

USING MOTIVATIONAL INTERVIEWING AS A STRENGTH-BASED APPROACH WITH  
CHILDREN IN A DISCIPLINARY ALTERNATIVE EDUCATION PROGRAM

A Dissertation

by

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This dissertation meets the standards for scope and quality of  
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## ABSTRACT

Children placed in the Disciplinary Alternative Education Program (DAEP) are often defiant and resistant to change. Motivational Interviewing (MI) was found to be effective in reducing clients' resistance, enhancing their motivation for change, and increasing positive outcomes of treatment (Giordano, Clarke, & Borders, 2013; LaBrie, Pedersen, Lamb, & Quinlan, 2007; Wagner & Ingersoll, 2013). Despite research findings regarding MI, the extant literature does not focus on its use as a strengths-based approach with children. The purpose of this study was to explore the impact of a 6-session Making Positive Changes Counseling (MPCC) program using MI principles and a strengths-based approach focusing on behavioral changes with elementary-school students on the DAEP campus.

Participants in the MPCC program were students ages 8 to 12 years ( $N = 16$ ) enrolled in the DAEP. The sample of this research was obtained through a non-probabilistic sampling method. A single-case research design was conducted to explore changes in students' classroom behaviors as well as comparing group differences between students who completed the MPCC program ( $N = 10$ ) and those who did not complete treatment ( $N = 6$ ) across time. Quantitative analyses were performed to examine changes in students' mental-health symptoms as measured by Strengths and Difficulties Questionnaire at pre- and post-interventions as well as comparing group differences.

Analysis of data using the single-case research design indicated that the MPCC program was effective for improving classroom behaviors of students in the DAEP. Treatment effects ranging from small to large were noted. Quantitative results included statistically significant improvements in mental-health symptoms of students who completed the program. Statistically

significant differences in mental-health symptoms were also found between groups. Large effect sizes were noted, indicating a significant impact of the MPCC program on behavioral change of students in the DAEP.

Implications of this study supported the notion that MI as a strengths-based approach is a useful method for counselors and practitioners in school and mental-health settings. The findings indicated that MI could be used as a strengths-based intervention with children by scaffolding talk therapy with concrete activities. This study also added to the literature on the utilization of MI with children in a DAEP environment.

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## TABLE OF CONTENTS

CONTENTS	PAGE
ABSTRACT.....	v
ACKNOWLEDGEMENTS.....	vii
TABLE OF CONTENTS.....	ix
LIST OF FIGURES.....	xvii
LIST OF TABLES.....	xix
CHAPTER I: INTRODUCTION.....	1
Strengths-Based Approach for Working with Children and Adolescents.....	2
Motivational Interviewing.....	4
Statement of the Problem.....	6
Purpose of the Study.....	8
Research Questions.....	9
Significance of the Study.....	9
Methods.....	11
Participants.....	11
Data Collection.....	14
Measures.....	15
Procedures.....	20
Data Analysis.....	23
Definitions of Terms.....	25
Limitations.....	27
Remaining Chapters.....	28



CHAPTER II: LITERATURE REVIEW.....	29
Youth At Risk for Negative Societal Outcomes.....	29
Youth in Restrictive Facilities.....	30
Factors Related to Behavioral and Psychological Issues in Youth.....	31
Alternative Educational Settings.....	34
Disciplinary Alternative Education Program.....	35
Mental Health Services for Youth in the DAEP.....	37
Strengths-Based Approach for Addressing Behavioral and Psychological Issues.....	40
Counseling Paradigms and a Strengths-Based Approach.....	41
The Implementation of a Strengths-Based Approach.....	42
Measures of Personal Strengths in Youth.....	44
Evidentiary Studies on Effects of a Strengths-Based Counseling Approach.....	46
Motivational Interviewing as a Strengths-Based Counseling Approach.....	47
Transtheoretical Model of Change.....	48
The Goals of MI Intervention.....	51
The Theoretical 'Spirit' of MI.....	51
Key Processes and Technical Strategies for Implementation of MI.....	53
The Utilization of MI with Youth.....	54
Documented Effects of MI.....	56
Conclusion.....	57
CHAPTER III: METHODOLOGY.....	60
Research Questions.....	60
Participants.....	61

Students.....	62
DAEP Classroom Teachers.....	72
Parents/Guardians.....	73
Participant Protection.....	73
Setting.....	74
Data Collection.....	74
Identification and Observation of Classroom Behaviors.....	75
Measurement of Outcomes.....	76
Strengths and Difficulties Questionnaire.....	76
Student Self-Report Rating Scale.....	79
Teacher Rating Scale.....	79
Daily progress report.....	80
Developmentally Appropriate MI metrics.....	81
Procedures.....	82
Behavioral Observations in Baseline and Treatment Phases.....	83
Treatment.....	84
Session 1: Rapport Building and Examination of the Readiness to Change.....	84
Session 2: Exploration of Values/Goals and Current Behaviors.....	85
Session 3: Recognition of Personal Strengths.....	87
Session 4: Perspective Taking.....	88
Session 5: Recognition of Possible Changes.....	89
Session 6: Decision Making and Reexamination of the Readiness to Change.....	90
Data Analysis.....	92

Single-Case Research Design.....	92
Relative Success Rate of Treatment Group to Comparison Group.....	96
Within- and Between-Groups Comparison at Pre- and Post-Interventions.....	98
CHAPTER IV: RESULTS AND FINDINGS.....	102
Research Question 1: Individual Profiles of Participants.....	102
Research Question 2: Group Profiles of Participants.....	103
Research Question 3: Within- and Between-Groups Comparison.....	104
Single-Case Analysis: Individual Profiles of Participants.....	105
Participant 1.....	105
Positive Behavior.....	105
Negative Behavior.....	107
Overall Classroom Behavior.....	109
Results on MI Metrics.....	110
Participant 2.....	111
Positive Behavior.....	111
Negative Behavior.....	113
Overall Classroom Behavior.....	114
Results on MI Metrics.....	115
Participant 3.....	116
Positive Behavior.....	116
Negative Behavior.....	118
Overall Classroom Behavior.....	120
Results on MI Metrics.....	121

Participant 4.....	122
Positive Behavior.....	122
Negative Behavior.....	124
Overall Classroom Behavior.....	125
Results on MI Metrics.....	126
Participant 5.....	127
Positive Behavior.....	128
Negative Behavior.....	129
Overall Classroom Behavior.....	131
Results on MI Metrics.....	132
Participant 6.....	133
Positive Behavior.....	133
Negative Behavior.....	135
Overall Classroom Behavior.....	136
Results on MI Metrics.....	137
Participant 7.....	138
Positive Behavior.....	138
Negative Behavior.....	140
Overall Classroom Behavior.....	142
Results on MI Metrics.....	142
Participant 8.....	143
Positive Behavior.....	144
Negative Behavior.....	145

Overall Classroom Behavior.....	147
Results on MI Metrics.....	148
Participant 9.....	149
Positive Behavior.....	150
Negative Behavior.....	151
Overall Classroom Behavior.....	153
Results on MI Metrics.....	153
Participant 10.....	154
Positive Behavior.....	155
Negative Behavior.....	156
Overall Classroom Behavior.....	158
Results on MI Metrics.....	159
Summary.....	160
Single-Case Analysis: Group Profiles of Participants.....	162
Positive Behavior.....	163
Negative Behavior.....	166
Overall Classroom Behavior.....	170
Relative Success Rate Analysis.....	173
Positive Behavior.....	175
Negative Behavior.....	175
Overall Classroom Behavior.....	176
Within- and Between-Groups Comparison: <i>t</i> Test Procedures.....	176
Paired-Samples <i>t</i> Test.....	177

Independent-Samples <i>t</i> Test.....	180
CHAPTER V: DISCUSSION.....	182
Summary of Findings.....	184
Limitations of the Study.....	189
Implications for Counseling Practice.....	191
The Utilization of MI with Children.....	192
The Utilization of MI as a Strengths-Based Approach.....	193
The Utilization of MI in the DAEP Environment.....	195
MI Spirit of Counselors.....	196
Implications for Future Research.....	199
Conclusion.....	200
REFERENCES.....	201
APPENDICES.....	219
Appendix A: Institutional Review Board Approval and Consent Forms.....	219
Institutional Review Board Approval.....	220
Outside Research Approval.....	222
Parental Consent Form.....	223
Parental Survey Consent Form.....	225
Teacher Consent Form.....	227
Child Assent Form.....	229
Appendix B: Instruments and Questionnaire.....	231
Strengths and Difficulties Questionnaire.....	232
Student Self-Report Rating Scale.....	233

Teacher Rating Scale.....	234
Daily Progress Report.....	235
Appendix C: Samples of MI Metrics and Activities.....	236
Readiness to Change Ruler.....	237
Magic Key.....	238
Exploring My Strengths.....	239
Wheel Houz Game.....	240
Perspective Taking.....	241
Case Scenario.....	242
Recognition of Possible Changes (Change Talk).....	243
Decisional Balance.....	244
Plan of Action.....	245
Appendix D: Demographic Data of Students in Treatment and Comparison Groups.....	246

## LIST OF FIGURES

FIGURES	PAGE
Figure 1..... Student's and Teacher's Rating Scales of Aden's Positive Behavior Across Phases	106
Figure 2..... Student's and Teacher's Rating Scales of Aden's Negative Behavior Across Phases	108
Figure 3..... Student's and Teacher's Rating Scales of Andrew's Positive Behavior Across Phases	112
Figure 4..... Student's and Teacher's Rating Scales of Andrew's Negative Behavior Across Phases	114
Figure 5..... Student's and Teacher's Rating Scales of Brendon's Positive Behavior Across Phases	117
Figure 6..... Student's and Teacher's Rating Scales of Brendon's Negative Behavior Across Phases	119
Figure 7..... Student's and Teacher's Rating Scales of Bruno's Positive Behavior Across Phases	123
Figure 8..... Student's and Teacher's Rating Scales of Bruno's Negative Behavior Across Phases	125
Figure 9..... Student's and Teacher's Rating Scales of Cody's Positive Behavior Across Phases	129
Figure 10..... Student's and Teacher's Rating Scales of Cody's Negative Behavior Across Phases	130
Figure 11..... Student's and Teacher's Rating Scales of Daniel's Positive Behavior Across Phases	134
Figure 12..... Student's and Teacher's Rating Scales of Daniel's Negative Behavior Across Phases	136
Figure 13..... Student's and Teacher's Rating Scales of Gabriel's Positive Behavior Across Phases	139
Figure 14..... Student's and Teacher's Rating Scales of Gabriel's Negative Behavior Across Phases	141



Figure 15.....	145
Student's and Teacher's Rating Scales of Isabella's Positive Behavior Across Phases	
Figure 16.....	146
Student's and Teacher's Rating Scales of Isabella's Negative Behavior Across Phases	
Figure 17.....	151
Student's and Teacher's Rating Scales of James's Positive Behavior Across Phases	
Figure 18.....	152
Student's and Teacher's Rating Scales of James's Negative Behavior Across Phases	
Figure 19.....	156
Student's and Teacher's Rating Scales of Jorge's Positive Behavior Across Phases	
Figure 20.....	157
Student's and Teacher's Rating Scales of Jorge's Negative Behavior Across Phases	
Figure 21.....	164
Median Scores of Positive Behaviors of All Students in Treatment and Comparison Groups based on the Student Rating Scale	
Figure 22.....	166
Median Scores of Positive Behaviors of All Students in Treatment and Comparison Groups based on the Teacher Rating Scale	
Figure 23.....	167
Median Scores of Negative Behaviors of All Students in Treatment and Comparison Groups based on the Student Rating Scale	
Figure 24.....	169
Median Scores of Negative Behaviors of All Students in Treatment and Comparison Groups based on the Teacher Rating Scale	
Figure 25.....	171
Median Scores of Overall Classroom Behaviors of All Students in Treatment and Comparison Groups based on the Daily Progress Report	
Figure 26.....	182
The Comparison of Total Difficulties Scores on the SDQ between Students in the Treatment Group and Students in the Comparison Group at Pre- and Post-Interventions	
Figure 27.....	182
The Comparison of Prosocial Behavior Scores on the SDQ between Students in the Treatment Group and Students in the Comparison Group at Pre- and Post-Interventions	

## LIST OF TABLES

TABLES	PAGE
Table 1.....	161
Individual Profiles of PEM Statistics in Treatment and Comparison Groups based on the Student Rating Scale, the Teacher Rating Scale, and the Daily Progress Report	
Table 2.....	172
Group Profiles of PEM Statistics based on the Student Rating Scale, the Teacher Rating Scale, and the Daily Progress Report	
Table 3.....	174
Relative Success Rate (RSR) of Students in the Treatment Group to Students in the Comparison Group Using the Student Rating Scale, the Teacher Rating Scale, and the Daily Progress Report	
Table 4.....	178
Descriptive Statistics of Mean Scores (M), Standard Deviations (SD), and Effect Sizes (Cohen's d) of Each SDQ Scale in Treatment and Comparison Groups	

## **Chapter I**

### **Introduction**

Recent estimates indicated that one in five youth in the United States is diagnosed with behavioral, emotional, and/or mental disorders, and one in ten youth has impairment of functioning at home, school, and/or in the community (Neely-Barnes & Whitted, 2011). These impairments place youth at risk for experiencing normative developmental trajectories. Youth who experience these difficulties are more likely to engage in disruptive or antisocial behaviors that threaten the developmental process of themselves and others than their peer groups (Foley & Pang, 2006; Stevanovic, 2013; Tobin & Sprague, 2000). Youth with disruptive behavior often report having academic problems, learning disabilities, anxiety, depression, attention deficits, hyperactivity, chronic truancy, communication problems, substance use problems, and suicide attempts (Brennan & Shaw, 2013; Nelson & Eckstein, 2008). A majority of youth diagnosed with mental, behavioral, and/or emotional disorders also experience psychosocial issues such as abuse and neglect, dysfunctional families, harsh discipline, inconsistent parenting practices, loss of primary caregivers, poverty, homelessness, and exposure to deviant peers (Deater-Deckard, Wang, Chen, & Bell, 2012; Nelson & Eckstein, 2008).

Approximately 50-80% of youth placed in disciplinary alternative education programs (DAEPs) and juvenile justice settings have moderate to severe mental, emotional, and/or behavioral problems (Foley & Pang, 2006; Neely-Barnes & Whitted, 2011). Students referred to DAEPs engage in various infractions such as assault, threats, disruptive behaviors, substance use and possession, truancy problems, vandalism, violations of school codes of conduct, and weapon possession (Booker & Mitchell, 2011; Foley & Pang, 2006; Nelson & Eckstein, 2008; Tobin & Sprague, 2000). DAEPs were first established in the 1960s to provide the general education

curriculum, vocational education, and community support activities as well as manage behaviors of students who had difficulties functioning at their home campuses (Booker & Mitchell, 2011; Foley & Pang, 2006; Raywid, 1999). Students stay at DAEPs ranging from a period of 10 days to as much as the remainder of the school year depending on their infractions (Nelson & Eckstein, 2008). Challenges often continue to exist with behavioral department of children at DAEP campuses. Students might be removed from DAEPs and transferred to the next tier of intervention characterized by a more structured behavioral system (Tobin & Sprague, 2000).

In addition, students completing terms at DAEPs often return as underlying conditions at home schools are not sufficiently addressed during DAEP visit. The recidivism rate for youth placed in DAEPs and detention facilities is high. Approximately 50-80% of youth commit delinquent acts within one to three years of release (Barton & Mackin, 2012; Geronimo, 2011; Mathur & Nelson, 2013). Identification of effective counseling interventions that reduce mental, behavioral, and/or emotional symptoms as well as increase positive behaviors and emotions of youth placed in DAEPs is needed. Structured programmatic interventions are likely to reduce the recidivism rate and provide a more positive direction for students.

### **Strengths-Based Approach for Working with Children and Adolescents**

A strengths-based approach, influenced by positive psychology, has grown rapidly in recent years (Englar-Carlson & Kiselica, 2013). Positive psychology is a study of factors that allow people in the community to live fully by emphasizing positive emotions, positive traits, and positive institutions (Chang & Nylund, 2013). A strengths-based approach is related to the traditional foundation of counseling since this approach emphasizes human development, positive assets, prevention, strengths, and wellness rather than psychopathology and weaknesses (Cox, 2006; Hughes, 2014; Passarelli, Hall, & Anderson, 2010; Rudolph & Epstein, 2000).

Counselors utilizing a strengths-based approach believe that each client has strengths to cope with difficulties, to maintain functioning in the midst of stress, and to use resources as a source of support (Brasler, 2001). Accordingly, these counselors develop treatment plans based on clients' cultivation of competence, emotions, interests, motivation, and resources (Bozic, 2013). By initiating conversations about strengths and fostering hope based on past successes, the discussion about difficulties can occur easily (Chang & Nylund, 2013; Hughes, 2014). A collaborative relationship between counselors and clients is also crucial for creating positive changes in clients (Chang & Nylund, 2013).

Passarelli et al. (2010) examined the effectiveness of a strengths-based counseling approach used in an international adventure education course on developmental outcomes among college students ages 19 to 22 years. The findings revealed that a strengths-based approach utilized in an adventure education course was found to be effective in enhancing students' strengths awareness, strengths application, and personal growth (Passarelli et al., 2010). In addition, Cox (2006) explored the impact of therapist orientation toward strengths-based practice on client outcomes among youth ages five to 18 years. The results indicated that youth who received strength-based interventions had lower rates of absenteeism, tardiness, and premature termination of counseling services than those who received deficit-focused interventions (Cox, 2006). In this regard, Foltz (2006) and Nelson and Eckstein (2008) pointed out that a strengths-based approach was one of the most powerful interventions for children and adolescents associated with changes in neurochemistry and neurophysiology of the brain.

A number of postmodern counseling approaches such as narrative approach (Hughes, 2014), solution-focused therapy (Brasler, 2001), and others share similarity to core principles of a strengths-based approach by focusing on solutions, strengths, resources, and values of clients

(Chang & Nylund, 2013). The transtheoretical application of Motivational Interviewing (MI) principles (Wagner & Ingersoll, 2013) also emphasizes strengths, resources, and expectation of hopes for clients. As such, this study focuses on the use of MI as a strength-based approach to create positive changes in clients.

### **Motivational Interviewing**

MI was developed by William Miller and Stephen Rollnick in early 1990s based on philosophies of self-determination theory emphasizing that humans are inherently motivated to move toward positive growth, to develop a unified sense of self or identity, and to resolve psychological discrepancies (Martino, Gallon, Ball, & Carroll, 2007). MI is a directive, client-centered intervention used to reduce clients' resistance and/or ambivalence to change as well as increase clients' commitment and motivation for change (Giordano et al., 2013). The process of change is drawn from self-perception theory (Bem, 1967) emphasizing that the discussion or argument about change shapes people's attitudes and beliefs about the importance of the topic of discussion. As such, a key strategy of MI is to help clients explore their thoughts, feelings, reasons, and desires for change by initiating *change talk* (Miller & Rollnick, 2013). Change talk is defined as "language used by clients as they discuss about change" (Wagner & Ingersoll, 2013, p. 33). Although the main focus of MI is to elicit change talk, the acknowledgement of the status quo are also important in the counseling process (Wagner & Ingersoll, 2013). When using MI strategies, counselors need to encourage clients to explore balance from both sides of ambivalence and tip the balance toward change (Miller & Rollnick, 2013).

The spirit of MI is an attitude of counselors for being with people, building a supportive relationship with clients, eliciting clients' strengths and resources, and promoting clients' autonomy to make their own decisions (Engle & Arkowitz, 2008). The MI approach addresses

three basic needs of humans theoretically consistent with constructs of self-determination theory (Deci & Ryan, 2008). These needs include 1) a need for competence, 2) a need for autonomy, and 3) a need for connection with other people (Deci & Ryan, 2008). MI counselors must ensure that these basic needs are met for clients to become engaged and adherent to developmental plans in counseling (Scholl & Schmitt, 2009). Communication style is also crucial for building a collaborative relationship and connection with clients. In general, MI counselors employ fundamental counseling skills (affirmations, open questions, reflections, and summaries) in combination with change strategies (discrepancies and evocative questions) to build rapport with clients, gain understanding of clients' concerns, explore clients' internal strengths and resources, and promote clients' choices for change (Giordano et al., 2013; Wagner & Ingersoll, 2013).

In addition to self-determination and self-perception theories, MI is often used together with the Transtheoretical Model (TTM) of change or stages of change model developed by Prochaska and DiClemente (Kress & Hoffman, 2008 ; Lawson, Lambert, & Gressard, 2011; Miller & Rollnick, 2013; Petrocelli, 2002). TTM contains six stages of change emphasizing the developmental perspective of the readiness to change in clients (Kress & Hoffman, 2008). These stages of change include precontemplation (the lack of intention to change), contemplation (the awareness of problems, but no commitment to change), preparation (the exploration of reasons for change and the experiment with small changes), action (the implementation of direct action), maintenance (the adherence to new behavioral practices), and termination (the ending of the change process) (Prochaska, DiClemente, & Norcross, 1992). MI counselors use the TTM to determine which stages of change clients are experiencing. Without knowing the readiness to change of clients, counselors risk utilizing inappropriate counseling interventions, which can turn to unsatisfactory experiences and ineffective outcomes.

After considering the readiness to change of client, counselors plan sessions based on key MI processes: engaging, focusing, evoking, and planning (Kress & Hoffman, 2008). MI counselors begin counseling sessions by developing a supportive and collaborative working relationship with clients (engaging) (Miller & Rollnick, 2013). Once establishing relationships with clients, counselors continue to develop and maintain an agreeable direction about change (focusing), build clients' inherent resources, encourage change talk in clients (evoking), develop commitment to change, and formulate a concrete plan of action (planning) (Miller & Rollnick, 2013). Throughout these key processes, counselors also employ technical strategies of MI such as expressing empathy, developing discrepancy, avoiding argumentation, rolling with resistance, and supporting self-efficacy (Giordano et al., 2013; van Wormer & Davis, 2008).

Overall, MI is a brief intervention that can be used as a stand-alone treatment or as a pre-treatment to other counseling approaches (Mason, 2009; Osborn, 2011). Counselors who utilized MI as a pre-treatment or an adjunct to other counseling therapies reported successful client outcomes at a subsequent treatment, according to Engle and Arkowitz (2008). MI has been shown to be effective for improving counseling outcomes with such issues as alcohol and substance use, gambling problems, anxiety disorders, depression, suicidality, eating disorders, sleep disorders, health-related behaviors, medication adherence, and HIV (Miller & Rollnick, 2013; Scholl & Schmitt, 2009; Young & Hagedorn, 2012). As such, an infusion of MI into therapeutic interventions might be useful as a strengths-based adjunctive resource for working with youth in DAEPs.

### **Statement of the Problem**

Children who exhibit a childhood onset of conduct, emotional, and mental problems are likely to develop severe and persistent disorders in adolescence and adulthood, indicating that



interventions with these children are necessary for preventing the progression of maladaptive symptoms (Brennan & Shaw, 2013; Tobin & Sprague, 2000). Although there are a number of evidence-based treatment (EBT) programs such as anger control training (Lochman, 1992), multisystemic therapy (Brown, Henggeler, Schoenwald, Brondino, & Pickrel, 1999), and problem-solving skills training (Kazdin, Siegel, & Bass, 1992) used to reduce disruptive behavior in children and adolescents, the recidivism rate for youth placed in DAEPs and juvenile settings remains high (Eyberg, Nelson, & Boggs, 2008; Mathur & Nelson, 2013). Lysenko, Barker, and Jaffee (2013) and Simonsen and Sugai (2013) argued that youth who experience repeated exposure to suspension and punishment are likely to engage in patterns of truancy, delinquency, and dropout. As such, several researchers have advocated that schools, DAEPs, residential facilities, and juvenile settings should transform their "zero tolerance" policies to more facilitative and positive environments (Booker & Mitchell, 2011; Jolivette & Nelson, 2010; Mathur & Nelson, 2013, p.176; Nelson & Eckstein, 2008; Tobin & Sprague, 2000).

The implementation of strength-based counseling interventions may increase positive outcomes of treatment among children with disruptive behavior. An integrated approach utilizing an evidence-based MI framework may be applied successfully in these settings. Even though a significant amount of research was conducted on the utilization of an MI approach with adolescents, college students, adults, homeless population, and psychiatric patients (Martino et al., 2007; Mason, 2009; Miller & Rollnick, 2013; Scholl & Schmitt, 2009; Wagner & Ingersoll, 2013), much of the extant research does not focus on counseling and skills training based on the MI approach with children below 11 or 12 years of age. In addition, there is a paucity of studies examining the use of MI strategies as a strength-based approach to treatment with children at DAEPs (Booker & Mitchell, 2011; Foley & Pang, 2006; Nelson & Eckstein, 2008).

### **Purpose of the Study**

The purpose of this study was to address the gap of the literature regarding the utilization of MI strategies as a strength-based intervention with children in the DAEP environment. This study was designed to examine changes in children's classroom behaviors (positive and negative behaviors) after receiving MI-based counseling and skills training program over time. In addition, this study focused on investigating group differences in behavioral changes between children who received MI-based program (treatment group) and those who did not complete treatment (comparison group) across time. The study also explored changes in emotional symptoms, conduct problems, hyperactivity, peer problems, total difficulties, and prosocial behavior measured by parent ratings on Strengths and Difficulties Questionnaire (SDQ) within and between groups of children who completed the MI-based program and those who did not.

Children aged 8 to 12 assigned to a DAEP were systematically and individually exposed to the MI curriculum for six sessions, specifically tailored to their behavioral challenges. The focus of the intervention is to monitor student progress across sessions in 1) learning the MI principles and 2) applying them to decisions relevant to their lives at the DAEP and upon return to their home school environment. Student-self reports as well as teacher and parent reports of student behavior were used to measure students' behavioral changes in addition to adapted indices of traditional MI metrics such as ruler/scaling questions (importance and confidence levels of changing) and a decision to change (change-talk statements and decisional balance).

An emphasis on empowering personal agency for choosing and making positive changes was reinforced as the foundational principal of the "Making Positive Changes Counseling (MPCC)" program. Students and parents were both asked to identify positive goals that they would work on during the MI interventions. These goals were operationalized as prosocial and

adaptive behaviors they would like to increase as well as troublesome behaviors (often the reason they were referred to the DAEP) that they would work to decrease.

### **Research Questions**

The following research questions are used to guide this investigation:

1. To what extent do classroom behaviors (identified positive and negative behaviors) of children as rated by student self-report and teacher-report change across time?
2. To what extent are group differences evident between children who complete the MI-based Making Positive Changes Counseling (MPCC) program and those who do not complete the program as rated by student self-report and teacher-report across time?
3. To what extent do emotional symptoms, conduct problems, hyperactivity, peer problems, total difficulties, and prosocial behavior of children measured by parent ratings on the Strengths and Difficulties Questionnaire change within and between groups of children who complete the MI-based MPCC program and those who do not complete the program?

### **Significance of the Study**

The current study was designed to improve counseling outcomes among children who exhibit behavioral, emotional, mental, and/or social difficulties by using MI strategies as a strengths-based approach in the DAEP. In addition to improving behavioral, psychological, and/or relational symptoms, this study focuses on promoting positive behaviors, emotions, and relationships among children. Findings of this investigation are expected to advance knowledge about this research topic and provide evidence of the effects of MI on pre-adolescent placed in DAEPs, correctional facilities, and other disciplinary services.

A study of using MI as a strengths-based approach with children is important for several reasons. Studies of this nature address gaps in the literature regarding investigating programs

serving children in DAEPs (Foley & Pang, 2006; Mason, 2009; Tobin & Sprague, 2000). Based on the fundamental belief of MI, individuals have the potential to change regardless of their developmental milestones (Martino et al., 2007). Tobin and Sprague (2000) argued that early intervention programs for children were more likely to change behaviors than later rehabilitation programs for adolescents and adults. Since MI was found to be effective with adolescents (Young & Hagedorn, 2012), this approach may be efficacious with pre-adolescents. Counselors can provide counseling and teach skills based on MI principles to children by increasing the use of developmentally and age appropriate manipulatables and activities that scaffold traditional MI talking interventions (Mason, 2009; Wagner & Ingersoll, 2013).

Counseling and '*MI skills training*' may prove to be an innovative approach to addressing difficulties in behavioral, emotional, and social skills of pre-adolescents. Since MI and similar strength-based approaches focus on optimal growth, human goodness, and strengths rather than disorders and weaknesses, this emphasis might become the gold standard for desired outcomes in counseling interventions (Cox, 2006; Englar-Carlson & Kiselica, 2013; Keyes, 2007; Miller & Rollnick, 2013). The use of MI as a strengths-based approach perhaps can create positive change, build protective factors, and promote wellness in youth (Nelson & Eckstein, 2008; Wagner & Ingersoll, 2013). By focusing on children's unique talents, skills, and resources, a respect and acceptance for children is displayed, which in turn enhances children's confidence and motivation for change (Cox, 2006; Nelson & Eckstein, 2008).

The use of MI strategies as a strengths-based approach can reduce stigma in children by focusing on their strengths and resources rather than on their deficits and difficulties (Bozic, 2013). The emphasis on developmental assets enables children to recognize their internal and external resources as well as positive experiences and abilities, which in turn promotes their self-

efficacy and empowers them to make positive decisions and choices for their future (Nelson & Eckstein, 2008). When working with children who have disruptive behavior, counselors can focus on solutions rather than problems of children (Tobin & Sprague, 2000). Counselors can encourage children to talk about their concerns and interests, make decisions, and find solutions to improve their behaviors, emotions, and the overall well-being (Nelson & Eckstein, 2008). Based upon the recidivism rate of the population investigated in this study (Mathur & Nelson, 2013), there is a clear need for researching programs that might increase the success of children after release from existing DAEP environments.

## **Methods**

### **Participants**

A non-probabilistic sampling method was used to select participants (Creswell, 2014). Although efforts were made to recruit all students who were referred to the DAEP in order to provide equal services to all children, only English-speaking children ages 8 to 12 with parental/guardian consent received a series of six sessions of MI curriculum, called a Making Positive Changes Counseling (MPCC) program. Since MI concepts are somewhat abstract with little concrete activities, this criterion for participation was established to ensure that counseling interventions were matched with students' cognitive abilities and developmental levels. As such, participants in this research were 16 elementary-school students, 16 parents/guardians of students, and two teachers from a DAEP in a public elementary school in a southwestern region.

In this study, data were collected over the course of one academic semester. However, children continued to receive the MI-based MPCC program after data collection. To promote validity of the study, interventions and data collection were implemented in a school setting. Parents/guardians of children ages 8 to 12 were contacted to request permission for their children

to volunteer as participants for this research study as well as invite them to complete a Strengths and Difficulties Questionnaire (SDQ) to identify their children's current functioning as part of a registration process at the DAEP. Parents/guardians of children ages 8 to 12 who agreed to complete a survey at the registration process filled out the SDQ again during the exit process from the DAEP (parent-report). In this study, there were 16 parents/guardians who provided consent for their children to participate in the program and volunteered to complete the SDQ.

Teachers at the DAEP were contacted to track an improvement of classroom behaviors, operationalized as positive and negative behaviors, of students who attended the MPCC program at baseline (four days before attending the program) and during treatment (a series of six individual sessions of the MPCC program). Teachers observed students' classroom behaviors and completed a customized rating scale (teacher-report) at the end of each day. In addition to the teacher rating scale, teachers also completed a daily progress report (DPR), a form designed by the school district to provide students with daily feedback on good behavior as well as identifying behaviors that need improvement. In this regard, all two teachers at the DAEP provided consent to participate in the study by completing the teacher rating scale on a daily basis and giving the researcher permission to utilize the DPR as an additional source of data.

Students whose parents/guardians provided consent to attend the MPCC program were contacted to request permission for participation in this study. Students were asked to participate in an individual 45-minute session of the MPCC program for a total of six sessions. These sessions took place in the Fall of 2014. Students who agreed to be in the study were also asked to identify how their day was and how they did on that day using a customized rating scale (student self-report). Students completed the rating scale before receiving treatment (four days) and during treatment (six days). Students who did not participate in the study received regular

classroom guidance curriculum. In this study, there were 16 students whose their parents/guardians provided consent for their participation in the program volunteered to attend individual sessions of the MPCC program.

Of these 16 students, 10 students completed six sessions of the MPCC program (treatment group), whereas six students did not complete the program (comparison group). Students are typically referred to the DAEP from 10 days to the remainder of the school year, depending on their infractions. In this study, all 16 students stayed at the DAEP for 10 days. Students who stayed at the DAEP for more than 10 days received the MI-based curriculum with a combination of other counseling interventions, depending on their specific needs and concerns. A majority of the students (more than 50%) were Hispanic/Latino, indicating an equal representation of elementary-school students in the general population in this region. Of these 16 students, 15 (94%) were male and one (6%) was female. Most students were 10 years old (44%) and in the 5th grade (56%).

Due to a limited number of students referred to the DAEP in this setting, a single-case research design with baseline and treatment phases (an A-B design) was utilized in this study. In this regard, well-established methods are defined as those that generate efficacious treatments "through at least two between-groups design experiments with approximately 30 participants per group or through a series of at least nine single-case design experiments" (Ray, Minton, Schottelkorb, & Brown, 2010, p. 194). As such, the current study utilized a single-case research design as the fundamental approach to examine causal effects of the MI-based MPCC program on behavioral changes of students at the DAEP (Horner, Carr, Halle, McGee, Odom, & Wolery, 2005). In addition, repeated measures analysis of changes in mental-health symptoms of all children within treatment and comparison groups at pre- and post-interventions as well as group

differences in mental-health symptoms between children who completed the MPCC program and those who did not complete the program were conducted.

### **Data Collection**

Upon receiving the approval from the Institutional Review Board (IRB) and the school district (see Appendix A), a non-probabilistic sampling method was utilized to recruit students to participate in a 45-minute individual session of the MPCC program for a total of six sessions. During the process of students' enrollment at the DAEP, parents/guardians whose their children ages 8 to 12 were invited to complete an informed consent form regarding the participation of their children in the MPCC program developed based on MI principles. In addition to an informed consent for the child participation, these parents/guardians were provided with another consent form to complete the SDQ, a standardized instrument evaluating children's strengths and difficulties. Upon the completion of a survey, parents/guardians identified at least one positive thing they would like their children to gain while staying at the DAEP. In this regard, students with parental/guardian consent were invited orally and in writing to participate in the study.

In addition to the SDQ, the teacher rating scale and the DPR were used for teachers to track the improvement of classroom behaviors of students who attended the MPCC program. The rating scale was not only created for teachers, but also developed for students who participated in the MPCC program to rate the improvement or changes of their classroom behaviors while they were at the DAEP. Classroom behaviors (positive and negative behaviors) of each student were identified based on an initial interview with children and their parents/guardians at the registration process. Teachers observed students' behaviors in a classroom and completed the rating scale and the DPR in the end of each day. Students also rated changes in their classroom behaviors using the student self-report rating scale on a daily basis.



After students' baseline behaviors were established (4 days), the MI-based curriculum of the MPCC program were provided to students for approximately 45 minutes each day for the total of six sessions. Topics of the MI-based MPCC program included readiness to change and accepting responsibility, exploration of values/goals and current behaviors, recognition of strengths and positive qualities, perspective taking, recognition of possible changes, and effective decision making. The principal investigator utilized arts, games, case scenarios, small discussion, and reflection in the program. MI metrics such as a readiness to change ruler (importance and confidence levels of changing) and a decision to change (change-talk statements and decisional balance) were used with other quantitative data to describe the change process of students while attending the DAEP.

Upon the exit from the DAEP, parents/guardians of students who completed the SDQ at the registration process were asked to fill out the SDQ again. The results of parent-report in the survey along with the student rating scale, the teacher rating scale, and the DPR were used to measure behavioral changes of children who completed six sessions of the MPCC program compared with those who did not complete the program across time. These sources of data (parent-report, teacher-report, student-report, and researcher note) could strengthen the credibility of the outcome measures of the study.

## **Measures**

Parents/guardians of students ages 8 and above were invited to complete a measure of strengths and difficulties of their children (the SDQ) upon the enrollment and withdrawal from the DAEP. Teachers were requested to complete a customized rating scale and DPR to track progress of students' classroom behaviors while staying at the DAEP. Students were also asked to complete a rating scale evaluating their classroom behaviors each day. Lastly, the principal

investigator utilized MI metrics to examine the change process of students attending the MPCC program. A general description of the SDQ, the student self-report rating scale, the teacher rating scale, the DPR, and MI metrics was provided below.

**Strengths and difficulties questionnaire (SDQ; Goodman, 1997).** The SDQ was utilized to measure students' behavioral, emotional, and social improvements at the beginning and the end of their participation in the MPCC program (see Appendix B). The SDQ is a brief screening questionnaire used for children and adolescents (Goodman, 1997). The SDQ is a 25-item inventory using a 3-point Likert-type scale ranging from 0 (*Not True*) to 2 (*Certainly True*) (Stone, Otten, Engels, Vermulst, & Janssens, 2010). The SDQ contains five scales: emotional symptoms, conduct problems, hyperactivity, peer problems, and prosocial behavior (Goodman, 1997). Each scale comprises five items (Stone et al., 2010). Example items of five scales include "*Often unhappy, downhearted or tearful*" (emotional symptoms), "*Often has temper tantrums or hot tempers*" (conduct problems), "*Restless, overactive, cannot stay still for long*" (hyperactivity), "*Generally liked by other children*" (peer problems), and "*Often volunteers to help others*" (prosocial behavior) (Neely-Barnes & Whitted, 2011).

The SDQ has three forms: a parent-report form, a teacher-report form, and a self-report form for children and adolescents ages 2 to 17 years old (Neely-Barnes & Whitted, 2011). In this regard, parent- and teacher-report forms have three versions for youth ages 2 to 4 years old, 4 to 10 years old, and 11 to 17 years old, whereas a self-report form has one version for youth ages 11 to 17 years old (Goodman, 1997). In this study, only a parent-report form for youth ages 4 to 10 years old was utilized due to the age range of most participants that was equal to or below 11 years old. A teacher-report form was not employed in this study due to the retrospective nature of the questionnaire that evaluated children's behaviors over the last six months or one school

year (Goodman, 1997). Most teachers did not have experiences and knowledge regarding children's performance and behaviors before enrolling in the DAEP.

Since prosocial behavior is a separate scale used to measure children's strengths, the total difficulties score is thus calculated by summing scores of the other four scales (conduct problems, emotional symptoms, hyperactivity, and peer problems) (Stone et al., 2010). The total score can range from 0 to 40, with higher scores indicating higher difficulties and lower improvements (Goodman, 1997). In regard to five scales, scale scores can range from 0 to 10 (Neely-Barnes & Whitted, 2011). Higher scores on emotional symptoms, conduct problems, hyperactivity, and peer problems indicate higher difficulties, whereas higher scores on prosocial behavior denote higher strengths and improvements in positive behaviors (Goodman, 1997).

The normative data of the SDQ are derived from over 10,000 respondents in such countries as Australia, Bangladesh, Finland, New Zealand, Sweden, the United Kingdom, and the United States (Neely-Barnes & Whitted, 2011). Total difficulties scores of the SDQ for a parent-report form have adequate internal consistency ( $r = .80$ ;  $n = 53,691$ ), with alpha coefficients of scores for each scale ranging from .53 (peer problems) to .76 (hyperactivity) (Stone et al., 2010). In regard to test-retest reliability, total difficulties scores of the SDQ yield alpha coefficients of .76 ( $n = 2,852$ ), with coefficients of scores for each scale ranging from .65 (prosocial behavior) to .71 (hyperactivity) (Stone et al., 2010).

The SDQ has good evidence of measurement validity based on internal structure (construct validity) and relations to other variables (concurrent and predictive validity). Most items of the SDQ for parent- and teacher-report forms show satisfactory factor loadings, ranging from .40 to .70 (Stone et al., 2010). In addition, conduct problems scale, emotional symptoms scale, hyperactivity scale, and peer problems scale of the SDQ were found to be correlated with

externalizing scale, internalizing scale, attention problems scale, and social problems scale of the Child Behavior Checklist (Stone et al., 2010). For the evidence of predictive validity, conduct problems, emotional symptoms, and hyperactivity of children at age 5 predict conduct problems ( $\beta = 0.50$ ), emotional symptoms ( $\beta = 0.53$ ), and hyperactivity ( $\beta = 0.67$ ) of children at age 6 as rated by parents and teachers (Stone et al., 2010).

**Student self-report rating scale.** Students had opportunities to rate how their day was and how they did on that day. In this regard, students were provided with a rating-scale sheet with a list of classroom behaviors, both positive and negative behaviors, based on an initial interview with students and their parents/guardians' responses on an open question indicating positive behavior that parents/guardians would like their children to gain while participating in the study. The student rating scale was designed using a number of stars to represent students' perceptions about their day and their classroom behaviors (see Appendix B). Students were instructed to color a number of stars that best described their day: one star (very bad), two stars (bad), three stars (okay), four stars (good), and five stars (very good). Students also colored a number of stars that indicated the frequency of their classroom behaviors: one star (not at all), two stars (little bit), three stars (sometimes), four stars (most of the time), and five stars (all the time). Higher scores in positive behavior and lower scores in negative behavior indicated better functioning of children.

**Teacher rating scale.** In addition to the student rating scale, a teacher rating scale was developed to measure the progress of students' classroom behaviors over the course of six sessions of the MPCC program. In this regard, teachers were given a version of the student self-report rating scale (see Appendix B). Classroom behaviors were tailored to each student. Teachers observed these behaviors in a classroom and rated the performance of students in the

end of each day. The rating scale is categorized to not at all (0), rarely (1), sometimes (2), often (3), and always (4). Examples of classroom behaviors include "*Follow school directions*" (positive behavior) and "*Get angry and lose control*" (negative behavior). Higher scores in positive behavior and lower scores in negative behavior indicated improvement in children's classroom behaviors.

