non-productive strategies, as the adolescents got older they were more likely to use self-blame, keep to self, and tension reduction. Such age trends in coping suggest the need for intervention during the critical period occurring around 14 years of age when there seems to be an increase in non-productive coping and a decrease in some productive coping strategies. The developmental trends in coping strategies differed between male and female adolescents. For example, although both genders indicated similar levels of an inability to cope (i.e., not cope scale) at 12 and 14 years, there was a significant increase in reported inability to cope for female adolescents by age 16, whereas for males, the rate remained relatively low (Frydenberg & Lewis).

Taken together, these studies demonstrate the importance of intervening during middle adolescence, when adolescents appear to be engaging in less adaptive coping strategies, and have yet to fully develop their coping repertoire. This age group appears to be at-risk for poorer coping strategies and styles, as well as increased perceived stress. In addition, as adolescence has been noted to be the developmental period when individuals develop their coping styles (Braun-Lewensohn et al., 2009), it seems prudent

that this developmental period is targeted as an appropriate time for a coping skills intervention to occur.

Gender. Gender differences in coping have been found, particularly that females tend to seek help and social support more often than do males (Carter et al., 2004; Ebata & Moos, 1994; Rickwood & Braithwaite, 1994; Schonert-Reichl & Muller, 1996; Seiffge-Krenke et al., 2009; Stanhope, Menna, & Newby-Clark, 2003). Beyond this difference in support seeking, some researchers have stated that generally male and female adolescents cope similarly (Ebata & Moos), whereas others have highlighted gender differences in the rates of use for various coping strategies (Frydenberg & Lewis, 1993a; Griffith et al., 2000; Herman-Stahl, Stemmler, & Petersen, 1995; Recklitis & Noam, 1999; Renk & Creasey, 2003). Depending upon the samples and coping measures used, there have been some equivocal findings regarding these gender differences. For example, in a longitudinal study with 603 American students in grades 6 to 12 conducted by Herman-Stahl and colleagues, females were found to engage in more approach coping than did males, but no significant difference in the use of avoidance coping was found between the two genders. Seiffge-Krenke et al. found similar results: female adolescents reported greater use of active coping compared to their male counterparts, but no significant gender differences were found for internal or withdrawal coping. Whereas in a study with inpatient adolescents between 12 and 16 years examining gender differences in coping strategies, female adolescents were more likely to engage in avoidance coping and interpersonal coping strategies, while male adolescents were more likely to engage in physical activities (Recklitis & Noam).

Griffith and colleagues (2000) found with their sample that female adolescents used more approach and avoidance coping strategies than did male adolescents. Nevertheless, they found that regardless of coping differences, both genders were evenly contented with their ability to cope. In an American study conducted with 77 male and 92 female adolescents between the ages of 17 and 22 years, females reported using emotion-focused coping more often than did males, but the two genders did not differ in how often they reported using problem-focused coping (Renk & Creasey, 2003).

In a study using the ACS as the coping measure with 673 Australian adolescents in grade 7 to 11 (relatively equivalent numbers of females and males), female adolescents tended to endorse engaging in seeking social support, wishful thinking, and tension reduction more frequently than did male adolescents (Frydenberg & Lewis, 1993a). The male adolescents reported using physical recreation more often than did their female counterparts. When examining gender differences in coping styles, female adolescents reported non-productive strategies more often than male adolescents. In a previously mentioned longitudinal study conducted by the same researchers, female adolescents were more likely to seek social support and less professional help, as well as engage in tension reduction, self-blame, worry, and report less ability to cope than did male adolescents (Frydenberg & Lewis, 2000).

Consistent gender differences were noted across cultures in a recent study that included 3031 adolescents between 11 to 20 years of age from seven countries in Europe (namely, Croatia, Czech Republic, Germany, Italy, Norway, Portugal, and Switzerland) using translated versions of the CASQ (Gelhaar et al., 2007). In particular, female adolescents reported greater use of active coping and male adolescents reported greater

use of withdrawal. It was noted that at the coping style level, there were more similarities among male and female adolescents than differences. Gelhaar and colleagues indicated the gender differences appeared to be more salient at the coping strategy level. For example, in relation to strategies comprising the active coping style, female adolescents cross-culturally reported using social support strategies (i.e., trying to talk to the person concerned, ask for a friend's help and try to get help from people in a similar situation) more frequently than male adolescents. In relation to withdrawal coping, female adolescents reported using more emotional outlets (e.g., letting out one's aggression) whereas male adolescents reported using drugs and alcohol and behaving as if everything was alright more frequently (Gelhaar et al.).

Collectively, the above sample of research studies demonstrates that there are discrepant findings regarding gender differences depending on the samples and measures used. However, some differences remain relatively consistent, such as male adolescents engaging in more physical recreation, and female adolescents seeking support more frequently. In addition, it is important to note the amount of similarity in coping across both sexes, particularly in relation to reported coping styles as opposed to specific strategies.

Control beliefs. A sense of control over stressors or life circumstances also appears to be related to coping. In particular, it has been theorized that the more perceived control an individual has over a situation the less stressful the situation will be appraised, which will ultimately impact the coping strategies utilized (Lazarus & Folkman, 1984). For example, researchers have found that perceived controllability (as measured by an item asking whether the stressor was something the individual could

have prevented) was related to greater use of approach coping relative to avoidance coping (Griffith et al., 2000).

A study with 300 Australian adolescents in grades 9 and 10 found control beliefs to be associated with the type of coping strategies used (Cunningham, Werner, & Firth, 2004). In particular, mastery orientation was related to a decreased use of non-productive strategies, but not significantly related to the use of productive coping strategies.

Control beliefs are also related to psychological adjustment. For example, external locus of control was found to be positively related to anxiety and depression with a sample of 468 adolescents between 14 and 17 years in Australia (Gomez, 1998). The researcher also found that the relations between avoidance coping and depression and anxiety were partially mediated by perceived locus of control. Similarly, studies examining perceived mastery with adolescents have demonstrated that greater sense of mastery is related to more positive affect, and less negative affect and depressed mood (Ben-Zur, 2003; Gore & Aseltine, 1995).

Another study examining the impact of perceived control, as well as negative life events, active coping, and family relations on depressive symptomatology included 471 (242 males and 229 females) grade 6 American students (Herman-Stahl & Peterson, 1999). The researchers found that control beliefs (composite variable that included the concepts of self-efficacy, optimism, and perceived mastery) buffered the impact of negative life events on depressive symptomatology. Specifically, those who demonstrated high levels of perceived control were impacted less by stressful life events than those with moderate to low levels of perceived control (Herman-Stahl & Peterson).

Overall the literature suggests that greater internal locus of control or mastery orientation can positively impact both coping and adjustment level. Therefore, control beliefs are important to examine in relation to coping and to the outcome of an intervention program targeted at these concepts.

Stressor characteristics. Findings show consistencies in the coping strategies adolescents use across various stressful situations (Frydenberg & Lewis, 1994). However, it has also been noted that the characteristics of the stressful situation can impact the way adolescents cope (Griffith et al., 2000). For example, research has shown that adolescents utilize avoidance coping more often than approach coping for family related stressors as compared to greater use of approach than avoidance coping in relation to school or peer stressors, even with level of upset and perceived controllability as covariates (Griffith et al.).

Problem specific variability in adolescent reported coping styles was found in the previously described large cross-cultural study conducted in seven European countries (Gelhaar et al., 2007). Some of the problem specific coping tendencies were fairly universal across six countries (data in these analyses excluded Norway). For example, youth across all countries tended to use more withdrawal coping and less active coping for self-related problems. In contrast, there was substantial cultural variability in coping related to other problems, such as job-related stressors: adolescents in Germany and Czech Republic reported using active coping frequently and withdrawal coping infrequently; in contrast, youth from Portugal, Italy and Croatia reported using withdrawal coping more and active coping less when dealing with job-related concerns. Despite these differences, the researchers also found that across cultures and problem

type, adolescents have a preference for active and internal coping across stressors compared to withdrawal coping (Gelhaar et al.).

Ebata and Moos (1991) demonstrated that the (researcher-rated) severity of the stressor, and the adolescents' perception of the stressor as a challenge were related to the coping strategies endorsed. In particular, the more severe the stressor was rated, the more likely the adolescents reported using emotional discharge and seeking out guidance and support. The more the stressor was seen as a challenge, the more likely the adolescents reported using the strategies of logical analysis, positive reappraisal, problem solving, and seeking alternative rewards.

A study that included 120 female and 145 male adolescents between the ages of 11 to 14 years in Croatia illustrated that the perceived severity and frequency of stressful events impacted coping styles of adolescents (Kardum & Krapić, 2001). The perceived severity and frequency of stressful life events were related to greater problem-focused, emotion-focused, and avoidance coping (Krapić, 1999).

Coping and Psychological Well-Being

Research has demonstrated that coping is related to adolescent well-being (Ben-Zur, 2009; Braun-Lewensohn et al., 2009; Compas et al., 2001; Ebata & Moos, 1991; Griffith et al., 2000; Herman-Stahl et al., 1995; Landis et al., 2007; Wadsworth & Santiago, 2008; Wilkinson, Walford, & Espnes, 2000). Typically, well-being is defined as the lack of a psychiatric disorder or symptomatology (Sawyer et al., 2000). However, researchers have stressed the importance of defining well-being differently, as there is more to life than a mere lack of problems (Fredrickson, 2001; Mash & Dozois, 2003; Seligman & Csikszentmihalyi, 2001; Seligman, Reivich, Jaycox, & Gillham, 1995).

Therefore, in the present study, and by other researchers (Ebata & Moos; Frydenberg & Lewis, 2002), *well-being* is defined as including both (a lack of) negative signs of functioning or symptomatology (e.g., internalizing and externalizing problems) and positive signs of functioning (e.g., greater life satisfaction and happiness).

Investigators examined the moderating and main effects of approach and avoidance coping styles on well-being in a study with 393 Australian adolescents and young adults between the ages of 16 to 25 years (Wilkinson et al., 2000). They found no support for the moderating relation for either style of coping. They did find that approach coping was related to better well-being, as measured by a composite variable consisting of life satisfaction, happiness, and positive affect. Also, avoidance coping was directly associated with greater distress, as measured by a composite variable consisting of anxiety and negative affect.

Braun-Lewensohn and colleagues (2009) found that coping styles impacted the well-being of 913 Israeli adolescents between 12 and 18 years who were exposed directly or indirectly to terrorism. Coping was found to be related to various measures of well-being including post traumatic stress, total difficulties, and a brief measure of psychological symptoms. Specifically, non-productive coping was strongly related to more psychological problems and relying on others for support (i.e., reference to others coping) was moderately related to these symptoms, whereas productive coping was related to fewer symptoms (Braun-Lewensohn et al.).

In their longitudinal study, Herman-Stahl and colleagues (1995) found that adolescents who reported using more of an approach coping style also indicated experiencing fewer depressive symptoms, whereas those with a more avoidance coping

style reported greater depressive symptomatology. When adolescents altered their general coping style from one to another, they also indicated a change in depressive symptomatology. In particular, if they went from approach to avoidance coping, they indicated more depressive symptoms than before, whereas if they went from avoidance to approach coping they indicated fewer symptoms.

Ebata and Moos (1991) examined the relationship between coping and psychological adjustment with an American sample of adolescents, which included identified groups of well-adjusted controls (n = 38), adolescents with rheumatic disease (n = 45), adolescents with conduct problems (n = 58), and adolescents who were depressed (n = 49). After controlling for age and stressor characteristics of severity and perceived challenge, adolescents with depression and conduct problems reported using all avoidance coping strategies (i.e., cognitive avoidance, resigned acceptance, alternative rewards, and emotional discharge) more than did healthy controls and adolescents with rheumatic disease. Approach coping did not significantly differ by group membership. After controlling for stressor characteristics, age, gender, and group membership, the approach coping strategies of positive reappraisal, guidance/support, and problem solving, and the avoidance coping strategy of alternative rewards (i.e., seeking out other activities or sources of satisfaction) and lower levels of resigned acceptance, were related to greater well-being, as measured by a composite variable of happiness and self-worth. Lower levels of problem solving and alternative reward coping and higher levels of cognitive avoidance, resigned acceptance, and emotional discharge were associated with greater depression and anxiety. The researchers also found that deviant behaviour and

drug and alcohol use were related to more emotional discharge and less positive reappraisal.

The relations between coping styles and both positive and negative affect were examined using data from three pre-existing samples (adolescents, university students and a general population in Israel) totaling 480 participants (Ben-Zur, 2009). Problem-focused coping was associated with increased positive affect and decreased negative affect. In contrast, avoidant coping had the opposite associations: positively related to negative affect and negatively related to positive affect. Interestingly, problem-focused coping was found to moderate the impact of avoidant coping on affect.

Researchers found that coping impacted the relation between chronic uncontrollable stressors and hopelessness with a sample of 796 American urban youth (Landis et al., 2007). In particular, the use of active, distraction, and support seeking coping was found to worsen the association between these stressors and hopelessness in male adolescents. For female adolescents, the use of rumination was found to increase the association between chronic uncontrollable stress and hopelessness. It was suggested that the chronic and uncontrollable nature of the stressors might have been responsible for taxing the youths' coping abilities.

Through a review of the child and adolescent coping literature, Compas and colleagues (2001) found that engagement and problem-focused coping were generally related to better psychological well-being and fewer internalizing and externalizing problem behaviours. In contrast, emotion-focused and disengagement coping styles or strategies were related to poorer adjustment. However, when examining the magnitude of the association between coping and adjustment, they were small to moderate,

suggesting that there are other risk and protective factors which play a part in a youth's adjustment (Compas et al.). This conclusion was further supported by a previously mentioned meta-analysis of 40 studies examining the impact of active coping on four aspects of psychosocial health of youth (Clarke, 2006). Clarke found the mean effect sizes to be modest, ranging between 0.02 for internalizing behaviours to 0.12 for academic performance.

1.3 Interventions

As discussed within the empirical review, there is variation in the ability for adolescents to cope effectively with stressors. It is important that interventions target coping skills, teaching youth—particularly those who are experiencing difficulty coping—how to cope with stressors more adaptively. In fact, researchers have suggested that interventions should teach more active coping strategies to those who are experiencing symptomatology (Seiffge-Krenke et al., 2001).

Level of Interventions

There are various levels of possible interventions, some being more preventative, and others being more treatment-oriented for pre-existing concerns. *Primary prevention*, which targets individuals before the occurrence of any problems, is typically used to increase or foster protective factors and decrease risk factors for developing symptomatology or other problems (Weissberg et al., 1989). *Secondary prevention* or *indicated preventative intervention*, are intervention efforts for individuals who demonstrate signs of maladjustment before any severe problems or psychological disorders occur (Durlak & Wells, 1998). In other words, those individuals who are considered or identified as at-risk for developing further mental health problems are

targeted and treated. Finally, there is *tertiary prevention*, or intervention, which is for those who are already experiencing a disorder, and meant to treat the disorder, decreasing its duration and negative effects (Durlak & Wells). Typically, interventions are targeted at the tertiary level: those with diagnosable disorders, or those who are most in need, are the individuals who obtain services. However, such interventions are essentially less cost-effective, as these individuals tend to require more expensive and intense services (Weissberg et al.). As such, there is a trend towards developing primary and secondary interventions. There have been studies examining the overall effectiveness of prevention programs, including indicated prevention efforts, which have discovered the utility of such programs (Durlak, 1998; Durlak & Wells, 1997, 1998).

In a meta-analytic study that examined 99 published works and 22 unpublished doctoral dissertations evaluating 130 secondary prevention programs, researchers investigated the effectiveness of such programs, as well as examined the factors that impact outcome, including type of treatment and the presenting problems of the youths (Durlak & Wells, 1998). The majority (93.4%) of these indicated prevention programs were conducted in schools and 29% included adolescents 13 years and older. The children and youths (aged 3.5 to 18.5 years) demonstrated sub-clinical levels of maladjustment through a population-wide screening. The programs were behavioural, cognitive behavioural, or non-behavioural in nature, and primarily consisted of a group format (although some were done individually). Overall, Durlak and Wells found that these programs were both statistically and clinically significant in their effectiveness. The effect sizes were moderately high for cognitive behavioural (ES = 0.53), and behavioural (ES = 0.50) interventions. The researchers discussed how such effect sizes

are comparable or better than empirically established treatments for adolescents who have pre-existing disorders, as well as interventions to prevent substance use (smoking, alcohol, and drugs) and delinquency. Such results indicate the usefulness and viability of secondary prevention efforts. For the limited number of studies that included follow-up testing (n = 35), the effects of the intervention remained, as there were no significant differences in the effect sizes from posttreatment to follow-up testing.

Although traditionally treatment occurs after the onset of a disorder or serious maladjustment, primary and secondary prevention programs have been found to be effective, and yet, are underused. For example, in the United States, only 3% of health care costs are allotted to any preventative efforts (Durlak, 1998). In Canada, the statistics are similar, with approximately 7.7% ($300 out of $3,900 per capita) of total health care expenditures being assigned to public health, which includes prevention efforts (Waddell, McEwan, Shepherd, Offord, & Hua, 2005). Such findings provide a rationale for the present study to be directed at the secondary prevention level.

School-Based Interventions

Wyn and colleagues (2000) describe an intervention design that integrates the level of intervention within the school setting that was developed by the World Health Organization. In particular, there are four different levels of a school-based intervention, including: 1) the entire school community; 2) the curriculum, thereby including all students and teachers; 3) at-risk students, who are in need of extra assistance; and 4) students requiring mental health interventions (Wyn et al.). Such a comprehensive approach would include primary and secondary preventative efforts at the first three

levels, and traditional interventions that treat adolescents who are experiencing serious psychological or behavioural problems.

School-based interventions have numerous benefits. The school is the primary context in which children develop socially (Farrell, Meyer, Kung, & Sullivan, 2001). As well, school-based interventions are an efficient way to include many children and adolescents, as schools are places in which youths are readily accessible (Weist & Paternite, 2006). In addition, there is a greater likelihood that a school will be able to continue to provide the services, as there tends to be relative employee stability (Farrell et al.). Schools are also able to target different levels of the adolescent's ecological system, not only at the individual level, but also at the peer and school levels (Menna & Ruck, 2004).

Despite the benefits of school-based interventions, there have been difficulties with their implementation (Weissberg et al., 1989). Historically, the school system has not included programs targeting general life skills and social competence (such as coping skills), even though a commonly stated aspiration of schooling is the fostering of youths to function properly within society (Menna & Ruck, 2004; Weissberg et al.; Wyn, 2007). A national study in the US that reviewed school services and programs for students with a primary disability category of emotional disturbance (ED) demonstrated how most of these youths do not receive mental health services in the school setting (Wagner et al., 2006). Part of the issue is the limited resources and training within the school system, as schools are not necessarily adequately prepared or able to meet all of the needs of their students (Anderson-Butcher & Ashton, 2004; Weist & Paternite, 2006). Researchers in the area of school mental health (SMH) have noted how SMH services are taxed as the

demand exceeds the available resources (Weist & Paternite). Not only are there high rates of student risk factors and maladajustment which require substantial resources that a single organization cannot fully address alone, but also the school system's primary purpose is to educate youths and therefore it is not necessarily organized to do so (Anderson-Butcher & Ashton).

It is therefore important for other community resources and professionals to collaborate with schools to help meet the needs of youths and their families (Anderson-Butcher & Ashton, 2004). Not only can such professionals help adolescents and families, they can also help develop empirically-validated interventions that can be readily implemented within the school setting. School systems require that a program's effectiveness, as well as its purpose and procedures are clearly laid out before it is considered (Weissberg et al., 1989), suggesting the need for empirically-validated school-based interventions.

Evidence-Based Treatment/Interventions

Evidence-based treatments (EBTs) or empirically-validated interventions (EVIs) have empirical evidence or research studies—particularly those that adhere to rigorous methodological standards—which demonstrate that the treatments perform better than waitlist or placebo control or as well as already well-established treatments. Both terms will be used interchangeably in the following discussion.

There is much debate over the utility of EBTs, particularly those that possess the rigorous methodologies of randomized control trials or RCTs (Kazdin, 2004; Persons & Silberschatz, 1998). The primary concern is their limited generalizability or transportability into clinical or real-life settings (Kazdin). In particular, RCTs use

random assignment to conditions, less maladaptive or severe cases that are homogenous in nature, manualized treatments that are strictly adhered to, as well as control groups (Nathan, Stuart, & Dolan, 2000). Such conditions, although intended to increase internal validity and statistical power, do not resemble everyday practice or real-life conditions (Kazdin; Landy & Menna, 2006; Nathan et al.; Persons & Silberschatz).

Nevertheless, there is a utility to EBT research. This research assists in helping clinicians determine which treatments to use from the wide variety available (Kazdin, 2004; Persons & Silberschatz, 1998) by empirically validating or providing evidence of their effectiveness (i.e., effects in more natural conditions, or real life settings) or efficacy (i.e., effects in more controlled research conditions). In particular, they can help determine if a treatment performs better than placebo or waitlist control depending on the control condition used, or if it performs comparably to an already well-established treatment option for particular presenting concerns and/or populations (Persons & Silberschatz). A meta-analytic study including 32 direct comparison studies of youths randomly assigned to EBT versus usual care treatment conditions demonstrated that the mean effect size was 0.30, which is between a small to medium effect size (Weisz, Jensen-Doss, & Hawley, 2006).

Within school-based interventions, some of the transportability issues are not as much of a concern since it is conducted with the intended population (i.e., students) and within the school setting. As well, preventative efforts, either primary or secondary, are intended for those who are not as seriously maladjusted. Nevertheless, there still are factors that impact the generalizability, such as self-selection bias (those who volunteer/give consent to participate in a research study likely differ from those who do

not), random assignment, and different training levels of therapists or facilitators. In order to successfully implement an intervention study within the school setting, researchers also need to be flexible in order to meet the needs and constraints of the school environment (e.g., Hoagwood & Johnson, 2003; Langberg & Smith, 2006).

EBT or EVI research is important for the validation of treatment efforts, but there are concerns regarding external validity. As a result, there are some suggested factors to consider and address within evaluation studies (Kazdin, 2004; Wampold, Lichtenberg, & Waehler, 2002). One issue is to examine various factors that might have an impact on the effects of the treatment, such as client, therapist, treatment, and contextual variables (Kazdin). Client characteristics that have been highlighted in the common factors research literature among disparate therapies or interventions include motivation, hope or expectancy for change, and age or developmental level (Duncan, 2002; Karver, Handelsman, Fields, & Bickman, 2005). Gender (e.g., Bugalski & Frydenberg, 2000) and pretreatment symptomatology (e.g., Durlak & Wells, 1998; Kazdin & Crowley, 1997) have also been examined in relation to treatment impact. Therapist factors, such as level of training or experience (Frydenberg et al., 2004) and (client perceived) empathy/understanding also may impact treatment effects (Karver et al.). Treatment conditions, such as adherence to the treatment manual or procedures, impact the ability to examine the effects, and the techniques utilized, such as CBT techniques (e.g., thought records or homework assignments), have been found to be related to the effectiveness. Contextual factors, such as the treatment setting, may also affect intervention performance (Duncan).

Another important factor is how the outcome of treatment is assessed (De Los Reyes & Kazdin, 2008; Kazdin, 2004; Kendall, Flannery-Schroeder, & Ford, 1999; Wampold et al., 2002). In order to truly measure the impact of an intervention, researchers must consider more than merely the symptoms or behaviours at which the treatment is targeted (Kendall et al., 1999; Wampold et al., 2002). It is important to examine the individual's overall or general functioning and well-being in order to see how the treatment may have impacted other areas of the individual's life (Kendall et al., 1999; Wampold et al., 2002). As well, it is important to include multiple-informants to see how the individual, as well as other significant members in their lives view the outcome effects (Kendall et al., 1999; Wampold et al., 2002). By including multiple measures and informants, researchers are able to determine how generalizable the effect is, as well as determine whether the impact is measure or informant specific (De Los Reyes & Kazdin).

1.4 Available Coping Interventions for Adolescents

A viable option for an intervention targeted at fostering the well-being of adolescents, especially those who are considered at-risk, would be one that focuses on coping skills. A variety of interventions have been implemented in an attempt to foster healthy coping skills in youths in various countries, such as in the United States, Ireland, Australia, Canada, and New Zealand (Cunningham, Brandon, & Frydenberg, 2002; Dickinson, Coggan, & Bennett, 2003; Frydenberg & Brandon, 2002a; Hayes & Morgan, 2005; Pronovost, Tétreault, & Leclerc, 2005; Puskar, Lamb, & Tusaie-Mumford, 1997; Rollin et al., 2000; Wyn et al., 2000). Many of these interventions are school-based, which appears to be a common feature of primary or secondary preventative intervention

programs (Durlak & Wells, 1998), as well as psycho-educational and/or cognitive-behavioural in nature. For example, the "Helping Adolescents Cope" (Hayes & Morgan), "TRAVELLERS" (Dickinson et al.), "Bright Ideas" (Cunningham et al.), "Teaching Kids to Cope" (Puskar et al.), and "Best of Coping" (Frydenberg & Brandon) programs teach positive ways of thinking and coping skills, such as goal setting, assertiveness, social skills, relaxation, and problem solving skills, within the school setting.

Overall, the evaluations of these programs demonstrate some effectiveness in: a) decreasing distress (Cunningham et al., 2002; Dickinson et al., 2003; Hayes & Morgan, 2005), b) decreasing reliance on non-productive coping (Cunningham et al.; Frydenberg et al., 2004; Hayes & Morgan), c) increasing the use of some productive coping strategies (Dickinson et al.; Frydenberg et al.), and d) increasing coping efficacy (Cunningham et al.). The present study was an examination of one of these programs, called the Best of Coping or BOC program.

There are various reasons as to why the BOC program is the targeted intervention. First, the program is developmentally appropriate as it was created for adolescents and not merely a downward extension from a program initially created for adults. Second, an important component to the program, which has been identified as an area for intervention, is altering how adolescents think about problems and their ability to cope (Printz, Shermis, & Webb, 1999). In fact, a poor outlook on a problem and on one's ability to cope is associated with poorer outcome (Printz et al.). Third, past research has also demonstrated the importance of highlighting more active coping strategies, as compared to avoidance or withdrawn coping tactics (Seiffge-Krenke et al., 2001; Wilkinson et al., 2000), as well as a wide variety of coping skills, such as both primary

control coping (e.g., problem solving) and secondary coping (e.g., cognitive reframing) (Wadsworth, Wolff, Santiago, & Moran, 2008). The BOC program does in fact teach various coping skills that are associated with better adjustment, including more active forms, such as problem-solving and seeking help from others, as well as more secondary control strategies, such as cognitive reframing. Fourth, another vital aspect of the program is how it addresses why particular coping strategies—such as excessive worrying and self-blame—are generally ineffective, and as such, correlated with poorer outcome (Frydenberg & Lewis, 2000, 2004; Wilkinson et al.). Fifth, the program is manualized, which is highly important, as it enables a better examination of the effectiveness of the program and what components contribute to the outcome (Durlak & Wells, 1997, 1998). Finally, as with all studies, there are methodological limitations to the current evaluation studies of the BOC program that limit its generalizability and empirical support. The present study intends to account for some of these limitations, which will be highlighted in the review of the evaluation research.

1.5 The Best of Coping Program

Developed by Frydenberg and Brandon (2002a), "The Best of Coping: Developing Coping Skills for Adolescents" (BOC) program, is a 10 unit cognitive behavioural approach to teaching coping skills to adolescents (See Table 1 for brief descriptions of the 10 modules). CBT interventions are found to be more effective for adolescents due to their cognitive developmental level (i.e., formal operational stage), as compared to younger children who are at either the preoperational or concrete operational cognitive developmental level (Durlak, Fuhrman, & Lampman, 1991). The BOC program is intended to teach adolescents such coping strategies as optimistic thinking,

Table 1.

Descriptions of the 10 Sessions Comprising the Best of Coping Program (Frydenberg & Brandon, 2002a)

Module or Session	Brief Description of Session
Module 1: Map of Coping	Provides an introduction and description of the concept of coping, examines individual coping styles, and describes different coping strategies
Module 2: Good Thinking	Educates the adolescents about the relationship between thoughts and feelings and basic skills to evaluate and restructure thoughts
Module 3: Heading Down the Wrong Track: Strategies that Don't Help	Critically examines the use of ineffective coping strategies and provides more adaptive alternatives
Module 4: Getting Along With Others	Educates the adolescents on components of communicating and listening
Module 5: Asking for Help	Builds an awareness of the usefulness and importance of seeking help from others and the available networks and supports
Module 6: Problem Solving	Teaches a six-step problem solving technique
Module 7: Making Decisions	Educates the adolescents about how to make decisions through the careful evaluation of their options
Module 8: Goal Setting	Facilitates the understanding of how goals and achievement are related and promotes the examination of the adolescents' own goals
Module 9: Goal Getting	Builds the awareness of the process of constructing and setting down obtainable goals
Module 10: Managing Time	Evaluates the use of time and teaches the adolescents how to manage their time more effectively

communication and interpersonal skills, problem solving, decision making, goal setting, as well as time management skills (Frydenberg & Brandon). The BOC program is based on the assumption that all individuals have the potential of performing better. It is intended to teach adolescents more positive and adaptive coping skills, as well as address why some techniques (e.g., worry, self blame) are non-productive and should not be frequently utilized.

The BOC program was partly developed from the Adolescent Coping Scale (ACS; Frydenberg & Lewis, 1993b). The program starts by introducing the ACS coping strategies and styles, having the adolescents identify how they tend to cope with stressors, both behaviourally and cognitively, using the ACS measure. The next four modules or sessions of the BOC program address ways in which individuals can appraise a situation (both positively and negatively), highlighting the utility of optimistic thinking, discussing why some coping strategies that are ineffective, reviewing communication skills, and the usefulness of asking for help. The final five modules teach various skills which are important in dealing with stressors and life in general, including: problem solving, decision making, goal setting and achievement, and time management (Frydenberg & Brandon, 2002a).

Evaluation of the BOC Program

To date, there have been several evaluation studies in Australia, one in New Jersey, one in Italy and one in Quebec with translated versions of the program in Italian and French, respectively (Bugalski & Frydenberg, 2000; Cotta, Frydenberg, & Poole, 2000; Eacott & Frydenberg, 2008; Fisher, 2006; Frydenberg, 2004b; Frydenberg et al., 2004; Frydenberg & McCarthy, 2002; Luscombe-Smith, Frydenberg, & Poole, 2003;

Pronovost et al., 2005). Overall, the findings demonstrate moderate improvements in the coping styles and strategies of adolescents 11 to 13 years of age, and those aged 14 to 17 who are identified as at-risk (Bugalski & Frydenberg; Frydenberg). However, there are several limitations to the methodologies of the conducted evaluation studies, suggesting the need for further research and replication of the findings.

The first study was conducted with 83 students (39 males and 44 females between 14 and 17 years of age) in grade 10 in Australia, who participated in the BOC program (Frydenberg et al., 2004; Luscombe-Smith et al., 2003). The program was used as part of the curriculum for the entire grade ($N = 220$) at the school by a registered psychologist or counsellor; however, due to school absences at the three different assessment sessions, only 83 students were included in the analyses (Luscombe-Smith et al.). The students were administered the ACS - Specific Long Form (Frydenberg & Lewis, 1993b) at pre-intervention, one week post-intervention, and at a six month follow-up. The researchers found an increase in Reference to Others coping style, especially for the male participants (Frydenberg et al.; Luscombe-Smith et al.). Limitations to the study included the fact that no control group was used, it was not an independent study (i.e., the creator of the program was involved in the evaluation of the intervention), and only one outcome measure (i.e., ACS) was used.

Another study, which used the same sample as the one described above, separated the students depending on their "risk" level and only utilized the pre- and post-intervention data, resulting in a larger sample size of 113 (57 male and 56 female) students (Bugalski & Frydenberg, 2000; Frydenberg et al., 2004). Those who were assessed as at-risk by low scores on both the Children's Attribution Styles Questionnaire

(CASQ; Seligman et al., 1984) and the Perceived Control of Internal States questionnaire (PCIS; Pallant, 1998), were the primary focus of the study (Bugalski & Frydenberg; Frydenberg et al.). The rest of the sample were categorized into either a "resilient" group (i.e., those who received the highest scores on the CASQ and PCIS), consisting of 23 students, or the "main" or "middle" group (i.e., those with any other combination of scores on the two measures), consisting of the remaining 68 adolescents. All three groups participated in the program. After conducting their own factor analysis on the ACS, the researchers found a four factor model which separated the Productive coping factor of the original three factor model of Frydenberg and Lewis (1993b) into Emotion-Focused (e.g., focus on the positive and invest in friends) and Problem-Focused (e.g., solve the problem and work hard) Productive coping factors. The at-risk group reported a decreased use of Non-Productive coping and an increased use of Productive (Emotion-Focused) coping from pre- to post-testing (Bugalski & Frydenberg; Frydenberg et al.). In contrast, both the resilient and main groups demonstrated an increase in Non-Productive coping. The main group also demonstrated an increase in Productive (Emotion-Focused) coping, but the resilient group demonstrated a decrease. For all of the groups, the average score for Reference to Others increased. In general, the study suggests that the program was better suited and more appropriate for those who are identified as at-risk (Bugalski & Frydenberg). When examining gender differences, female adolescents demonstrated an increase in Productive (Emotion-Focused) coping and a decrease in Non-Productive coping techniques, whereas the opposite trend was apparent for male adolescents. For both genders, the average score for Reference to Others increased, especially for males (Bugalski & Frydenberg). There were some limitations to the study.

The study did not include a control group of adolescents who did not participate in the program. It was not an independent study and did not include data from the follow-up assessment. Also, one outcome measure was used (i.e., ACS).

In a third evaluation study, there were 88 (49 male and 39 female) students enrolled in grade 7 at a high school in Australia between the ages of 11 and 13 years (Cotta et al., 2000; Frydenberg et al., 2004). Forty-three students from two classrooms participated in the BOC program, and the other 45 students were used as controls (two classes with typical pastoral care curriculum). Due to school absences, the final sample size was 75 students in total, and the final number of adolescents per group was not reported. The two groups underwent two testing sessions that consisted of the ACS (as a measure of coping) and PCIS (as a measure of self-efficacy), at pre- and post-treatment. As the two groups differed significantly at pretest, an analysis of gains was carried out. For those who participated in the program, self-efficacy increased and the use of Non-Productive coping strategies decreased, whereas the opposite trend was found in the control group. The adolescents in the intervention group also demonstrated a decrease in using such coping strategies as worry, wishful thinking, not coping, self-blame, and keep to self. Those in the control group indicated using working hard and social action less and relying more on self-blame from pre- to post-testing (Frydenberg, 2004b; Frydenberg et al.). Limitations to this study included the pretreatment group differences, which were likely a result of the non-random assignment of the groups by using intact classrooms, only two outcome measures were used, and there was no follow-up evaluation.

Frydenberg and colleagues (2004) also described another study conducted at the same high school with 235 students in grade 7 (11 to 13 years of age) who were

randomly assigned to their pastoral classrooms. There were 179 (98 male and 81 female) students who participated in the BOC program and 56 (35 male and 21 female) students who comprised the control group. Of the instructors, there were three teachers and a school psychologist who participated in a two-day workshop of the BOC sessions, who then trained the remaining 10 teachers in a one-day workshop. The posttest administration of the ACS occurred four weeks after the intervention group completed the program and one week before the control group started. No significant differences were found, even though the Non-Productive coping style decreased slightly in the intervention group and increased in the control group. The Productive coping style remained relatively consistent for both groups. When examining how class membership was related to program effectiveness, both Non-Productive and Productive coping were significantly impacted. It was suggested that the expertise or training of the instructors impacted the effectiveness of the program. Although the methodology was more rigorous than previous studies evaluating the BOC (i.e., random assignment of students to classes and the use of a waitlist control), there were limitations to this study. Follow-up data (although the posttreatment assessment occurred 4 weeks after the program was completed) was not collected and it was not an independent study. Also, the only outcome measure was the ACS.

There are also unpublished studies, including dissertations and theses, which examined the effectiveness of the BOC program. One that was conducted by Tollit (2002), examined the effects of the BOC with 115 grade 7 female students (11 to 13 years of age) from a single-sex Catholic high school in Australia (as discussed in Frydenberg, 2004b). There were 57 female adolescents who participated in the program

and 58 who comprised the control group. The measures for the pretreatment, posttreatment, and two-month follow-up evaluations, included the ACS and three scenarios (consisting of an academic problem, family relationship problem, and an instance of bullying) to which the participants were asked to indicate how they would cope. The female adolescents in the intervention group reported less use of the Reference to Others coping style, from pre- to post-testing, and even less so at the two month follow-up. In relation to the scenarios, those who were in the treatment group demonstrated a greater likelihood of reporting more productive coping skills for the academic problems and bullying scenarios when compared to the control group (Frydenberg). The limitations to the study were a short follow-up period of two months (although an improvement to previous evaluation studies of the BOC that did not include follow-up testing) and the outcome measures only included the ACS and three hypothetical scenarios. Finally, the information provided about the study in Frydenberg's chapter did not describe how the students were assigned to the groups.

Another evaluation study for the BOC program in Australia included 24 students from a Catholic school (Frydenberg, 2004b). A teacher-librarian conducted the intervention and study. There was a pre-, post-treatment, and six month follow-up assessment of the ACS and the three scenarios measure described in the previous study. At the posttreatment assessment, a decrease in use of tension reduction as a coping skill, as well as an increase in use of social action and seeking out social support was demonstrated in the female students who participated. The instructor indicated being sought out on several occasions by the students for more sessions and to discuss their coping. At the six-month follow-up, there was a reduction in the beneficial changes of

the program compared to posttreatment testing. It was suggested that continuing reinforcement of the coping program should be maintained in order to sustain the gains apparent at posttreatment (Frydenberg). Limitations to this study were: lack of control group and limited outcome assessment measures consisting of the ACS and three scenarios.

More recently, there was an Australian evaluation study conducted within a rural Catholic school with 157 grade 9 students (Eacott & Frydenberg, 2008). Teachers instructed the BOC program and the outcome was evaluated using pretreatment and posttreatment assessments of the ACS and Kessler Psychological Distress Scale (K10; Kessler & Mroczek, 1994), as well as qualitative interviews. The study was conducted over two school years. For the initial school year, the program had to be administered intensively, in 2.5 days over 4 weeks. For the second school year, the program was administered in its traditional format of 10 sessions over 10 weeks. The students were separated based on "risk" level for depression, as indicated by high scores on the K-10, into high-, moderate- and low-risk. Dosage effect of program administration (i.e., intensive versus traditional) was found not to be related to outcome. Therefore, neither format was found to be any more helpful than the other. Analyses were conducted by separating the sample into risk level (high-risk $n = 14$ versus low- to moderate-risk $n = 100$). The researchers found that the high-risk group reported a greater decrease in use of Non-productive coping from pretest to posttest, whereas those in the low- to moderate-risk group reported minimal change in Non-productive coping and a decrease in use of Productive coping. As such, the program appeared to be most helpful for those in the high-risk group. Further exploration of the 18 ACS coping strategies demonstrated that

those in the high-risk group reported an increased use in seek to belong and a decreased use of tension reduction as coping strategies from pretest to posttest, whereas the low- to moderate-risk group reported a decreased use of seek to belong and increased use in tension reduction. Level of distress, as measured by the K10 was also examined for the high-risk group. The mean level was found to decrease for the high-risk group significantly from pretest to posttest. Qualitative interviews demonstrated themes of positive program effects, such as program benefits and changes in pre-program to post-program coping. Overall, the researchers concluded that the BOC program was particularly beneficial for at-risk rural adolescents (Eacott & Frydenberg). Limitations to this study included the limited outcome measures, small sample size of the high-risk sample (n = 14), no control group when examining treatment effects, and no follow-up assessment.

An evaluation of an Italian translation of the BOC program was conducted in a rural community in Italy with 26 adolescents who were identified as experiencing low self-efficacy and problem solving skills (Frydenberg, 2004a, 2004b). As described by Frydenberg (2004b), there were 13 adolescents (2 male and 11 female) between 15 and 16 years who made up either the intervention or control groups. Those who participated in a 12-session version of the BOC program indicated greater use of focusing on the positive, working hard, and problem solving, and less use of wishful thinking and tension reduction after participating in the study. In contrast, the 13 students who made up the control group reported a decreased use of problem solving, and increased use of wishful thinking and tension reduction (Frydenberg, 2004b). As such, the program demonstrated some effectiveness in improving the coping skills endorsed by the participating

adolescents, and was found to be generalizable to adolescents in another country. Similar limitations were found in this study. The sample size was small (i.e., both groups only had 13 students) and it was not an independent study. Also, there was no follow-up assessment and they only used the ACS as the outcome measure.

The first independent and cross-cultural study of the BOC program included French-speaking adolescents from a youth service centre in Quebec City, Quebec, who were between the ages of 13 and 18 years (Pronovost et al., 2005). In particular, one of the treatment groups consisted of nine male adolescents (M = 14.86 years) and the other consisted of eight female adolescents (M = 15.33 years). The adolescents receiving the intervention were compared to two control groups, one consisting of six males (M = 15.17 years) and the other consisting of eight females (M = 14.63). Pronovost and colleagues found that the adolescents in the program, particularly the male adolescents, reported decreased use in non-productive coping strategies (e.g., tension reduction, ignore the problem, not coping), as measured on a French translation of the ACS, compared to adolescents in the control groups. In particular, the male treatment group reported decreased use of wishful thinking, not coping, tension reduction, self-blame, health complaints, and keep to self as coping strategies from pretest to posttest compared to the male control group. The female treatment group reported decreased use of tension reduction, and ignore the problem as coping strategies from pretest to posttest compared to the female control group. For both genders, the use of the productive coping strategies of focus on solving the problem and seeking professional help increased in the intervention groups but not in the control groups. Pronovost and colleagues found that the BOC program was more beneficial for male adolescents as they reported using six

maladaptive coping strategies less frequently after their participation as compared to female adolescents who reported a decreased use of two maladaptive coping strategies. These gender differences in treatment impact was in contrast to a previous study, which showed greater improvements for female participants compared to male participants (Bugalski & Frydenberg, 2000; Frydenberg et al., 2004). The authors suggested that this may have resulted because the genders were in separate groups rather than receiving the intervention together, and as such, the discussions and activities undertaken were tailored to the specific gender (Pronovost et al.). Overall, the BOC program did show some modest improvements in the use of coping strategies by the participating adolescents, although most strategies did not differ significantly after the intervention. Limitations to this study were: a small sample size (especially since the statistics were broken down by gender), one outcome measure (the ACS), and there was no follow-up evaluation of the program. Nevertheless, Pronovost and colleagues did undertake the first cross-cultural and independent study of the BOC program. In addition, a unique feature of their study was how the groups were separated by gender.

An independent study (Fisher, 2006), that was an unpublished dissertation, was conducted in the United States. The sample consisted of 20 female adolescents between 15 and 18 years of age identified as at-risk by school personnel (i.e., demonstrating three or more areas of need, including specific behavioural/emotional, academic and/or social difficulties). The researchers evaluated the impact of the program on adolescents using the ACS as well as a measure of self-concept called the Multidimensional Self-Concept Scale (MSCS; Bracken, 1992). The participants were separated into two experimental groups (seven in each) and one waitlist control group consisting of six individuals.

Overall, those in the intervention groups significantly increased their use of the following productive coping strategies: focusing on the positive, physical recreation, and seeking spiritual support. Additionally they reported a decrease in use of wishful thinking and not coping. Both waitlist and intervention groups reported improvements in solving the problem. In relation to self-concept, family self-concept improved in the intervention group. Another component to the study was qualitative reports from the participants posttreatment. Themes that emerged included: enjoying the program, benefiting from the group experience (feelings of belongingness, mutual understanding), and becoming more aware of their coping styles and techniques. Additionally, the researcher looked at school measures of performance (attendance, GPA and disciplinary infractions), however, no significant differences were found. Limitations to the study included the small sample size, inability to randomly assign participants (due to six parents only consenting for their daughters to participate in the waitlist control group), researcher having previous therapeutic relationships with some of the participants prior to the study, and primarily relying only on self-report.

Taken together, these ten evaluation studies of the BOC program demonstrate some improvements in the coping strategies and styles endorsed by the participating adolescents. These findings are promising, given that most of the studies were implemented as a preventative effort to all students in classes (versus only those with identified difficulties). As discussed by Frydenberg and her colleagues (Cunningham et al., 2002; Frydenberg, 2004a, 2004b; Frydenberg et al., 2004), the program has demonstrated some effectiveness with adolescents between 11 and 13 years, as well as adolescents identified as at-risk between 14 and 17 years of age. One of the most

consistent findings was the increase in Reference to Others coping style. The researchers have noted that the participants' gender and instructors' training impact program effectiveness (Frydenberg, 2004b; Frydenberg et al.; Pronovost et al., 2005), indicating a need to account for these within an evaluation study.

Two additional studies have been conducted in Australia using modified versions of the BOC program (D'Anastasi & Frydenberg, 2005; Firth, Frydenberg, & Greaves, 2008). For the first study, it was noted that only seven of the ten modules were included and that the module on maladaptive coping was implemented in two sessions with 105 (12- to 15-year-old) adolescents (D'Anastasi & Frydenberg). The study included 57 youths in four classes comprising the initial treatment group, and 48 youths from two classes comprising the waiting list control group. Assignment was not random due to scheduling constraints. A unique aspect of this study was examining how coping may differ between different ethnicity groups (namely, Australian European, Anglo-Australian, and Australian minority groups). The researchers analyzed changes in coping and the interaction with ethnicity for those in the treatment group only (therefore the control groups were not included in the analyses). They found that Australian Europeans reported an increased use of self-blame, whereas both the Anglo-Australian and Australian minority adolescents generally reported a decreased use of this negative coping strategy. In addition, Australian minority adolescents reported a decreased use of physical recreation whereas Australian European and Anglo-Australian adolescents reported an increase in use from pre- to post-treatment.

The second study evaluating a modified BOC program, as well as a teacher feedback program, was also conducted in Australia with 98 adolescents between 12 and

16 years of age who were identified as having learning disabilities (Firth et al., 2008). The research design consisted of four groups in total: revised BOC program, Teacher Feedback program, combined, and waitlist control groups. Despite an attempt at random assignment, school scheduling and teacher availability impacted the selection to groups. The modified BOC program consisted of revised versions of content from four of the ten modules of the original BOC program, which were modified for youth with learning disabilities. The content of each of the modules were extended across two to three sessions each, the program was restructured around individually set goals, and the written content of the manuals were reduced as much as possible. There was a pretreatment, posttreatment and 10 week follow-up assessment, with two measures of perceived control (Locus of Control Scale for Children [Nowicki & Strickland, 1973] and Children's Internal Coping Self-Efficacy Scale [Cunningham, 2002]), as well as the ACS. Fidelity was monitored by observations of sessions and diaries completed by the teachers instructing the programs, but not quantified. The researchers found that the revised coping program demonstrated some significant improvements in perceived control at follow-up testing, as well as the productive coping strategies of work hard (at both posttest and follow-up) and solve the problem (at follow-up).

Limitations of Past Research

There are several limitations to the above studies that warrant the further evaluation of the BOC program. First, the majority of the studies discussed were implemented or written up by the creators of the program, and as such, requires replication from independent researchers to be considered truly effective, as per many research standards, such as the criteria developed by the Section on Clinical Psychology

of the American Psychological Association's Task Force and the Hawaii Empirical Basis to Services Task Force (Chorpita et al., 2002; Lonigan, Elbert, & Johnson, 1998). Although there have now been independent studies, such as the one conducted in Quebec by Pronovost and colleagues (2005) and an unpublished dissertation in New Jersey by Fisher (2006), limitations to the methodologies warrant further replication.

Four of the previous studies do not have control groups, which help determine whether or not the changes from pre- to post-treatment were due to time passing and maturation, or due to the intervention itself. Even when there are control groups, some studies do not engage in random assignment. Seven of the studies do not include follow-up evaluations of the study, therefore not providing any data on the long-term effectiveness of the program. As well, a limited number of outcome measures (primarily only the ACS) and informants (adolescents) were used. Finally, none of the studies quantify program adherence.

1.6 Rationale and Purpose of the Present Study

There are many adolescents who are in need of assistance, as they are having difficulty managing the stressors of their adolescent years, including daily hassles, major life events, and life changes. Coping can impact how adolescents fare with stress, and ultimately relate to how well they adjust. Targeting and enhancing coping strategies is a viable intervention for adolescents. The BOC program is a developmentally appropriate manualized treatment intended to be a prevention program to assist adolescents with coping more effectively with the stressors they will inevitably experience.

The purpose of this study was to conduct an independent cross-cultural evaluation of the BOC program, which was developed in Australia, to a city in Southwestern

Ontario, Canada. Although Pronovost and colleagues (2005) conducted a study in Quebec, it was in French and used a small sample of adolescents through a youth centre instead of within a school setting. This study targeted adolescents identified as at-risk or experiencing some coping difficulties and was a secondary prevention school-based intervention.

In order to address some of the limitations to the previous evaluation studies of the BOC program, this present study employed several methodological standards. First, the study used a waitlist control group to compare to the treatment group at pre- and post-treatment. Second, the assignment of the adolescents was primarily random or quasi-experimental, depending on the number of adolescents identified and number of schools participating within the study. Third, multiple measures and informants were used to thoroughly evaluate the program. In order to truly determine the effectiveness of the program as suggested by the EBT research (Kazdin, 2004; Kendall et al., 1999; Wampold et al., 2002), multiple constructs of adjustment were measured. The present study examined coping strategies, perceived stress, perceived control or mastery, symptomatology, and well-being (i.e., life satisfaction and happiness). *Stress appraisal* refers to how the individual evaluates the stressor (threat, and/or challenge), and whether or not he/she thinks that he/she has the resources to cope with the stressor. *Mastery orientation* or *perceived mastery* refers to an individual's perception of control over external events (Pearlin, Menaghan, Lieberman, & Mullan, 1981). S*ymptomatology* refers to the emotional, psychological, and behavioural problems an individual displays, which can include both internalizing (e.g., anxiety, depression) and externalizing (e.g., conduct problems and hyperactivity) problems (Goodman, 1997). *Life satisfaction* is

considered a subjective aspect of well-being and refers to an individual's perceived quality of life (Huebner, 1991). *Happiness* refers to the affect component of subjective well-being, indicating how an individual feels emotionally (Andrews & Robinson, 1991). Although overall adjustment can be conceptualized as comprising of a number of various components, these constructs were chosen to represent a wide array of areas of functioning that an intervention targeting adolescent well-being might impact. Fourth, there was a follow-up testing for the initial treatment group approximately two to three months after the intervention was completed in order to examine long-term effectiveness. Fifth, as discussed by researchers in the area of EBTs (Durlak & Wells, 1997, 1998; Kazdin; Nathan et al., 2000), adherence to the manualized treatment approach or quality assurance was monitored by taping the sessions and coding sessions for adherence, therapist/facilitator reports, and supervision throughout the treatment process. Finally, the study controlled for therapist/facilitator characteristics (amount of experience/training, helpfulness/understanding) and adolescent participant characteristics (motivation level, participation level, gender, pretreatment symptom severity), as well as measured adolescent perceived effectiveness of the sessions and intervention.

Research Hypotheses

Hypothesis 1. There will be an increase in a) positive primary and secondary stress appraisal (perceived problem as challenge and that they have the necessary resources), b) use of active and adaptive coping strategies, c) control orientation/perceived mastery, d) happiness and e) life satisfaction for the adolescents participating in the BOC program from pre- to post-treatment. This improvement will be

greater for the treatment group than for those in the waitlist group, who are expected to remain relatively constant from pre- to post-treatment testing.

Hypothesis 2. There will be a decrease in a) perceived stress (perceiving problem as a threat), b) symptomatology, and c) more maladaptive (avoidance) coping strategies in the adolescents participating within the BOC program from pre- to post-treatment. This decrease in stress level, symptomatology, and maladaptive coping will be greater for the treatment group compared to the waitlist group at posttreatment, who are expected not to report significant change in stress level, symptomatology and coping strategies from pre- to post-treatment testing.

Hypothesis 3. In general, the program will be perceived as helpful both at posttreatment and follow-up assessment. In particular, it was hypothesized that the adolescents would rate the sessions as helpful, and that all informants would indicate that the program helped the adolescents both in relation to their symptom difficulties, as well as in other ways (e.g., providing information).

Hypothesis 4. The improvements in perceived stress, life satisfaction, happiness, perceived mastery, coping, and symptomatology are expected to persist at the two to three month follow-up.

Hypothesis 5. Although it is hoped that therapist characteristics will remain fairly consistent across groups, if there is much variability, it is hypothesized that a) the greater the training/experience and b) the greater the (client perceived) helpfulness and understanding, the more effective the BOC program will be.

Hypothesis 6. If there is much deviation, adherence level will be related to the effectiveness of the program.

The manual itself thoroughly details the treatment, however, as stated by the authors, there is enough flexibility to alter the program to meet different needs (Frydenberg & Brandon, 2002a). As there may be occasions when the best action is to deviate from the manual, this may result in better effectiveness of the program. However, there may be times that the deviation will not be of benefit. As such, this hypothesis is non-directional and exploratory in nature.

Hypothesis 7. The adolescent characteristics of: a) gender, b) symptomatology level, c) participation level, d) motivation and e) interest in the program will be related to the effectiveness of the intervention.

In particular, a) there will be some gender differences in the effects of the BOC program, such as those previously found by Frydenberg and colleagues (2004). Female participants are hypothesized to report greater improvements in problem-focused and active coping strategies, and male participants are expected to report greater improvement in seeking out social support and help from others.

In addition, b) pretreatment symptomatology level is hypothesized to be related to treatment effects. Some research examining symptom severity with individuals with diagnosable or high level of symptoms have shown a negative association with outcome (e.g., Başoğlu et al., 1994; Kazdin & Crowley, 1997; Ruma, Burke, & Thompson, 1996). However, as this is a secondary prevention intervention, those participating are not exhibiting such severe levels of symptoms and therefore the opposite effect might be found: as those with higher but sub-clinical levels of symptomatology will have more "room" to improve and therefore demonstrate the most change. Such inconsistencies in findings have been noted in previous secondary prevention studies. For example,

although typically found to be related to poorer outcome, youths participating in secondary prevention with externalizing problems were found to have the largest effect size (Mean ES = 0.72), when compared to youths with other presenting issues (e.g., mixed, internalizing) (Durlak & Wells, 1998). In addition, the BOC program was previously found to be particularly helpful for adolescents identified as at-risk or high-risk versus those who were identified as being within the main to resilient groups or low- to moderate risk (Bugalski & Frydenberg, 2000; Eacott & Frydenberg, 2008). Given these mixed findings in the literature, the current hypothesis is exploratory and non-directional.

It is also hypothesized that the more c) participation and b) motivation the adolescents exhibit, and e) the more interested they are in the program, the greater the effectiveness of the program.

CHAPTER II

METHOD

2.1 Participants

Participants were 74 (33 male and 41 female) students between 13 to 16 years of age (M= 14.70, SD = .74). The participants were recruited from four Catholic high schools in a midsized city in southwestern Ontario. The mean age for the females was 14.66 years (SD = .83) and the mean age for the males was 14.76 years (SD = .61). The majority of the sample were Caucasian (78.4%), followed by 9.5% Biracial or Multiracial, 5.4% Black, 5.4% Other, and 1.3% not specified. Approximately 47% of the adolescents' parents were married, 22.9% divorced, 20.3% separated, 4.1% never married, 2.7% living together, and 2.7% widowed. The sample was primarily from low to middle socioeconomic status (SES) families. Specifically, the mothers' Hollingshead (1975) occupation level composition for those who reported included: 10.7% menial service or unemployed, 10.7% unskilled workers, 14.3% machine workers or semiskilled workers, 5.4% manual workers and craftsmen, 16.1% clerical and sales workers, 16.1% technicians and semi-professionals, 16.1% managers and minor professionals, 7.1% medium business and administrators, and 3.6% major business and professionals. Mothers' education level was 11.4% less than high school, 42.9% high school or equivalent, 14.2% some college or university, 27.1% graduated from university or college, and 4.2% completed graduate or professional school. The fathers' occupation level composition included: 6.7% menial service or unemployed, 13.3% unskilled workers, 23.3% machine workers or semiskilled workers, 25.0% manual workers and craftsmen, 3.3% clerical and sales workers, 5.0% technicians and semi-professionals,

11.7% managers and minor professionals, 6.7% medium business and administrators, and 5.0% major business and professionals. Fathers' education level was 15.1% less than high school, 37.8% high school or equivalent, 16.7% some college or university, 24.2% graduated from university or college, and 6.0% completed graduate or professional school. Number of siblings ranged from 0 to 7 (M = 1.99, SD = 1.51).

The participants were identified by themselves, parents, or school personnel as individuals who could benefit from learning different ways to deal with stress. This included if the adolescents were experiencing a number of stressful events at once, displaying problems behaviours or emotional difficulties, and/or or attempting to avoid dealing with stressors.

Adolescents who were exhibiting severe behavioural or emotional problems, including: a diagnosed psychiatric disorder (e.g., ADHD, Bipolar disorder), legal problems/troubles with the law, and serious threat to self or others, were not included in the study. During the recruitment process, these exclusion criteria were described to the adolescents, parents and school personnel within the information packages, meetings, and consent forms. As the recruitment process was by self, parent, or school personnel endorsement, information regarding the number of adolescents for whom any of these applied was not available. Thus, the number of adolescents who met each of these exclusion criteria was not included in this study. These adolescents were excluded because they required more intensive services. The adolescents and parents were provided with a list of resources in the community, including youth centres, community health agencies, and walk-in crisis services, which was included with their consent forms. When possible, referrals were made to appropriate services. The adolescents were also

recommended to have at least a grade 7 reading level (Flesch-Kincaid reading level of student manual was 6.7), since the program is largely presented through written text and activities. Two students were excluded from the study after the pretest assessment as a result of this exclusion criterion. Seven adolescents participated with below grade 7 reading level because this information was provided retrospectively by teacher report after their participation was initiated. Data from six adolescents were excluded from the analyses given the questionable nature of the accuracy of their survey responses. In one case, the questionnaires were read to the adolescent at their request (at every assessment); these scores were included in the analyses.

Of the 74 adolescents recruited, 39 (23 females, 16 males) comprised the initial treatment (TM) group and 35 (18 females, 17 males) comprised the waitlist control (WL) group. There were a total of 10 groups: 5 groups consisting of the treatment and waitlist groups with between 5 to 10 adolescents per group. The TM and WL group sample sizes are consistent with what Chorpita and colleagues (2002) have stipulated in their research criteria for methodologically sound studies supporting treatment efficacy/effectiveness. In particular, they indicated that in order to have adequate statistical power, group sizes need to include approximately 30 individuals.

Equivalence of Groups

As shown in Table 2, the groups were generally equivalent on demographic characteristics, including gender, age, ethnicity, parent education and occupation status, and number of siblings. The equivalence of the TM and WL groups was analyzed by conducting *t*-tests or chi-squared analyses. Number of stressors rated by the youths

Table 2.

Demographic Characteristics of the TM and WL Groups at Pretreatment Assessment

	TM Group				WL Group				
Demographics	*n* (%)	*M*	*SD*	Range	*n* (%)	*M*	*SD*	Range	*p*
Gender	39	.59	.50	0 to 1	35	.51	.51	0 to 1	.521
Age	39	14.59	.75	13 to 16	35	14.83	.71	13 to 16	.163
Ethnicity:									.785
Caucasian	29/38 (76.3%)				29/35 (82.9%)				
Black	2/38 (5.3%)				2/35 (5.7%)				
Other	3/38 (7.9%)				1/35 (2.9%)				
Biracial/Multiracial	4/38 (10.5%)				3/35 (8.6%)				
Number of Siblings	39	2.10	1.77	0 to 7	35	1.86	1.17	0 to 5	.480
Mother Education Level	35	4.57	1.33	2 to 7	35	4.71	1.13	2 to 7	.630
Father Education Level	33	4.67	1.36	1 to 7	33	4.64	1.14	3 to 7	.922
Mother Occupation Level	31	4.68	2.20	1 to 9	25	4.84	2.49	1 to 9	.799
Father Occupation Level	32	4.53	2.29	1 to 9	28	4.04	2.17	1 to 9	.393
Receiving Treatment	6/36 (16.7%)				4/33 (12.1%)				.841
Taking Medications	8/39 (20.5%)				8/35 (22.9%)				1.000
Number of Stressors (ALCES)	39	7.92	4.39	1 to 19	35	6.33	3.75	0 to 18	.185
SDQ Total Difficulties	39	14.33	4.58	6 to 22	35	11.46	4.93	3 to 20	.012*
Reading level (teacher report)									1.000
Grade 7 or above	33 (84.6%)				29 (82.9%)				
Below grade 7	3 (7.7%)				3 (8.6%)				
Not reported	3 (7.7%)				3 (8.6%)				

Note. Comparisons were made using *t*-test for equality of means (2-tailed) or chi-squared test using Likelihood ratio or continuity correction. Group *n* sizes differ due to missing data.

For gender 0 = male and 1 female; Ethnicity Breakdown: Black (African Canadian or Caribbean) and Other (e.g., East Asian, Hispanic) Used Hollingshead (1975) Education breakdown: 1 = less than 7 years; 4 = High school or equivalent diploma; to 7 = graduate/ professional school; Occupation breakdown: 1 = Laborers/Menial Service Workers; 5 = Clerical and Sales Workers; to 9 = Higher Executives/Major Professionals

* significant at $p < .05$

were relatively similar across groups, with the average youth in the TM group rating between 7 to 8 stressors since the beginning of the school year and those in the WL group rating between 6 and 7 stressors on average. The characteristic that the two groups differed significantly on was that of symptom severity, as measured on the SDQ Total Problems scale. As shown in Table 2, the TM group reported experiencing greater symptomatology on average, compared to the WL group. Despite the higher average rating of pretreatment symptomatology for the TM group, it was still within the Normal range on the SDQ measure (Goodman, Meltzer, & Bailey, 1998).

There were 16 youths (8 in each group) who were receiving medications for a variety of issues (e.g., asthma, attention difficulties). Ten adolescents reported currently obtaining treatment elsewhere (6 from the TM group and 4 from the WL group). This included school counsellors, counsellors in the community, social workers, and a psychologist.

Fifteen parents (13 mothers and 2 fathers at pretest; 12 mothers and 3 fathers at posttest) completed measures on their participating adolescents in the TM group and 10 (6 mothers and 4 fathers for both assessment times) from the WL group for the pretest and posttest analyses.

There were 27 adolescents in the TM group with completed teacher reports (less than 50% missing data), and 25 within the WL group for the pretest to posttest analyses. T-tests for equality of means examining the ratings of how familiar teachers were with the students and perceived accuracy of their responses (0 to 4 scales), demonstrated that they were similar for TM and WL groups across the three assessments, all *p*s > .20. Mean familiarity ratings for the TM group ranged between 2.04 to 2.28 across all three

assessments and between 2.20 and 2.28 for the WL group. Perceived accuracy of responses ranged between 2.21 and 2.78 for the TM group and between 2.52 and 2.94 for the WL group across the three assessments.

2.2 BOC Program Manuals

The BOC program instructor manual (Frydenberg & Brandon, 2002a) and student workbook (Frydenberg & Brandon, 2002b) were used in the present study. Each instructor and student had his or her own manual. The program was developed for and used with adolescents in Australia, therefore a few language changes were made to the manuals to better suit a Canadian sample of adolescents (see Appendix A for a list of the changes). For example, terminology not used in Canadian language, such as "Year" instead of "Grade" (e.g., Year 9 instead of grade 9) and "Mum" instead of "Mom," "Maths" instead of "Math," were changed to appropriate Canadian equivalents. As well, the list of community resources that was provided in the student manual was specific for Melbourne, Australia and therefore replaced with a local list of community resources. Three examples or stories provided in the manuals were Australian specific or out of date, and in such cases, were replaced with recent and/or Canadian alternatives. The actual lessons, activities, and format of the manual remained in the original. Permission to use and make the above minor changes to the program was provided by Dr. Frydenberg, the originator of the program. As permission was granted to use the student manual free of charge for one school year (2006 to 2007), student manuals were purchased from the publisher for the second year recruits.

2.3 Measures

Adolescent Measures

Background information. Demographic information, including birthdate, age, gender, grade, ethnicity, parental marital status, family composition and parental education and employment status, were collected. Items inquiring about whether the adolescents were currently receiving professional services or counselling, had medical conditions, and/or used prescription medications were also included. See Appendix B for this questionnaire.

Adolescent stress. In order to assess adolescent stress, the Adolescent Life Change Event Scale (ALCES) (Yeaworth, McNamee, & Pozehl, 1992; Yeaworth, York, Hussey, Ingle, & Goodwin, 1980) was administered to the adolescent participants. The ALCES consists of 31 items to which the adolescents are asked to indicate whether the events happened to them during the past year (Yes or No), such as "a parent dying" or "trouble with teacher or principal". There also are two items left blank for participants to describe any other events they had experienced during that timeframe. The wording was updated on three of the items ("hassling" changed to "fighting", "flunking" to "failing").

In a review of the measure's construction and use within the literature, researchers reported that the ALCES has acceptable reliability (Spearman *r*s = from .93 to .98) and validity with relations found between the measure and various adolescent stressors, both physiological (e.g., hypertension) and psychological (e.g., suicidality) in nature (Yeaworth et al., 1992).

The ALCES measure was chosen as a brief measure of life stressors adolescents may experience, to examine the stress level of each adolescent. Although not an outcome

measure, the greater the stress level, the more at-risk the adolescent is for potential coping difficulties. This was measured at each testing session in order to examine whether the stress level remained consistent for the adolescents or altered throughout the time-frame of the study. The internal consistency of the ALCES was adequate across all testing sessions of the present study (Appendix C).

Stress appraisal. To assess stress appraisal the Stress Appraisal Measure for Adolescents (SAMA; Rowley, Roesch, Jurica, & Vaughn, 2005) was administered. The SAMA is a concise measure of stress appraisal that was developed and tested on a group of minority adolescents (Rowley et al.). It was based on the original Stress Appraisal Measure (SAM; Peacock & Wong, 1990). The SAMA is a 14-item measure that examines dispositional stress appraisal. Adolescents are asked to indicate how they *generally* think and feel about stressful events, rating the items on a 5-point scale from 0 = *not at all* to 4 = *a great amount*. The SAMA has been found to consist of a three factor structure through exploratory and confirmatory factor analyses (Rowley et al.). In particular, with a sample of 172 adolescents (between 14 to 18 years of age), the researchers found there were two primary appraisal dimensions of Threat and Challenge, and one secondary appraisal dimension of Resources. Of the original 24 item SAM measure, Rowley and colleagues dropped 10 items because they did not meet the criteria of having a primary loading that exceeded .50 and a secondary loading that was less than .30. The reliability statistics of the factors were adequate and ranged between $\alpha = .79$ and .81. Convergent and divergent validity were found with the expected correlations between the three scales and measures of different constructs, such as depression and

hope (Rowley et al.). The internal consistencies of the SAMA scales across all testing sessions of the present study were adequate to good (see Appendix C).

Perceived mastery. The 7-item Pearlin Mastery Scale (PMS; Pearlin et al., 1981) was used to assess adolescents' perceived mastery or control orientation. Participants were asked to rate on a 4-point scale (1 = *strongly disagree* to 4 = *strongly agree*) how much they agreed with seven statements regarding their perception of control over life events (e.g., "There is really no way I can solve some of the problems I have"). The items worded with external orientation (i.e., no control over situations) are reverse-coded so that higher scores on the measure represent an internal orientation or greater perceived control or mastery.

Pearlin and colleagues (1981) constructed the measure for a study examining the stress process with a longitudinal study including 2,300 adults between 18 and 65 years of age. The validity of the measure was supported by confirmatory factor analysis. The long-term stability of the measure over four years was found to be $r = .44$. A longitudinal study with approximately 1000 adolescents (1001 in grade 9 and then 962 in grade 10 at the second wave) found one year stabilities were .48 for the male adolescents and .65 for the female adolescents (Finch, Shanahan, Mortimer, & Ryu, 1991). The measure has adequate psychometric properties and has been previously used successfully with adolescents. The PMS's internal consistency was adequate in this study (Appendix C).

Coping. Participants were asked to complete two measures of coping to examine if any measured changes in coping were measure-specific (De Los Reyes & Kazdin, 2008). Since the Best of Coping program was developed based on the Adolescent Coping Scale (ACS; Frydenberg & Lewis, 1993b), it was one measure of coping utilized

in this study. The General Form version of the ACS, which measures how the adolescent copes with stressors in general (Frydenberg & Lewis, 1993b, 2004) was used. The ACS consists of 80 items, 79 items describe particular coping actions that comprise 18 strategies (approximately 3 to 5 items each), and one item is an open-ended question for which the adolescents indicate any other coping actions they might have engaged in that was not included in the measure. Participants were asked to indicate using a 5-point scale (1 = *doesn't apply or don't use it* to 5 = *a great deal*) how often he/she utilized the coping actions. The 18 coping strategies are combined into three different coping styles, Solving the Problem, Non-productive Coping, and Reference to Others. The three coping styles are not mutually exclusive, as the scale seek to belong is included in both Solving the Problem and Non-productive Coping styles and seek social support is included in both Solving the Problem and Reference to Others coping styles.

The reliability of the measure is considered sufficient, particularly considering how coping is perceived as a changing process (Frydenberg & Lewis, 2004). Cronbach alphas for the 18 scales are .54 and above (Frydenberg & Lewis, 1993b), with a median alpha of .70 (Frydenberg, 2004b; Frydenberg & Lewis, 1993b). The stability of the test-retest scale scores range from .44 to .81 (Frydenberg; Frydenberg & Lewis, 2004). Such reliability statistics are comparable to other commonly used measures of coping, with the typical range for alpha coefficients ranging between .60 (but as low as .36) and .85, and the test-retest reliability ranging between .41 to .83 over one week and .57 to .91 over two or three weeks (Compas et al., 2001). The validity of the measure has been established through cross validation and factor analyses (Bugalski & Frydenberg, 2000; Frydenberg & Lewis, 1993b). During part of the initial phases of its development, the reading level

of the ACS was measured to be comprehensible to youths between 12 and 15 years old (grades 7 and 9) by administering the scale to 30 youths at the two grade levels. The internal consistencies of the three overarching coping style scales were all adequate to good (.61 to .88) in the present study. Generally, the Cronbach alphas were adequate (i.e., above .60) for the 18 coping strategy scales, except for the scale of seek relaxing diversions, which was quite poor across all four testing occasions. In addition, for four other coping strategy subscales (i.e., not cope, social action, seek to belong, and physical recreation) the internal consistencies were generally adequate, aside from one of the four testing occasions, which ranged between .59 to .53, which was still within the alpha coefficient range (.36 to .85) found for commonly used adolescent coping measures (Compas et al., 2001). The internal consistency values for all of the ACS measure scales for each testing of the present study are presented in Appendix C.

The Coping Across Situations Questionnaire (CASQ; Seiffge-Krenke, 1995) was also used to measure coping. The original CASQ contains 20 coping strategies (e.g., "I discuss my problem with my parents/other adults") to which participants indicate whether or not they used them in relation to eight problem areas (e.g., peers, self, parents), creating a 20 by 8 matrix. The present study used a modified version of the measure. Instead of completing the measure for eight problem areas, participants were asked whether or not they use the coping strategies "when they have a problem." This has previously been done with the measure by Herman-Stahl and colleagues (1995) with 602 American adolescents in grades 6 to 11. It is important to note however, that not all changes to the questionnaire that was conducted by Herman-Stahl and colleagues were done to the CASQ within the present study (e.g., 18 versus 20 items, 5 point Likert scale

versus Yes/No response) in order to decrease the number of changes made to the measure.

The CASQ has demonstrated adequate to good psychometric properties. A factor analysis conducted with 675 German adolescents demonstrated a three factor structure of Active Coping (Cronbach α = .80), Internal Coping (Cronbach α = .77) and Withdrawal (Cronbach α = .73), which accounted for 55% of the variance (Seiffge-Krenke, 1995). These factors were supported in confirmatory factor analyses with samples in Israel and Finland (Seiffge-Krenke). The stability coefficients found between three different testing sessions completed every four months ranged between .77 to .88 for Active Coping, .61 to .75 for Withdrawal and .47 to .66 for Internal Coping (Seiffge-Krenke). For the present study the internal consistency was adequate for the Active coping scale, but low to poor (α =.23 to .51) for the Internal Coping and Withdrawal scales, especially when compared to Seiffge-Krenke's reliability statistics for the scales. As a result of the revisions to the measure and the low internal consistencies of two of the CASQ scales, the Internal Coping and Withdrawal scales were excluded from the analyses and a Total coping score was created. The Total coping scale demonstrated adequate internal consistency except at the second testing session, which was low (α = .48) but within the alpha coefficient range previously found for adolescent coping measures (Compas et al., 2001). See Appendix C for the internal consistency of the revised CASQ in the present study.

Psychological functioning. Three measures were used to assess aspects of psychological functioning and/or well-being of the adolescents. The Strengths and Difficulties Questionnaire (SDQ) (Goodman, 1997, 1999, 2001) was used to assess

symptomatology. The SDQ is a concise behavioural screening measure that can be used to assess positive and negative behaviours of youths between 3 and 16 years of age (Goodman, 2001). There are equivalent versions of the measure for parents, teachers, and adolescents (11 to 16 years) to complete. The SDQ consists of 25 items that describe problems that a youth may be experiencing. These items are grouped together to form six scales, including: Total Difficulties, Emotional Symptoms, Conduct Problems, Hyperactivity/Inattention, Peer Problems, and Prosocial Behaviour. There are also five additional questions measuring the impact of the youths' problem behaviours, which comprise the Impact score (Goodman, 1999). There are follow-up versions of the SDQ measures that can be used after the implementation of interventions or services, which ask for how the adolescents are functioning during the past month and since they have been receiving services, as compared to during the past six months in the original versions.

The psychometric properties are well described and established (Goodman, 2001). Three different measures of reliability have been examined and reported, including the internal consistency of the scales, interrater agreement, and stability of scale scores over a four to six month time period. The internal consistency of the measure's seven scale scores based on a community sample of 5- to 15-year-olds in Britain ranged from $\alpha = .41$ to .81 for a sample of 3,983 youths for the self-report SDQ (Goodman). For the two scales used in this study (i.e., Total Difficulties and Impact scores) similar ranges in internal consistency was found for the present study across testing sessions ($\alpha = .41$ to .81 for first three testing occasions used in the analyses), aside from the Impact score at time 4 being relatively lower ($\alpha = .34$); however the data from this assessment time was

not used in the analyses. See Appendix C for the internal consistencies across all assessment sessions in the present study.

The interrater reliability Pearson *r*s ranged from .25 to .48 between parents and teachers, .30 to .48 between parents and youths, and .21 to .33 between teachers and youths (Goodman, 2001). Such interrater agreement is consistent with or even better than interrater agreement found with other multi-informant measures. In a meta-analysis of 269 samples provided by 119 studies, researchers (Achenbach, McConaughy, & Howell, 1987) calculated the mean *Q* correlations between different informants and found that the average *r* was .60 between similar informants (e.g., mother and father report) and .28 between different informants (e.g., teacher and parent report).

In relation to the stability of scale scores over four to six months, the correlations ranged between .21 and .62 for a sample of 781 youths for the self-report SDQ (Goodman, 2001). Since the timeline between the test and retest were relatively long for test-retest reliability, the difference in scores may in fact reflect changes in behaviours (Goodman). The validity of the SDQ has been established. The five-factor structure of the behaviour scales excluding the Total Problem scores was confirmed by a factor analysis, particularly for the parent report (Goodman). The teacher and self-report SDQ factor structure only diverged with the positively worded items loading on the prosocial factor. Within the factor analyses, there was little overlap with the items loading between the internalizing (i.e., Emotional Problems) and externalizing scales (i.e., Conduct Problems and Hyperactivity) (Goodman). The validity was also established with the association of the presence or absence of a psychiatric disorder from the fourth edition of Diagnostic and Statistical Manual or DSM-IV (American Psychiatric Association, 1994)

and the scale scores. In particular, Goodman found that those youths who received a high SDQ score (extreme 10%) were at a greater increased risk for having a psychiatric diagnosis. As well, the SDQ total scores have been found to have high correlations with the Rutter questionnaires' (Rutter, 1967) total scores (Goodman, 1997).

The Student Life Satisfaction Scale (SLSS; Huebner, 1991) was also included in the present study. The SLSS is a 9-item measure of global life satisfaction that can be used for children as young as 8 years of age, which youths rate on a 4-point scale (1 = *never* to 4 = *almost always*) (Huebner). The underlying assumption of this measure is that children and adolescents are capable of evaluating how their lives are globally or in general, beyond any particular arena, such as in the family or at school (Huebner & Alderman, 1993).

The SLSS has been found to be reliable and valid (Huebner, 1991; Huebner & Alderman, 1993). It has a single factor structure. The internal consistency ($\alpha = .82$) and one to two week test-retest reliability ($r = .74$) have both been found to be adequate (Huebner). Criterion validity has been demonstrated, such that it has been found to be correlated with self-esteem and parent estimates of child life satisfaction. As well, it has been found to be negatively correlated with measures of depression and loneliness (Huebner & Alderman). The internal consistency of the SLSS was high across all assessments in the present study (Appendix C).

Adolescent happiness was measured by a modified version of the Happiness Measure (HM; Fordyce, 1988). The HM consists of a single item to which adolescents rate their level of happiness or unhappiness on a scale from 0 (*extremely unhappy*) to 10 (*extremely happy*), which allows for greater sensitivity as compared to a smaller scale.

Since the present study examines the effectiveness of an intervention in fostering adolescent well-being, including affect, the wording of the instructions were altered to have the participants indicate how happy they have been feeling "these days" versus on average or for a longer time period. The one month test-retest reliability of the original measure was found to be good, at $r = .81$ (Fordyce). This measure has been used in past research examining coping and its impact on adolescent well-being (Wilkinson et al., 2000). Flesch-Kincaid reading level was measured to be 9.1 with the added descriptions included in the brackets. Without the added descriptors however, the reading level was at 7.8. With the pilot testing on two youths within the age range (15 and 16 years), the measure was still retained for the battery, particularly due to its ease of administration and brevity.

Youth post-session check-in. Adolescents were asked after each session to complete a brief 9-item check-in, which measured the adolescents' perceptions of the session and instructors' effectiveness, instructor helpfulness/understanding, as well as the adolescents' motivation, participation and interest in the program. There were also three questions that asked for an update on how participants are coping, feeling, and managing with their lives. All items are rated on a 7-point scale for greater sensitivity. See Appendix B for the measure. Flesch-Kincaid reading level was 8.0. Due to the higher reading level, prior to the first administration for each adolescent, the measure was described and verbally presented by the instructors to the adolescents to ensure their understanding.

Parent Measures

Background information. Demographic information, including birthdate, age,

gender, grade, ethnicity, parental marital status, family composition, and parental education and employment status, was collected. Parents were asked to indicate whether their adolescents had medical conditions, were currently receiving professional services or counselling, and/or were taking prescription medication. See Appendix D for this questionnaire.

Adolescent coping. Currently, there are only two known parent-report measures for child and adolescent coping (Compas et al., 2001) and these conceptualize coping in different ways, with different categories (e.g., Primary and Secondary Control) of coping styles and strategies than those found in the ACS and CASQ. As the intervention program was based on the ACS, a short parent-report questionnaire was developed for the present study based on the 18 different coping strategies identified by the ACS. Descriptions of the 18 different coping strategies from the ACS that were provided in the BOC instructor's manual (Frydenberg & Brandon, 2002a) were used to comprise the individual items. Parents were asked to rate on a 5-point scale (1 = *doesn't apply or don't use it* to 5 = *a great deal*) how often they believe their adolescent engages in the particular coping strategies. There are two open-ended questions where the parents described any other coping strategies their adolescents engaged in and rated how often they did so. Internal consistency of the measure at each testing is presented in Appendix E. The Non-productive coping scale Cronbach's α was adequate across each testing session (α = .63 to .79) and the Reference to Others coping scale was adequate at the pretest (α = .70) but then low for later testing occasions (α = .38 to .41) and very poor (α = -.34) for time 4 data which were not used for the analyses. The internal consistency for the original Solving the Problem coping scale was low (α = .18 to .45), but improved

with the removal of one item of seeking to belong (α = .36 to .76), forming the Revised Solving the Problem coping scale which was used for the analyses. Such reliability statistics are comparable to established measures of adolescent coping, with the typical range for alpha coefficients ranging between .60 (but as low as .36) and .85 (Compas et al.). These lower internal consistencies of coping are explained by researchers as sufficient since coping is perceived as a changing process (Frydenberg & Lewis, 2004).

Psychological functioning. Two parent-report measures were used to assess different aspects of psychological functioning and/or well-being of the adolescents. The parent version of the Strengths and Difficulties Questionnaire (SDQ) was used as a measure of symptomatology (Goodman, 1997, 1999, 2001). The internal consistency of the measure's seven scale scores (i.e., Total Difficulties, Emotional Symptoms, Conduct Problems, Hyperactivity, Peer Problems, Prosocial Behaviours, and Impact) based on a community sample of 5- to 15 year-olds in Britain ranged from α = .57 to .85 for a sample of 9,998 parents for the parent SDQ (Goodman, 2001). In relation to the stability of scale scores over four to six months, the correlations ranged between .57 and .72 for a sample of 2,091 parents (Goodman, 2001).

The internal consistency for the two SDQ scales used in this study (i.e., Total Difficulties and Impact scores) appears in Appendix E. The values are adequate and similar to what was reported by Goodman (2001).

To assess adolescent happiness, parents were asked to complete a modified version of the Happiness Measure (HM; Fordyce, 1988), parallel to that which was completed by the adolescents themselves. It consisted of a single item on which the parents rated their child's current level of happiness on a scale from 0 (*extremely*

unhappy) to 10 (*extremely happy*). One month test-retest reliability of the original self-report measure was found to be good, at $r = .81$ (Fordyce).

Teacher Measures

Psychological functioning. Two teacher-report measures were used to assess different aspects of psychological functioning and/or well-being of the adolescents. The teacher version of the SDQ (Goodman, 1997, 1999, 2001) was used as a measure of symptomatology. The internal consistency of the measure's seven scale scores (i.e., Total Difficulties, Emotional Symptoms, Conduct Problems, Hyperactivity, Peer Problems, Impact, and Prosocial Behaviours) based on a community sample of 5- to 15-year olds in Britain ranged from $\alpha = .70$ to .88 for a sample of 7,313 teachers for the teacher SDQ (Goodman, 2001). The stability correlations of scale scores over four to six months ranged between .65 and .82 for a sample of 796 teachers (Goodman, 2001). The validity of the SDQ has been established through factor analyses and correlations with other symptomatology measures and psychiatric diagnoses (Goodman, 2001). As shown in Appendix F, the internal consistency of the two teacher-report SDQ scales used in the present study was adequate to good except for Total Difficulties at time 4 ($\alpha = .57$), which was not used in the analyses.

The HM (Fordyce, 1988) was also used as a brief teacher-report measure of the adolescents' happiness. The wording of the instructions was altered so that the teacher was asked to rate how happy the student had been recently on a scale from 0 (*extremely unhappy*) to 10 (*extremely happy*).

Clarification questions. There were four items asking the teachers to indicate how familiar they were with the adolescents and how accurate they thought their

responses were (see Appendix G). This was to account for the fact that teachers may or may not be familiar with the adolescents they were rating, which can compromise the accuracy of the results.

Instructor Measure

Instructor post-session check-in. The facilitators/instructors independently completed a brief questionnaire after each session. On a 7-point scale, the instructors rated how well the session progressed, how much they deviated from the manual (and asked to describe how and why), as well as how helpful and understanding they (i.e., self and co-facilitator) were during the session. For an additional measure of program adherence, the instructors were asked to list the intended components of the session or module and the components actually covered. Facilitators were also asked to rate on a 7-point scale two items measuring perceived adolescent interest and participation. In particular, they rated how interested each adolescent appeared to be (1 = *not at all interested*; 4 = *fairly interested*, and 7 = *extremely interested*), as well as each adolescent's participation level (1 = *did not participate at all*; 4 = *participated a fair amount*, and 7 = *participated extensively*). See Appendix H for the measure.

Rating Scale of Program Adherence

A rating scale was created in order to measure program adherence. It was based on the instructor's manual, which lays out the program module by module. The adherence rating was determined by first adding the number of components, both main points or headings and the various minor points, covered during each session, as well as across sessions for the duration of the program. This number was then divided by the number of components that comprised the entire program, multiplied by 100. This

procedure has been conducted by others measuring treatment integrity (Sterling-Turner, Watson, & Moore, 2002).

2.4 Procedure

Recruitment and Nomination

Permission to conduct the study was obtained from the Research Ethics Board of the University of Windsor. The two school boards in the city, namely, the Greater Essex County District School Board and Windsor-Essex Catholic District School Board, were invited to participate. Permission was granted from the Windsor-Essex Catholic District School Board. The principals of the various Catholic high schools throughout Windsor, Ontario were then contacted and a total of four schools throughout the city consented to participate.

Once a school consented and appropriate staff (i.e., contact teacher) were identified to assist in the study recruitment at the individual schools, the recruitment method differed slightly depending on what was agreed to by the school administration and personnel. The target adolescents were identified by themselves, their parents, or school personnel as individuals who could benefit from learning coping strategies. Adolescents in grades 9 and 10 were asked to participate, in order to target the program to the suggested age range of 14 to 16 years (Frydenberg, 2004a). Within the initial school, the first step of the recruitment process was providing student newsletters (Appendix I), as well as parent information and consent packages for the school personnel to distribute to the entire grade 9 and 10 student population (approximately 300 students). The information letter (see Appendix I) briefly described the research study and program, and parents interested in having their son or daughter participate in the

study were asked to return the consent form (see Appendix J) sealed in the provided envelope to the school. The information packages stipulated that adolescents who were identified as individuals who could benefit from learning coping strategies were asked to participate in the study. The packages included a list of services for those unable or ineligible to participate. Due to low recruitment (2% recruitment rate), the second step of recruitment included visiting four classrooms (approximately 100 students) chosen by the school personnel as including a number of eligible students in grade 9 (and some in grade 10). A total of 15 parent consent forms were returned in total, with 13 eligible to participate in the study (those with reading level grade 7 or above).

Evening parent, adolescent, and teacher information sessions were held at the first two schools following the distribution of the information packages. Due to low turn out rates (consisted of 5 parents/guardians at the first school; 2 families including parents/guardians and youths at the second school), these were not conducted at the next two schools. Instead, I briefly visited classrooms to describe the study to the students and to provide information and consent forms.

As there was not a large enough response rate, the adolescents who were identified as at-risk (i.e., displaying difficulties coping) by school personnel were targeted and asked to participate as a final recruitment step. School personnel contacted the parents of the adolescents and the same research packages were provided to the adolescents and then sent by mail to ensure its arrival to the parents. Table 3 describes the recruitment methods and numbers obtained for each recruitment wave at all four schools.

Table 3.

Recruitment Procedures by School and Wave

School	Recruitment wave	Recruitment Method Deployed	Number Recruited
1	1 (Fall 2006)	1. School personnel sent out information/ newsletters and parent consent home to all youths in grades 9 and 10 (approximately 300 students) and evening information session was held.	1. Six
		2. I visited four classrooms (about 100 students) identified by school personnel. They were described the study and provided with parent and adolescent consent form packages to be returned.	2. Additional nine (With two who were not eligible due to reading level) Total: 13 eligible participants
2	1 (Fall 2006)	1. School personnel identified (approximately 30) youths in grades 9 and 10 who could benefit from this study and sent out parent information packages home with the students. An evening information session was held and then information sessions for students were held during school hours.	1. Not applicable
		2. School personnel contacted students and parents to find out if they were interested. Those who provided them with verbal consent were then followed up to obtain written consent. Packages were mailed to parents when required/requested.	2. Twenty-two indicated they were interested with 18 providing parent and adolescent consent
3	1 (Winter 2006-2007)	1. School personnel identified and contacted 20 eligible students in grades 9 and 10 and their parents. Parent information and consent packages were sent home with the students.	1. Not applicable
		2. School personnel followed up with students and parents who indicated that they were interested/provided verbal consent to obtain written consent.	2. Ten students provided both parent and adolescent consent

(*table continues*)

Table 3. (*Continued)*

School	Recruitment wave	Recruitment Method Deployed	Number Recruited
2	2 (Winter 2007)	1. School personnel identified 28 youths in grades 9 and 10 and sent out parent information packages home with the students.	1. Not applicable
		2. School personnel contacted students and parents to find out if they were interested. Those who provided verbal consent were then followed up to obtain written consent. Packages were mailed to parents when required/requested.	2. Seven students provided parent and adolescent consent
4	1 (Spring 2007)	1. School personnel identified a grade 10 course for which the program was appropriate for the curriculum. One class (out of 4) with 26 students was randomly chosen to participate. Parent information packages and consent forms were sent home.	1. Not applicable
		2. I visited the class to talk about study, another set of consent forms were provided to interested students.	2. Eleven students provided parent and adolescent consent
1	2 (Fall 2007)	1. School personnel were interested in running the groups again within the school. A year long class for identified (16) youth was recruited. I visited and described the study to the class and parent information and consent packages were provided for their parents.	1. Not applicable
		2. School personnel contacted parents to describe study and a second set of consent forms were sent to interested parents who required them.	2. All 16 adolescents obtained parent and adolescent consent, 15 were included in study (as 1 student was previously recruited)

Study Design

At first, a pretest-posttest waitlist control group design was used for the initial part of the study. Then, a two to three month follow-up for the TM group was undertaken at the same time the WL group had their post-treatment assessment. The length of time for the follow-up was dependent on when the control group completed the program. Then, the WL group also underwent a follow-up assessment approximately two to three months later. The study design appears in Table 4. The adolescents within each school were either assigned randomly to TM or WL group if the number of participating adolescents was large enough for two groups (49 students), or the random assignment occurred at the school level (for 17 students), thereby resulting in a quasi-experimental assignment. For eight (four male and four female) participants, their group assignment was not random or quasi-experimental due to extraneous circumstances (e.g., parent consent forms not in on time for start of treatment group, absences during group sessions). See Figure 1 for the sample flow chart across the entire study.

The majority of the adolescents completed their participation within a single school year. However, for 11 adolescents who were recruited in the spring, they were asked to complete the study in the following school year, which included the follow-up assessment (time 3) for both the TM and WL groups, as well as participation in the program and an additional follow up assessment (time 4) for the WL group.

Part 1: Pretest assessment. Students who were identified by their parents, themselves, or school personnel were asked to complete a battery of questionnaires as the pretreatment assessment. Those who had parental consent were asked to complete the measures in a group setting in school classrooms during school hours. The students were

Table 4.