**Daily progress report (DPR).** The DPR was an evaluation form designed by the school district to provide students with daily feedback on their good behavior as well as identifying behaviors that need improvement (see Appendix B). In addition to the teacher rating scale, teachers provided ratings in regard to student's overall classroom behavior on the DPR daily until students return their home campuses. The DPR measures students' overall classroom behavior based on four academic goals: 1) complete daily assignments, 2) participate in class as required, 3) follow class procedures and expectations, and 4) use appropriate classroom behavior and/or language. Teachers provided check marks or zero in each class period (advisory period, lunch period, and class periods 1-6) on four areas of classroom behaviors. Total check marks on each academic goal can range from 0 to 8, with the total check marks on four academic goals ranging from 0 to 32. Higher check marks indicated higher overall functioning in the classroom.

**Developmentally appropriate MI metrics.** In this study, MI strategies were used as a tool to measure the process of behavioral changes of students while attending the MPCC program (see Appendix C). These MI metrics included a readiness to change ruler and a decision to change (Miller & Rollnick, 2013). The readiness to change ruler was utilized to explore students' perceptions regarding the *importance* of changing their undesirable behaviors and examine their *confidence* levels in making positive changes while staying at the DAEP (Giordano et al., 2013). The decision to change were used to examine students' willingness to

change by emphasizing *change talk* and *decisional balance* (Miller & Rollnick, 2013). In this regard, change-talk statements indicating students' recognition of problems, concerns or fears of consequences, intention or desire to change, and optimism or ability to change were identified using case scenarios (Wagner & Ingersoll, 2013). Likewise, the decisional balance was an important tool to help students resolve their ambivalence about change by weighing pros and cons of changing and not changing their problematic behaviors (Martino et al., 2007).

## **Procedures**

Upon receiving the approval from the IRB and the school district, a convenient sampling method was used to recruit students for six 45-minute individual counseling sessions of the MPCC program. All parents/guardians of students ages 8 to 12 were provided with informed consent forms for completing the SDQ and allowing their children to participate in counseling and skills training based on MI principles during the registration process at the DAEP. Students whose parents/guardians provided consent were invited to participate in the study orally and in writing by using an assent form. Teachers at the DAEP also received an informed consent form requesting them to complete the teacher rating scale.

**Behavioral observation and baseline establishment.** During the registration process, parents/guardians and their students were interviewed to identify target classroom behaviors that they wanted to work on during their stay at the DAEP. After the interview, classroom behaviors (positive and negative behaviors) of each participant were listed on the student self-report rating scale and the teacher rating scale. These positive and negative behaviors became target goals that students and teachers needed to measure or track each day. In addition, teachers were required by the school district to complete the DPR on a daily basis.

By utilizing an A-B design of single-case research, teachers observed student participants in the classroom during their first four days at the DAEP and filled out the teacher rating scale and the DPR. Likewise, students filled out the self-report rating scale to track their days and their classroom behaviors before attending the MPCC program (A= the baseline phase). Counseling and skills training were provided to students in an individual format by utilizing MI strategies as a strength-based approach for 45 minutes each day for the total of six sessions. While interventions were implemented, teachers and students continued to complete the student self-report rating scale, the teacher rating scale, and the DPR in the end of each day (B= the treatment phase). During the withdrawal process from the DAEP, parents/guardians of student participants were invited to complete the SDQ again.

**Overview of a six-session MPCC program.** In this study, the treatment phase consisted of six sessions of the MPCC program emphasizing key processes and technical strategies of MI. The first session began with the development of a supportive and collaborative relationship with student participants (engaging) (Miller & Rollnick, 2013). A concept of *readiness to change* was the focus in this session (Kress & Hoffman, 2008). Ruler or scaling questions were utilized to identify participants' perceptions regarding the importance of positive changes and their levels of confidence in making those changes. An example question was "on a scale of 1 to 10, with 1 meaning not important at all and 10 meaning very important, how important is it for you to follow school directions?". By examining levels of importance and confidence of participants in making positive changes, the readiness to change of each participant was identified. This session also enhanced participants' acceptance and responsibility for their current situations.

Once establishing relationships with participants, an agreeable direction about change (focusing) was developed and maintained. In the second session, participants became *aware of a*

*discrepancy* between their values and current behaviors, if any (Engle & Arkowitz, 2008).

Participants were encouraged to identify what they wanted or what important things in their lives were (values) and what they were doing (behaviors). Participants learned that what they were doing now might not help them get what they wanted, which in turn motivated them to find ways to change or try new behaviors.

As in the second session, the third session involved the focusing process. The purpose of this session was to support *self-efficacy* of participants (van Wormer & Davis, 2008).

Participants had opportunities to explore positive qualities or personal strengths by identifying their past successes and compliments received from others (Bozic, 2013). Participants also discussed internal and external resources that they possessed. At the end of this session, participants shared how they used their strengths and resources to make positive changes in their current behaviors and situations.

In the fourth session, students' inherent resources and the possibility of change were recognized and encouraged (evoking) by emphasizing *empathy* (Giordano et al., 2013). Participants learned about perspective taking by working on different short case scenarios (Tobin & Sprague, 2000). Participants imagined if they were the person in the case, what thoughts and feelings they had about those experiences, and what they could do differently to better the situations. If the person in the case was their sibling, best friend, or other significant other, participants were questioned on what they could do to help that person cope.

The fifth session also involved an evoking process. Once participants recognized their personal strengths and learned to express empathy, the focus of this session was shifted to *change talk* (Mason, 2009). In this session, participants read different case scenarios regarding people who exhibited disruptive behaviors and answered questions to evoke change-talk



statements. Examples of these questions included, "what things make you think that there is a problem this person has in relation to his/her behavior?" (problem recognition), "what worries you about this person?" (concerns), "what are the reasons you see for this person to make a change?" (desire or intention to change), and "what do you think would work for this person, if he/she decided to change" (optimism or ability to change) (Wagner & Ingersoll, 2013).

The last session focused on effective *decision making* and the development of a concrete plan of action (planning) (Osborn, 2011). In this regard, participants learned to identify pros and cons of changing and not changing certain behaviors and made a decision to change or maintain the status quo (Scholl & Schmitt, 2009). Participants made plans of action once they decided to change their behaviors. At the conclusion of the session, topics and skills that were learned in all sessions were summarized. Participants were asked to reflect on their experiences. Scaling questions were used again to identify participants' levels of importance and confidence in making positive changes after attending the MPCC program.

To increase fidelity of treatment, a reflective note on how MI skills were implemented with each participant in each session was completed by the principal investigator. The researcher's notes emphasized specific types of MI skills used with each participant such as open questions, affirmations, reflections, and summaries; MI spirits of supporting autonomy, encouraging collaborative relationships, and evoking change-talk statements from participants; participants' reactions toward the MPCC program; and plans to improve the effectiveness of each session (Martino et al., 2007).

### **Data Analysis**

Data collected from parents, teachers, and students were used to examine the effectiveness of the MPCC program on the improvement of classroom behaviors (positive and

negative behaviors) of students in the DAEP. An A-B design of single-case research was utilized to measure behavioral changes of individual students attending the MPCC program over 10 days (research question 1). Students completed the student self-report rating scale while teachers completed the teacher rating scale and the DPR. Single-case research design is a rigorous and systematic methodology that examines the causal relationship between a manipulated independent variable and dependent variables (Horner et al., 2005). The use of a single-case research design allows for thorough examination of the process of skill acquisition and the fidelity of interventions, which in turn informs further effectiveness trials (Kratochwill, Hitchcock, Horner, Levin, Odom, Rindskopf, & Shadish, 2010; Lenz, 2013). In addition to the use of the student self-report rating scale, the teacher rating scale, and the DPR, MI metrics such as a readiness to change ruler (importance and confidence levels of changing) and a decision to change (change-talk statements and decisional balance) were utilized to examine behavioral changes in individual profiles of students who received the MI-based curriculum through their participation in the MPCC program.

With respect to research question 2, a single-case research design was also used to compare group differences in behavioral changes between students who completed the MPCC program (treatment group) and those who did not complete the program (comparison group). In addition, Relative Success Rate (RSR) was employed to estimate success rates in behavioral improvements of students between treatment and comparison groups. RSR refers to the ratio of treatment to comparison group success rates in relation to the impact of the intervention on the outcome measure (Parker & Hagan-Burke, 2007). RSR was calculated using data from the student self-report rating scale, the teacher rating scale, and the DPR.

With regard to research question 3, paired-samples *t* test and independent-samples *t* test were utilized to explore changes in emotional symptoms, conduct problems, hyperactivity, peer problems, total difficulties, and prosocial behavior measured by parent ratings on the SDQ within and between groups of students who completed the MPCC program and those who did not complete treatment. The SDQ contains five scale scores (conduct problems, emotional symptoms, hyperactivity, peer problems, and prosocial behavior) and the total score (total difficulties) (Goodman, 1997). Using within- and between-group designs, changes in each scale score and the total score on the SDQ were analyzed to measure the impact of the MPCC program on students' mental-health symptoms and prosocial behavior.

### **Definitions of Terms**

Following are a list of defined terms pertinent to the study.

**Ambivalence:** The possession of a voice that moves toward change and a voice that struggles against change (Engle & Arkowitz, 2008).

**Change talk:** Language used by clients as they discuss about change (Miller & Rollnick, 2013)

**Classroom behavior:** Identified positive and negative behaviors of student participants.

**Developing discrepancy:** Examining current behaviors in light of one's broader goals and core values (Mason, 2009).

**Disciplinary alternative education school:** A public elementary/secondary school that addresses needs of students that typically cannot be met in a regular school, provides non-traditional education, serves as an adjunct to a regular school, or falls outside the categories of regular, special education, or vocational education (U.S. Department of Education, 2002).

**Expressing empathy:** Perceiving others' inner worlds - experiences, perspectives, emotions, meaning - and using those perceptions to better understand lived experience of those people and

help them become more aware, and consider the possibility of changing inside (Wagner & Ingersoll, 2013).

**Engaging:** The establishment of a supportive and collaborative working relationship with clients (Kress & Hoffman, 2008).

**Evoking:** Building the client's inherent resources and intrinsic motivation for change (Kress & Hoffman, 2008).

**Focusing:** The development and maintenance of a mutually agreeable direction in the conversation about change (Miller & Rollnick, 2013).

**Motivational interviewing:** A collaborative conversation style for strengthening a person's own motivation and commitment to change (Miller & Rollnick, 2013).

**Planning:** The development of a commitment to change and formulation of a concrete plan of action (Miller & Rollnick, 2013).

**Positive psychology:** A study of factors that allow people in the community to live fully by emphasizing positive emotions, positive traits, and positive institutions (Chang & Nylund, 2013; Nickerson & Fishman, 2013)

**Resistance:** Defensive behaviors and coping mechanisms intended to guard against threat and reduce anxiety (Abernethy & Cook, 2011).

**Roll with resistance:** Avoiding eliciting resistance and a negative interaction by not confronting or wrestling with clients (Miller & Rollnick, 2013).

**Strength-based approach:** A specific method of working with and resolving problems by identifying the positive basis of the person's resources and strengths (Hammond, 2010).

**Supporting self-efficacy:** Focusing on previous successes and highlighting skills and strengths that the person already has (Miller & Rollnick, 2013).

## **Limitations**

The current study has limitations that needed to be addressed. First, the use of an A-B design may not promote stronger inference of the effectiveness of interventions to outcome variables. Since the A-B design lacks a control for history, counseling outcomes of clients may be influenced by confounding variables (Kratochwill et al., 2010). Due to a short duration of stay at the DAEP, the follow-up phase could not be established, and treatment had to be provided before a predictable trend of participants' target behaviors in the baseline phase was evident. Four observations before the treatment phase may not have represented the stabilization of actual baseline, which in turn represents inaccurate results of the study. Second, the single-case research design offered few options for data interpretation (Ray et al., 2010). Although visual analysis was helpful for interpreting data, it was a subjective method that could affect an accurate interpretation of results.

Third, the testing effect could have occurred in the current study as parents/guardians, teachers, and students completed the student self-report rating scale, the teacher rating scale, the DPR, and the SDQ at least twice, thereby affecting the internal validity of the study. Fourth, the use of a self-report rating scale among student participants may have created a social desirability bias as students may provide answers that overestimate their positive behaviors and underestimate their negative behaviors, which in turn impact the accurate results of the study (Kratochwill et al., 2010). Similarly teachers might have been reactive to the student participants. That is they knew who was participating and may have elevated their ratings. To mitigate this, the principal investigator described the importance of rating students without consideration of their participation. Also, teachers did not observe sessions and were not made aware of specific in session progress or process. Teachers were largely unaware of the children who would

become ‘control’ participants –a category which only became apparent when student did not complete the entire six sessions of the intervention.

Fifth, MI may not be appropriate for all children, particularly those with low verbal comprehension, low intellectual abilities, and serious mental-health conditions that guarantee medications or hospitalization. Sixth, the effect of treatment implementation could also confound the results of the study. Even though the principal investigator was the only person who implemented the MI curriculum with all students, the utilization of MI-adherent skills may be varied from one student to another. Seventh, the generalizability of the current findings to other children on other DAEP campuses was limited due to a non-probabilistic sampling method and a focus on one school campus.

### **Remaining Chapters**

Chapter II contains the review of literature and research relevant to the problem being investigated. Chapter III emphasizes the methodology and procedures used to gather and analyze data for the study. Research questions, participant selection, data collection, measurement of outcomes, procedures, data analysis, and ethical considerations are addressed in Chapter III. The results and findings of the study are presented in Chapter IV. Chapter V includes a discussion of the study findings, limitations of the study, implications for counseling practice, suggestions for future research, and conclusions drawn from the findings.

## **Chapter II**

### **Literature Review**

The current study focused on the investigation of the effectiveness of the MI-based MPCC program on behavioral changes among elementary-school students in the DAEP environment. In examining literature related to the present study, four significant areas were explored. The first area focused on youth at risk for negative societal outcomes, youth in restrictive facilities, and behavioral and mental-health issues found in children and adolescents. The second section emphasized alternative educational settings, the DAEP environment, and mental-health services for youth on the DAEP campus. The third focus was related to a strengths-based approach for addressing behavioral and psychological issues, its relations to other counseling paradigms, the implementation of a strengths-based approach, measures of personal strengths in youth, and evidentiary studies on effects of a strengths-based counseling approach on diverse populations. The fourth area concentrated on MI as a strength-based counseling approach, Transtheoretical Model of change, goals and spirit of MI, key processes and technical strategies for the implementation of MI, the utilization of MI with youth, and documented effects of MI on diverse client groups.

#### **Youth At Risk for Negative Societal Outcomes**

Recent estimates indicated that one in five youth in the U.S. exhibits behavioral, emotional, and/or mental problems (Stormont, Reinke, & Herman, 2011), and one in ten youth has impairment of functioning at home, school, and/or in the community (Neely-Barnes & Whitted, 2011). In a study of Stevanovic (2013), approximately 20% of youth ages 8 to 18 years from two elementary and one secondary schools had hyperactivity/inattention problems; 18% had depressive symptoms; 17% had significant anxiety; 16% had conduct problems; and 11%

had peer problems. These estimates of behavioral and psychological symptoms of youth in the general school setting are much lower than those estimates of youth in residential treatment and restrictive facilities. With regard to a study of Neely-Barnes and Whitted (2011), for instance, over 50% of youth ages 11 to 19 years in behavioral health services had conduct problems; 35% exhibited symptoms of hyperactivity; and 25% reported emotional problems.

There are also some correlations between youth's demographic characteristics and their behavioral and psychological symptoms. In this regard, White youth exhibited symptoms of emotional problems and hyperactivity more than African American and Latino youth; and younger youth (under 15 years of age) had more conduct problems, emotional problems, and hyperactivity than older youth (Neely-Barnes & Whitted, 2011). With respect to gender, male youth are more likely to exhibit conduct problems, antisocial behavior, and hyperactivity than female youth, whereas female youth report emotional problems at a higher rate than male youth (Brennan & Shaw, 2013; Lysenko et al., 2013). In reference to the dropout and graduation rates, ethnic minority (e.g., African Americans, American Indians, Hispanic) and male youth reported higher school dropout and lower graduation rates than their peer groups (Aron, 2006).

### **Youth in Restrictive Facilities**

Children and adolescents in restrictive facilities are more likely to engage in disruptive or antisocial behaviors that threaten the developmental process of themselves and others than their peer groups (Foley & Pang, 2006; Racz & McMahon, 2011; Stevanovic, 2013; Tobin & Sprague, 2000). Disruptive behaviors are referred to aggression, alcohol and substance use, delinquency, impulsivity, noncompliance, truancy, and other symptoms of oppositional defiant disorder (ODD) and conduct disorder (CD) (Eyberg et al., 2008). Youth with disruptive behaviors often report having academic problems, conduct problems, learning disabilities, anxiety, depression,



attention deficits, hyperactivity, chronic truancy, communication problems, peer problems, substance use problems, and suicide attempts (Aron, 2006; Brennan & Shaw, 2013; Johnson, Wang, Gilinsky, He, Carpenter, Nelson, & Scheuermann, 2013; Nelson & Eckstein, 2008; Racz & McMahon, 2011).

In the child welfare and juvenile justice systems, approximately 50-80% of youth exhibit moderate to severe behavioral, emotional, and mental disorders (Foley & Pang, 2006; Johnson et al., 2013; Neely-Barnes & Whitted, 2011; Shufelt & Coccozza, 2006). Of these youth who have mental and behavioral disorders, nearly 80% are diagnosed with two or more disorders, and over 60% have three or more disorders (DosReis, Zito, Safer, & Soeken, 2001; Shufelt & Coccozza, 2006). With regard to these reports, further review of important factors that influence the development of behavioral and psychological symptoms among youth is provided below.

### **Factors Related to Behavioral and Psychological Issues in Youth**

Mental, emotional, and/or behavioral disorders in youth stem from biological factors (difficult child temperament and characteristics of children), cognitive factors (neurocognitive impairments), and social factors (coercive family processes, deviant peers, and social influences) (Brennan & Shaw, 2013; Lysenko et al., 2013; Racz & McMahon, 2011). A majority of youth with disruptive behaviors experience abuse and neglect, dysfunctional families, harsh discipline, household chaos, inconsistent parenting practices, loss of primary caregivers, poverty, homelessness, exposure to deviant peers, and peer rejection (Deater-Deckard et al., 2012; Hoglund, Lalonde, & Leadbeater, 2008; Nelson & Eckstein, 2008; Racz & McMahon, 2011). Eyberg et al. (2008), Hoglund et al. (2008), and Racz and McMahon (2011) reported that management skills of parents/caregivers and deviant peer association were significant variables that mediated an improvement of disruptive behaviors among children and adolescents.

Since parents/caregivers and children have major influences to each other, challenging behaviors and conduct problems in youth are likely to escalate when parents/caregivers cannot regulate their negative affects such as anger, depression, disappointment, disapproval, frustration, hostility, and rejection and display harsh behaviors such as criticizing, nagging, restraining, shouting, smacking, and slapping while interacting with their children (Brennan & Shaw, 2013; Lysenko et al., 2013; Tate, 2010). In this regard, household chaos, psychological distress, stress in the environment, and economic hardships are vital factors that impair parents/caregivers' cognitive processes and capacities to control their emotions and behaviors, which in turn affect their parenting and management skills (Deater-Deckard et al., 2012; Neumann, Barker, Koot, & Maughan, 2010). On the other hand, parents/caregivers who fail to monitor, supervise, and establish rules also have a tendency to initiate conduct problems, poor academic performance, and substance use among children and adolescents (Nelson & Eckstein, 2008). When youth exhibit conduct problems, some parents/caregivers may withdraw their emotional support and become ignorance as they feel incapable of managing their children's disruptive behaviors (Racz & McMahon, 2011).

Youth who receive inadequate and inconsistent parental supervision are likely to develop three common problems: inconsiderate of others, inconsiderate of self, and low self-worth (Tate, 2010). Children and adolescents who become inconsiderate of others are often self-centered, overconfident, and domineering (Brennan & Shaw, 2013). These youth lack empathy; they do not accept responsibility for their wrongdoing (Tate, 2010). Children and adolescents who are inconsiderate of self often lack confident, need acceptance, and fear to make mistakes (Tate, 2010). These youth are anxious, pessimistic, and self-critical; they are likely to accommodate the needs of others, but not for themselves (Lysenko et al., 2013). Children and adolescents who

have low self-worth are often discouraged, helpless, defeated, and solitary (Tate, 2010). These youth are unaware of their abilities and skills (Tate, 2010). They are also at risk of using alcohol and substances, developing eating disorders, and attempting suicide (Racz & McMahon, 2011).

With respect to gender, many researchers reported that girls are less likely to exhibit conduct problems and antisocial behavior than boys because girls tend to disclose their activities and peer groups to their parents/caregivers more frequently than boys (Laird, Criss, Pettit, Dodge, & Bates, 2008; Neumann et al., 2010; Stattin & Kerr, 2000; Vieno, Nation, Pastore, & Santinello, 2009). As a result, parents/caregivers are inclined to monitor and communicate with their daughters more than their sons (Willoughby & Hamza, 2011). Moreover, some researchers argued that parents/caregivers supervise and discipline their sons less than their daughters because conduct problems and aggressive behavior are viewed as more common for boys than for girls (Racz & McMahon, 2011; Stattin & Kerr, 2000).

Gender of parents/caregivers is also related to parental monitoring and youth's behaviors. Due to traditional parental roles and an increasing rate of single mothers in the U.S., mothers/female caregivers are more likely to have close supervision and interaction with their children than fathers/male caregivers (Racz & McMahon, 2011). Since children tend to relate well to adults in the same gender, some boys in single-mother families may feel reluctant to communicate and disclose to their mothers/female caregivers, which in turn lower parental knowledge and monitoring levels in families (Laird et al., 2008; Vieno et al., 2009). Besides, single parents are likely to have less time for supervision and communication with their children than dual parents because of their job demands, household responsibilities, limited financial resources, and low social support (Neumann et al., 2010).

In addition to parenting and management skills of parents/caregivers, some youth develop conduct problems due to their association with antisocial peers (Racz & McMahon, 2011). These youth often engage in delinquent activities to gain acceptance from their peers (Racz & McMahon, 2011). Youth who have relationship problems with their peers are likely to exhibit behavioral and emotional symptoms such as aggression, anxiety, depression, fearfulness, inadequacy, isolation, sadness, and worthlessness (Hoglund et al., 2008). These interpersonal conflicts with peers and unhealthy relationships with parents/caregivers often affect youth's academic, social, and personal functioning (Racz & McMahon, 2011; Stattin & Kerr, 2000). When youth show a pattern of disruptive behaviors at school, they are likely to experience certain consequences such as time-out, in-school suspension, and referral to restrictive facilities. In this regard, the disciplinary alternative education program is one of the restrictive facilities that becomes a central focus of this study.

### **Alternative Educational Settings**

The term *alternative education* is often used to describe programs that are supported by states, school districts, or other entities to serve children and adolescents who fail to achieve academic goals or learning objectives in their traditional schools due to poor academic performance, poor attendance, learning disabilities, and/or behavioral problems (Aron, 2006; Geronimo, 2011). During the 2000 to 2001 school year, 39% of public school districts had at least one alternative school or program for students who were at risk for academic failure and/or behavioral and mental challenges from 1st to 12th grades (U.S. Department of Education, 2002). Available estimates indicated that there are over 20,000 alternative programs in the U.S. that serve students with academic and behavioral problems, particularly those in the secondary level (Aron, 2006). The alternative program can be divided into three types: 1) a full-time instructional

program, 2) a disciplinary alternative education program, and 3) a short-term therapeutic program (Aron, 2006; U.S. Department of Education, 2002).

A full-time instructional program offers credits for students to graduate (Aron, 2006). The program contains small classes that are personalized to students' learning abilities and specific needs (Aron, 2006). Examples of this program include career-focused and job-based schools, charter schools, dropout-recovery programs, GED preparation programs, and special programs for gifted children (Geronimo, 2011; U.S. Department of Education, 2002).

A disciplinary alternative education program (DAEP) aims to discipline, segregate, and improve disruptive behaviors of students (Booker & Mitchell, 2011). Unlike a full-time instruction program, students cannot choose to attend a DAEP (Foley & Pang, 2006). Rather, they are referred to the DAEP due to the violation of school codes of conduct and/or academic failure (Geronimo, 2011). Students stay at the DAEP for a specific period of time before returning their home campuses (Raywid, 1999).

A short-term therapeutic program offers academic remediation, counseling, and access to social services for students who have emotional and social problems that hinder their learning abilities in regular schools (Aron, 2006). Similar to a full-time instruction program, students can choose to attend or deny participating in the therapeutic program (Aron, 2006; Raywid, 1999). With respect to the target population and context of this study, chapter II will focus only on the DAEP where students are placed in separate and restrictive facilities to correct their misconduct and/or educational failure.

### **Disciplinary Alternative Education Program**

The DAEP was first established in the 1960s to provide the general education curriculum, vocational education, and community support activities as well as manage behaviors of students

who have difficulties functioning at their home campuses (Booker & Mitchell, 2011; Foley & Pang, 2006; Raywid, 1999). The DAEP is commonly collaborated with sheriff's departments and police to prevent students' misconduct in the setting (Geronimo, 2011). In addition to its correctional focus, the DAEP is different from traditional schools in that the program has flexible schedules, modified curricula, and smaller teacher-student ratios (Aron, 2006).

The DAEP is typically located in a school setting (separate facilities from regular school buildings), juvenile justice facilities, community centers or residential treatment, and charter schools (Aron, 2006; Simonsen & Sugai, 2013). Approximately 12-50% of youth referred to the DAEP have disabilities, particularly significant behavioral challenges (Simonsen & Sugai, 2013). These students engage in various infractions that lead to discretionary or mandatory referrals such as physical aggression (61%), disruptive behaviors (57%), substance use and possession (57%), constant academic failure (57%), truancy problems (53%), weapon possession (51%), involvement with the criminal justice system (42%), teen parenthood (31%), and mental health needs (27%) (Booker & Mitchell, 2011; Foley & Pang, 2006; Nelson & Eckstein, 2008; Simonsen & Sugai, 2013; Tobin & Sprague, 2000).

Students stay at the DAEP from 10 days to the remainder of the school year depending on their infractions (Nelson & Eckstein, 2008; Simonsen & Sugai, 2013). Challenges often continue to exist with behavioral deportment of children on DAEP campuses. Students might be removed from the DAEP and transferred to the next tier of intervention characterized by a more structured behavioral system (Mathur & Nelson, 2013; Raywid, 1999; Tobin & Sprague, 2000). Although many students make progress while enrolling in the DAEP, some of them resume their maladaptive behaviors when returning their home schools (Aron, 2006). Students completing terms at the DAEP are often removed from their home schools again as underlying conditions

are not sufficiently addressed during DAEP visit (Raywid, 1999). The recidivism rate for youth placed in the DAEP and detention facilities is high. Approximately 50-80% of youth commit delinquent acts within one to three years of release (Barton & Mackin, 2012; Geronimo, 2011; Mathur & Nelson, 2013). In order to diminish repetitive disruptive behaviors among children and adolescents, effective interventions need to be taken place in such restrictive facilities.

### **Mental Health Services for Youth in the DAEP**

There are a number of evidence-based treatment (EBT) programs such as anger control training (Lochman, 1992), multisystemic therapy (Brown et al., 1999; Sterrett, Jones, Zalot, & Shook, 2010), problem-solving skills training (Kazdin et al., 1992), recidivism reduction program (Lancaster, Balkin, Garcia, & Valarezo, 2011), and dialectical behavior therapy infused skills group intervention (Ricard, Lerma, & Heard, 2013) available for children and adolescents in the community to help them improve their coping skills and reduce their disruptive behaviors. However, not all children and adolescents receive counseling services and resources as needed, particularly students in the DAEP and correctional facilities (Barton & Mackin, 2012; Booker & Mitchell, 2011; Jolivet & Nelson, 2010; Nelson & Eckstein, 2008 Ricard et al., 2013).

While 48 states in the U.S. support the provision of alternative education programs to students removed from traditional schools, only 12 states mandate the provision of social services to students in alternative education programs (Geronimo, 2011). As such, many students in alternative schools do not receive appropriate interventions, which in turn result in the repetition of maladaptive behaviors among these students (Eyberg et al., 2008; Mathur & Nelson, 2013). In order to improve students' behaviors and promote positive changes, many scholars have suggested school personnel and staff to implement positive behavioral interventions and supports (PBIS) on their campuses (Aron, 2006; Johnson et al., 2013; Simonsen & Sugai, 2013).

The PBIS framework focuses on preventative and positive practices, teaming and coaching structure, professional development support, student and staff recognition, flexibility and choice, parental involvement, and supportive climates (Johnson et al., 2013). The PBIS model is organized into three tiers: 1) universal support, 2) targeted-group support, and 3) intensive individualized support (Nickerson & Fishman, 2013; Simonsen & Sugai, 2013). School personnel, teachers, counselors, and other helping professionals can identify unique needs of students and establish a behavioral support system by engaging in the process of data-based decision making (Stormont et al., 2011). In this regard, PBIS was found to be effective in promoting positive behaviors, reducing problem behaviors, decreasing numbers of school suspensions and referrals, enhancing school attendance, increasing classroom and instructional time, improving academic performance of students, and promoting positive interactions between school personnel and students (Geronimo, 2011; Horner, Sugai, Smolkowski, Eber, Nakasato, Todd, & Esperanza, 2009; Luiselli, Putnam, Handler, & Feinberg, 2005; Muscott, Mann, & LeBrun, 2008; Scott & Barrett, 2004; Sherrod, Getch, & Ziomek-Daigle, 2009).

Although more than 18,000 schools, residential facilities, and juvenile detention centers across the U.S. incorporate PBIS and strengths-based interventions into their existing programs, some restrictive facilities still struggle with the balance between punishment and treatment while others remain their favors to punitive environments that emphasize zero tolerance policies such as an automatic removal, arrest, and detainment (Geronimo, 2011; Barton & Mackin, 2012; Johnson et al., 2013; Mathur & Nelson, 2013). These punitive environments lead to an increase in problem behaviors, poor relationships between adults and youth, students' disengagement in the classroom environment, and school dropout among youth with chronic problem behaviors (Geronimo, 2011; Johnson et al., 2013; Simonsen & Sugai, 2013).



Some teachers, however, do not acknowledge the implementation of PBIS or other types of mental-health programs in their school districts (Stormont et al., 2011). For instance, a majority of early childhood and elementary general education teachers from five school districts in the Southern state of the U.S. were uncertain whether or not their schools provided school-based mental health programs (76%), training in mental health issues for teachers and staff (75%), available demographic data of students who received mental health services (62%), and behavioral assessments and intervention planning for students (57%) (Stormont et al., 2011). Additionally, these teachers were unfamiliar with classroom and school-wide supports (88%), behavioral management consultation support (61%), and assessments for behavioral and emotional problems (61%) (Stormont et al., 2011).

Due to the lack of knowledge among teachers regarding school-based mental health services, behavioral assessments, and systematic supports, many school administrators call for evidence-based interventions/programs and collaborative efforts among school staff, teachers, counselors, families, and community agencies to improve current functioning of students and provide appropriate resources (Nickerson & Fishman, 2013; Stormont et al., 2011). Hence, the identification of effective counseling interventions that reduce mental, behavioral, and/or emotional symptoms as well as increase positive behaviors and emotions of children and adolescents is needed.

Structured programmatic interventions emphasizing positive behaviors of youth are likely to increase appropriate behaviors, decrease problematic behaviors, prevent the development of negative behaviors, reduce the recidivism rate of school removals, provide a more positive direction for youth, improve positive youth outcomes, and prevent future costs pertaining to juvenile's behavioral problems, emotional difficulties, mental disorders, and substance use

problems (Brennan & Shaw, 2013; Neely-Barnes & Whitted, 2011; Racz & McMahon, 2011; Ricard et al., 2013; Simonsen & Sugai, 2013). To address these needs, the current study focuses on the utilization of a strengths-based intervention with children in the DAEP environment.

### **Strengths-Based Approach for Addressing Behavioral and Psychological Issues**

A strengths-based approach, influenced by positive psychology, has grown rapidly in recent years (Englar-Carlson & Kiselica, 2013; Padesky & Mooney, 2012). Positive psychology, formally introduced by Seligman and Csikszentmihalyi in 2000, is a study of factors that allow people in the community to live fully by emphasizing positive emotions, positive traits, and positive institutions (Chang & Nylund, 2013; Nickerson & Fishman, 2013). A strengths-based approach is related to the traditional foundation of counseling since this approach emphasizes human development, positive assets, prevention, strengths, and wellness rather than psychopathology and weaknesses (Brownlee, Rawana, & MacArthur, 2012; Cox, 2006; Hughes, 2014; Nickerson & Fishman, 2013; Passarelli, Hall, & Anderson, 2010; Rudolph & Epstein, 2000; University of California-Davis, 2009). In regard to an example of a child who is dishonest, but adventurous and caring, counselors can encourage the child to use his/her positive qualities to overcome life challenges rather than focusing only on changing a child's dishonesty (Tate, 2010). As such, a shift in perceptions from problem-focused to solution-focused is necessary for counselors who employ a strengths-based model (Padesky & Mooney, 2012).

Counselors utilizing a strengths-based approach believe that each client has unique skills, talents, and strengths to cope with difficulties, to maintain functioning in the midst of stress, and to use resources as a source of support (Brasler, 2001; Brownlee et al., 2012; University of California-Davis, 2009). In this regard, a concept of resiliency plays a relevant role to people's strengths. Resiliency refers to individuals' abilities to recover, adjust, and overcome significant

adversity that threatens their normal development (Brownlee et al., 2012). People who are resilient demonstrate cognitive competence, emotional competence, and interpersonal competence (Padesky & Mooney, 2012). These people utilize their strengths and cognitive and social skills to survive and prevail over life challenges as well as accept certain situations that cannot be changed (Englar-Carlson & Kiselica, 2013; Padesky & Mooney, 2012). Unfortunately, some people never develop resilience because they are unaware of their own strengths and abilities to cope with stressors and challenges (Padesky & Mooney, 2012). In this regard, strengths are defined as "a set of developed competencies and characteristics that is valued both by the individual and society and is embedded in culture" (Rawana & Brownlee, 2009, p. 256).

### **Counseling Paradigms and a Strengths-Based Approach**

Some counseling paradigms such as narrative approach (Colville, 2013; Hughes, 2014), solution-focused therapy (Brasler, 2001; Colville, 2013), and other postmodern approaches (Chang & Nylund, 2013) share similarity to core principles of a strengths-based approach by focusing on solutions, strengths, resources, and values of clients. The transtheoretical application of MI principles (Miller & Rollnick, 2013) also emphasizes positive aspects, strengths, resources, and hopes of clients. The fundamental principle of these counseling approaches is to help clients move forward from problem-talking in the past to realistic expectation and solutions in the future (Brasler, 2001; Chang & Nylund, 2013; Colville, 2013; Hughes, 2014). Rather than focusing on clients' deficits or how problems are developed, these counseling models concentrate on how change can be created (Denborough, 2009; Miller & Rollnick, 2013; Watts & Pietrzak, 2000). Counselors practicing based on solution-focused therapy, narrative therapy, MI strategies, and other postmodern approaches strive to establish a therapeutic relationship with

clients, which in turn promotes clients' motivation for change and increases the likelihood of successful outcomes in counseling (Brasler, 2001; Hughes, 2014; Wagner & Ingersoll, 2013).

There are a number of programs that utilize a strengths-based approach in combination with other counseling models such as cognitive-behavioral approaches, solution-focused therapy, and family systems therapy (Chang & Nylund, 2013; Colville, 2013; Padesky & Mooney, 2012; University of California-Davis, 2009). Although standardized strength-based interventions are difficult to establish due to a wide variety of programs that integrate a strengths-based framework to different counseling paradigms, a primary approach to implement strength-based interventions is universal and that is an emphasis on individuals' strengths, resources, and hopes (Denborough, 2009; Hughes, 2014; Padesky & Mooney, 2012; University of California-Davis, 2009; Watts & Pietrzak, 2000). Tate (2010) noted common steps to develop a treatment plan using a strengths-based approach: 1) identifying the problem contextually, 2) identifying the needs behind problem behaviors, 3) identifying strengths and abilities, and 4) validating realistic and appropriate methods to solve problems. In addition, Padesky and Mooney (2012) suggested four steps to develop resilience in clients: 1) searching for strengths, 2) turning strengths into strategies, 3) identifying problem areas in need of resilience, and 4) practicing resilience.

### **The Implementation of a Strengths-Based Approach**

Counselors can use a strengths-based approach to enhance resilience, promote mental health, and create positive changes in clients at the individual and community levels. At the individual level, counselors can help clients explore their strengths, abilities, and positive skills by encouraging a conversation about strengths and goals, using positive language and solution-focused questions, and/or using formal assessment tools such as the Behavioral and Emotional Rating Scale (BERS), the Child and Adolescent Strengths Assessment Scale (CASA), the

Profiles of Student Life: Attitudes and Behaviors (PSL-AB), the Scales for Predicting Successful Inclusion (SPSI), and the Strengths and Difficulties Questionnaire (SDQ) (Barton & Mackin, 2012; Colville, 2013; Nickerson & Fishman, 2013; Padesky & Mooney, 2012; University of California-Davis, 2009). By initiating conversations about strengths and fostering hope based on past successes, counselors help clients become aware of their hidden strengths, broaden their perspectives about change, identify possibilities for change, and enhance opportunities for intervention (Hughes, 2014; Padesky & Mooney, 2012; Wagner & Ingersoll, 2013).

After exploring clients' strengths and goals, counselors can help clients replace their unproductive behaviors with positive ones by developing treatment plans based on clients' cultivation of competence, skills, interests, motivation, and resources (Barton & Mackin, 2012; Bozic, 2013; Clement, 2011). A collaborative relationship between counselors and clients is also crucial for creating positive changes in clients (Chang & Nylund, 2013; Rawana & Brownlee, 2009). When clients feel valued, supported, empowered, and hopeful, they are more likely to try new things, strive for their optimal well-being, and make a contribution to the community (Brownlee et al., 2012; Nickerson & Fishman, 2013; Tate, 2010; Wagner & Ingersoll, 2013). A strengths-based approach, however, does not disregard negative behaviors of clients (Brownlee et al., 2012). Rather, unproductive behaviors can be viewed as clients' responses to unmet needs and can be reframed constructively (Tate, 2010). Thus, the focus on clients' strengths provides alternative solutions that allow clients to not only modify or minimize their undesirable behaviors, but also maximize their productive behaviors and overall functioning (Nickerson & Fishman, 2013; Rawana & Brownlee, 2009).

At the community level, counselors can reinforce a culture of strengths in a community and/or a school setting, for instance, by encouraging a principal, administrators, teachers, staff,

and parents/guardians to recognize positive behaviors, skills, and competencies of children and adolescents and empower them to explore and use their strengths and resources to build resilience and attain academic and personal goals rather than focusing only on their deficits or negative behaviors (Brownlee et al., 2012; Colville, 2013; Nickerson & Fishman, 2013). Because children and adolescents need to feel competent, supported, and accepted, school environments that neglect students' positive qualities and do not provide opportunities for students to maximize their potential and build their strengths are likely to create resistance and rebellion among students (Barton & Mackin, 2012; Tate, 2010). Once school officials, families, and counselors work collaboratively to establish positive expectations and encourage students to utilize their positive assets in everyday living, they begin to form a culture of strengths in the school setting and the home environment (Rawana & Brownlee, 2009).

### **Measures of Personal Strengths in Youth**

Because this study focuses on children, only instruments measuring strengths of children and adolescents are discussed in this section. There are a wide range of reliable and valid standardized instruments that can be used to measure strengths in children and adolescents such as Behavioral and Emotional Rating Scale (BERS), the Child and Adolescent Strengths Assessment Scale (CASA), the Developmental Asset Profile (DAP), the Devereux Student Strengths Assessment (DESSA), the Individual Protective Factors Index (IPFI), the Profiles of Student Life: Attitudes and Behaviors (PSL-AB), the Scales for Predicting Successful Inclusion (SPSI), and the Strengths and Difficulties Questionnaire (SDQ) (Nickerson & Fishman, 2013; University of California-Davis, 2009). Since the BERS and the SDQ are extensively used among practitioners (University of California-Davis, 2009), psychometric properties of these two instruments are reviewed below.

The BERS is one of the most well researched instruments that measures emotional and behavioral strengths of children and adolescents ages 11 to 18 years (Rudolph & Epstein, 2000). The new version of the BERS, called the BERS-2, was developed between 2001 and 2002 to create separate 57-item Parent Rating Scale, 57-item Youth Rating Scale, and 52-item Teacher Rating Scale (Nickerson & Fishman, 2013). The BERS-2 uses a 4-point Likert scale ranging from 0 (*not at all like the child*) to 3 (*very much like the child*) (Epstein, Mooney, Ryser, & Pierce, 2004). The BERS-2 contains five subscales: 1) Interpersonal Strength (the child's ability to control emotions and behaviors), 2) Family Involvement (the child's relationship with family), 3) Intrapersonal Strength (the child's perception of his/her competence and accomplishment), 4) School Functioning (the child's performance in the classroom), and 5) Affective Strength (the child's ability to express and accept affection from others) (Buckley & Epstein, 2004). Parent and Youth Rating Scales also contain an additional Career Strength subscale (Nickerson & Fishman, 2013). An overall strength index indicates total scores of the child's strengths based on all subscales (Rudolph & Epstein, 2000). The BERS-2 shows adequate evidence of measurement validity based on test content (content validity), internal structure (convergent and discriminant validity), and relations to other variables (criterion validity) as well as adequate evidence of test-retest reliability and interrater reliability (Epstein et al., 2004).

The SDQ is a brief screening questionnaire used to assess strengths and difficulties of children and adolescents (Neely-Barnes & Whitted, 2011). The SDQ is a 25-item inventory using a 3-point Likert-type scale ranging from 0 (*Not True*) to 2 (*Certainly True*) (Stone et al., 2010). The SDQ contains five scales: 1) Conduct Problems, 2) Emotional Symptoms, 3) Hyperactivity, 4) Peer Problems, and 5) Prosocial Behavior (Goodman, 1997). Each scale of the SDQ comprises five items (Stone et al., 2010). Similar to the BERS-2, the SDQ has three forms:

a parent-report form, a teacher-report form, and a self-report form for children and adolescents ages 2 to 17 years old (Neely-Barnes & Whitted, 2011). In this regard, parent- and teacher-report forms have three versions for youth ages 2 to 4 years old, 4 to 10 years old, and 11 to 17 years old, whereas a self-report form has one version for youth ages 11 to 17 years old (Goodman, 1997). Since Prosocial Behavior is a separate scale used to measure children's strengths, the total difficulties score is thus calculated by summing scores of the other four scales (Conduct Problems, Emotional Symptoms, Hyperactivity, and Peer Problems) (Stone et al., 2010). The SDQ shows good evidence of measurement validity based on internal structure (construct validity) and relations to other variables (concurrent and predictive validity) as well as adequate evidence of test-retest reliability and internal consistency (Stone et al., 2010).

### **Evidentiary Studies on Effects of a Strengths-Based Counseling Approach**

Passarelli et al. (2010) examined the effectiveness of a strengths-based approach used in an international adventure education course on developmental outcomes among college students ages 19 to 22 years. The findings revealed that a strengths-based approach utilized in an adventure education course was found to be effective in enhancing students' strengths awareness, strengths application, and personal growth (Passarelli et al., 2010). In addition, Cox (2006) explored the impact of therapist orientation toward strength-based practice on client outcomes among youth ages 5 to 18 years. The results indicated that youth who received strength-based interventions had lower rates of absenteeism, tardiness, and premature termination of counseling services than those who received deficit-focused interventions (Cox, 2006).

University of California-Davis (2009) reported the effectiveness of two strengths-based programs for children and families. The findings showed that children's interpersonal strength, intrapersonal strength, affective strength, and school functioning measured by the BERS were



statistically significant increased after attending strengths-based programs (University of California-Davis, 2009). The utilization of a strengths-based approach to assessment and case planning in a juvenile justice setting was also found to improve an institutional climate in such areas as clarity, support, order and organization, and practical orientation; reduce assaults, complaints, and threats in a facility; and minimize a recidivism rate (Barton & Mackin, 2012). In this regard, Foltz (2006) and Nelson and Eckstein (2008) pointed out that a strengths-based approach was one of the most powerful interventions for children and adolescents associated with changes in neurochemistry and neurophysiology of the brain.

Despite an effective evidence of a strengths-based approach, there is a paucity of studies examining the use of MI strategies as a strength-based approach to treatment with children at the DAEP (Booker & Mitchell, 2011; Foley & Pang, 2006; Nelson & Eckstein, 2008). As a result, this study focuses on the utilization of the MI approach as a strengths-based intervention with children in the DAEP environment.

### **Motivational Interviewing as a Strengths-Based Counseling Approach**

MI was developed by William Miller and Stephen Rollnick in early 1990s based on philosophies of self-determination theory emphasizing that humans are inherently motivated to move toward positive growth, to develop a unified sense of self or identity, and to resolve psychological discrepancies (Martino et al., 2007; Petrocelli, 2002; Scholl & Schmitt, 2009). MI is a directive, client-centered intervention used to reduce clients' resistance and/or ambivalence to change as well as increase clients' commitment and motivation for change (Giordano et al., 2013; LaBrie et al., 2007; Wagner & Ingersoll, 2013). A concept of resistance is defined as "defensive behaviors and coping mechanisms intended to guard against threat and reduce anxiety" (Abernethy & Cook, 2011, p. 3). Individuals are commonly anxious about change,

uncertainty, loss of control, failure associated with change, and negative evaluation or judgment (Engle & Arkowitz, 2008). When perceived threats and anxiety are high, clients may try to resist and avoid engaging or disclosing their experiences to counselors (Abernethy & Cook, 2011; Engle & Arkowitz, 2008).

Despite fears and anxiety related to change, some people may refuse to change because there is something to gain from having problems (Engle & Arkowitz, 2008). These benefits can range from gaining attention from their family members and significant others to receiving some sorts of external rewards such as work compensations and medical insurances. Because resistance is viewed as an action, not a trait of a person (Engle & Arkowitz, 2008), counselors can work to reduce clients' anxiety and ambivalence about change by creating a trusting and supportive relationship with clients.

### **Transtheoretical Model of Change**

The process of change is drawn from self-perception theory (Bem, 1967) emphasizing that the discussion or argument about change shapes people's attitudes and beliefs about the importance of the topic of discussion. Change can occur in forms of "self-mediated" and/or "treatment-facilitated" modification of problem behaviors (Prochaska et al., 1992, p. 1102). Despite these types of change, people still experience similar stages and processes of change (Clement, 2011; Prochaska et al., 1992).

MI is often used together with the Transtheoretical Model (TTM) of change or stages of change model developed by Prochaska and DiClemente (Kress & Hoffman, 2008 ; Lawson et al., 2011; Miller & Rollnick, 2013; Petrocelli, 2002). TTM contains six stages of change emphasizing the developmental perspective of the readiness for change in clients (Kress &

Hoffman, 2008). These stages of change include precontemplation, contemplation, preparation, action, maintenance, and termination (Prochaska et al., 1992).

Clients in the precontemplation stage lack the intention to change in the near future because they are not aware of their problems (Kress & Hoffman, 2008 ). If precontemplators are aware of their problems, they still do not think that they need to change (Miller & Rollnick, 2013). Precontemplators often seek counseling because of pressure from their families, friends, employers, and others (Prochaska et al., 1992). With coercion from their significant others, precontemplators may try to change temporarily (Lawson et al., 2011). Once the pressure is lessened, clients in the precontemplation stage often go back to their old habits or usual behaviors (Prochaska et al., 1992). In the contemplation stage, clients are aware of their problems and consider to change their behaviors, but no commitment to take action (Clement, 2011; Petrocelli, 2002). Contemplators are often ambivalent about change and struggle to find solutions to their problems (Prochaska et al., 1992).

In the preparation stage, clients decide to take action by experimenting with small steps of behavioral changes (Clement, 2011; Kress & Hoffman, 2008). Although clients in this stage begin to make some changes, they have not yet adhered to their new behaviors (Lawson et al., 2011). In the action stage, clients take important steps to modify their thoughts, feelings, behaviors, and environments in order to change their problem behaviors (Clement, 2011; Miller & Rollnick, 2013). Clients in the action stage make a commitment to change and spend substantial amount of time and efforts to overcome different challenges (Petrocelli, 2002).

In the maintenance stage, clients adhere to their new behavioral practices by stabilizing their behavioral changes and finding ways to prevent relapses (Clement, 2011). Some clients may stay in the maintenance stage for the rest of their lives (stable pattern) while others may end

the change process (progressive pattern) once they become problem free (Kress & Hoffman, 2008; Prochaska et al., 1992). Often times, clients move back to an earlier stage of change (regressive pattern) or experience relapse (recycling pattern) before achieving termination (Prochaska et al., 1992). When relapse occurs, counselors need to help clients view their setback as a learning and resolvable process so that clients can feel motivated and cycle through these stages again (Wagner & Ingersoll, 2013).

In addition to the stages of change, TTM also emphasizes the processes of change (Prochaska et al., 1992). These processes are categorized to the "experiential processes" and the "behavioral processes" (Wagner & Ingersoll, 2013, p. 269). The experiential processes involve emotions and thoughts of clients (covert experiences) in view of their behaviors and situations, whereas the behavioral processes include strategies and behaviors of clients (overt activities) in relation to positive changes (Prochaska et al., 1992). These processes of change promote clients' movement through varying stages of change (Wagner & Ingersoll, 2013). In this regard, clients in early stages of change (e.g., precontemplation, contemplation, preparation) are more likely to engage in the experiential processes than those in later stages of change (e.g., action, maintenance, termination) (Prochaska et al., 1992).

MI counselors use the TTM to determine which stages and processes of change clients are experiencing and how they can work with clients across all these stages. In the early stages of change, MI counselors can focus on the experiential processes by enhancing clients' intrinsic motivation for change, raising consciousness about self and the nature of their problems, reevaluating their values and current behaviors, and exploring and resolving their ambivalence about change (Lawson et al., 2011; Prochaska et al., 1992). In the later stages of change, MI counselors can reinforce the behavioral processes by utilizing action-oriented therapies,

promoting clients' self-efficacy, supporting their accomplishments, and preventing relapses (Kress & Hoffman, 2008). Without knowing the readiness to change of clients, counselors risk utilizing inappropriate counseling interventions, theories, and relationship skills that can create defensiveness and resistance in clients (Prochaska et al., 1992). Once resistance occurs, clients are likely to drop out or terminate counseling, which in turn lead to unsatisfactory experiences and ineffective outcomes of treatment.

### **The Goals of MI Intervention**

MI is considered as the outgrowth of person-centered therapy in that counseling styles of MI are collaborative, empathic, and reflective in nature (Mason, 2009; Osborn, 2011). Yet, MI can be directive in the reinforcement of "change talk" in clients (Giordano et al., 2013, p. 23). Change talk is defined as "language used by clients as they discuss about change" (Wagner & Ingersoll, 2013, p. 33). A central purpose of MI is to help clients resolve ambivalence and explore their thoughts, feelings, reasons, and desires for change by initiating change talk (Miller & Rollnick, 2013). Although the main focus of MI is to elicit change talk, the acceptance and acknowledgement of the status quo and challenges of making changes are also important in the counseling process (Wagner & Ingersoll, 2013). Rather than pushing clients to change, counselors need to encourage clients to explore balance from both sides of ambivalence and tip the balance toward change by highlighting positive reasons to change and strategies to overcome anxiety, concerns, and temptations associated with the change process (Miller & Rollnick, 2013).

### **The Theoretical 'Spirit' of MI**

The spirit of MI is an attitude of counselors for being with people, building a supportive relationship with clients, eliciting clients' strengths and resources, and promoting clients' autonomy to make their own decisions (Engle & Arkowitz, 2008; Osborn, 2011; Wagner &

Ingersoll, 2013). MI addresses three basic needs of humans based on self-determination theory (Deci & Ryan, 2008). These fundamental needs include 1) a need for competence, 2) a need for autonomy, and 3) a need for connection with other people (Deci & Ryan, 2008; Kamen, 2009). MI counselors must ensure that these basic needs are met for clients to become engaged and adherent to developmental plans in counseling (Allsop, 2007; Scholl & Schmitt, 2009). Although the MI approach focuses on change, counselors need to be cautious that the decision for change belongs to clients (Engle & Arkowitz, 2008). MI counselors do not force their clients to change. Rather, they strive to create a balance of support and challenge, dependence and independence, and encouragement and feedback (Giordano et al., 2013).

Communication style is also crucial for building a collaborative relationship and connection with clients (Wagner & Ingersoll, 2013). MI counselors neither follow nor direct clients in counseling sessions (Miller & Rollnick, 2013). Rather, counselors using MI style guide clients to a productive conversation (Wagner & Ingersoll, 2013). MI deemphasizes the use of direct confrontation, advice giving without permission, warning, and authority assertion with clients (Mason, 2009) and focuses instead on promoting a safe climate for clients to explore their ambivalence about change without critical judgment from counselors (Engle & Arkowitz, 2008).

In this regard, MI counselors employ fundamental counseling skills called OARS (open questions, affirmations, reflections, and summaries) in combination with change strategies (discrepancies and evocative questions) to build rapport with clients, gain understanding of clients' concerns, explore clients' internal strengths and resources, and promote clients' choices for change (Giordano et al., 2013; Martino et al., 2007). Wagner and Ingersoll (2013) emphasized that counselors who adhere to MI principles use reflections twice as many as

questions, open questions twice as many as closed questions, and complex reflections twice as many as simple reflections.

### **Key Processes and Technical Strategies for Implementation of MI**

After considering the readiness to change of clients, counselors plan sessions based on key MI processes: engaging, focusing, evoking, and planning (Kress & Hoffman, 2008). MI counselors begin counseling sessions by developing a supportive and collaborative working relationship with clients (engaging) (Miller & Rollnick, 2013). Once establishing relationships with clients, counselors continue to develop and maintain an agreeable direction about change (focusing), build clients' inherent resources, encourage change talk in clients (evoking), develop commitment to change, and formulate a concrete plan of action (planning) (Miller & Rollnick, 2013). Throughout these key processes, counselors also employ technical strategies of MI such as expressing empathy, developing discrepancy, avoiding argumentation, rolling with resistance, and supporting self-efficacy (Giordano et al., 2013; van Wormer & Davis, 2008).

Expressing empathy is the first principle that MI counselors need to develop to gain understanding of clients' lives, worldviews, feelings, and values (Wagner & Ingersoll, 2013). MI counselors also discuss about discrepancy by examining current behaviors of clients in light of their broader goals, beliefs, and core values (Mason, 2009). The development of discrepancy helps clients understand what things are important or meaningful in their lives and what they can do to change their current actions or behaviors in ways that are congruent with their most important values or future goals (Wagner & Ingersoll, 2013). In addition, MI counselors avoid focusing heavily on negatives that can lead to criticism, embarrassment, shame, and resistance in clients (Wagner & Ingersoll, 2013). Rather, counselors using MI strategies can support clients'

self-efficacy by encouraging them to explore positive choices, experiences, hopes, skills, strengths, and resources that they have in order to make changes (Miller & Rollnick, 2013).

### **The Utilization of MI with Youth**

MI is used widely not only in addiction treatment settings, but also in community mental health settings, school settings, university counseling centers, private practice settings, primary care clinics, emergency medicine departments, and psychiatry departments and hospitals (Allsop, 2007; Mason, 2009; Sterrett et al., 2010). MI is a brief intervention that can be used as a stand-alone treatment, a pre-treatment, or a combination with other counseling approaches (Mason, 2009; Osborn, 2011). Young and Hagedorn (2012) argued that MI is rarely used as a stand-alone treatment. Once clients are ready to change, counselors tend to apply other therapeutic approaches to facilitate clients' change rather than using MI as the sole course of treatment (Mason, 2009; Wagner & Ingersoll, 2013; Young & Hagedorn, 2012). Nonetheless, counselors utilizing MI as a stand-alone treatment or an adjunct to other counseling therapies have reported successful client outcomes (Engle & Arkowitz, 2008).

Due to the need for a brief intervention, MI has become a promising approach to treatment with adolescents and young adults (Wagner & Ingersoll, 2013). In order to work with adolescents successfully, counselors need to understand the developmental milestones of clients in this age group and formulate a treatment plan based on their developmental levels (Wagner & Ingersoll, 2013). Adolescents experience major changes in their biological, psychological, and social systems (Stormont et al., 2011). They begin to develop complex cognitive abilities, consider other people's opinions, increase a sense of personal autonomy, and make informed decisions about their future (Neely-Barnes & Whitted, 2011).



With respect to these developmental characteristics, adolescents might be especially appropriate for the MI approach. In this regard, MI can be adopted to help adolescents engage in the conversation about change, explore their ambivalence about change, enhance their self-efficacy, and make autonomous choices to change their problem behaviors or unhealthy lifestyles (Wagner & Ingersoll, 2013). Since many youth with disruptive behaviors are mandated to seek counseling by their parents/guardians, school personnel, medical professionals, and criminal justice systems, MI seems to be a good fit for this client group who may be resistant and/or ambivalent about change (Giordano et al., 2013).

Even though MI has been used widely with clients in different age groups, research examining the efficacy of MI with adolescents is fairly new (Strait, Smith, McQuillin, Terry, Swan, & Malone, 2012; Wagner & Ingersoll, 2013). Among these studies include the use of MI to improve diabetes management (Knight, Bundy, Morris, Higgs, Jameson, Unsworth, & Jayson, 2003), minimize alcohol and substance use problems (Bailey et al., 2004), reduce sexual risk behavior (Schmiege, Broaddus, Levin, & Bryan, 2009), and enhance class participation and academic performance (Strait et al., 2012). However, research investigating the efficacy of MI with children is scarce. In this regard, there is one preliminary randomized trial examining the impact of MI as an adjunct to Cognitive Behavioral Therapy (CBT) with children and adolescents ages 6 to 17 years who were diagnosed with obsessive-compulsive disorder (OCD) (Merlo, Storch, Lehmkuhl, Jacob, Murphy, Goodman, & Geffken, 2010). The findings of this study indicated that youth who received a combination of CBT and MI significantly reduced their OCD symptoms more rapidly than youth who received a combination of CBT and psychoeducation (Merlo et al., 2010).

Even though Merlo and her colleagues (2010) utilized MI and CBT with youth, they did not clarify how children ages 6 to 12 years responded to the intervention compared with adolescents ages 13 to 17 years, considering their different developmental milestones. Despite the studies of MI with children and adolescents, there is a dearth of research investigating the utilization of MI strategies as a strengths-based approach with children in the DAEP environment (Booker & Mitchell, 2011; Foley & Pang, 2006; Nelson & Eckstein, 2008).

### **Documented Effects of MI**

MI is an evidence-based approach that has been proven to be effective in resolving client ambivalence and/or resistance to change as well as improving client outcomes in such issues as alcohol and substance use, anxiety disorders, depression, domestic violence, dual diagnosis, eating disorders, gambling problems, health-related behaviors, human immunodeficiency virus (HIV), medication adherence, obsessive-compulsive disorder, referral engagement, sleep disorders, suicidality, and treatment attendance (Floyd, Sobell, Velasquez, Ingersoll, Nettleman, Sobell, Mullen, Ceperich, von Sternberg, Bolton, Skarpness, & Nagaraja, 2007; Merlo et al., 2010; Miller & Rollnick, 2013; Scholl & Schmitt, 2009; Sterrett et al., 2010; Strait et al., 2012; Wagner & Ingersoll, 2013; Young & Hagedorn, 2012). MI is commonly used with college students, adults, and aging individuals (Merlo et al., 2010; LaBrie et al., 2007; Strait et al., 2012; Wagner & Ingersoll, 2013). The effectiveness of MI is consistently validated by empirical reports of medium effect size ( $d = .77$ ) for short-term MI interventions with an ethnically diverse client population (Mason, 2009).

In addition to the use of MI as an individual treatment, the utilization of MI in a group setting is promising (LaBrie et al., 2007; Wagner & Ingersoll, 2013). MI groups are used with adolescents, young adults, adults, homeless people, and psychiatric patients who experience

alcohol and substance use problems (Bailey et al., 2004; LaBrie, Huchting, Tawalbeh, Pedersen, Thompson, Shelesky, Larimer, & Neighbors, 2008; LaBrie et al., 2007; Norman, Maley, Li, & Skinner, 2008), dual diagnosis (Bradley, Baker, & Lewin, 2007; James, Preston, Koh, Spencer, Kisely, & Castle, 2004; Santa Ana, Wulfert, & Nietert, 2007), eating disorders (Tantillo, Bitter, & Adams, 2001), gambling problems (Oei, Raylu, & Casey, 2010), health-related issues (Knight et al., 2003), HIV and sexually transmitted disease (STD) (Schmiege et al., 2009), and intimate partner violence and trauma (Alexander, Morris, Tracy, & Frye, 2010; Wenzel, D-Amico, Barnes, & Gilbert, 2009).

Most studies indicated that MI groups predicted the change process in clients, promoted recognition of ambivalence and problems, increased participation in treatment and after care, supported autonomy, and increased self-efficacy (Brown, Dongier, Latimer, Legault, Seraganian, Kokin, & Ross, 2007; Foote, DeLuca, Magura, Warner, Grand, Rosenblum, & Stahl, 1999; Lincourt, Kuettel, & Bombardier, 2002; Michael, Curtin, Kirkley, Jones, Harris, 2006). Many researchers reported that one- to four-session MI groups in combination with other counseling approaches such as CBT and relational therapy were superior to no treatment or treatment as usual (Bradley et al., 2007; Bailey et al., 2004; LaBrie et al., 2008; LaBrie et al., 2007; Norman et al., 2008; Rosenblum, Magura, Kayman, & Fong, 2005; Wagner & Ingersoll, 2013).

### **Conclusion**

Children and adolescents develop behavioral, emotional, and/or mental disorders due to various causes such as biological factors, cognitive factors, and social factors (Brennan & Shaw, 2013; Lysenko et al., 2013; Racz & McMahon, 2011). These youth often experience abuse and neglect, dysfunctional families, harsh discipline, household chaos, inconsistent parenting practices, loss of primary caregivers, poverty, homelessness, exposure to deviant peers, and peer

rejection (Deater-Deckard et al., 2012; Hoglund et al., 2008; Nelson & Eckstein, 2008; Racz & McMahon, 2011). Children who exhibit a childhood onset of behavioral, emotional, and mental problems are likely to develop severe and persistent disorders in adolescence and adulthood; hence, interventions with these children are necessary for preventing the progression of disruptive symptoms (Brennan & Shaw, 2013; Tobin & Sprague, 2000).

Although there are a number of evidence-based treatment programs such as anger control training (Lochman, 1992), multisystemic therapy (Brown et al., 1999; Sterrett et al., 2010), and problem-solving skills training (Kazdin et al., 1992) available for children and adolescents, the recidivism rate for youth placed in the DAEP and juvenile justice settings remains high (Eyberg et al., 2008; Mathur & Nelson, 2013). Youth who experience repeated exposure to suspension and punishment are likely to engage in patterns of truancy, delinquency, and dropout (Lysenko et al., 2013; Simonsen & Sugai, 2013). As a result, many researchers have advocated that traditional schools, DAEPs, residential facilities, and juvenile justice settings need to transform their zero tolerance policies to more facilitative and positive environments (Booker & Mitchell, 2011; Geronimo, 2011; Jolivet & Nelson, 2010; Mathur & Nelson, 2013; Nelson & Eckstein, 2008; Tobin & Sprague, 2000). The PBIS program and a strengths-based approach are recommended interventions for school personnel, staff, counselors, and other mental-health professionals to promote positive changes and improve behaviors of children in restrictive facilities (Aron, 2006; Johnson et al., 2013; Simonsen & Sugai, 2013).

An integrated approach utilizing an evidence-based MI framework as a strengths-based counseling intervention may be applied successfully in the DAEP to increase positive outcomes of treatment among children with disruptive behaviors. Even though a large amount of research was conducted on the utilization of an MI approach with college students, adults, and older

adults (Martino et al., 2007; Mason, 2009; Miller & Rollnick, 2013; Scholl & Schmitt, 2009; Wagner & Ingersoll, 2013), much of the extant research do not emphasize counseling and skills training based on the MI approach with children and adolescents. In addition, there is a paucity of studies examining the use of MI strategies as a strength-based approach to treatment with children at the DAEP (Booker & Mitchell, 2011; Foley & Pang, 2006; Nelson & Eckstein, 2008). As such, the purpose of this study is to address the gap of the literature regarding the utilization of the MI approach as a strength-based intervention with children in the DAEP environment. In specific, MI is expanded to explore development and increases in self-defined adaptive behaviors. The MI framework adapted to pre-adolescent population is rarely explored within the MI literature. The study's research questions, participants, data collection, measurement of outcomes, procedures in conducting the study, treatment protocol, and data analysis are described in chapter III.

## **Chapter III**

### **Methodology**

The principal investigator employed quantitative analyses, an A-B single-case research design, Relative Success Rate (RSR), and *t* test procedures, to evaluate the treatment effect of a 6-session MPCC program using MI as a strengths-based approach for reducing behavioral and psychological issues as well as increasing positive behaviors and emotions of children. A single-case research design was utilized as a fundamental approach of this study because this design allows the principal investigator to monitor and establish an evidence-based support for the implementation of MI as a strengths-based intervention with children on the DAEP campus where a large number of participants are not available (Horner et al., 2005). The comparison of group differences was also investigated in this study. While RSR was used to compare group differences in students' behavioral improvements across time, paired-samples *t* test and independent-samples *t* test were utilized to assess within- and between-group differences in students' difficulties and strengths before and after attending the MPCC program. Results from the student-report, the parent-report, the teacher-report, and the researcher's note were analyzed and compared for agreement and/or discrepancy.

### **Research Questions**

The following research questions were used to guide this study:

1. To what extent do classroom behaviors (identified positive and negative behaviors) of children as rated by student self-report and teacher-report change across time?
2. To what extent are group differences evident between children who complete the MI-based Making Positive Changes Counseling (MPCC) program and those who do not complete the program as rated by student self-report and teacher-report across time?

3. To what extent do emotional symptoms, conduct problems, hyperactivity, peer problems, total difficulties, and prosocial behavior of children measured by parent ratings on the Strengths and Difficulties Questionnaire change within and between groups of children who complete the MI-based MPCC program and those who do not complete the program?

### **Participants**

Participants in this study were 16 elementary-school students ages 8 to 12, 16 parents/guardians of students, and two teachers from a DAEP in a public elementary school in a southwestern region. Of these 16 students, 10 students were in the treatment group (completing all six sessions of the MPCC program), and six students were in the comparison group (completing some sessions of the MPCC program). Students are typically referred to the DAEP from 10 days to the remainder of the school year, depending on their infractions at home campuses. In this study, all 16 students stayed at the DAEP for 10 days. A non-probabilistic sampling method was used to select participants on a voluntary basis (Creswell, 2014).

Originally, 23 (92%) students volunteered to attend the MPCC program while two (8%) students did not get permission from their parents/guardians to participate in the study. Of these 23 students who agreed to participate in the program, seven (30.4%) students were placed in the DAEP from 15 days to the remainder of the school year due to their serious infractions. These seven students received regular six sessions of the MI curriculum in combination with other counseling interventions that were tailored to their specific needs as requested by their parents/guardians. As a result, these seven students were not included in the study because they received different interventions from 10-day students. The rationale for excluding these seven students was to maintain treatment integrity and reduce possible threats to experimental validity in the study (Creswell, 2014; Hemphill & Howell, 2000).

After an exclusion of seven students, 16 students who stayed at the DAEP for 10 days remained in the study. Of these 16 students, 10 (62.5%) students completed all six sessions of the program while six (37.5%) students completed two to three sessions of the program (mode = 2). Although six students did not continue to participate in the program, all of them volunteered to complete a student self-report rating scale identifying their target classroom behaviors until they returned their home campuses. As a result, these students were placed in a comparison group in order to measure group differences between students who completed all sessions of the MI curriculum and those who did not complete treatment. Even though these six students were assigned to the comparison group, they still received classroom guidance curriculum as usual.

## **Students**

**Treatment group.** The treatment group included seven (70%) students in grade 5, one (10%) student in grade 4, and two (20%) students in grade 3. The mean age of students was 10.2 years (SD = 1.14) with a range from 8 to 12 years. A majority of students in the treatment group (90%) were male. Five (50%) students were Hispanic/Latino, two (20%) students were Caucasian, one (10%) student was African American, one (10%) student was Alaska Native, and one (10%) student was Biracial. Most students in the treatment group (80%) were placed in the DAEP for the first time. Students in the treatment group were removed from their home campuses due to such issues as noncompliance and persistent misbehavior (40%), possession of weapons (knives; 20%), bullying and harassment (10%), possession of substances (drugs; 10%), public lewdness (10%), and simple assault (10%). Individual information for each participant in the treatment group is listed below. Pseudonyms were used to protect their identity.

**Participant 1.** Aden was an 8-year-old Alaska Native male in the 3rd grade. He was referred to the DAEP for the first time due to an issue of possession of an illegal knife. Aden was



adopted at age 7 and lived with his foster parents and their two sons. Aden was diagnosed with Attention Deficit-Hyperactivity Disorder (ADHD) and Posttraumatic Stress Disorder (PTSD) at age 3. According to Aden's foster parents, Aden was verbally, physically, and sexually abused by his biological mother and stepfather. Recently, Aden was diagnosed with depression and would see the psychiatrist for treatment. Aden's foster parents reported that Aden took ADHD and anti-psychotic (paranoid type) medications twice a day. Aden also had learning disabilities and received special services at his home school. Aden was enrolled in the DAEP and attended an orientation with his foster parents. When asking about the reason for his referral, Aden stated that he brought a knife to school because he wanted to protect himself from the bully. Aden's foster parents also pointed out that Aden had angry outbursts and destroyed home properties. With Aden's acknowledgement, his foster parents stated that they wanted Aden to listen to teachers and learn to control his anger. Aden's chosen classroom behaviors were identified as listening to teachers and staff (positive behavior) and controlling angry outburst in the class (negative behavior).

***Participant 2.*** Andrew was an 11-year-old, Hispanic/Latino and African-American descent, male in the 5th grade. He was referred to the DAEP for the first time due to an issue of bullying and harassment. Andrew has one older brother and one older sister. His 19-year-old brother moved out of the house and had no contact with the family. Andrew lived with his mother, stepfather, and older sister. Andrew does not have a history of mental disorders nor receive mental-health services. Andrew was enrolled in the DAEP and attended an orientation with his mother. When asking about the reason for his referral, Andrew stated that he was rude to other people, and therefore the school principal sent him to the DAEP. With Andrew's acknowledgement, his mother expressed that she wanted Andrew to avoid disrupting teachers

and other students in a classroom as well as complete his assigned tasks. Andrew chose to work on completing his schoolwork (positive behavior) and avoiding disrupting the class and other people (negative behavior).

***Participant 3.*** Brendon was a 9-year-old African American male in the 3rd grade. He was referred to the DAEP for the first time due to an issue of public lewdness. Brendon has one older brother and one older sister. His biological father and mother were separated. Brendon lived with his mother and two siblings. Brendon does not have a history of mental disorders nor receive mental-health services. Brendon was enrolled in the DAEP and attended an orientation session with his mother. Brendon did not reveal the reason for his referral to the DAEP. He stated that he did not know why he was here. With Brendon's acknowledgement, his mother emphasized that she wanted Brendon to be polite to others and learn to control his anger. Brendon's chosen classroom behaviors were identified as being polite to teachers and other people (positive behavior) and controlling angry outburst in the class (negative behavior).

***Participant 4.*** Bruno was a 10-year-old Hispanic male in the 5th grade. He was referred to the DAEP for the second time due to an issue of noncompliance and persistent misbehavior. His first referral was also due to an issue of noncompliance and disruptive behavior. Bruno has one older brother. His biological father and mother were divorced. Bruno lived with his mother, stepfather, older brother, and cousin. Bruno was diagnosed with dyslexia and received a 504 plan and free lunch. A 504 plan is an educational plan developed to provide accommodations and individualized help to students with disabilities (U.S. Department of Education, 2002). Bruno was enrolled in the DAEP and attended an orientation session with his mother, stepfather, and cousin. When asking about the reason for his referral, Bruno's mother stated that Bruno disrupted the class, talked back to the teacher, and had angry outbursts. With Bruno's acknowledgement,

his mother noted that she wanted Bruno to become more respectful to teachers and other people and learn to control his anger. Bruno's chosen classroom behaviors were identified as being respectful to teachers and others (positive behavior) and controlling angry outburst in a class (negative behavior).

***Participant 5.*** Cody was a 10-year-old African-American male in the 4th grade. He was referred to the DAEP for the second time due to an issue of noncompliance and persistent misbehavior. His first referral was also due to an issue of noncompliance and disruptive behavior. Cody has three older brothers, one older sister, and one younger sister. His biological father and mother were separated. Cody lived with his mother, grandmother, and younger sister while his older brothers and sisters moved out of the house. Cody was diagnosed with ADHD and received medications from a psychiatrist. He also received free lunch and transportation. Cody was enrolled in the DAEP and attended an orientation with his grandmother. When asking about the reason for his referral, Cody's grandmother explained that Cody often talked back to the teacher and argued with other students. He sometimes cursed and bullied other people. With Cody's acknowledgement, his grandmother stated that she wanted Cody to focus on his own tasks and be respectful to teachers and others. Cody's chosen classroom behaviors were identified as staying on task (positive behavior) and avoiding talking back to teachers and school staff (negative behavior).

***Participant 6.*** Daniel was an 11-year-old Hispanic male in the 5th grade. He was referred to the DAEP for the first time due to an issue of possession of substances. Daniel has three brothers and four sisters. He lived with his parents and all siblings. Daniel was diagnosed with ADHD and received medications on a regular basis. Daniel was enrolled in the DAEP and attended an orientation session with his mother and grandmother. When asking about the reason

for his referral, Daniel stated that he brought his ADHD medications to school and forgot to take them. However, the school principal was not convinced with his reason and referred him to the DAEP. With Daniel's acknowledgement, his mother wanted him to improve his grades and focus on his schoolwork. Daniel chose to work on following school instructions (positive behavior) and ignoring distractions from others (negative behavior).

***Participant 7.*** Gabriel was an 11-year-old Hispanic male in the 5th grade. He was referred to the DAEP for the first time due to an issue of simple assault. Gabriel has one old sister. His biological father and mother were separated. Gabriel lived with his mother while his 21-year-old sister lived with her boyfriend. Gabriel was diagnosed with ADHD and received medications on a regular basis. Gabriel was enrolled in the DAEP and attended an orientation session with his father. When asking about the reason for his referral, Gabriel's father stated that his son hit the mother and assaulted a teacher at his home school. Due to an issue with his mother, Gabriel's father was trying to get custody of him. With Gabriel's acknowledgement, his father pointed out that he wanted Gabriel to do his work and learn to control his anger. Gabriel's chosen classroom behaviors were identified as completing schoolwork (positive behavior) and controlling angry outburst in the class (negative behavior).

***Participant 8.*** Isabella was an 11-year-old Hispanic female in the 5th grade. She was referred to the DAEP for the first time due to an issue of noncompliance and persistent misbehavior. Isabella has three older brothers. One of her older brother was also referred to the DAEP for middle and high school students. Isabella's biological father and mother were separated. She lived with her mother, mother's boyfriend, three older brothers, and one stepbrother. Isabella does not have a history of mental disorders nor receive mental-health services. Isabella was enrolled in the DAEP and attended an orientation session with her mother.

When asking about the reason for her referral, Isabella's mother stated that Isabella was bullied at school because she likes to get into other people's business. Isabella also disrupted the class and talked back to her teacher and mother. With Isabella's acknowledgement, her mother emphasized that she wanted Isabella to stay away from other people's business and show respect to teachers. Isabella's chosen classroom behaviors were identified as staying on assigned tasks (positive behavior) and avoiding talking back to teachers and staff (negative behavior).

***Participant 9.*** James was an 11-year-old Caucasian male in the 5th grade. He was referred to the DAEP for the first time because he carried a knife to the school. James has one older sister, but he never met her because his sister stayed with his biological father. James's biological father and mother were divorced. He lived with his mother and mother's boyfriend. James does not have a history of mental disorders nor receive mental-health services. James was enrolled in the DAEP and attended an orientation session with his mother. When asking about the reason for his referral, James stated that he thought he would look cool if he brought a knife to school and showed it to his peers. With James's acknowledgement, his mother noted that she wanted James to follow school instructions and become more focused on his schoolwork. James chose to work on following school instructions (positive behavior) and ignoring distractions from others (negative behavior).

***Participant 10.*** Jorge was a 12-year-old Hispanic male in the 5th grade. He was referred to the DAEP for the first time due to an issue of noncompliance. Jorge has two younger brothers and one younger sister. Jorge's biological father and mother were separated. He lived with his mother and all siblings. Jorge does not have a history of mental disorders nor receive mental-health services. Jorge was enrolled in the DAEP and attended an orientation session with his mother. When asking about the reason for his referral, Jorge's mother reported that Jorge and his

peers broke a school window while they were hanging out after school. In addition to this issue, Jorge often skipped classes and did not tell the mother. With Jorge's acknowledgement, his mother stated that she wanted Jorge to be honest and pay more attention to his schoolwork. Jorge's chosen classroom behaviors were identified as telling the truth and being honest (positive behavior) as well as ignoring distractions from others (negative behavior).

**Comparison group.** The comparison group included two (33.3%) students in grade 5, two (33.3%) students in grade 4, and two (33.3%) students in grade 3. The mean age of students in the comparison group was 10.3 years ( $SD = 1.03$ ) with a range from 9 to 12 years. All students in the comparison group (100%) were male. Four (66.7%) students were Hispanic/Latino, one (16.7%) student was Caucasian, and one (16.7%) student was African American. A majority of students in the comparison group (50%) were placed in the DAEP for the first time. Students in the comparison group were removed from their home campuses due to such issues as noncompliance and persistent misbehavior (33.3%), threats to other students and/or teachers (33.3%), fighting (16.7%), and possession of weapons (BB gun; 16.7%). Comprehensive demographic data of students in treatment and comparison groups are displayed in Appendix D. Individual information for each participant in the comparison group is also listed below. Pseudonyms were used to protect their identity.

***Participant 1.*** Francisco was a 10-year-old Hispanic male in the 3rd grade. He was referred to the DAEP for the first time due to an issue of noncompliance. Francisco has two older brothers, one older sister, and two younger sisters. His biological father and mother were separated. He lived with his mother, maternal grandmother, and all siblings. Francisco was diagnosed with ADHD and received medications from a psychiatrist. He also received special services and free lunch at his home school. Francisco was enrolled in the DAEP and attended an

orientation with his mother. When asking about the reason for his referral, Francisco's mother informed that Francisco did not comply with classroom rules. He also cursed and scratched the teacher when he was disciplined. With Francisco's acknowledgement, his mother stated that she wanted Francisco to complete his work and show respect to teachers. Francisco's chosen classroom behaviors were identified as completing schoolwork (positive behavior) and avoiding talking back to teachers (negative behavior). Overall, Francisco completed a total of two sessions of the MPCC program.

***Participant 2.*** Jake was a 10-year-old Caucasian male in the 4th grade. He was referred to the DAEP for the first time due to an issue of threats to other students and teachers. He was also placed in the behavioral hospital last year because he caused harm to other people and hit his mother. Jake has two older brothers and one adopted sister. His biological father and mother were separated. He lived with his mother, mother's boyfriend, and all siblings. Jake was diagnosed with ADHD and received medications from a psychiatrist. He also received speech therapy and a test for special needs. Jake was enrolled in the DAEP and attended an orientation with his mother, older brother, and adopted sister. When asking about the reason for his referral, Jake's mother reported that Jake was violent toward others at school. He threatened to hurt his peer's family. Other negative behaviors included verbal and physical attacks when he was upset. With Jake's acknowledgement, his mother noted that she wanted Jake to think about causes and effects of his behaviors and learn to control his anger. Jake's chosen classroom behaviors were identified as thinking before acting (positive behavior) and controlling angry outburst in the class (negative behavior). Jake completed a total of three sessions of the MPCC program.

***Participant 3.*** Lucas was a 10-year-old Hispanic male in the 4th grade. He was referred to the DAEP for the first time because he carried a BB gun to the school. Lucas has two older

sisters, one younger sister, and one younger brother. He lived with his maternal grandmother and aunt while his parents and siblings lived in another country. Lucas does not have a history of mental disorders nor receive mental-health services. Lucas was enrolled in the DAEP and attended an orientation session with his grandmother. When asking about the reason for his referral, Lucas's grandmother revealed that Lucas brought a BB gun to show his friends at school. He did not know that he violated the school's codes of conduct. With Lucas's acknowledgement, his grandmother stated that she wanted Lucas to stay away from troubles and focus his attention on his schoolwork. Lucas's classroom behaviors were identified as keeping hands, feet, and objects to self (positive behavior) and ignoring distractions from others (negative behavior). Lucas completed a total of two sessions of the MPCC program due to a conflict schedule between the school testing and the counseling program.

***Participant 4.*** Manuel was an 11-year-old Hispanic male in the 5th grade. He was referred to the DAEP for the third time due to an issue of fighting. His previous referrals were also associated with fighting. Manuel has one older brother and one older sister. He lived with his parents and two siblings. However, his mother was arrested during his first session of the MPCC program. Manuel does not have a history of mental disorders nor receive mental-health services. Manuel was enrolled in the DAEP and attended an orientation session with his mother. When asking about the reason for his current referral, Manuel stated that he broke the window of a school bus while fighting with another student. With Manuel's acknowledgement, his mother noted that she wanted Manuel to comply with classroom rules and school policies as well as learn to control his anger. Manuel's chosen classroom behaviors were identified as listening to teachers (positive behavior) and controlling angry outburst in the class (negative behavior). After an incident of his mother's arrest during the first session of the program, Manuel attended two



more sessions of the program before stopping participation. Manuel completed a total of three sessions of the MPCC program.

***Participant 5.*** Pablo was a 12-year-old Hispanic male in the 5th grade. He was referred to the DAEP for the third time due to an issue of noncompliance and persistent misbehavior. His previous referrals were also associated with noncompliance and disruptive behaviors. Pablo has one older brother and one younger sister. His biological father and mother were separated. Pablo lived with his aunt and cousin because his mother was in a prison. He received a 504 plan and free lunch at school. Pablo was enrolled in the DAEP and attended an orientation session with his aunt and cousin. When asking about the reason for his current referral, Pablo's aunt disclosed that Pablo was disrespectful to the teacher. He often had angry outbursts and walked out of the classroom without permission. With Pablo's acknowledgement, his aunt stated that she wanted Pablo to be respectful to teachers and learn to control his anger. Pablo chose to work on being respectful to teachers (positive behavior) and controlling angry outburst in the class (negative behavior). Pablo completed a total of two sessions of the MPCC program because he was behind in the class and needed extra time to prepare for the school testing.

***Participant 6.*** Trevon was a 9-year-old African-American male in the 3rd grade. He was referred to the DAEP for the second time due to an issue of threats to other students. His previous referral was also associated with physical attack to other students. Trevon has two older brothers, one older sister, and one younger brother. His biological father was in a prison, and his biological mother would turn herself in a prison after Trevon returned his home campuses. Trevon lived with his grandmother, aunt, and all siblings. He received a 504 plan, free lunch, and free transportation services. Trevon was enrolled in the DAEP and attended an orientation session with his grandmother. When asking about the reason for his current referral, Trevon's

grandmother explained that Trevon threatened to hurt a student at school. With Trevon's acknowledgement, his grandmother noted that she wanted Trevon to focus his attention on schoolwork and avoid disrupting other students. Trevon chose to work on completing schoolwork (positive behavior) and avoiding disrupting the class and other students (negative behavior). Trevon completed a total of two sessions of the MPCC program.