Experimental Design of Study

Parts of Study	1 Pretest	2 Treatment	3 Posttest	4 Treatment	5 Follow-up	6 Follow-up
TM	A_1 & R/QE/NR	X	A_2		A_3	N/A
WL	A_1 & R/QE/NR		A_2	X		A_4

* R = random assignment, QE = quasi-experimental assignment, NR = Non-random assignment A = assessment, X = treatment

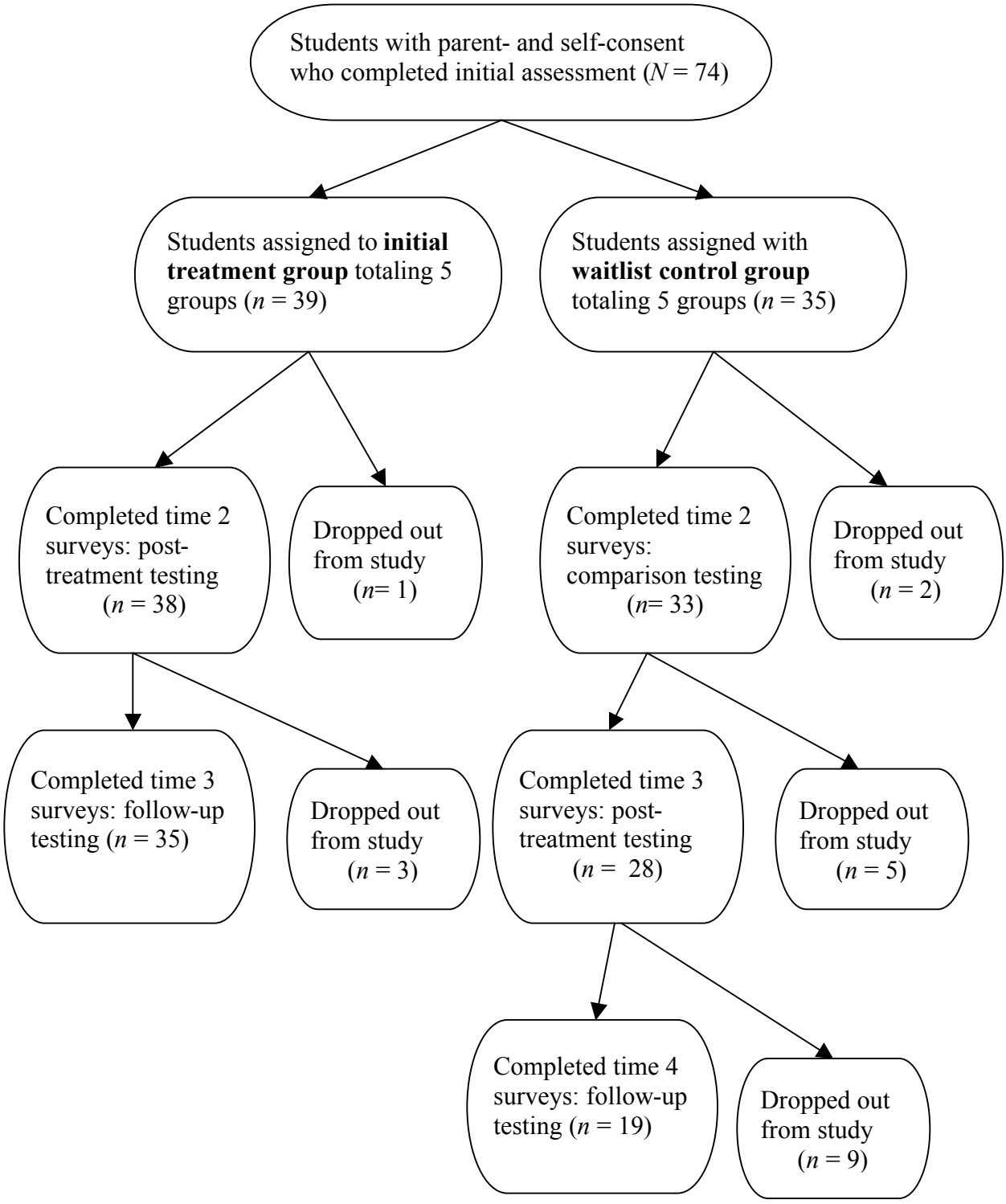

Figure 1. Sample flow chart.

offered the option to complete the measures alone, which was stated within their consent forms (none requested to do so). Those who did not have their parent consent forms by the initial pretreatment assessment at their school or who were absent were later assessed either in smaller groups or individually.

The study was described before the questionnaires were provided to the participants and informed adolescent consent was obtained. The adolescents were assured of their voluntary participation and that they could withdraw at any time with no consequence. The students were told ahead of time that all of the information would be kept confidential unless they indicated being a serious harm to themselves or to others, in which case, their parents would be notified of this concern (no other data collected) to ensure their safety and/or the safety of others. Adolescents were provided time to read and sign the consent form (see Appendix J) before beginning the questionnaire package.

The consenting adolescents then completed the paper and pencil measures, which were counterbalanced in four different orders to control for ordering effects, taking approximately 20 minutes to 1 hour to complete. In order to ensure anonymity and confidentiality, the informed consents were separated from the questionnaire packages, but were matched with the questionnaire packages with identification numbers. This identification number allowed for the identification of adolescents who participated in the study, as well as to track the participating adolescents throughout the study and across different testing sessions. The ordering of the questionnaires was randomly assigned to the participants at each testing session, independent from the other sessions.

The adolescents were provided with our contact information. After the administration of the questionnaires, the adolescents were encouraged to ask questions or

raise any concerns. The adolescents were also reminded that they would be notified shortly when they were to participate in the BOC program (either immediately or in approximately three months time). In order to provide compensation for the time and effort of those who participated in the pretest battery, their names were entered in a draw for a $25 gift certificate to a local mall.

Teachers or counsellors who were familiar with the participating adolescents were provided with a questionnaire package (taking about 15 minutes) to complete at a convenient time. Included with the package was a consent form, which stated that their completion of the questionnaires indicated their consent (Appendix J). The teachers were asked to return the completed measure to the identified school personnel by a specified time period. The school personnel reminded teachers who were unable to complete the measure by a specified time (often approximately 2 week period). See Appendix K for reminder note. In the questionnaire packages, the teachers were asked to indicate how well they knew the students in order to determine the potential accuracy of the data collected. The parent measures, taking between 20 to 25 minutes to fill out, were sent with the students to be completed at home by their parents and sent back to the school for pick up for the initial round of recruitment at the schools. Those not received by a specified time (e.g., two weeks after provided) were mailed reminders (see Appendix K) and another copy of the questionnaires. Later rounds of recruitment resulted in mailed questionnaire packages due to low return rate by this method (less than 20%).

After the adolescents completed the pretest assessment, they were assigned to TM or WL group randomly (n = 49), quasi-experimentally (n = 17), or non-randomly (n = 8).

The intervention for the TM group typically started within one week (Mean number of days = 6; *SD* = 3.98) of the initial assessment.

Part 2: TM group participated in BOC program. Those who comprised the TM group participated in the 10-Module BOC program. The program sessions included such activities as instruction, group discussions, role-plays, stories, cartoons, individual and small group work, and occasional homework assignments, such as behavioural experiments. For groups that included youths with a below grade 7 reading level, instructors verbally presented all of the information in the manual when possible.

The groups were audiotaped to make sure that the instructors were leading the coping skills group properly, with two audiorecording devices located near the instructors, where the dialogue could be heard. The second audiotape was for back up in case one did not work. The digital recorders used were battery operated Sony ICD-P320 64 MB digital voice recorders. The audiotape recorders used were Sony Cassette-Recorders (TCM-50DV), which were battery operated and 60 to 90 minute blank audiotapes were used.

The program was administered with a maximum group size of 10 students and two instructors during class time (approximately 1 hour). In total, five groups comprised the entire TM group. At the end of each session, post-session check-ins were completed independently by all of the adolescents present and both instructors (independent of one another before debriefing). The adolescents earned points for each session attended, their participation, and completion of the homework bonus assignments (therefore they could earn up to 3 points per session) that went towards a draw for a $20 gift certificate in order

to encourage attendance and participation. Those adolescents comprising the WL group were not contacted or provided services during this time period.

Part 3: Posttest or comparison assessment for the groups. After the TM groups completed the BOC program, both the WL and TM groups were asked to complete the second assessment battery in groups. These were headed by myself and/or research assistants who were blind to the condition to which the students were assigned. The procedure remained similar to the first session, with the adolescents reminded of the voluntary and confidential nature of their participation in the assessment. All measures remained consistent, except for some rewording of instructions (e.g., how they have been since participating or within the last month, depending on the questionnaire).

The parent questionnaires were sent to the adolescents' homes with pre-addressed and stamped envelopes. Reminder slips with another copy of the questionnaire package were mailed out approximately two weeks later (see Appendix K). The teachers were provided with the questionnaire package to complete, as with the pretesting assessment, and reminders were provided after a specified period of time (e.g., two weeks). Adolescents who completed the second assessment battery were entered in a draw for a $25 mall gift certificate.

Part 4: WL group participated in the BOC program. After the completion of the posttest assessment, the WL group participated in the BOC program. The start of the intervention for the control group ranged considerably (M = 25 days; SD = 23.11) from the posttest assessment due to various extraneous factors (i.e., holidays, exams, and/or semester change occurring between testing session and start of group). Again, the program was administered with groups of up to eight students and two instructors during

class time. A total of five groups comprised the entire WL group. At the end of each session, post-session check-ins were completed by the adolescents and the instructors. The adolescents' names were entered into the draw each time they earned a point for attendance, participation and bonus work completion. Those students comprising the TM group were not contacted or provided services during this time period.

Part 5: Follow-up or posttest assessment for the groups. The third assessment occurred after the WL group completed the BOC program. The same procedures as in the second assessment were followed for this administration of the questionnaire battery to both the TM and WL groups.

Part 6: Follow-up assessment for WL group. The WL group also had a follow-up assessment approximately three months after they completed the program. The same procedures and questionnaire battery was utilized, as with the previous assessment sessions.

2.5 Project Staff

Instructors

The instructors of the BOC program included 13 graduate students in the Clinical Psychology program (6 post-Master's level, 7 pre-Master's level), who obtained practicum experience as a result of their participation. I was an instructor for two groups, one of which was the first group initiated at the first wave of treatment in order to better provide guidance for the other groups. The data from these groups were included in the dataset; however, they were compared to the other groups to examine any differences. The graduate students were trained in 2 to 3 sessions by the researcher, totaling 8 to 10 hours. One session consisted of reviewing and practicing basic therapy skills and

techniques, including basic attending, listening, and responding skills (Grater, 1985), as well as those specific to CBT (e.g., cognitive restructuring). The rest consisted of going through the instructor's manual (Frydenberg & Brandon, 2002a), reviewing and practicing the various modules of the program, as well as reviewing the student manual (Frydenberg & Brandon, 2002b). At least one of the instructors co-facilitating each group had a minimum of one previous therapy course with practicum completed in order to keep the training level relatively consistent. When totaling the number of years within the graduate Clinical Psychology program across both instructors in each group the minimum was five years experience, with the breakdown per group being the following: two groups had five years, four groups had six years, one had seven years, and three had nine years experience in total. For 6 of the 10 groups (i.e., 4 TM and 2 WL groups) at least one of the instructors was at the post-Master's level, and the other 4 groups (1 TM and 3 WL groups) were instructed by two pre-Master's level graduate students.

Instructors met weekly to review treatment fidelity and progress of the groups with an experienced clinical psychologist (Dr. Menna) who was familiar with the program. Weekly check-ins with myself were also conducted in order to further discuss treatment fidelity and to address any administrative issues (e.g., supplies stocked, session recordings and questionnaires completed and handed in). As well, the next session or module was reviewed, and any questions or clarification required were addressed. During the supervision sessions with Dr. Menna, the progress of the groups and adherence to the manual and program were discussed. Meetings between Dr. Menna and myself were also conducted as part of supervision and to monitor and troubleshoot any

concerns or issues that arose (e.g., groups behind on content, students absent from a few sessions).

Research Assistants

Research assistants were psychology undergraduate and graduate students recruited for data collection assistance and data entry. Research assistants were trained on how to conduct the assessment battery, which was augmented by a script consisting of the measures' instructions to introduce or describe each measure within the battery. At the posttest and follow-up assessments, the trained independent research assistants and I went into the schools and administered the assessment battery. However, for the students included in the groups I co-facilitated, I was not in the room but accessible (on the premises) in case any questions or concerns were raised at the time of the assessment.

The audiotapings of the sessions were later rated for treatment adherence. In order to determine interrater reliability, there were two raters, one of which was myself and the other was an independent rater, who was a Master's level graduate student in the Applied Social Psychology program blind to the research project. As the manual (Frydenberg & Brandon, 2002a) is laid out thoroughly, a rating scale was developed for the sessions following the manual and ensuring that all sections and major points were addressed. Interrater reliability was measured using percentage of agreement (of rating Yes or No per each potential point) for main and minor points separately for a sample of 23 sessions (out of 101 recorded sessions). Percentages of agreement for the main and minor points were 98.3% and 96.9%, respectively. In addition, the adherence percentages were highly correlated, $r = .95$ and .84 for the main and minor points, indicating good consistency across scorers.

CHAPTER III

RESULTS

Data screening was conducted on all variables to examine for missing values and fit with test assumptions for the analyses (i.e., repeated measure analysis of variance [ANOVAS] and multivariate analysis of variance [MANOVAs,] and regression analyses). The variables were examined separately by group assignment, namely the TM group and WL group, across the different assessments.

Cases with missing data were excluded on an individual analysis basis versus across analyses due to the desire to maintain as much data as possible given the sample size and longitudinal nature of the study. Missing data were found scattered throughout the dataset, across the various informants, measures and testing occasions and ranged between one or two cases per variable for the adolescent and parent data sets. Teacher data had more missing data scattered throughout (between 2 to 9 items on individual scales had missing data points), as it was common for teachers to leave items blank when they were uncertain. Teacher data cases were dropped if they missed over 50% of the data points (i.e., four or more scales or variables) within a particular assessment time. As demonstrated within the previously displayed demographic table (Table 2), there were six adolescents (three from TM group and three from WL group) that had teacher-reported reading levels of grade 6 or lower. For the data analyses these adolescents were excluded due to concerns of accuracy of report. As noted previously, one adolescent reported difficulties with reading and as such, had the measures read out by the researcher. These data were retained for the analyses. Therefore, for the adolescent data pretest to posttest

analyses, the TM group consisted of 33 adolescents and the WL group consisted of 31 adolescents.

Univariate outliers were identified as those with z score values greater than 3. In order to preserve the dataset, values were changed to the next closet value below $z = 3$. No more than one data point per variable was identified as an outlier per group for all data (i.e., adolescent, parent, and teacher report). For example, for pretest adolescent report, one data point was altered to be less severe for the TM group variable of Solve the Problem coping style on the ACS, and one data point for three variables (i.e., total life stressors from the ALCES; social action and seeking professional help from the ACS) was altered for the WL group. The process of making the outlier values "less extreme" was justified to maintain the most representative sample while attempting to ensure that data did not grossly violate test assumptions (Tabachnick & Fidell, 2001). No multivariate outliers were found using Mahalanobis distance with $p < .001$.

Normality was assessed by examining skewness and kurtosis values using $z > 2.58$ as suggested by Field (2005), due to the relatively small sample sizes (particularly at the later testing sessions). Although some variables were found to be skewed and/or kurtotic using this criteria, the variables were ultimately left as is, since the distributions of the transformed versions of these variables did not improve considerably for the majority of these variables. As Stevens (2002) notes, the analyses of choice are robust to violations of normality, so the variables not normally distributed were kept as is for ease of interpretation.

Independence of observations was the main assumption that was violated in the present study, given the grouped nature of the dataset (i.e., those participating in the BOC

program did so in small groups together). Ideally, hierarchical linear model analyses would be conducted given the grouping of the data within treatment groups (Stevens, 2002). However, due to the small sample size at the highest group level (i.e., both the TM group and WL group were comprised of five groups of adolescents each), this type of analysis was not appropriate due to low power. It is generally recommended to have between 20 to 30 groups with at least 30 observations within each group for hierarchical linear model analysis (Bickel, 2007). For instances of small number of groups, the fixed effects approaches, which includes more traditional analyses, such as OLS regression analyses, is what is generally advised (Cohen, Cohen, West, & Aiken, 2003) and was the chosen set of analyses for the present study.

Since the primary concern of the dependency of observations violation (due to treatment occurring in groups) is an increase in Type 1 error and several analyses were conducted, the alpha level was adjusted a priori (Stevens, 2002). Since there were adequate sample sizes for adolescent report analyses, the alpha at the *individual* level was set to .025 level in relation to coping styles and .01 level for the coping strategies and stress appraisal, and to .005 level for the other outcome variables considered more exploratory in nature. Since the analyses are not ideal, the recommended analyses at the group mean level (Stevens) were also conducted in addition to analyses at the individual level, and effect sizes for significant findings are reported. In particular, for each of the 5 TM and 5 WL groups, all outcome variables were aggregated by creating group means. Due to low sample size and dependence of observations not being a concern for the *group* level analyses, the alpha was relaxed to the .05 level in relation to change in coping styles and .025 level for coping strategies and stress appraisal, and to the .01 level for the

outcome variables considered more exploratory in nature. Since there were small sample sizes with the teacher and parent data, the alpha was also relaxed at the *individual* and *group* level analyses to the .05 level in relation to change in coping, and to .01 level for symptomatology and happiness. As discussed in Bickel (2007), standard errors and degrees of freedom for OLS regression analyses are less accurately estimated and as such result in greater Type 1 errors; however, typically the results should be similar if using traditional OLS regression equations versus multilevel analyses.

3.1 Preliminary Analyses

The pretreatment assessment descriptive data for the adolescent outcome variables for the TM and WL groups are presented in Table 5. In order to further examine the equivalency of the TM and WL groups, independent *t*-tests for equality of means were conducted on all pretreatment outcome variable data. As indicated in Table 5, TM and WL group means were equivalent on the majority of adolescent-report outcome variables. They did however differ significantly on pretreatment perceived mastery, some non-productive coping scales (i.e., not cope, tension reduction, and keep to self coping strategies and Non-productive coping style), as well as symptomatology (i.e., total difficulties) at $p < .05$. In all instances, the TM group averages were poorer than the WL group, suggesting that the TM group was, on average, in greater need of assistance compared to the WL group.

For parent data, most outcome data did not differ between the TM and WL group, except for the symptomatology total difficulties variable (i.e., TM $M = 13.53$, $SD = 7.20$ versus WL $M = 7.10$, $SD = 5.59$). Again, the TM group had higher parent-reported

Table 5.

Means, Standard Deviations, and Ranges for Adolescent Report Outcome Variables by Group Assignment at Pretreatment Testing

	TM Group				WL Group			
	n	*M*	*SD*	Range	*n*	*M*	*SD*	Range
SAMA								
Challenge	33	1.95	0.81	0.50 – 4	31	2.35	1.00	0.25 – 4
Threat	33	1.56	0.68	0.29 – 3.14	31	1.34	0.78	0 – 2.71
Resources	33	2.58	0.88	0.33 – 4	31	2.87	0.98	0.67 – 4
PMS Total*	33	18.55	2.96	13 – 25	30	20.30	2.68	15 – 27
ACS	33	51.03	16.28	24 – 92	31	54.71	19.74	20 – 100
Social Support								
Solve the Problem	33	54.67	15.35	20 – 100	31	58.71	19.88	20 – 100
Work	33	63.76	16.12	24 – 92	31	69.55	14.19	36 – 92
Worry	33	56.12	16.26	32 – 92	31	52.13	17.78	20 – 88
Invest in Close Friends	33	65.33	15.12	20 – 92	31	62.58	18.89	20 – 100
Seeking to Belong	33	55.52	13.92	28 – 76	31	54.45	14.04	32 – 84
Wishful Thinking	33	57.94	14.25	24 – 88	31	57.68	18.09	20 – 96
Not Cope *	33	48.48	16.39	20 –80	31	40.90	12.76	20 – 68
Tension Reduction*	33	48.36	15.34	20 – 76	31	36.90	16.96	20 – 76
Social Action	33	31.97	12.18	20 – 55	31	29.35	11.88	20 – 65
Ignore	33	55.76	20.43	25 – 100	31	51.77	16.46	20 – 90
Self Blame	33	51.36	17.51	20 – 90	31	46.61	19.51	20 – 95
Keep to Self *	33	61.36	17.82	30 – 85	31	51.77	17.54	20 – 85
Spiritual Support	33	39.09	16.93	20 – 75	31	40.32	17.70	20 – 80
Focus on the Positive	33	52.42	18.16	20 – 100	31	58.55	20.09	20 – 95
Professional Help	33	32.42	10.83	20 – 55	31	33.55	15.23	20 – 75
Relax	33	77.21	15.70	42 – 105	31	74.74	16.90	35 – 105
Physical Recreation	33	57.48	22.53	21 – 105	31	63.68	20.95	21 – 105

(*table continues)*

Table 5. (*continued*)

	TM Group				WL Group			
	n	M	SD	Range	*n*	*M*	*SD*	Range
Solving the Problem	33	102.09	15.27	61 – 150	31	106.48	21.25	62 – 152
Reference to Others	33	33.45	8.49	18 – 53	31	34.39	10.62	17 – 56
Non-productive*	33	100.30	18.06	66 – 138	31	90.55	18.32	59 – 128
CASQ-R								
Active	33	2.42	1.62	0 – 6	31	2.32	1.72	0 – 6
Total	33	8.85	3.23	3 – 18	31	7.94	3.19	2 – 14
SDQ								
Total Difficulties*	33	14.18	4.45	7 – 22	31	11.52	5.01	3 – 20
Impact	33	1.21	1.47	0 – 5	31	1.06	1.79	0 – 6
SLSS Total	33	23.97	5.87	13 – 34	31	25.84	5.94	10 – 36
HM-R Score	33	6.45	2.15	2 – 10	31	6.90	2.06	2 – 10

Note. Included adolescents with 50% or more program attendance for TM group. *n* varies due to missing data.

* Independent *t*-tests for equality of means demonstrated that the TM and WL group means significantly differed at $p < .05$ (two-tailed) on these variables.

symptoms scores on average than the WL group. No significant differences were found between the TM and WL group at pretreatment for the teacher data, all *ps* > .05. For example, the average teachers' report SDQ total difficulties score for the TM group was similar to the WL group (i.e., TM *M* = 9.20, *SD* = 6.11 versus WL *M* = 9.25, *SD* = 7.18).

Descriptive data for the adolescent outcome variables for the TM and WL groups across the other three assessments (i.e., posttreatment, follow-up, and WL follow-up) are presented in Tables 6 to 8. Parent- and teacher-report descriptive data are presented throughout the results for the relevant analyses.

Given that stress level has been shown to impact adolescent coping (e.g., Grant et al., 2004), it was important to examine the stress level of the participating adolescents for the duration of the study to see if there were significant fluctuations across the various assessment occasions that may impact adolescent coping. Level of stress, as measured by the ALCES, remained fairly similar from pre- to post-testing for both groups as demonstrated by a one way repeated measure ANOVA $F(1, 56) = .68$, $p > .05$, partial eta squared or $\eta_p^2 = .01$. Average number of stressful events experienced by adolescents in the TM group ($n = 31$) was $M = 7.68$, $SD = 4.43$ at pretest and $M = 6.90$, $SD = 4.77$ at posttest. Those in the WL group ($n = 27$) reported $M = 7.04$, $SD = 3.71$ stressful events at pretest and $M = 7.04$, $SD = 3.72$ at posttest. Between posttreatment (time 2) to follow-up (time 3) assessments, there was a significant decrease in stress level for all adolescents (i.e., both those in the TM and WL groups, which at this time would have participated in the BOC program), $F(1, 51) = 6.06$, $p < .025$, $\eta_p^2 = .11$. In particular, those with completed data at both testing occasions in the initial treatment group ($n = 29$) reported

Table 6.

Means, Standard Deviation, and Ranges for Adolescent Report Outcome Variables by Group Assignment at Posttreatment Testing

	TM Group				WL Group			
	n	*M*	*SD*	Range	*n*	*M*	*SD*	Range
SAMA								
Challenge	33	2.36	0.88	0.50 – 4	31	2.59	0.95	0 – 4
Threat	33	1.70	0.78	0.14 – 3	31	1.48	0.68	0.14 – 2.71
Resources	33	2.85	0.79	1 – 4	31	2.99	0.98	0.14 – 4
PMS Total	32	19.31	2.73	15 – 26	31	20.87	3.57	13 – 28
ACS								
Social Support	33	62.42	19.05	20 – 96	31	53.81	18.24	20 – 88
Solve the Problem	32	62.25	13.05	36 – 88	31	56.77	15.61	20 – 88
Work	32	63.75	14.29	28 – 84	31	65.94	13.93	40 – 92
Worry	33	53.94	17.27	24 – 100	31	54.06	21.91	20 – 100
Invest in Close Friends	33	53.94	17.27	24 – 100	31	56.39	17.66	20 – 96
Seeking to Belong	32	57.50	12.14	28 – 88	31	54.32	17.43	20 – 96
Wishful Thinking	33	57.09	16.26	24 – 96	31	56.65	17.07	24 – 96
Not Cope	32	41.75	16.94	20 – 68	31	41.42	15.16	20 – 72
Tension Reduction	32	44.88	18.73	20 – 88	31	42.58	16.83	20 – 80
Social Action	32	36.56	14.73	20 – 75	31	30.16	11.94	20 – 65
Ignore	33	48.18	22.74	20 – 100	31	50.65	17.64	20 – 80
Self Blame	32	51.72	19.45	20 – 95	31	48.87	19.57	20 – 85
Keep to Self	32	51.56	18.68	20 – 90	31	57.10	18.65	20 – 90
Spiritual Support	33	40.15	18.73	20 – 85	31	43.23	19.52	20 – 95
Focus on the Positive	32	59.38	13.90	25 – 85	31	57.90	18.83	20 – 100
Professional Help	33	36.52	15.49	20 – 80	31	37.90	18.43	20 – 80
Relax	32	77.66	15.33	49 – 105	31	69.10	15.20	35 – 98
Physical Recreation	32	60.38	18.96	28 – 105	31	59.61	19.79	28 – 105

(table continues)

Table 6. *(continued)*

	TM Group				WL Group			
	n	*M*	*SD*	Range	*n*	*M*	*SD*	Range
Solving the Problem	32	109.97	16.57	83 – 148	31	101.77	21.65	54 – 146
Reference to Others	32	38.66	10.45	17 – 60	31	35.71	11.46	17 – 56
Non-productive	32	94.22	24.00	54 – 148	31	93.58	24.35	38 – 129
CASQ-R								
Active	33	3.30	1.76	0 – 6	31	2.61	1.75	0 – 6
Total	33	9.76	2.40	3 – 14	31	8.74	3.27	3 – 14
SDQ Total Difficulties	33	14.12	5.49	4 – 23	31	12.74	5.79	2 – 25
Impact	32	1.22	1.77	0 – 6	31	1.19	2.23	0 – 8
SLSS Total	33	24.70	5.41	15 – 33	31	26.48	5.62	13 – 36
HM-R Score	33	6.82	2.05	3 – 10	31	7.16	1.93	2 – 10

Note. Included adolescents with 50% or more program attendance for TM group. *n* varies due to missing data.

Table 7.

Means, Standard Deviations, and Ranges for Adolescent Report Outcome Variables by Group Assignment at Follow-Up Testing

	TM Group				WL Group			
	n	*M*	*SD*	Range	*n*	*M*	*SD*	Range
SAMA								
Challenge	30	2.30	0.87	1 – 4	26	2.55	0.93	0 – 4
Threat	30	1.65	0.77	0 – 3	26	1.52	0.72	0 – 2
Resources	30	3.13	0.96	0 – 4	26	2.90	1.07	0 – 4
PMS Total	31	19.90	2.84	14 – 26	25	21.24	3.19	14 – 27
ACS								
Social Support	29	61.93	19.61	20 – 84	26	53.38	19.31	20 – 88
Solve the Problem	29	64.83	14.04	36 – 100	26	55.38	18.55	20 – 92
Work	29	68.69	14.06	44 – 100	26	70.15	16.09	36 – 92
Worry	29	49.79	16.99	20 – 76	26	53.23	20.42	20 – 100
Invest in Close Friends	29	65.66	17.49	24 – 96	26	60.46	18.39	28 – 100
Seeking to Belong	29	57.10	13.13	32 – 88	26	58.00	20.72	20 – 100
Wishful Thinking	29	55.59	15.72	20 – 76	26	58.46	18.11	20 – 100
Not Cope	29	39.86	18.69	20 – 96	26	39.54	14.90	20 – 76
Tension Reduction	29	42.07	18.19	20 – 88	26	46.15	19.73	20 – 100
Social Action	29	30.86	10.27	20 – 50	26	31.73	14.49	20 – 65
Ignore	29	47.41	22.66	20 – 95	26	51.73	13.56	30 – 75
Self Blame	29	45.17	19.02	20 – 85	26	49.23	20.58	20 – 95
Keep to Self	29	48.45	18.47	20 – 85	26	57.69	16.26	25 – 85
Spiritual Support	29	36.55	16.32	20 – 70	26	45.19	19.67	20 – 85
Focus on the Positive	29	58.10	15.61	35 – 100	26	60.96	17.89	20 – 95
Professional Help	29	37.24	19.07	20 – 95	26	35.96	16.13	20 – 85
Relax	29	75.55	17.19	42 – 105	26	76.46	14.67	42 – 105
Physical Recreation	29	58.17	21.01	28 – 105	26	64.08	26.83	28 – 105

(table continues)

Table 7. *(continued)*

	TM Group				WL Group			
	n	*M*	*SD*	Range	*n*	*M*	*SD*	Range
Solving the Problem	29	110.28	19.09	74 – 147	26	106.62	21.96	68 – 153
Reference to Others	29	36.41	9.77	17 – 59	26	35.92	10.60	20 – 52
Non-productive	29	89.31	21.98	47 – 132	26	95.58	23.90	44 – 155
CASQ-R								
Active	31	3.26	1.93	0 – 6	26	2.27	1.69	0 – 6
Total	31	9.65	3.56	3 – 15	26	8.15	2.80	2 – 12
SDQ Total Difficulties	31	13.32	4.50	4 – 22	26	12.58	6.36	2 – 24
Impact	31	1.58	2.31	0 – 8	26	0.81	1.47	0 – 4
SLSS Total	31	25.32	6.23	14 – 36	26	26.96	5.46	17 – 36
HM Score	31	6.87	2.05	3 – 10	26	7.31	2.05	2 – 10

Note. Included adolescents with 50% or more program attendance for TM group. *n* varies due to missing data.

Table 8.

Means, Standard Deviations, and Ranges for Adolescent Report Dependent Variables for WL Group at WL Follow-Up Testing

Measure and Variables	*n*	*M*	*SD*	Range
SAMA				
Challenge	19	2.36	1.23	0 – 4
Threat	19	1.33	0.63	0 – 2
Resources	19	3.00	1.17	0 – 4
PMS Total	19	20.42	4.39	11 – 28
ACS				
Social Support	18	50.67	22.63	20 – 100
Solve the Problem	18	60.00	18.56	32 – 100
Work	18	68.44	15.15	44 – 96
Worry	18	54.44	19.84	24 – 88
Invest in Close Friends	18	55.78	21.23	20 – 92
Seeking to Belong	18	53.11	16.34	28 – 92
Wishful Thinking	18	59.11	22.10	20 – 100
Not Cope	18	39.56	14.12	20 – 64
Tension Reduction	18	44.44	17.40	20 – 80
Social Action	18	28.06	10.59	20 – 55
Ignore	18	50.28	23.23	20 – 100
Self Blame	18	46.11	21.46	20 – 80
Keep to Self	18	65.00	20.15	25 – 100
Spiritual Support	18	42.50	18.65	20 – 75
Focus on the Positive	18	57.78	19.57	25 – 100
Professional Help	18	32.78	17.76	20 – 90
Relax	18	77.39	17.23	49 – 105
Physical Recreation	18	63.00	28.31	21 – 105
Solving the Problem	18	103.61	26.08	72 – 157
Reference to Others	18	33.33	12.38	18 – 56
Non-productive	18	94.94	23.67	50 – 143
CASQ-R				
Active	19	2.16	1.95	0 – 5
Total	19	8.21	3.28	3 – 14
SDQ	19	13.37	5.85	4 – 23
Total Difficulties				
Impact	19	0.63	1.12	0 – 3
SLSS Total	19	27.32	5.50	18 – 36
HM Score	19	6.58	2.87	0 – 10

Note. *n* varies due to missing data.

more stressful events (M = 6.83, SD = 4.72) at posttreatment compared to at follow-up (M = 5.83, SD = 3.92). Those in the WL group with completed data (n = 24) also reported more stressful events (M = 6.00, SD = 3.81) at time 2 assessment compared to at time 3 (their posttreatment) assessment (M = 5.17, SD = 3.10). Overall, it appears that across the study there was a slight decrease in reported stressful life events for the adolescents participating in the program.

3.2 Hypothesis Testing

Hypothesis 1: *Compared to the WL group, there will be an increase in positive primary and secondary stress appraisal, use of active and adaptive coping strategies, control orientation/perceived mastery, happiness and life satisfaction for the adolescents participating in the BOC program from pre- to post-treatment.*

Adolescent data. Individual 2 X 2 repeated measures ANOVAs with group assignment and gender as the factors were conducted using pretest and posttest adolescent data. For the ACS measure, given the number of individual strategies comprising the coping styles, 2 x 2 repeated measures MANOVAs were conducted on the strategies that make up the two adaptive coping styles (i.e., Solving the Problem and Reference to Other coping). Gender was included to examine if there were gender differences in treatment outcome. Due to the number of analyses conducted and the issue regarding dependency of observations, significance testing alpha levels were set for α = .025 for coping styles and α = .01 for coping strategies and stress appraisal, and α =.005 for outcome measures (i.e., perceived mastery, life satisfaction, and happiness) that were more exploratory in nature. This resulted in a more lenient alpha level at the hypothesis level than .05, particularly given the number of analyses; however, given the number of

participants within each group (when divided by group and gender), this was necessary in order to maintain some power (Stevens, 2002). Additionally, effect sizes (η_p^2) for significant findings were examined.

Participating in the BOC program did not significantly improve *primary and secondary stress appraisal*, as measured by the SAMA challenge and resources scales (Table 9). However, for challenge, there were significant main effects for time ($\eta_p^2 = .19$) and gender ($\eta_p^2 = .11$). Primary stress appraisal of challenge improved from pretest to posttest for all adolescents irrespective of group assignment, while secondary stress appraisal of resources remained relatively equivalent from pretest to posttest. Additionally, male adolescents on average perceived their stressors as more of a challenge than female adolescents.

Analyses examining the overarching *active and adaptive coping* styles are shown in Table 10. The overarching ACS coping styles of Solving the Problem and Reference to Others were examined. Those in the TM group rated a slight increase in the Solving the Problem coping style composite score from pretest to posttest while those in the WL group indicated a slight decrease in the same productive coping style (Group X Time interaction effect $\eta_p^2 = .14$). There was no significant Group X Time interaction effect for Reference to Others coping style, nor were either Group X Gender X Time interaction effects significant. However, there was a main effect for time in relation to Reference to Others ($\eta_p^2 = .12$), such that adolescents in both groups reported an increased use of this coping style from pretest to posttest.

The CASQ-R measure of coping was examined to explore the generalizability in treatment effects across coping measures. For the adaptive or active coping scales of this

Table 9.

Pretest to Posttest Findings for Positive Stress Appraisal

	Pretest		Posttest		2 X 2 Repeated Measures ANOVA		
Outcome Variable	*M*	*SD*	*M*	*SD*	Source	*F*	*p*
SAMA Challenge[a]							
TM Males (*n* = 13)	2.33	.83	2.79	.73	Group (Gr)	1.68	.199
TM Females (*n* = 20)	1.71	.71	2.08	.87	Gender (Ge)	7.50	.008**
WL Males (*n* = 14)	2.50	1.11	2.93	.93	Gr x Ge	.28	.600
WL Females (*n* = 17)	2.22	.91	2.31	.89	Time (T)	14.18	.000***
					Gr x T	.74	.392
					Ge x T	1.52	.222
					Gr x Ge x T	.46	.501
SAMA Resources[a]							
TM Males (*n* = 13)	2.64	.92	2.90	1.03	Gr	.97	.330
TM Females (*n* = 20)	2.53	.88	2.82	.62	Ge	.17	.685
WL Males (*n* = 14)	2.71	1.17	2.87	1.21	Gr x Ge	.77	.385
WL Females (*n* = 17)	3.00	.82	3.10	.75	T	2.83	.098
					Gr x T	.38	.541
					Ge x T	.00	.953
					Gr x Ge x T	.03	.863

Note. Interaction effects relevant for hypothesis in bold.
[a]*df* (1, 60)
** $p < .01$, *** $p < .005$

Table 10.

Pretest to Posttest Findings for Overarching Coping Scales

	Pretest		Posttest		2 X 2 Repeated Measures ANOVA		
Outcome Variable	*M*	*SD*	*M*	*SD*	Source	*F*	*p*
Solve the Problem[a]							
TM Males (*n* = 12)	104.00	16.44	112.00	19.45	Group (Gr)	.36	.550
TM Females (*n* = 20)	101.35	15.15	108.75	15.00	Gender (Ge)	.11	.742
WL Males (*n* = 14)	102.64	23.80	99.14	26.39	Gr x Ge	.99	.325
WL Females (*n* = 17)	109.65	19.05	103.94	17.38	Time (T)	.59	.445
					Gr x T	9.33	.003**
					Ge x T	.12	.729
					Gr x Ge x T	.04	.843
Reference to Others[a]							
TM Males (*n* = 12)	33.08	11.33	38.17	12.88	Gr	.22	.640
TM Females (*n* = 20)	33.70	6.85	38.95	9.05	Ge	.99	.323
WL Males (*n* = 14)	31.21	11.94	34.43	13.32	Gr x Ge	.49	.485
WL Females (*n* = 17)	37.00	8.92	36.76	9.98	T	7.99	.006**
					Gr x T	2.44	.124
					Ge x T	.49	.488
					Gr x Ge x T	.59	.446
Active Coping[b]							
TM Males (*n* = 13)	2.23	1.83	3.31	2.02	Group (Gr)	1.34	.252
TM Females (*n* = 20)	2.55	1.50	3.30	1.63	Gender (Ge)	3.40	.070
WL Males (*n* = 14)	1.86	1.88	1.71	1.64	Gr x Ge	2.05	.157
WL Females (*n* = 17)	2.71	1.53	3.35	1.50	Time (T)	9.44	.003**
					Gr x T	3.04	.086
					Ge x T	.37	.544
					Gr x Ge x T	2.17	.146
Total Coping[b]							
TM Males (*n* = 13)	8.31	4.44	10.38	2.02	Gr	3.24	.077
TM Females (*n* = 20)	9.20	2.19	9.35	2.58	Ge	6.10	.016*
WL Males (*n* = 14)	6.57	3.41	6.64	3.10	Gr x Ge	6.68	.012*
WL Females (*n* = 17)	9.06	2.59	10.47	2.27	T	6.66	.012*
					Gr x T	.27	.607
					Ge x T	.17	.685
					Gr x Ge x T	5.16	.027

Note. Interaction effects relevant for hypothesis in bold.
[a]*df* (1, 59), [b]*df* (1, 60)
* $p < .025$, ** $p < .01$

measure (i.e., Total score and Active coping), there were no significant Group X Time or Group X Gender X Time interaction effects. For the CASQ-R Total score, there were significant main effects for time ($\eta_p^2 = .10$) and gender ($\eta_p^2 = .09$), as well as a significant Group X Gender interaction effect ($\eta_p^2 = .10$). Female adolescents reported using more coping strategies (i.e., higher total coping scores) than male adolescents, and all adolescents reported using a larger repertoire of coping strategies from pretest to posttest. In relation to the Group X Gender interaction effect, TM males and females reported similar total coping scores when averaged across both testing sessions (TM males total score: $M = 9.35$, $SD = .68$; TM females total score: $M = 9.28$, $SD = .55$), whereas WL females reported higher total coping scores ($M = 9.77$, $SD = .60$) than did WL males ($M = 6.61$, $SD = .66$). In addition, there was a main effect for time for Active Coping ($\eta_p^2 = .14$), such that there was an increase in active coping from pretest to posttest for the entire sample, irrespective of group assignment (Table 10).

Next, the *individual adaptive or active coping strategies* of the ACS were examined by conducting 2 X 2 repeated measures MANOVAs on the coping strategies that comprised the two adaptive coping styles (i.e., Solving the Problem and Reference to Others). As shown in Table 11, the multivariate Group X Time and Group X Gender X Time interaction effects were not significant for either Solving the Problem or Reference to Others coping. However, when examining the univariate results for the individual coping strategies comprising the two overarching coping styles, seeking social support (found in both overarching adaptive coping styles) was found to have significantly improved with participation in the BOC program ($\eta_p^2 = .11$), with those in the TM group

Table 11.

Pretest to Posttest 2 X 2 Repeated Measures MANOVA Findings for ACS Adaptive Coping Strategies

	Multivariate		Univariate							
Solving the Problem[a]			Seek	Solv	Phys		Inv			Foc
Source	*df*	*F*	Sup	Pro	Rec	Rel	Fri	Bel	Work	Pos
Group (Gr)	1	1.25	.78	.21	.29	4.47	1.92	.45	.94	.07
Gender (Ge)	1	4.64***	5.83	.82	7.87**	6.73	2.17	.52	1.12	.01
Gr x Ge	1	2.16	2.24	4.49	2.93	2.94	.16	.17	.85	3.55
Time (T)	1	2.76*	6.39	2.06	1.12	1.03	1.81	.14	.70	2.14
Gr x T	1	1.46	7.57**	5.51	3.06	2.61	3.71	.07	1.74	4.11
Ge x T	1	1.51	.49	.00	2.72	.27	.30	.96	.50	3.17
Gr x Ge x T	1	.50	.98	.23	.04	.06	.21	.79	.37	.25
Reference to Others[b]			Seek	Prof		Soc				
Source	*df*	*F*	Sup	Help	Spirit	Act				
Group (Gr)	1	2.45	.78	.02	.33	2.56				
Gender (Ge)	1	2.24	5.83	.01	.12	.07				
Gr x Ge	1	1.44	2.24	2.10	.74	.00				
Time (T)	1	2.27	6.39	5.91	1.61	1.82				
Gr x T	1	2.27	7.57**	.04	.39	.74				
Ge x T	1	.70	.49	.51	1.07	.40				
Gr x Ge x T	1	1.03	.98	.56	.47	1.26				

Note. For Solving the Problem: Seek Sup = Seek social support, Solv Pro = Solve the problem; Phys Rec = Physical recreation; Rel = relaxing diversions; Fri = Investing in close friends; Bel = Seek to belong; Work = Work hard and achieve; Foc Pos = Focus on the positive.
For Reference to Others: Seek Sup = Seek social support, Prof Help = Seeking professional help; Spirit = Spiritual support; Soc Act = Social action.
Interaction effects relevant for hypothesis in bold.
[a]Multivariate $df = 8, 52$; Univariate $df = 1, 59$.
[b]Multivariate $df = 4, 56$; Univariate $df = 1, 59$.
*$p < .025$ (significant for multivariate analyses only), **$p < .01$, ***$p < .001$

reporting an increased use of these coping strategy from pretest to posttest (*M* = 51.53, *SD* = 16.53 to *M* = 63.63, *SD* = 18.04), whereas those in the WL group reporting a similar level of use for this adaptive coping strategy from pretest to posttest (*M* = 54.71, *SD* = 19.74 to *M* = 53.81, *SD* = 18.24). All other ACS adaptive coping strategies did not alter considerably across assessments in relation to group assignment at the set alpha level ($\alpha = .01$).

In relation to other effects, the multivariate analysis for Solving the Problem coping strategies had significant main effects for gender ($\eta_p^2 = .42$) and time ($\eta_p^2 = .30$) as shown in Table 11. In relation to time, the pairwise comparisons analyses using Bonferroni correction revealed that use of seeking social support was significantly higher at posttest compared to pretest (*M* = 58.18, *SD* = 2.30 vs. *M* = 52.28, *SD* = 2.20; *p* = .014) when averaging for the entire sample; however, this was due to the increase in coping found in the TM group across time (i.e., Group X Time interaction effect), therefore resulting in an increase in the entire sample's average. For the gender main effect, the pairwise comparisons analyses using Bonferroni correction revealed that females reported using seeking social support more than males on average across both testing occasions (*M* = 59.88, *SD* = 2.47 vs. *M* = 50.58, *SD* = 2.95; *p* = .019). Females also reported engaging in physical recreation (*p* = .007) and relaxing diversions (*p* = .012) as coping strategies less frequently than males (physical recreation females *M* = 54.83, *SD* = 3.01 vs. males *M* = 67.98, *SD* = 3.59; relaxing diversions females *M* = 71.27, *SD* = 2.11 vs. males *M* = 79.77, *SD* = 2.51). Similarly at the univariate analyses level, there was a significant main effect for gender for physical recreation ($\eta_p^2 = .12$), with male adolescents reporting a greater use of this strategy than female adolescents.

No significant treatment effects were found for *control orientation/perceived mastery*, *happiness,* and *life satisfaction*, as shown in Table 12. All other effects were not significant.

In summary, hypothesis 1 was partially supported. Compared to the WL group, adolescents in the TM group reported improvements in Solving the Problem coping style and seeking social support coping strategy from pretreatment to posttreatment. There were no significant improvements in relation to primary and secondary stress appraisal, perceived mastery, happiness, or life satisfaction as a result of participating in the BOC program.

Parent data. In relation to the parent data, it was hypothesized that there would be an increase in active and adaptive coping and happiness for the adolescents participating in the BOC program from pre- to post-treatment, compared to those in the WL group. One-way repeated measures ANOVAs were conducted on each of the dependent variables using pretest and posttest data. Gender was not included in the parent data analyses due to the low sample size. Significance testing was set for $p < .05$ for coping, and $p < .01$ for happiness and effect sizes were examined for significant findings.

The results partially supported this hypothesis (see Table 13). For the revised version of Solve the Problem coping style (i.e., seek to belong item removed from scale), parents reported significant improvements for the adolescents who participated in the BOC program from pre- to post-testing, compared to those in the WL group whose parents rated relatively similar levels of use across the same time-frame ($\eta_p^2 = .18$).

Table 12.

Pretest to Posttest Findings for Perceived Mastery, Happiness, and Life Satisfaction

	Pretest		Posttest		2 X 2 Repeated Measures ANOVA		
Outcome Variable	*M*	*SD*	*M*	*SD*	Source	*F*	*p*
PMS Total[b]							
TM Males (*n* = 13)	19.08	3.50	20.38	3.40	Gr	5.40	.024
TM Females (*n* = 19)	18.37	2.54	18.58	1.92	Ge	2.04	.159
WL Males (*n* = 13)	20.62	1.98	21.54	3.64	Gr x Ge	.15	.702
WL Females (*n* = 17)	20.06	3.15	20.65	3.46	T	5.47	.023
					Gr x T	.00	.996
					Ge x T	1.22	.274
					Gr x Ge x T	.35	.559
SLSS Total[a]							
TM Males (*n* = 13)	24.62	6.75	26.00	5.55	Group (Gr)	1.73	.193
TM Females (*n* = 20)	23.55	5.37	23.85	5.28	Gender (Ge)	1.82	.182
WL Males (*n* = 14)	27.50	5.92	27.00	6.61	Gr x Ge	.02	.888
WL Females (*n* = 17)	24.47	5.76	26.06	4.82	Time (T)	1.47	.230
					Gr x T	.07	.795
					Ge x T	.19	.662
					Gr x Ge x T	1.93	.170
HM-R Score[a]							
TM Males (*n* = 13)	6.77	2.20	7.08	2.25	Gr	.62	.434
TM Females (*n* = 20)	6.25	2.15	6.65	1.95	Ge	1.25	.267
WL Males (*n* = 14)	7.57	1.91	7.14	2.25	Gr x Ge	.02	.901
WL Females (*n* = 17)	6.35	2.06	7.18	1.70	T	1.67	.201
					Gr x T	.14	.715
					Ge x T	2.49	.120
					Gr x Ge x T	1.85	.179

Note. Interaction effects relevant for hypothesis in bold.
[a]*df* (1, 60) , [b]*df* (1, 58)
All findings were not significant.

Table 13.

Parent Data Pretest to Posttest Findings for Adolescent Coping and Happiness

	Pretest		Posttest		One-Way Repeated Measures ANOVA		
Outcome Variable	*M*	*SD*	*M*	*SD*	Source	*F*	*p*
Solving the Problem - R[a]							
TM Group (*n* = 15)	58.93	10.74	65.60	10.88	Group (Gr)	.67	.420
WL Group (*n* = 10)	66.80	18.96	67.20	18.93	Time (T)	6.31	.019*
					Gr x T	4.96	.036*
Reference to Others[a]							
TM Group (*n* = 15)	39.67	10.77	41.33	12.46	Gr	.60	.448
WL Group (*n* = 10)	44.00	18.53	45.00	12.47	T	.55	.464
					Gr x T	.04	.854
HM-R Happiness[a]							
TM Group (*n* = 15)	7.27	1.33	7.37	1.26	Gr	.80	.381
WL Group (*n* = 10)	7.70	1.57	7.80	.92	T	.23	.636
					Gr x T	.00	1.000

Note. Interaction effect relevant for hypothesis in bold.
[a]*df* (1, 23)
* $p < .05$

Although the main effect of time was significant ($\eta_p^2 = .22$), this was explained by the Group X Time interaction effect as the increase found for the TM group resulted in an increase for the overall sample. All other analyses were non-significant.

Teacher data. For the teacher data, it was hypothesized that there would be an increase in teacher rated happiness for the adolescents participating in the BOC program from pre- to post-treatment compared to the WL group. A one-way repeated measures ANOVA with group assignment as the factor was conducted using pretest and posttest data. As shown in Table 14, the hypothesis was not supported, as the Group X Time interaction effect was non-significant. All other effects were also not significant.

Aggregated data at the group level. As mentioned previously, analyses were also conducted using the group means for the 5 TM and 5 WL groups to eliminate the issue of dependency of observations inevitable when interventions are provided within a group setting. Since there was a low sample size and dependence of observations was not a concern for these analyses, the alpha was relaxed to the .05 level for coping styles and .025 level for coping strategies and stress appraisal, and to the .01 level for the outcome variables considered more exploratory in nature. One-way repeated measures ANOVAs were conducted with the group level analyses (with group as the between groups factor) for each of the dependent variables. MANOVAs were not conducted for the ACS coping strategies at the group level due to the sample size being smaller than the recommended level (i.e., number of levels of repeated measures + 10) (Stevens, 2002).

In relation to *adolescent self-report*, participation in the BOC program appeared to increase the reported use of two of the ACS adaptive coping scales at the group mean

Table 14.

Teacher Data Pretest to Posttest for Adolescent Happiness

	Pretest		Posttest		One-Way Repeated Measures ANOVA		
Outcome Variable	*M*	*SD*	*M*	*SD*	Source	*F*	*p*
HM-R Happiness[a]							
TM Group (*n* = 25)	5.56	2.02	6.64	1.75	Group (Gr)	.11	.740
WL Group (*n* = 24)	5.88	1.85	6.04	1.94	Time (T)	3.43	.071
					Gr x T	1.84	.182

Note. Interaction effect relevant for hypothesis in bold.
[a]*df* (1, 47)
All findings were not significant.

level at the set alpha levels (see Table 15). In particular, there were significant Group X Time interaction effects for the Solve the Problem coping style ($\eta_p^2 = .48$) and for the coping strategy of physical recreation ($\eta_p^2 = .53$). The Group X Time interaction effects for the coping strategies of solve the problem ($\eta_p^2 = .42$) and focus on the positive ($\eta_p^2 = .43$) were not significant at the set .025 level, but were close (*p*s < .05). The TM groups reported improvements in these coping style and strategies from pretest to posttest, whereas the WL groups on average reported similar levels or a decrease in these.

For all other adolescent measures of adaptive functioning, there were no significant Group X Time findings, which are shown in Table 16. Therefore, primary and secondary stress appraisal, control orientation, happiness and life satisfaction, as well as the two coping scales of the CASQ-R were not shown to improve at the group level as a result of BOC participation. Main effects for time were found for the SAMA primary appraisal of challenge ($\eta_p^2 = .74$), and CASQ-R Active Coping ($\eta_p^2 = .51$). On average, all groups reported increases in perceiving stressors as a challenge and using active coping strategies from pretest to posttest.

The group level analyses were non-significant for the *parent* data (Table 17) and *teacher* data (Table 18) were not significant for hypothesis 1.

In summary, hypothesis 1 was partially supported for the group level analyses (i.e., using aggregated group mean scores as opposed to individual mean scores) in relation to adolescent adaptive coping, but not for any other aspect of adaptive functioning measured, nor for parent or teacher data. It is important to highlight the large effect sizes found for these group level analyses, and that significant findings were found despite the small sample sizes at the group level.

Table 15.

Pretest to Posttest Findings for ACS Coping Scales at Group Level

	Pretest		Posttest		One-Way Repeated Measures ANOVA		
Outcome Variable	*M*	*SD*	*M*	*SD*	Source	*F*	*p*
Solving the Problem coping style							
TM Groups (*n* = 5)	102.32	7.91	110.40	9.43	Group (Gr)	.05	.836
WL Groups (*n* = 5)	107.10	8.02	103.15	13.06	Time (T)	.86	.380
					Gr x T	7.32	.027*
Reference to Others coping style							
TM Groups (*n* = 5)	33.41	1.97	38.73	6.78	Gr	.01	.916
WL Groups (*n* = 5)	34.73	5.49	36.72	7.78	T	3.50	.098
					Gr x T	.73	.419
Seek social support							
TM Groups (*n* = 5)	51.24	6.29	62.67	11.91	Gr	.03	.861
WL Groups (*n* = 5)	55.84	12.73	55.76	13.18	T	2.88	.128
					Gr x T	2.97	.123
Solve the problem							
TM Groups (*n* = 5)	54.76	6.39	62.40	3.93	Gr	.00	.995
WL Groups (*n* = 5)	59.57	9.04	57.65	9.18	T	2.04	.191
					Gr x T	5.72	.044
Work hard							
TM Groups (*n* = 5)	63.75	9.52	64.19	8.78	Gr	.38	.553
WL Groups (*n* = 5)	69.05	9.90	65.97	9.88	T	.49	.505
					Gr x T	.86	.380
Invest in friends							
TM Groups (*n* = 5)	65.41	4.39	65.50	5.47	Gr	1.39	.273
WL Groups (*n* = 5)	63.35	10.45	57.60	7.88	T	1.95	.201
					Gr x T	2.08	.187
Seek to belong							
TM Groups (*n* = 5)	55.64	4.91	57.58	3.32	Gr	.38	.555
WL Groups (*n* = 5)	54.71	3.16	55.02	7.92	T	.46	.519
					Gr x T	.24	.637
Social action							
TM Groups (*n* = 5)	31.83	4.36	36.57	7.18	Gr	2.38	.161
WL Groups (*n* = 5)	29.31	.65	31.00	7.29	T	1.86	.210
					Gr x T	.42	.535
Spiritual support							
TM Groups (*n* = 5)	38.71	6.41	39.71	8.24	Gr	.48	.508
WL Groups (*n* = 5)	40.53	5.84	43.98	8.72	T	1.86	.210
					Gr x T	.56	.474

(table continues)

Table 15. (*continued*)

	Pretest		Posttest		One-Way Repeated Measures ANOVA		
Outcome Variable	*M*	*SD*	*M*	*SD*	Source	*F*	*p*
Focus on positive							
TM Groups (*n* = 5)	52.62	6.55	59.45	3.48	Gr	.21	.657
WL Groups (*n* = 5)	58.71	11.98	58.28	10.41	T	4.60	.064
					Gr x T	5.91	.041
Professional help							
TM Groups (*n* = 5)	32.45	1.61	36.76	9.20	Gr	.18	.686
WL Groups (*n* = 5)	33.66	6.63	38.91	9.78	T	3.41	.102
					Gr x T	.03	.860
Relax							
TM Groups (*n* = 5)	77.60	7.71	78.03	7.72	Gr	1.79	.217
WL Groups (*n* = 5)	74.97	3.63	69.98	8.15	T	1.31	.285
					Gr x T	1.86	.210
Physical recreation							
TM Groups (*n* = 5)	57.70	8.80	60.80	8.34	Gr	.09	.769
WL Groups (*n* = 5)	63.11	13.04	59.46	12.10	T	.06	.814
					Gr x T	8.90	.018**

Note. Interaction effect relevant for hypothesis in bold.
df (1, 8)
* $p < .05$ (significant for overarching coping styles only), ** $p < .025$

Table 16.

Pretest to Posttest Findings for Positive Stress Appraisal, CASQ-R Coping, Perceived Mastery, Life Satisfaction, and Happiness at Group Level

	Pretest		Posttest		One-Way Repeated Measures ANOVA		
Outcome Variable	*M*	*SD*	*M*	*SD*	Source	*F*	*p*
SAMA Challenge							
TM Groups (*n* = 5)	1.97	.29	2.38	.44	Group (Gr)	1.71	.228
WL Groups (*n* = 5)	2.35	.45	2.60	.32	Time (T)	22.92	.001**
					Gr x T	1.49	.256
SAMA Resources							
TM Groups (*n* = 5)	2.57	.36	2.87	.37	Gr	.48	.510
WL Groups (*n* = 5)	2.87	.80	3.04	.62	T	2.95	.124
					Gr x T	.25	.630
CASQ-R Active							
TM Groups (*n* = 5)	2.42	.44	3.31	.72	Gr	.54	.482
WL Groups (*n* = 5)	2.38	.92	2.71	.91	T	8.34	.020*
					Gr x T	1.76	.221
CASQ-R Total							
TM Groups (*n* = 5)	8.82	1.04	9.71	.89	Gr	.82	.393
WL Groups (*n* = 5)	8.07	1.65	8.92	2.09	T	4.41	.069
					Gr x T	.00	.958
PMS Total							
TM Groups (*n* = 5)	18.56	.64	19.36	1.56	Gr	4.47	.067
WL Groups (*n* = 5)	20.27	.97	20.84	1.86	T	3.05	.119
					Gr x T	.09	.776
SLSS Total							
TM Groups (*n* = 5)	23.92	1.96	27.74	2.95	Gr	1.38	.275
WL Groups (*n* = 5)	25.68	3.46	26.62	2.30	T	1.34	.281
					Gr x T	.01	.940
HM-R Happiness							
TM Groups (*n* = 5)	6.46	.84	6.82	.58	Gr	.60	.461
WL Groups (*n* = 5)	6.81	1.10	7.18	.57	T	2.85	.130
					Gr x T	.00	.984

Note. Interaction effect relevant for hypothesis in bold.
df (1, 8)
* $p < .025$; ** $p < .01$

Table 17.

Parent Data Pretest to Posttest for Adolescent Coping and Happiness at the Group Level

	Pretest		Posttest		One-Way Repeated Measures ANOVA		
Outcome Variable	*M*	*SD*	*M*	*SD*	Source	*F*	*p*
Solving the Problem - R							
TM Groups (*n* = 5)	59.20	4.58	64.53	9.18	Group (Gr)	.02	.904
WL Groups (*n* = 4)	62.75	17.61	63.00	16.45	Time (T)	1.99	.201
					Gr x T	1.65	.240
Reference to Others							
TM Groups (*n* = 5)	43.17	9.80	44.50	14.62	Gr	.11	.756
WL Groups (*n* = 4)	40.00	15.81	42.19	11.20	T	.71	.426
					Gr x T	.04	.843
HM-R Happiness							
TM Groups (*n* = 5)	6.93	1.66	7.40	.95	Gr	.39	.552
WL Groups (*n* = 4)	7.56	1.39	7.69	.80	T	.49	.507
					Gr x T	.16	.699

Note. Interaction effect relevant for hypothesis in bold.
df (1, 7)
All findings were not significant.

Table 18.

Teacher Data Pretest to Posttest Findings for Adolescent Happiness at the Group Level

	Pretest		Posttest		One-Way Repeated Measures ANOVA		
Outcome Variable	*M*	*SD*	*M*	*SD*	Source	*F*	*p*
HM-R Happiness							
TM Groups (*n* = 5)	5.46	.54	6.64	.73	Group (Gr)	.12	.736
WL Groups (*n* = 5)	5.73	.59	6.14	1.01	Time (T)	5.43	.048
					Gr x T	1.32	.284

Note. Interaction effect relevant for hypothesis in bold.
df (1, 8)
All findings were not significant.

Hypothesis 2 : Compared to the WL group, there will be a decrease in perceived stress (perceiving problem as a threat), symptomatology, and more maladaptive (avoidance) coping strategies for the adolescents participating in the BOC program from pre- to post-treatment.

Adolescent data. Participating in the BOC program did not appear to improve *perceived stress* as measured by the SAMA threat composite score. Similar results were found for *symptomatology*, as measured by the SDQ total difficulties and impact scores. Table 19 presents the findings for the 2 X 2 repeated measures ANOVAS conducted for hypothesis 2.

In order to examine the clinical significance of participating in the BOC program, the proportion of adolescents rated within the Borderline and Abnormal from pretest to posttest was also examined. For the total difficulties scores, this did not differ between pretest to posttest for the TM group (42.4%), nor for the WL group (pretest = 32.3% to posttest = 35.5%). There was a decrease in those who scored in the Borderline to Abnormal range on the SDQ impact scores for the TM group (pretest = 56.2% to posttest = 40.6%), while there was only a slight decrease for the WL group during the same time period (38.7% to 35.5%).

In relation to *maladaptive (avoidance) coping*, the effectiveness of the BOC program was initially explored by examining at the overarching coping style of Non-productive Coping on the ACS (Table 19). The Group X Time interaction effect was just statistically significant ($p = .025$, $\eta_p^2 = .08$). More fine-grained analyses of the program's influence on maladaptive coping strategies were conducted by examining the individual coping strategies comprising the Non-productive Coping style with a 2 X 2 repeated

Table 19.

Pretest to Posttest Findings for Negative Stress Appraisal, Symptomatology, and Negative Coping Style

	Pretest		Posttest		2 X 2 Repeated Measures ANOVA		
Outcome Variable	*M*	*SD*	*M*	*SD*	Source	*F*	*p*
SAMA Threat[a]							
TM Males (*n* = 13)	1.60	.75	1.38	.90	Group (Gr)	1.69	.199
TM Females (*n* = 20)	1.54	.65	1.91	.63	Gender (Ge)	2.76	.102
WL Males (*n* = 14)	1.16	.72	1.34	.71	Gr x Ge	.03	.858
WL Females (*n* = 17)	1.49	.81	1.60	.65	Time (T)	1.52	.222
					Gr x T	.13	.722
					Ge x T	2.30	.134
					Gr x Ge x T	3.57	.064
SDQ Total score[a]							
TM Males (*n* = 13)	14.15	4.43	12.23	5.05	Gr	2.81	.099
TM Females (*n* = 20)	14.20	4.58	15.35	5.53	Ge	2.84	.097
WL Males (*n* = 14)	9.86	5.17	11.79	6.33	Gr x Ge	.12	.734
WL Females (*n* = 17)	12.88	4.57	13.53	5.38	T	.63	.431
					Gr x T	2.17	.146
					Ge x T	.62	.434
					Gr x Ge x T	3.67	.060
SDQ Impact score[b]							
TM Males (*n* = 12)	1.17	1.64	.50	1.00	Gr	.03	.875
TM Females (*n* = 20)	1.30	1.42	1.65	2.01	Ge	3.17	.080
WL Males (*n* = 14)	.57	1.40	.79	2.16	Gr x Ge	.05	.828
WL Females (*n* = 17)	1.47	2.00	1.53	2.29	T	.00	.961
					Gr x T	.45	.507
					Ge x T	.95	.333
					Gr x Ge x T	1.76	.189
ACS							
Non-productive[a]							
TM Males (*n* = 12)	95.58	20.13	88.00	23.44	Group (Gr)	.77	.383
TM Females (*n* = 20)	102.75	17.06	97.95	24.13	Gender (Ge)	3.08	.084
WL Males (*n* = 14)	84.21	18.92	89.79	28.78	Gr x Ge	.00	.947
WL Females (*n* = 17)	95.76	16.55	96.71	20.40	Time (T)	.51	.478
					Gr x T	5.28	.025*
					Ge x T	.05	.823
					Gr x Ge x T	.81	.371

Note. Interaction effects relevant for hypothesis in bold.
[a]*df* (1, 60), [b]*df* (1, 59)
* *p* = .025

measures MANOVA. As shown in Table 20, the multivariate Group X Time and Group X Gender X Time interaction effects were not significant. When examining the univariate results for the individual coping strategies, the Group X Time interaction effects for the adolescents' reported use of keep to self (η_p^2= .17) and tension reduction (η_p^2= .11) were significant, such that those in the TM group reported a decreased use of these maladaptive strategies (keep to self pretest: *M* = 60.78, *SD* = 17.78 to posttest: *M* = 51.56, *SD* = 18.68; tension reduction pretest: *M* = 48.38, *SD* = 15.59 to posttest: *M* = 44.88, *SD* = 18.73) after participating in the program, whereas those in the WL group reported an increased use of these strategies (keep to self pretest: *M* = 51.77, *SD* = 17.54 to posttest: *M* = 57.10, *SD* = 18.65; tension reduction pretest: *M* = 36.90, *SD* = 16.96 to posttest: *M* = 42.58, *SD* = 16.83).

There was a significant Group X Gender X Time interaction effect (η_p^2 = .11) found for worry as a coping strategy. Male adolescents in the TM group reported a decreased use from pretest (*M* = 54.67, *SD* = 19.32) to posttest (*M* = 46.00, *SD* = 16.32). In contrast, female adolescents in the program did not report improvements (*M* = 56.40, *SD* = 14.85 to *M* = 59.60, *SD* = 16.05), nor did female and male adolescents from the WL group (WL males: *M* = 46.29, *SD* = 20.97 to *M* = 52.86, *SD* = 27.14; WL females: *M* = 56.94, *SD* = 13.46 to *M* = 55.06, *SD* = 17.29). In fact, there was a slight increase in reported use of worry as a coping strategy for male adolescents who had yet to participate in the group.

In regards to other significant effects, there was a main effect found for gender for tension reduction (η_p^2 = .12). Across both testing sessions, female adolescents reported

Table 20.

Pretest to Posttest 2 X 2 Repeated Measures MANOVA Findings for ACS Maladaptive Coping Strategies

	Multivariate		Univariate							
Source	*df*	*F*	Worr	Bel	Wish Thi	Not Cop	Ign	Tens Red	Keep Sel	Self Bla
Group (Gr)	1	.54	.11	.45	.00	.75	.13	2.52	.35	.30
Gender (Ge)	1	1.52	2.73	.52	1.56	2.07	.04	8.09**	.02	3.64
Gr x Ge	1	.96	.02	.17	.14	.32	1.59	.01	.97	1.29
Time (T)	1	1.03	.01	.14	.04	3.36	3.10	.45	.82	.46
Gr x T	1	2.22	1.76	.07	.04	4.39	1.51	7.06*	11.92**	.29
Ge x T	1	.63	.20	.96	.87	.01	2.21	.18	.01	.45
Gr x Ge x T	1	1.25	7.04*	.79	.02	.51	.09	.19	.06	.16

Note. Worr = Worry; Bel = Seek to belong; Wish Thi = Wishful thinking; Not Cop = Not cope; Ign = Ignore the problem; Tens Red = Tension reduction; Keep Sel = Keep to self; Self Bla = Self blame.

Interaction effects relevant for hypothesis in bold.

Multivariate *df* = 8, 52; Univariate *df* = 1, 59.

*p = .01, **p < .01

using tension reduction as a coping strategy more frequently than did male adolescents (females: $M = 47.71$, $SD = 2.47$; males: $M = 36.79$, $SD = 2.94$).

In summary, hypothesis 2 was partially supported with the adolescent data. Although stress appraisal (threat) and symptomatology generally did not improve as a result of participation in the BOC program, improvements in some of the non-productive coping strategies were found. In particular, participation in the BOC program decreased adolescents' ratings of the overall Non-productive Coping style and the negative coping strategies of keep to self and tension reduction. In relation to clinical significance, those who participated in the program demonstrated a decrease in proportion of Borderline to Abnormal range SDQ impact scores from pretest to posttest (56.2 % to 40.6% versus 38.7% to 35.5% for the WL group). In addition, male adolescents in the BOC program reported decreased use of worry, while female participants as well as males and females in the WL group did not.

Parent data. In relation to parent data, it was hypothesized that compared to the WL group there would be a decrease in maladaptive coping (i.e., Non-productive Coping) and symptomatology in the adolescents participating in the BOC program from pre- to post-treatment. Table 21 presents the results of the one-way repeated measures ANOVAs for the non-productive coping style and symptomatology. All Group X Time interaction effects were non-significant, indicating that parents did not report substantial changes in these variables from pretest to posttest as a result of adolescents participating in the BOC program. There were significant main effects for group for Non-productive coping ($\eta_p^2 = .18$) and SDQ Total difficulties ($\eta_p^2 = .26$) with parents' ratings being

Table 21.

Parent Data Pretest to Posttest Findings for Non-Productive Coping Style and Symptomatology

	Pretest		Posttest		One-Way Repeated Measures ANOVA		
Outcome Variable	*M*	*SD*	*M*	*SD*	Source	*F*	*p*
Non-productive coping[a]							
TM Group (*n* = 15)	52.93	9.94	53.33	7.81	Group (Gr)	5.11	.034*
WL Group (*n* = 10)	45.40	10.33	44.20	11.13	Time (T)	.08	.782
					Gr x T	.32	.580
SDQ Total Problems[a]							
TM Group (*n* = 15)	13.53	7.20	12.20	5.94	Gr	8.05	.009**
WL Group (*n* = 10)	7.10	5.59	5.50	3.63	T	4.18	.052
					Gr x T	.04	.854
SDQ Impact Score[a]							
TM Group (*n* = 15)	2.33	2.38	1.80	2.21	Gr	4.43	.046
WL Group (*n* = 10)	1.00	1.83	.10	.32	T	4.01	.057
					Gr x T	.26	.613

Note. Interaction effect relevant for hypothesis in bold.
[a]*df* (1, 23)
* $p < .05$ (coping only); ** $p < .01$

higher for TM adolescents as compacted to WL adolescents across both testing occasions. Overall, hypothesis 2 was not supported in relation to parent report.

In order to further examine clinical significance of participating in the BOC program, the proportion of adolescents rated by their parents to be within the Borderline and Abnormal ranges from pretest to posttest was also examined. For the total difficulties scores, this decreased slightly from pretest to posttest for the TM group (46.7% to 40.0%), but also for the WL group (20.0% to 0.0%). There was a decrease in those who scored in the Borderline to Abnormal range on the SDQ impact scores for both TM and WL groups (TM group: 60.0% to 46.7% and WL group: 50.0% to 10.0%). As such, clinical significance measured in this regard was not supported for parent ratings.

Teacher data. It was hypothesized that there would be a decrease in teacher-reported symptomatology for the adolescents participating within the BOC program compared to the WL group from pre- to post-treatment. As shown in Table 22, all findings were non-significant for the one-way repeated measures ANOVAs. Therefore, hypothesis 2 was not supported in relation to teacher data.

Clinical significance of participating in the BOC program was explored by examining the proportion of adolescents rated by their teachers to be within the Borderline and Abnormal ranges from pretest to posttest. For SDQ total difficulties, there was in fact an increase from pretest to posttest for the TM group (45.5 % to 59.1%), as well as a slight increase for the WL group (33.3% to 38.1%). There was a decrease in those who were rated in the Borderline to Abnormal range on the SDQ impact scores for the TM group (56.7% to 33.3%). In contrast, teachers rated an increase in proportion for WL adolescents in the Borderline to Abnormal range from pretest to posttest (26.7% to

Table 22.

Teacher Data Pretest to Posttest Findings for Symptomatology

	Pretest		Posttest		One-Way Repeated Measures ANOVA		
Outcome Variable	*M*	*SD*	*M*	*SD*	Source	*F*	*p*
SDQ Total score[a]							
TM Group (*n* = 20)	9.20	6.11	10.65	6.39	Group (Gr)	.02	.901
WL Group (*n* = 20)	9.25	7.18	10.15	6.83	Time (T)	1.15	.290
					Gr x T	.06	.803
SDQ Impact score[b]							
TM Group (*n* = 25)	1.28	1.34	.76	1.30	Gr	.59	.445
WL Group (*n* = 25)	.72	1.40	.84	1.31	T	.87	.357
					Gr x T	2.22	.143

Note. Interaction effects relevant for hypothesis in bold.
[a]*df* (1, 38), [b]*df* (1, 48)
All findings were not significant.

43.3%). Clinical significance was demonstrated in relation to teacher-reported SDQ impact scores from pretest to posttest.

Aggregated data at the group level. At the group mean level (see Table 23 for the results of the one-way repeated measures ANOVAs conducted for hypothesis 2), participation in the BOC program appeared to decrease *adolescent* reported use of some of the maladaptive (avoidance) coping strategies, as measured by the ACS. In particular, Group X Time interaction effects were found for the ACS maladaptive coping strategies of not cope ($\eta_p^2 = .53$) and keep to self ($\eta_p^2 = .65$). Groups who participated in the BOC program between pretest and posttest assessments reported decreased use of these negative coping strategies, whereas the WL groups reported similar levels, if not increased, use of these strategies. The remaining maladaptive or avoidant coping strategies on the ACS, stress appraisal of threat, and symptomatology were not significantly related to group assignment over the pretest to posttest duration.

In relation to *parent and teacher report* (Tables 24 and 25, respectively), the findings were non-significant at the group level. For the parent report, there was a main effect for group for Non-productive coping ($\eta_p^2 = .56$) with TM groups being rated as using Non-productive coping more frequently than WL groups, similarly to what was found at the individual level of analysis.

Table 23.

Pretest to Posttest Findings for Negative Stress Appraisal, Symptomatology, and Coping at the Group Level

	Pretest		Posttest		One-Way Repeated Measures ANOVA		
Outcome Variable	*M*	*SD*	*M*	*SD*	Source	*F*	*p*
SAMA Threat							
TM Groups (*n* = 5)	1.57	.23	1.69	.19	Group (Gr)	4.32	.071
WL Groups (*n* = 5)	1.37	.27	1.51	.21	Time (T)	1.33	.281
					Gr x T	.00	.963
SDQ Total Difficulties							
TM Groups (*n* = 5)	14.14	2.31	14.05	1.95	Gr	1.98	.197
WL Groups (*n* = 5)	11.57	2.53	12.73	2.16	T	2.42	.159
					Gr x T	3.25	.109
SDQ Impact score							
TM Groups (*n* = 5)	1.19	.78	1.21	.96	Gr	.01	.919
WL Groups (*n* = 5)	1.12	.87	1.18	.83	T	.02	.884
					Gr x T	.00	.950
ACS Non-productive coping							
TM Groups (*n* = 5)	99.90	6.91	93.38	13.64	Gr	.41	.538
WL Groups (*n* = 5)	91.30	9.03	94.79	9.35	T	.26	.627
					Gr x T	2.77	.135
ACS Worry							
TM Groups (*n* = 5)	56.08	6.51	53.45	8.46	Gr	.04	.845
WL Groups (*n* = 5)	52.88	7.22	55.02	8.85	T	.01	.934
					Gr x T	.69	.430
ACS Seek to Belong							
TM Groups (*n* = 5)	55.64	4.91	57.58	3.32	Gr	.38	.555
WL Groups (*n* = 5)	54.71	3.16	55.02	7.92	T	.46	.519
					Gr x T	.24	.637
ACS Wishful Thinking							
TM Groups (*n* = 5)	57.58	6.51	56.72	8.43	Gr	.03	.873
WL Groups (*n* = 5)	58.49	6.17	57.26	9.00	T	.25	.630
					Gr x T	.01	.932
ACS Not Cope							
TM Groups (*n* = 5)	47.90	10.89	41.31	9.98	Gr	.26	.622
WL Groups (*n* = 5)	41.35	7.14	42.21	7.08	T	5.21	.052
					Gr x T	8.83	.018*

(table continues)

Table 23. (*continued*)

	Pretest		Posttest		One-Way Repeated Measures ANOVA		
Outcome Variable	*M*	*SD*	*M*	*SD*	Source	*F*	*p*
ACS Ignore the Problem							
TM Groups (*n* = 5)	55.60	6.49	47.64	11.46	Gr	.01	.939
WL Groups (*n* = 5)	51.45	6.40	51.25	5.04	T	1.34	.280
					Gr x T	1.22	.302
ACS Tension Reduction							
TM Groups (*n* = 5)	48.10	7.06	44.17	12.22	Gr	.81	.394
WL Groups (*n* = 5)	37.62	11.93	43.35	9.45	T	.22	.652
					Gr x T	6.28	.037
ACS Keep to Self							
TM Groups (*n* = 5)	61.24	3.39	51.10	4.25	Gr	.36	.565
WL Groups (*n* = 5)	51.53	4.79	56.80	5.66	T	1.45	.262
					Gr x T	14.51	.005**
ACS Self Blame							
TM Groups (*n* = 5)	51.07	5.16	51.26	9.73	Group (Gr)	.35	.571
WL Groups (*n* = 5)	47.24	8.15	49.82	7.69	Time (T)	.41	.542
					Gr x T	.30	.598

Note. Interaction effect relevant for hypothesis in bold.
df (1, 8)
* $p < .025$; ** $p < .01$

Table 24.

Parent Data Pretest to Posttest Findings Between Groups for Adolescent Non-Productive Coping Style and Symptomatology at the Group Level

	Pretest		Posttest		One-Way Repeated Measures ANOVA		
Outcome Variable	*M*	*SD*	*M*	*SD*	Source	*F*	*p*
Non-productive coping							
TM Groups (*n* = 5)	54.47	6.97	53.67	2.79	Group (Gr)	8.92	.020*
WL Groups (*n* = 4)	43.88	5.48	42.25	7.14	Time (T)	.99	.353
					Gr x T	.11	.745
SDQ Total Problems							
TM Groups (*n* = 5)	14.40	4.83	12.47	3.80	Gr	6.77	.035
WL Groups (*n* = 4)	7.69	3.84	6.00	2.68	T	5.95	.045
					Gr x T	.03	.873
SDQ Impact score							
TM Groups (*n* = 5)	2.73	1.30	2.27	2.13	Gr	1.80	.229
WL Groups (*n* = 4)	1.50	1.73	.83	1.04	T	.67	.444
					Gr x T	.02	.890

Note. Interaction effect relevant for hypothesis in bold.
df (1, 7)
* $p < .05$ (significant for coping only)

Table 25.

Teacher Data Pretest to Posttest Findings Between Groups for Adolescent Symptomatology at the Group Level

	Pretest		Posttest		One-Way Repeated Measures ANOVA		
Outcome Variable	*M*	*SD*	*M*	*SD*	Source	*F*	*p*
SDQ Total Difficulties							
TM Groups (*n* = 5)	10.07	5.91	9.87	3.53	Group (Gr)	.01	.938
WL Groups (*n* = 5)	9.66	3.46	10.00	2.68	Time (T)	.00	.969
					Gr x T	.02	.890
SDQ Impact score							
TM Groups (*n* = 5)	1.28	.79	.75	.66	Group (Gr)	.72	.421
WL Groups (*n* = 5)	.74	.29	.76	.60	Time (T)	1.26	.294
					Gr x T	1.52	.253

Note. Interaction effect relevant for hypothesis in bold.
df (1, 8)
All findings were not significant.

Hypothesis 3 : In general, the program will be perceived as helpful both at post-treatment and follow-up assessment.

Adolescent data. Adolescent ratings of perceived helpfulness of the BOC program were collected using items from two of the questionnaires. The session check-ins were completed after each attended session, which inquired as to how helpful each session was perceived by the participant. These ratings were averaged for each youth across all sessions attended. For all of those (i.e., both TM and WL group adolescents) who participated in the BOC program (n = 63), the average rating of the program was at least "somewhat helpful" at posttest (M = 4.45, SD = .95 on a scale of 1 to 7 with 4 = *somewhat helpful)*.

The SDQ follow-up measure also included items measuring perceived effectiveness of the program. In particular, participants were asked to indicate if their "problems" worsened or improved since participating in the program, as well as if the program helped them in "other ways". Table 26 includes these ratings for all adolescent *self-report* at their respective posttest and follow-up assessments (time 2 and 3 for TM and time 3 and 4 for WL group participants). The average adolescent rated his or her symptoms as being "about the same" (rating = 0) to "a bit better" (rating = 1) since participating in the program. Additionally, the average adolescent rated the program as helping in other ways between "a little" (rating = 1) to "a medium amount" (rating = 2) at both posttest and follow-up assessment.

Parent and teacher data. For parent and teacher data, the SDQ follow-up measure also included the same items. Table 27 includes parent and teacher ratings of perceived effectiveness for the participating adolescents at their posttest and follow-up

Table 26.

Perceived Effectiveness of the BOC Program at Posttest and Follow-Up for all Participating Adolescents

Item	Problem Change Since Participation			Program Helpful in Other Ways		
Assessment	Number per rating	*M*	*SD*	Number per rating	*M*	*SD*
Posttest *n* = 58	Much worse = 0 A bit worse = 3 About same = 23 Bit better = 18 Much better = 14	.74	.89	Not at all = 7 A little = 14 Medium = 26 Great deal = 11	1.71	.92
Follow-up *n*= 49/50	Much worse = 2 A bit worse = 3 About same = 19 Bit better = 16 Much better = 9	.55	1.00	Not at all = 8 A little = 13 Medium = 22 Great deal = 7	1.56	.93

Table 27.

Parent and Teacher Report Perceived Effectiveness of the BOC Program at Posttest and Follow-Up for all Participating Adolescents

	Item	Problem Change Since Participation			Program Helpful in Other Ways		
Informant	Assessment	Number per rating (rating -2 to 2)	*M*	*SD*	Number per rating (rating 0 to 3)	*M*	*SD*
Parent	Posttest *n* = 25	Much worse = 0 A bit worse = 0 About same = 16 Bit better = 7 Much better = 2	.44	.65	Not at all = 4 A little = 12 Medium = 5 Great deal = 4	1.36	.95
	Follow-up *n* = 19	Much worse = 0 A bit worse = 1 About same = 12 Bit better = 4 Much better = 2	.37	.76	Not at all = 5 A little = 7 Medium = 5 Great deal = 2	1.21	.98
Teacher	Posttest *n* = 41/39	Much worse = 1 A bit worse = 4 About same = 25 Bit better = 10 Much better =1	.15	.73	Not at all = 18 A little = 15 Medium = 6 Great deal = 0	.69	.73
	Follow-up *n* = 31	Much worse = 2 A bit worse = 3 About same = 15 Bit better = 10 Much better =1	.16	.90	Not at all = 10 A little = 16 Medium = 4 Great deal = 1	.87	.76

assessments. Across group assignment and assessments, parents generally rated their adolescents symptoms as being "about the same" (rating = 0) to "a bit better" (rating = 1) since participating in the program. The average parent rating of whether the program helped their adolescent in other ways was between "a little" (rating = 1) to "a medium amount" (rating = 2) at both assessments. On average, teachers reported the adolescents symptoms as being "about the same" (rating = 0) to "a bit better" (rating = 1) since participating in the program. In relation to whether the program helped the adolescent in other ways, the average teacher rating was between "not at all" (rating = 0) to "a little" (rating = 1).

Overall, it appears that adolescents and their parents perceived participating in the program as helpful. The teachers did not report perceiving the program as helpful as the other informants, but did report slight improvements on average. Therefore hypothesis 3 was supported.

Hypothesis 4 : The improvements in perceived stress, life satisfaction, happiness, perceived mastery, coping, and symptomatology were expected to persist at the follow-up.

The longer-term effectiveness of the program was also examined. Pretreatment (time 1) to follow-up (time 3) analyses and posttreatment (time 2) to follow-up (time 3) analyses were conducted with the TM group only. This included repeated measures ANOVAs with gender as the between group factor for adolescent data and no between group factor for parent and teacher data due to low sample sizes, as well as repeated measures MANOVAs for ACS adolescent data at the individual level. It is important to

note that because the WL group had participated in the program by the follow-up assessment session, it was no longer a waitlist control group.

Adolescent data. The results of the pretest to follow-up one-way repeated measures ANOVA analyses are presented in Table 28 and the repeated measures MANOVAs for the coping strategies comprising the three coping styles on the ACS are presented in Table 29. The posttest (time 2) to follow-up (time 3) one-way repeated measures ANOVA analyses are presented in Table 30 and Table 31 presents the repeated measures MANOVAs for the coping strategies comprising the three ACS coping styles. For the multivariate analyses gender was not included as a between groups factor due to low sample size of male participants by follow-up (n = 9-10, depending on missing data). As mentioned previously, for multivariate analyses it is recommended to have n size no less than the number of levels of repeated measures (2 for present analyses) + 10 (Stevens, 2002).

First of all, the coping scales that improved in the pretest to posttest analyses were examined to explore if the improvements found for the TM group (compared to the WL group) were maintained at follow-up. Figure 2 displays the mean values from pretest to follow-up for the TM group for the adaptive coping scales (i.e., Solving the Problem coping style and seeking social support coping strategy) that demonstrated significant Group X Time interaction effects from pretest to posttest. The coping strategy of seeking social support continued to be significantly improved at follow-up compared to pretreatment levels for the TM group (η_p^2 = .27), as shown in Table 29. In contrast, the overarching coping style of Solving the Problem was not significantly improved at follow-up from pretreatment in these analyses at p < .025 (Table 28). Nonetheless, the

Table 28.

Pretest to Follow-Up One-Way Repeated Measures ANOVA Results for the Treatment Group

	Pretest		Follow-up		One-Way Repeated Measures ANOVA		
Outcome Variable	*M*	*SD*	*M*	*SD*	Source	*F*	*p*
SAMA Challenge[a]							
TM Males (*n* = 11)	2.32	.90	2.75	.81	Gender (Ge)	6.03	.021*
TM Females (*n* = 19)	1.76	.69	2.04	.80	**Time (T)**	5.47	.027
					Ge x T	.26	.611
SAMA Resources[a]							
TM Males (*n* = 11)	2.64	.99	3.15	1.10	Ge	.01	.930
TM Females (*n* = 19)	2.61	.83	3.12	.90	**T**	6.32	.018*
					Ge x T	.00	.988
SAMA Threat[a]							
TM Males (*n* = 11)	1.60	.80	1.40	.81	Ge	.54	.468
TM Females (*n* = 19)	1.55	.66	1.80	.74	**T**	.02	.884
					Ge x T	2.01	.167
PMS Total[b]							
TM Males (*n* = 12)	18.83	3.54	21.58	2.54	Ge	3.74	.063
TM Females (*n* = 19)	18.21	2.56	18.84	2.54	**T**	9.43	.005**
					Ge x T	3.70	.064
ACS Solving the Problem[c]							
TM Males (*n* = 10)	104.50	18.93	113.60	25.52	Ge	.51	.481
TM Females (*n* = 19)	101.05	15.51	108.53	15.22	**T**	4.88	.036
					Ge x T	.05	.830
ACS Reference to Others[c]							
TM Males (*n* = 10)	31.80	10.16	32.90	11.12	Ge	1.39	.250
TM Females (*n* = 19)	33.11	6.48	38.26	8.74	**T**	2.60	.118
					Ge x T	1.09	.305
ACS Non-productive coping[c]							
TM Males (*n* = 10)	96.20	18.10	80.20	23.00	Ge	1.98	.171
TM Females (*n* = 19)	102.00	17.19	94.11	20.42	**T**	15.92	.000***
					Ge x T	1.83	.187
CASQ-R Total score[b]							
TM Males (*n* = 12)	8.50	4.58	9.42	3.78	Ge	.25	.624
TM Females (*n* = 19)	9.21	2.25	9.79	3.51	**T**	1.26	.271
					Ge x T	.06	.802

(table continues)

Table 28. (*continued*)

	Pretest		Follow-up		One-Way Repeated Measures ANOVA		
Outcome Variable	*M*	*SD*	*M*	*SD*	Source	*F*	*p*
CASQ-R Active Coping[b]							
TM Males (*n* = 12)	2.33	1.87	2.92	2.43	Ge	.45	.509
TM Females (*n* = 19)	2.53	1.54	3.47	1.58	**T**	4.39	.045
					Ge x T	.25	.622
SDQ Total Difficulties[b]							
TM Males (*n* = 12)	14.50	4.44	13.33	3.96	Ge	.04	.851
TM Females (*n* = 19)	13.95	4.56	13.32	4.91	**T**	1.49	.233
					Ge x T	.13	.719
SDQ Impact score[b]							
TM Males (*n* = 12)	1.17	1.64	1.50	2.51	Ge	.02	.891
TM Females (*n* = 19)	1.21	1.40	1.63	2.24	**T**	1.15	.292
					Ge x T	.02	.902
SLSS Total[b]							
TM Males (*n* = 12)	24.92	6.96	26.58	6.26	Ge	.69	.413
TM Females (*n* = 19)	23.68	5.48	24.53	6.24	**T**	1.26	.271
					Ge x T	.14	.715
HM-R Happiness[b]							
TM Males (*n* = 12)	6.92	2.23	6.92	2.47	Ge	.14	.716
TM Females (*n* = 19)	6.47	1.95	6.84	1.80	**T**	.39	.538
					Ge x T	.39	.538

Note. Main effect and interaction effect relevant for hypothesis in bold.
[a] *df* (1, 28), [b] *df* (1, 29), [c] *df* (1, 27)
* $p < .025$ (significant for coping and stress appraisal only); ** $p = .005$; *** $p < .001$

Table 29.

Pretest to Follow-Up One-Way Repeated Measures MANOVA Results for ACS Coping Strategies for the Treatment Group

	Multivariate		Univariate							
Solving the Problem[a]			Seek	Solv	Phys		Inv			Foc
Source	*df*	*F*	Sup	Pro	Rec	Rel	Fri	Bel	Work	Pos
Time	1	1.90	10.40***	7.93**	.21	.02	.01	.28	1.87	3.10
Reference to Others[b]			Seek	Prof		Soc				
Source	*df*	*F*	Sup	Help	Spirit	Act				
Time	1	3.94*	10.40***	1.86	.42	.04				
Non-productive coping[a]					Wish	Not		Tens		Self
Source	*df*	*F*	Worr	Bel	Thi	Cop	Ign	Red	Keep Sel	Bla
Time	1	2.99*	4.43	.28	1.94	7.97**	3.30	3.67	15.59***	4.15

Note. For Solving the Problem: Seek Sup = Seek social support, Solv Pro = Solve the problem; Phys Rec = Physical recreation; Rel = relaxing diversions; Fri = Investing in close friends; Bel = Seek to belong; Work = Work hard and achieve; Foc Pos = Focus on the positive.
For Reference to Others: Seek social support, Prof Help = Seeking professional help; Spirit = Spiritual support; Soc Act = Social action.
For Non-productive coping: Worr = Worry; Bel = Seek to belong; Wish Thi = Wishful thinking; Not Cop = Not cope; Ign = Ignore the problem; Tens Red = Tension reduction; Keep Sel = Keep to self; Self Bla = Self blame.
[a]Multivariate $df = 8, 21$; Univariate $df = 1, 28$.
[b]Multivariate $df = 4, 25$; Univariate $df = 1, 28$.
*$p < .025$, **$p < .01$, *** $p < .005$

Table 30.

Posttest to Follow-Up One-Way Repeated Measure ANOVA Results for the Treatment Group

	Posttest		Follow-up		One-Way Repeated Measures ANOVA		
Outcome Variable	*M*	*SD*	*M*	*SD*	Source	*F*	*p*
SAMA Challenge[a]							
TM Males (*n* = 11)	2.73	.78	2.75	.81	Gender (Ge)	6.24	.019*
TM Females (*n* = 19)	2.03	.87	2.04	.80	**Time (T)**	.02	.892
					Ge x T	.00	.971
SAMA Resources[a]							
TM Males (*n* = 11)	2.73	1.03	3.15	1.10	Ge	.04	.852
TM Females (*n* = 19)	2.86	.60	3.12	.90	**T**	3.27	.081
					Ge x T	.18	.675
SAMA Threat[a]							
TM Males (*n* = 11)	1.51	.89	1.40	.81	Ge	2.19	.150
TM Females (*n* = 19)	1.89	.64	1.80	.74	**T**	.93	.343
					Ge x T	.00	.969
PMS Total[a]							
TM Males (*n* = 12)	20.17	3.46	21.58	2.54	Ge	6.10	.020
TM Females (*n* = 18)	18.61	1.98	18.78	2.60	**T**	3.63	.067
					Ge x T	2.26	.144
ACS Solving the Problem[c]							
TM Males (*n* = 9)	115.11	21.01	118.00	22.69	Ge	1.62	.214
TM Females (*n* = 19)	107.84	14.83	108.53	15.22	**T**	.50	.488
					Ge x T	.19	.668
ACS Reference to Others[c]							
TM Males (*n* = 9)	39.00	12.94	33.89	11.32	Ge	.19	.664
TM Females (*n* = 19)	37.84	7.78	38.26	8.74	**T**	3.01	.095
					Ge x T	4.18	.051
ACS Non-productive coping[c]							
TM Males (*n* = 9)	86.00	25.42	78.22	23.47	Ge	2.13	.157
TM Females (*n* = 19)	96.00	23.12	94.11	20.42	**T**	4.36	.047
					Ge x T	1.61	.215
CASQ-R Total score[b]							
TM Males (*n* = 12)	10.42	2.11	9.42	3.78	Ge	.14	.711
TM Females (*n* = 19)	9.32	2.65	9.79	3.51	**T**	.20	.660
					Ge x T	1.55	.223

(table continues)

Table 30. (*continued*)

	Posttest		Follow-up		One-Way Repeated Measures ANOVA		
Outcome Variable	*M*	*SD*	*M*	*SD*	Source	*F*	*p*
CASQ-R Active Coping[b]							
TM Males (*n* = 12)	3.42	2.07	2.92	2.43	Ge	.17	.686
TM Females (*n* = 19)	3.37	1.64	3.47	1.58	**T**	.42	.521
					Ge x T	.99	.328
SDQ Total Difficulties[b]							
TM Males (*n* = 12)	12.42	5.23	13.33	3.96	Ge	.78	.385
TM Females (*n* = 19)	15.42	5.67	13.32	4.91	**T**	.58	.454
					Ge x T	3.73	.063
SDQ Impact score[a]							
TM Males (*n* = 11)	.55	1.04	1.36	2.58	Ge	1.23	.277
TM Females (*n* = 19)	1.63	2.06	1.63	2.24	**T**	.66	.423
					Ge x T	.66	.423
SLSS Total[b]							
TM Males (*n* = 12)	25.83	5.77	26.58	6.26	Ge	.95	.337
TM Females (*n* = 19)	23.95	5.41	24.53	6.24	**T**	.66	.422
					Ge x T	.01	.917
HM-R Happiness[b]							
TM Males (*n* = 12)	7.08	2.35	6.92	2.47	Ge	.05	.819
TM Females (*n* = 19)	6.84	1.80	6.84	1.80	**T**	.07	.799
					Ge x T	.07	.799

Note. Main effect and interaction effect relevant for hypothesis in bold.
[a] *df* (1, 28), [b] *df* (1, 29), [c] *df* (1, 26)
* $p < .025$ (significant for coping and stress appraisal only)

Table 31.