### **DAEP Classroom Teachers**

Two teachers at the DAEP unit in a public elementary school in the southwestern United States agreed to participate in the study by completing the teacher rating scale and the DPR each day. Since the DPR is a feedback form of the school district, two teachers evaluated the overall classroom behaviors of each student based on their mutual agreement. Unlike the DPR, both teachers observed each student's target classroom behavior (positive and negative behaviors) and completed the rating scale independently. In this regard, both teachers were blind to the study condition. Teachers did not have information as to which students were in treatment or comparison groups; thus, minimizing evaluator bias. During the process of data analysis, the principal investigator would compare data from two teacher rating scales and estimate inter-rater reliability in order to determine whether or not combined scores of the teacher rating scale accurately represented actual feedback from both teachers. In this regard, demographic information of both teachers is provided below.

Teacher A was a 49-year-old Hispanic female. She had 26 years of teaching experience with seven years of teaching on the elementary DAEP campus. Teacher A was a lead teacher at the DAEP and had a bachelor's degree in general education. Teacher B was a 29-year-old African-American female. She had six years of teaching experience in alternative schools with two years of teaching on the elementary DAEP campus. Teacher B had a bachelor's degree in

general education and was pursuing a master's degree in general education in a public university at the time of the study.

### **Parents/Guardians**

Sixteen parents/guardians of students ages 8 to 12 who stayed at the DAEP for 10 days providing consent for their children to attend the MPCC program. These parents/guardians also agreed to complete the SDQ evaluating their children's strengths and difficulties at the registration and exit process from the DAEP. Participants remained anonymous throughout the study; only demographic information such as relationship with student participants and racial and ethnic identity were included. In the treatment group, a majority of parents/guardians (70%) identified themselves as mothers of student participants. Of these 10 parents/guardians, six (60%) were Hispanic/Latinos, two (20%) were African Americans, and two (20%) were Caucasians. In the comparison group, most parents/guardians (50%) identified themselves as mothers of student participants. Of these six parents/guardians, four (66.7%) were Hispanic/Latinos, one (16.7%) was African American, and one (16.7%) was Caucasian.

### **Participant Protection**

The study was approved by the university Institutional Review Board (IRB) for research purposes (July 23, 2014; #75-14). The principal investigator took every precaution to protect confidentiality and safety of all participants. In this regard, pseudonyms and alphabets were assigned to students, teachers, and parents. All documents related to participants were stored in a locked file cabinet at the principal investigator's residence. Only the principal investigator had access to signed informed consent forms, student assent forms, the student self-report rating scale, the teacher rating scale, the DPR, the SDQ, completed activity worksheets of each student, and researcher's notes.

## **Setting**

The study was conducted on the DAEP campus operating within a public elementary school in the southwestern region in the U.S. The DAEP offers the general education and special education curricula as well as community support activities for students who have difficulties functioning at their home campuses. The DAEP receives students from grades 1 to 6 (ages 6 to 12 years old). A classroom size at the DAEP was small with a range from two to 12 students in the fall of 2014. Approximately one to four students were referred to the DAEP at a given time. The majority of students (more than 50%) stayed at the DAEP for 10 days. In addition to the MPCC program, a social skills training implemented by a mental-health professional from a community agency in the area was provided to all students in a classroom format every Thursday for approximately one and a half hour. The DAEP is also collaborated with sheriff's departments and police to prevent students' disruptive and violent behaviors on campus. With regard to the study, parents/guardians and their children were oriented to the MPCC program and signed consent and assent forms indicating that they understood the purpose and potential benefits and risks associated with the study before participating in the program.

## **Data Collection**

Upon receiving the approval from the IRB and the school district, a non-probabilistic sampling method was utilized to recruit students to participate in a 45-minute individual counseling and skills training for a total of six sessions. During the process of students' enrollment at the DAEP, parents/guardians whose their children ages 8 to 12 were invited to complete an informed consent form requesting the participation of their children in the MPCC program. These parents/guardians were also provided with another informed consent form inviting them to complete the SDQ. Upon the completion of a survey, parents/guardians

identified at least one positive thing that they wanted their children to gain while attending the DAEP. In this regard, students with parental/guardian consent were invited orally and in writing to participate in the study. In addition to the SDQ, the teacher rating scale and the DPR were used for teachers to track the improvement of identified classroom behaviors of students who participated in the study. The rating scale was not only created for teachers, but also developed for students who attended the MPCC program to rate the improvement of their classroom behaviors while they were staying at the DAEP.

### **Identification and Observation of Classroom Behaviors**

Classroom behaviors (positive and negative behaviors) of each student were identified based on an initial interview with children and their parents/guardians at the registration process. During the baseline phase, teachers observed students' behaviors in a classroom and completed the teacher rating scale and the DPR in the end of each day for a total of four days. Students also tracked changes in their classroom behaviors using the student self-report rating scale on the first four days of their stay at the DAEP to establish baseline behaviors.

After students' baseline behaviors were established (4 days), students received individual sessions of the MPCC program for approximately 45 minutes each day for the total of six sessions. Topics of the program session included readiness to change and accepting responsibility, exploration of values/goals and current behaviors, recognition of strengths and positive qualities, perspective taking/empathy, recognition of possible changes, and effective decision making. The principal investigator utilized arts, games, case scenarios, small discussion, and reflection in the program. MI metrics such as a readiness to change ruler (importance and confidence levels to change) and a decision to change (change talk and decisional balance) were used with other quantitative data to describe the change process of students while participating in

the MPCC program. During the treatment phase, teachers and students continued to complete their rating scales on a daily basis.

Upon the exit from the DAEP, parents/guardians of students who completed the SDQ at the registration process were invited to fill out the SDQ again. The results of parent-report in the survey along with the student rating scale, the teacher rating scale, and the DPR were used to measure behavioral changes of children who completed six sessions of the MPCC program compared with those who did not complete the program across time. The utilization of parent-report, teacher-report, student-report, and researcher note aimed to strengthen the credibility of the outcome measures of the study.

### **Measurement of Outcomes**

Parents/guardians of students ages 8 to 12 years were invited to complete a measure of the SDQ upon the child enrollment and exit from the DAEP. Teachers were also requested to complete a teacher rating scale to measure progress of students' classroom behaviors while staying at the DAEP. Upon the permission from teachers, the DPR was given to the principal investigator as an additional source of data for the study. Students were asked to complete a student self-report rating scale evaluating their classroom behaviors each day. Lastly, the principal investigator employed MI metrics to examine the change process of students receiving the MI curriculum. A general description of the SDQ, the student rating scale, the teacher rating scale, the DPR, and MI metrics was outlined below.

### **Strengths and Difficulties Questionnaire (SDQ; Goodman, 1997)**

The SDQ was utilized to measure behavioral, emotional, and interpersonal improvements of student participants before and after attending the MPCC program. The SDQ is a brief screening questionnaire used to assess strengths and difficulties of children and adolescents

(Neely-Barnes & Whitted, 2011). The SDQ is a 25-item inventory using a 3-point Likert-type scale ranging from 0 (*Not True*) to 2 (*Certainly True*) (Stone et al., 2010). The SDQ contains five scales: emotional symptoms, conduct problems, hyperactivity, peer problems, and prosocial behavior (Goodman, 1997). Each scale comprises five items (Stone et al., 2010). Example items of five scales include "*Nervous or clingy in new situations*" (emotional symptoms), "*Often fights with other children or bullies them*" (conduct problems), "*Easily distracted, concentration wanders*" (hyperactivity), "*Picked on or bullied by other children*" (peer problems), and "*Considerate of other people's feelings*" (prosocial behavior) (Neely-Barnes & Whitted, 2011).

The SDQ has three forms: a parent-report form, a teacher-report form, and a self-report form for children and adolescents ages 2 to 17 years old (Goodman, 1997). In this regard, parent- and teacher-report forms have three versions for youth ages 2 to 4 years old, 4 to 10 years old, and 11 to 17 years old, whereas a self-report form has one version for youth ages 11 to 17 years old (Goodman, 1997). In this study, only a parent-report form for youth ages 4 to 10 years old was utilized due to the age range of most student participants that was equal to or below 11 years old. A teacher-report form was not employed because of the retrospective nature of the questionnaire that evaluated children's behaviors over the last six months or one school year (Goodman, 1997). Both teachers did not have experiences and knowledge regarding children's performance and behaviors before enrolling in the DAEP.

Since prosocial behavior is a separate scale used to measure children's strengths, the total difficulties score is thus calculated by summing scores of the other four scales (emotional symptoms, conduct problems, hyperactivity, and peer problems) (Stone et al., 2010). The total score can range from 0 to 40, with higher scores indicating higher difficulties and lower improvements (Neely-Barnes & Whitted, 2011). For a parent-report form, total difficulties scores

are divided into three categories: Normal (0-13), borderline (14-16), and abnormal (17-40) (Goodman, 1997). In regard to five scales, each scale score can range from 0 to 10 (Neely-Barnes & Whitted, 2011). For a parent-report form, the cut point scores are 3 for emotional symptoms, 2 for conduct problems, 5 for hyperactivity, 2 for peer problems, and 6 for prosocial behavior (Stone et al., 2010). Scores above the cut point for emotional symptoms, conduct problems, hyperactivity, and peer problems indicate the borderline or abnormal difficulties, whereas scores below the cut point for prosocial behavior are considered as having borderline or abnormal difficulties.

The SDQ is available in 40 languages and used widely in different countries (Goodman, 1997). The normative data of the SDQ are derived from over 10,000 respondents in such countries as Australia, Bangladesh, Finland, New Zealand, Sweden, the United Kingdom, and the United States (Neely-Barnes & Whitted, 2011). Total difficulties scores of the SDQ for a parent-report form have adequate internal consistency ( $r = .80$ ;  $n = 53,691$ ), with alpha coefficients of scores for each scale ranging from .53 (peer problems) to .76 (hyperactivity) (Stone et al., 2010). In regard to test-retest reliability, total difficulties scores of the SDQ yield alpha coefficients of .76 ( $n = 2,852$ ), with coefficients of scores for each scale ranging from .65 (prosocial behavior) to .71 (hyperactivity) (Stone et al., 2010).

The SDQ has good evidence of measurement validity based on internal structure (construct validity) and relations to other variables (concurrent and predictive validity). Most items of the SDQ for parent- and teacher-report forms show satisfactory factor loadings, ranging from .40 to .70 (Stone et al., 2010). For a parent version, items on hyperactivity scale contain the highest loadings, whereas items on conduct problems scale consist of the lowest loadings (Stone et al., 2010). In addition, emotional symptoms scale, conduct problems scale, hyperactivity scale,



and peer problems scale of the SDQ were found to be correlated with internalizing scale, externalizing scale, attention problems scale, and social problems scale of the Child Behavior Checklist (Stone et al., 2010). For the evidence of predictive validity, emotional symptoms, conduct problems, and hyperactivity of children at age 5 predict emotional symptoms ( $\beta = 0.53$ ), conduct problems ( $\beta = 0.50$ ), and hyperactivity ( $\beta = 0.67$ ) of children at age 6 as rated by parents and teachers (Stone et al., 2010).

### **Student Self-Report Rating Scale**

A student rating scale was created to measure the progress of students' classroom behaviors over the course of six sessions of the MPCC program. In this regard, students would rate how their day was and how they did on that day. The student self-report rating scale was designed using a number of stars to represent students' perceptions about their day and their classroom behaviors. Students were instructed to color a number of stars that best described their day: one star (very bad), two stars (bad), three stars (okay), four stars (good), and five stars (very good). Students also colored a number of stars that indicated the frequency of their classroom behaviors: one star (not at all), two stars (little bit), three stars (sometimes), four stars (most of the time), and five stars (all the time). The student self-report rating scale uses a 5-point Likert-type scale ranging from 0 (*not at all*) to 4 (*all the time*) to track behavioral changes of students. Higher scores in positive behavior and lower scores in negative behavior indicated better functioning of students.

### **Teacher Rating Scale**

Due to time constraint and daily tasks of teachers, a short rating scale was developed and utilized rather than administering a lengthy questionnaire to teachers everyday. In this regard, teachers were provided with the rating-scale sheet with a list of classroom behaviors, both

positive and negative behaviors, of each student who agreed to be in the study based on an initial interview with students and their parents/guardians during an orientation. Parents/guardians also responded to an open question in the SDQ to identify at least one positive behavior that they would like their children to gain while participating in the study. Classroom behaviors were tailored to each student. Teachers observed these behaviors in a classroom and rated the performance of students each day. The teacher rating scale uses a 5-point Likert-type scale ranging from 0 (*not at all*) to 4 (*always*). Examples of classroom behaviors include "*Complete schoolwork*" (positive behavior) and "*Disrespect and talk back to teachers*" (negative behavior). Higher scores in positive behavior and lower scores in negative behavior indicated improvement in students' classroom behaviors.

### **Daily progress report (DPR)**

The DPR was an evaluation form designed by the school district to provide students with daily feedback on their good behavior as well as identifying behaviors that need improvement. The DPR was completed by teachers at the DAEP daily until students returned their home campuses. Since parents/guardians of students were provided with one copy of the DPR each week, both teachers typically completed the DPR based on their mutual agreement. The DPR measures students' classroom behaviors on four academic goals: 1) complete daily assignments, 2) participate in class as required, 3) follow class procedures and expectations, and 4) use appropriate classroom behavior/language. Teachers provided check marks or zeros in each class period (advisory period, lunch period, and class periods 1-6) on four areas of classroom behaviors. Total check marks on each academic goal can range from 0 to 8, with the total check marks on four academic goals ranging from 0 to 32. Students can earn as high as 32 check marks each day. Higher check marks indicate higher functioning of students in a classroom.

In addition to a number of check marks, the DPR also includes a comments section for teachers to provide rationale when students appear to show inappropriate classroom behaviors and receive *zero* in certain class periods on a given day. Thus, the DPR also provides qualitative information about students' classroom performance. According to the school district's policy, teachers can use the DPR as a tool to provide rewards to students. Students with no absence and a commended progress report (receive none to 5 zeros within a week) are qualified for a bonus reward at the end of each week. Likewise, students with no absence and an applauded progress report (receive 5-10 zeros for an entire week) are qualified for a basic reward at the end of each week. Examples of rewards can range from small treats to extra play time.

### **Developmentally Appropriate MI metrics**

In this study, MI strategies were utilized to examine the process of behavioral changes of students while participating in the MPCC program. These MI metrics included a readiness to change ruler and a decision to change measure (Miller & Rollnick, 2013). The readiness to change ruler or scaling questions (on a scale from 1 to 10) were employed to explore students' perceptions regarding the *importance* of changing their undesirable behaviors and examine their *confidence* levels in making positive changes while staying at the DAEP (Giordano et al., 2013). The principal investigator used the readiness to change ruler twice, that is in the first session and the last session of the program, to examine whether or not students' perceptions of changing and their confidence levels to change have progressed over the course of treatment.

The decision to change measure comprised such strategic components as change-talk statements and a decisional balance. In this regard, students' change-talk statements indicating problem recognition, concerns or fears of consequences, desire or intention to change, and optimism or ability to change were identified using different case scenarios (Miller & Rollnick,

2013). This measure hypothesized that the more change-talk statements from students, the more likelihood of their behavioral changes (Osborn, 2011). In addition to change talk, a decisional balance was used to help students resolve their ambivalence about change by weighing pros and cons of changing and not changing their problematic behaviors (Martino et al., 2007). The principal investigator utilized this MI strategy to determine students' decisional process and their willingness to change (Wagner & Ingersoll, 2013). After completing the decisional balance, students would make a decision to change and identify a specific set of behaviors that they could perform to make important changes.

### **Procedures**

Upon receiving the approval from the IRB and the school district, a convenient sampling method was used to recruit students to participate in six 45-minute individual counseling and skills training in the MPCC program. All parents/guardians of students ages 8 to 12 were provided with informed consent forms for completing the SDQ and allowing their children to participate in counseling and skills training based on MI principles during the registration process at the DAEP. Students whose parents/guardians provided consent were invited to participate in the study orally and in writing by using an assent form. Once selecting student participants, teachers at the DAEP were provided with an informed consent form requesting them to complete the teacher's rating scale. The principal investigator also asked permission from teachers to use the DPR as an additional source of data for the study.

On the first day at the DAEP, parents/guardians and their children attended an orientation session and learned about the MPCC program and participant requirements. The principal investigator identified target classroom behaviors of each student by interviewing both parents/guardians and their children who agreed to be in the study. After the interview,

classroom behaviors of each student participant were listed on the rating-scale sheets for teachers and students to complete. These positive and negative behaviors became target goals that students and teachers needed to measure or track each day.

### **Behavioral Observations in Baseline and Treatment Phases**

By utilizing an A-B design of single-case research, teachers observed student participants in the classroom during their first four days at the DAEP and filled out the teacher rating scale as well as the DPR. Likewise, students filled out the student self-report rating scale to track their days and their classroom behaviors before attending the MPCC program (A= the baseline phase). Individual counseling and skills training were provided to students by utilizing MI strategies as a strengths-based approach for 45 minutes each day for a total of six sessions. While MI interventions were implemented, teachers and students continued to complete their rating scales in the end of each day (B= the treatment phase). The MI curriculum used in the MPCC program was developed and implemented by the principal investigator in all counseling sessions.

In this regard, the principal investigator was a licensed professional counselor-intern (LPC-Intern) and a national certified counselor who studied about MI for more than two years, attended more than seven hours of MI trainings and workshops, had more than two years of experience working with students on DAEP campuses, and completed two years of doctoral coursework in the counselor education program accredited by a Council for Accreditation of Counseling and Related Educational Programs (CACREP). As an LPC-Intern, the principal investigator practiced under the supervision of a Ph.D.-level licensed professional counselor-supervisor and a faculty advisor. In this study, the MPCC program consisted of six sessions of counseling and skills training aligning with a strengths-based approach and key processes and technical strategies of MI.

## Treatment

### Session 1: Rapport Building and Examination of the Readiness to Change

The first session began with the development of a supportive and collaborative relationship with student participants (engaging) (Miller & Rollnick, 2013). The principal investigator welcomed students to the MPCC program and discussed about the purpose of the program and issues of confidentiality associated with counseling and research. In order to build rapport with students, the principal investigator employed different activities such as *all about me*, *clay sculpture*, *colored candy go around*, *lifeline*, and *it's my life CD* (LaRossa, Charlesworth, & Chanko, 2007; Lowenstein, 2011). These activities facilitated conversations by encouraging students to talk about their personal lives, families, friends, schools, interests, dreams, abilities, significant events, and perceptions of being placed at the DAEP.

Upon building a therapeutic relationship with students, the principal investigator also examined the *readiness to change* of each student (Kress & Hoffman, 2008). Ruler or scaling questions were utilized to identify students' perceptions regarding the importance of positive changes and their levels of confidence in making those changes. In this regard, the principal investigator provided students with a sheet of paper showing a scale ranging from 1 to 10 and asked students to select a number that best represented their current perceptions about change (see Appendix C). To measure the importance level of change, for instance, the principal investigator could ask "on a scale of 1 to 10, with 1 meaning not important at all and 10 meaning very important, how important is it for you to follow school directions?" The principal investigator could also evaluate the confidence level of students by asking "on a scale of 1 to 10, with 1 meaning not confident at all and 10 meaning very confident, assuming you decided to follow school directions, how confidence are you that you could make this change?"

Once students chose specific numbers, the principal investigator used open questions to encourage students to clarify the meaning of their numbers and explore certain strategies that could help them increase their importance and confidence levels to change. If a student picked a 5 for his confidence level, for example, the principal investigator could ask "what does a 5 mean to you?" The following question could be "what makes you pick a 5 and not a 3?" After a student provided his reasons, the principal investigator then asked "what could you do to increase your confidence level in following school directions from a 5 to a 7?" By examining levels of importance and confidence of students in making positive changes, the readiness to change of each student was identified. Some students might not ready to change because they had low confidence while others might think that change was not important to them at this moment. This session also enhanced students' acceptance and responsibility for their current situations.

## **Session 2: Exploration of Values/Goals and Current Behaviors**

Once establishing relationships with students, an agreeable direction about change (focusing) was developed and maintained. The goal of the second session was to help students become *aware of a discrepancy* between their values/goals and current behaviors, if any (Engle & Arkowitz, 2008). Students were encouraged to identify what they wanted or what important things in their lives were (values) and what they were doing now (behaviors). The principal investigator used a *values card sort* and/or a *magic key* activity (Lowenstein, 2011) to facilitate students' participation.

With regard to a *values card sort* activity, the principal investigator created a card sort by gluing different words and pictures that represented values on index cards. The list of values included courage, education, fairness, family, friendship, freedom, hardworking, health, helping others, honesty, leadership, love and caring, respect, responsibility, teamwork, and trust. The

principal investigator explained the meaning of each value and asked students "what are the most important things in your life at this moment? Some important things? Least important things? The principal investigator then encouraged students to sort the cards under the most important, some important, and least important columns. Other than these values, the principal investigator asked students if they wanted to add other important things in the list. The focus of the discussion would be on the most important values.

In relation to the *magic key* activity (Lowenstein, 2011), the principal investigator provided a blank sheet of paper and colored pencils or crayons to students. The principal investigator then told students to imagine themselves entering a huge castle with many rooms on each floor. In a hallway, students found a magic key that could open only one room in the castle. Students would pretend that they walked from one room to another and tried to unlock the door. Finally, they came to the door that their magic key could open. Students looked into the room and saw one thing that would make them happy, and money could not buy it (see Appendix C). The principal investigator then asked students to draw what they saw inside the room on the paper. The drawing would indicate an important value of students.

By using either of these two activities, the principal investigator encouraged students to talk about their important values (what they wanted) and current behaviors (what they were doing). For example, a student might say that family was very important to him, but he often acted out and disappointed his family. This activity would help students learn that what they were doing now might not be congruent with their values or help them get what they wanted, which in turn motivated them to find ways to change or try new behaviors. In this session, the principal investigator helped students identify different ways that they could do to make their behaviors consistent with their values.



### **Session 3: Recognition of Personal Strengths**

As in the second session, the third session involved the focusing process. The purpose of this session was to support *self-efficacy* of students (van Wormer & Davis, 2008). In this session, students had opportunities to explore positive qualities or personal strengths by identifying their past successes and compliments received from others (Bozic, 2013). The principal investigator utilized various activities such as *exploring my strengths, things I can do* (Botvin, 2010), and *Wheel Houz* game (PBS KIDS, 2005) to help students explore their strengths and abilities.

In regard to an *exploring my strengths* activity, the principal investigator provided students with a sheet of paper containing a human figure, glue, colored pencils or crayons, and a list of positive attributes such as respectful, creative, friendly, kind, and thoughtful (see Appendix C). The principal investigator explained the meaning and provided examples of each quality if students requested. Then, students were asked to draw and color themselves on a human figure and selected a minimum of five qualities that best represented themselves. As a means to own these strength, students would glue their selected positive attributes on a sheet of paper that they drew themselves. The principal investigator also asked students to add other positive qualities that were not found in the list of strengths.

With respect to a *things I can do* activity (Botvin, 2010), students were guided to write a letter C (can do) or a letter I (I want to improve) in front of different statements that were provided in the worksheet. Examples of these statements included play a sport, make a friend, smile, do my homework, help with the housework, and do well in school. The principal investigator also encouraged students to write some other things that they could do and/or would like to improve on the worksheet. The purpose of this activity was to help students develop their self-efficacy and confidence.

With regard to a *Wheel Houz* game (PBS KIDS, 2005), students were guided to access the PBS KIDS webpage (It's My Life) and play a *Wheel Houz* game. This game was designed to help students identify their personal strengths or qualities that they were proud of themselves, some qualities that others would say were great about them, their abilities to learn new things and express their ideas, some strategies that they used to get things done, their interests at school and after school, groups of people or places that were important to them, and ways they could make a positive change in their community (see Appendix C). Upon completing this game, students would see themselves in a whole new way and realize that they were a unique person.

By using one of these activities, the principal investigator encouraged students to discuss about each strength and reflect on their experiences by asking, "how have these strengths helped you in past situations?," "how could you use these qualities to improve your current situations at the DAEP?," and "what was it like for you after focusing on your positive qualities, skills, and interests?" Even though the major focus of these activities was to empower students to apply their positive assets in their lives, the principal investigator also promoted autonomy of students and allowed them to make choices on their own.

#### **Session 4: Perspective Taking**

Once students became aware of their inherent resources and strengths, the fourth session then emphasized a concept of *empathy* or *perspective taking* (Giordano et al., 2013). In this session, students would learn about different emotions, gain understanding of their own feelings and other people's experiences and emotions, recognize the possibility of change in various situations (evoking), and find ways or solutions to deal with difficult feelings. In this regard, students learned about emotions and perspective taking by working on different *short case scenarios* and engaging in *the feelings game* (Do2Learn, 2013).

With regard to *short case scenarios*, the principal investigator provided students with the worksheet that included different cases and pictures such as a person who received low grades, a person who was physically injured, a person who was bullied by others, and a person who was isolated or rejected by his friends (see Appendix C). The principal investigator asked students to imagine if they were these persons in the cases, what thoughts and feelings they had about those experiences, and what they could do differently to better the situations. If these persons in the cases were their siblings, best friends, or other significant others, students were questioned on what they could do to help those persons cope.

According to *the feelings game* (Do2Learn, 2013), students were guided to access the game on the internet and read an instruction with an assistance from the principal investigator. This game was designed to help students increase their emotional awareness by matching real faces of people with different emotions. Students would learn about various emotions such as afraid, angry, ashamed, disgusted, happy, interested, sad, and surprised. They also learned about facial expressions associated with different emotions, various situations where people could express a wide range of emotions, and different ways to deal with unpleasant feelings or difficult emotions. Overall, these activities did not only help students learn about perspective taking, but also assisted them to improve their interpersonal and social skills.

### **Session 5: Recognition of Possible Changes**

As in the fourth session, the fifth session also involved an evoking process. Once students recognized their personal strengths and learned about empathy, the focus of this session was shifted to *change talk* (Mason, 2009). In this session, the principal investigator created different *case scenarios* about people who exhibited disruptive or undesirable behaviors (see Appendix C). Examples of these case scenarios included stories of a student who had angry outburst in a

class, a student who bullied another kid in a playground, and a student who abandoned his best friend (Hoglund et al., 2008).

In this regard, the principal investigator introduced a *case scenario* to students and asked them to answer four questions regarding the story of the case scenario. Examples of these questions included, "do you think Josh has a problem? If yes, what is Josh's problem?" (problem recognition), "are you worried about Josh? If yes, what worries you about Josh?" (concerns), "do you think Josh need to change? If yes, what are the reasons for Josh to make a change?" (intention or desire to change), and "are there some things that Josh can do to change? If yes, what do you think would work for Josh, if he decided to change" (optimism or ability to change) (Wagner & Ingersoll, 2013).

The purpose of these questions was to evoke change-talk statements from students. Students who answered "yes" and provided explanations in all questions were more likely to recognize possible changes than students who responded to one question or did not respond at all. After completing the case scenario, the principal investigator encouraged students to recall any past incidents that were similar to the case study and asked them, "what happened in that situation?," "what did you do? or what were your reactions?," "how has your behavior or action affected you?," and "what could you do differently if this incident happens again in the future?" These discussion questions could create change talk among students and motivate them to think about alternative ways to make positive changes.

### **Session 6: Decision Making and Reexamination of the Readiness to Change**

The last session focused on effective *decision making* and the development of a concrete plan of action (planning) (Osborn, 2011). The principal investigator developed and utilized a *decisional balance* sheet, a *change plan* worksheet, a *readiness to change ruler* sheet, and an

*individualized narrative letter* (Oliver, Nelson, Cade, & Cueva, 2007) in this session. The *decisional balance* sheet was designed to help students identify pros and cons of changing and not changing their problem behaviors (Scholl & Schmitt, 2009). The principal investigator asked such questions as "what are some good things in following school directions?," "what are not so good things in following school directions?," "if you don't have to follow school directions, what do you like about it?," and "when you don't follow school directions, what are some bad things or consequences that happened or could happen to you?" (see Appendix C).

After weighing pros and cons of changing and not changing, the principal investigator asked students to make a decision whether or not they would like to change or maintain a status quo after returning their home campuses. The principal investigator reminded students that they had choices, and they were the one who made their own choices. Once students made a decision, the principal investigator worked collaboratively with students to create a *change plan* (see Appendix C). For students who did not want to change, a hypothetical change plan could be created if students were willing to cooperate (Wagner & Ingersoll, 2013). This change plan identified 1) steps that students planned to take in making positive changes, 2) some things that could interfere with their plan, 3) an alternative plan if the original plan was not working, and 4) people or some things that kept them motivated to reach their plan. In this regard, the principal investigator used the change plan to increase students' commitment to change.

At the conclusion of the session, topics and skills that were learned in all sessions were summarized. Students were also asked to reflect on their experiences. The principal investigator then provided students with the *readiness to change* ruler sheet to reevaluate their levels of importance and confidence in making positive changes after attending the MPCC program. The

*individualized narrative letter* was also given to students as a means to conclude the program, address students' strengths, and support their accomplishments.

The principal investigator attempted to increase the fidelity of treatment by creating a reflective note on how MI skills were implemented with each student in each session. The researcher's notes emphasized specific types of MI spirit (e.g., supporting autonomy, encouraging collaborative relationships, evoking change-talk statements) and skills (e.g., open questions, affirmations, reflections, summaries) used with each student, students' reactions toward the principal investigator and the MPCC program (e.g., participation level and quality, affect/mood, behavior), and plans to improve the effectiveness of counseling sessions in the MPCC program.

### **Data Analysis**

Data collected from parents, teachers, and students were used to examine the effectiveness of the MPCC program on the improvement of classroom behaviors (positive and negative behaviors) as well as mental-health symptoms of students in the DAEP. In this study, different research methods were performed in order to address each research question.

### **Single-Case Research Design**

An A-B design of single-case research was utilized to measure behavioral changes of individual students attending six sessions of the MPCC program (research question 1) as well as compare group differences in behavioral changes between students who completed the MPCC program and those who did not complete the program across time (research question 2). In this regard, the A character denotes the baseline phase while the B character represents the treatment phase. The baseline phase is vital to establish the stability or pattern of participants' target behaviors/symptoms before receiving interventions (Horner et al., 2005). In the single-case

research design, participants' target behaviors/symptoms are continually observed and evaluated across time (Kratochwill et al., 2010).

In the past, the study of individual clients has long been conducted by mental-health professionals; however, the use of a single-case research design was not prevalent in counseling research due to the influence of descriptive and inferential statistics such as analysis of variance and regression that focus on comparing groups rather than studying individuals (Parker & Hagan-Burke, 2007). In addition, many researchers believed that the single-case research design was affected by major threats to validity such as error variance, small sample sizes, uncontrolled case studies, nongeneralizability of the results, and other confounding variables (Heppner, Wampold, & Kivlighan, 2008).

Currently, single-case research design is considered as a rigorous and systematic methodology that examines the causal relationship between a manipulated independent variable and dependent variables over time (Horner et al., 2005). The use of a single-case research design allows for thorough examination of the process of skill acquisition and the fidelity of interventions, which in turn informs further hypothesis testing and effectiveness trials (Heppner et al., 2008; Kratochwill et al., 2010; Lenz, 2013). Based upon the single-case research design, data in this study were analyzed using graphical representations and effect sizes.

**Visual analysis.** Lenz (2013) asserted that graphical illustration of data was necessary to determine whether or not meaningful changes between baseline and treatment phases were occurred. With respect to the visual analysis, level, trend, variability, and immediacy of treatment effect of scores on the student rating scale, the teacher rating scale, and the DPR were examined and interpreted across phases. In this regard, level refers to the mean or median scores of participants within each phase of the study (Horner et al., 2005). Trend is a slope or the rate of

increase or decrease of scores for dependent variables (Horner et al., 2005). In this study, if students' scores on positive behaviors show an increasing pattern from the baseline phase to the treatment phase, this trend then indicates that the MPCC program has a positive impact on students' classroom behaviors over a period of 10 days. In regard to variability, Horner and his colleagues (2005) defined variability as the degree to which data points of the dependent variable fluctuate around a mean or median score within each phase. Finally, the immediacy of effect refers to the magnitude of change in which the last three data points at the end of one phase do not overlap the first three data points at the beginning of another phase (Sharpley, 2007).

According to Kratochwill et al. (2010), there are certain steps that researchers can follow to analyze data in a single-case research design. These steps include 1) documenting a baseline pattern, 2) examining data within each phase of the study to evaluate the within phase pattern, 3) comparing data from each phase with data in the adjacent and similar phase (i.e., baseline vs. treatment, treatment vs. follow-up, baseline vs. follow-up), and 4) integrating information from all phases to assess whether or not the independent variable has causal relationship with the dependent variable (Kratochwill et al., 2010). In this study, data from the student rating scale, the teacher rating scale, and the DPR were documented on the baseline phase and the treatment phase. The level, trend, variability, and immediacy of effect of data points in baseline and treatment phases were then evaluated and compared. Finally, information from the comparison of each phase were combined to determine the effects of an independent variable (the MI-based MPCC program) on dependent variables (classroom behaviors).

**Effect size.** In addition to the visual inspection of behavioral changes, the analysis of effect size was used to evaluate the magnitude of the treatment effect. The measurement of effect size provides an objective measure of treatment effect, increases the accuracy of measurement,



allows for meta-analyses and comparisons across cases, improves inter-rater reliability for computing results of single-case research design, and increases efficiency in documentation and outcome report in counseling (Lenz, 2013). The effect size of the single-case research design can be analyzed by identifying changes in slope and variability of data (Lenz, 2013). In this regard, researchers can analyze an effect size of the study by identifying peaks and valleys in the graphs. These peaks provide an opportunity for researchers to evaluate strengths and weaknesses of interventions over time (Lenz, 2013). Researchers can also justify whether or not effect size is consistent with the overall trends of data during interventions.

One of the most convenient measurements of effect size is the computation of the amount of nonoverlapping data points between the baseline phase and the treatment phase (Lenz, 2013). The advantage of this nonoverlapping method is easy to compute (by hand calculation) with minimal to moderate trainings and not required statistical software packages (Lenz, 2013). In this regard, there are three ways to compute effect size based on the nonoverlapping method. First, effect size of the study can be examined by identifying the percentage of data in the treatment phase that exceeds a single point in the baseline phase (Kratichwill et al., 2010). This method is called the percentage of nonoverlapping data (PND). Second, effect size can be calculated by identifying the percentage of data in the treatment phase that is relying on the overlap with the median data point in the baseline phase (Ma, 2006). This method is called the percentage of data exceeding the median (PEM). In regard to this method, if interventions are effective, data will lie on the therapeutic side of the median. If interventions are ineffective, data will fluctuate above and below the median of baseline. Third, effect size of the study can be computed by using a ratio based on all nonoverlapping data between the baseline phase and the treatment phase (Lenz, 2013). This method is called the percentage of all nonoverlapping data (PAND).

To calculate effect size in this study, the PEM was utilized due to the limited time available for establishing a stable trend within the baseline phase and the presence of ceiling and floor data points in the baseline phase that could enhance the possibility of accepting null hypothesis (Type II error) while in fact the intervention may cause significant improvements in target behaviors (Lenz, 2013). The PEM can be computed by counting data points in the treatment phase that are above or below the median baseline on the therapeutic side and dividing the count by the total number of data points in the same phase (Ma, 2006). In this regard, effect sizes are categorized to significant effectiveness (.90 and above), moderate effectiveness (.70 to .89), debatable effectiveness (.50 to .69), and ineffectiveness (below .50) (Lenz, 2013).

In this study, students' scores of positive, negative, and overall classroom behaviors on the student rating scale, the teacher rating scale, and the DPR were compared to their median scores in the baseline phase. In specific, the median ratings across the baseline phase (4 days) were used to evaluate the impact of the MPCC program on behavioral changes of students in the treatment phase (6 days). Using the PEM, the treatment effect was identified by observations of the extent to which scores on rating scales and the DPR in the treatment phase exceeded (for positive and overall classroom behaviors) or declined (for negative behavior) in relation to median scores in the baseline phase. If all scores in the treatment phase (6 out of 6 data points) were on the therapeutic side above the median baseline, for instance, the result indicated that the MPCC program was very effective in promoting positive behaviors of students.

### **Relative Success Rate of Treatment Group to Comparison Group**

Relative Success Rate (RSR) was employed to estimate behavioral improvements of students who completed the MPCC program in comparison with students who did not complete treatment (research question 2). RSR is one of the clinical outcome indices used in hundreds of

evidence-based medical research (Parker & Hagan-Burke, 2007). RSR was adopted and modified from the relative risk reduction used to measure the effect of clinical treatment (Cook & Sackett, 1995). In this regard, the relative risk reduction refers to "the difference in the probabilities of an event in the treatment and control groups" (Cook & Sackett, 1995, p. 452). The relative risk is computed by estimating the probability of an event (risk) in the treatment group and dividing by the probability of an event in the control group (Cook & Sackett, 1995). If the event rate in the treatment group is less than that in the control group, the treatment then has a potential benefit to participants (Cook & Sackett, 1995). According to the relative risk reduction, RSR refers to the ratio of treatment to comparison group success rate in relation to the impact of the intervention on the outcome measure (Parker & Hagan-Burke, 2007). RSR is a sound and pragmatic measure of the treatment effect that is easily computed with the minimum requirement of statistical expertise (Parker & Hagan-Burke, 2007).

In this study, RSR was calculated using data from the student rating scale, the teacher rating scale, and the DPR that were plotted in graphs. The process of RSR estimation was somewhat similar to the PEM calculation. Specifically, the success rate of each group was first computed by counting the total number of data points of each student in the treatment phase that were above the median baseline (for positive and overall classroom behaviors) or below the median baseline (for negative behavior) and dividing these data points by the total number of observations for that same phase (Lenz, Perepiczka, & Balkin, 2013). Since there were 10 students in the treatment group, the total number of observations in the treatment group was 60 (10 students x 6 sessions of treatment). In the comparison group, the total number of observations was 36 (6 students x 6 sessions of treatment). Each student used his/her median score in the baseline phase to evaluate improving scores in the treatment phase.

After estimating the success rate of each group, the success rate of the treatment group was then divided by the success rate of the comparison group to calculate the ratio of success rate between two groups. If the numerator was greater than the denominator, students in the treatment group demonstrated greater behavioral improvements than those in the comparison group. In contrast, if the numerator was less than the denominator, students in the treatment group exhibited lower behavioral improvements than students in the comparison group. In addition, if the success rate equaled 1, there were no differences in behavioral improvements between students in treatment and comparison groups.

### **Within- and Between-Groups Comparison at Pre- and Post-Interventions**

**Paired-samples  $t$  test.** This study employed a paired-samples  $t$  test or a dependent  $t$  test to address research question 3. The paired-samples  $t$  test can be used to examine hypotheses or research questions that involve a single mean or differences between two means (Green & Salkind, 2011). In this analysis, subjects or dependent variables are measured repeatedly to assess whether or not "the mean difference between paired observations is significantly different from zero" (Dimitrov, 2009; Green & Salkind, 2011, p. 162). The paired-samples  $t$  test can be divided into two types: repeated-measures and matched-subjects designs.

In a repeated-measures design, participants are evaluated twice on one measure (Green & Salkind, 2011). The repeated-measures design aims to investigate whether or not the mean difference between scores at two time points or under two conditions differs significantly from zero (Dimitrov, 2009; Green & Salkind, 2011). In a matched-subjects design, participants are paired (e.g., parents and children, teachers and students, husbands and wives), and each participant is evaluated once on a measure (Green & Salkind, 2011). The matched-subjects

design examines whether or not the mean difference between scores under two conditions is significantly different from zero (Green & Salkind, 2011).

Because this study measured the mean difference between scores on the SDQ at pre- and post-interventions, the repeated-measures factor of this study was *time*. In the treatment group, the independent variable of this study was the MI curriculum, whereas dependent variables were scores of the SDQ (emotional symptoms, conduct problems, hyperactivity, peer problems, total difficulties, and prosocial behavior) at pre- and post-surveys. In the comparison group, the independent variable was the classroom guidance curriculum (treatment as usual) while dependent variables were scores of the SDQ (emotional symptoms, conduct problems, hyperactivity, peer problems, total difficulties, and prosocial behavior) at pre- and post-surveys.

With a moderate to larger sample size ( $N \geq 30$ ), the paired-samples *t* test is robust to nonnormality and heterogeneous variances because the subjects serve as their own controls (Dimitrov, 2009). In addition to model assumptions of normality and homogeneity of variance (HOV), the assumption of independence is equally important. In this regard, the assumption of independence is met when each participant is observed once (Green & Salkind, 2011). This means that a participant in one group cannot be in another group.

In addition to evaluate the statistical significance of the test, the practical significance should be reported. The practical significance indicates the meaningfulness of mean differences between the independent and dependent variables without the complication of the sample size (Dimitrov, 2009). For the paired-samples *t* test, the effect size statistics called Cohen's *d* is used to compute the magnitude of a treatment effect (Parker & Hagan-Burke, 2007). The *d* statistic can be computed using the equation: mean difference/standard deviation (Green & Salkind, 2011). The mean difference and standard deviation are reported in the SPSS output under Paired

Differences (Green & Salkind, 2011). In this regard, the  $d$  statistic assesses the degree to which "the mean of the difference scores deviates from 0 in standard deviation units" (Green & Salkind, 2011, p. 171). If  $d$  equals 0, the independent variable has no effect on the dependent variable. Regardless of positive and negative signs,  $d$  values of .2, .5, and .8 indicate small, medium, and large effect sizes, respectively.