Posttest to Follow-Up One-Way Repeated Measures MANOVA Results for ACS Coping Strategies for the Treatment Group

	Multivariate		Univariate							
Solving the Problem[a]			Seek	Solv	Phys		Inv			Foc
Source	*df*	*F*	Sup	Pro	Rec	Rel	Fri	Bel	Work	Pos
Time	1	.66	.56	2.66	.00	.52	.00	.16	2.60	.07
Reference to Others[b]			Seek	Prof		Soc				
Source	*df*	*F*	Sup	Help	Spirit	Act				
Time	1	1.58	.56	.21	.60	4.83				
Non-productive coping[a]					Wish	Not		Tens	Keep	Self
Source	*df*	*F*	Worr	Bel	Thi	Cop	Ign	Red	Sel	Bla
Time	1	1.16	5.93	.16	1.09	.37	.30	.13	.67	2.99

Note. For Solving the Problem: Seek Sup = Seek social support, Solv Pro = Solve the problem; Phys Rec = Physical recreation; Rel = relaxing diversions; Fri = Investing in close friends; Bel = Seek to belong; Work = Work hard and achieve; Foc Pos = Focus on the positive.
For Reference to Others: Seek social support, Prof Help = Seeking professional help; Spirit = Spiritual support; Soc Act = Social action.
For Non-productive coping: Worr = Worry; Bel = Seek to belong; Wish Thi = Wishful thinking; Not Cop = Not cope; Ign = Ignore the problem; Tens Red = Tension reduction; Keep Sel = Keep to self; Self Bla = Self blame.
[a]Multivariate $df = 8, 20$; Univariate $df = 1, 27$.
[b]Multivariate $df = 4, 24$; Univariate $df = 1, 27$.
All analyses were not significant.

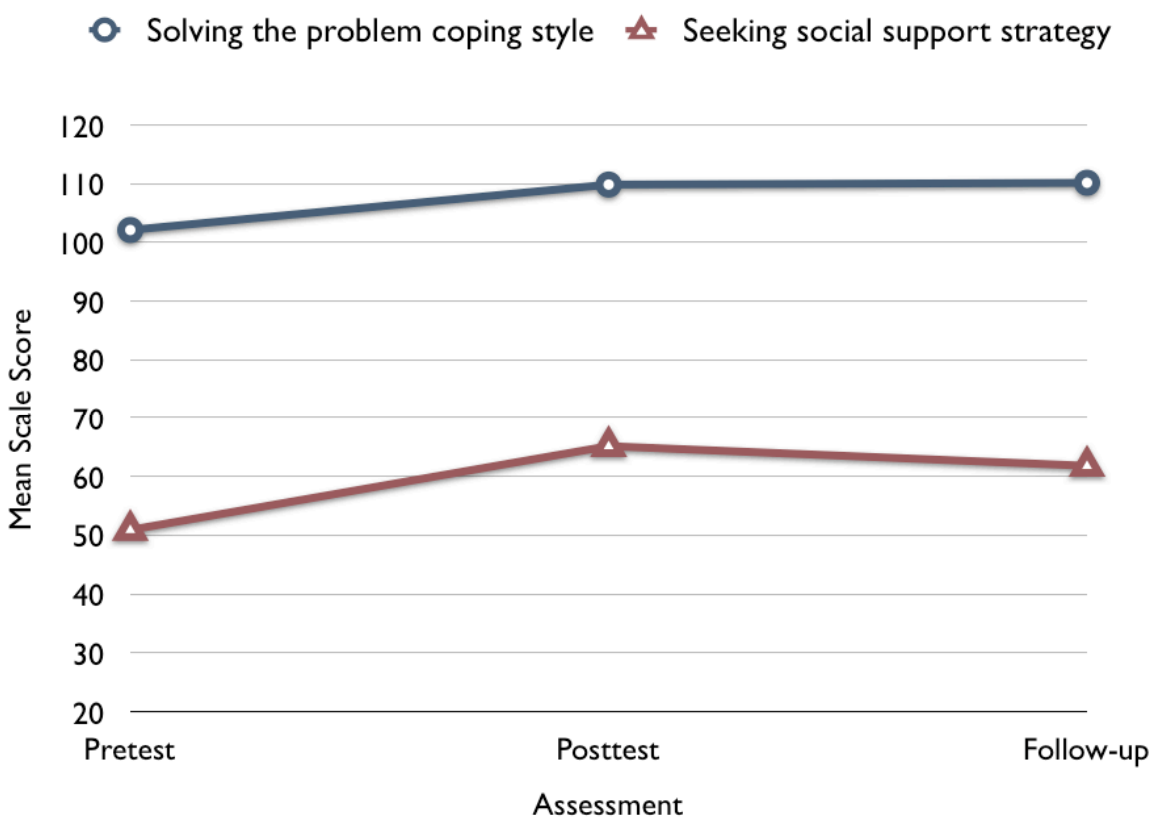

Figure 2. Adaptive coping scales that improved for the TM group at the individual level from pretest to posttest and follow-up.

increased use of Solving the Problem is still evident as shown in Figure 2. The non-significant findings may be a result of having no control group for comparison. Figure 3 includes the trends across the three assessment points for the maladaptive coping strategies and styles that significantly improved for the TM group as compared to the WL group from pretest to posttest. Non-productive coping style ($\eta_p^2 = .37$; Table 28) and keep to self coping strategy ($\eta_p^2 = .36$; Table 29) continued to have significantly improved with the treatment group from pretest to follow-up, yet the coping strategy of tension reduction did not (Table 29). However, when examining the mean scores across the three testing occasions, the TM group still reported decreased use of all of these maladaptive coping scales at follow-up. The non-significant finding relating to tension reduction may be due to the fact that the WL group reported an increased use of tension reduction and yet were not available to compare against in these follow-up analyses.

Other outcome variables also improved from pretest to follow-up within the TM group. In regards to the one-way repeated measures ANOVA analyses (Table 28), secondary stress appraisal of resources significantly improved from pretest to follow-up for the TM group ($\eta_p^2 = .18$), which is shown in Figure 4. Figure 5 demonstrates the trend for perceived mastery, which also significantly improved in the treatment group from pretest to follow-up ($\eta_p^2 = .25$). All other main effects for time were not significant. With regards to other significant effects, the one-way repeated measures ANOVA analyses demonstrated a main effect for gender for stress appraisal of challenge ($\eta_p^2 = .18$), with male participants perceiving stress as more of a challenge than female participants, across groups and both testing occasions.

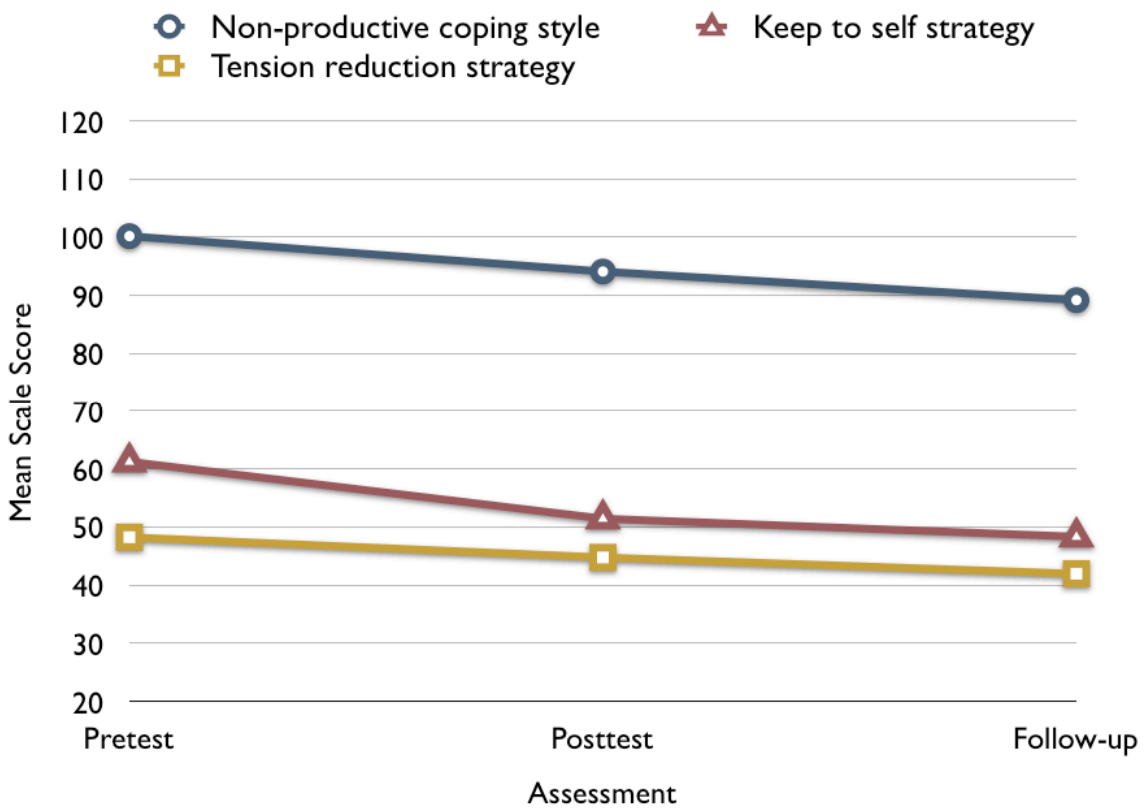

Figure 3. Maladaptive coping strategies and style that decreased for the TM group at the individual level from pretest to posttest and follow-up.

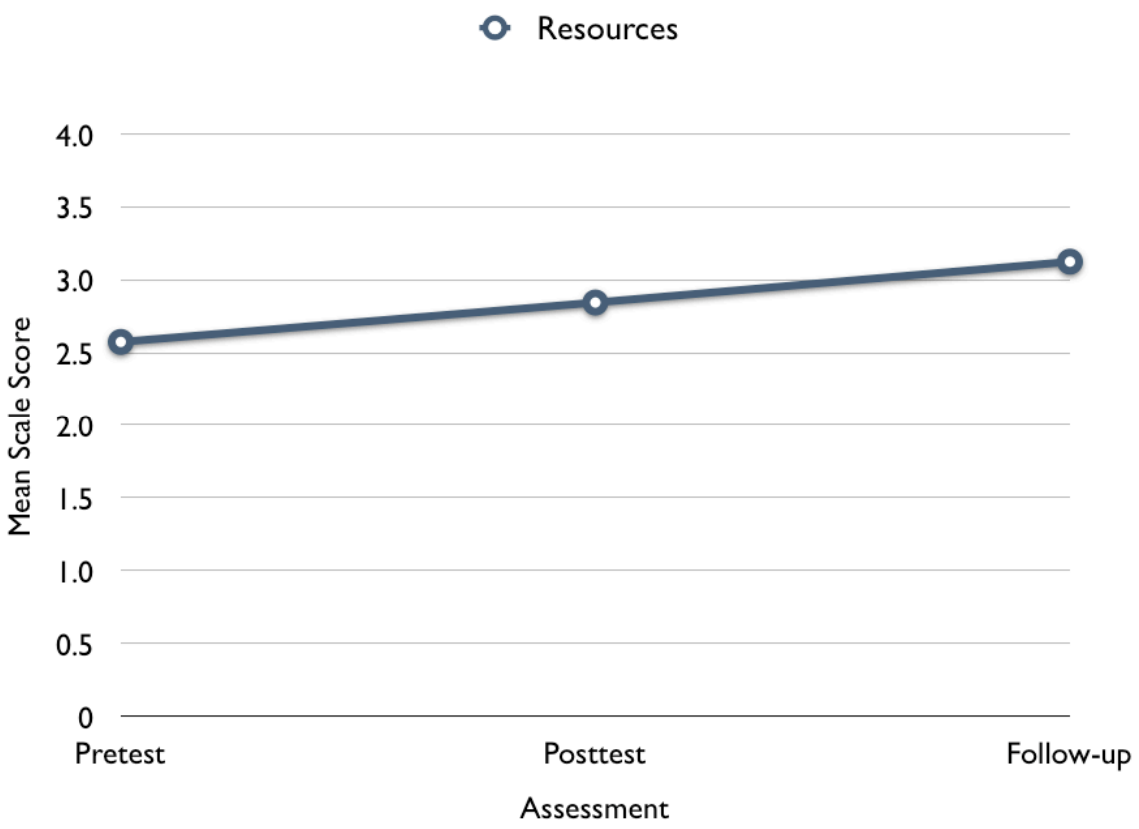

Figure 4. Change in mean score of resources for the TM group from pretest to follow-up.

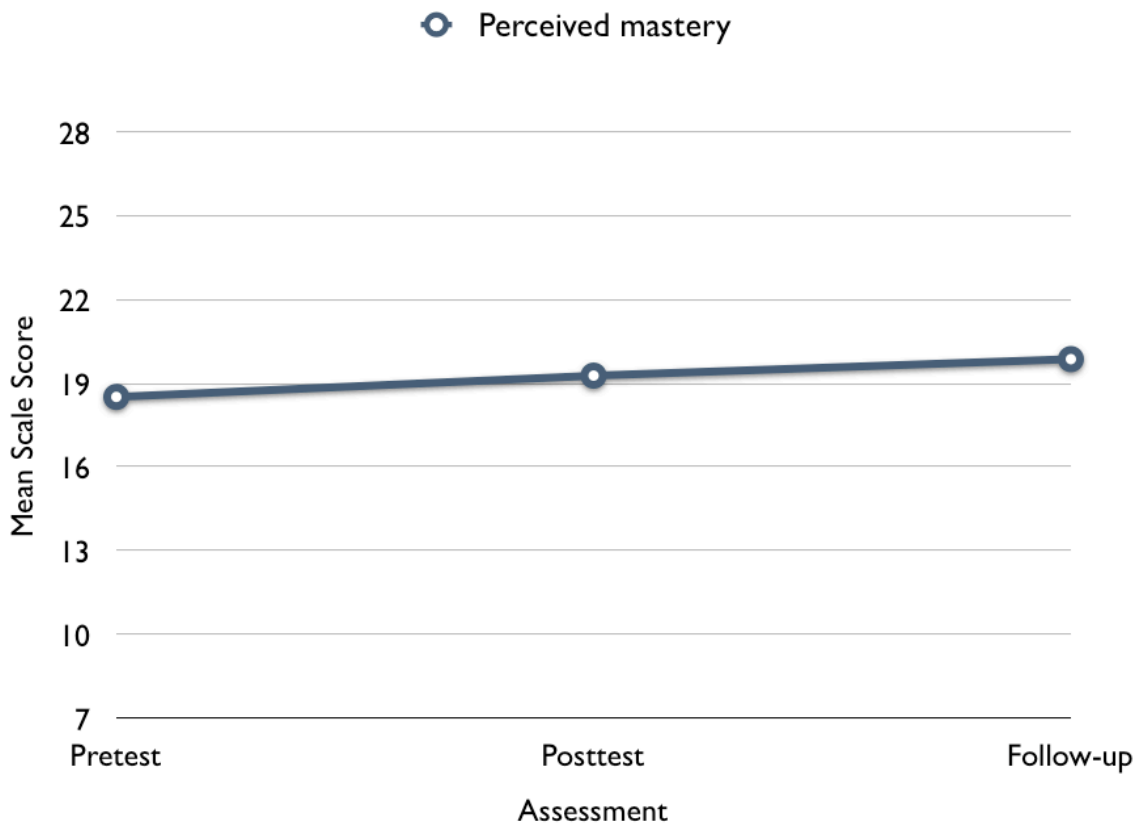

Figure 5. Change in mean score of perceived mastery of the TM group from pretest to follow-up.

In relation to the one-way repeated measures MANOVA analyses, some other significant main effects of time were found. In particular, the multivariate analyses for Reference to others and Non-productive coping strategies had significant main effects for time. The pairwise comparisons analyses using Bonferroni correction for Reference to Others coping revealed that use of seeking social support was significantly higher at follow-up compared to pretest, and this was further supported with the univariate analyses previously noted for seeking social support. For Non-productive coping, pairwise comparisons analyses using Bonferroni correction as well as univariate analyses for each of the non-productive strategies demonstrated that the TM group not only reported a decreased use of keep to self, but also of not cope ($\eta_p^2 = .22$). Figure 6 shows for the mean score of not cope for the TM group across the three assessments.

As shown in Tables 30 and 31, there were no significant changes from posttest (time 2) to follow-up (time 3) in the TM group on any of the outcome measures (i.e., perceived stress, perceived mastery, adaptive and maladaptive coping styles or strategies, symptomatology, life satisfaction, and happiness). This is further support that the changes resulting from the intervention did not significantly diminish by the two to three month follow-up.

In relation to other significant effects, there was a main effect for gender for stress appraisal of challenge, as with the pretest to follow-up analyses. On average, male participants reported perceiving their stress as more of a challenge than female participants across both posttest and follow-up testing occasions ($\eta_p^2 = .18$).

Parent data. The parent data pretreatment (time 1) to follow-up (time 3) and posttreatment (time 2) to follow-up (time 3) analyses are presented in Tables 32 and 33,

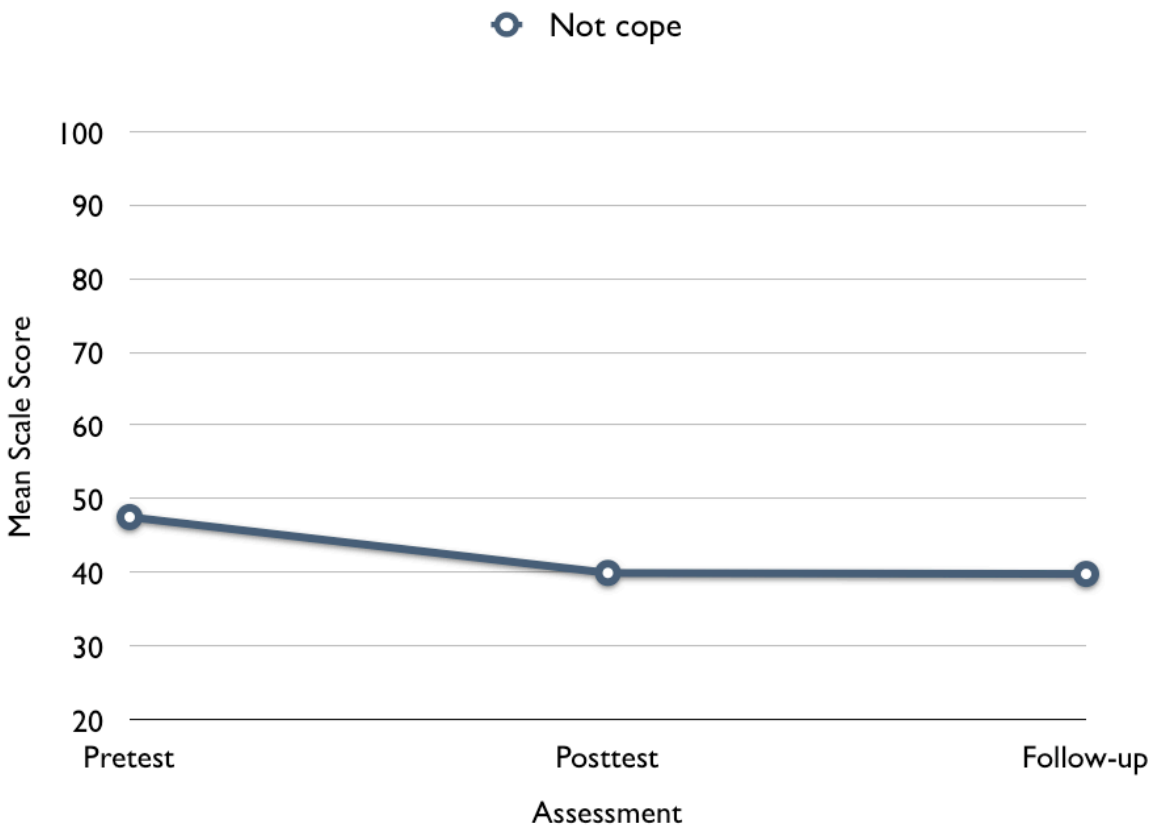

Figure 6. Change in mean score of not cope for the TM group from pretest to follow-up.

Table 32.

Parent Data Pretest to Follow-Up Results for the Treatment Group

	Pretest		Follow-Up		Repeated Measures ANOVA	
Outcome Variable	*M*	*SD*	*M*	*SD*	*F*	*p*
ACS						
Solving the Problem-R	61.20	11.78	66.40	11.03	1.81	.212
Reference to Others	37.50	11.84	45.50	15.54	10.29	.011*
Non-productive Coping	51.80	10.81	51.60	13.13	.01	.941
SDQ						
Total Difficulties	12.50	7.62	10.30	5.42	1.85	.207
Impact	2.30	2.71	1.10	1.45	2.42	.154
HM-R						
Happiness	7.50	1.08	7.05	1.50	2.22	.171

Note. $n = 10$, $df\,(1, 9)$

*significant at $p < .025$

Table 33.

Parent Data Posttest to Follow-Up Results for the Treatment Group

	Posttest		Follow-Up		Repeated Measures ANOVA	
Outcome Variable	*M*	*SD*	*M*	*SD*	*F*	*p*
ACS						
Solving the Problem-R	70.00	11.35	67.60	8.73	.44	.526
Reference to Others	40.50	12.57	47.50	12.96	6.68	.029
Non-productive Coping	54.60	6.67	54.60	10.24	.00	1.00
SDQ						
Total Difficulties	10.60	6.72	9.90	5.67	.23	.647
Impact	1.70	2.41	1.10	1.45	1.98	.193
HM-R						
Happiness	7.65	1.29	7.35	1.33	2.25	.168

Note. $n = 10$, $df\,(1, 9)$
All findings were not significant.

respectively. As shown in the tables, the adolescents' use of the Revised Solving the Problem coping style was not significantly higher at the follow-up assessment, based on parent report. Although there was still a slight increase in use of this adaptive coping style, the average parent-reported use had dropped from posttesting. The Reference to Others coping style was significantly higher from pretest to follow-up ($\eta_p^2 = .53$). Although there was a slight increase from in parent ratings of Reference to Others coping style from posttest to follow-up assessment ($\eta_p^2 = .43$), it was not significant at $p < .025$. See Figure 7 for mean score of Reference to Others coping across all three testing occasions. All other parent-report outcome variables did not differ significantly at follow-up testing from the other two assessments.

Teacher-report data. Teacher follow-up data are presented in Table 34 for the pretreatment (time 1) to follow-up (time 3) and Table 35 for the posttreatment (time 2) to follow-up (time 3) analyses. As shown in the tables, all follow-up analyses were non-significant, as was consistent with the pretest to posttest analyses.

Aggregated data at the group level. As the group level pre- to post-test analyses were not significant for the parent and teacher data (as with many of the individual level follow-up analyses), group level follow-up analyses were not conducted for these data. The results of the adolescent follow-up analyses at the group level are displayed in Table 36. Figure 8 demonstrates the group level mean scores for the TM group for the adaptive coping strategy (i.e., physical recreation) and style (Solving the Problem) that demonstrated significant Group X Time interaction effects at pre- to post-testing. Even though when looking at the figure Solving the Problem coping Style maintained its gain from posttest to follow-up, neither of these demonstrated significant improvements (i.e.,

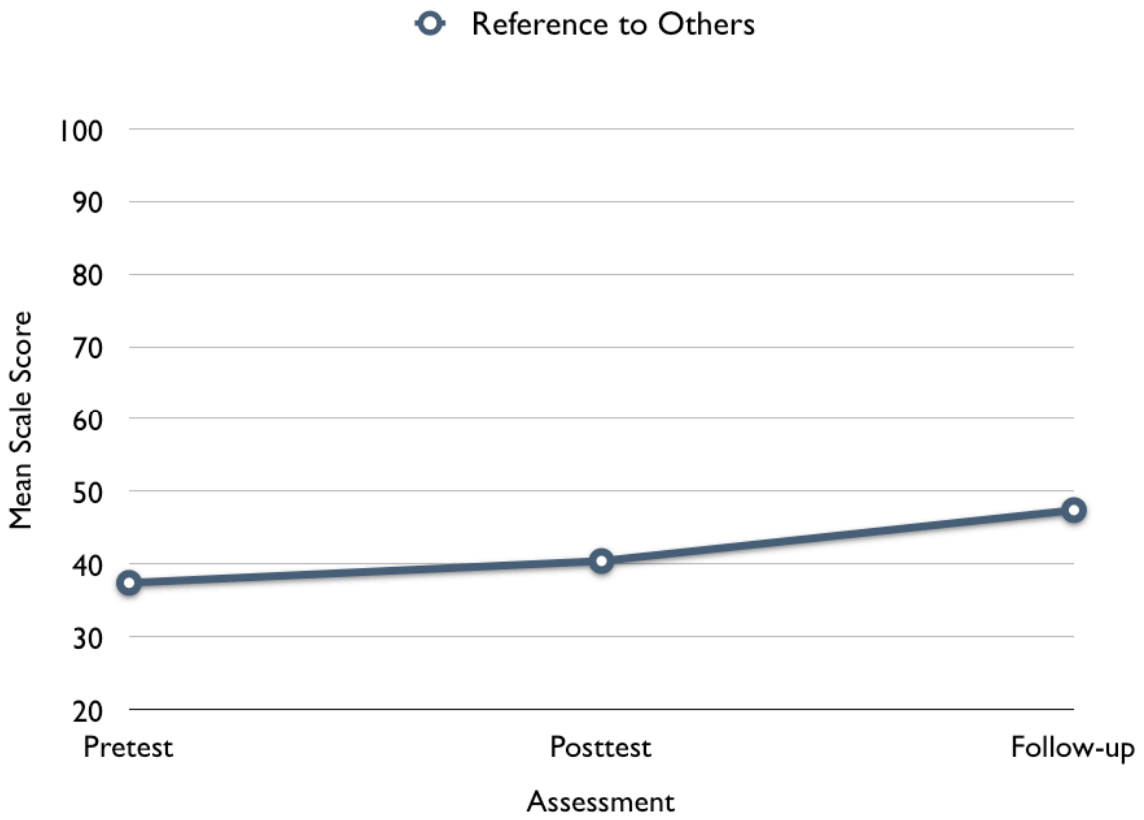

Figure 7. Change in mean score of parent rated Reference to Others coping style for the TM group adolescents from pretest to follow-up.

Table 34.

Teacher Data Pretest to Follow-Up Results for the Treatment Group

	Pretest		Follow-Up		Repeated Measures ANOVA	
Outcome Variable	*M*	*SD*	*M*	*SD*	*F*	*p*
SDQ						
Total Difficulties[a]	10.39	6.51	10.33	6.29	.00	.973
Impact[b]	1.29	1.38	1.19	2.02	.06	.812
HM-R						
Happiness[c]	5.55	1.93	6.45	1.50	4.17	.055

Note. Group size varies due to missing data.
[a] $n = 18$, $df\,(1, 17)$; [b] $n = 21$, $df\,(1, 20)$; [c] $n = 20$, $df\,(1, 19)$.
All findings were not significant.

Table 35.

Teacher Data Posttest to Follow-Up Results for the Treatment Group

	Posttest		Follow-Up		Repeated Measures ANOVA	
Outcome Variable	*M*	*SD*	*M*	*SD*	*F*	*p*
SDQ						
Total Difficulties[a]	11.17	7.01	10.50	6.36	.33	.576
Impact[b]	.85	1.39	1.25	2.05	1.03	.322
HM-R						
Happiness[a]	6.67	1.94	6.39	1.58	.38	.544

Note. Group size varies due to missing data.
[a] $n = 18$, $df\ (1, 17)$; [b] $n = 20$, $df\ (1, 19)$.
All findings were not significant.

Table 36.

Pretest to Follow-Up and Posttest to Follow-Up Results for the Treatment Group at the Group Level

	Treatment Group (n = 5)						Pretest to Follow-up		Posttest to Follow-up	
	Pretest		Posttest		Follow-up					
Outcome variable	*M*	*SD*	*M*	*SD*	*M*	*SD*	$F(1, 4)$	*p*	$F(1, 4)$	*p*
SAMA										
Challenge	1.97	.29	2.38	.44	2.33	.49	5.05	.088	.54	.503
Threat	1.57	.23	1.69	.19	1.64	.32	.08	.791	.20	.675
Resources	2.57	.36	2.87	.37	3.13	.34	7.85	.049	2.13	.218
PMS Total	18.56	.64	19.36	1.56	19.86	1.64	2.74	.173	.62	.476
ACS										
Solving the Problem Coping	102.55	8.22	110.40	9.43	110.22	11.68	6.35	.065	.03	.883
Reference to Others	33.41	1.97	38.73	6.78	36.43	4.07	4.31	.107	1.96	.235
Non-productive Coping	99.90	6.91	93.38	13.64	89.11	10.48	12.60	.024*	2.08	.223
Seek Social Support†	51.24	6.29	62.67	11.91	61.63	11.13	10.12	.033	.66	.463
Solve the Problem	54.76	6.39	62.40	3.93	64.82	8.48	20.75	.010[a]	1.15	.345
Work Hard and Achieve	63.75	9.52	64.19	8.78	68.01	11.92	3.17	.150	1.79	.252
Invest in Friends	65.41	4.39	65.50	5.47	65.66	6.63	.01	.940	.01	.945
Seek to Belong†	55.64	4.91	57.58	3.32	57.44	5.10	.51	.515	.01	.942
Social Action	31.83	4.36	36.57	7.18	31.23	3.17	.11	.758	3.26	.145
Spiritual Support	38.71	6.41	39.71	8.24	36.23	3.71	1.72	.260	1.97	.233
Focus on the Positive	52.62	6.55	59.45	3.48	57.81	7.07	2.67	.178	.32	.604

(table continues)

Table 36. *(continued)*

	Treatment Group (n = 5)						Pretest to Follow-up		Posttest to Follow-up	
	Pretest		Posttest		Follow-up					
Outcome variable	*M*	*SD*	*M*	*SD*	*M*	*SD*	$F(1, 4)$	*p*	$F(1, 4)$	*p*
Professional Help	32.45	1.61	36.93	9.52	37.65	8.30	2.04	.226	.04	.848
Relax	77.60	7.71	78.03	7.72	76.25	8.37	.11	.753	.90	.397
Physical Recreation	57.70	8.80	60.80	8.34	58.62	9.42	.09	.777	1.42	.299
Worry	56.08	6.51	53.45	8.46	49.86	6.99	1.46	.294	1.55	.281
Wishful Thinking	57.58	6.51	56.72	8.43	55.24	5.82	3.66	.128	.18	.692
Not Cope	47.90	10.89	41.31	9.98	39.48	10.52	85.18	.001***	4.03	.115
Tension Reduction	48.10	7.06	44.17	12.22	42.27	11.76	7.06	.057	.68	.455
Ignore	55.60	6.49	47.64	11.46	46.36	8.37	7.75	.050	.16	.708
Self Blame	51.07	5.16	51.26	9.73	45.75	8.63	2.65	.179	3.94	.118
Keep To Self	61.24	3.39	51.10	9.25	48.12	9.53	17.21	.014*	7.39	.053
CASQ										
Total	8.82	1.04	9.71	.89	9.58	1.34	.95	.385	.07	.807
Active Coping	2.42	.44	3.31	.72	3.27	.44	4.92	.091	.02	.904
SDQ										
Total Difficulties	14.14	2.31	14.05	1.95	13.48	2.68	.90	.397	.55	.499
Impact	1.19	.78	1.21	.96	1.59	1.25	.85	.408	.43	.547
SLSS Total	23.92	1.96	24.74	2.95	24.99	4.37	.65	.465	.06	.820
Happiness	6.46	.84	6.82	.58	6.83	.81	24.19	.008**	.00	.972

Note. †Seek social support is found in both the Solving the Problem and Reference to Others coping styles; Seek to Belong is found in both the Non-productive and Solving the Problem Coping styles

*significant at $p < .025$; ** $p < .01$, ***$p < .005$; [a]$p = .01$.

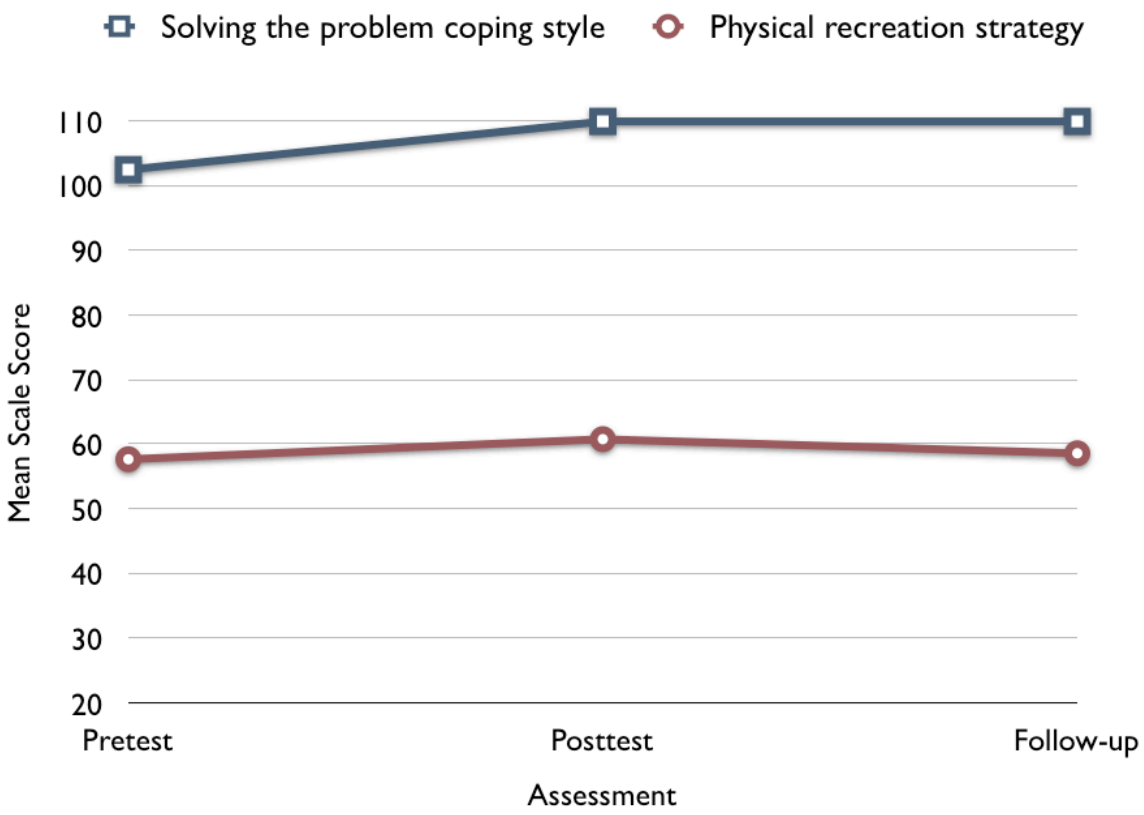

Figure 8. Adaptive coping strategy and style that improved for the TM group at the group level from pretest to posttest and follow-up.

main effect of time) in the pretest to follow-up analyses with no control group as a comparison. For both negative coping strategies (i.e., not cope and keep to self) that had significant Group X Time interactions for pretest to posttest data with the WL group as a control group, they continued to demonstrate significant improvements (i.e., decreased reported use) from pretest to follow-up (not cope $\eta_p^2 = .96$; keep to self $\eta_p^2 = .81$). Figure 9 displays these trends across the three assessment sessions at the group level for the TM groups.

In addition, ratings of non-productive coping style ($\eta_p^2 = .76$) as well as coping strategy of solve the problem ($\eta_p^2 = .84$) significantly improved in the TM groups from pretest to follow-up (Figure 10). Finally, the group ratings for happiness ($\eta_p^2 = .86$) significantly improved from pretest to follow-up for the TM groups, as shown in Figure 11.

Hypothesis 5 : *More training/experience and greater instructor helpfulness and understanding would be related to greater effectiveness of the BOC program.*

Next, the potential relationship between instructors' characteristics and outcome was examined. The first step in the analyses was to examine if more training and perceived helpfulness and understanding were correlated to change scores among the outcome variables for those who participated in the program. In particular, those who came to at least 50% of the sessions were included in the analyses. In order to increase the sample size and statistical power, pretreatment to posttreatment change scores for adolescents in both the TM (time 1 and 2 data) and WL (time 2 and 3 data) groups who completed the BOC program were calculated and combined. If there were any significant correlations, then regression analyses were conducted with these instructor

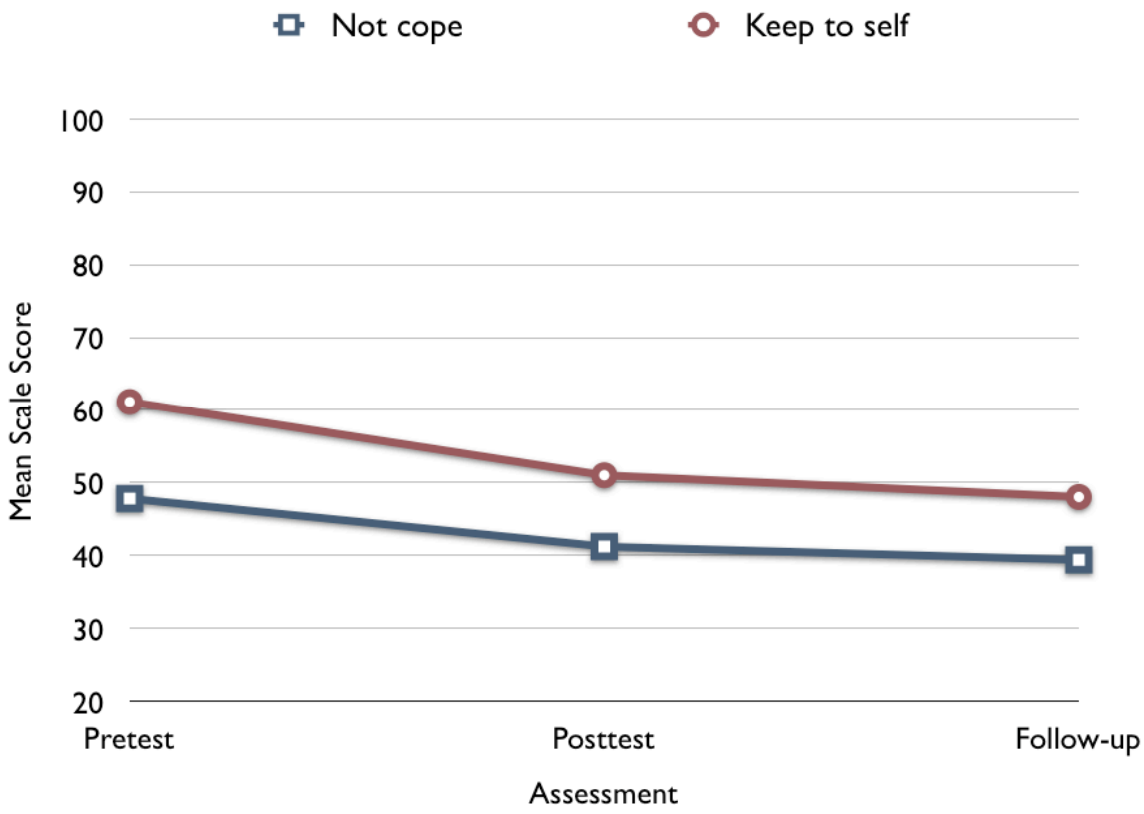

Figure 9. Maladaptive coping strategies and style that decreased for the TM group at the group level from pretest to posttest and follow-up.

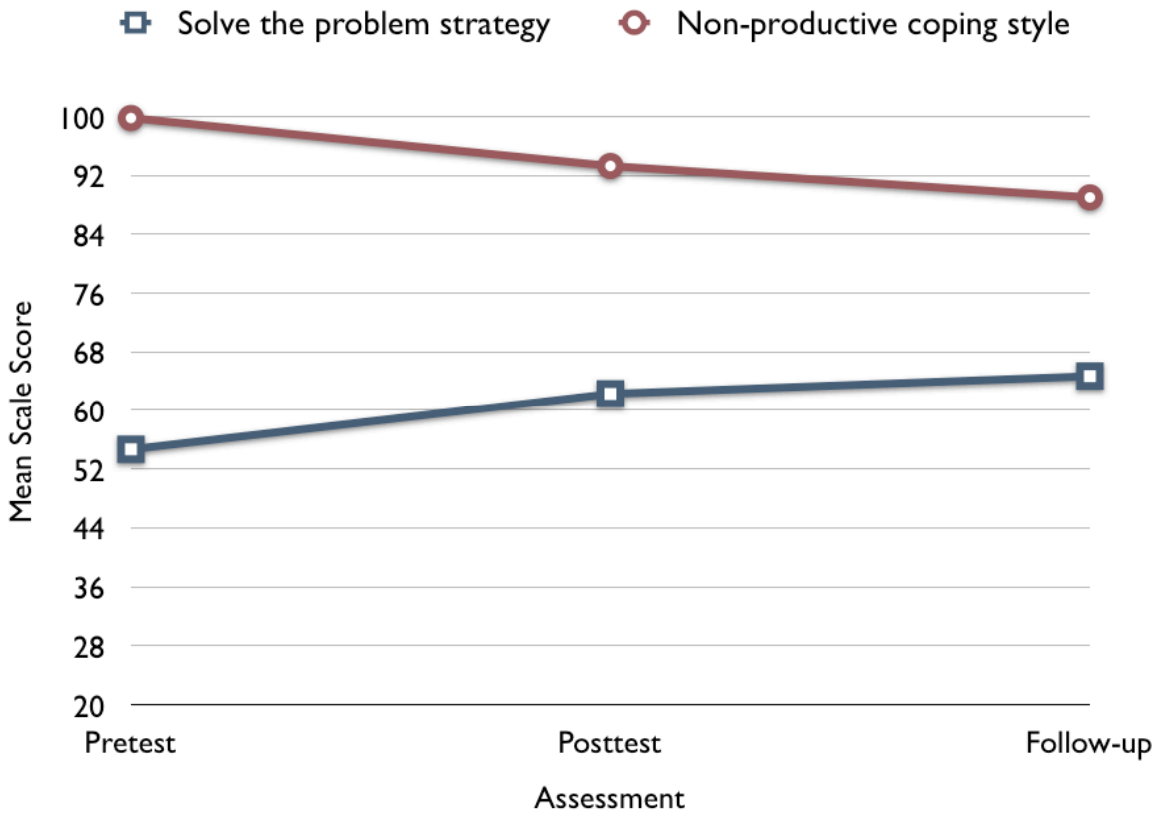

Figure 10. Change in mean scores of solve the problem coping strategy and Non-productive coping for the TM group at the group level from pretest to follow-up.

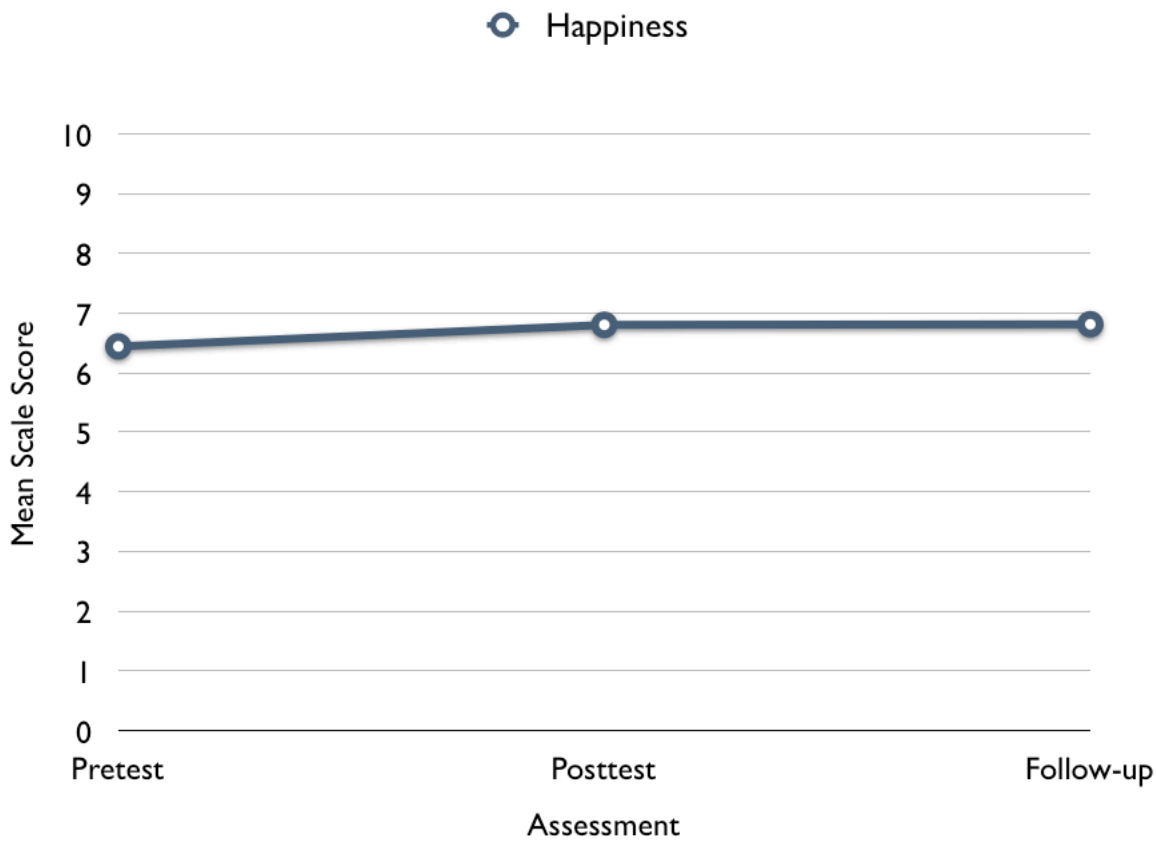

Figure 11. Change in mean score of perceived happiness of the TM group from pretest to follow-up.

characteristics. These analyses, along with hypotheses 6 and 7, were only conducted on the adolescent data, due to the low sample sizes and inconsistent reporters (i.e., different teachers completed measures at different assessments) of the other informant data. In addition, to decrease the number of analyses, only the three overarching coping styles of the ACS were included in the analyses, but not the 18 different strategies.