**Independent-samples  $t$  test.** This study also utilized an independent-samples  $t$  test to compare mean differences of each scale score and the total score of the SDQ between students in the treatment group and those in the comparison group (research question 3). In this regard, a *group* with two levels (treatment and comparison groups) was considered as the independent variable, and mean scores of the SDQ (emotional symptoms, conduct problems, hyperactivity, peer problems, total difficulties, and prosocial behavior) at post-survey in both groups were identified as dependent variables. The independent-samples  $t$  test examines whether or not mean scores of the dependent variable for one group are significantly different from mean scores of the dependent variable for another group (Green & Salkind, 2011). In this study, mean scores of the SDQ for the treatment group at post-intervention were compared with mean scores of the SDQ for the comparison group at post-intervention in order to evaluate the treatment effect of the MI curriculum after students completed the program.

There are three assumptions underlying the independent-samples  $t$  test: normality, HOV, and independence of samples (Green & Salkind, 2011). In this regard, normality assumption emphasizes that scores of the dependent variable are normally distributed in each group (Green & Salkind, 2011). The assumption of normality can be evaluated using the Shapiro-Wilk statistic ( $w$ ) in SPSS at the .01 level of significance ( $p > .01$ ) for small sample sizes ( $N < 30$ ) or using box plots for large sample sizes ( $N \geq 30$ ) (Balkin, 2008). The assumption of HOV will be met if

variances of the normally distributed dependent variable in each group are equal or approximate to each other (Green & Salkind, 2011). The HOV assumption can be assessed using the Levene test in SPSS at the .01 level of significance ( $p > .01$ ) (Balkin, 2008). The independence assumption is concerned about the selection and assignment of participants to each group (Balkin, 2008). In this regard, the assumption of independence will be held if participants of both groups are independent of each other (Green & Salkind, 2011).

In addition to evaluate the statistical significance of the test, Cohen's  $d$  is used to compute the practical significance or effect size (Parker & Hagan-Burke, 2007). The  $d$  statistic can be computed using the equation: mean difference/pooled standard deviation (Green & Salkind, 2011). While the mean difference is reported in the SPSS output, the pooled standard deviation needs to be calculated using the equation:  $\sqrt{(N_1 - 1)SD_1^2 + (N_2 - 1)SD_2^2 / N_1 + N_2 - 2}$  (Green & Salkind, 2011). In this regard, the  $d$  value of 0 indicates that differences in mean scores between two groups are not evident (Parker & Hagan-Burke, 2007). As a rule,  $d$  values of .2, .5, and .8 indicate small, medium, and large effect sizes, respectively (Green & Salkind, 2011). In comparison with the paired-samples  $t$  test, major disadvantages of the independent-samples  $t$  test are high error variance and low power of the test (Dimitrov, 2009). Unlike the paired-samples  $t$  test, the independent-samples  $t$  test is subject to the error variance of differences between groups and thereby decreasing the power of the analysis (Dimitrov, 2009).

In summary, this chapter presented research questions, participants, setting, data collection, measurement of outcomes, procedures, treatment, and data analysis. By using the single-case research design, relative success rate, and within- and between-groups comparison design ( $t$  test procedures), the results of data analysis were reported in chapter IV.

## **Chapter IV**

### **Results and Findings**

The primary purpose of this study was to examine the effectiveness of the MI-based MPCC program for reducing behavioral, emotional, and/or psychological symptoms as well as promoting positive changes in children at the DAEP. In this chapter, the principal investigator provided a discussion of results based on an analysis of all sets of quantitative data: the student rating scale, the teacher rating scale, the DPR, and pre-post tests of the SDQ. Data were collected during the fall of 2014 semester. In this regard, no missing data were detected in all measures. Quantitative findings from these data were reported based on three research questions.

Through individual counseling and skills training with each participant, the principal investigator also noted the impact of the MPCC program on the change process of students' classroom behaviors (positive and negative behaviors) by analyzing MI metrics such as a readiness to change ruler (importance and confidence levels to change) and a decision to change metric (change-talk statements and decisional balance) during the treatment implementation. This analysis revealed important factors that constituted changes in scores or performance of each participant. Findings from MI metrics were reported in individual profiles of participants in the treatment group. Overall, chapter IV was organized based on three research questions.

#### **Research Question 1: Individual Profiles of Participants**

Research question 1 concerned changes in classroom behaviors (positive and negative behaviors) of students in the treatment group across time. Data from the student rating scale, the teacher rating scale, and the DPR were analyzed using a visual trend analysis and the percentage of data exceeding the median (PEM) procedures based on a single-case research design. The visual analysis was performed by examining and interpreting the level, trend, variability, and



immediacy of treatment effect (Sharpley, 2007) on each participant's scores. In addition to the visual inspection of behavioral changes, the effect size was estimated in this study. The PEM was calculated by identifying the percentage of data in the treatment phase that lie on the therapeutic side of the median baseline (Ma, 2006). In this study, the MPCC program would be effective if more than 50% of data points (3 out of 6 scores) in the treatment phase were placed above the median baseline (for positive and overall classroom behaviors) or below the median baseline (for negative behavior). In addition to the visual analysis and the PEM estimation, the utilization of MI metrics was reported to indicate the change process of each participant during the implementation of the MPCC program.

### **Research Question 2: Group Profiles of Participants**

Research question 2 compared group differences in behavioral changes between students who completed the MI curriculum and those who did not complete treatment across time. Data from the student rating scale, the teacher rating scale, and the DPR of all students in each group were combined and analyzed using a visual trend analysis and the PEM procedures based on a single-case research design to examine overall changes of students in both treatment and comparison groups across time. Specifically, the median baseline of each group was estimated by comparing scores of all students ( $N = 10$  for the treatment group and  $N = 6$  for the comparison group) at baseline 1, baseline 2, baseline 3, and baseline 4 and then identifying a median score of each baseline. Median scores from baselines 1 to 4 were subsequently placed in a sequence to find a group median score. Group scores of each session in the treatment phase also represented median scores of all students in that group.

Relative Success Rate (RSR) was also reported to examine the success rate between students in treatment and comparison groups. RSR refers to the ratio of treatment to comparison

group success rate in relation to the impact of the intervention on the outcome measure (Parker & Hagan-Burke, 2007). RSR was calculated using data from the student rating scale, the teacher rating scale, and the DPR. To evaluate the success rate for each group, the total number of intervention points above the median baseline (for positive and overall classroom behaviors) or below the median baseline (for negative behavior) of each participant was divided by the total number of observations in the treatment phase for that same group (Lenz et al., 2013). The success rate of each participant was then combined to determine a success rate of the group. In this study, the analysis included a total number of 60 observations for the treatment group and a total number of 36 observations for the comparison group. After estimating the success rate for each group, the principal investigator computed the ratio of success rates between treatment and comparison groups (treatment group success rate/comparison group success rate).

### **Research Question 3: Within- and Between-Groups Comparison**

Research question 3 explored changes in emotional symptoms, conduct problems, hyperactivity, peer problems, total difficulties, and prosocial behavior of students within and between treatment and comparison groups. Data from pre- and post-surveys of the SDQ reported by parents/guardians of student participants were analyzed to examine this research question. Paired-samples *t* test was conducted to test research question 3 by comparing differences between scores on emotional symptoms, conduct problems, hyperactivity, peer problems, total difficulties, and prosocial behavior of the SDQ at pre- and post-interventions within each group. On the other hand, independent-samples *t* test was performed by comparing differences in scale scores and total scores of the SDQ between treatment and comparison groups at post-intervention. In this regard, the treatment effect of the MPCC program on behavioral changes of students was calculated using Cohen's *d* (Dimitrov, 2009).

### **Single-Case Analysis: Individual Profiles of Participants**

Individual profiles of 10 participants in the treatment group were presented along with the discussion about single case analytic measures based on the student rating scale, the teacher rating scale, and the DPR. Level, trend, variability, and immediacy of effect were interpreted using graphical representations. Effect size of the intervention was estimated using the PEM. Since two teachers completed the teacher rating scale for each participant, inter-rater reliability was calculated using Pearson's  $r$  correlation (Dimitrov, 2009). Inter-rater reliability based on 320 observations of all students in both treatment and comparison groups was .842, indicating a high degree of agreement among two raters in relation to behavioral changes of students. Inter-rater reliability of scores on two teacher rating scales was also high in each group: Pearson's  $r = .888$  ( $N = 200$ ) in the treatment group and .721 ( $N = 120$ ) in the comparison group. As such, the combined scores of both teachers were used for a single-case analysis.

#### **Participant 1**

Aden's scores of positive and negative behaviors are displayed in Figures 1 and 2, respectively. Each figure shows a comparison between scores on the student rating scale and the teacher rating scale. Data based on the DPR and MI metrics were outlined after the analysis of Aden's positive and negative behaviors.

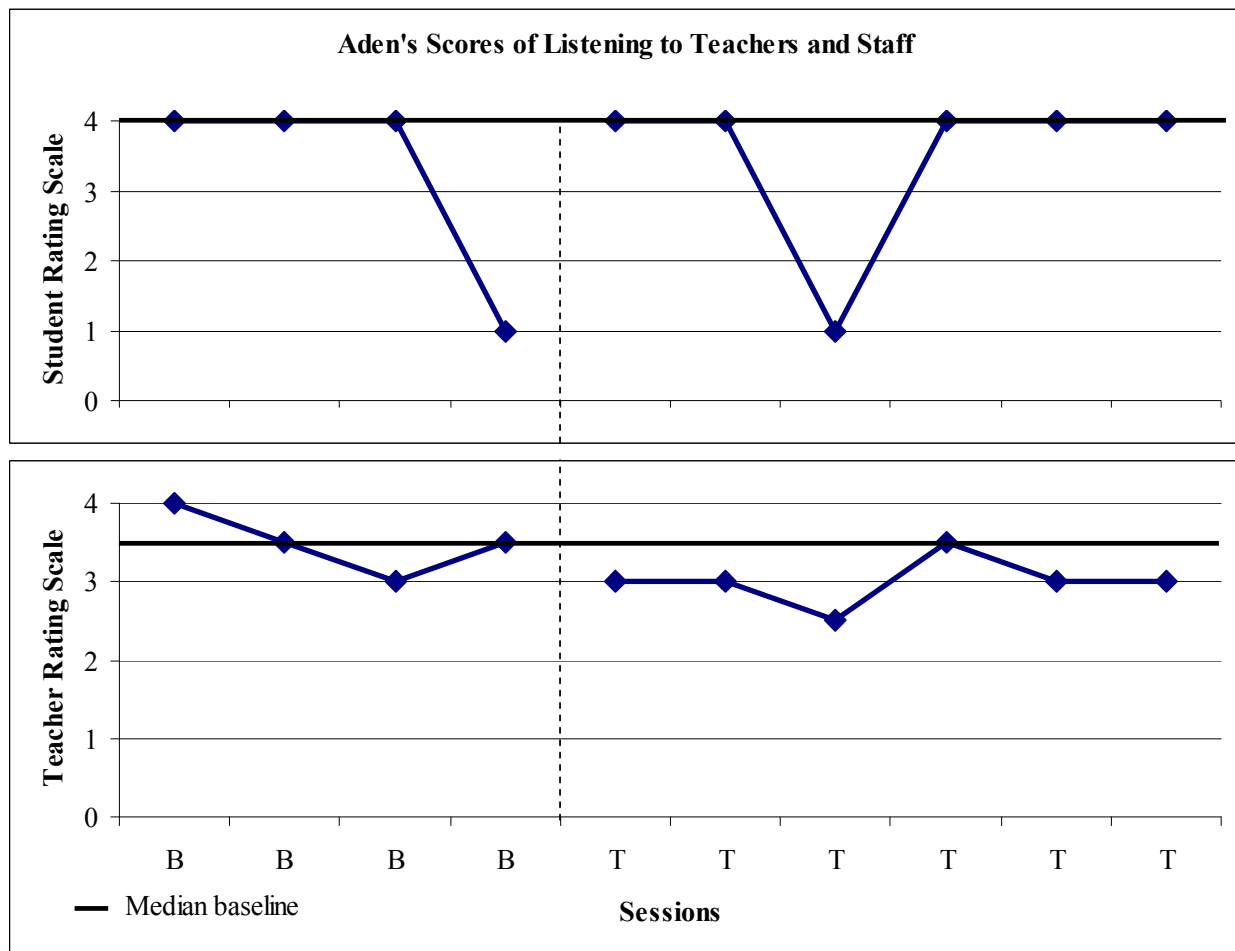
#### **Positive Behavior**

A visual analysis of level in Figure 1 showed that Aden generally had high median scores of positive behavior based on the student-report (Median = 4; SD = 1.50) and the teacher-report (Median = 3.5; SD = 0.41) at baseline. This level indicated that Aden often listened to teachers and staff before attending the MPCC program, except on baseline 4 that he believed he rarely listened to teachers (student-report). Within the treatment phase, Aden's scores of positive

behavior based on the student-report were relatively stable (Median = 4; SD = 1.22), except the third session of treatment that his score fell far below the median baseline. Aden's scores of positive behavior based on the teacher-report were also somewhat stable (Median = 3; SD = 0.32), except two scores on sessions 3 and 4 that were quite fluctuated.

Figure 1

*Student's and Teacher's Rating Scales of Aden's Positive Behavior Across Phases*



With regard to the trend, the student-report and the teacher-report did not show a distinct slope of scores within the treatment phase. However, Aden's scores on the teacher-report illustrated a declining pattern of his positive behavior from baseline to treatment phases. In terms of variability, Aden's scores of positive behavior based on the student-report were quite varied

across phases, whereas his scores of positive behavior based on the teacher-report were relatively stable. According to the student-report, there was an extreme value of Aden's scores on both baseline and treatment phases. In addition, the immediacy of treatment effect was not noted on both student- and teacher-reports because there were overlapping scores between the last three data points at baseline and the first three data points at treatment.

According to the student-report, the MPCC program was ineffective in promoting positive behavior of Aden ( $PEM = 0$ ). Aden almost always listened to his teachers and staff before and during attending the MPCC program; hence, there were no behavioral changes across phases. Likewise, data from the teacher-report indicated that the MPCC program was ineffective in promoting Aden's positive behavior ( $PEM = 0$ ) as none of the data points in the treatment phase were on the therapeutic side above the median baseline.

### **Negative Behavior**

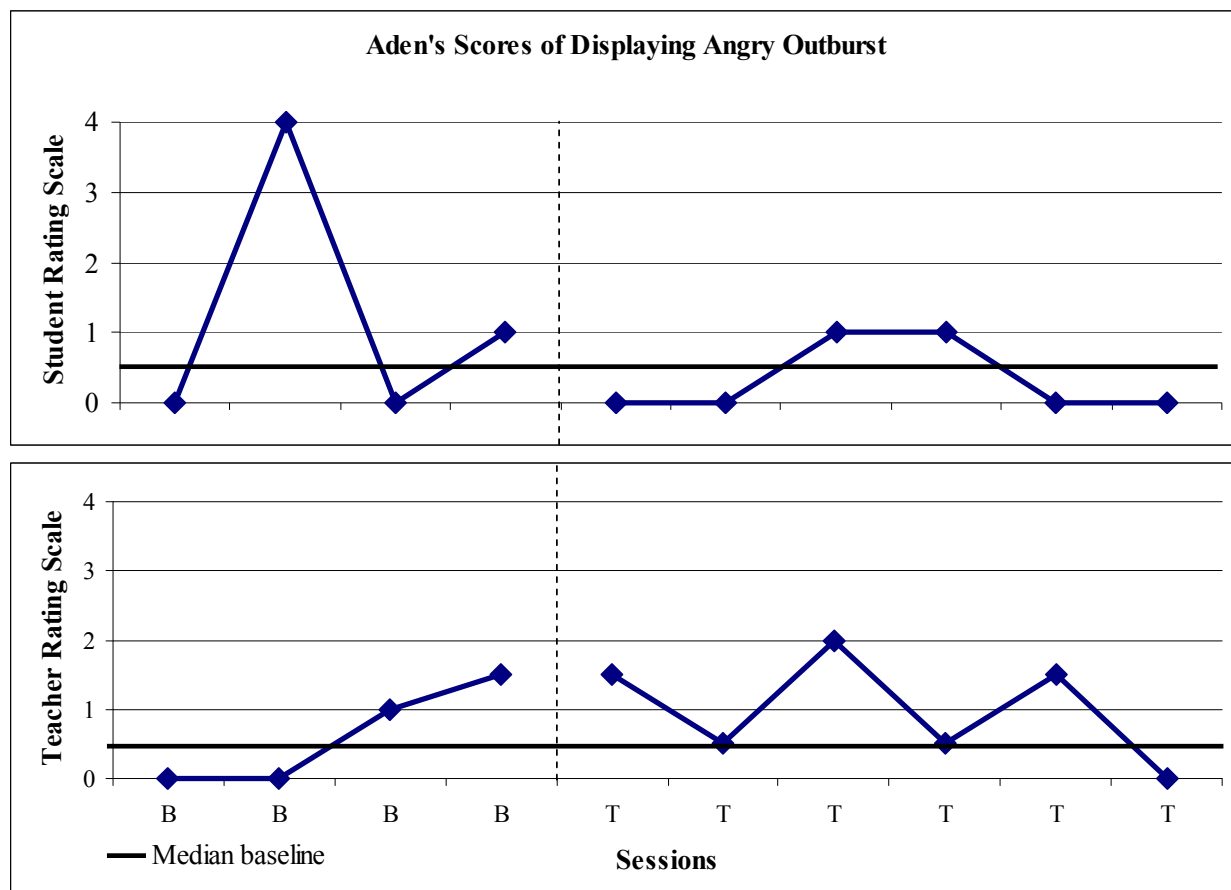
A visual analysis of level in Figure 2 showed that Aden had very low median scores of negative behavior based on the student-report (Median = 0.5; SD = 1.89) and the teacher-report (Median = 0.5; SD = 0.75) at baseline. This level indicated that Aden rarely had angry outburst in the class before attending the MPCC program, except at baseline 2 on the student-report that he displayed anger all the time. Within the treatment phase, Aden's scores of negative behavior on the student-report were quite stable (Median = 0; SD = 0.52), whereas his scores of negative behavior on the teacher-report were fluctuated across time (Median = 1; SD = 0.77).

With respect to the trend, the student-report did not show a distinct slope in the treatment phase, whereas the teacher-report demonstrated a fluctuating, yet declining slope from sessions 1 to 6 of treatment. In regard to variability, Aden's scores of negative behavior based on the student-report were highly varied in the baseline phase, but relatively stable in the treatment

phase. Based on the teacher-report, Aden's scores of negative behavior were quite stable in the baseline phase, but became varied in the treatment phase. Both student- and teacher-reports indicated that Aden did not experience the immediacy of treatment effect on his negative behavior due to overlapping scores between the last three data points at baseline and the first three data points at treatment.

Figure 2

*Student's and Teacher's Rating Scales of Aden's Negative Behavior Across Phases*



According to the student-report, the MI-based MPCC program was debatably effective in reducing negative behavior of Aden ( $PEM = 0.67$ ) as four data points in the treatment phase were on the therapeutic side below the median baseline. On the contrary, Aden's scores on the teacher-report indicated that the MI-based MPCC program was ineffective in decreasing Aden's

negative behavior (PEM = 0.17). In this regard, only one data point was on the therapeutic side below the median baseline.

### **Overall Classroom Behavior**

With reference to the DPR, the MPCC program was debatably effective in enhancing overall classroom behavior of Aden (PEM = 0.5). The PEM statistics of 0.5 indicated that three scores were on the therapeutic side above the median baseline (Median baseline = 30.5; SD = 2.53). According to the DPR, Aden's fluctuating scores on the overall classroom behavior were associated with his scores on positive and negative behaviors across phases.

At baseline 3, Aden received three zeros in the areas of following class procedures and expectations and using appropriate classroom behavior and/or language. Teachers provided feedback that Aden was talking out loud and distracting his classmates by refusing to stay on his assigned seat. At baseline 4, Aden received eight zeros in all four areas of completing daily assignments, participating in class as required, following class procedures and expectation, and using appropriate classroom behavior and/or language. In this regard, teachers noted that Aden was disruptive. He hid under the desk, ran around the room, pulled things off shelves, and refused to sit on an assigned chair.

In session 1 of treatment, Aden received two zeros in the areas of following class procedures and expectation and using appropriate classroom behavior and/or language. Teachers reported that Aden made grunting and moaning sounds and refused to get quiet. In session 2, Aden received six zeros in the areas of completing daily assignments, following class procedures and expectation, and using appropriate classroom behavior and/or language. Teachers described that Aden thought he could choose where to sit and when to work. In session 3, Aden received four zeros in the areas of following class procedures and expectation and using appropriate

classroom behavior and/or language. Teachers commented that Aden tried to control the class by choosing his own seat and doing assigned tasks at his own time. After session 3, Aden was able to improve his behavior and maintain his high functioning until he exited the DAEP.

### **Results on MI Metrics**

The principal investigator utilized developmentally appropriate MI activities, tools, and methods to facilitate the six sessions of the MPCC program. Students progressed on two core MI metrics were evaluated. These metrics were the readiness to change ruler (importance and confidence levels to change) and the decision to change process (change-talk statements and decisional balance).

Aden was an 8-year-old Alaska Native male in the 3rd grade who was referred to the DAEP for the first time due to an issue of possession of an illegal knife. Aden's target classroom behaviors were identified as listening to teachers (positive behavior) and displaying angry outburst in the class (negative behavior).

**Readiness to change ruler.** Aden reflected the readiness to change in the initial session of the MPCC program. He initially rated the importance of listening to teachers and controlling his anger as 10 out of 10 rating and identified his confidence level to change as 6 out of 10 rating. Throughout the program, Aden maintained his perceptions about behavioral changes while his confidence level to change slightly increased over the session (6 to 7).

**Decision to change process.** In his processing of case scenario, Aden demonstrated his understanding of the change process (change talk) by recognizing the problem of the current behavior, describing the adaptability of an intention to change, and articulating a strategy for changing. Aden identified pros and cons of pursuing his target goals. For example, Aden identified some good things of listening to teachers as avoiding trouble and feeling proud of



himself. Some disadvantages of listening to teachers included feeling bored and doing too much work. Some good things when he did not listen to teachers included playing around with his friends and talking in class. Some disadvantages of not listening to teachers were getting in trouble and making his parents disappointed. In the last session of the program, Aden decided to change his behavior when returning his home school. He stated that he would try to listen to his teachers, control his anger, and be honest to his parents.

### **Participant 2**

Andrew's scores of positive and negative behaviors are displayed in Figures 3 and 4, respectively. Each figure shows a comparison between scores on the student rating scale and the teacher rating scale. Data based on the DPR and MI metrics were outlined after the analysis of Andrew's positive and negative behaviors.

#### **Positive Behavior**

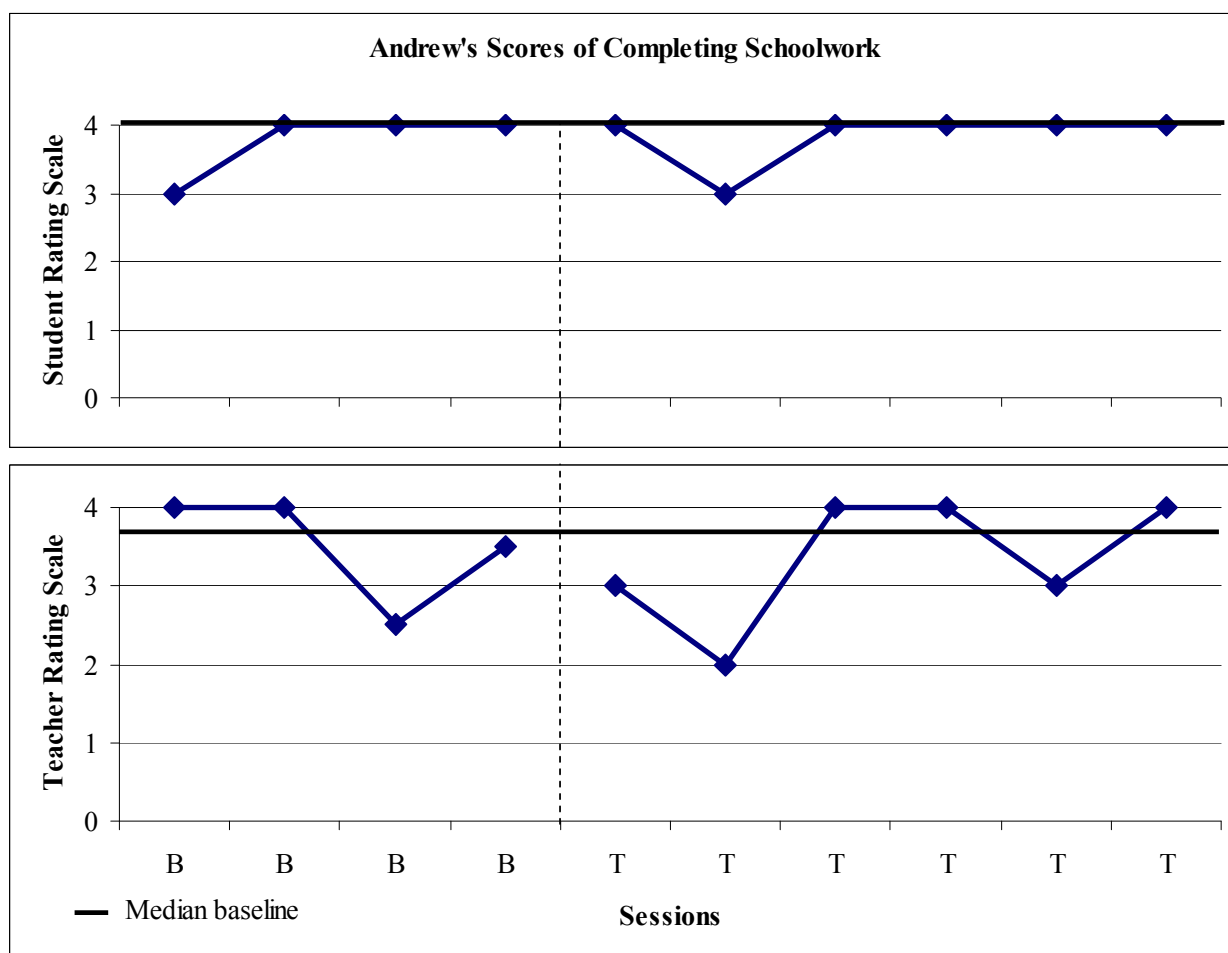
A visual analysis of level in Figure 3 showed that Andrew had high median scores of positive behavior based on the student-report (Median = 4; SD = 0.50) and the teacher-report (Median = 3.75; SD = 0.71) at baseline. This level indicated that Andrew often completed his schoolwork before attending the MPCC program. Within the treatment phase, Andrew's scores of positive behavior based on the student-report were relatively stable (Median = 4; SD = 0.41), except the second session of treatment that his score fell below the median baseline. In contrast, Andrew's scores of positive behavior based on the teacher-report were fluctuated across time (Median = 3.5; SD = 0.82). Andrew scored relatively low during sessions 1 and 2 of treatment and regained his high functioning in sessions 3 and 4, with a slight decrease in session 5.

With regard to the trend, the student-report did not show a distinct slope while the teacher-report illustrated a fluctuating, yet increasing slope from sessions 1 to 6 of treatment. In

terms of variability, Andrew's scores of positive behavior based on the student-report were relatively stable across phases, whereas his scores of positive behavior based on the teacher-report were highly varied. In this regard, the treatment phase had higher variability than the baseline phase. Despite these differences, both student- and teacher-reports revealed that Andrew did not experience the immediacy of treatment effect because there were overlapping scores between the last three data points at baseline and the first three data points at treatment.

Figure 3

*Student's and Teacher's Rating Scales of Andrew's Positive Behavior Across Phases*



According to the student-report, the MPCC program was ineffective in promoting positive behavior of Andrew (PEM = 0). Andrew almost always completed his schoolwork

before and during attending the MPCC program; hence, there were no behavioral changes across phases. On the other hand, data from the teacher-report indicated that the MPCC program was debatably effective in promoting Andrew's positive behavior ( $PEM = 0.5$ ) as three scores in the treatment phase were on the therapeutic side above the median baseline.

### **Negative Behavior**

A visual analysis of level in Figure 4 showed that Andrew had very low median scores of negative behavior based on the student-report (Median = 0; SD = 0.50) and the teacher-report (Median = 0.5; SD = 0.41) at baseline. This level indicated that Andrew rarely disrupted the class before attending the MPCC program. Within the treatment phase, Andrew's scores of negative behavior based on the student-report were stable (Median = 0; SD = 0), whereas his scores of negative behavior based on the teacher-report were declining across time with a fluctuating score on the fifth session (Median = 0.5; SD = 0.38).

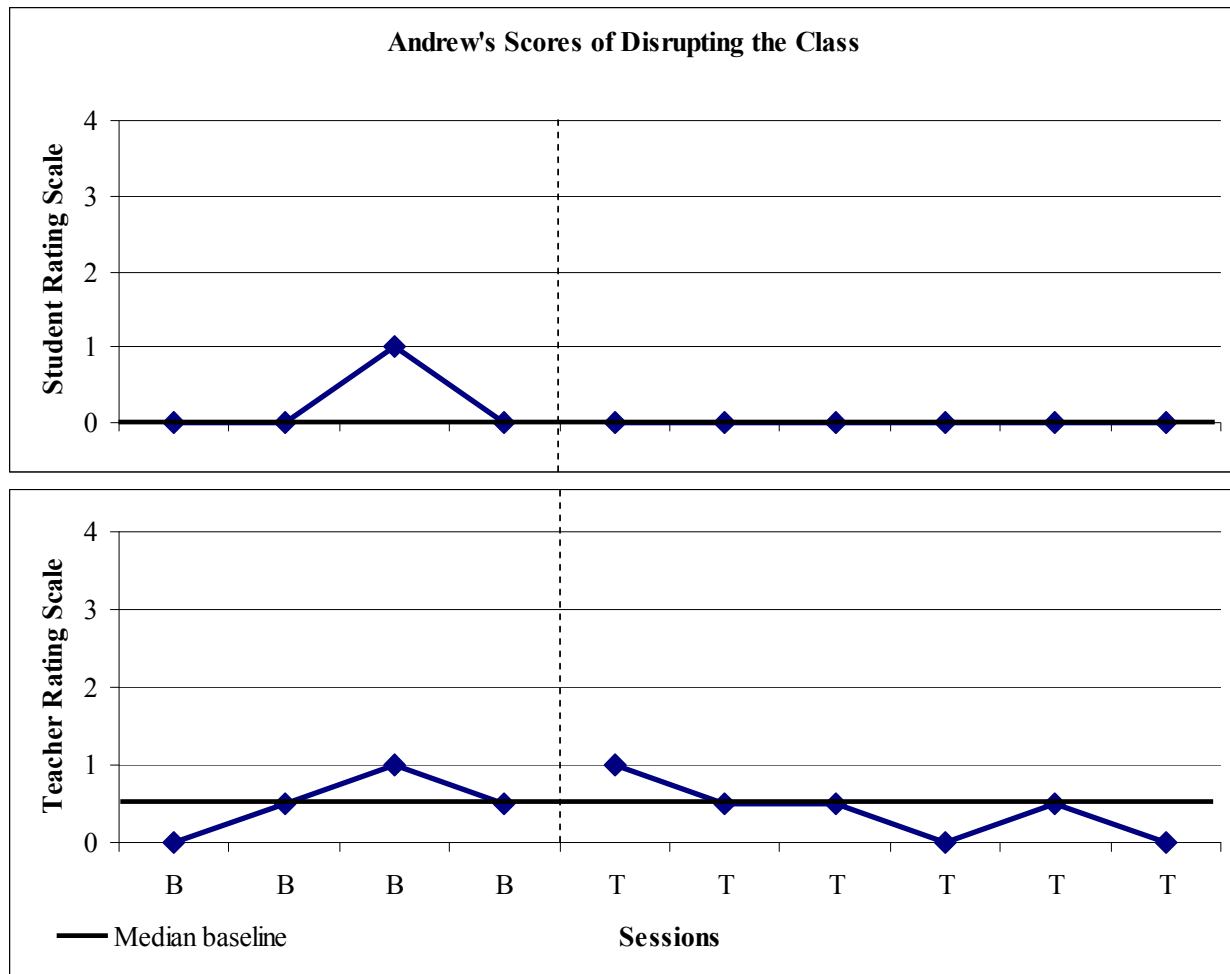
With respect to the trend, the student-report did not show a slope, whereas the teacher-report demonstrated a relatively flat, declining slope from sessions 1 to 6 of treatment. In regard to variability, Andrew's scores of negative behavior based on the student-report were relatively stable across phases while his scores of negative behavior based on the teacher-report were slightly varied. In this regard, the baseline phase had relatively higher variability than the treatment phase. Both student- and teacher-reports indicated that Andrew did not experience the immediacy of treatment effect on his negative behavior due to overlapping scores between the last three data points at baseline and the first three data points at treatment.

According to the student-report, the MPCC program was ineffective in reducing negative behavior of Andrew ( $PEM = 0$ ). Andrew rarely disrupted the class before and during attending the MPCC program; thus, there were no behavioral changes across phases. Likewise, Andrew's

scores on the teacher-report indicated that the MPCC program was ineffective in decreasing Andrew's negative behavior ( $PEM = 0.33$ ). In this regard, only two data points in the treatment phase were on the therapeutic side below the median baseline.

Figure 4

*Student's and Teacher's Rating Scales of Andrew's Negative Behavior Across Phases*



### Overall Classroom Behavior

With reference to the DPR, the MPCC program was moderately effective in enhancing overall classroom behavior of Andrew ( $PEM = 0.83$ ). The PEM statistics of 0.83 indicated that five scores in the treatment phase were on the therapeutic side above the median baseline

(Median baseline = 31; SD = 1.15). According to the DPR, Andrew's low score on his positive behavior and high score on his negative behavior at baseline 3 and 4 (days 3 and 4) were related to his low score on the overall classroom behavior at the same period.

At baseline 3, Andrew received two zeros in the areas of following class procedures and expectations and using appropriate classroom behavior and/or language. Teachers provided feedback that Andrew brought his personal item that was not allowed to the DAEP campus. When his belonging was taken away, he became upset and ran out of the classroom. Andrew also refused to comply with class procedures and talked back to the teacher. At baseline 4, Andrew received two zeros in the area of using appropriate classroom behavior and/or language. In this regard, teachers noted that Andrew walked away from the teacher when he was being redirected.

During the treatment phase, Andrew's low score on his positive behavior in session 2 was correlated with his low score on the overall classroom behavior at the same period. In this regard, Andrew received two zeros in the areas of completing daily assignments and participating in class as required. Teachers reported that Andrew refused to complete his assignments. After session 2 of treatment, Andrew was able to maintain his high functioning on the overall classroom behavior until he exited the DAEP.

### **Results on MI Metrics**

Andrew was an 11-year-old Biracial male in the 5th grade who was referred to the DAEP for the first time due to an issue of bullying and harassment at his home school. Andrew's target classroom behaviors were identified as completing schoolwork (positive behavior) and disrupting the class (negative behavior).

**Readiness to change ruler.** Andrew reflected the readiness to change in the initial session of the MPCC program. He initially rated the importance and confidence levels of

completing schoolwork and respecting other people as 10 out of 10 rating. Throughout the program, Andrew maintained his perceptions and confidence levels about behavioral changes over the session. Andrew's perfect scores regarding the readiness to change could be accounted for his almost perfect scores on the student self-report rating scale across phases.

**Decision to change process.** In his processing of case scenario, Andrew demonstrated his understanding of the change process (change talk) by describing the adaptability of an intention to change. Andrew identified pros and cons of pursuing his target goals. For example, Andrew described some good things of completing schoolwork as avoiding trouble and getting rewards from his teachers and mothers. Some drawbacks of completing schoolwork included sitting in an assigned seat for long and unable to talk a lot. Some good things when he did not complete schoolwork included gaining more freedom and leaving school early. Some disadvantages of not completing schoolwork were getting in trouble and being taken advantage of by some classmates. In the last session of the program, Andrew decided to improve his behavior once returning his home campus. He stated that he would complete his assigned tasks and homework, avoiding talking back to the teacher, and acting kind and nice to people.

### **Participant 3**

Brendon's scores of positive and negative behaviors are displayed in Figures 5 and 6, respectively. Each figure shows a comparison between scores on the student rating scale and the teacher rating scale. Data based on the DPR and MI metrics were outlined after the analysis of Brendon's positive and negative behaviors.

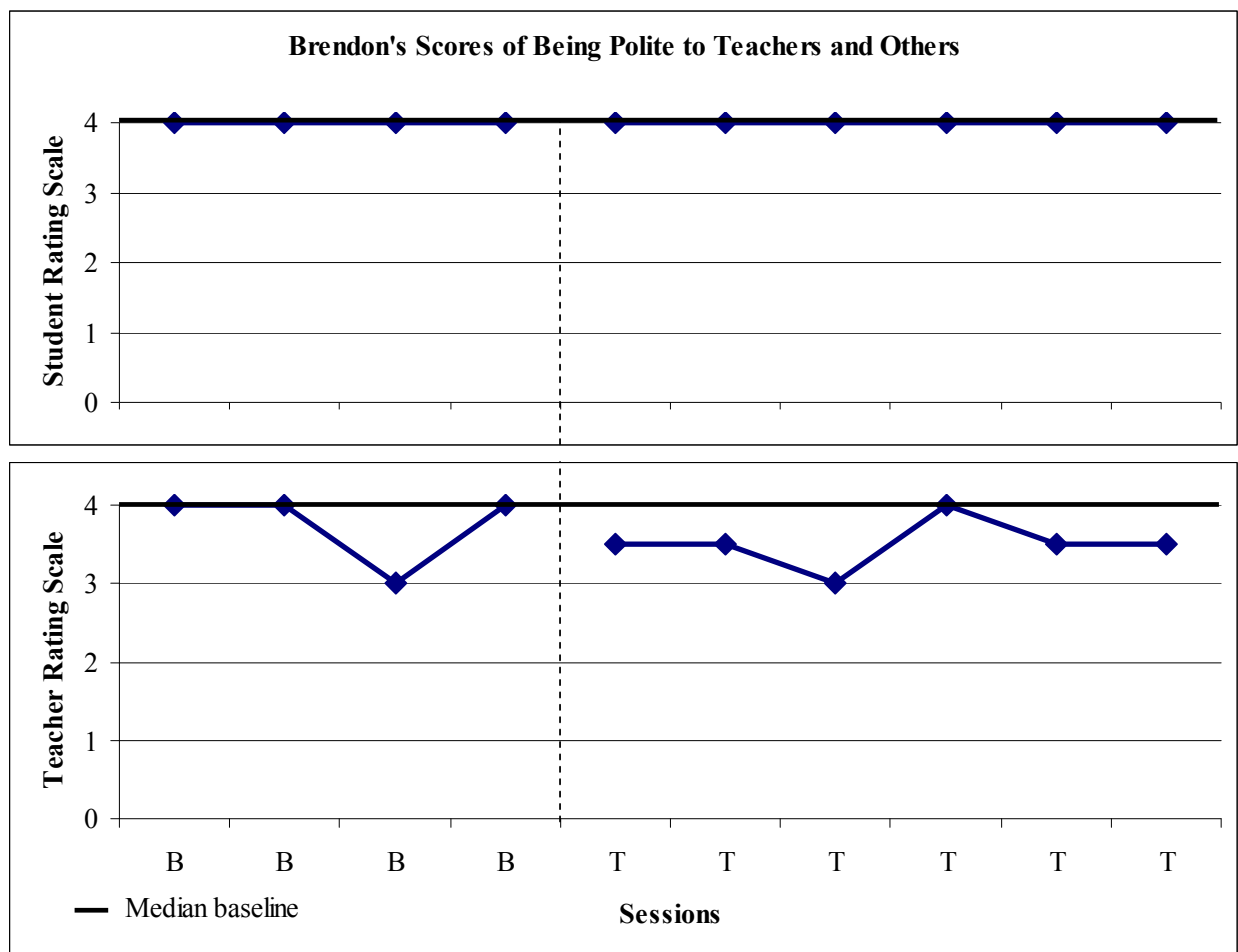
#### **Positive Behavior**

A visual analysis of level in Figure 5 showed that Brendon had very high median scores of positive behavior based on the student-report (Median = 4; SD = 0) and the teacher-report

(Median = 4; SD = 0.50) at baseline. This level indicated that Brendon was almost always polite to teachers and other people before attending the MPCC program. Within the treatment phase, Brendon's scores of positive behavior based on the student-report were stable (Median = 4; SD = 0), whereas his scores of positive behavior based on the teacher-report were fluctuated across time (Median = 3.5; SD = 0.32). Brendon scored lowest in session 3 and highest in session 4 before his scores remained stable in sessions 5 and 6. Based on the teacher-report, Brendon's scores in the baseline phase were higher than his scores in the treatment phase.

Figure 5

*Student's and Teacher's Rating Scales of Brendon's Positive Behavior Across Phases*



With regard to the trend, Brendon's scores on both student- and teacher-reports did not show a distinct slope at baseline and treatment, indicating non-significant changes across phases. In terms of variability, Brendon's scores of positive behavior based on the student-report were stable across phases, whereas his scores of positive behavior based on the teacher-report were somewhat varied. In this regard, the baseline phase had higher variability than the treatment phase. Finally, the immediacy of treatment effect was not evident on both student- and teacher-reports because there were overlapping scores between the last three data points at baseline and the first three data points at treatment.

According to the student-report, the MPCC program was ineffective in promoting positive behavior of Brendon ( $PEM = 0$ ). Brendon was always polite to teachers and other people before and during his participation in the MPCC program; hence, there were no behavioral changes across phases. Likewise, data from the teacher-report indicated that the MPCC program was ineffective in promoting Brendon's positive behavior ( $PEM = 0$ ) as none of the scores in the treatment phase were on the therapeutic side above the median baseline.

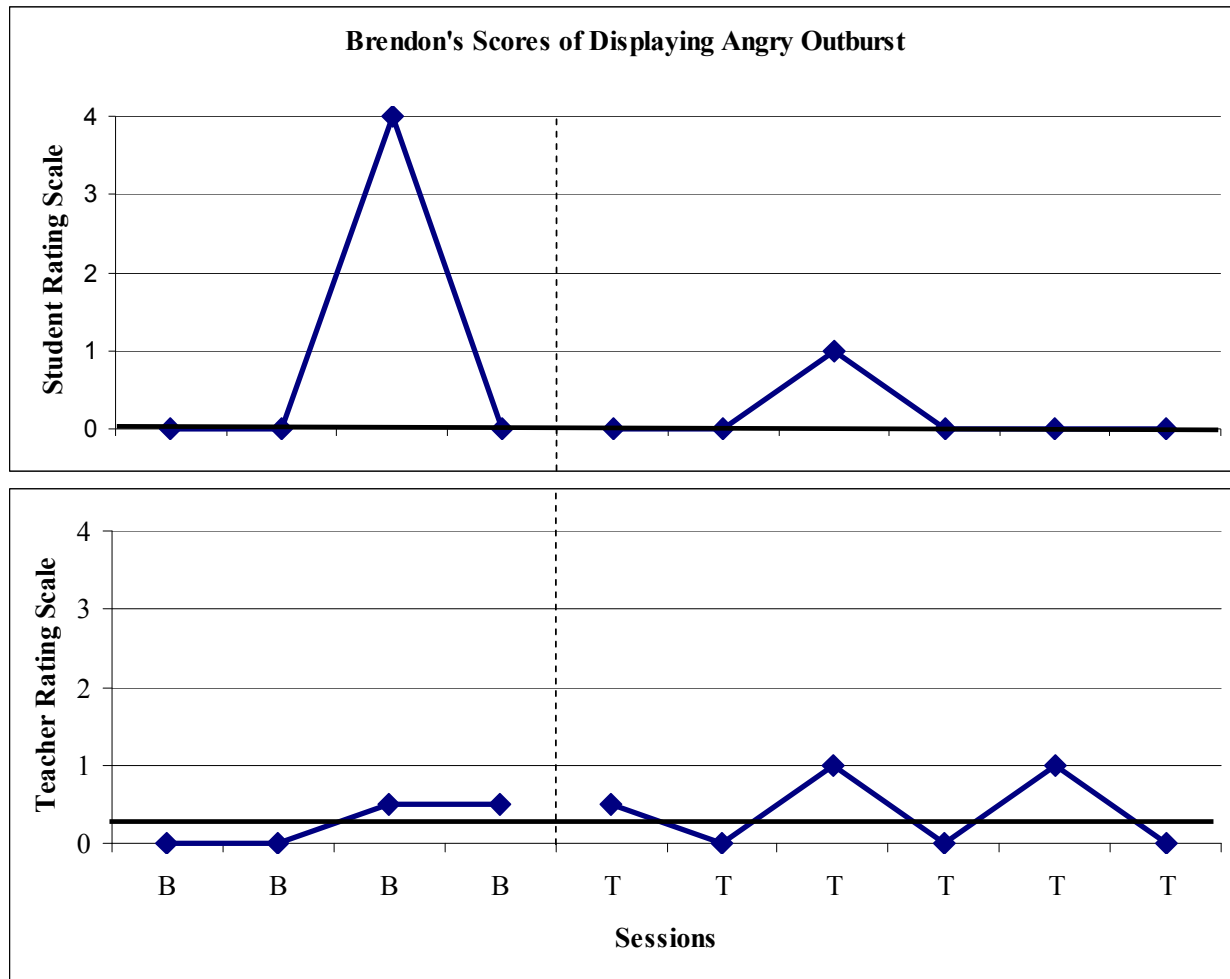
### **Negative Behavior**

A visual analysis of level in Figure 6 showed that Brendon had low median scores of negative behavior based on the student-report (Median = 0; SD = 2) and the teacher-report (Median = 0.25; SD = 0.29) at baseline. This level indicated that Brendon rarely displayed angry outburst in the class before attending the MPCC program, except at baseline 3 on the student-report that he displayed anger all the time. Within the treatment phase, Brendon's scores of negative behavior based on the student-report were quite stable (Median = 0; SD = 0.41), whereas his scores of negative behavior based on the teacher-report were fluctuating across time (Median = 0.25; SD = 0.49).



Figure 6

*Student's and Teacher's Rating Scales of Brendon's Negative Behavior Across Phases*



With regard to the trend, Brendon's scores on the student-report did not show a distinct slope at baseline and treatment while his scores on the teacher-report demonstrated an increasing pattern at baseline and a fluctuating and decreasing slope at treatment. In terms of variability, Brendon's scores of negative behavior based on the student-report were highly varied in the baseline phase compared with the treatment phase due to an extreme value at baseline 3, whereas his scores of negative behavior based on the teacher-report were relatively varied. In this regard, the treatment phase had higher variability than the baseline phase. Finally, the immediacy of

treatment effect was not noted on both student- and teacher-reports since there were overlapping scores between the last three data points at baseline and the first three data points at treatment.

According to the student-report, the MPCC program was ineffective in reducing negative behavior of Brendon (PEM = 0). Brendon rarely displayed angry outburst in the class before and during his participation in the MPCC program; thus, there were no behavioral changes across phases. On the other hand, Brendon's scores on the teacher-report indicated that the MPCC program was debatably effective in decreasing Brendon's negative behavior (PEM = 0.5) as three data points in the treatment phase were on the therapeutic side below the median baseline.

### **Overall Classroom Behavior**

With reference to the DPR, the MPCC program was moderately effective in enhancing overall classroom behavior of Brendon (PEM = 0.83). The PEM statistics of 0.83 indicated that five scores in the treatment phase were on the therapeutic side above the median baseline (Median baseline = 31.5; SD = 1.41). According to the DPR, Brendon's low score on the overall classroom behavior at baseline 3 was associated with his low score on positive behavior and high score on negative behavior at the same period.

At baseline 3, Brendon received three zeros in the areas of following class procedures and expectations and using appropriate classroom behavior and/or language. Teachers provided feedback that Brendon became disruptive by talking out loud and making unnecessary sounds while one of the teachers was instructing. At baseline 4, Brendon received one zero in the area of using appropriate classroom behavior and/or language. However, teachers did not provide further comment about his specific behavior.

During session 1 of treatment, Brendon received four zeros in the areas of completing daily assignments, following class procedures and expectations, and using appropriate classroom

behavior and/or language. Teachers reported that Brendon was disruptive. He made unnecessary comments to other students, laughed at other students, and refused to complete his work. After session 1 of treatment, Brendon was able to improve his appropriate classroom behaviors and received no zeros until he exited the DAEP.

### **Results on MI Metrics**

Brendon was a 9-year-old African-American male in the 3rd grade who was referred to the DAEP for the first time due to an issue of public lewdness at his home school. Brendon's target classroom behaviors were identified as being polite to teachers and others (positive behavior) and displaying angry outburst in the class (negative behavior).

**Readiness to change ruler.** Brendon reflected the readiness to change in the initial session of the MPCC program. He initially rated the importance and confidence levels of being polite to teachers and controlling his anger as 10 out of 10 rating. Throughout the program, Brendon maintained his perceptions and confidence levels about behavioral changes over the session. Brendon's perfect scores regarding the readiness to change could be accounted for his almost perfect scores on the student rating scale across phases although teachers had different opinions regarding his classroom behaviors.

**Decision to change process.** In his processing of case scenario, Brendon did not demonstrate a clear understanding of the change process. He did not recognize a problem nor did he worry about consequences. Brendon was uncertain whether or not he needed to change his behaviors. Even though Brendon was ambivalent about change, he was willing to identify pros and cons of pursuing his target goals. For example, Brendon described some good things of being polite to teachers as avoiding trouble, listening to the teachers more, and finishing his work on time. Some good things when he was not polite to teachers included playing around with his

peers and using computer. In this regard, Brendon did not identify some drawbacks of being polite and not being polite to teachers. In the last session of the program, Brendon decided to improve his behavior once returning his home campus. He stated that he would try to sit in his assigned seat, listen to teachers, and complete his schoolwork.

#### **Participant 4**

Bruno's scores of positive and negative behaviors are displayed in Figures 7 and 8, respectively. Each figure shows a comparison between scores on the student rating scale and the teacher rating scale. Data based on the DPR and MI metrics were outlined after the analysis of Bruno's positive and negative behaviors.

#### **Positive Behavior**

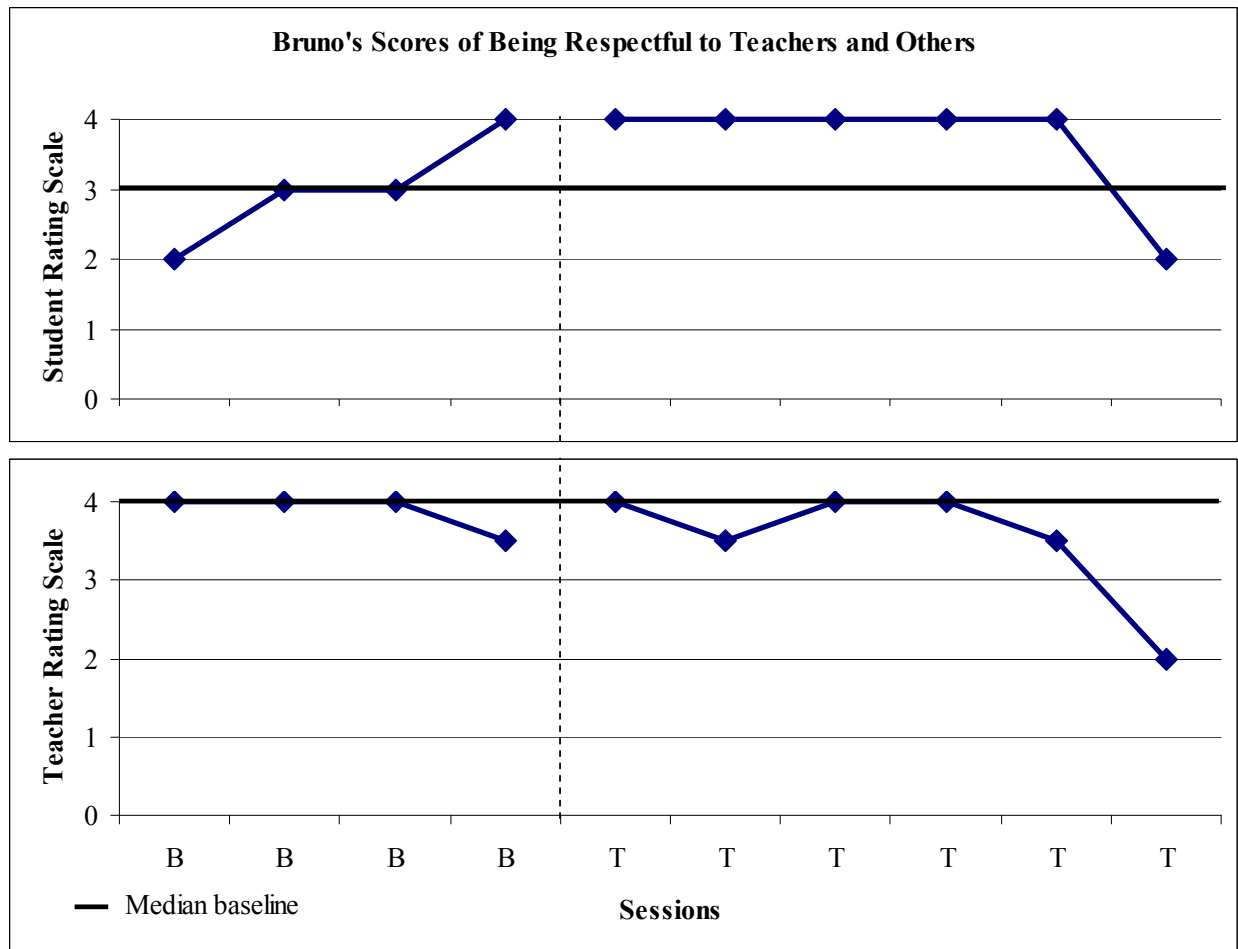
A visual analysis of level in Figure 7 showed that Bruno had high median scores of positive behavior based on the student-report (Median = 3; SD = 0.82) and the teacher-report (Median = 4; SD = 0.25) at baseline. This level indicated that Bruno was often respectful to teachers and other people before attending the MPCC program. Within the treatment phase, Bruno's scores of positive behavior based on the student-report were relatively stable (Median = 4; SD = 0.82), whereas his scores of positive behavior based on the teacher-report were slightly fluctuated (Median = 3.75; SD = 0.26). Bruno's lowest score in session 6 on the student-report was associated with his lowest score on the teacher-report at the same period.

With regard to the trend, Bruno's scores on the student-report showed an upward slope at baseline and stable scores with an extreme value in the last session at treatment. Based on the teacher-report, Bruno's scores illustrated a slightly downward trend in both baseline and treatment phases. In terms of variability, Bruno's scores of positive behavior based on student- and teacher-reports were varied across phases. In this regard, scores on the student-report were

more varied than scores on the teacher-report. Finally, the immediacy of treatment effect was not evident on both student- and teacher-reports because there were overlapping scores between the last three data points at baseline and the first three data points at treatment.

Figure 7

*Student's and Teacher's Rating Scales of Bruno's Positive Behavior Across Phases*



According to the student-report, the MPCC program was moderately effective in promoting positive behavior of Bruno ( $PEM = 0.83$ ) as five data points in the treatment phase were on the therapeutic side above the median baseline. This result indicated that Bruno became more respectful towards teachers and others while attending the MPCC program. In contrast, data from the teacher-report indicated that the MPCC program was ineffective in promoting

Bruno's positive behavior ( $PEM = 0$ ). Both teachers perceived that Bruno was almost always respectful to teachers and other people; hence, there were no behavioral changes across phases.

### **Negative Behavior**

A visual analysis of level in Figure 8 showed that Bruno had a very low median scores of negative behavior based on the student-report (Median = 0; SD = 0) and the teacher-report (Median = 0.25; SD = 0.29) at baseline. This level indicated that Bruno rarely displayed angry outburst in the class before attending the MPCC program. Within the treatment phase, Bruno's scores of negative behavior were quite stable based on the student-report (Median = 0; SD = 0.41) and the teacher-report (Median = 0; SD = 0.61). Bruno's highest score in session 6 on the student-report was related to his highest score on the teacher-report at the same period.

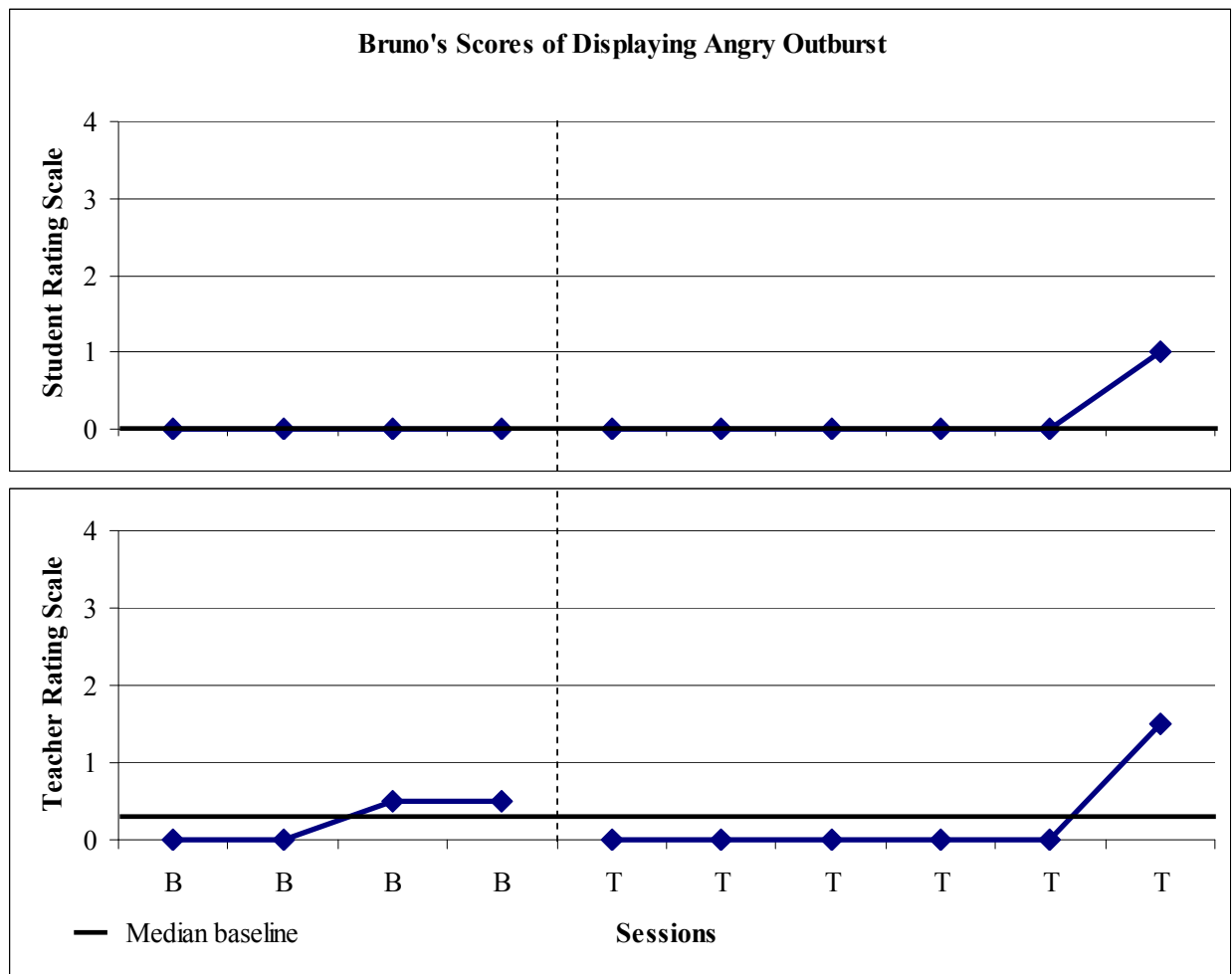
With regard to the trend, Bruno's scores on the student-report did not show a distinct slope at baseline and treatment, whereas his scores on the teacher-report demonstrated an increasing pattern at baseline and decreasing scores with an extreme value in the last session at treatment. In terms of variability, Bruno's scores of negative behavior based on the student-report were not varied in the baseline phase compared with those scores in the treatment phase that contained an extreme value in session 6 of treatment. Bruno's scores of negative behavior based on the teacher-report were relatively varied in both phases. In this regard, the treatment phase had higher variability than the baseline phase. Finally, the immediacy of treatment effect was not noted on both student- and teacher-reports because there were overlapping scores between the last three data points at baseline and the first three data points at treatment.

According to the student-report, the MPCC program was ineffective in reducing negative behavior of Bruno ( $PEM = 0$ ). Bruno did not exhibit angry outburst in the class before and during his participation in the program, except in the last session of treatment. As such, there

were no behavioral changes across phases. On the contrary, Bruno's scores on the teacher-report indicated that the MPCC program was effective in decreasing Bruno's negative behavior (PEM = 0.83) as five data points were on the therapeutic side below the median baseline. This result showed that the frequency of Bruno's angry outburst was reduced over the course of treatment.

Figure 8

*Student's and Teacher's Rating Scales of Bruno's Negative Behavior Across Phases*



### Overall Classroom Behavior

With reference to the DPR, the MPCC program was ineffective in enhancing overall classroom behavior of Bruno (PEM = 0). The PEM statistics of 0 indicated that none of Bruno's

scores in the treatment phase were on the therapeutic side above the median baseline (Median baseline = 32; SD = 1). Since the median score of Bruno in the baseline phase represented the highest score on the DPR, there were no behavioral changes above this median point in the treatment phase. According to the DPR, Bruno's low scores on the overall classroom behavior at baseline 4 and in session 6 of treatment were associated with his low scores on positive behavior and high scores on negative behavior during the same periods.

At baseline 4, Bruno received two zeros in the areas of completing daily assignments and participating in class as required. Teachers provided feedback that Bruno slept in class and worked off and on in the morning. During session 2 of treatment, Bruno received six zeros in the areas of completing daily assignments and following class procedures and expectations. Teachers reported that Bruno walked in very sleepy. He slept but woke up and worked later. In session 6, Bruno received three zeros in the areas of completing daily assignments, participating in class as required, and using appropriate classroom behavior and/or language. Teachers commented that Bruno became upset and threw chair and desk in the class when he was not selected to participate in an outside activity.

### **Results on MI Metrics**

Bruno was a 10-year-old Hispanic male in the 5th grade who was referred to the DAEP for the second time due to an issue of noncompliance and persistent misbehavior at his home school. Bruno's target classroom behaviors were identified as being respectful to teachers and others (positive behavior) and displaying angry outburst in the class (negative behavior).

**Readiness to change ruler.** Bruno reflected the readiness to change in the initial session of the MPCC program. He initially rated the importance of being respectful to teachers and controlling his anger as 8 out of 10 rating and identified his confidence level to change as 10 out



of 10 rating. Throughout the program, Bruno maintained his confidence level to change while his perceptions about behavioral changes has increased over the session (8 to 10). Bruno reported that he learned to comply with classroom rules and listen to teachers while staying at the DAEP. He became aware that being respectful to others was very important. When he showed respect to someone, he gained that respect back.

**Decision to change process.** In his processing of case scenario, Bruno demonstrated his understanding of the change process (change talk) by recognizing the problem of the current behavior, describing the adaptability of an intention to change, and articulating a strategy for changing. Bruno identified pros and cons of pursuing his target goals. For example, Bruno described some good things of being respectful to teachers as getting help from teachers, avoiding trouble, and improving his grades. Some drawbacks of being respectful to teachers included sitting in an assigned seat for long and unable to sleep and play in a classroom. Some good things when he was not respectful to teachers included gaining more freedom and playing with his friends. Some disadvantages of not being respectful to teachers were getting in trouble and making his family disappointed at him. In the last session of the program, Bruno decided to change his behavior once he left the DAEP. He stated that he would raise his hands and ask questions politely, think about consequences of angry outburst, and complete his schoolwork.

### **Participant 5**

Cody's scores of positive and negative behaviors are displayed in Figures 9 and 10, respectively. Each figure shows a comparison between scores on the student rating scale and the teacher rating scale. Data based on the DPR and MI metrics were outlined after the analysis of Cody's positive and negative behaviors.

## Positive Behavior

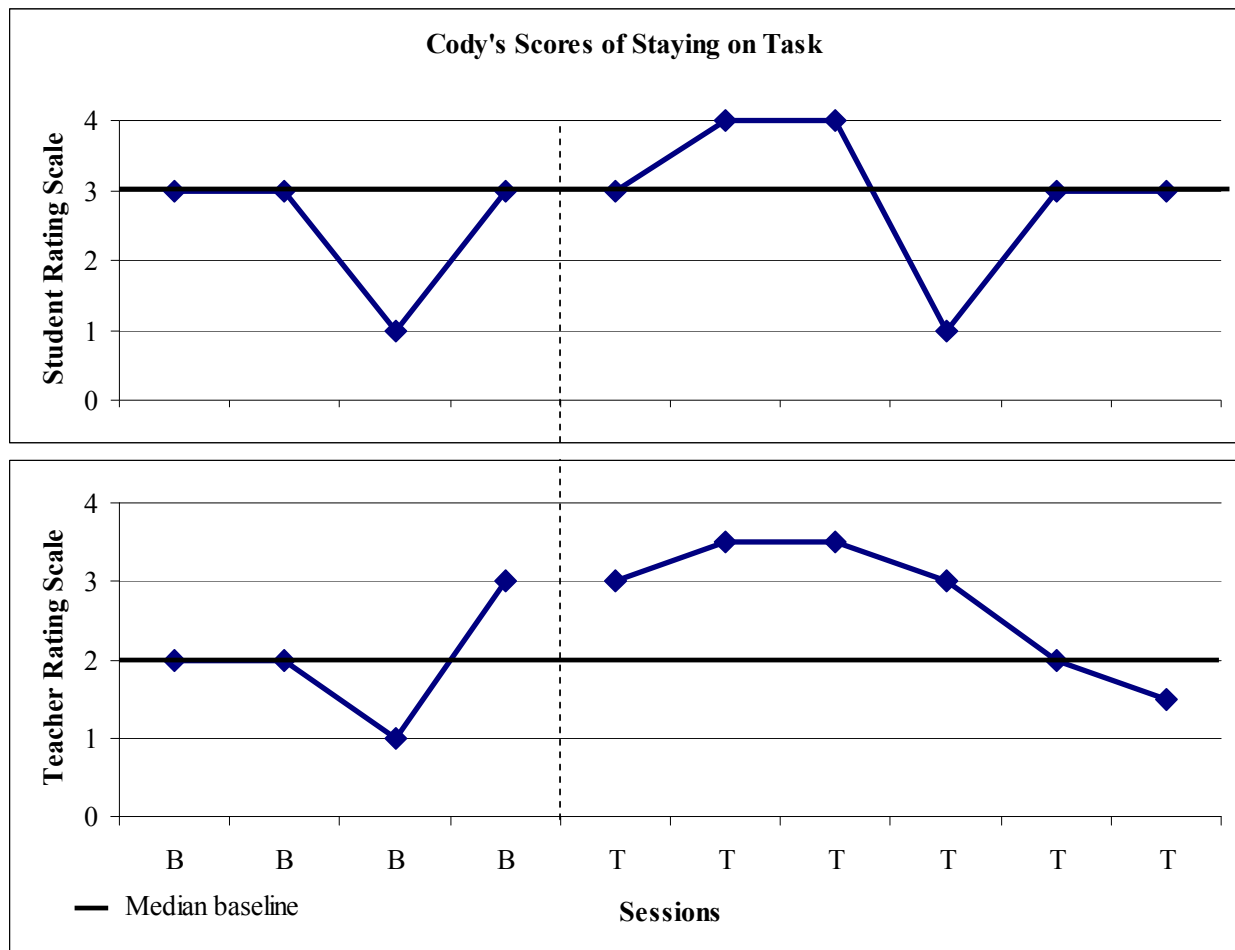
A visual analysis of level in Figure 9 showed that Cody had moderate median scores of positive behavior based on the student-report (Median = 3; SD = 1) and the teacher-report (Median = 2; SD = 0.82) at baseline. This level indicated that Cody sometimes stayed on his task before attending the MPCC program. Within the treatment phase, Cody's scores of positive behavior based on the student-report were fluctuated (Median = 3; SD = 1.1), whereas his scores of positive behavior based on the teacher-report were relatively stable with a downward trend in the last two sessions of treatment (Median = 3; SD = 0.82). Cody's low score on the student-report at baseline 3 was related to his low score on the teacher-report at the same period.

With regard to the trend, Cody's scores on the student-report did not show a distinct slope within the baseline phase while his scores within the treatment phase demonstrated a fluctuating pattern of scores from sessions 1 to 5 of treatment. Based on the teacher-report, Cody's scores illustrated an upward slope from baseline to treatment phases, indicating behavioral improvements across time. In terms of variability, Cody's scores of positive behavior on the student-report were more highly varied than his scores of positive behavior on the teacher-report. Finally, the immediacy of treatment effect was not evident on both student- and teacher-reports because there were overlapping scores between the last three data points at baseline and the first three data points at treatment.

According to the student-report, the MPCC program was ineffective in promoting positive behavior of Cody (PEM = 0.33). On the contrary, data from the teacher-report indicated that the MPCC program was debatably effective in promoting Cody's positive behavior (PEM = 0.67) as four data points were on the therapeutic side above the median baseline. This result indicated that Cody's behavior of staying on task was improved over the course of treatment.

Figure 9

*Student's and Teacher's Rating Scales of Cody's Positive Behavior Across Phases*

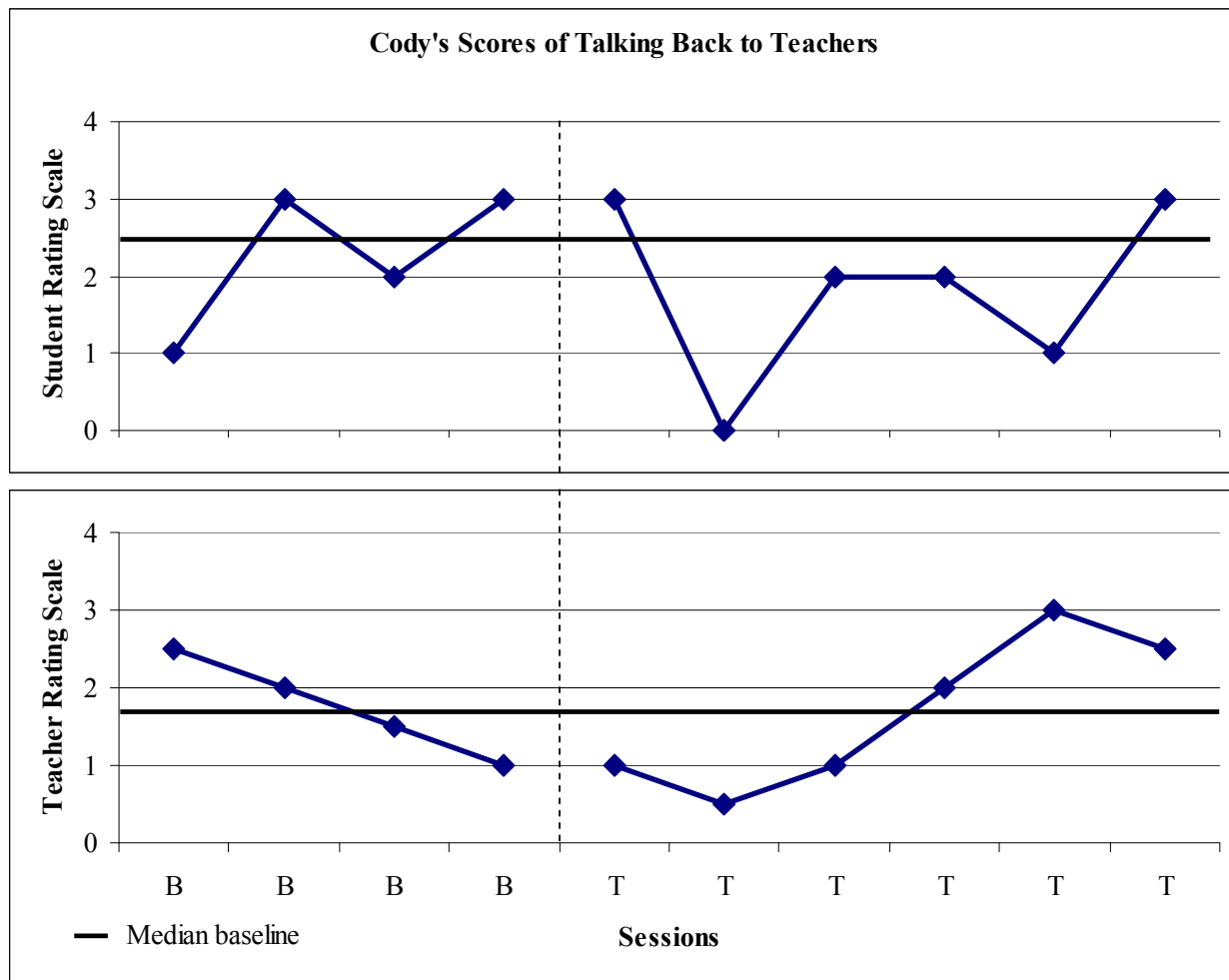


### Negative Behavior

A visual analysis of level in Figure 10 showed that Cody had low to moderate median scores of negative behavior based on the student-report (Median = 2.5; SD = 0.96) and the teacher-report (Median = 1.75; SD = 0.65) at baseline. This level indicated that Cody sometimes talked back to teachers and staff before attending the MPCC program. Within the treatment phase, Cody's scores of negative behavior based on the student-report were fluctuated (Median = 2; SD = 1.17) while his scores of negative behavior based on the teacher-report were relatively stable with an upward trend in the last three sessions of treatment (Median = 1.5; SD = 0.98).

Figure 10

*Student's and Teacher's Rating Scales of Cody's Negative Behavior Across Phases*



With regard to the trend, Cody's scores on the student-report showed an upward slope within the baseline phase while his scores within the treatment phase did not illustrate a distinct pattern. According to the teacher-report, Cody's scores of his negative behavior demonstrated a downward slope in the baseline phase, whereas his scores in the treatment phase were relatively stable from sessions 1 to 3 before his scores were increasing from sessions 4 to 5. With respect to variability, Cody's scores of his negative behavior on the student-report were more varied than his scores of negative behavior on the teacher-report. Finally, the immediacy of treatment effect

was not evident on both student- and teacher-reports because there were overlapping scores between the last three data points at baseline and the first three data points at treatment.

According to the student-report, the MPCC program was debatably effective in reducing negative behavior of Cody (PEM = 0.67) as four data points in the treatment phase were on the therapeutic side below the median baseline. Likewise, Cody's scores on the teacher-report indicated that the MPCC program was debatably effective in decreasing Cody's negative behavior (PEM = 0.5) as three data points were on the therapeutic side below the median baseline. Based on the agreement between student- and teacher-reports, these results indicated that Cody's behavior of talking back to teachers was improved over the course of treatment.

### **Overall Classroom Behavior**

With reference to the DPR, the MPCC program was debatably effective in enhancing overall classroom behavior of Cody (PEM = 0.67). The PEM statistics of 0.67 indicated that Cody's four scores in the treatment phase were on the therapeutic side above the median baseline (Median baseline = 29; SD = 3.1). According to the DPR, the immediacy of treatment effect was noted as there were no overlapping scores between the last three data points at baseline and the first three data points at treatment. In this regard, Cody's scores of the overall classroom behavior within the baseline phase were highly fluctuated while his scores in sessions 1 to 3 within the treatment phase were stable before becoming fluctuated again in sessions 4 and 5.

At baseline 1, Cody received one zero in the area of using appropriate classroom behavior and/or language. However, teachers did not provide specific feedback regarding his behavior. At baseline 2, Cody received eight zeros in the areas of participating in class as required, following class procedures and expectation, and using appropriate classroom behavior and/or language. Teachers reported that Cody refused to comply with teacher direction. In this

regard, Cody continued to receive zeros at baseline 3 (four zeros) and 4 (two zeros) in the areas of completing daily assignments, following class procedures and expectation, and using appropriate classroom behavior and/or language. Teachers provided similar comments in regard to his behavior of refusing to follow directions.

Within the treatment phase, Cody did not receive zeros from sessions 1 to 3. However, teachers gave Cody zeros again in sessions 4 (four zeros) and 5 (three zeros) in the areas of completing daily assignments, following class procedures and expectation, and using appropriate classroom behavior and/or language. No specific feedback was provided from teachers. Cody then regained his high functioning and received no zeros in the last session of treatment.

### **Results on MI Metrics**

Cody was a 10-year-old African-American male in the 4th grade who was referred to the DAEP for the second time due to an issue of noncompliance and persistent misbehavior at his home school. Cody's target classroom behaviors were identified as staying on task (positive behavior) and talking back to teachers and others (negative behavior).

**Readiness to change ruler.** Cody reflected the readiness to change in the initial session of the MPCC program. He initially rated the importance of staying on task and being respectful to teachers as 9 out of 10 rating and identified his confidence level to change as 8 out of 10 rating. Throughout the program, Cody maintained his perceptions about behavioral changes while his confidence level to change slightly increased over the session (8 to 9). Cody reported that he learned to take responsibilities for his mistakes while staying at the DAEP. These experiences made him realize that he could do better at school.

**Decision to change process.** In his processing of case scenario, Cody demonstrated his understanding of the change process (change talk) by describing the adaptability of an intention

to change and articulating a strategy for changing. Cody identified pros and cons of pursuing his target goals. For example, Cody described some good things of staying on task as avoiding trouble and improving his grades. Some drawbacks of staying on task included unable to talk in class and feeling bored. Some good things when he did not stay on task included having more free time and playing with his friends. Some disadvantages of not staying on task were getting in trouble and failing the tests. In the last session of the program, Cody decided to change his behavior once he left the DAEP. He stated that he would try to complete his schoolwork, avoid talking back to teachers, and show respect to other people.

### **Participant 6**

Daniel's scores of positive and negative behaviors are displayed in Figures 11 and 12, respectively. Each figure shows a comparison between scores on the student rating scale and the teacher rating scale. Data based on the DPR and MI metrics were outlined after the analysis of Daniel's positive and negative behaviors.

#### **Positive Behavior**

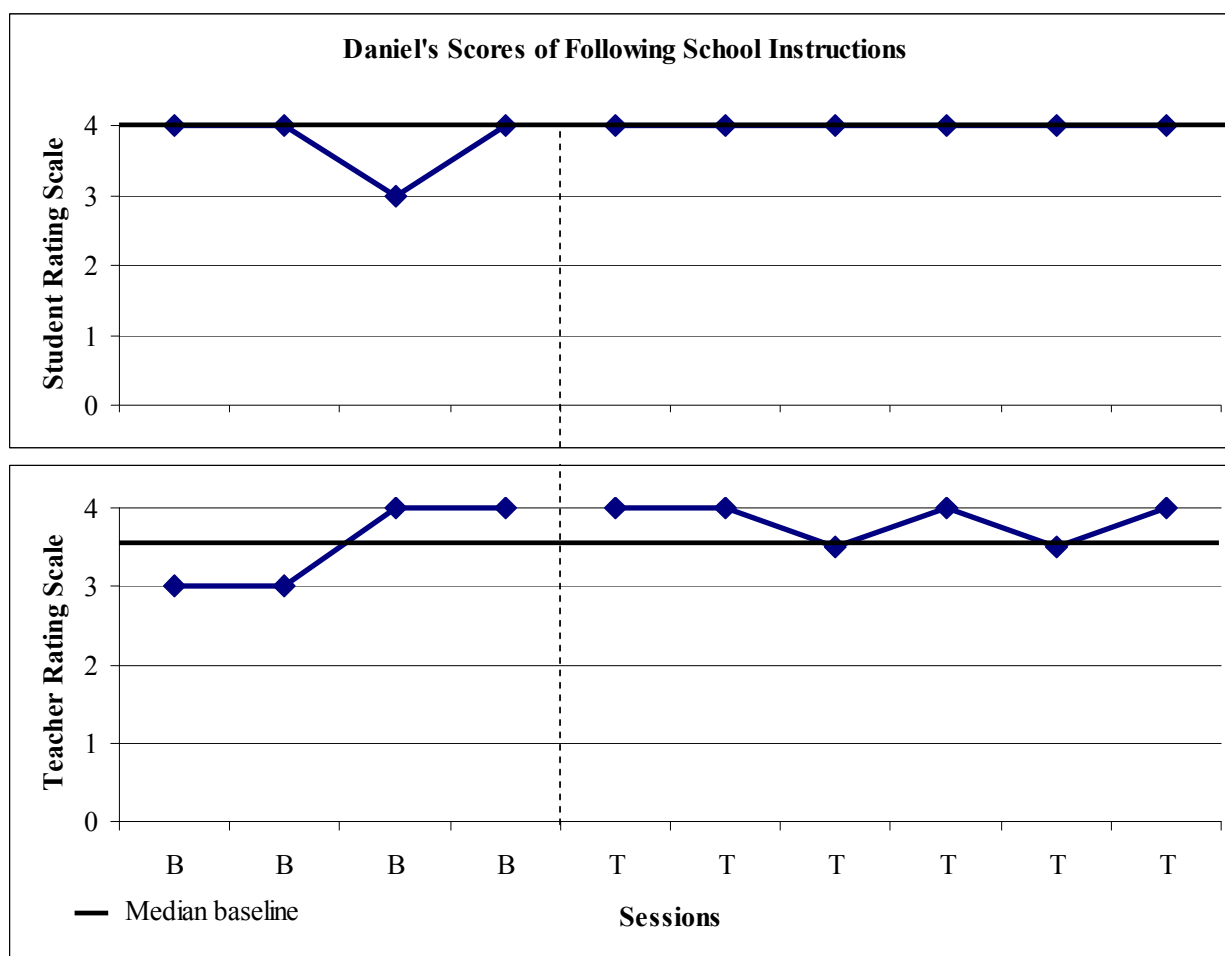
A visual analysis of level in Figure 11 showed that Daniel had high median scores of positive behavior based on the student-report (Median = 4; SD = 0.5) and the teacher-report (Median = 3.5; SD = 0.58) at baseline. This level indicated that Daniel almost always followed school instructions before attending the MPCC program. Within the treatment phase, Daniel's scores of positive behavior based on the student-report were stable (Median = 4; SD = 0), whereas his scores based on the teacher-report were slightly fluctuated (Median = 4; SD = 0.26).

With regard to the trend, Daniel's scores on the student-report did not show a distinct slope across phases. In contrast, Daniel's scores on the teacher-report illustrated an upward slope from baseline to treatment phases. Within the treatment phase, Daniel's scores on the teacher-

report were relatively stable with two fluctuating scores in sessions 3 and 5 of treatment. In terms of variability, Daniel's scores of positive behavior on both student- and teacher-reports at baseline were more varied than those scores at treatment. Finally, the immediacy of treatment effect was not evident on both student- and teacher-reports because there were overlapping scores between the last three data points at baseline and the first three data points at treatment.

Figure 11

*Student's and Teacher's Rating Scales of Daniel's Positive Behavior Across Phases*



According to the student-report, the MPCC program was ineffective in promoting positive behavior of Daniel (PEM = 0). Daniel almost always followed school directions before and during his participation in the program; thus, there were no behavioral changes across



phases. On the other hand, data from the teacher-report indicated that the MPCC program was debatably effective in promoting Daniel's positive behavior ( $PEM = 0.67$ ) as four data points in the treatment phase were on the therapeutic side above the median baseline. This result indicated that Daniel's behavior of following school directions was improved over the course of treatment.