Table 37 shows correlations between outcome change scores and instructor characteristics, with only two correlations significant at $p < .05$ (one-tailed). Combined *instructor training level*, namely total years in the graduate training program among both instructors, was positively correlated with increased perceived threat in relation to stress, which was in the opposite direction hypothesized, and teen ratings of *instructor understanding* were positively correlated with increases in CASQ-R active coping. Caution must be taken, since given the number of analyses conducted, these two significant correlations may be a result of chance. Nevertheless, regression analyses were conducted, between the variables with significant correlations. The combined total number of years that the instructors were in the training program significantly predicted changes in the stress appraisal of threat from pretest to posttest, $\beta = .27$, $t(53) = 2.04$, $p < .05$, as well as a significant proportion in the change in threat variance, $R^2 = .07$, $F(1, 53) = 4.17$, $p < .05$. Instructor understanding did not significantly predict change in CASQ-R active coping scores from pretest to posttest $\beta = .22$, $t(53) = 1.68$, $p > .05$, nor a significant proportion in the change in its variance, $R^2 = .05$, $F(1, 53) = 2.81$, $p > .05$.

In summary, instructor characteristics of training level, as well as adolescent perceived understanding and helpfulness, were generally not related to the effectiveness of the program, with only a couple of significant correlations found. However, it is

Table 37.

Correlations Between Instructor Variables and Change in Adolescent Outcome Variables From Pretreatment to Posttreatment

Change in Outcome Variables		Instructors' Years in Graduate Training	Teen Report of Instructor Helpfulness	Teen Report of Instructor Understanding
	n	*r*	*r*	*r*
SAMA				
Threat	55	.27*	.16	.02
Challenge	55	-.01	.17	.12
Resources	55	-.13	.13	.14
PMS Total	52	-.21	.10	.08
ACS				
Solving the Problem Coping	54	-.09	.16	.06
Reference to Others	54	-.10	.05	.09
Non-productive Coping	54	-.05	-.01	-.04
CASQ				
Active	55	.14	.17	.22*
Total	55	.11	.04	.09
SDQ				
Total	51	-.11	.06	.08
Impact	50	.11	.17	-.01
SLSS Total	51	.08	.07	.13
Happiness	51	.03	.14	.14

Note. Includes entire sample (i.e., from both TM and WL groups) who had 50 % or above attendance.
* $p < .05$

important to note the variable ranges may have been limited enough to result in non-significant findings. In particular, combined level of training ranged from 5 to 9 years(M = 7.05, SD = 1.50), adolescent ratings of instructors' helpfulness ranged between 2.86 and 6.67 (M = 5.06, SD = .90) and understanding ranged between 3.50 and 6.83 (M = 5.27, SD = .78), both items of which were on a 7 point Likert scale.

Hypothesis 6 : Variation or deviation in the adherence to the program would be related to the effectiveness of the BOC program.

The potential relationship between adherence to the program and outcome was also examined. Deviation from the program was evaluated in two ways: percentage of the main overarching points covered, and then percentage of the minor points covered. There was not much variability in adherence; however, it did range from 81 to 99% (M = 90.03, SD = 5.83) for main points or sections, and 71 to 95% (M = 84.98, SD = 7.66) for minor points. As such, correlations (two-tailed) were conducted between adherence scores and change in adolescent report outcome measures.

Adherence to the program was not found to be significantly correlated to any of the change in adolescent outcome variables, all ps > .05 (Table 38). As noted above, this may have been a result of the restricted range in adherence.

Hypothesis 7 : The adolescent characteristics of a) gender, b) symptomatology level, c) participation, d) motivation and e) interest in the program would be related to the effectiveness of the BOC program.

Gender. It was hypothesized that there would be some gender differences in the effects of the BOC program, including female participants reporting greater improvements in problem-focused and active coping strategies, and male participants

Table 38.

Correlations Between Adherence Level and Change in Adolescent Outcome Variables From Pretreatment to Posttreatment

Change in Outcome Variables		Number of Main Points Covered (%)	Number of Minor Points Covered (%)
	n	*r*	*r*
SAMA			
Threat	55	-.18	-.16
Challenge	55	.10	.07
Resources	55	-.04	-.08
PMS Total	52	.14	.16
ACS			
Solving the Problem	54	-.06	-.08
Coping			
Reference to Others	54	.17	.13
Non-productive Coping	54	-.19	-.19
CASQ			
Active	55	.20	.13
Total	55	.15	.08
SDQ			
Total	51	.06	.10
Impact	50	-.05	-.07
SLSS Total	51	.10	.10
Happiness	51	-.16	-.16

Note. Includes entire sample (i.e., from both TM and WL groups) who had 50 % or above attendance.
* $p < .05$

reporting greater improvement in seeking out social support and help from others. Gender differences were explored throughout the previous hypotheses as it was used as a between subjects variable in the 2 X 2 repeated measures ANOVAs and MANOVAs conducted at the individual level for adolescent data. Findings related to gender differences and/or similarities in treatment outcome will be summarized here.

There was one reported difference in effectiveness of the program between male and female participants in the *pretest to posttest* adolescent report analyses. The Group X Gender X Time interaction effect for the negative coping strategy of worry was statistically significant at the set $\alpha = .01$ level. Male participants in the program reported a decreased use in this negative coping strategy from pretreatment to posttreatment, whereas their female counterparts did not report improvements in the use of worry, nor did female and male adolescents from the WL group.

Despite this gender difference in effectiveness of the program, generally the treatment effects were similar across male and female participants. The specific directional portions of this research hypothesis were not supported in the analyses, as there were no significant gender differences regarding active or productive coping strategies or seeking out social support and help from others as a result of participating in the program, as was predicted. The only gender difference found in outcome was in the reported use of a negative or maladaptive strategy (i.e., worry).

Symptomatology. Adolescent symptomatology was also examined in relation to change in outcome scores, as pretreatment symptomatology level was hypothesized to be related to treatment effectiveness. As shown in Table 39, pretreatment SDQ total difficulties was found to be negatively associated with change in self-report SDQ total

difficulties and impact scores, as well as positively correlated with change in SLSS life satisfaction and HM-R happiness. Adolescents who reported more symptomatology at pretest reported greater improvement in symptomatology, life satisfaction, and happiness at post-treatment compared to those who reported fewer symptoms.

The regression analyses illustrated that pretest symptomatology (i.e., total difficulties) significantly predicted change in total difficulties, $\beta = -.52$, $t\ (49) = -4.23$, $p < .001$, and accounted for a significant portion of the variance, $R^2 = .27$, $F(1, 49) = 17.92$, $p < .001$. Pretest total difficulties also significantly predicted change in SDQ impact scores $\beta = -.31$, $t\ (48) = -2.23$, $p < .05$, accounting for a significant portion of the variance, $R^2 = .09$, $F(1, 48) = 4.97$, $p < .05$. In contrast, pretest total difficulties did not significantly predict change in SLSS life satisfaction $\beta = .24$, $t\ (49) = 1.69$, $p > .05$, or HM-R happiness, $\beta = .24$, $t\ (49) = 1.72$, $p > .05$.

Adolescent investment in the program. It was hypothesized that adolescent participation, motivation, and interest in the program would be related to increased effectiveness. In relation to participant investment in the program (i.e., adolescent participation, motivation, and interest), correlations were conducted between instructor- and self-report ratings and changes in outcome scores. Regression analyses were conducted with the significantly correlated variables of adolescent investment in the program as predictors of change with the relevant outcome variables.

As shown in Table 39, *self-reported* participation, motivation, and interest in the sessions were significantly positively correlated with change in adolescent-reported threat perception; however they were not found to be significant predictors in the regression analyses [participation: $\beta = .23$, $t\ (53) = 1.71$, $p > .05$; motivation: $\beta = .23$, $t\ (53) = 1.70$,

Table 39.

Correlations between Adolescent Attendance and Investment in the Program and Change in Adolescent Report Outcome Variables From Pretreatment to Posttreatment

				Adolescent Self-Report			Instructors Report	
Change in Variables		Pre-Tmt symptoms	Attendance	Interest	Motiv.	Particip.	Interest	Particip.
	n		*r*	*r*	*r*	*r*	*r*	*r*
SAMA								
Threat	55	.07	.19	.24*	.23*	.23*	.16	.07
Challenge	55	-.05	-.00	.08	.11	.09	.31[a]	.24*
Resources	55	.03	-.01	.06	.10	.08	.38***	.27**
PMS Total	52	.16	-.33***	-.03	.01	.03	.22	.24*
ACS								
Solving the Problem	54	.08	.04	.16	.13	.15	.09	.13
Coping Reference to Others	54	.19	-.02	.08	.10	.09	.00	.16
Non-productive Coping	54	.02	-.04	.08	.10	.06	-.13	-.06
CASQ								
Active	55	.03	.27**	.23*	.25*	.18	-.03	-.07
Total	55	-.20	.32***	.00	.01	-.04	-.19	-.21
SDQ								
Total	51	-.52***	.12	-.04	-.08	-.03	.05	-.01
Impact	50	-.31**	.02	-.01	-.01	.00	.17	.04
SLSS Total	51	.24*	-.01	.09	.03	-.01	.01	.01
Happiness	51	.24*	.00	.25*	.23	.14	.13	.12

Note. Pre-Tmt symptoms = Pretreatment symptom level; Particip. = participation level; Motiv. = motivation level.
Includes entire sample (i.e., from both TM and WL groups) who had 50 % or above attendance
* $p < .05$, ** $p < .025$, ***$p < .01$, [a] $p = .01$, one tailed

$p > .05$; interest: $\beta = .24$, $t\,(53) = 1.76$, $p > .05$]. Change in reported use of CASQ-R active coping was positively correlated with both self-reported motivation and interest ratings, but again was not significantly predicted by either [motivation: $\beta = .25$, $t\,(53) = 1.85$, $p > .05$; interest: $\beta = .23$, $t\,(53) = 1.74$, $p > .05$]. The final significant correlation between adolescent interest ratings and changes in perceived happiness score was also non-significant in relation to the regression analyses, $\beta = .25$, $t\,(49) = 1.80$, $p > .05$.

In relation to *instructors' report* of adolescent participation and interest levels, significant positive correlations were found between both of these measures of adolescent investment in the program and stress appraisal scales of challenge and resources. In addition, instructors' report of adolescent participation level was significantly positively correlated with perceived mastery.

The regression analyses with instructors' report of adolescent participation as a predictor of change in perceived challenge scores was not significant, $\beta = .24$, $t\,(53) = 1.78$, $p > .05$. However, instructors' report of adolescent interest level significantly predicted change in challenge scores, $\beta = .31$, $t\,(53) = 2.40$, $p < .025$, as well as a significant portion in the change in challenge variance, $R^2 = .10$, $F(1, 53) = 5.76$, $p < .025$. In relation to changes in the stress appraisal of resources instructors' report of adolescent participation was a significant predictor, $\beta = .27$, $t\,(53) = 2.06$, $p < .05$, and accounted for a significant amount of its variance, $R^2 = .07$, $F(1, 53) = 4.25$, $p < .05$. Instructors' report of adolescent interest was also a significant predictor of changes in reported stress appraisal of resources $\beta = .38$, $t\,(53) = 2.94$, $p < .01$, accounting for a significant amount of variance, $R^2 = .14$, $F(1, 53) = 8.67$, $p < .01$. Finally, instructors' report of adolescent

participation levels did not significantly predict change in perceived mastery, β= .24, t (50) = 1.76, $p > .05$.

Despite the fact that attendance was accounted for within the analyses by having a minimum established cut-off of 50%, correlations were conducted between percentage of attendance and change in outcome. This was done as another measurement of participation (one which is more "objective" in measurement versus someone's impressions). Attendance was negatively related to change in PMS perceived mastery scores, and positively related to change in CASQ-R active coping and CASQ-R total coping (Table 39). The regression analyses illustrated that attendance significantly predicted change in PMS perceived mastery scores, β = -.33, t (50) = -2.43, $p < .025$, and accounted for a significant portion of the variance, R^2 =.11, $F(1, 50) = 5.89$, $p < .025$. In relation to CASQ-R active coping, attendance also significantly predicted change, β = .27, t (53) = 2.06, $p < .05$, as well as accounted for a significant portion of the variance, R^2 = .07, $F(1, 53) = 4.24$, $p < .05$. Attendance significantly predicted change in CASQ-*R* total coping scores, β = .32, t (53) = 2.43, $p < .025$, as well as accounted for a significant portion of the variance, R^2 =.10, $F(1, 53) = 5.89$, $p < .025$.

In summary, there were correlations among some of the changes in the outcome variables from pretreatment to posttreatment and both self-report and instructor ratings of adolescent investment in the program, namely participation, motivation and interest levels, as well as overall attendance. Instructor ratings of adolescent interest and participation levels and attendance significantly predicted changes in some of the outcome variables. In particular, both instructor ratings of adolescent participation and interest level predicted changes in stress appraisal of resources. Instructor ratings of

adolescent interest level also predicted changes in stress appraisal of challenge from pretreatment to posttreatment. Finally, greater attendance significantly predicted less improvement in perceived mastery and more improvement in CASQ-R active and total coping scores.

CHAPTER IV

DISCUSSION

Given the well-established link between stress, coping and well-being, the present study examined the effectiveness of a coping skills program in improving the well-being of adolescents. Past research studies examining the BOC program have shown evidence of it improving adolescent coping, self-efficacy, and self concept (Bugalski & Frydenberg, 2000; Cotta et al., 2000; Eacott & Frydenberg, 2008; Fisher, 2006; Frydenberg, 2004a; Frydenberg et al., 2004; Frydenberg & McCarthy, 2002; Luscombe-Smith et al., 2003; Pronovost et al., 2005). The present study attempted to uniquely contribute to prior research by implementing relatively strict methodological standards, while remaining relatively flexible in order to meet the needs of the participating schools and adolescents.

4.1 Effectiveness of BOC Program for At-Risk Adolescents

The effectiveness of the BOC program for the participating at-risk adolescents was examined in four parts. First, it was examined if participating in the program improved or enhanced adolescent adjustment and well-being, as measured by positive stress appraisal, active and adaptive coping, perceived mastery, happiness, and life satisfaction, compared to a waitlist control group. Second, it was evaluated if participating in the program improved or decreased adolescent maladjustment, as measured by perceived stress, non-productive coping, and symptomatology, compared to waitlist controls. Third, the perceived effectiveness or helpfulness of the program was also measured. Fourth, the long-term effectiveness of the program was examined by a two to three month follow-up assessment. Each of these will be discussed in turn.

Hypothesis 1 : Effectiveness of BOC Program in Improving Positive Stress Appraisal, use of Active and Adaptive Coping, Perceived Mastery, Happiness, and Life Satisfaction

The first research hypothesis was only partially supported in relation to coping. In particular, the findings suggest that compared to the WL group, adolescents who participated in the BOC program reported an increase in use of seeking social support strategy. In addition, participating in the program increased the reported use of the overarching productive coping style of Solving the Problem.

Analyses at the *group level* (i.e., averaging across participants within each of the 10 groups that comprised the TM and WL groups to obtain group means) revealed significant improvements in self-reported coping. The TM groups reported improvements in adaptive coping (i.e., Solve the Problem Coping style and strategy of physical recreation) compared to the WL groups. These group level findings add support to the benefit of the BOC program because analyzing at the group level eliminates the issue of dependency of observations. Therefore, these findings, despite the small sample size at the group level (n = 5 TM groups and n = 5 WL groups), demonstrate the effectiveness of the BOC program.

Overall, these findings are consistent with previous evaluation studies of the BOC program (Bugalski & Frydenberg, 2000; Cotta et al., 2000; Fisher, 2006; Frydenberg, 2004a, 2004b; Frydenberg et al., 2004; Frydenberg & McCarthy, 2002; Luscombe-Smith et al., 2003; Pronovost et al., 2005), which reported improvements in adolescent coping using the ACS, including increased use of productive strategies and/or styles. However, when looking at the specific strategies or styles that improved, these differed slightly across all studies, suggesting that what adolescents are able to take from the program are

improvements in coping in general, but the actual strategies or coping styles that improve appear to vary. For example, one of the most common findings in BOC evaluation studies was an improvement in the Reference to Others coping style (way of dealing with stressors by relying on support from others); however, the present study, and others (e.g., Cotta et al.), did not find that this style significantly improved as a result of participating in the program. Yet, in the present study, one of the main coping strategies that comprise this coping style, namely seeking social support, improved significantly for the TM group compared to the WL group.

Researchers who discuss how best to examine the impact or effectiveness of interventions suggest collecting collateral reports for a more comprehensive assessment (Kendall et al., 1999; Wampold et al., 2002). The present study demonstrated that parents are able to report on their perceptions of their adolescents' coping and the program's effectiveness. For the TM group, parents reported an increase in their adolescent's use of productive coping (i.e., revised Solving the Problem coping) compared to parents whose adolescents were in the WL group from pre- to post-treatment. This finding supports the program's utility as an effective program for developing adolescent coping skills, as the adolescents' parents who did not have exposure to the program and its content noticed the benefit of the program on improving adolescent coping.

In relation to all other positive aspects of adjustment assessed, including positive stress appraisal, perceived mastery, happiness, and life satisfaction, the rest of hypothesis 1 was not supported across all informant data. In particular, none of these variables improved substantially as a result of participating in the program. These findings suggest

that the benefit of the BOC program on participating adolescents is in relation to improving their coping skills and styles versus generalizing to the other aspects of adaptive functioning that were measured in the present study, namely, stress appraisal, perceived mastery, life satisfaction, and happiness. However, it is possible that the lack of findings is an artifact of the measures or constructs assessed, in the sense that they may have not been sensitive enough to detect improvements. For example, previous evaluation studies on the BOC program showed that those who participated in the program reported improvements in other constructs that have been found to be associated to coping, including self-efficacy and self concept (Cotta et al., 2000; Fisher, 2006; Frydenberg et al., 2004). In addition, it may have been due to the limited time-frame of the study, and that improvements in other aspects of adolescent functioning would be more apparent later as opposed to within two to three months of participation.

A number of other improvements were found for adolescents across pretest to posttest assessments; however, these improvements were across group assignment, or for the entire sample of adolescents. In particular, all adolescents reported improvements in positive stress appraisal of challenge (i.e., they perceived their stress as more of a challenge to overcome), Reference to Others coping style, total coping (i.e., total number of coping strategies endorsed on the second measure of coping) and active coping scores. Regardless of group assignment, the adolescents reported increased scores for all of these scales. These improvements may be a result of various factors, such as test-retest effects or maturation. It may be the case that participating in a research project on adolescent coping and consenting to receive services had an impact on the adolescent's self-reported stress management. Given that the sample was comprised of at-risk adolescents during a

particular age or developmental period when their coping tends to be poorer, with increased rates of non-productive strategies and decreased rates of some positive coping strategies (Frydenberg & Lewis, 2000), it is promising that these changes were in a positive direction.

Hypothesis 2 : Effectiveness of BOC Program in Decreasing Negative Stress Appraisal, use of Maladaptive or Non-productive Coping, and Symptomatology

As with the previous hypothesis, hypothesis 2 was partially supported in relation to non-productive coping strategies, but not with stress appraisal or symptomatology. Adolescents in the TM group reported a decreased use of the Non-productive coping style and negative coping strategies of keep to self and tension reduction, compared to adolescents in the WL group. Male participants in the BOC program also reported a decreased use of worry as a coping strategy, compared to female participants, as well as males and females in the WL group, who did not. At the *group level*, the TM groups reported a decreased use in maladaptive coping (i.e., coping strategies of not cope and keep to self), compared to the WL groups.

Again, these findings are consistent with past evaluation studies of the BOC program that reported improvements in maladaptive coping strategies and/or styles for the adolescents who participated in their studies (Bugalski & Frydenberg, 2000; Cotta et al., 2000; Eacott & Frydenberg, 2008; Fisher, 2006; Frydenberg, 2004a, 2004b; Frydenberg et al., 2004; Pronovost et al., 2005). As with the present study, Pronovost and colleagues also found that male participants benefited more from the BOC program, with a decreased use of negative coping strategies compared to female participants. However, the actual strategies that improved significantly for male participants,

compared to females, differed in their study (i.e., tension reduction, ignore the problem, and not coping). Pronovost et al. discussed how gender segregated groups might have contributed to these findings, as previously the program was demonstrated to have additional benefits for girls when presented in mixed gender groups or classes. However, this study had similar findings to Pronovost et al. with mixed gender groups: the male participants reported an additional improvement related to decreased use of a negative coping strategy compared to their female counterparts.

Despite symptomatology not significantly improving as a result of participation in the program across all informant data (i.e., adolescent, parent, and teacher report), clinical significance of the BOC program was demonstrated by a decrease in proportion of adolescents in the Borderline to Abnormal range SDQ impact scores from pretest to posttest for both adolescent and teacher ratings. Adolescents' self-reported impact scores within the Borderline to Abnormal range decreased from 56.2% to 40.6% for the TM group, versus 38.7% to 35.5% for the WL group. The proportion of adolescents rated by teachers to be in the Borderline to Abnormal range on SDQ impact score decreased from 56.7% to 33.3% for the TM group, compared to an increase from 26.7% to 43.3% for the WL group. Although pre- to post-test proportions of actual symptomatology (i.e., SDQ total difficulties) remained similar for adolescent-report and increased for teacher report, the actual reported impact of their symptoms decreased over the same period. These findings suggest that the BOC program assisted the participating adolescents in their ability to cope with their stressors and particularly with their symptoms or difficulties. The generalizability of the benefits of the BOC program was supported also by teachers noting improvements in the proportion of adolescents in the Borderline to Abnormal

range on symptom impact for the TM group compared to the WL group. Not only did the adolescents themselves report improvements, but their teachers further corroborated this.

These improvements in the TM group compared to the WL group need to be considered in light of the fact that the initial TM group was more at-risk at pretreatment than the WL group. Although the groups were equivalent in many aspects, including demographics and the majority of pretreatment outcome variables, the TM group had higher symptoms levels and reported greater use of some of the negative coping scales at the pretreatment (time 1) assessment than the WL group. Therefore, they were, on average, a more challenging group of adolescents, who were in greater need of services. Despite being more at-risk, the fact that the TM group demonstrated these improvements when compared to the WL group suggests that the BOC program is helpful for at-risk adolescents and provides further support of its effectiveness and clinical utility.

Hypothesis 3 : The Program Will be Perceived as Helpful

Another important aspect of measuring effectiveness of an intervention is examining the *perceived* effectiveness, in addition to measuring actual change on various measures (Kazdin, 2003). Consistent with the hypothesis, the findings of the present study indicate that the BOC program was generally perceived as helpful after each session, as well as at posttreatment and follow-up. In general, all of the adolescents reported finding the BOC program *sessions* as at least "somewhat helpful" on a post-session survey.

All informants (i.e., adolescents, parents, and teachers) were asked how the program helped in relation to the adolescents' symptomatology, in particular, how the adolescent's symptoms were since participating in the program (Goodman, 2001). The

findings revealed that the symptoms for the average adolescent who participated in the BOC program—rated by him/herself, parents, and teachers— either remained "about the same" or being "a bit better" both at their posttreatment and follow-up assessments. Taken across informants, it appears that the program was not perceived as being very effective in decreasing adolescent symptomatology. This is consistent with the general lack of significant findings in relation to symptomatology.

An additional item on the SDQ asked the informants if the program helped the adolescents in "other ways, e.g. providing information or making the problems more bearable" (Goodman, 2001). All informants rated some utility in program participation for this item. On average, both parents and adolescents rated that participation in the BOC program was helpful in other ways "a little" to "a medium amount". Teachers tended to rate the program as "not helpful" to "a little helpful". It appears that adolescents and their parents were more aware of the benefits of the program as compared to their teachers. In order to ensure that this was not related to the fact that in many instances teachers reporting on the adolescents were not aware of youths prior to the start of their participation, additional analyses were conducted with teacher data for adolescents who had the same teachers reporting across all testing sessions (n = 21). The results were similar when only including this portion of the sample, therefore suggesting that, generally, teachers were not as aware of the programs effectiveness or did not perceive the BOC program as helpful as did adolescents and their parents.

It is very promising that the adolescents, many of whom were recruited through school personnel or parent referral, perceived the program as helpful. Although perhaps less salient in a research study that was more preventative in nature, there may have been

some stigma or barriers for adolescents feeling comfortable participating in an intervention program. Despite this, the adolescents generally perceived the program as helpful, suggesting that it was palatable and relevant to the adolescents. Given the amount of time and effort invested by the adolescents who participated in this study, it is very important and notable that they perceived the program as helpful. The fact that other informants, particularly their parents also perceived the program as helpful is further corroborating evidence of the BOC program's utility. Indeed, although perceived effectiveness may not necessarily result in measurable change on more objective measures of outcome it is nevertheless an important aspect of treatment effectiveness to examine (Kazdin, 2003).

The fact that teachers did not perceive the program as very helpful is contrasted with the fact that they rated fewer TM adolescents within the borderline to abnormal range on symptom impact from pretreatment to posttreatment. This suggests that despite not perceiving the program as very helpful, teachers were able to notice an improvement in adolescent functioning as a result of their participation. There may have been extraneous reasons as to why the teacher did not rate the program as very helpful, including the disruption to their classes that resulted (e.g., students leaving class to attend the program groups or assessment sessions), as well as adding to their workload by completing surveys as part of the study. The effects of the semester system also may have contributed, including impacting which teachers were able to complete the measures (for many youths this differed depending on the assessment occasion), as well as their familiarity with the students. Despite the lower rated perceived effectiveness by teachers, discussions with school personnel during the duration and completion of the present

study did highlight that even school personnel were aware of the benefits of the BOC program. For example, one school invited us back to implement the study for an additional school year.

Hypothesis 4 : The Improvements in Adolescents Functioning Were Expected to Persist at Follow-Up

In relation to the more long-term effects of the program, the findings of the current study supported the hypothesis. A follow-up assessment was conducted approximately two to three months after the adolescents participated in the program. In general, the coping strategies that demonstrated significant improvements from pre- to post-testing were shown to remain fairly similar and, at times, even stronger at follow-up testing. This included both adaptive coping (i.e., seeking social support) and maladaptive coping (i.e., Non-productive coping style and keep to self coping strategy). Although their means were still better at follow-up from pretest, Solving the Problem coping style and the coping strategy of tension reduction were not significantly different at follow-up from pretest for the TM group without a control group to compare against.

Additional significant improvements at follow-up for the adolescents who participated in the program included decreased use of the non-productive coping strategy of not cope from pretest to follow-up testing. Positive stress appraisal of resources, which measured the youths' perceptions of whether they had the resources to cope with stressors, also improved from pretest to follow-up for the TM group. Adolescents who participated in the BOC program reported increased perceived mastery at follow-up testing. No changes across time occurred in the negative direction: all aspects of change in scores were improvements from pretest to follow-up. It is important to note that there

was no control group to compare against at follow-up, since the WL group had participated in the BOC program by this assessment. As such, these additional changes from pretest to follow-up may not have necessarily been due to participation in the program, but perhaps due to other factors, such as test-retest effects or time.

Parents no longer reported significant improvements for their adolescents for the revised productive coping style of Solving the Problem at the follow-up testing, although the mean score was still slightly higher from pretest. Parents did report that their adolescents were utilizing Reference to Others coping style more at follow-up than they were at pretreatment and posttreatment assessments. In other words, parents reported that their adolescents were engaging in coping strategies that included the enlistment of support from others at follow-up more often that they were at pretreatment and posttreatment. Teachers did not report significant improvements at follow-up testing from pre- or post-testing for the participating adolescents on the outcome measures they completed, including measures of symptomatology and happiness.

At the group level analyses, of the four coping scales that improved from pre- to post-treatment testing for participating groups compared to the WL groups, two coping strategies (i.e., not cope and keep to self) remained significantly improved for the TM groups at follow-up. The group level ratings of Non-productive coping style (decrease in self-reported use) and the coping strategy of solve the problem improved at follow-up assessment compared to pretreatment reports. Additionally, perceived happiness significantly improved at follow-up for the TM groups.

Overall, the follow-up analyses suggest that many adolescent-reported improvements at posttreatment testing were retained at follow-up. Further, there were

additional self- and parent-reported improvements noted at follow-up for the TM group, which were not apparent at posttest. Therefore, it appears that the adolescents continue to display benefits from their participation in the BOC program even a few months after its completion, particularly in relation to their coping. These findings are consistent with previous BOC program evaluation studies that had follow-up testing, which demonstrated that, generally, the changes in coping remained at follow-up testing (two to six months after participation) (Firth et al., 2008; Frydenberg, 2004b; Frydenberg et al., 2004; Luscombe-Smith et al., 2003; Tollit, 2002), although the improvements at follow-up were not necessarily as strong as at posttreatment testing (Frydenberg).

4.2 Factors Related to the Outcome of the BOC Program

Individual, instructor, and program characteristics were measured, and their potential association with treatment effects was explored, as these are factors that have been shown to potentially impact treatment outcome (Duncan, 2002; Frydenberg et al., 2004; Karver et al., 2005). The majority of these factors (i.e., instructor training level, helpfulness and understanding; degree of adherence to the program; and adolescent gender, symptomatology, interest, motivation, and participation) appeared to not impact the effectiveness of the BOC program substantially, with some having significant correlations with change in outcome scores, but few predicting change in outcome. Each of the factors examined will be discussed in turn.

Hypothesis 5 : Instructor Training/Experience, Helpfulness, and Understanding Will be Related to Outcome

Contrary to what was hypothesized, instructor characteristics, namely, years of training and (client perceived) helpfulness and understanding, generally were not related

to outcome. Training level (i.e., years in training) only significantly predicted change in adolescent reported perceived threat. In other words, adolescents who participated in groups whose instructors had more years of training in the program reported less improvement in the stress appraisal of threat from pre- to post-treatment. Conversely, adolescents in groups whose instructors had fewer years of training reported perceiving stress as less of a threat at posttreatment than at pretreatment testing. This was in the opposite direction as hypothesized.

A previous evaluation study by Frydenberg and colleagues (2004) demonstrated that instructor training on the BOC program impacted the program effectiveness in improving adolescent Productive and Non-productive coping styles. In particular, training differed between a school psychologist and 3 teachers versus 10 other pastoral care teachers; the former received two-day training and the latter received a one-day training session. In the present study, all instructors received the same BOC program training, and across both instructors of each group there were between five to nine years of training experience in a Clinical Psychology graduate program. As such, the differences in findings are perhaps a result of the different characteristics of the instructors across these studies (i.e., primarily school pastoral care teachers in Frydenberg et al. versus Clinical Psychology graduate students in the present study). In addition, it could be that for the present study the standard training on the BOC program, weekly supervision, and measuring of adherence, ensured fairly consistent administration of the program or services across instructors and, therefore, groups.

In relation to (client rated) instructor helpfulness and understanding, instructor understanding was only related to greater improvement (i.e., increased scores) for active

coping, but was not a significant predictor. In other words, adolescents who reported that their instructors were more understanding tended to report greater use of active coping at posttest compared to pretest. As noted previously, the general lack of findings in relation to instructor variables and outcome may have been in part due to the measured variables' restricted ranges.

Hypothesis 6 : Degree of Adherence to the Program Will be Related to Outcome

Hypothesis 6 was not supported in this present study: overall adherence was not significantly related to outcome. However, it is important to measure adherence in order to ensure fidelity to the program and to be able to examine the impact, or a lack thereof.

Hypothesis 7 : *Adolescent Characteristics of Gender, Symptomatology, Participation, Motivation, and Interest in the Program Will be Related to Outcome*

Hypothesis 7 was partially supported in the present study, with each adolescent characteristic of interest discussed in turn.

Gender. As predicted, there was a gender difference found regarding treatment outcome. However, the specific directional portions of this research hypothesis was not supported, as there were no significant gender differences in changes to active or productive coping strategies, or seeking out social support and help from others.

In the present study, male participants in the BOC program reported an additional benefit to their participation than did female participants. Male adolescents who participated in the BOC program reported a decreased use of worry as a coping strategy at posttreatment versus female participants, as well as female and male WL controls, who reported similar, if not slightly higher, frequency of use from pretreatment to posttreatment. This difference is consistent with previous evaluations of the BOC

program (Bugalski & Frydenberg, 2000; Frydenberg & McCarthy, 2002; Luscombe-Smith et al., 2003; Pronovost et al., 2005). For example, Luscombe-Smith and colleagues and Bugalski and Frydenberg found a greater increase in the coping style of Reference to Others for male participants than female participants. Pronovost and colleagues reported that male youths who participated in the BOC program reported a decreased use of six non-productive coping strategies from pre- to post-treatment versus only two for the female youths. However, other studies have shown some gender differences in treatment effects that favoured female adolescents, such as Bugalski and Frydenberg who found that female adolescents reported an increase in Productive (Emotion-Focused) coping and a decrease in Non-Productive coping, whereas male adolescents reported the opposite trend.

Despite the one gender difference, generally the treatment effects were similar for both genders, with reported improvements in coping, as well as symptom impact proportions. This suggests that despite the potential for gender differences in treatment effectiveness, the BOC program is helpful for both male and female participants.

Symptomatology. As symptom severity may affect treatment outcome, the pretreatment total difficulties scores were examined. The findings supported this non-directional hypothesis with pretreatment symptomatology significantly predicting change in total difficulties and impact scores. Adolescents who reported more symptoms at pretreatment benefited more from participating in the program; they reported greater alleviation of their symptoms at posttreatment compared to adolescents who reported fewer pretreatment symptoms. In addition, those with more symptoms at pretreatment tended to report greater life satisfaction and happiness at posttreatment compared to their

pretreatment ratings, although symptomatology was not a significant predictor of change for these constructs (i.e., life satisfaction and happiness).

In general, it appears that adolescents with more pretreatment symptomatology showed greater improvements at posttreatment, particularly in relation to their symptoms. These findings are consistent with two previous BOC evaluation study demonstrating greater improvements for those considered at-risk or high-risk versus students who were rated in the "middle" or "resilient" as measured by perceived control and attribution style measures (Bugalski & Frydenberg, 2000) or low- to moderate-risk group as measured by distress level (Eacott & Frydenberg, 2008). The present study findings suggest that in relation to normal to at-risk or borderline levels of symptoms, there is a positive relation to improvements in symptomatology for adolescents who participate in the BOC program at posttreatment.

Adolescent participation, motivation, and interest. Despite having established a minimum attendance level (50%) for participants to be included in the analyses, the percentage of sessions attended was related to change in some of the outcome measures from pre- to post-treatment. It was hypothesized that greater participation, including attendance, would be related to greater effectiveness of the program. Most of the significant findings were in the hypothesized direction: the more an adolescent attended the BOC program sessions, the more improvement in functioning was noted on some adolescent-reported coping. In particular, attendance was a significant predictor for and positively related to change in adolescent-reported active and total coping scores, and negatively related to perceived mastery from pre- to post-treatment. In other words, active and total coping scores increased more across this time-frame for adolescents who

attended more sessions, whereas perceived mastery scores increased more across time for adolescents who attended fewer sessions. The significant relation found between attendance and perceived mastery was not in the hypothesized direction. Although it may have been that by participating in the program there was a potentially negative effect on adolescents (i.e., their perceived mastery decreased as a result of their participation), there are other possible reasons for this. For example, it may have been that those who attended more sessions were experiencing stressors in their lives that negatively impacted their perceived mastery, or that both increased attendance and adolescent perceived mastery are related to other adolescent characteristics not included in the study or controlled for in the analyses.

Attendance did relate to change for a couple of outcome measures, suggesting the need to control for attendance when examining the effectiveness of this intervention program. These findings are consistent with previous research examining the impact of attendance on treatment outcome for various concerns (e.g., obesity, drug or alcohol use, community mental health patients) with adolescents and/or adults that have demonstrated positive relations between attendance and degree of treatment impact (e.g., Gossop, Stewart, & Marsden, 2007; Jelalian et al., 2008; Patterson et al., 2003). Yet it is important to note that attendance was not related to the majority of outcome measures in the present study. This is congruent with findings from a meta-analysis with secondary or indicated preventions that demonstrated no impact of treatment dosage measured by multiplying the number of sessions by the number of minutes per session across a sample of 130 interventions (Durlak & Wells, 1998). The general lack of findings in the present study may have been due to setting a minimum level of attendance for inclusion in the

analyses. It is possible that more significant findings would have resulted by including those with less than 50% attendance.

In addition to attendance, other aspects of adolescent investment in the program (i.e., adolescents' participation, motivation, and interest) were hypothesized to positively relate to treatment effects. Results of the present study were generally mixed in supporting this hypothesis. In relation to *self-report*, participation, motivation, and interest were all related to increased perceived stress as a threat from pre- to post-treatment, contrary to expectations. The finding suggests that adolescents experiencing more uncontrollable or threatening stressors during their participation in the program may have felt more motivated and interested in the program and participated more. In support of the hypothesis, motivation and interest were also related to increased active coping scores, and interest was related to increased happiness scores from pre- to post-treatment. However, none of the self-reported investment in the program variables were found to significantly predict change in the outcome variables.

In relation to *instructor ratings* of adolescent investment in the program, adolescent participation and interest were correlated to, and at times, significant predictors of change for a couple of the self-reported adolescent outcome scores. In particular, instructor ratings of adolescents' participation was related to increases in perceiving stress as a challenge and perceiving that one has the resources to cope with stress and perceived mastery from pre- to post-treatment. Adolescent participation significantly predicted the increase in perceived resources. Instructor ratings of adolescent interest level was related to and a significant predictor of increases in perceiving stress as a challenge and thinking one has the resources to cope with stress

from pre- to post-treatment. Overall, these findings suggest that (instructor reported) adolescent participation and interest in the program are important when examining the program's impact. It seems that those adolescents who are rated by their instructors as participating more and appearing more interested in the program benefit more from the intervention, particularly in relation to stress appraisal.

4.3 Summary of Findings

Taken together, the findings of the present study provide further empirical evidence of the effectiveness of the BOC program. In particular, participating in the program was found to improve adolescent coping, both parent and self-report, as well as decrease the number of adolescents rated within the borderline to abnormal range with teacher- and self-report. Follow-up analyses demonstrated some maintenance in treatment effects, suggesting that there is some longer term effectiveness in the BOC program. In addition to these changes in outcome, participants also perceived the program as helpful.

When examining potential factors that may be related to treatment effectiveness, there were some important findings. Instructor characteristics of training level and perceived helpfulness and understanding, as well as adherence to the program, were generally not related to treatment effects. However, the lack of findings may be explained by the rigorous attempts to keep these consistent across all groups through the implementation of various methodological standards, such as measuring treatment fidelity and ongoing supervision and adherence monitoring. Adolescent characteristics of gender, symptom level, attendance, and investment in the program have some implications in relation to treatment outcome, providing some information as for whom

the BOC program is more helpful. Male adolescents, as well as those who had greater pretreatment symptoms and were perceived by their program instructors to be more interested and to have participated more, appeared to benefit more from this program.

4.4 Study Limitations and Strengths

The present study had limitations that require discussion. First, participant recruitment was somewhat of a challenge. Initially, attempts were made to recruit participants from entire grade 9 and 10 populations within the participating schools. However, due to low response rates and reliance on school personnel to facilitate recruitment, it was later decided to target particular classes or adolescents identified by school personnel as those who could benefit from participating in the BOC program. This strategy resulted in discrepant recruitment strategies across schools and/or recruitment waves. The benefits of this procedure, however, were higher response rates, shorter recruitment periods, and greater cooperation and satisfaction from school personnel.

Second, the sample is limited not only in size, but also includes identified at-risk adolescents from four Catholic high schools in a midsized Canadian city and, therefore, the generalizability of the findings is limited. The sample is not necessarily representative of minority adolescents, those in the general public school board system, those who are not in school, nor those who are experiencing more severe symptomatology. Further, adolescents whose reading level was below grade 6 or whose attendance was less than 50% were excluded from the analyses. The findings may have been different if the sample had been less restrictive, however these restrictions were necessary, given the presentation of the program and reading level of the materials. In

addition, adolescents who did not have parent consent were unable to participate (n = 3), and as with any research study there was a volunteer-status bias. It is important to note that the sample included a mix of self-selected adolescents, in addition to others who were referred by parents and/or teachers, with the proportions of each unknown.

Despite attempts to randomly assign adolescents to TM or WL groups (n = 49), there were some who were either quasi-experimentally assigned (n = 17) and some (n = 8) who were not randomly assigned due to extenuating circumstances (i.e., not having their consents in on time or attendance issues).

Third, for parent report, it was challenging to obtain parent surveys particularly in later assessment occasions, despite sending reminder letters and second copies of the measures for each testing occasion of the study. In particular, the response rates were 59.5%, 46.5%, 33.3% and then 47.3% for each assessment time of the study. However, despite being low at times, the response rates are adequate given that data collection was longitudinal and consisted of mail-in questionnaires. For example, in a meta-analysis of 29 studies examining mail versus web-based survey response rates, the average mail-in response rate was 45% (Shih & Fan, 2008). It may have been useful to have incentives for parents; however, in the present study this was only done for the adolescents. Future research may benefit from such efforts for better return rates and retention over several testing occasions of a study.

A fourth limitation concerns teacher reports. Data collection from teachers was complicated due to the length and multiple testing occasions of the study and the semester system at the participating schools. This resulted in several complicating situations: some teachers not being very familiar with the adolescents if a testing began at

the beginning of a semester; different teachers reporting on the adolescents if it was a different semester from previous testing occasions of the study; some teachers did not know the adolescents prior to their participation in the study. Although reminders were sent, it was difficult to control the time at which the surveys were completed. Overall, the response rate was fairly good (for pretreatment testing, 70 out of 74 adolescents recruited had teacher reports completed; time 2 $n = 65$; and time 3 $n = 59$); however, due to large proportions of missing data per case, several cases were dropped for the analyses ($n = 11$ for pre- to post-treatment analyses). The missing data were related to teachers not being very familiar or comfortable with answering particular items of the measures.

A fifth limitation was attrition. For adolescent data, there were three adolescents who dropped out by posttreatment testing (4% attrition), and an additional eight by the third testing occasion (14.9% attrition). Reasons for dropping out were moving schools, absences, and not wanting to miss class time (despite accommodations by schools for those participating in the study). The present study had a good retention rate (or low attrition rate), when compared to other BOC evaluations studies. For example, the first study conducted that had follow-up testing had a high attrition rate, retaining only 83 or 37.7% of the original 220 students enrolled in the study (Luscombe-Smith et al., 2003). Other studies including only pre- and post-testing had variable retention rates, such as 51.4% (Bugalski & Frydenberg, 2000) and 85.2% (Cotta et al., 2000). Therefore the relatively high retention rate across the three testing occasions of the present study (85.1%) is a strength.

A sixth limitation to the present study was the analyses conducted. HLM analyses would have been the most appropriate type of analyses due to the BOC program

occurring within groups and schools, thereby resulting in dependency of observations. Despite meeting adequate sample size criteria for evidence-based research (Chorpita et al., 2002; Kazdin & Bass, 1989), the limited sample size precluded the ability and sufficient power to conduct such analyses, particularly at the group level. It is generally accepted to use the more traditional OLS analyses, which were used in the present study, for such sample sizes (Cohen et al., 2003). Additionally, the recommended aggregated analyses at the group level (i.e., using group means) were conducted and the alpha levels were set at a more stringent level in the present study in order to account for the limitations of the chosen analyses. It is important to also note that the type of analyses conducted at the individual level within this present study, which assume that the observations are independent, are still widely used in analyzing outcome of group therapy or interventions, including previous evaluation studies of the BOC program, as well as other studies examining the impact of interventions programs with adolescents (e.g., Hampel, Meier, & Kümmel, 2008; Hayes & Morgan, 2005; Jelalian et al., 2008; Kowalenko et al., 2005). Another limitation related to the analyses had to do with the number of analyses conducted and the issue of Type I error. This is a concern for all studies where there are a number of outcome measures and analyses. As suggested (e.g., Kazdin, 1998; Stevens, 2002), the alpha level was adjusted for the analyses for the present study, and was even more stringent for outcome measures that were more exploratory in nature. However, due to the limited sample sizes and in order to have some power to find treatment effects, the alpha level was not set stringently at $\alpha = .05$ at the experiment-wise level (Stevens). It is also important to note that the various outcome variables were included purposely for the present study in order to examine the

generalizability of the treatment effectiveness on the participating adolescents. Such comprehensiveness in measuring treatment effects is a recommendation in the area of EBT research (Kendall et al., 1999; Wampold et al., 2002).

Seventh, a parent-report measure of adolescent coping was constructed due to a lack of available and psychometrically sound measures. An examination of the psychometric properties was promising; however, it is not a well-established measure.