### **Negative Behavior**

A visual analysis of level in Figure 12 showed that Daniel had low to moderate median scores of negative behavior based on the student-report (Median = 2; SD = 2.31) and the teacher-report (Median = 0.75; SD = 0.48) at baseline. This level indicated that Daniel sometimes lost attention to his work before attending the MPCC program. Within the treatment phase, Daniel's scores of negative behavior based on the student-report were stable (Median = 0; SD = 0) while his scores on the teacher-report were fluctuated across time (Median = 0.5; SD = 0.58).

With regard to the trend, Daniel's scores on the student-report did not show a distinct slope in both baseline and treatment phases. However, his scores on the teacher-report demonstrated a fluctuating, yet downward slope in both baseline and treatment phases. In terms of variability, Daniel's scores of his negative behavior on the student-report were highly varied in the baseline phase, whereas his scores in the treatment phase had no variability. In contrast, Daniel's scores of his negative behavior on the teacher-report were somewhat varied in both phases. Finally, the immediacy of treatment effect was not noted on both student- and teacher-reports because there were overlapping scores between the last three data points at baseline and the first three data points at treatment.

According to the student-report, the MPCC program was very effective in reducing negative behavior of Daniel ( $PEM = 1$ ) as all six data points in the treatment phase were on the therapeutic side below the median baseline. Likewise, Daniel's scores on the teacher-report

indicated that the MPCC program was debatably effective in decreasing Daniel's negative behavior (PEM = 0.67) as four data points were on the therapeutic side below the median baseline. Based on the agreement between student- and teacher-reports, these results indicated that Daniel's behavior of losing attention to work was improved over the course of treatment.

Figure 12

*Student's and Teacher's Rating Scales of Daniel's Negative Behavior Across Phases*



### Overall Classroom Behavior

With reference to the DPR, the MPCC program was very effective in enhancing overall classroom behavior of Daniel (PEM = 1). The PEM statistics of 1 indicated that all Daniel's six

scores in the treatment phase were on the therapeutic side above the median baseline (Median baseline = 31.5; SD = 0.58). According to the DPR, Daniel's scores on the overall classroom behavior were increasing from baseline to treatment phases. Within the treatment phase, all six scores were stable at the highest value (32) across time.

At baseline 1, Daniel received one zero in the area of completing daily assignments. Teachers provided feedback that Daniel was easily distracted and unable to complete schoolwork. At baseline 2, Daniel received one zero in the area of following class procedures and expectation. However, teachers did not provide specific comment about his behavior. After baseline 2, Daniel did not receive any zeros on the DPR until he withdrew from the DAEP.

### **Results on MI Metrics**

Daniel was an 11-year-old Hispanic male in the 5th grade who was referred to the DAEP for the first time due to an issue of possession of substances at his home school. Daniel's target classroom behaviors were identified as following school instructions (positive behavior) and losing attention to work (negative behavior).

**Readiness to change ruler.** Daniel reflected the readiness to change in the initial session of the MPCC program. He initially rated the importance of following school directions and ignoring distractions from others as 10 out of 10 rating and identified his confidence level to change as 6 out of 10 rating. Throughout the program, Daniel's perceptions about behavioral changes has declined (10 to 7) while his confidence level to change increased over the session (6 to 10). Daniel reported that he gained more confidence in completing his schoolwork and following directions while staying at the DAEP. As such, his importance level in making changes was decreased as he had accomplished some of these behaviors.

**Decision to change process.** In his processing of case scenario, Daniel demonstrated his understanding of the change process (change talk) by describing the adaptability of an intention to change and articulating a strategy for changing. Daniel identified pros and cons of pursuing his target goals. For example, Daniel described some good things of following school instructions as completing his schoolwork, avoiding trouble, and receiving compliments and rewards from teachers and parents. Some drawbacks of following school directions included feeling bored and losing time for playing. Some good things when he did not follow school directions included no homework and having free time to play games. Some disadvantages of not following school instructions were getting in trouble, upsetting his parents, and losing some rewards and treats. In the last session of the program, Daniel decided to change his behavior when he left the DAEP. He stated that he would complete his schoolwork, listen to teachers, come to school on time, and participate in class.

### **Participant 7**

Gabriel's scores of positive and negative behaviors are displayed in Figures 13 and 14, respectively. Each figure shows a comparison between scores on the students rating scale and the teacher rating scale. Data based on the DPR and MI metrics were outlined after the analysis of Gabriel's positive and negative behaviors.

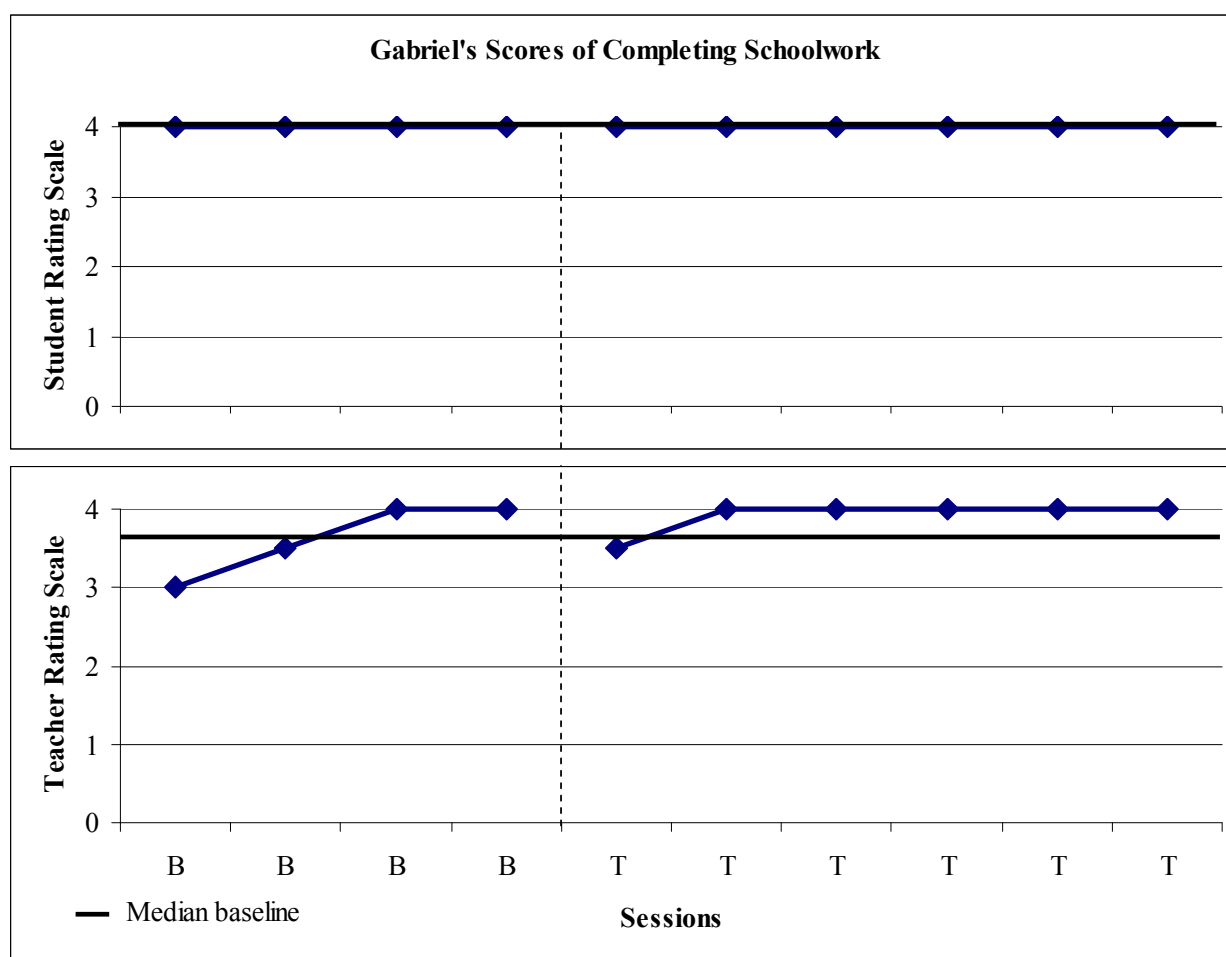
#### **Positive Behavior**

A visual analysis of level in Figure 13 showed that Gabriel had very high median scores of positive behavior based on the student-report (Median = 4; SD = 0) and the teacher-report (Median = 3.75; SD = 0.48) at baseline. This level indicated that Gabriel almost always completed his schoolwork before attending the MPCC program. Within the treatment phase, Gabriel's scores of positive behavior based on the student-report remained unchanged from the

baseline phase (Median = 4; SD = 0), whereas his scores based on the teacher-report were almost stable and showed a similar pattern to those scores in the baseline phase (Median = 4; SD = 0.2).

Figure 13

*Student's and Teacher's Rating Scales of Gabriel's Positive Behavior Across Phases*



With regard to the trend, Gabriel's scores on the student-report did not exhibit a slope across phases. On the contrary, the teacher-report demonstrated an increasing pattern of scores in both baseline and treatment phases. Within the treatment phase, Gabriel's scores on the teacher-report increased from sessions 1 to 2 and remained stable from sessions 2 to 6. With respect to variability, Gabriel's scores of positive behavior on the student-report had no variability on both baseline and treatment phases, whereas his scores on the teacher-report were somewhat varied.

In this regard, Gabriel's scores at baseline were more varied than his scores at treatment. Finally, the immediacy of treatment effect was not noted on both student- and teacher-reports because there were overlapping scores between the last three data points at baseline and the first three data points at treatment.

According to the student-report, the MPCC program was ineffective in promoting positive behavior of Gabriel ( $PEM = 0$ ). Gabriel believed that he always completed his schoolwork everyday; hence, there were no behavioral changes across phases. On the other hand, data from the teacher-report indicated that the MPCC program was moderately effective in promoting Gabriel's positive behavior ( $PEM = 0.83$ ) as five data points in the treatment phase were on the therapeutic side above the median baseline. This result indicated that Gabriel's behavior of completing schoolwork was improved over the course of treatment.

### **Negative Behavior**

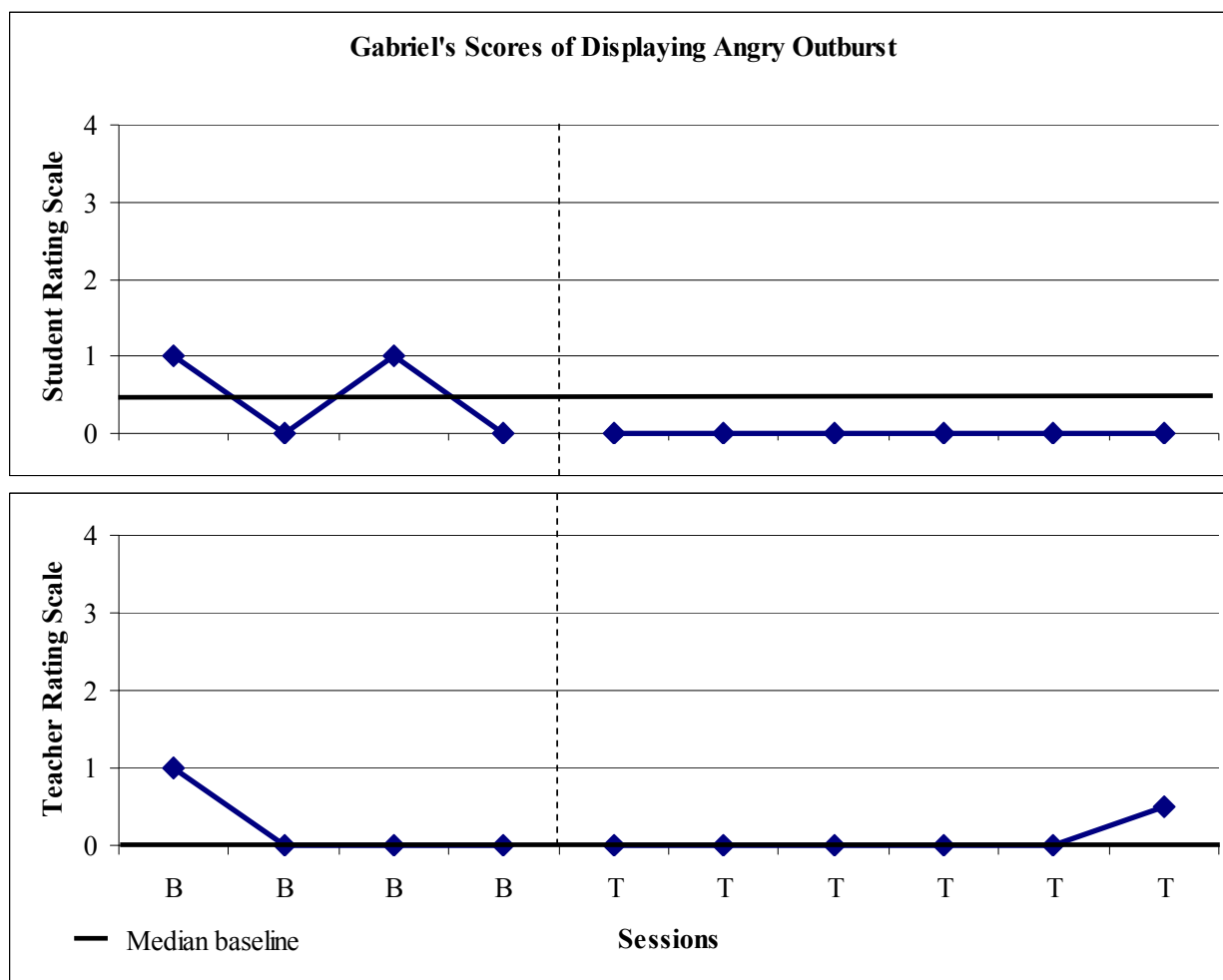
A visual analysis of level in Figure 14 showed that Gabriel had low median scores of negative behavior based on the student-report (Median = 0.5; SD = 0.58) and the teacher-report (Median = 0; SD = 0.5) at baseline. This level indicated that Gabriel rarely displayed angry outburst in the class before attending the MPCC program. Within the treatment phase, Gabriel's scores of negative behavior were relatively stable on both the student-report (Median = 0; SD = 0) and the teacher-report (Median = 0; SD = 0.2).

With regard to the trend, Gabriel's scores on the student-report showed a fluctuating and declining slope in the baseline phase, whereas his scores in the treatment phase did not show a distinct slope. Gabriel's scores on the teacher-report demonstrated a downward slope in the baseline phase and stable scores with a slight increase in session 6 of treatment. In terms of variability, Gabriel's scores on the student-report were varied in the baseline phase while his

scores in the treatment phase had no variability. In contrast, Gabriel's scores on the teacher-report were slightly varied in both phases. Finally, the immediacy of treatment effect was not noted on both student- and teacher-reports because there were overlapping scores between the last three data points at baseline and the first three data points at treatment.

Figure 14

*Student's and Teacher's Rating Scales of Gabriel's Negative Behavior Across Phases*



According to the student-report, the MPCC program was very effective in reducing negative behavior of Gabriel (PEM = 1) as all six data points in the treatment phase were on the therapeutic side below the median baseline. This result indicated that Gabriel's behavior of

displaying angry outburst was improved over the course of treatment. On the contrary, Gabriel's scores on the teacher-report indicated that the MPCC program was ineffective in decreasing Gabriel's negative behavior (PEM = 0). Both teachers perceived that Gabriel rarely had angry outburst at baseline and treatment; hence, there were no behavioral changes across phases.

### **Overall Classroom Behavior**

With reference to the DPR, the MPCC program was ineffective in enhancing the overall classroom behavior of Gabriel (PEM = 0). The PEM statistics of 0 indicated that none of the scores in the treatment phase were on the therapeutic side above the median baseline (Median baseline = 32; SD = 1). Since the median score of Gabriel in the baseline phase represented the highest score on the DPR, there were no behavioral changes above this median point in the treatment phase. According to the DPR, Gabriel's scores were relatively stable across phases with one fluctuating score at baseline 1.

At baseline 1, Gabriel received two zeros in the area of using appropriate classroom behavior and/or language. Teachers provided feedback that Gabriel became irritated and was disrespectful to teachers. He was rude with his responses when he was called to answer a question. Gabriel refused to participate. After baseline 1, Gabriel did not receive any zeros on the DPR until he withdrew from the DAEP.

### **Results on MI Metrics**

Gabriel was an 11-year-old Hispanic male in the 5th grade who was referred to the DAEP for the first time due to an issue of simple assault. According to the initial interview, Gabriel's target classroom behaviors were identified as completing schoolwork (positive behavior) and displaying angry outburst (negative behavior).



**Readiness to change ruler.** Gabriel reflected the readiness to change in the initial session of the MPCC program. He initially rated the importance of completing schoolwork and controlling his anger as 8 out of 10 rating and identified his confidence level to change as 10 out of 10 rating. Throughout the program, Daniel's perceptions about the importance of behavioral changes has increased (8 to 10) while his confidence level to change slightly decreased over the session (10 to 9). Gabriel reported that he realized how school procedures were very important to him while staying at the DAEP. However, his confidence level was decreased because there were a lot of things that he could do to change. He was not very confident that he could do them all.

**Decision to change process.** In his processing of case scenario, Gabriel demonstrated his understanding of the change process (change talk) by recognizing the problem of the current behavior, describing the adaptability of an intention to change, and articulating a strategy for changing. Gabriel identified pros and cons of pursuing his target goals. For example, Gabriel described some good things of controlling his anger as no fighting, no talking back, and gaining the teacher respect. Some disadvantages of not controlling anger were meeting the principal, being punished, failing the tests, and repeating the same grade. In this regard, Gabriel could not find reasons for some drawbacks of controlling his anger and some benefits of not controlling his anger. In the last session of the program, Gabriel decided to change his behavior when he returned his home campus. He stated that he would complete his schoolwork, study hard, and listen to teachers.

### **Participant 8**

Isabella's scores of positive and negative behaviors are displayed in Figures 15 and 16, respectively. Each figure shows a comparison between scores on the student rating scale and the

teacher rating scale. Data based on the DPR and MI metrics were outlined after the analysis of Isabella's positive and negative behaviors.

### **Positive Behavior**

A visual analysis of level in Figure 15 showed that Isabella had low to moderate median scores of positive behavior based on the student-report (Median = 0; SD = 0.5) and the teacher-report (Median = 2.25; SD = 0.48) at baseline. This level indicated that Isabella rarely stayed on her assigned tasks before attending the MPCC program. Within the treatment phase, Isabella's scores of positive behavior were highly fluctuated on both the student-report (Median = 1.5; SD = 1.52) and the teacher-report (Median = 1.5; SD = 1.07).

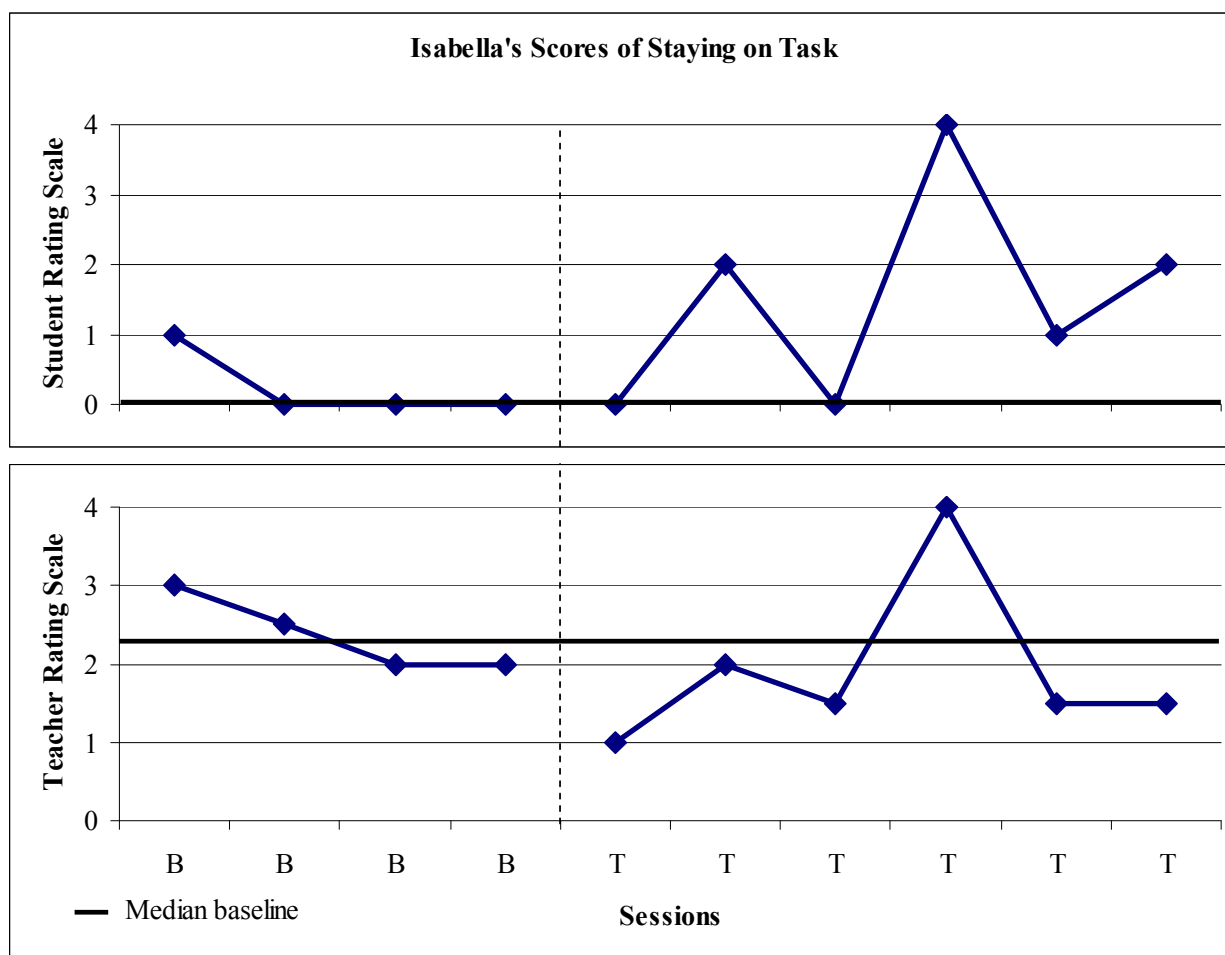
With regard to the trend, Isabella's scores on both student- and teacher-reports showed a declining slope in the baseline phase, whereas her scores in the treatment phase illustrated a fluctuating and increasing slope from sessions 1 to 6. With respect to variability, Isabella's scores of positive behavior on both student- and teacher-reports were relatively stable in the baseline phase while her scores in the treatment phase were highly varied. Finally, the immediacy of treatment effect was not noted on both student- and teacher-reports because there were overlapping scores between the last three data points in the baseline phase and the first three data points in the treatment phase.

According to the student-report, the MPCC program was debatably effective in promoting positive behavior of Isabella (PEM = 0.67) as four data points in the treatment phase were on the therapeutic side above the median baseline. This result indicated that the improvement of Isabella's behavior of staying on task could be accounted for an MI intervention. On the other hand, Isabella's scores on the teacher-report indicated that the MPCC program was

ineffective in improving Isabella's positive behavior ( $PEM = 0.17$ ) as one data point in the treatment phase was on the therapeutic side above the median baseline.

Figure 15

*Student's and Teacher's Rating Scales of Isabella's Positive Behavior Across Phases*



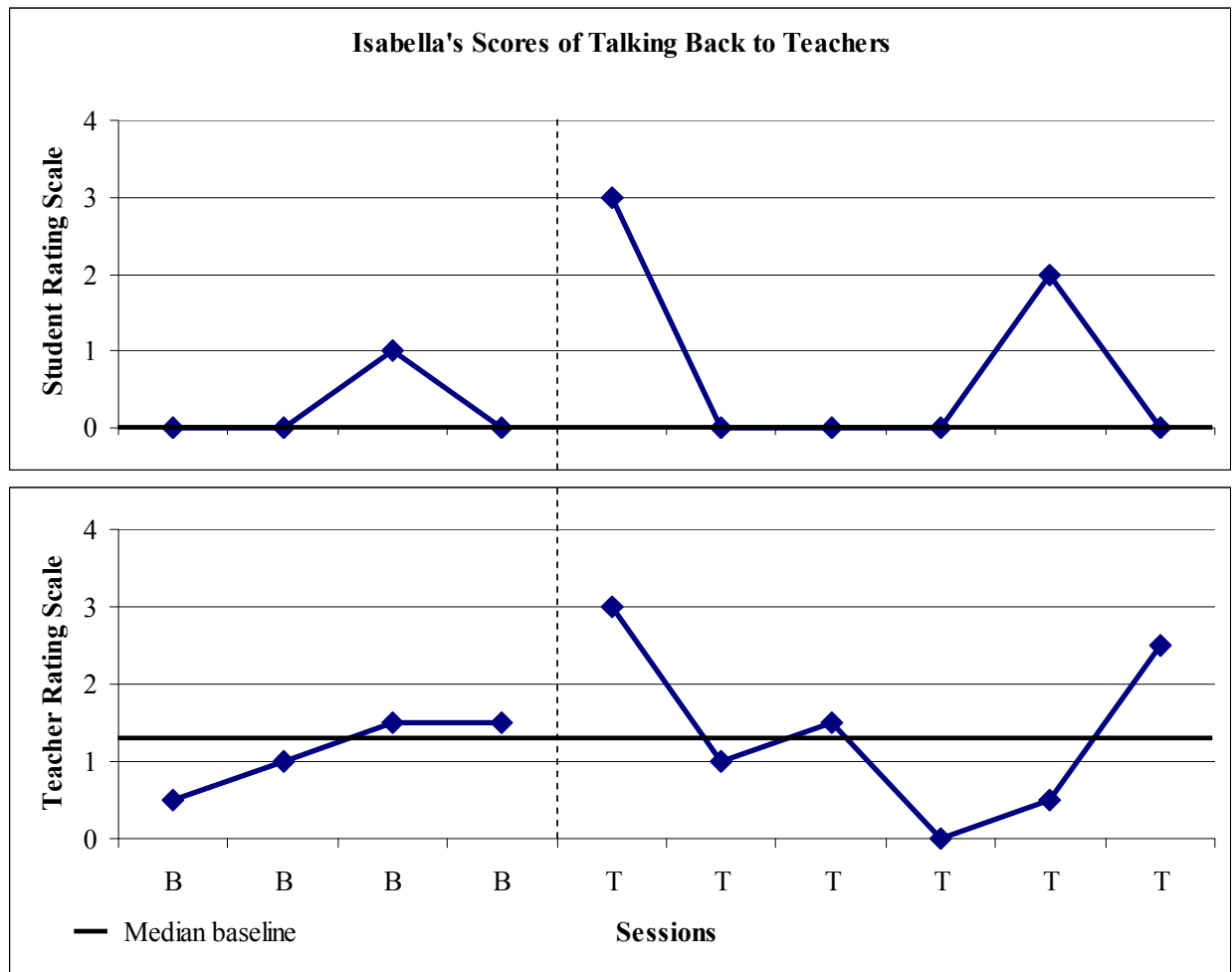
### Negative Behavior

A visual analysis of level in Figure 16 showed that Isabella had low median scores of negative behavior based on the student-report (Median = 0;  $SD = 0.5$ ) and the teacher-report (Median = 1.25;  $SD = 0.48$ ) at baseline. This level indicated that Isabella rarely talked back to teachers before attending the MPCC program. Within the treatment phase, Isabella's scores of negative behavior were fluctuated on both the student-report (Median = 0;  $SD = 1.33$ ) and the

teacher-report (Median = 1.25; SD = 1.16). In this regard, Isabella's scores of negative behavior in the treatment phase were more fluctuated than those scores in the baseline phase.

Figure 16

*Student's and Teacher's Rating Scales of Isabella's Negative Behavior Across Phases*



With regard to the trend, Isabella's scores on the student-report did not demonstrate a distinct slope at baseline, but her scores in the treatment phase exhibited a fluctuating and declining slope from sessions 1 to 6. On the contrary, Isabella's scores on the teacher-report showed an upward slope in the baseline phase and a fluctuating yet declining slope in the treatment phase. In terms of variability, Isabella's scores of negative behavior on both student-

and teacher-reports in the baseline phase were less varied than those scores in the treatment phase. Finally, the immediacy of treatment effect was not noted on both student- and teacher-reports because there were overlapping scores between the last three data points at baseline and the first three data points at treatment.

According to the student-report, the MPCC program was ineffective in reducing negative behavior of Isabella (PEM = 0). In contrast, Isabella's scores on the teacher-report indicated that the MPCC program was debatably effective in decreasing Isabella's negative behavior (PEM = 0.5) as three data points in the treatment phase were on the therapeutic side below the median baseline. This result indicated that the improvement of Isabella's negative behavior could be accounted for the MI intervention.

### **Overall Classroom Behavior**

With reference to the DPR, the MPCC program was debatably effective in enhancing the overall classroom behavior of Isabella (PEM = 0.5). The PEM statistics of 0.5 indicated that three data points in the treatment phase were on the therapeutic side above the median baseline (Median baseline = 28.5; SD = 1.89). According to the DPR, Isabella's scores of the overall classroom behavior were fluctuating across phases. Although Isabella's scores did not show a distinct slope in the baseline phase, her scores in the treatment phase were slightly increased from sessions 1 to 6.

At baseline 1, Isabella received four zeros in the areas of completing daily assignments and following class procedures and expectation. Teachers provided feedback that Isabella was defiant and refused to work, but she eventually complied and had a good day. At baseline 3, Isabella received three zeros in the area of using appropriate classroom behavior and/or language. Teachers commented that Isabella tried hard to disrupt the class by making "silly

remarks." At baseline 4, Isabella received four zeros in the areas of following class procedures and expectation and using appropriate classroom behavior and/or language. Teachers informed that Isabella wanted to be in the center of attention. She intentionally made comments across the room to other students' conversations.

In session 1 of treatment, Isabella received five zeros in the areas of completing daily assignments, participating in class as required, and following class procedures and expectation. Teachers reported that Isabella got out of seat constantly and talked across the room without permission. In session 2, Isabella received two zeros in the areas of following class procedures and expectation and using appropriate classroom behavior and/or language. However, teachers did not provide specific feedback about her behavior. In session 3, Isabella received five zeros in the areas of following class procedures and expectation and using appropriate classroom behavior and/or language. Teachers commented that Isabella teased other students, pushed one student against a table, and attempted to "play fight." In session 4, Isabella received one zero in the area of using appropriate classroom behavior and/or language. In session 6, Isabella received four zeros in the areas of completing daily assignments and using appropriate classroom behavior and/or language. Evidently, teachers' feedback on the DPR was a good indicator of Isabella's fluctuating scores of positive, negative, and overall classroom behaviors.

### **Results on MI Metrics**

Isabella was an 11-year-old Hispanic female in the 5th grade who was referred to the DAEP for the first time due to an issue of noncompliance and persistent misbehavior. Isabella's target classroom behaviors were identified as staying on assigned tasks (positive behavior) and talking back to teachers (negative behavior).

**Readiness to change ruler.** Isabella reflected the readiness to change in the initial session of the MPCC program. She initially rated the importance of staying on task and being respectful to teachers as 10 out of 10 rating and identified her confidence level to change as 9 out of 10 rating. Throughout the program, Isabella maintained her perceptions about the importance of behavioral changes and confidence level to change over the session. Isabella explained that her confidence level was not increased because she did not know what to expect when she went back to her home school.

**Decision to change process.** In her processing of case scenario, Isabella demonstrated her understanding of the change process (change talk) by recognizing the problem of the current behavior, expressing concerns regarding consequences of the current behavior, describing the adaptability of an intention to change, and articulating a strategy for changing. Isabella identified pros and cons of pursuing her target goals. For example, Isabella described some good things of staying on task as avoiding trouble, promoting good behavior, and making her mother happy. Some disadvantages of staying on task included too much work, no break, and unable to talk with her friends while studying. Some good things when she did not stay on task included feeling happy and playing around with friends. Some drawbacks of not staying on task were getting in trouble and getting involved in other people's business. In the last session of the program, Isabella decided to change her behavior when she returned her home campus. She stated that she would complete her schoolwork, listen to teachers, and be respectful to others.

### **Participant 9**

James's scores of positive and negative behaviors are displayed in Figures 17 and 18, respectively. Each figure shows a comparison between scores on the student rating scale and the

teacher rating scale. Data based on the DPR and MI metrics were outlined after the analysis of James's positive and negative behaviors.

### **Positive Behavior**

A visual analysis of level in Figure 17 showed that James had high median scores of positive behavior based on the student-report (Median = 3.5; SD = 0.58) and the teacher-report (Median = 3; SD = 0.5) at baseline. This level indicated that James often following school instructions before attending the MPCC program. Within the treatment phase, James's scores of positive behavior on the student-report were constant (Median = 4; SD = 0), whereas his scores on the teacher-report were almost stable with one fluctuating score in the first session of treatment (Median = 4; SD = 0.2) .

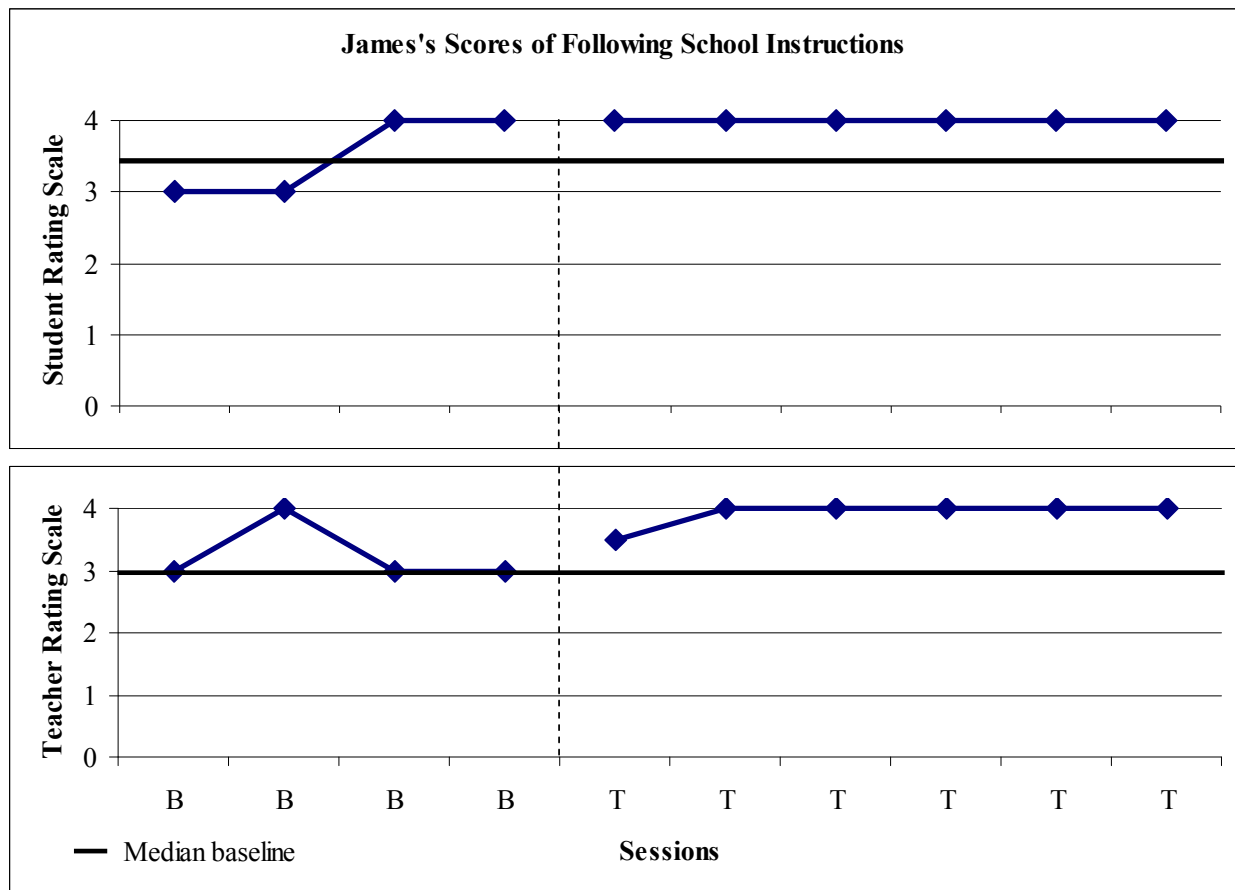
With regard to the trend, James's scores on the student-report depicted an upward slope at baseline and became stable at treatment. On the other hand, the teacher-report did not demonstrate a distinct pattern of scores in the baseline phase, but an increasing pattern of scores was evident in the treatment phase. In terms of variability, James's scores of positive behavior in the baseline phase on both student- and teacher-reports were more varied than those scores in the treatment phase. Finally, the immediacy of treatment effect was not noted on both student- and teacher-reports because there were overlapping scores between the last three data points at baseline and the first three data points at treatment.

According to student- and teacher-reports, the MPCC program was very effective in promoting positive behavior of James (PEM = 1) as all six data points in the treatment phase were on the therapeutic side above the median baseline. These results indicated that James's behavior of following school instructions was improved over the course of treatment based on the agreement between the student and teachers.



Figure 17

*Student's and Teacher's Rating Scales of James's Positive Behavior Across Phases*



### Negative Behavior

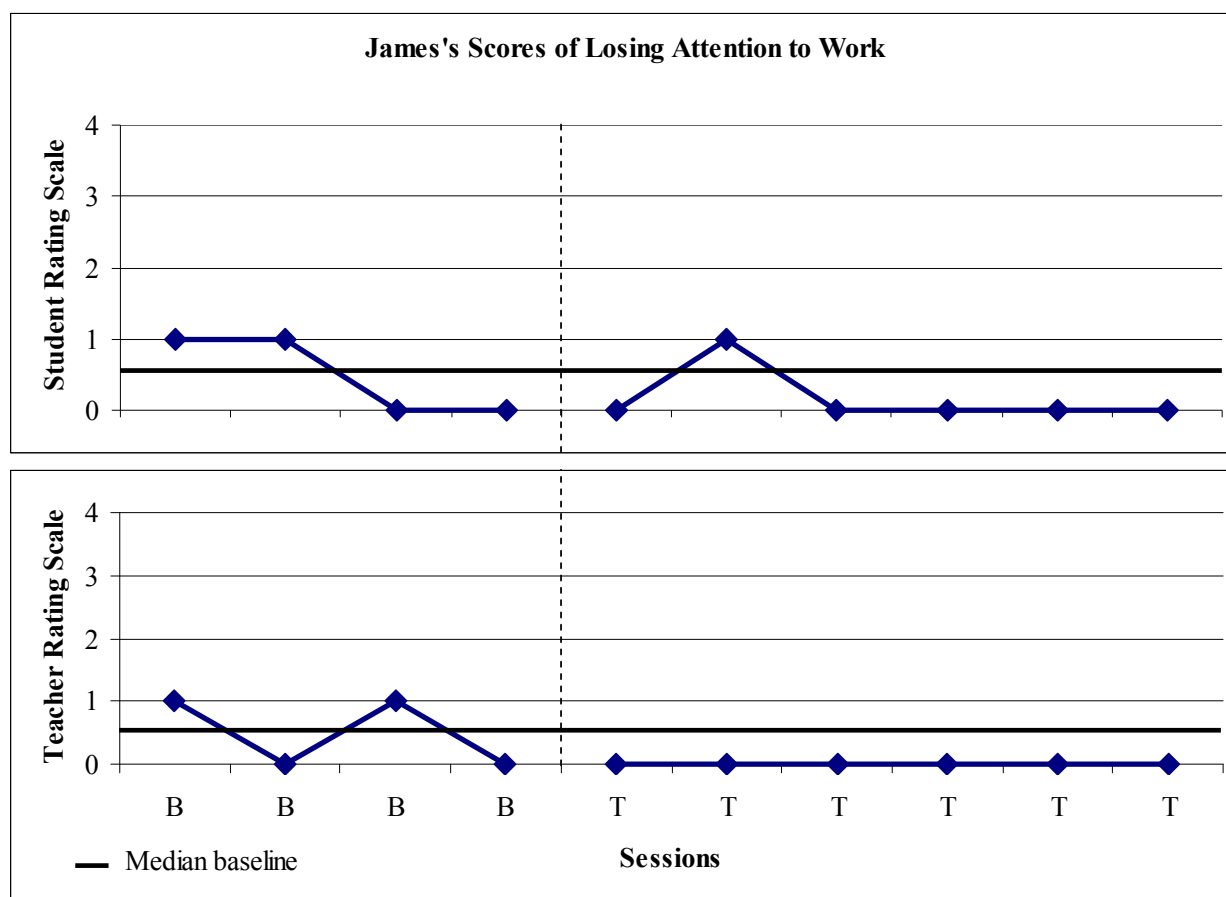
A visual analysis of level in Figure 18 showed that James had very low median scores of negative behavior based on the student-report (Median = 0.5; SD = 0.58) and the teacher-report (Median = 0.5; SD = 0.58) at baseline. This level indicated that James rarely lost attention to his work before attending the MPCC program. Within the treatment phase, James's scores on the student-report were relatively stable with one fluctuating score in session 2 (Median = 0; SD = 0.41), whereas his scores on the teacher-report were completely stable (Median = 0; SD = 0).

With regard to the trend, James's scores on the student-report showed a downward slope in the baseline phase and a relatively stable pattern in the treatment phase. Likewise, James's

scores on the teacher-report demonstrated a fluctuating, yet declining slope in the baseline phase and a stable pattern in the treatment phase. In terms of variability, James's scores on both student- and teacher-reports at baseline were more varied than his scores at treatment, indicating an established pattern of performance during treatment. Finally, the immediacy of treatment effect was not noted on both student- and teacher-reports because there were overlapping scores between the last three data points at baseline and the first three data points at treatment.