The eighth and final study limitation concerns the teacher-report measures. The measures used were limited for brevity and did not include a measure of adolescent coping. This is because no teacher-report coping measure was currently available. This may have contributed to why there was not much in the way of significant findings found for the teacher data.

Despite the limitations, the present study had a number of strengths. Attempts to address the limitations of previous evaluation studies of the BOC program were made in the present study. First, there was a waitlist control group, which was compared to the treatment group at pre- and post-treatment in order to account for changes related to test-retest effects and maturation. Second, the assignment of the adolescents was primarily either random, when enough adolescents were recruited at a school, or quasi-experimental (i.e., the school was assigned randomly).

Third, multiple measures and informants were used to comprehensively evaluate the impact of the program, as suggested by the EBT research (Kazdin, 2004; Kendall et al., 1999; Wampold et al., 2002). In addition to assessing coping strategies used by the adolescents, which is the focus of the BOC program, the present study also examined stress appraisal, perceived mastery, symptomatology, life satisfaction, and happiness.

These constructs were included to assess the program's impact on a wide range of adolescent functioning. Parent and teacher reports were also collected.

Fourth, the present study included a follow-up testing approximately two to three months after the intervention was completed in order to examine longer-term effectiveness. The findings indicated that improvements generally were retained, especially related to self-report, and that other aspects of coping appeared to improve from post- to follow-up testing.

Fifth, adherence to the manualized treatment approach or quality assurance was monitored by recording the sessions and coding sessions for adherence, which is a recommendation in the area of EBT research (Durlak & Wells, 1997, 1998; Kazdin, 2004; Nathan et al., 2000). By doing this, the present study was able to quantify how much program content the groups were able to cover in sessions, and examine if this was related to outcome. The findings indicated that the program was generally well adhered to (major points covered ranged from 81 to 99%).

Sixth, the present study examined facilitator characteristics (amount of experience/training, helpfulness, and understanding) and adolescent participant characteristics (gender, symptomatology, motivation, participation, and interest), as well as measured perceived effectiveness of the sessions and intervention. This helped to examine potential factors that were related to the effectiveness of the program, and obtained client (and other informant) perceptions of perceived helpfulness, which is another aspect of outcome that is important to consider.

Finally, several clinical contributions were made by the present study, as with all evaluation studies: intervention services were provided to adolescents who were

identified at-risk and training opportunities were provided to the graduate student instructors. It is important to highlight the utility of evaluation studies to the individuals who participate within them. The present study provided at-risk youths with services and knowledge that they otherwise would not have obtained.

This study is an example of a real-life intervention study. Given the methodological rigor applied when possible, while still occurring within the community (i.e., school) setting and maintaining flexibility and adaptability when required, this study is best considered a hybrid of an effectiveness and efficacy study, although closer to the effectiveness side of the continuum (Kazdin, 2004). Many of the methodological limitations discussed were natural consequences of conducting research within a real-life community setting. Despite these being threats to the internal validity of the study, they were necessary in order to be able to conduct the study within the school setting, as well as to meet the needs of the participants. Effectiveness studies, despite their less rigorous methodological standards when compared to efficacy studies, are important in order to be able to explore the external validity or generalizability of EBTs into the real-life or clinical settings (Kazdin). As many individuals may question the transportability of EBTs into the clinical setting, real-life intervention studies, such as the present one, are necessary to discount this possible limitation and provide evidence of their generalizability (Kazdin). In addition, as the strengths of the present study highlight, efforts were made in order to limit and/or account for many of the methodological limitations. This study was very timely and important, not only within the area of EBT research, but also to further explore the effectiveness of the BOC program.

4.5 Clinical Implications

First and foremost, the present study provided further empirical evidence for the clinical utility of the BOC program in teaching coping skills to adolescents, particularly at-risk adolescents, to improve their coping repertoires. In addition, those with more symptoms (although still within a sub-clinical range) at pretreatment demonstrated greater improvements on symptomatology from pre- to post-treatment. This suggests that those with greater difficulties are more likely to report improvements, perhaps in part because there is more room for improvement, but also because they may be more likely to have difficulty with coping and, therefore, more likely to benefit from a coping skills program.

It is also important to highlight the preventative aspect of this study. This study was a secondary preventative intervention and, therefore, not only demonstrated some improvements to coping, but also demonstrated some potential preventative benefits, as adolescents who participated in the program typically did not show a decline in coping and/or psychological well-being at posttreatment and follow-up assessment.

The present study was further evidence of the flexibility of the BOC program's implementation. In particular, this study was a second study demonstrating that the BOC program could be implemented effectively within a group therapy context in the school setting by graduate students. The other study with the BOC program implemented in group settings at school was conducted with 20 female adolescents (Fisher, 2006). The BOC program was also conducted within classroom settings as well as group settings within a community mental health centre in previous studies (Bugalski & Frydenberg, 2000; Cotta et al., 2000; Eacott & Frydenberg, 2008; Frydenberg, 2004b; Frydenberg et

al., 2004; Frydenberg & McCarthy, 2002; Luscombe-Smith et al., 2003; Pronovost et al., 2005).

The generalization of the effectiveness of the BOC program appeared to be primarily within the construct of coping as opposed to other measures of well-being. This may have been merely due to limitations in measure sensitivity or the limited assessment period. However, research has demonstrated the importance of coping in relation to well-being. This suggests that a program improving coping skills will ultimately have some benefit on well-being.

Instructors were graduate students in a Clinical Psychology program; therefore, their training is different than that of teachers or school counselors. However, this model of intervention may be useful within communities where professional training facilities exist and school resources are limited in relation to providing such interventions. Developing connections between universities or training facilities and school boards could be a mutually beneficial arrangement in such instances. It has been highlighted that such collaboration efforts are not only beneficial to schools, as their students are provided with services to help foster well-being, but such community organizations are provided with accessibility to adolescents they otherwise would not have had (Weist, Ambrose, & Lewis, 2006). The present study is a good example of a partnership or collaboration between a community organization (i.e., university) and schools to help meet the complex needs of youths (Anderson-Butcher & Ashton, 2004).

The BOC program appeared to help adolescents learn a variety of ways to cope with life stressors, particularly a repertoire of more active and/or helpful strategies that were discussed and even taught. In addition, it helped decrease the use of non-productive

or even harmful coping strategies, which themselves are associated with negative outcomes, including psychological symptoms or psychopathology (e.g., Compas et al., 2001; Ebata & Moos, 1991; Herman-Stahl et al., 1995). These findings provide some evidence of the importance of discussing non-productive coping in addition to teaching more positive or adaptive strategies when attempting to improve coping in general, as discussed by Frydenberg and Brandon (2002a). It appears to be common practice within interventions, such as cognitive behavioural therapies (e.g., pros and cons list) and motivational interviewing, to explore current behaviours that individuals would like to change or stop, including the reasons why they engage in such behaviours and why they might want to change. The BOC program is a good example of how this is done by including a discussion of the various negative coping strategies individuals commonly engage in and exploring more positive alternatives.

4.6 Directions for Future Research

Taken together, the several studies examining the effectiveness of the BOC program have demonstrated that it can positively impact adolescents, particularly in relation to their coping skills. Future research is required in order to tease apart which aspects of the program are most helpful for whom, as there was variability in treatment effectiveness. Although the present study started to examine this by exploring client characteristics of gender, symptomatology, and investment in the program, more research is required for further support.

In relation to measures, this study demonstrated some utility to parent-report adolescent coping. Further research developing such measures would be very beneficial within the area of adolescent coping. Indeed, the limited number of parent measures for

adolescent coping is a noted limitation to the research literature (Compas et al., 2001). The findings found in the present study are evidence of the utility of developing such measures and how parents can in fact report on such behaviours of their adolescents.

Another suggested direction for future research would be to compare the program to other intervention programs to examine how effective it is compared to other treatment modalities. This will also help control for other extraneous variables that may be contributing to improvements, such as mere exposure or time spent in treatment, placebo effects, or contact with a therapist (Kazdin, 1998). However, it is important to consider that the benefits of the program appears to be due to the content of the program, since the aspects of adolescent functioning that significantly improved over time were coping skills as opposed to other aspects of functioning, which may have been more the case if there was a placebo effect. The specificity of the treatment effects suggests that it likely is a result of the program as opposed to a common factor of treatment. Yet, future research examining the effects of merely educating youths on what coping is versus teaching coping strategies may be helpful in order to determine if it is exposure to the concept of coping that accounts for a proportion of the change (which is the first module of the BOC program) as opposed to the teaching or training of the skills (which occurs in the rest of the modules of the program).

As mentioned previously, this program has been shown to be helpful in improving adolescent coping when presented as part of a classroom's curriculum, or within a group therapy context. It would be helpful to examine how the different ways the program can be implemented (e.g., within a classroom or as a group therapy) may impact effectiveness

of the program. This will be helpful to examine if there is a particular way in which such a program can be administered that is most effective or useful for adolescents.

As the BOC program's effectiveness seems to primarily be in relation to coping, as compared to other aspects of functioning, it is first of all important to examine if other aspects of functioning improve that were not included within the present study. It will be important to look at potential sleeper effects or even rippling effects that might not become apparent until more time has transpired by having a longer follow-up assessment (e.g., one year later). It may also be interesting to examine how the BOC program can be integrated with other intervention programs and/or school curriculum in order to provide a comprehensive treatment program that is beneficial to the adolescent's overall well-being and adjustment.

This study was the first to collect parent and teacher data in order to obtain their perspectives and to examine if these individuals noticed the effectiveness of the BOC program. Both informants were able to notice some improvements and although both rated the program as helpful, teachers' perceptions of the program were not as positive. One possible explanation for this may have been that there was no coping measure included for the teacher data, which was where most of the benefits of the program were found. Developing and exploring the utility of a teacher-report coping measure is an area for future research. In addition, future research should attempt to try to limit the amount of strain a research study has on the school environment, particularly for teachers in order to foster their participation and satisfaction of the program. During the implementation of the present study, school personnel provided some feedback and suggested implementing the program as part of the curriculum of a particular course, and therefore

for entire classrooms at a time. This has been done successfully in many past evaluation studies, particularly by Frydenberg and colleagues. Future research efforts should also try to include teacher or school personnel involvement, such as through co-facilitation or instruction.

The present study extended beyond previous evaluation studies and provided further support for the BOC program. However, as is the nature of research, more questions and directions to be explored arose within the process of this study. The findings suggest many promising avenues of future research within adolescent coping and program evaluation, both of which are potential protective factors for adolescents to develop into healthy and adjusted individuals.

REFERENCES

Achenbach, T. M., McConaughy, S. H., & Howell, C. T. (1987). Child/adolescent behavioral and emotional problems: Implications of cross-informant correlations for situational specificity. *Psychological Bulletin, 101*, 213-232.

American Psychiatric Association (1994). *Diagnostic and Statistical Manual of Mental Disorders* (4th ed.). Washington: Author.

Anderson-Butcher, D., & Ashton, D. (2004). Innovative models of collaboration to serve children, youths, families, and communities. *Children and Schools, 26*, 39-53.

Andrews, F. M., & Robinson, J. P. (1991). Measures of subjective well-being. In J. P. Robinson, P. R. Shaver & L. S. Wrightsman (Eds.), *Measures of personality and social psychological attitudes* (Vol. I, pp. 61-114). San Diego, CA: Academic Press.

Angold, A., Costello, E. J., Farmer, E. M. Z., Burns, B. J., & Erkanli, A.(1999). Impaired but undiagnosed. *Journal of the American Academy of Child and Adolescent Psychiatry, 38*, 129-137.

Başoğlu, M., Marks, I. M., Swinson, R. P., Noshirvani, H., O'Sullivan, G., & Kuch, K. (1994). Pre-treatment predictors of treatment outcome in panic disorder and agoraphobia treated with alprazolam and exposure. *Journal of Affective Disorders, 30*, 123-132.

Ben-Zur, H. (2003). Happy adolescents: The link between subjective well-being, internal resources, and parental factors. *Journal of Youth and Adolescence, 32*, 67-79.

Ben-Zur, H. (2009). Coping styles and affect. *International Journal of Stress Management, 16*, 87-101.

Bickel, R. (2007). *Multilevel Analysis for Applied Research: It's Just Regression.* New York: Guilford.

Boldero, J., & Fallon, B. (1995). Adolescent help-seeking: What do they get help for and from whom? *Journal of Adolescence, 18*, 193-209.

Bracken, B. (1992). *Multidimensional Self-Concept Scale: Examiner's manual.* Austin, TX: Proed, Inc.

Braun-Lewensohn, O., Celestin-Westreich, S., Celestin, L.-P., Verleye, G., Verté, D., & Ponjaert-Kristoffersen, I. (2009). Coping styles as moderating the relationships between terrorist attacks and well-being outcomes. *Journal of Adolescence, 32*, 585-599.

Bugalski, K., & Frydenberg, E. (2000). Promoting effective coping in adolescents 'at-risk' for depression. *Australian Journal of Guidance and Counselling, 10*, 111-132.

Carter, A. E., Menna, R., & Stanhope, L. (2004, June). *Help-seeking among adolescents: How are symptomatology, attachment and demographic characteristics related?* Poster presented at the 2004 biennial meeting of the Society for Research on Adolescence, Baltimore, MD.

Chorpita, B. F., Yim, L. M., Donkervoet, J. C., Arensdorf, A., Amundsen, M. J., & McGee, C. (2002). Towards large-scale implementation of empirically supported treatment for children: A review and observations by the Hawaii Empirical Basis to Services Task Force. *Clinical Psychology: Science and Practice, 9*, 165-190.

Clarke, A. T. (2006). Coping with interpersonal stress and psychosocial health among children and adolescents: a meta-analysis. *Journal of Youth and Adolescence, 35*, 11-24.

Cohen, J., Cohen, P., West, S. G., & Aiken, L. S. (2003). *Applied multiple regression/correlation analysis for the behavioral sciences* (3rd ed.). Mahwah, NJ: Lawrence Erlbaum Associates.

Compas, B. E. (1987). Coping with stress during childhood and adolescence. *Psychological Bulletin, 101*, 393-403.

Compas, B. E. (1995). Promoting successful coping during adolescence. In M. Rutter (Ed.), *Psychosocial disturbances in young people: Challenges for prevention* (pp. 247-273). New York: Cambridge University Press.

Compas, B. E., Connor-Smith, J. K., Saltzman, H., Harding Thomsen, A., & Wadsworth, M. E. (2001). Coping with stress during childhood and adolescence: Problems, progress, and potential in theory and research. *Psychological Bulletin, 27*, 87-127.

Compas, B. E., Howell, D. C., Phares, V., Williams, R. A., & Guinta, C. T. (1989). Risk factors for emotional/behavioral problems in young adolescents: A prospective analysis of adolescent and parental stress and symptoms. *Journal of Consulting and Clinical Psychology, 57*, 732-740.

Costello, E. J., Egger, H., & Angold, A. (2005). 10 year research review update: The epidemiology of child and adolescent psychiatric disorders: I. Methods and public health burden. *Journal of the American Academy of Child and Adolescent Psychiatry, 44*, 972-986.

Cotta, A., Frydenberg, E., & Poole, C. (2000). Coping skills training for adolescents at school. *The Australian Educational and Developmental Psychologist, 17*, 103-116.

Cunningham, E. G. (2002). Developing coping resources in early adolescence: Evaluation of control-related mechanisms in a universal health promotion intervention. Unpublished doctoral dissertation, University of Melbourne.

Cunningham, E. G., Brandon, C. M., & Frydenberg, E. (2002). Enhancing coping resources in early adolescence through a school-based program teaching optimistic thinking skills. *Anxiety, Stress and Coping, 15*, 369-381.

D'Anastasi, T., & Frydenberg, E. (2005). Ethnicity and coping: What young people do and what young people learn. *Australian Journal of Guidance & Counselling, 15*, 43-59.

De Los Reyes, A., & Kazdin, A. E. (2008). When the evidence says, " Yes, no, and maybe so" - Attending to and interpreting inconsistent findings among evidence-based interventions. *Current Directions in Psychological Science, 17*, 47-51.

Dickinson, P., Coggan, C., & Bennett, S. (2003). TRAVELLERS: A school-based early intervention programme helping young people manage and process change, loss and transition. Pilot phase findings. *Australian and New Zealand Journal of Psychiatry, 37*, 299-306.

Dubow, E. F., Tisak, J., Causey, D., Hryshko, A., & Reid, G. (1991). A two-year longitudinal study of stressful life events, social support, and social problem-solving skills: Contributions to children's behavioral and academic adjustment. *Child Development, 62*, 583-599.

Duncan, B. L. (2002). The legacy of Saul Rosenzwig: The profundity of the dodo bird. *Journal of Psychotherapy Integration, 12*, 32-57.

Durlak, J. A. (1998). Primary prevention mental health programs for children and adolescents are effective. *Journal of Mental Health, 7*, 463-469.

Durlak, J. A., Fuhrman, T., & Lampman, C. (1991). Effectiveness of cognitive-behavior therapy for maladapting children: A meta-analysis. *Psychological Bulletin, 110*, 204-214.

Durlak, J. A., & Wells, A. M. (1997). Primary prevention mental health programs for children and adolescents: A meta-analytic review. *American Journal of Community Psychology, 25*, 115-152.

Durlak, J. A., & Wells, A. M. (1998). Evaluation of indicated preventive intervention (secondary prevention) mental health programs for children and adolescents. *American Journal of Community Psychology, 26*, 775-802.

Eacott, C., & Frydenberg, E. (2008). At-risk students in a rural context: Benefits and gains from a coping skills program. *Australian Journal of Guidance and Counselling, 18*, 160-181.

Ebata, A. T., & Moos, R. H. (1991). Coping and adjustment in distressed and healthy adolescents. *Journal of Applied Developmental Psychology, 12*, 33-54.

Ebata, A. T., & Moos, R. H. (1994). Personal, situational, and contextual correlates of coping in adolescence. *Journal of Research on Adolescence, 4*, 99-125.

Eccles, J. S., Midgley, C., Wigfield, A., Buchanan, C. M., Reuman, D., Flanagan, C., et al. (1993). Development during adolescence: The impact of stage-environment fit on young adolescents' experiences in schools and in families. *American Psychologist, 48*, 90-101.

Farrell, A. D., Meyer, A. L., Kung, E. M., & Sullivan, T. N. (2001). Development and evaluation of school-based violence prevention programs. *Journal of Clinical Child Psychology, 30*, 207-220.

Feehan, M., McGee, R., Raja, S. N., & Williams, S. M. (1994). DSM-III-R disorders in New Zealand 18-year-olds. *Australian and New Zealand Journal of Psychiatry, 28*, 87-99.

Feldman, W., Hodgson, C., Corder, S., & Quinn, A. (1986). Health concerns and health-related behaviours of adolescents. *Canadian Medical Association Journal, 134*, 489-493.

Field, A. (2005). *Discovering Statisitics Using SPSS* (2nd ed.). Thousand Oaks, CA: Sage.

Finch, M. D., Shanahan, M. J., Mortimer, J. T., & Ryu, S. (1991). Work experience and control orientation in adolescence. *American Sociological Review, 56*, 597-611.

Firth, N., Frydenberg, E., & Greaves, D. (2008). Perceived control and adaptive coping: Programs for adolescent students who have learning disabilities. *Learning Disability Quarterly, 31*, 151-165.

Fisher, R. (2006). Evaluating the effects of the Best of Coping (BOC) curriculum on enhancing coping skills in at-risk adolescent girls, *Dissertation Abstract International, 67(4)* (Vol. UMI No. AAT 3212511). Retrieved October 10, 2008, from Dissertation and Theses database.

Fordyce, M. W. (1988). A review of research on the happiness measures: A sixty second index of happiness and mental health. *Social Indicators Research, 20*, 355-381.

Fredrickson, B. L. (2001). The role of positive emotions in positive psychology: The broaden-and-build theory of positive emotions. *American Psychologist, 56*, 218-226.

Frydenberg, E. (2004a). Coping competencies: What to teach and when. *Theory Into Practice, 43*, 14-22.

Frydenberg, E. (2004b). Teaching young people to cope. In E. Frydenberg (Ed.), *Thriving, surviving, or going under: Coping with everyday lives* (pp. 189-206) Charlotte, NC: Information Age Publishing Inc.

Frydenberg, E., & Brandon, C. (2002a). *The Best of Coping: Instructors manual.* Melbourne: OZ Child.

Frydenberg, E., & Brandon, C. (2002b). *The Best of Coping: Student workbook.* Melbourne: OZ Child.

Frydenberg, E., & Lewis, R. (1993a). Boys play sport and girls turn to others: Age, gender and ethnicity as determinants of coping. *Journal of Adolescence, 16*, 253-266.

Frydenberg, E., & Lewis, R. (1993b). *Manual: The Adolescent Coping Scale.* Melbourne: Australian Council for Educational Research.

Frydenberg, E., & Lewis, R. (1994). Coping with different concerns: Consistency and variation in coping strategies used by adolescents. *Australian Psychologist, 29*, 45-48.

Frydenberg, E., & Lewis, R. (2000). Teaching coping to adolescents: When and to whom? *American Educational Research Journal, 37*, 727-745.

Frydenberg, E., & Lewis, R. (2002). Adolescent well-being: Building young people's resources. In E. Frydenberg (Ed.), *Beyond coping: Meeting goals, visions, and challenges* (pp. 175-194). Toronto: Oxford University Press.

Frydenberg, E., & Lewis, R. (2004). Adolescents least able to cope: How do they respond to their stresses? *British Journal of Guidance & Counselling, 32*, 25-37.

Frydenberg, E., Lewis, R., Bugalski, K., Cotta, A., McCarthy, C., Luscombe-Smith, N., et al. (2004). Prevention is better than cure: Coping skills training for adolescents at school. *Educational Psychology in Practice, 20*, 117-134.

Frydenberg, E., & McCarthy, K. (2002, July). *Coping skills training for adolescents: Programs that work.* Paper presented at the 23rd Stress and Anxiety Research Society Conference (STAR), Melbourne, Australia.

Gelhaar, T., Seiffge-Krenke, I., Borge, A., Cicognani, E., Cunha, M., Loncaric, D., et al. (2007). Adolescent coping with everyday stressors: A seven-nation study of youth from central, eastern, southern, and northern Europe. *European Journal of Developmental Psychology, 4*, 129-156.

Gomez, R. (1998). Locus of control and avoidant coping: Direct, interactional and mediational effects on maladjustment in adolescents. *Journal of Personality and Individuals Differences, 24*, 325-334.

Goodman, R. (1997). The Strengths and Difficulties Questionnaire: A research note. *Journal of Child Psychology and Psychiatry, 38*, 581-586.

Goodman, R. (1999). The extended version of the Strengths and Difficulties Questionnaire as a guide to child psychiatric caseness and consequent burden. *Journal of Child Psychology and Psychiatry, 40*, 791-799.

Goodman, R. (2001). Psychometric properties of the Strengths and Difficulties Questionnaire. *Journal of American Academy of Child and Adolescent Psychiatry, 40*, 1337-1345.

Goodman, R., Meltzer, H., & Bailey, V. (1998). The Strengths and Difficulties Questionnaire: A pilot study on validity of the self-report version. *European Child and Adolescent Psychiatry, 7*, 125-130.

Gore, S., & Aseltine, R. H., Jr. (1995). Protective processes in adolescence: Matching stressors with social resources. *American Journal of Community Psychology, 23*, 301-327.

Gossop, M., Stewart, D., & Marsden, J. (2007). Attendance at Narcotics Anonymous and Alcoholics Anonymous meetings, frequency of attendance and substance use outcomes after residential treatment for drug dependence: A 5-year follow-up study. *Addiction, 103*, 119-125.

Grant, K. E., Compas, B. E., Thurm, A. E., McMahon, S. D., & Gipson, P. Y. (2004). Stressors and child and adolescent psychopathology: Measurement issues and prospective effects. *Journal of Clinical Child and Adolescent Psychology, 33*, 412-425.

Grater, H. A. (1985). Stages in psychotherapy supervision: From therapy skills to skilled therapists. *Professional Psychology: Research and Practice, 16*, 605-610.

Griffith, M. A., Dubow, E. F., & Ippolito, M. F. (2000). Developmental and cross-situational differences in adolescents' coping strategies. *Journal of Youth and Adolescence, 29*, 183-204.

Hampel, P., Meier, M., & Kümmel, U. (2008). School-based stress management training for adolescents: Longitundinal results from an experimental study. *Journal of Youth and Adolescence, 37*, 1009-1024.

Hayes, C., & Morgan, M. (2005). Evaluation of a psychoeducational program to help adolescents cope. *Journal of Youth and Adolescence, 34*, 111-121.

Herman-Stahl, M., & Peterson, A. C. (1999). Depressive symptoms during adolescence: Direct and stress-buffering effects of coping, control beliefs, and family relationships. *Journal of Applied Developmental Psychology, 20*, 45-62.

Herman-Stahl, M., Stemmler, M., & Petersen, A. C. (1995). Approach and avoidant coping: Implications for adolescent mental health. *Journal of Youth and Adolescence, 24*, 649-665.

Hoagwood, K., & Johnson, J. (2003). School psychology: a public health framework I. From evidence-based practices to evidence-based policies. *Journal of School Psychology, 41*, 3-21.

Hollingshead, A. B. (1975). Four factor index of social status. Unpublished manuscript, Yale University.

Huebner, E. S. (1991). Initial development of the student's life satisfaction scale. *School Psychology International, 12*, 231-240.

Huebner, E. S., & Alderman, G. L. (1993). Convergent and discriminant validation of a children's life satisfaction scale: Its relationship to self- and teacher-reported psychological problems and school functioning. *Social Indicators Research, 30*, 71-82.

Jelalian, E., Hart, C. N., Mehlenbeck, R. S., Lloyd-Richardson, E. E., Kaplan, J. D., Flynn-O'Brien, K. T., et al. (2008). Predictors of attrition and weight loss in an adolescent weight control program. *Obesity, 16*, 1318-1323.

Kardum, I., & Krapić, N. (2001). Personality traits, stressful life events, and coping styles in early adolescence. *Personality and Individual Differences, 30*, 503-515.

Karver, M. S., Handelsman, J. B., Fields, S., & Bickman, L. (2005). A theoretical model of common process factors in youth and family therapy. *Mental Health Services Research, 7*, 35-51.

Kazdin, A. E. (1998). *Research design in clinical psychology* (3rd ed.). Toronto: Allyn and Bacon.

Kazdin, A. E. (2003). Clinical significance: Measuring whether interventions make a difference. In A. E. Kazdin (Ed.), *Methodological issues and strategies in clinical research* (3rd ed., pp. 691-710). Washington, DC: American Psychological Association.

Kazdin, A. E. (2004). Evidence-based treatments: Challenges and priorities for practice and research. *Child and Adolescent Psychiatric Clinics of North America, 13*, 923-940.

Kazdin, A. E., & Bass, D. (1989). Power to detect differences between alternative treatments in comparative psychotherapy outcome research. *Journal of Consulting and Clinical Psychology, 57*, 138-147.

Kazdin, A. E., & Crowley, M. J. (1997). Moderators of treatment outcome in cogntively based treatment of antisocial children. *Cognitive Therapy and Research, 21*, 185-207.

Kendall, P. C., Flannery-Schroeder, E. C., & Ford, J. D. (1999). Therapy outcome research methods. In P. C. Kendall, J. N. Butcher & G. N. Holmbeck (Eds.), *Handbook of research methods in clinical psychology* (2nd ed., pp. 330-363). Hoboken, NJ: John Wiley & Sons, Inc.

Kessler, R. C., & Mroczek, K. R. (1994). *Final versions of our non-specific psychological distress scale.* Ann Arbor, MI: Survey Research Centre of the Institute for Social Research, University of Michigan.

Kowalenko, N., Rapee, R. M., Simmons, J., Wignall, A., Hoge, R., Whitefield, K., et al. (2005). Short-term effectiveness of a school-based early intervention program for adolescent depression. *Clinical Child Psychology and Psychiatry, 10*, 493-507.

Krapić, N. (1999). *Suočavanje sa stresom kod djece [Children's coping with stress]*. Unpublished master's thesis, University of Ljubljana, Ljubljana.

Landis, D., Gaylord-Harden, N. K., Malinowski, S. L., Grant, K. E., Carleton, R. A., & Ford, R. E. (2007). Urban adolescent stress and hopelessness. *Journal of Adolescence, 30*, 1051-1070.

Landy, S., & Menna, R. (2006). *Early intervention with multi-risk families: An integrative approach*. Baltimore, MD: Brookes Publishing Co.

Langberg, J. M., & Smith, B. H. (2006). Developing evidence-based intervention for deployment into school settings: A case example highlighting key issues of efficacy and effectiveness. *Evaluation and Program Planning, 29*, 323-334.

Lazarus, R. S., & Folkman, S. (1984). *Stress, appraisal, and coping*. New York: Springer Publishing Company, Inc.

Lewis, R., & Frydenberg, E. (2004). Students' self-evaluations of their coping. How well do they do it? In E. Frydenberg (Ed.), *Thriving, surviving, or going under: Coping with everyday lives* (pp. 25-43). Charlotte, NC: Information Age Publishing Inc.

Lodge, J., & Feldman, S. S. (2007). Avoidant coping as a mediator between appearance-related victimization and self-esteem in young Australian adolescents. *British Journal of Developmental Psychology, 25*, 633-642.

Lonigan, C. J., Elbert, J. C., & Johnson, S. B. (1998). Empirically supported psychosocial interventions for children: An overview. *Journal of Clinical Child Psychology, 27*, 138-145.

Luscombe-Smith, N., Frydenberg, E., & Poole, C. (2003). Broadening social networks for girls and particularly for boys: Outcomes of a coping skills program. *Australian Journal of Guidance and Counselling, 13*, 22-35.

Mash, E. J., & Dozois, D. J. A. (2003). Child Psychopathology. A developmental-systems perspective. In E. J. Mash & R. A. Barkley (Eds.), *Child psychopathology* (pp. 3-71). New York: The Guilford Press.

McLaughlin, K. A., & Hatzenbuehler, M. L. (2009a). Mechanisms linking stressful life events and mental health problems in a prospective, community-based sample of adolescents. *Journal of Adolescent Health, 44*, 153-160.

McLaughlin, K. A., & Hatzenbuehler, M. L. (2009b). Stressful life events, anxiety sensitivity, and internalizing symptoms in adolescents. *Journal of Abnormal Psychology, 118*, 659-669.

Menna, R., & Ruck, M. D. (2004). Adolescent help-seeking behaviour: How can we encourage it? *Guidance and Counselling, 19*, 176-183.

Nathan, P. E., Stuart, S. P., & Dolan, S. L. (2000). Research on psychotherapy efficacy and effectiveness: Between Scylla and Charybdis? *Psychological Bulletin, 126*, 946-981.

Nowicki, S., & Strickland, B. (1973). A locus of control scale for children. *Journal of Consulting and Clinical Psychology, 40*, 148-154.

Pallant, J. F. (1998). *Development and evaluation of a multidimensional, multidomain inventory to measure perceived control of internal states*. Unpublished doctoral dissertation, Monash University, Melbourne.

Patterson, F., Jepson, C., Kaufmann, V., Rukstalis, M., Audrain-McGovern, J., Kucharski, S., et al. (2003). Predictors of attendance in a randomized clinical trial of nicotine replacement therapy with behavioral counseling. *Drug and Alcohol Dependence, 72*, 123-131.

Patterson, J. M., & McCubbin, H. I. (1987). Adolescent coping style and behaviors: Conceptualization and measurement. *Journal of Adolescence, 10*, 163 - 186

Peacock, E. J., & Wong, P. T. (1990). The Stress Appraisal Measure (SAM): A multidimensional approach to cognitive appraisal. *Stress Medicine, 6*, 227-236.

Pearlin, L. I., Menaghan, E. G., Lieberman, M. A., & Mullan, J. T. (1981). The stress process. *Journal of Health and Social Behavior, 22*, 337-356.

Persons, J. B., & Silberschatz, G. (1998). Are results of randomized controlled trials useful to psychotherapists? *Journal of Consulting and Clinical Psychology, 66*, 126-135.

Pine, D. S., Cohen, E., Cohen, P., & Brook, J. (1999). Adolescent depressive symptoms as predictors of adult depression: Moodiness or mood disorder. *American Journal of Psychiatry, 156*, 133-135.

Printz, B. L., Shermis, M. D., & Webb, P. M. (1999). Stress-buffering factors related to adolescent coping: A path analysis. *Adolescence, 34*, 715-734.

Pronovost, J., Tétreault, K., & Leclerc, D. (2005). The Best of Coping: Coping skills training program with adolescents in youth service centres. *L'Enjeu, 12*, 39-47.

Puskar, K. R., Lamb, J., & Tusaie-Mumford, K. (1997). Teaching Kids to Cope: A preventive mental health nursing strategy for adolescents. *Journal of Child and Adolescent Psychiatric Nursing, 10*, 18-28.

Recklitis, C. J., & Noam, G. G. (1999). Clinical and developmental perspectives on adolescent coping. *Child Psychiatry and Human Development, 30*, 87-101.

Renk, K., & Creasey, G. (2003). The relationship of gender, gender identity, and coping strategies in late adolescents. *Journal of Adolescence, 26*, 159-168.

Rickwood, D. J., & Braithwaite, V. A. (1994). Social-psychological factors affecting help-seeking for emotional problems. *Social Science and Medicine, 39*(4), 563-572.

Roeser, R. W., Eccles, J. S., & Sameroff, A. J. (2000). School as a context of early adolescents' academic and social-emotional development: A summary of research findings. *The Elementary School Journal, 100*(Special Issue: Non-Subject-Matter Outcomes of Schooling), 443-471.

Rollin, S. A., Rubin, R. I., Shelby, T. L., Holland-Gorman, J. L., Kourofsky, H. R., & Arnold, A. (2000, April). *Coping in children and adolescents: Project KICK -- A*

primary prevention model. Paper presented at the Annual Conference of the American Educational Research Association, New Orleans, LA.

Rowley, A. A., Roesch, S. C., Jurica, B. J., & Vaughn, A. A. (2005). Developing and validating a stress appraisal measure for minority adolescents. *Journal of Adolescence, 28*, 547-557.

Ruma, P. R., Burke, R. V., & Thompson, R. W. (1996). Group parent training: Is it effective for children of all ages? *Behavior Therapy, 27*, 159-169.

Rutter, M. (1967). A children's behaviour questionnaire for completion by teachers: Preliminary findings. *Journal of Child Psychology and Psychiatry, 8*, 1-11.

Sawyer, M. G., Kosky, R. J., Graetz, B. W., Arney, F., Zubrick, S. R., & Baghurst, P. (2000). The national survey of mental health and wellbeing: the child and adolescent component. *Australian and New Zealand Journal of Psychiatry, 34*, 214-220.

Schonert-Reichl, K. A., & Muller, J. R. (1996). Correlates of help-seeking in adolescence. *Journal of Youth and Adolescence, 25*, 705-731.

Seiffge-Krenke, I. (1995). *Stress, coping, and relationships in adolescence*. Mahwah, NJ: Lawrence Erlbaum Associates.

Seiffge-Krenke, I., Aunola, K., & Nurmi, J. K. (2009). Changes in stress perception and coping during adolescence: The role of siutational and personal factors. *Child Development, 80*, 259-279.

Seiffge-Krenke, I., Weidermann, S., Fentner, S., Aegenheister, N., & Poeblau, M. (2001). Coping with school-related stress and family stress in healthy and clinically referred adolescents. *European Psychologist, 6*, 123-132.

Seligman, M. E. P., & Csikszentmihalyi, M. (2001). Positive psychology: An introduction. *American Psychologist, 55*, 5-14.

Seligman, M. E. P., Peterson, C., Kaslow, N. J., Tanenbaum, R. L., Alloy, L. B., & Abramson, L. Y. (1984). Attributional style and depressive symptoms among children. *Journal of Abnormal Psychology, 93*, 235-238.

Seligman, M. E. P., Reivich, K., Jaycox, L., & Gillham, J. (1995). *The optimistic child.* New York: Houghton Mifflin.

Shih, T. H., & Fan, X. (2008). Comparing response rates from web and mail surveys: A meta-analysis. *Field Methods, 20*, 249-271.

Simmons, R. G., Burgenson, R., Carlton-Ford, S., & Blyth, D. A. (1987). The impact of cumulative change in early adolescence. *Child Development, 58*, 1220-1234.

Stanhope, L., Menna, R., & Newby-Clark, I. (2003, April). *Adolescent help-seeking for stressful problems.* Poster presented at the 2003 biennial meeting of the Society for Research in Child Development, Tampa, FL.

Statistics Canada (2003). Canadian Community Health Survey: Mental health and well-being. Retrieved October 1, 2003, from http://www.statcan.ca/Daily/English/030903/d030903a.htm.

Sterling-Turner, H. E., Watson, T. S., & Moore, J. W. (2002). The effects of direct training and treatment integrity on treatment outcomes in school consultation *School Psychology Quarterly, 17*, 47-77.

Stevens, J. P. (2002). *Applied multivariate statistics for the social sciences* (4th ed.). Mahwah, NJ: Lawrence Erlbaum Associates.

Tabachnick, B. G., & Fidell, L. S. (2001). *Using multivariate statistics* (4th ed.). Toronto: Allyn and Bacon.

Tollit, M. (2002). Assessing the effectiveness of the Best of Coping program with female adolescent students. Unpublished master's thesis, University of Melbourne.

Waddell, C., McEwan, K., Shepherd, C. A., Offord, D. R., & Hua, J. M. (2005). A public health strategy to improve the mental health of Canadian children. *Canadian Journal of Psychiatry, 50*, 226-233.

Wadsworth, M. E., & Santiago, C. D. (2008). Risk and resiliency processes in ethnically diverse families in poverty. *Journal of Family Psychology, 23*, 399-410.

Wadsworth, M. E., Wolff, B., Santiago, C. D., & Moran, E. G. (2008). Adolescent coping with poverty-related stress. *The Prevention Researcher, 15*, 13-16.

Wagner, M., Friend, M., Bursuck, W. D., Kutash, K., Duchnowski, A. J., Sumi, W. C., et al. (2006). Educating students with emotional disorders: A national perspective on school programs and services. *Journal of Emotional and Behavioural Disorders, 14*, 12-30.

Wampold, B. E., Lichtenberg, J. W., & Waehler, C. A. (2002). Principles of empirically supported interventions in counseling psychology. *The Counseling Psychologist, 30*, 197-217.

Weissberg, R. P., Caplan, M. Z., & Sivo, P. J. (1989). A new conceptual framework for establishing school-based social competence promotion programs. In L. A. Bond & B. E. Canpar (Eds.), *Primary prevention and promotion in the schools* (pp. 255-296). Thousand Oaks, CA: Sage Publications.

Weist, M. D., Ambrose, M. G., & Lewis, C. P. (2006). Expanded school mental health: A collaborative community-school example. *Children & Schools, 28*, 45-50.

Weist, M. D., & Paternite, C. E. (2006). Building an interconnected policy-training-practice-research agenda to advance school mental health. *Education and Treatment of Children, 29*, 173-196.

Weisz, J. R., Jensen-Doss, A., & Hawley, K. M. (2006). Evidence-based youth psychotherapies versus usual clinical care. A meta-analysis of direct comparisons. *American Psychologist, 61*, 671-689.

Wilkinson, R. B., Walford, W. A., & Espnes, G. Å. (2000). Coping stress and psychological health in adolescents and young adults: A comparison of moderator and main effects models. *Australian Journal of Psychology, 52*, 155-162.

Wille, N., Bettge, S., & Ravens-Seiberer, U. (2008). Risk and protective factors for children's and adolescents' mental health: results of the BELLA study. *European Child & Adolescent Psychiatry, 17* (Supplement 1), 133-147.

Williams, K., & McGillicuddy-De Lisi, A. (2000). Coping strategies in adolescents. *Journal of Applied Developmental Psychology, 20*, 537-549.

Wyn, J. (2007). Learning to 'become somebody well': Challenges for educational policy. *The Australian Educational Researcher, 34*, 35-52.

Wyn, J., Cahill, H., Holdsworth, R., Rowling, L., & Carson, S. (2000). Mindmatters, a whole-school approach promoting mental health and wellbeing. *Australian and New Zealand Journal of Psychiatry, 34*, 594-601.

Yeaworth, R. C., McNamee, M. J., & Pozehl, B. (1992). The Adolescent Life Change Event Scale: Its development and use. *Adolescence, 27*, 783-802.

Yeaworth, R. C., York, J., Hussey, M. A., Ingle, M. E., & Goodwin, T. (1980). The development of an adolescent life change event scale. *Adolescence, 15*, 91-97.

APPENDIX A: LIST OF CHANGES TO THE BOC MANUALS

Changes to Instructor's Manual

Page numbers:

Note: Sizing of pages differ so text not always on same page, therefore table of contents and reference from instructor's manual to student workbook pages altered (e.g., Module 1 from p. 11 to p. 10)

Terminology changes:

- "Year" to "Grade"
- "foibles" to "weaknesses"
- "at the Pizza Parlour" to "for pizza"
- "ring" to "call"
- "session" to "showing"
- "mum" to "mom"
- "mucking around" to "messing around"
- "stuff up" to "mess up"
- "maths" to "math"
- "vet science" to "veterinary science"
- "butcher's paper" to "scrap paper"
- "queue" to "line"
- "Tattslotto" to "lotto 6/49"
- "welfare coordinators" to "social workers"
- "vicars" to "priests"
- Plus – some spelling of words altered from Australian/British English to typical Canadian English (e.g., "recognise" to "recognize")

Punctuation changes:

- Added commas separating "etc." (e.g., stories etc. to stories, etc.)
- Time altered (e.g., from 6.30 to 6:30)
- non productive to non-productive
- Single to double quotes (e.g., 'We are supposed to have nice weather tomorrow' to "We are supposed to have nice weather tomorrow")

Content changes:

- Christopher Reeve to Michael J. Fox (Canadian and current example)
- Information altered for Psychologist/Counsellor, to help differentiate between the two types of helpers (vs. using terms interchangeably)
- Where social workers are found – more information
- Cost of telephone help lines changed to "None" and indicated could find in white OR yellow pages (vs. just white pages) in telephone books
- Religious Leaders- added mosque for where they are located
- Resource file – included local content: "A-K white pages" to "Bell Phone Book", "WIRE (Women's Information and Referral Service) and Lifeline" to "Teen Health Centre and Information Windsor"
- Achievers – replaced an example with a Canadian individual (Bob Geldof to Terry Fox)
- Altered levels of being a "great hockey player" from Australian to Canadian version (from best in school, state, Australian team to Olympic gold metal to best in hockey league, NHL, Stanley Cup)
- "in recess" to "during lunchtime"

Typos

- “a simple as” to “as simple as”
- “form a School” to “from a School”

Changes to Student Workbook

Page numbers:

Note: Sizing of pages differ therefore text not always on same page so Table of Contents corrected

Terminology changes:

- “maths” to “math”
- “mum” to “mom”
- “study-head” to “over-achievers”
- “Home brand” to “no-name”
- “train” to “bus” (for transportation from school to home)
- “stuffed” to “messed up”
- “crap” to “bad”
- “coordinator” to “counsellor”
- “net ball” to “basketball”
- “mucking around” to “messing around”
- “stuff(ed) up” to “mess(ed) up”
- “Whilst” to “While”
- “Year” to “Grade”
- “butcher’s paper” to “scrap paper”
- “potato cakes” to “chips”

- "queue" to "line"
- "welfare coordinators" to "social workers"
- "vicars" to "priests"
- "shoe shop" to "shoe store"
- "recess" to "lunchtime"
- "ring" to "call"
- "rubbish" to "garbage"
- "sport teacher" to "gym teacher"
- "level coordinator" to "student rep"
- "pop" to "hip hop"
- English (e.g., "apologise" to "apologize", "practising" to "practicing", "visualise" to "visualize")

Punctuation changes:

- Added commas separating "etc." (e.g., problem etc. to problem, etc.)
- Time altered (e.g., from 8.00 to 8:00)
- "non productive" to "non-productive"
- Single to double quotes (e.g., 'Use it or lose it' to "Use it or lose it")
- Use brackets for plural (e.g., goal/s to goal(s))

Content changes:

- Christopher Reeve to Michael J. Fox information (Canadian and current example)
- Information altered for Psychologist/Counsellor, to help differentiate between the two types of helpers (vs. using terms interchangeably)
- Where social workers are found – more information

- Cost of telephone help lines changed to "None" and indicated could find in white OR yellow pages (vs. just white pages) in telephone books
- Religious Leaders- added mosque for where they are located
- Activity 3 (Module 5) Helping resources, altered wording a bit for clarification "Draw a wheel and in the spokes…" to "In the diagram below…" and "…in the relevant sections"
- Resource file – included local resources (including information and referral services, youth helpline and community mental health services)
- Altered levels of being a "great hockey player" from Australian to Canadian version (from best in school, state, Australian team to Olympic gold metal to best in hockey league, NHL, Stanley Cup)

Typos

"Its" to "It's"

"disjcover" to "discover"

"form a School…" to "from a School.."

APPENDIX B: ADOLESCENT MEASURES

Teen Background Information Questionnaire

1. When is your birthday? Please give the month, day, and year of your birth (e.g., June 3, 1993).
   My birthday is _____.

2. What gender are you?
   - ☐ Male
   - ☐ Female

3. How old are you in years? (example: I am 14 years old.)
   I am _____ years old.

4. What race or ethnicity do you *most* identify with?
   - ☐ East Asian
   - ☐ South Asian
   - ☐ Caucasian
   - ☐ African Canadian
   - ☐ Caribbean
   - ☐ Hispanic
   - ☐ Native Canadian
   - ☐ Biracial - Please Specify _____
   - ☐ Multi-racial - Please Specify _____
   - ☐ Other - Specify _____

5. How many brothers and sisters to do you have? (Please indicate how many of each, if you are an only child put 0 for each)

   I have __ older brother(s), __ older sister(s), __ younger brother(s) and __ younger sister(s).

6. Are your parents _____?
   - ☐ Married
   - ☐ Divorced
   - ☐ Separated
   - ☐ Living together
   - ☐ Remarried
   - ☐ None of the above (Please Specify: _____)

7. Which parents/guardians do you live with? (Check all that apply)
   - ☐ Mother
   - ☐ Father
   - ☐ Step-father
   - ☐ Step-mother
   - ☐ Other (Please Specify: _____)

8. What is your mother's education level?
   - ☐ Less than 7 years
   - ☐ Junior high school (Grade 9)
   - ☐ Some high school (Grade 10 or 11)
   - ☐ Graduated from high school or equivalent high school diploma
   - ☐ Some college or university (at least one year)
   - ☐ Graduated from college or university
   - ☐ Graduate/professional school (e.g., Master's, Ph.D.)
   - ☐ Other _____

9. What is your father's education level?
   - ☐ Less than 7 years
   - ☐ Junior high school (Grade 9)
   - ☐ Some high school (Grade 10 or 11)
   - ☐ Graduated from high school or equivalent high school diploma
   - ☐ Some college or university (at least one year)
   - ☐ Graduated from college or university
   - ☐ Graduate/professional school (e.g., Master's, Ph.D.)
   - ☐ Other _____

10. Is your mother currently employed?
    ☐ Yes ☐ No
    What is/was your mother's occupation? _____

11. Is your father currently employed?
    ☐ Yes ☐ No
    What is/was your father's occupation? _____

12. Do you have any medical conditions? ☐ Yes ☐ No If yes, please list them.
    _____
    _____

13. Are you receiving any professional help or counselling services? If yes, describe these services and who (e.g., school counsellor, social worker, psychologist) provides them.

_____

_____

14. Are you on any prescription medications? ☐ Yes ☐ No If yes, please list them.

_____

_____

Post Session Check-in

ID number: _____ **Group name:** _____

Session number/name: _____

For the questions below, circle the number that best represents your answer. Remember, there are no right or wrong answers, just answer how you honestly feel.

1.) Overall, how effective/helpful did you find today's session?

1	2	3	4	5	6	7
Very poorly			Fairly well			Extremely poorly

2.) How helpful were your instructors/facilitators today?

1	2	3	4	5	6	7
Very poorly			Fairly well			Extremely poorly

3.) How understanding were your instructors/facilitators today?

1	2	3	4	5	6	7
Very poorly			Fairly well			Extremely poorly

4.) How interested were you in the program today?

1	2	3	4	5	6	7
Very poorly			Fairly well			Extremely poorly

5.) How motivated were you to participate in the program today (group work, individual work, etc.)?

1	2	3	4	5	6	7
Very poorly			Fairly well			Extremely poorly

6.) How much did you participate today?

1	2	3	4	5	6	7
Very poorly			Fairly well			Extremely poorly

7.) How well are you currently coping or dealing with life stressors?

1	2	3	4	5	6	7
Very poorly			Fairly well			Extremely poorly

8.) Overall, how are you feeling lately?

1	2	3	4	5	6	7
Very poorly			Fairly well			Extremely poorly

9.) Overall, how are you doing with your daily activities (school, home, friend/social life)?

1	2	3	4	5	6	7
Very poorly			Fairly well			Extremely poorly

APPENDIX C: INTERNAL CONSISTENCY OF ADOLESCENT MEASURES

Table C1.

Internal Consistency (Cronbach's α) of Adolescent Measures Across Assessments

	Assessment	Time 1 (N = 68)		Time 2 (N = 66)		Time 3 (N = 58)		Time 4 (N = 19)	
Measure	Scale (# of items/scales)	α	*N*	α	*N*	α	*N*	α	*N*
ALCES	Total (31)	.76	62	.79	63	.76	57	.68	18
SAMA	Challenge (4)	.82	67	.87	66	.86	58	.93	19
	Threat (7)	.76	65	.84	64	.82	58	.69	19
	Resources (3)	.74	68	.76	66	.86	58	.96	19
PMS	Total (7)	.64	68	.73	66	.68	58	.79	17
ACS	Social Support (5)	.82	68	.83	65	.82	56	.91	18
	Solve the Problem (5)	.84	68	.77	65	.76	56	.83	18
	Work (5)	.78	68	.74	65	.70	56	.70	18
	Worry (5)	.76	68	.87	66	.84	56	.76	18
	Invest in Close Friends (5)	.71	68	.80	66	.70	56	.79	18
	Seeking to Belong (5)	.59	68	.68	65	.74	56	.63	18
	Wishful Thinking (5)	.67	68	.75	66	.68	56	.83	18
	Not Cope (5)	.64	68	.75	65	.79	56	.53	18
	Tension Reduction (5)	.68	68	.71	65	.76	56	.62	18
	Social Action (4)	.62	68	.66	65	.64	56	.59	18
	Ignore (4)	.73	68	.84	66	.78	56	.80	18
	Self Blame (4)	.76	68	.81	65	.86	56	.77	18
	Keep to Self (4)	.71	68	.75	65	.68	56	.79	18
	Spiritual Support (4)	.83	68	.83	66	.83	56	.83	18
	Focus on the Positive (4)	.80	68	.76	65	.68	56	.81	18
	Professional Help (4)	.71	68	.79	66	.78	56	.81	18
	Relax (3)	.43	68	.46	65	.23	56	.26	18
	Physical Recreation (3)	.67	68	.58	65	.74	56	.85	18

(table continues)

Table C1. (*continued*)

	Assessment	Time 1 (N = 68)		Time 2 (N = 66)		Time 3 (N = 58)		Time 4 (N = 19)	
Measure	Scale (# of items/scales)	α	*N*	α	*N*	α	*N*	α	*N*
	Solving the Problem (8)	.78	68	.85	65	.81	56	.88	18
	Reference to Others (4)	.68	68	.74	65	.61	56	.80	18
	Nonproductive (8)	.76	68	.88	65	.84	56	.82	18
CASQ-R	Active (7)	.62	68	.63	66	.70	58	.76	19
	Internal (7)	.35	68	.26	66	.48	58	.23	19
	Withdrawal (6)	.45	68	.49	66	.51	58	.45	19
	Total (20)	.63	68	.48	66	.65	58	.63	19
SDQ	Total Difficulties (4 scales)	.41	68	.57	66	.58	58	.58	19
	Impact (5)	.70	65	.81	64	.81	55	.34	19
SLSS	Total (9)	.90	68	.90	65	.90	58	.88	19
HM-R	Score (1)	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A

Note. Including adolescents with Grade 7 reading level or above; *N* alters due to missing or spoiled data.

APPENDIX D: PARENT MEASURE

Background Information Questionnaire - Parent

1. What is your relationship to your son/daughter?
   - ☐ Mother
   - ☐ Father
   - ☐ Other guardian (Please specify: _____)

2. When is your child's birthday? Please give the month, day, and year (example: June 3, 1990).
   His/her birthday is _____.

3. What gender is your child?
   - ☐ Male
   - ☐ Female

4. How old is your child in years? (example: My child is 14 years old.)
   My child is _____ years old.

5. What race or ethnicity does your child *most* identify with?
   - ☐ East Asian
   - ☐ South Asian
   - ☐ Caucasian
   - ☐ African Canadian
   - ☐ Caribbean
   - ☐ Hispanic
   - ☐ Native Canadian
   - ☐ Biracial - Please Specify _____
   - ☐ Multi-racial - Please Specify _____
   - ☐ Other - Specify _____

6. How many children do you have?
   I have ____ children (__ sons and __ daughters)

7. Please indicate which best described your current marital situation:
   - ☐ Married
   - ☐ Divorced
   - ☐ Separated
   - ☐ Common Law
   - ☐ Remarried
   - ☐ None of the above (Please Specify: _____)

8. What is your education level
   - ☐ Less than 7 years
   - ☐ Junior high school (Grade 9)
   - ☐ Some high school (Grade 10 or 11)
   - ☐ Graduated from high school or equivalent high school diploma
   - ☐ Some college or university (at least one year)
   - ☐ Graduated from college or university
   - ☐ Graduate/professional school (e.g., Master's, Ph.D.)
   - ☐ Other _____

9. What is your child's other parent/guardian's education level?
   - ☐ Less than 7 years
   - ☐ Junior high school (Grade 9)
   - ☐ Some high school (Grade 10 or 11)
   - ☐ Graduated from high school or equivalent high school diploma
   - ☐ Some college or university (at least one year)
   - ☐ Graduated from college or university
   - ☐ Graduate/professional school (e.g., Master's, Ph.D.)
   - ☐ Other _____

10. Are you currently employed?
    - ☐ Yes
    - ☐ No

    What is/was your occupation? _____

11. Is your child's other parent/guardian currently employed?
    - ☐ Yes
    - ☐ No

    What is/was his/her occupation? _____

12. Does your child have any medical conditions? ☐ Yes ☐ No
    If yes, please list them.

    _____

    _____

13. Is your son/daughter receiving any professional help or counselling services? If yes, describe the nature of these services and who (e.g., school counsellor, social worker, psychologist) provides them.

    _____

    _____

14. Is your child on any prescription medications? ☐ Yes ☐ No
    If yes, please list them.

    _____

    _____

APPENDIX E: INTERNAL CONSISTENCY OF PARENT MEASURES

Table E1.

Internal Consistency (Cronbach's α) of Parent Measures Across Assessments

Assessment	Time 1 (N = 44)		Time 2 (N = 33)		Time 3 (N = 21)		Time 4 (N = 9)	
Measure Scale (# items)	α	*N*	α	*N*	α	*N*	α	*N*
AC-PR								
Solving the Problem (6)	.18	42	.39	32	.45	21	.39	9
Revised Solving the Problem*(5)	.48	42	.50	32	.36	21	.76	9
Reference to Others (4)	.70	44	.38	32	.41	21	-.34	9
Non-productive Coping (9)	.79	43	.68	33	.69	21	.63	9
SDQ								
Total Difficulties (4)	.79	44	.62	33	.68	21	.81	9
Impact (5)	.77	44	.66	33	.70	19	.37	9
HM-R								
Score (1)	N/A		N/A		N/A		N/A	

Note. *Seek to Belong item excluded
Including all data collected; *N* alters due to missing or spoiled data.

APPENDIX F: INTERNAL CONSISTENCY OF TEACHER MEASURE

Table F1.

Internal Consistency (Cronbach's α) of Teacher SDQ Scale Scores Across Assessments

Assessment	Time 1 (N = 73)		Time 2 (N = 71)		Time 3 (N = 62)		Time 4 (N =19)	
Measure/ Scale (# items)	α	*N*	α	*N*	α	*N*	α	*N*
SDQ Total Difficulties (4 scales)	.68	55	.66	61	.71	51	.57	17
Impact (3)	.71	68	.73	64	.79	54	.62	19

Note. Including all data collected; *N* alters due to missing or spoiled data.

APPENDIX G: TEACHER CLARIFICATION QUESTIONS

Clarification Questions

(only for pre-testing
* 1. "Is the adolescent's reading ability/comprehension at grade level? If not, please indicate approximately what grade his /her reading level is currently at.)

2. What class did/are you teach(ing) this youth?

3. How long have you know this youth?

4. How familiar are you with this student?

0	1	2	3	4
Not at all familiar				Very familiar

5. How accurate do you think your responses are on the questionnaire you completed?

0	1	2	3	4
Not at all accurate				Very accurate

APPENDIX H: INSTRUCTOR POST SESSION CHECK-IN

Instructor Post Session Check-in

Facilitator ID number: _____ Group name: _____
Session number/name: _____

For the questions below, circle the number that best represents your answer. Remember, there are no right or wrong answers, just answer how you honestly feel.

1.) Overall, how did today's session go?

1	2	3	4	5	6	7
Very poorly/Worse session ever			OK/Had its ups and downs			Extremely well/Best session ever

2.) How much do you deviate from the manual/protocol today?

1	2	3	4	5	6	7
Did not deviate at all			Deviated somewhat			Deviated completely

3.) Explain **how** you deviated from the manual and **why?**

_____
_____
_____
_____

4.) List components supposed to be covered the today's session and those that were implemented.

Components supposed to be covered	Components implemented

5.) How helpful do you think you and your co-facilitator were today?

1	2	3	4	5	6	7
Not helpful at all			Fairly helpful			Extremely helpful

6.) How understanding do you think you and your co-facilitator were today?

1	2	3	4	5	6	7
Not understanding at all			Fairly understanding			Understood the youth exactly

7.) How interested were the students in the program today? (only use initials to identify students)

Student ______

1	2	3	4	5	6	7
Not interested at all			Fairly interested			Extremely interested

Student ______

1	2	3	4	5	6	7
Not interested at all			Fairly interested			Extremely interested

Student ______

1	2	3	4	5	6	7
Not interested at all			Fairly interested			Extremely interested

Student ______

1	2	3	4	5	6	7
Not interested at all			Fairly interested			Extremely interested

Student ______

1	2	3	4	5	6	7
Not interested at all			Fairly interested			Extremely interested

Student ______

1	2	3	4	5	6	7
Not interested at all			Fairly interested			Extremely interested

Student ______

1	2	3	4	5	6	7
Not interested at all			Fairly interested			Extremely interested

Student ______

1	2	3	4	5	6	7
Not interested at all			Fairly interested			Extremely interested

Student ______

1	2	3	4	5	6	7
Not interested at all			Fairly interested			Extremely interested

Student ______

1	2	3	4	5	6	7
Not interested at all			Fairly interested			Extremely interested

8.) How much did the students participate in the program today (group work, individual work)?

Student ______

1	2	3	4	5	6	7
Did not participate at all			Participated a fair amount			Participated extensively

Student ______

1	2	3	4	5	6	7
Did not participate at all			Participated a fair amount			Participated extensively

Student ______

1	2	3	4	5	6	7
Did not participate at all			Participated a fair amount			Participated extensively

Student ______

1	2	3	4	5	6	7
Did not participate at all			Participated a fair amount			Participated extensively

Student ______

1	2	3	4	5	6	7
Did not participate at all			Participated a fair amount			Participated extensively

Student ______

1	2	3	4	5	6	7
Did not participate at all			Participated a fair amount			Participated extensively

Student ______

1	2	3	4	5	6	7
Did not participate at all			Participated a fair amount			Participated extensively

Student ______

1	2	3	4	5	6	7
Did not participate at all			Participated a fair amount			Participated extensively

Student ______

1	2	3	4	5	6	7
Did not participate at all			Participated a fair amount			Participated extensively

Student ______

1	2	3	4	5	6	7
Did not participate at all			Participated a fair amount			Participated extensively

APPENDIX I: RECRUITMENT MATERIALS

STUDENT NEWSLETTER TO PARTICIPATE IN RESEARCH

Title of Study: "Evaluation of the Best of Coping Program"

Dear Student,

This letter is to inform you of a research program that is taking place at your school. Both the School Board and high school Principal have kindly provided their permission for this research to take place. The research has also been cleared by the Research Ethics Board (REB) at the University of Windsor. The study is being conducted by Alina Carter, a doctoral student at the University of Windsor, and Dr. Rosanne Menna, a registered psychologist and professor at the University of Windsor.

The purpose of this study is to examine the usefulness of a school-based coping skills program with teens who are identified by their parents, themselves or school personnel, as someone who could benefit from learning new ways to deal with everyday life stress, such as the transition into high school, school exams, or starting a new job.

The study would include an initial survey, including questionnaires to be filled out by yourself, your parent/guardian and one of your teachers, followed by the Best of Coping Program and three additional surveys to examine the program's usefulness.

If you are interested in participating in this study, please contact the researchers (see contact information below) *[or come to the information session to find out more and see if you are eligible. The information session will be conducted at your school for interested students, parents, and teachers at the following time:*

Study information session:
Place:
Date/Time:

If you are unable to make this time, please contact the researchers by phone or email to address any of your questions or concerns.][*]

We thank you for your time and consideration.

Sincerely,

Alina Carter, M. A.
Department of Psychology,
University of Windsor

519-253-3000 ext. 2219
Email: carte1b@uwindsor.ca

Rosanne Menna, Ph.D., C. Psych.
Department of Psychology,
University of Windsor

519-253-3000 ext. 2230
Email: rmenna@uwindsor.ca

[*] This italicized section was only included for the initial two recruitment attempts when information sessions were provided.

PARENT/GUARDIAN INFORMATION LETTER TO PARTICIPATE IN RESEARCH

Title of Study: "Evaluation of the Best of Coping Program"

Dear Parent(s)/Guardian(s),

We are writing this letter to request your permission to allow your son/daughter to participate in our study. Both the School Board and high school Principal have kindly provided their permission for this research to take place. The research has also been cleared by the Research Ethics Board (REB) at the University of Windsor. The study is being conducted by Alina Carter, a doctoral student at the University of Windsor, and Dr. Rosanne Menna, a registered psychologist and professor at the University of Windsor.

The purpose of this study is to examine the effectiveness of a school-based coping skills program with adolescents who are identified by their parents, themselves or school personnel, as students who could benefit from learning coping skills to deal with the life stressors that they inevitably experience.

Enclosed with this letter is a consent form that describes the study in detail. It would include an initial survey of eligible adolescents including questionnaires to be filled out by yourself, your adolescent and one of his/her teachers (**Please review criteria for participation on page 5 of the consent form)**. This would be followed by the Best of Coping Program and three additional evaluations of your son/daughter to examine the program's effectiveness.

*[*In order to provide further information or an opportunity to meet with the researchers, an information session will be conducted at your adolescent's school for parents, adolescents, and teachers at the following time:*
Study information session:
Place:
Date/Time:

If you are unable to make this scheduled time,]* Please contact the researchers by phone or email to address any of your questions or concerns.

We thank you for your time and consideration.

Sincerely,

Alina Carter, M. A.
Department of Psychology,
University of Windsor
519-253-3000 ext. 2219
Email: carte1b@uwindsor.ca

Rosanne Menna, Ph.D., C. Psych.
Department of Psychology,
University of Windsor
519-253-3000 ext. 2230
Email: rmenna@uwindsor.ca

* This italicized section was only included for the initial two recruitment attempts when information sessions were provided.

TEACHER INFORMATION LETTER

Dear Teacher,

Our names are Alina Carter and Dr. Rosanne Menna and we are from the psychology department at the University of Windsor. We are writing this letter to provide you with information about our research study and to ask your assistance in recruiting participants from your school. This project is being conducted as part of the requirements for Alina's Doctoral degree in clinical psychology. This research has been cleared by your school principal, the Windsor-Essex Catholic School Board Research Committee and the Research Ethics Board (REB) at the University of Windsor.

The purpose of this study is to examine the effectiveness of a 10-week school-based coping skills program (consisting of one class period per week) with youths who are identified by their parents, themselves or school personnel, such as yourself, as students who could benefit from learning coping skills to deal with daily hassles and life stressors that they inevitably experience (**Please review criteria for participation on page 3 of outline of the study**). Youths in grade 9 and 10 are targeted for this study, since this is an age group that has been shown to have general difficulties with coping.

Enclosed with this letter is an outline of the process and rationale of this study. It would include a pre-treatment assessment followed by the implementation of the intervention and three additional evaluations of the youths to examine the program's effectiveness completed during class time.

[*] [*In order to provide further information or an opportunity to meet with the researchers, an information session will be conducted at your school for parents, adolescents, and teachers at the following time:*

Study information session:
Place: *TBA*
Date/Time: *TBA*]*

Thank you for your time and consideration.

Sincerely,

Alina Carter, M. A.
Department of Psychology,
University of Windsor
(519) 253-3000 ext. 2219
carte1b@uwindsor.ca

Rosanne Menna, Ph.D. C. Psych
Department of Psychology,
University of Windsor
(519) 253-3000 ext. 2230
rmenna@uwindsor.ca

[*] This italicized section was only included for the initial two recruitment attempts when information sessions were provided.

Outline of Proposed Study For Teachers

STUDY: Evaluation of the Best of Coping Program

PURPOSE OF THE STUDY

The purpose of the study is to evaluate a school-based intervention program for students who could benefit from learning coping skills to deal with daily hassles and life stressors (see criteria for participation on page 3).

PROCEDURES

For those adolescents with parent and child consent, we would ask for the youth, his/her guardian, and one of his/her teachers to do the following things:

1) To complete some questionnaires as part of the pre-treatment assessment for the intervention program. This is to see how these youths are functioning before the program.

The questionnaires for the parent to complete are included with the consent form and can be filled out and then sealed in the envelope provided, along with a signed consent form and returned to the school, where the researchers will pick them up.

Each participating adolescent will be asked to complete questionnaires, which examine:

- his/her coping strategies
- any emotional or behavioural concerns his/she is experiencing,
- his/her sense of well-being,
- the stressors that they are experiencing, and
- how they interact with others.

These will be completed during class time in groups of students, taking approximately 1 hour to complete, early in the Fall term (preferably by end of September).

One of the adolescent's teachers will also complete some questionnaires, examining the behaviours of the adolescent in the school setting, as well as examining the adolescent's reading ability.

The youths will then be randomly assigned to either participate in the intervention program immediately (**initial treatment group**) OR in approximately 3 months time during the second round of the intervention (**waitlist group**). If there are less than 16 adolescents who volunteer at a school, then the school will be randomly assigned to either group.

2) **For the students assigned to the initial treatment group**, they will participate in a 10-week coping skills program during one period of class time per week at his/her school. The program will be conducted by two trained graduate students in clinical psychology, who are supervised by Dr. Menna, who is a registered clinical psychologist. The program consists of a number of different activities, such as group discussions, individual written work, reading stories, role-plays, and homework assignments (e.g., practice skills with friends or family). The sessions will be audiotaped in order to measure how well the program is being followed by the therapists. After each session, the students will be asked a series of questions evaluating the intervention and their own progress.

For the students assigned to the waitlist group, they will be contacted after the treatment group has completed their program.

3) After the treatment group completes the intervention program, adolescents from the **treatment and waitlist groups** will complete another package of questionnaires, consisting of the same measures completed in the initial screening assessment during class time (approximately 1 hour) in groups.

The adolescent's parent/guardian and teacher will also be sent the same questionnaires as completed at the initial assessment, in order to monitor how the participant is progressing and to see if the program has helped.

4) At this time, the **waitlist group** will be participating in the program.

5) After the waitlist group completes the program, adolescents from both the **treatment group and waitlist group** will complete another package of questionnaires, consisting of the same measures completed in the initial screening assessment during class time (approximately 1 hour) in groups.

The parent/guardian and teacher will also be sent the same questionnaires as completed at the initial assessment, in order to monitor how the student is progressing and to see if the program has helped.

6) Those in the waitlist group will then complete a fourth and final follow-up assessment three months after the completion of the program or in the fall of the next school year.

The entire study is planned to span one year.

CRITERIA FOR PARTICIPATION

The adolescents who are eligible to participate in the intervention program are those in grades 9 or 10 who could benefit from learning ways to deal with stressors in their lives. This might include any of the following:

a) **Experiencing a number of stressful events at once** (e.g., changing schools and needing to make new friends)
b) **Displaying some problem behaviours or emotional difficulties, and/or**
c) **Attempting to avoid dealing with stressors**

Adolescents who meet any of the following criteria will be *excluded* (i.e., not able to participate) for the intervention study:

1) **A diagnosed psychiatric disorder,**
2) **Legal problems/troubles with the law,**
3) **Serious threat to self or others, and/or**
4) **6 reading level or lower.**

If an adolescent **DOES** meet any of the first three exclusion criteria, it is suggested that he/she instead receives professional services (parents and students will be provided with a list of community resources with their consent forms), which can provide more intensive and appropriate assistance. Since this is a study looking at the effectiveness of an intervention program, if the youth is participating in other services at the same time, these will likely affect how the youth is functioning and therefore impact the findings. The final exclusion criterion is necessary because the program is presented in written text and requires the youth to read and write extensively throughout the sessions. Any youths who could benefit from services but who have such difficulties with reading are again encouraged to contact community services, such as those listed in the community resource list or through his/her school.

APPENDIX J: CONSENT FORMS

PARENT/GUARDIAN CONSENT TO PARTICIPATE IN RESEARCH

Title of Study: **Evaluating the Best of Coping Program**

You are asked to permit your son/daughter to participate in a program that teaches coping strategies. The study will be conducted by Alina Carter and Dr. Rosanne Menna, from the Department of Psychology at the University of Windsor. Results from this study will contribute to Alina Carter's doctoral degree.

If you have any questions or concerns about this research, please contact Alina Carter (at 253-3000 ext. 2219 or carte1b@uwindsor.ca), or Dr. Menna (at 253-3000 ext. 2230 or rmenna@uwindsor.ca)

Please review criteria for participation on page 5.

PURPOSE OF THE STUDY

The purpose of the study is to help teenagers learn new ways to deal with everyday life stress. (see page 5 for the criteria to participate in the study).

PROCEDURES

If you consent to having your adolescent participate in this study, we would ask for you, your adolescent, and his/her teacher to do the following things:

1) You, your adolescent, and his/her teacher, will be asked to complete surveys. The questionnaires for you, as the parent, to complete are included with this form and can be filled out and then sealed in the envelope provided along with a signed consent form. Instructions are included with the questionnaires. Your adolescent will individually complete questionnaires during class time (approximately 1 hour) with a group of students, unless he/she wishes complete them alone. The survey questionnaires examine his/her life hassles and stress, coping strategies, interaction with others, how he/she feels and behaves, and how your child feels about his/herself and life. One of your son/daughter's teachers will also complete a survey examining the functioning of your child (similar to one in which you will be completing), as well as examining your adolescent's reading ability.

2) After completing the surveys, your son/daughter will either participate in the program immediately OR in approximately 3 months time. When it is your son/daughter's turn to complete the program, he/she will participate in a 10-week coping skills group during one period of class time per week at school. The group will be lead by two graduate students in clinical psychology at the University of Windsor. They will be supervised by Dr. Menna, a registered clinical psychologist. In the group, your adolescent will do different activities, such as group discussions, individual written work, reading stories, role-playing, and

homework assignments (e.g., practice skills with friends or family). The groups will be audiotaped to make sure that the therapists are leading the coping skills group properly. After each session, your son/daughter will be asked a series of questions about the group and his/her own progress.

3) After the first group completes the program, all teens will be asked to complete another package of questionnaires during class time (approximately 1 hour). You and your son/daughter's teacher will also be sent the same questionnaires as completed before, in order to see how your child is doing. All questionnaires will be the same completed before.

4) After the second group of students who waited about 3 months for the program completes it, your son/daughter will be asked to complete another package of questionnaires, consisting of the same ones as completed twice before. Again, you and your son/daughter's teacher will also complete the same questionnaires they had completed before.

5) Those who participate in the group after waiting 3 months will also be asked to complete the questionnaires a fourth and final time. This will happen approximately 3 months after they completed the group or in the Fall of 2007.

Participation in the study will span approximately 1 year.

POTENTIAL RISKS AND DISCOMFORTS

There are no known risks involved with the participation in this study. However, your son/daughter may experience some upsetting feelings after answering some questions on the questionnaires. Your adolescent can decide not answer any questions he/she does not want to answer and still remain in the study. The coping skills group will take place during school time, so this will mean missing some class time. However, the school board and school principal have agreed and given permission for students to participate in this study. Arrangements will be made for classes missed as a result of participating in the study.

POTENTIAL BENEFITS TO PARTICIPANTS AND/OR TO SOCIETY

Your adolescent will be taught coping skills to help deal with problems that teens experience. The goal of this study is to see if a coping program is effective in teaching teens how to deal with stressors in their lives. The results will help inform us on how to best help teens cope with life stress.

PAYMENT FOR PARTICIPATION

After each time your adolescent completes the questionnaires, he/she has the option of entering his/her name in a draw for a $25 mall gift certificate. There will be one prize awarded each time the questionnaires are completed. There will

also be a draw for a gift certificate ($20) where his/her name is entered every time your adolescent attends and participates in the coping skills program.

CONFIDENTIALITY AND ANONYMITY

Although we cannot guarantee this, we expect that the information the teens share in the group will be kept private. This means that your adolescent and the other group members will not tell others any personal information that is brought up. This will ensure that the group is a safe place for the teens to feel comfortable to talk about their feelings.

Information that is collected for this study will remain confidential. Your responses, as well as your son/daughter's and his/her teacher's responses will *not* be shared with any other participants in the study. The only exceptions are if anyone reports any abuse of someone less than 16 years of age OR if your adolescent behaves in a way that may be harmful to him/herself or others. However, all other information collected will remain confidential and will not be released without permission.

In order to make sure the surveys are anonymous, you and your adolescent's names will not be kept on any of the questionnaires. Instead, each will be coded with a number for matching purposes. The questionnaires completed by you, your son/daughter and teacher will be stored securely in a locked cabinet by the researcher. Five years after the completion of the study, the questionnaires will be safely destroyed. Also, we will group your information with other people's data so that no one will know your individual responses.

PARTICIPATION AND WITHDRAWAL

You can choose whether to allow your adolescent to participate in this study or not. If you permit to have your adolescent participate in this study, he/she (or yourself) may still withdraw at any time without consequences. You may also refuse to answer any questions on the questionnaires and your adolescent can still remain in the study. The investigator may withdraw your adolescent from this research only for reasons that would warrant doing so (e.g., if he/she is harmful to others participating in the study).

FEEDBACK OF THE RESULTS OF THIS STUDY TO THE PARTICIPANTS

Six months after the study is over, participants can obtain the general results of the study by logging on the University of Windsor Research Ethics Board (REB) website at: www.uwindsor.ca/REB.

AUDIOTAPING OF SESSIONS

The group sessions will be audiotaped to make sure that the therapists are

leading the coping skills group properly. The contents of the tapes will not be revealed to anyone other than the researchers. Identifying information will not be on the tapes. They will be kept in a locked cabinet and safely destroyed 5 years after the study is completed.

Do you give consent to the audiotaping of the treatment sessions ☐ Yes ☐ No

FUTURE USE OF DATA

This data may be used in future studies. In the future, new research questions may be developed and answered by using data from the current study.

Do you give consent for the future use of the data from this study? ☐ Yes ☐ No

RIGHTS OF RESEARCH PARTICIPANT

You may withdraw your consent at any time and discontinue your son/daughter's participation without penalty. If you have questions regarding you and your adolescents' rights as research participants, contact: Research Ethics Coordinator, University of Windsor, Windsor, Ontario N9B 3P4; telephone: 519-253-3000, ext. 3916; e-mail: lbunn@uwindsor.ca.

SIGNATURE OF PARENT/GUARDIAN OF ADOLESCENT

I understand the information provided for the study **"**Evaluation of the Best of Coping Program" as described above. My questions have been answered to my satisfaction, and I agree to have my child participate in this study, as well as myself and one of his/her teachers. I have been given a copy of this form.

_____
Name of Adolescent/Child

_____
Name of Parent/Guardian

_____ _____
Signature of Parent/Guardian Date

SIGNATURE OF INVESTIGATOR

These are the terms under which I will conduct research.

_____ _____
Signature of Investigator Date

ADDRESS FOR CORRESPONDENCE

Please include your full address below where all correspondence will to be sent to. This consent will be kept separately from data but coded with a number for matching purposes.

_____
Number and Street

_____
City

_____
Postal Code

CRITERIA FOR PARTICIPATION

Your adolescent (in grade 9 or 10) can participate in the program if you think that he/she would benefit from learning different ways to deal with life stress. Teenagers who may benefit from this program could include those who are dealing with any of the following:

a) **Going through a number of stressful events** (such as changing schools and needing to make new friends)
b) **Having upsetting feelings or not acting like they usually do** (such as feeling sad or yelling a lot)
c) **Trying to avoid dealing with problems** (such as skipping class if he/she didn't do his/her homework)

If your adolescent is having serious difficulties then it is recommended that he/she does not participate but instead seek out services that better meet your child's needs. This would include adolescents who have:

1) **A psychiatric disorder diagnosed by a doctor or psychologist** (e.g., ADHD, Bipolar disorder)
2) **Problems with the law**
3) **Risk to harming themselves or someone else, and/or**
4) **Difficulties reading** (grade 6 reading level or lower)

If your adolescent is experiencing any of these difficulties, we encourage you to seek out professional services (see provided list of community resources). These can provide more intensive and appropriate assistance that better meet your adolescent's needs. Participating in the program requires a lot of reading. Adolescents who have trouble reading may not benefit from the program and are again encouraged to contact community or school services.

COMMUNITY RESOURCE LIST

The following is a list of some services within the community relevant for adolescents.

Information and referral services:
Mental Health Service Information Ontario (MHSIO)
Website: mhsio.on.ca
Phone: 1-8666-531-2600
No fee, confidential, anonymous and 24 hours

Information Windsor
Website: www.informationwindsor.com/
Phone: 519-973-4636
No fee, confidential, Windsor-Essex Community Information Database

Helplink Access Services
Phone: 519-257-5437
No fee, Referral information

Youth Helpline:
Kids Help Phone
Website: http://www.kidshelpphone.ca
Phone: 1-800-668-6868
No fee, confidential, and 24 hours

Community Mental Health Services:
Teen Health Centre (THC)
Website: www.teenhealthcentre.ca
Phone: 519-253-8481
Address: 1585 Ouellette Ave., Windsor ON N8X 1K5
Satellite Offices in Amherstberg, Belle River, Essex, Kingsville, and Leamington. Contact central office for details.
No fee (with OHIP), confidential, provides referral information, counselling, medical care, etc.

Children Health Care Network
Phone: 519-948-3961
Address: 7717 Wyandotte St E, Windsor, ON N8S 1S6
No fee, confidential, assessment, diagnosis, and treatment

Windsor Regional Children's Centre (RCC)
Phone: 519-257-5215
Address: Huot Building, 3901 Connaught St., Windsor, ON N9C 4H4
No fee, confidential, crisis walk-in services, counselling

ADOLESCENT CONSENT TO PARTICIPATE IN RESEARCH

Title of Study: **Evaluating the Best of Coping Program**

You are asked to participate in a study on a program that teaches coping strategies. The study will be conducted by Alina Carter and Dr. Rosanne Menna, from the Department of Psychology at the University of Windsor. Results from this study will contribute to Alina Carter's doctoral degree.

If you have any questions or concerns about this research, please contact Alina Carter (at 253-3000 ext. 2219 or carte1b@uwindsor.ca), or Dr. Menna (at 253-3000 ext. 2230 or rmenna@uwindsor.ca)

Please review criteria for participation on page 4.

PURPOSE OF THE STUDY

The purpose of the study is to help teenagers learn new ways to deal with everyday life stress. (see page 4 for the criteria to participate in the study).

PROCEDURES

If you consent to participate in this study, we would ask for you, your parent/guardian, and teacher to do the following:

1) You, your parent/guardian, and teacher, will be asked to complete surveys. You will individually complete questionnaires during class time (approximately 1 hour) with a group of students, unless you wish complete them alone. The survey questionnaires examine your life hassles and stress, coping strategies, interaction with others, how you feel and behave, and feelings about yourself and your life. Your parent/guardian will complete survey about your behaviour, feelings, and coping skills. One of your teachers will also complete some questionnaires about how you are doing at school.

2) After completing the surveys, you will either participate in the program immediately OR in approximately 3 months. When it is your turn to complete the program, you will participate in a 10-week coping skills group during one period of class time per week at your school. The group will be lead by two graduate students in clinical psychology at the University of Windsor. They will be supervised by Dr. Menna, a registered clinical psychologist. In the group, you will do different activities, such as group discussions, individual written work, reading stories, role-playing, and homework assignments (e.g., practice skills with friends or family). The groups will be audiotaped to make sure that the therapists are leading the coping skills group properly. After each session, you will be asked a series of questions about the group and your own progress.

3) After the first group completes the program, you will be asked to complete another package of questionnaires during class time (approximately 1 hour). The questionnaires will be the same that you completed before. Your parent/guardian

and teacher will also be sent the same questionnaires as completed before, in order to see how you are doing.

4) After the second group of students who waited about 3 months for the program completes it, you will be asked to complete another package of questionnaires, consisting of the same ones as completed twice before. Again, your parent/guardian and teacher will also complete the same questionnaires they had completed before.
5) Those who participate in the group after waiting 3 months will also be asked to complete the questionnaires a fourth and final time. This will happen approximately 3 months after they completed the group or in the Fall of 2007.

Your participation in the study will span approximately 1 year.

POTENTIAL RISKS AND DISCOMFORTS

There are no known risks involved with the participation in this study. However, you may experience some upsetting feelings after answering some questions on the questionnaires. You can decide not answer any questions you do not want to answer and still remain in the study. If you choose to participate in the study, the coping skills group will take place during school time. This will mean missing some class time; however, the school board and school principal have agreed and given permission for students to participate in this study. Arrangements will be made for classes missed as a result of participating in the study.

POTENTIAL BENEFITS TO PARTICIPANTS AND/OR TO SOCIETY

If you participate in this program, you will be taught coping skills to help you deal with problems that teens experience. The goal of this study is to see if a coping program is effective in teaching teens how to deal with stressors in their lives. The results will help inform us on how to best help teens cope with life stress.

PAYMENT FOR PARTICIPATION

After each time you complete the questionnaires, you have the option of entering your name in a draw for a $25 mall gift certificate. There will be one prize awarded each time the questionnaires are completed. There will also be a draw for a gift certificate ($20) where your name is entered every time you attend and participate in the coping skills program.

CONFIDENTIALITY AND ANONYMITY

Although we cannot guarantee this, we expect that the information you share in the group will be kept private. This means that you and the other group members will not tell others any personal information that is brought up. This will ensure that the group is a safe place for you to feel comfortable to talk about your feelings.

Information that is collected for this study will remain confidential. Your responses, as well as your parent/guardian's and teacher's responses will *not* be

shared with any other participants in the study. The only exceptions are if you report any abuse of someone less than 16 years of age OR behave in a way that may be harmful to yourself or others. However, all information about you will remain confidential and will not be released without your permission.

In order to make sure your surveys are anonymous, your name will not be kept on any of the questionnaires. Instead, each will be coded with a number for matching purposes. The questionnaires completed by you, your parent/guardian and teacher will be stored securely in a locked cabinet by the researcher. Five years after the completion of the study, the questionnaires will be safely destroyed. Also, we will group your information with other people's data so that no one will know your individual responses.

PARTICIPATION AND WITHDRAWAL

You can choose whether to participate in this study or not. If you do consent to participate in this study, you may still stop at any time without consequences of any kind. You may also refuse to answer any questions on the questionnaires and still remain in the study. The investigator may withdraw you from this research only for reasons that would warrant doing so (e.g., if you are harmful to others participating in the study).

FEEDBACK OF THE RESULTS OF THIS STUDY TO THE PARTICIPANTS

Six months after the study is over, participants can obtain the general results of the study by logging on the University of Windsor Research Ethics Board (REB) website at: www.uwindsor.ca/REB.

AUDIOTAPING OF SESSIONS

The group sessions will be audiotaped to make sure that the therapists are leading the coping skills group properly. The contents of the tapes will not be revealed to anyone other than the researchers. Identifying information will not be on the tapes. They will be kept in a locked cabinet and safely destroyed 5 years after the study is completed.

Do you give consent to the audiotaping of the treatment sessions? ☐ Yes ☐ No

FUTURE USE OF DATA

This data may be used in future studies. In the future, new research questions may be developed and answered by using data from the current study.

Do you give consent for the future use of the data from this study? ☐ Yes ☐ No

RIGHTS OF RESEARCH PARTICIPANT

You may withdraw your consent at any time and stop participating without penalty. If you have questions about your rights as a research participant,

contact: Research Ethics Coordinator, University of Windsor, Windsor, Ontario N9B 3P4; telephone: 519-253-3000, ext. 3916; e-mail: lbunn@uwindsor.ca.

SIGNATURE OF ADOLESCENT RESEARCH PARTICIPANT

I understand the information provided for the study **"**Evaluating the Best of Coping Program" as described above. My questions have been answered to my satisfaction, and I agree to participate in this study, as well as have my parent and one of my teachers complete surveys about me. I have been given a copy of this form.

_____
Name of Adolescent/Participant

_____ _____
Signature of Adolescent/Participant Date

SIGNATURE OF INVESTIGATOR

These are the terms under which I will conduct research.

_____ _____
Signature of Investigator Date

CRITERIA FOR PARTICIPATION

You can participate in the program if you are in grade 9 or 10 and think that you would benefit from learning different ways to deal with your stress. Teenagers who may benefit from this program could include those who are dealing with any of the following:

a) **Going through a number of stressful events** (such as changing schools and needing to make new friends)
b) **Having upsetting feelings or not acting like you usually do** (such as feeling sad or yelling a lot)
c) **Trying to avoid dealing with problems** (such as skipping class if you didn't do your homework)

If you are having serious difficulties then it is recommended that you do not participate but instead seek out services that better meet your needs. This would include adolescents who have:

1) **A psychiatric disorder diagnosed by a doctor or psychologist** (e.g., ADHD, Bipolar disorder)**,**
2) **Problems with the law,**
3) **A risk to harming themselves or someone else, and/or**
4) **Difficulties reading.**

If you are experiencing any of these difficulties, we encourage you to seek out professional services (see provided list of community resources). These can provide more intensive and appropriate assistance that better meet your needs. Participating in the program requires a lot of reading. Adolescents who have trouble reading may not benefit from the program and are again encouraged to contact community or school services.

COMMUNITY RESOURCE LIST

The following is a list of some services within the community relevant for adolescents.

Information and referral services:
Mental Health Service Information Ontario (MHSIO)
Website: mhsio.on.ca
Phone: 1-866-531-2600
No fee, confidential, anonymous and 24 hours

Information Windsor
Website: www.informationwindsor.com/
Phone: 519-973-4636
No fee, confidential, Windsor-Essex Community Information Database

Helplink Access Services
Phone: 519-257-5437
No fee, Referral information

Youth Helpline:
Kids Help Phone
Website: http://www.kidshelpphone.ca
Phone: 1-800-668-6868
No fee, confidential, and 24 hours

Community Mental Health Services:
Teen Health Centre (THC)
Website: www.teenhealthcentre.ca
Phone: 519-253-8481
Address: 1585 Ouellette Ave., Windsor ON N8X 1K5
Satellite Offices in Amherstberg, Belle River, Essex, Kingsville, and Leamington. Contact central office for details.
No fee (with OHIP), confidential, provides referral information, counselling, medical care, etc.

Children Health Care Network
Phone: 519-948-3961
Address: 7717 Wyandotte St E, Windsor, ON N8S 1S6
No fee, confidential, assessment, diagnosis, and treatment

Windsor Regional Children's Centre (RCC)
Phone: 519-257-5215
Address: Huot Building, 3901 Connaught St., Windsor, ON N9C 4H4
No fee, confidential, crisis walk-in services, counselling

TEACHER CONSENT TO PARTICIPATE IN RESEARCH

Title of Study: **Evaluating the Best of Coping Program**
Subtitle: Teacher version

As part of the intervention study for the Best of Coping Program, you are being asked to complete the following questionnaires about a student participating in the program. If you choose to participate, the researcher will provide you with the name of the student, since his/her name will not be included on any of the questionnaires because it is confidential and anonymous. The study is being conducted by Alina Carter, a doctoral student at the University of Windsor, and Dr. Rosanne Menna, a registered psychologist and professor at the University of Windsor.

We are looking at the effectiveness of Best of Coping program in helping the participating students with coping and to see if it has improved how they functioning in everyday life, including at school. As a result, there is going to be 4 testing sessions, one before the program is started with any of the adolescents, one after the first half of the students (intervention group) complete the program, and two after the second half of the students (waitlist group) complete the program (post-test and follow-up).

The entire package should take approximately 15 minutes for you to complete on all occasions (same questionnaires for each time). Participation is completely voluntary, so if you do not want to complete the questionnaires, please let the researcher know and they ask another one of the student's teachers to complete them. If you do consent to participating in this study, please seal the completed questionnaire package in the envelope provided and leave them in the main office for the researcher to pick up.

Thank you for your time.

Alina Carter, M. A.
Department of Psychology,
University of Windsor
519-253-3000 ext. 2219
Email: carte1b@uwindsor.ca

Rosanne Menna, Ph.D., C. Psych.
Department of Psychology,
University of Windsor
519-253-3000 ext. 2230
Email: rmenna@uwindsor.ca

APPENDIX K: REMINDER LETTERS

TEACHER REMINDER

Title of Study: **Evaluating the Best of Coping Program**

This is just a reminder to return the questionnaire package you were provided. If you have any questions or concerns, please do not hesitate to contact Alina Carter at the contact information provided below. After you have completed the questionnaire package, please return it in the envelope provided into the office. If you have already completed and returned the package, please disregard this reminder and I thank you for your participation.

Thank you,

Alina Carter, M. A.
Department of Psychology,
University of Windsor
519-253-3000 ext. 2219
Email: carte1b@uwindsor.ca

PARENT REMINDER (first assessment wave)

Title of Study: **Evaluating the Best of Coping Program**

This is just a reminder to return the questionnaire package (*another copy is provided with this letter in case the other is lost/misplaced*). If you have any questions or concerns, please do not hesitate to contact Alina Carter at the contact information provided below. After you have completed the questionnaire package, please enclose and mail it in the self-addressed and stamped envelope provided. If you have already completed and returned the package, please disregard this reminder and I thank you for your participation.

Thank you,

Alina Carter, M. A.
Department of Psychology,
University of Windsor
519-253-3000 ext. 2219
Email: carte1b@uwindsor.ca

PARENT REMINDER (subsequent waves)

Title of Study: **Evaluating the Best of Coping Program**

This is just a reminder to return the questionnaire package (*another copy is provided with this letter in case the other is lost/misplaced*). If you have any questions or concerns, please do not hesitate to contact me at the contact information provided below. After you have completed the questionnaire package, please enclose and mail it in the self-addressed and stamped envelope provided. If you do not wish to complete the questionnaire at this time, please return it (not completed) within the provided envelope so that we know not to send another reminder for this portion of the study.

We appreciate your input and feedback with how your adolescent is doing recently (particularly since the last time you were asked to complete the surveys). This invaluable information will help inform future efforts at teaching adolescents' coping skills.

Thank you for your time.

Sincerely,

Alina Carter, M. A.
Department of Psychology,
University of Windsor
519-253-3000 ext. 2219
Email: carte1b@uwindsor.ca

VITA AUCTORIS

NAME:	Alina Erin Carter
PLACE OF BIRTH:	Burnaby, British Columbia
YEAR OF BIRTH:	1979
EDUCATION:	Claremont Secondary School, Victoria, British Columbia 1995-1997
	University of Victoria, Victoria, British Columbia 1997-2001 B.Sc. Honours
	University of Windsor, Windsor, Ontario 2002-2004 M.A.
	University of Windsor, Windsor, Ontario 2004-2010 Ph.D.