Figure 18

*Student's and Teacher's Rating Scales of James's Negative Behavior Across Phases*



According to the student-report, the MPCC program was effective in reducing negative behavior of James ( $PEM = 0.83$ ) as five data points in the treatment phase were on the therapeutic side below the median baseline. Likewise, James's scores on the teacher-report

indicated that the MPCC program was very effective in decreasing James's negative behavior (PEM = 1) as all six data points in the treatment phase were on the therapeutic side below the median baseline. These results indicated that James's behavior of losing attention to work was improved over the course of treatment based on the agreement between the student and teachers.

### **Overall Classroom Behavior**

With reference to the DPR, the MPCC program was very effective in enhancing the overall classroom behavior of James (PEM = 1). The PEM statistics of 1 indicated that all six data points in the treatment phase were on the therapeutic side above the median baseline (Median baseline = 31.5; SD = 0.58). According to the DPR, James's scores exhibited an upward trend in the baseline phase and a steady pattern in the treatment phase with no variability. James's scores became stable from baseline 3 to session 6 of treatment.

At baseline 1, James received one zero in the area of following class procedures and expectation. Teachers provided feedback that James was distracted by other students and lost focused on his assigned task. At baseline 2, James received one zero in the area of following class procedures and expectation. Teachers commented that James could not ignore distractions from other students in the morning, but he became more focused on his work in the afternoon. After baseline 2, James did not receive any zeros on the DPR. He improved his behavior and maintained his high functioning until he withdrew from the DAEP.

### **Results on MI Metrics**

James was an 11-year-old Caucasian male in the 5th grade who was referred to the DAEP for the first time due to an issue of possession of an illegal knife. James's target classroom behaviors were identified as following school instructions (positive behavior) and losing attention to work (negative behavior).

**Readiness to change ruler.** James reflected the readiness to change in the initial session of the MPCC program. He initially rated the importance of following school instructions and ignoring distractions from others as 9 out of 10 rating and identified his confidence level to change as 10 out of 10 rating. Throughout the program, James maintained his perceptions about the importance of behavioral changes and confidence level to change over the session. James responded that school procedures were very important to him, but he did not choose a 10 because rules could be changed all the time. He believed that some rules were not strict, and people could do things that they wanted as long as they did not hurt other people.

**Decision to change process.** In his processing of case scenario, James demonstrated his understanding of the change process (change talk) by expressing concerns regarding consequences of the current behavior, describing the adaptability of an intention to change, and articulating a strategy for changing. James identified pros and cons of pursuing his target goals. For example, James described some good things of following school directions as avoiding trouble, completing assigned tasks, and getting good grades. Some disadvantages of following school instructions included feeling bored and being pressured to do hard work. Some good things when he did not follow school directions included having free time and feeling excited. Some drawbacks of not following school directions were getting in trouble and creating chaos in the school. In the last session of the program, James decided to change his behavior when he returned his home school. He stated that he would complete his schoolwork, listen to teachers, and read when he had free time.

### **Participant 10**

Jorge's scores of positive and negative behaviors are displayed in Figures 19 and 20, respectively. Each figure shows a comparison between scores on the student rating scale and the

teacher rating scale. Data based on the DPR and MI metrics were outlined after the analysis of Jorge's positive and negative behaviors.

### **Positive Behavior**

A visual analysis of level in Figure 19 showed that Jorge had very high median scores of positive behavior based on the student-report (Median = 4; SD = 0) and the teacher-report (Median = 3.75; SD = 0.48) at baseline. This level indicated that Jorge was almost always honest and told the truth to teachers before attending the MPCC program. Within the treatment phase, Jorge's scores of positive behavior were relatively stable based on the student-report (Median = 4; SD = 0.41) and the teacher-report (Median = 4; SD = 0.26).

With regard to the trend, Jorge's scores on the student-report did not show a distinct slope in both baseline and treatment phases. In contrast, the teacher-report illustrated an upward slope of scores in the baseline phase and somewhat steady scores with two fluctuating data in sessions 3 and 6 in the treatment phase. In terms of variability, Jorge's scores of positive behavior on the student-report were almost stable with no variability in the baseline phase. However, his scores on the teacher-report were somewhat varied. In this regard, Jorge's scores of positive behavior in the baseline phase were more varied than those scores in the treatment phase. Finally, the immediacy of treatment effect was not noted on both student- and teacher-reports because there were overlapping scores between the last three data points in the baseline phase and the first three data points in the treatment phase.

According to the student-report, the MPCC program was ineffective in promoting positive behavior of Jorge (PEM = 0). Jorge believed that he was honest and told the truth almost all the time; thus, there were no behavioral changes across phases. On the contrary, Jorge's scores on the teacher-report indicated that the MPCC program was debatably effective in

improving Jorge's positive behavior (PEM = 0.67) as four data points in the treatment phase were on the therapeutic side above the median baseline. This result indicated that the improvement of Jorge's behavior of being honest and telling the truth could be accounted for an MI intervention.

Figure 19

*Student's and Teacher's Rating Scales of Jorge's Positive Behavior Across Phases*



### Negative Behavior

A visual analysis of level in Figure 20 showed that Jorge had low median scores of negative behavior based on the student-report (Median = 1; SD = 1) and the teacher-report (Median = 0; SD = 0.25) at baseline. This level indicated that Jorge rarely lost attention to his work before attending the MPCC program. Within the treatment phase, Jorge's scores on the

student-report were somewhat stable and decreased from the baseline phase (Median = 0; SD = 1.03), whereas his scores on the teacher-report were relatively fluctuated and increased from the baseline phase (Median = 0.5; SD = 0.38).

Figure 20

*Student's and Teacher's Rating Scales of Jorge's Negative Behavior Across Phases*



With regard to the trend, Jorge's scores on the student-report showed a similar pattern of downward slope in both baseline and treatment phases. However, Jorge's scores on the teacher-report did not exhibit a distinct slope in both baseline and treatment phases. In terms of variability, Jorge's scores on the student-report were more highly varied than his scores on the

teacher-report in both phases. Finally, the immediacy of treatment effect was not noted on both student- and teacher-reports because there were overlapping scores between the last three data points at baseline and the first three data points at treatment.

According to the student-report, the MPCC program was debatably effective in reducing negative behavior of Jorge (PEM = 0.67) as four data points in the treatment phase were on the therapeutic side below the median baseline. This result indicated that the improvement of Jorge's negative behavior could be accounted for the MI intervention. On the other hand, Jorge's scores on the teacher-report indicated that the MPCC program was ineffective in decreasing Jorge's negative behavior (PEM = 0). In this regard, teachers perceived that Jorge rarely lost attention to his work before attending the program; thus, there were no behavioral changes across phases.

### **Overall Classroom Behavior**

With reference to the DPR, the MPCC program was debatably effective in enhancing the overall classroom behavior of Jorge (PEM = 0.67). The PEM statistics of 0.67 indicated that four data points in the treatment phase were on the therapeutic side above the median baseline (Median baseline = 31.5; SD = 1.89). According to the DPR, Jorge's scores of the overall classroom behavior illustrated an upward trend in both baseline and treatment phases.

At baseline 1, Jorge received one zero in the area of using appropriate classroom behavior and/or language. Teachers provided feedback that Jorge was standing on a chair and became disruptive. At baseline 2, Jorge received four zeros in the areas of completing daily assignments and using appropriate classroom behavior and/or language. Teachers commented that Jorge was sleeping in class and did not complete his assignments. In session 1 of treatment, Jorge received two zeros in the area of using appropriate classroom behavior and/or language. Teachers reported that Jorge was laughing when his classmate made inappropriate comments



toward one of the teachers. In session 2, Jorge received one zero in the area of using appropriate classroom behavior and/or language. However, teachers did not provide specific feedback about his behavior. After session 2 of treatment, Jorge did not receive any zeros on the DPR until he withdrew from the DAEP.

### **Results on MI Metrics**

Jorge was a 12-year-old Hispanic male in the 5th grade who was referred to the DAEP for the first time due to an issue of noncompliance. According to the initial interview, Jorge's target classroom behaviors were identified as telling the truth (positive behavior) and losing attention to work (negative behavior).

**Readiness to change ruler.** Jorge reflected the readiness to change in the initial session of the MPCC program. He initially rated the importance of telling the truth and ignoring distractions from others as 10 out of 10 rating and identified his confidence level to change as 8 out of 10 rating. Throughout the program, Jorge maintained his perceptions about the importance of behavioral changes while his confidence level to change has increased over the session (8 to 10). Jorge reported that he learned to comply with classroom rules while staying at the DAEP. As such, he felt more confident that he could do better at his home school.

**Decision to change process.** In his processing of case scenario, Jorge demonstrated his understanding of the change process (change talk) by expressing concerns regarding consequences of the current behavior and articulating a strategy for changing. Jorge identified pros and cons of pursuing his target goals. For example, Jorge described some good things of ignoring distractions from others as avoiding trouble, making good grades, getting rewards and compliments, and becoming more disciplined. Some disadvantages of ignoring distractions included losing time for fun activities and unable to talk with his friends in class. Some good

things when he did not ignore distractions from others included having more fun time with peers and avoiding completing schoolwork. Some drawbacks of not ignoring distractions were getting in trouble, failing the tests, and disappointing his mother. In the last session of the program, Jorge decided to change his behavior when he returned his home campus. He stated that he would work harder to get good grades, pay attention to his teachers, hang around with better peers, and see a school counselor when he needed help.

### **Summary**

The principal investigator provided results of individual profiles of student participants in the treatment group based on visual analysis and percentage of data exceeding the median (PEM) procedure using data from the student rating scale, the teacher rating scale, the DPR, and MI metrics. Although this section of the chapter emphasized only students in the treatment group, individual profiles of students in the comparison group were displayed in Table 1.

Table 1 provides an overview of effect sizes of student participants in both treatment and comparison groups calculated from PEM procedures. According to the results of the PEM analysis, the use of MI as a strengths-based approach appears to be helpful for improving positive behavior, negative behavior, and the overall classroom behavior of students in the treatment group compared with those in the comparison group.

With regard to the student rating scale, three (30%) students in the treatment group indicated improvement in their positive behaviors compared with one (16.67%) student in the comparison group who reported this progress. PEM statistics of students in the treatment group noted that the MPCC program was very effective for one student, moderately effective for one student, and debatably effective for one student. In addition, six (60%) students in the treatment group showed improvement in their negative behaviors compared with one (16.67%) student in

Table 1

*Individual Profiles of PEM Statistics in Treatment and Comparison Groups based on the Student Rating Scale, the Teacher Rating Scale, and the Daily Progress Report*

	Student Rating Scale		Teacher Rating Scale		DPR
	Positive	Negative	Positive	Negative	
	Behavior	Behavior	Behavior	Behavior	
<u>Treatment</u>					
Aden	0.00	0.67*	0.00	0.17	0.50*
Andrew	0.00	0.00	0.50*	0.33	0.83*
Brendon	0.00	0.00	0.00	0.50*	0.83*
Bruno	0.83*	0.00	0.00	0.83*	0.00
Cody	0.33	0.67*	0.67*	0.50*	0.67*
Daniel	0.00	1.00*	0.67*	0.67*	1.00*
Gabriel	0.00	1.00*	0.83*	0.00	0.00
Isabella	0.67*	0.00	0.17	0.50*	0.50*
James	1.00*	0.83*	1.00*	1.00*	1.00*
Jorge	0.00	0.67*	0.67*	0.00	0.67*
<u>Comparison</u>					
Francisco	0.00	0.00	0.17	0.00	0.00
Jake	0.17	0.17	0.17	0.17	0.50*
Lucas	0.00	0.00	0.00	0.00	0.00
Manuel	0.17	0.00	0.00	0.00	0.00
Pablo	1.00*	0.00	0.00	0.00	0.17
Trevon	0.33	0.50*	0.50*	0.17	0.33

*Note. \*PEM scores indicate effectiveness of treatment. Effect sizes of .90 and greater are indicative of very effective treatments, .70 to .89 suggest moderate effectiveness, .50 to .69 represent debatable effectiveness, and less than .50 are considered as ineffectiveness.*

the comparison group who noted this progress. PEM statistics of students in the treatment group noted that the MPCC program was very effective for two students, moderately effective for one student, and debatably effective for three students.

According to the teacher rating scale, six (60%) students in the treatment group appeared to show improvement in their positive behaviors compared with one (16.67%) student in the comparison group who noted this progress. PEM statistics of students in the treatment group indicated that the MPCC program was very effective for one student, moderately effective for one student, and debatably effective for four students. In addition, six (60%) students in the treatment group indicated a reduction in their negative behaviors while none of the students in the comparison group showed this progress. PEM statistics of students in the treatment group indicated that the MPCC program was very effective for one student, moderately effective for one student, and debatably effective for four students.

With respect to the DPR, eight (80%) students in the treatment group showed improvement in their overall classroom behaviors compared with one (16.67%) student in the comparison group who noted this progress. PEM statistics of students in the treatment group indicated that the MPCC program was very effective for two students, moderately effective for two students, and debatably effective for four students.

### **Single-Case Analysis: Group Profiles of Participants**

Profiles of all participants in the treatment and comparison groups were presented in order to provide an overall context for interpretation and examination of how the MI-based MPCC program impacted behavioral changes of students who completed the program compared with those who did not complete the program. All median scores of the student rating scale, the teacher rating scale, and the DPR were examined by phase across subjects using the single-case

research design. Figures 21 to 25 illustrate median scores of positive, negative, and overall classroom behaviors of all students in treatment and comparison groups across baseline and treatment phases based on the student rating scale, the teacher rating scale, and the DPR. The B and T characters on the horizontal axis represent baseline and treatment phases, respectively.

### **Positive Behavior**

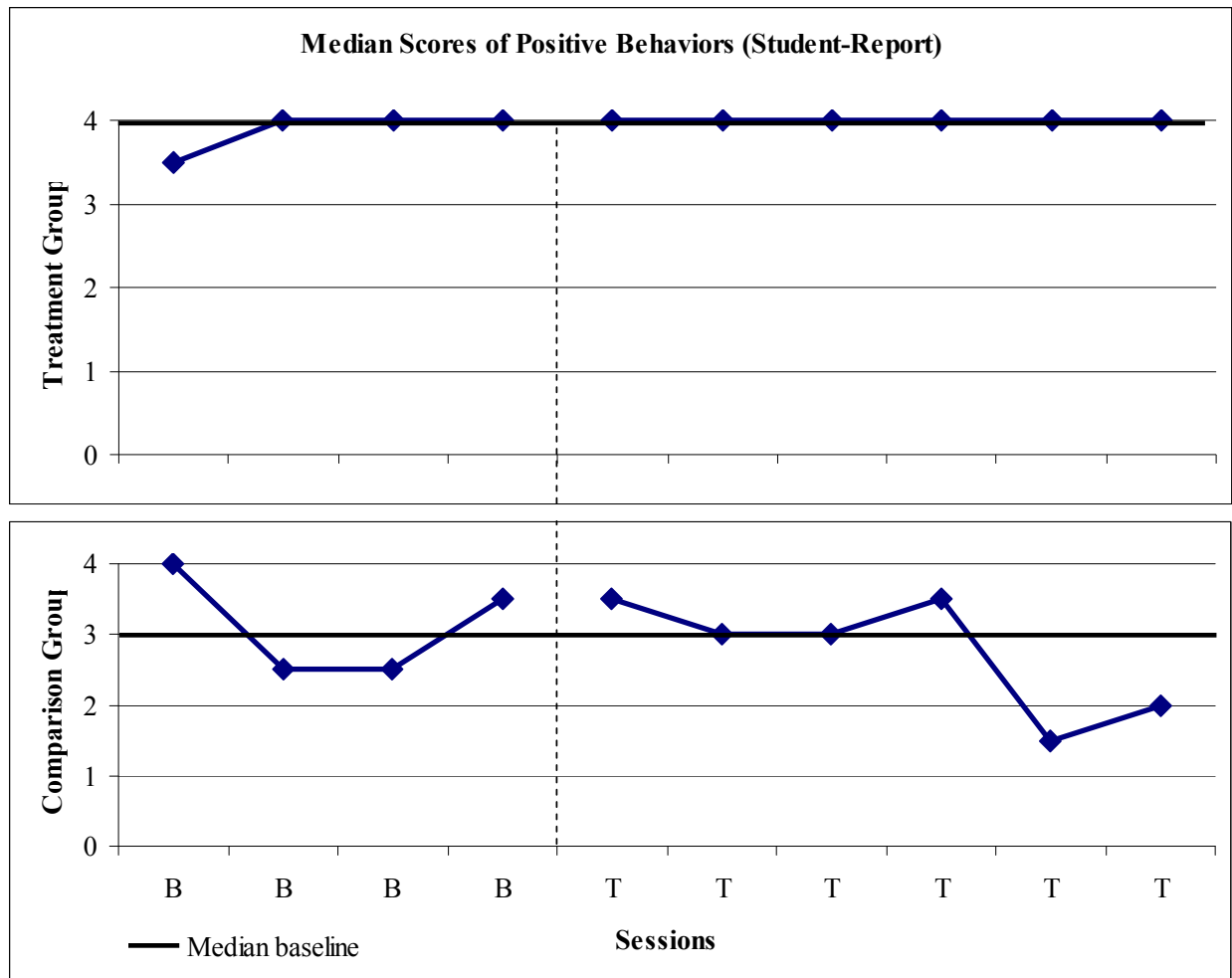
**Student-report.** Utilizing single case methods, median scores of positive behaviors of all students in treatment and comparison groups were examined for level, trend, variability, immediacy of effect, and PEM statistics. A visual analysis of level in Figure 21 showed that students in the treatment group had a higher median score of positive behaviors (Median = 4; SD = 0.25) than students in the comparison group (Median = 3; SD = 0.75) at baseline. This level indicated that students in the treatment group had higher functioning than students in the comparison group before receiving interventions. Within the treatment phase, the median score of positive behaviors of students in the treatment group remained unchanged from the baseline phase (Median = 4; SD = 0). Likewise, the median score of positive behaviors of students in the comparison group has not changed across time (Median = 3; SD = 0.82) although median scores on the last six days were more varied than median scores on the first four days.

With respect to the trend, students who completed the MPCC program maintained their high functioning across baseline and treatment phases, whereas students in the comparison group showed a fluctuating and declining pattern of their positive behaviors across phases. In terms of variability, median scores of positive behaviors of students in the treatment group were stable across phases compared with median scores of students in the comparison group. Despite these differences, students in the treatment group did not experience the immediacy of treatment effect

as students in the comparison group because there were overlapping scores between the last three data points at baseline and the first three data points at treatment.

Figure 21

*Median Scores of Positive Behaviors of All Students in Treatment and Comparison Groups based on the Student Rating Scale*



According to the student-report, the MPCC program was ineffective in promoting positive behaviors of students in the treatment group ( $PEM = 0$ ). These students maintained their high performance in both baseline and treatment phases, and therefore there were no behavioral changes across phases. Likewise, there were no behavioral improvements of students in the

comparison group ( $PEM = 0.33$ ) as two scores were on the therapeutic side above the median baseline. Positive behaviors of students in the comparison group tended to decrease over time.

**Teacher-report.** A visual analysis of level in Figure 22 showed that students in the treatment group had a relatively equivalent median score of positive behaviors (Median = 3.25;  $SD = 0.38$ ) to students in the comparison group (Median = 3;  $SD = 0.13$ ) at baseline. This level indicated that students in the treatment group had relatively similar functioning to students in the comparison group before receiving interventions. Within the treatment phase, the median score of positive behaviors of students in the treatment group was moderately increased from the baseline phase (Median = 3.5;  $SD = 0.2$ ). On the contrary, the median score of positive behaviors of students in the comparison group was decreased from the baseline phase (Median = 2;  $SD = 0.26$ ), indicating worsening behaviors across time.

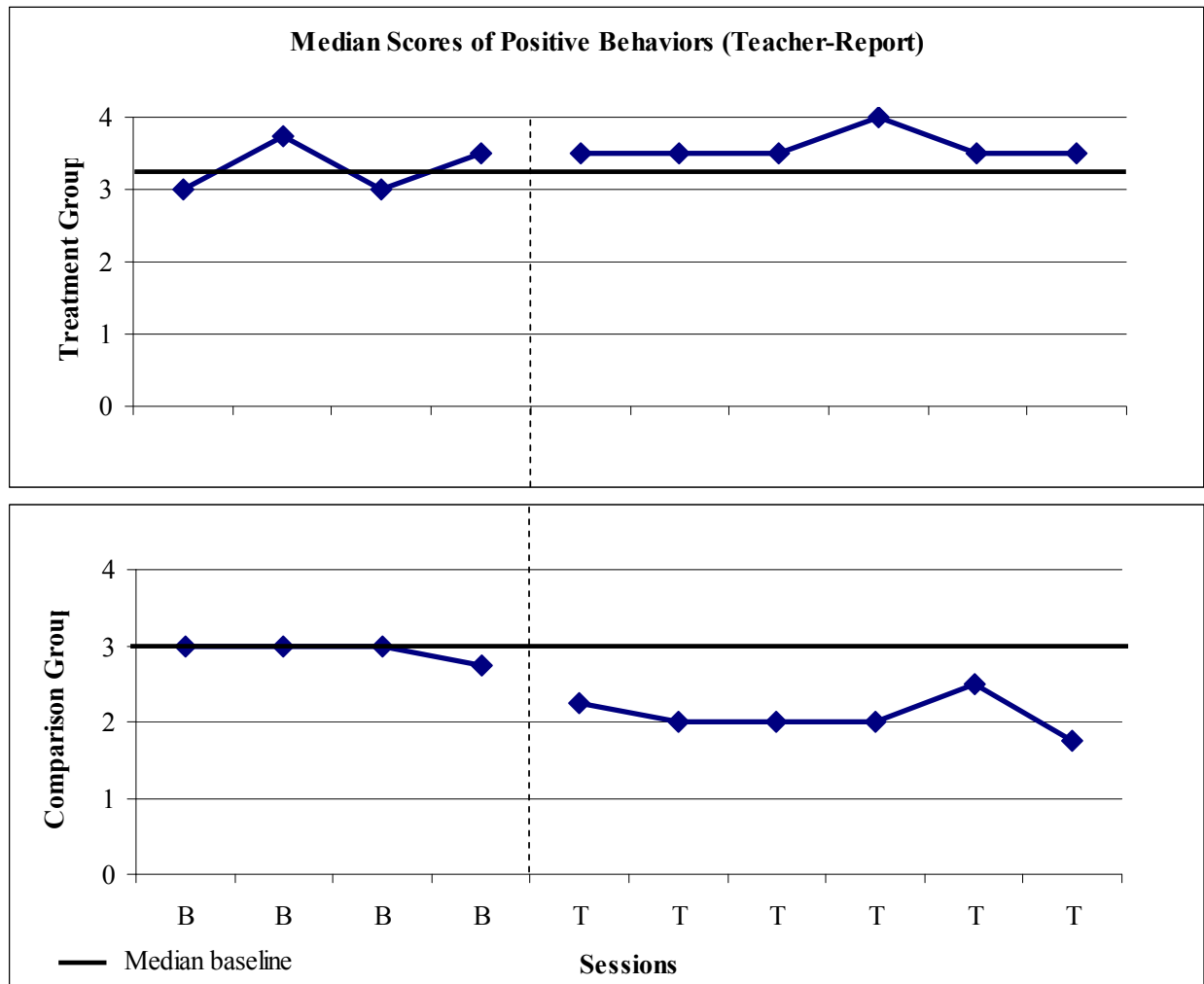
With respect to the trend, students who completed the MPCC program showed an upward slope of scores at baseline and stable scores at treatment. On the other hand, students in the comparison group illustrated a downward slope of scores from baseline to treatment phases. In terms of variability, median scores of positive behaviors of students in both treatment and comparison groups were slightly varied across phases, indicating a consistent pattern of behaviors in both groups. Students in the treatment group did not experience the immediacy of treatment effect because there were overlapping scores between the last three data points at baseline and the first three data points at treatment.

According to the teacher-report, the MPCC program was very effective in promoting positive behaviors of students in the treatment group ( $PEM = 1$ ) as all six data points in the treatment phase were on the therapeutic side above the median baseline. This result indicated that students in the treatment group improved their positive behaviors while attending the MPCC

program. In contrast, positive behaviors of students in the comparison group appeared to decrease after the baseline phase (PEM = 0).

Figure 22

*Median Scores of Positive Behaviors of All Students in Treatment and Comparison Groups based on the Teacher Rating Scale*



### Negative Behavior

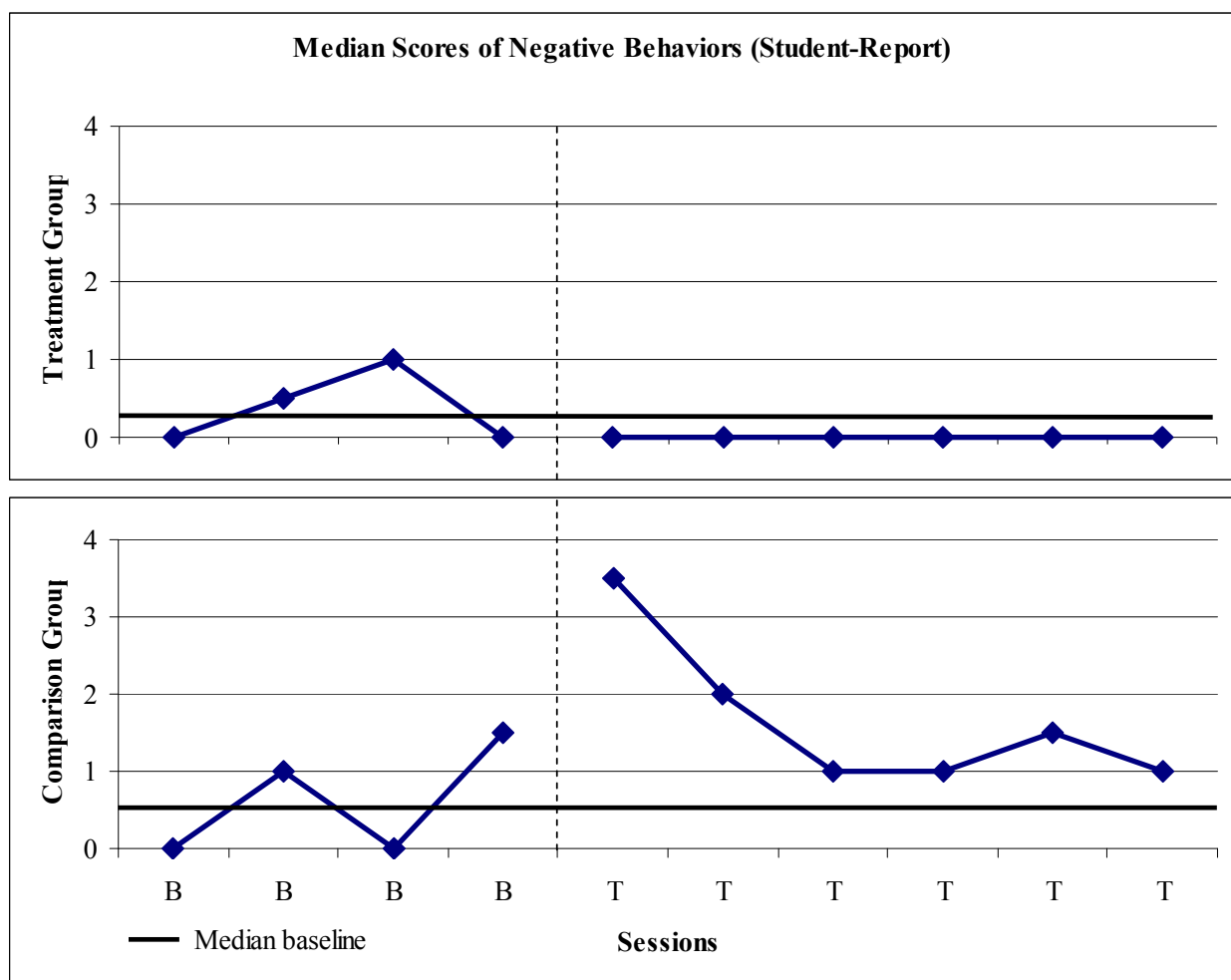
**Student-report.** A visual analysis of level in Figure 23 showed that students in the treatment group had a relatively equivalent median score of negative behaviors (Median = 0.25; SD = 0.48) to students in the comparison group (Median = 0.5; SD = 0.75) at baseline. This level



indicated that students in the treatment group had relatively similar functioning to students in the comparison group before receiving interventions. Within the treatment phase, the median score of negative behaviors of students in the treatment group was decreased from the baseline phase (Median = 0; SD = 0). However, the median score of negative behaviors of students in the comparison group was increased from the baseline phase (Median = 1.25; SD = 0.98), indicating worsening behaviors across time.

Figure 23

*Median Scores of Negative Behaviors of All Students in Treatment and Comparison Groups based on the Student Rating Scale*



With respect to the trend, students who completed the MPCC program did not demonstrate a distinct slope of scores in both baseline and treatment phases, whereas students in the comparison group showed a fluctuating and increasing pattern of their negative behaviors in the baseline phase and a declining pattern in the treatment phase. In terms of variability, median scores of negative behaviors of students in the treatment group were relatively stable across phases compared with median scores of students in the comparison group. Despite these differences, students in the treatment group did not experience the immediacy of treatment effect as students in the comparison group because there were overlapping scores between the last three data points at baseline and the first three data points at treatment.

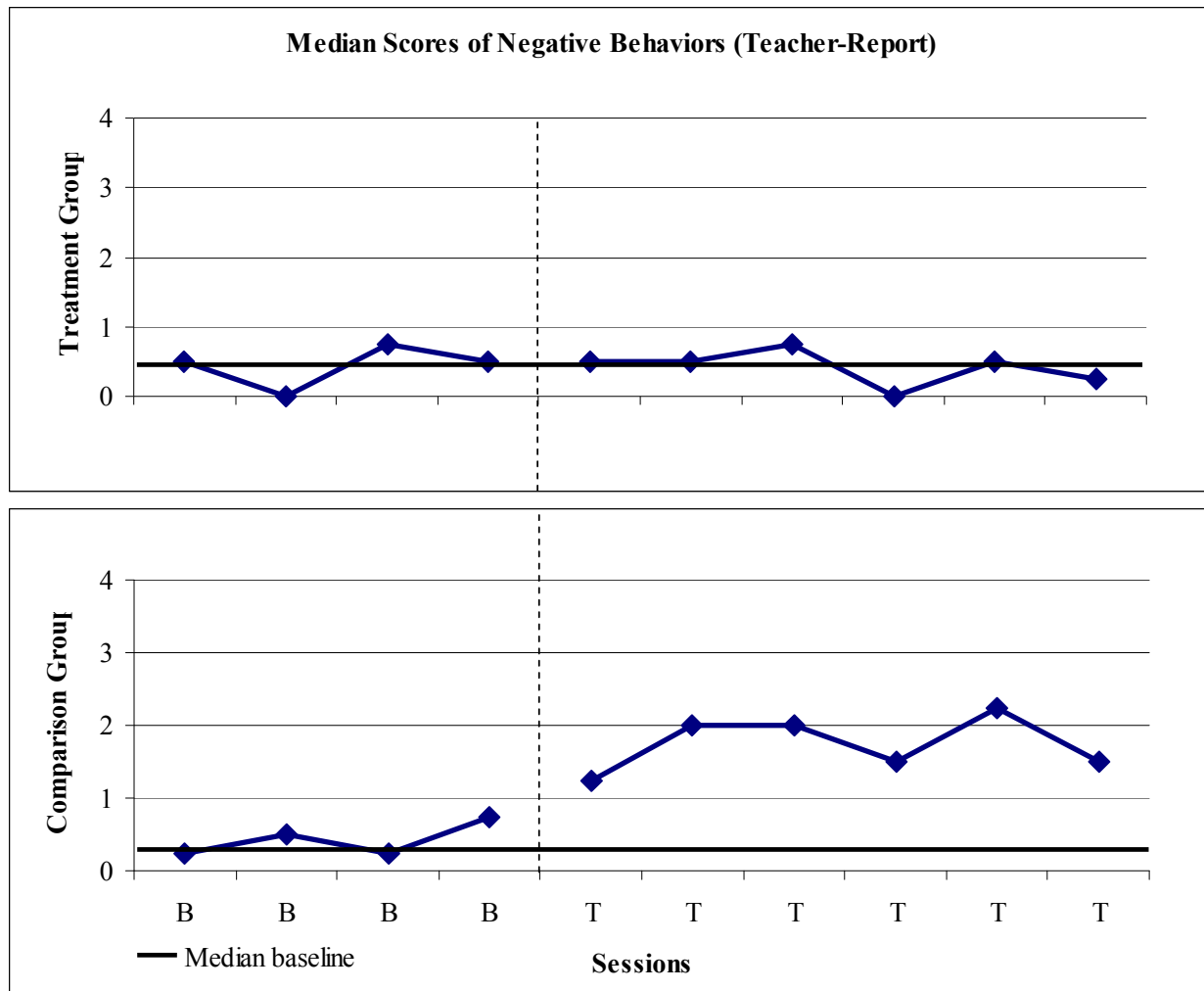
According to the student-report, the MPCC program was very effective in decreasing negative behaviors of students in the treatment group ( $PEM = 1$ ) as all six data points in the treatment phase were on the therapeutic side below the median baseline. This result indicated that students in the treatment group decreased their negative behaviors while attending the MPCC program. On the contrary, there were no behavioral improvements of negative behaviors of students in the comparison group ( $PEM = 0$ ). Negative behaviors of students in the comparison group appeared to increase after the baseline phase

**Teacher-report.** A visual analysis of level in Figure 24 showed that students in the treatment group had a relatively equivalent median score of negative behaviors (Median = 0.5; SD = 0.31) to students in the comparison group (Median = 0.375; SD = 0.24) at baseline. This level indicated that students in the treatment group had relatively similar functioning to students in the comparison group before receiving interventions. Within the treatment phase, the median score of negative behaviors of students in the treatment group remained unchanged from the baseline phase (Median = 0.5; SD = 0.26). On the other hand, the median score of negative

behaviors of students in the comparison group was increased from the baseline phase (Median = 1.75; SD = 0.39), indicating worsening behaviors across time.

Figure 24

*Median Scores of Negative Behaviors of All Students in Treatment and Comparison Groups based on the Teacher Rating Scale*



With respect to the trend, students who completed the MPCC program did not show an evident pattern of behavioral changes, whereas students in the comparison group demonstrated an upward slope of scores from baseline to treatment phases. In terms of variability, median scores of negative behaviors of students in the treatment group were less varied than those of

students in the comparison group. In this regard, students in the treatment group did not experience the immediacy of treatment effect because there were overlapping scores between the last three data points in the baseline phase and the first three data points in the treatment phase.

According to the teacher-report, the MPCC program was ineffective in decreasing negative behaviors of students in the treatment group ( $PEM = 0.33$ ). This result indicated that students in the treatment group did not improve their negative behaviors while participating in the program. Likewise, there were no behavioral improvements of students in the comparison group ( $PEM = 0$ ). Students who did not complete the MPCC program appeared to exhibit a high degree of negative behaviors across time.

### **Overall Classroom Behavior**

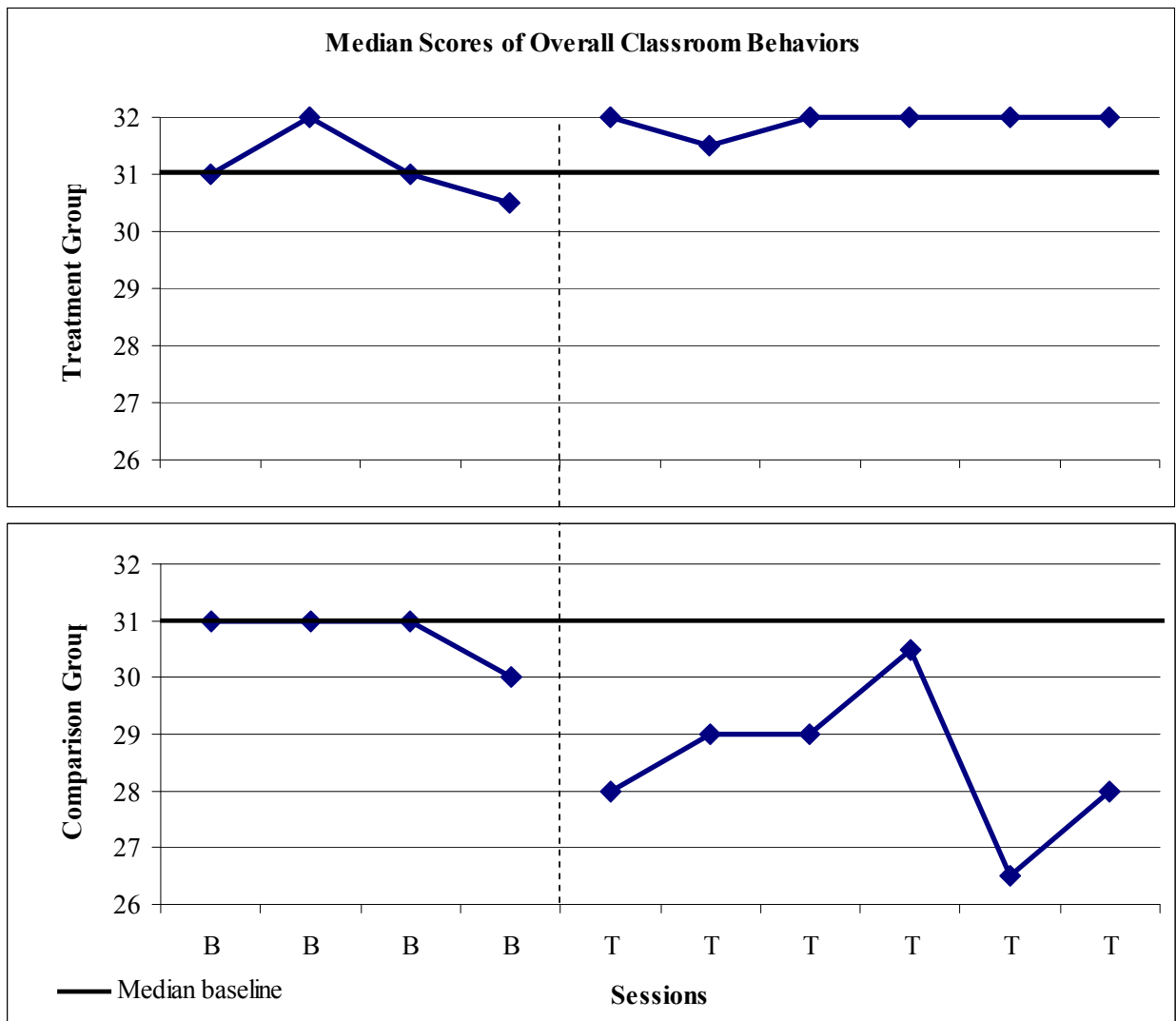
A visual analysis of level in Figure 25 showed that students in the treatment group had an equal median score of overall classroom behaviors (Median = 31; SD = 0.63) to students in the comparison group (Median = 31; SD = 0.5) at baseline. This level indicated that students in the treatment group performed at a similar level to students in the comparison group before receiving interventions. Within the treatment phase, the median score of overall classroom behaviors of students in the treatment group was increased from the baseline phase (Median = 32; SD = 0.2), indicating behavioral improvements across phases. On the other hand, the median score of overall classroom behaviors of students in the comparison group was decreased from the baseline phase (Median = 28.5; SD = 1.34), illustrating worsening behaviors across time.

With respect to the trend, students who completed the MPCC program demonstrated a downward slope of scores at baseline and a relatively stable pattern of scores at treatment. In contrast, students in the comparison group showed a downward slope of scores at baseline and a fluctuating and decreasing pattern of scores at treatment. In terms of variability, median scores of

overall classroom behaviors of students in the treatment group were less varied than median scores of overall classroom behaviors of students in the comparison group. In this regard, students in the treatment group did not experience the immediacy of treatment effect because there were overlapping scores between the last three data points at baseline and the first three data points at treatment.

Figure 25

*Median Scores of Overall Classroom Behaviors of All Students in Treatment and Comparison Groups based on the Daily Progress Report*



According to the DPR, the MPCC program was very effective in improving overall classroom behaviors of students in the treatment group (PEM = 1) as all six data points in the treatment phase were on the therapeutic side above the median baseline. This result indicated that students in the treatment group improved their overall functioning (completing daily assignments, participating in class, following school procedures and expectation, and using appropriate classroom behavior and language) while participating in the program. On the contrary, there were no behavioral improvements of the overall classroom behaviors of students in the comparison group (PEM = 0). Students who did not complete the MPCC program became disruptive and noncompliant over time. In this regard, group profiles of PEM statistics are displayed in Table 2.

Table 2

*Group Profiles of PEM Statistics based on the Student Rating Scale, the Teacher Rating Scale, and the Daily Progress Report*

	<b>Treatment Group (N=10)</b>	<b>Comparison Group (N = 6)</b>
<b>Student Rating Scale</b>		
Positive Behavior	0.00	0.33
Negative Behavior	1.00*	0.00
<b>Teacher Rating Scale</b>		
Positive Behavior	1.00*	0.00
Negative Behavior	0.33	0.00
<b>Daily Progress Report</b>		
Overall Classroom Behavior	1.00*	0.00

*Note. \*PEM scores indicate effectiveness of treatment. Effect sizes of .90 and greater are indicative of very effective treatments, .70 to .89 suggest moderate effectiveness, .50 to .69 represent debatable effectiveness, and less than .50 are considered as ineffectiveness.*

Table 2 provides an overview of effect sizes of all student participants in both treatment and comparison groups calculated from PEM procedures. According to the results of the PEM analysis, the use of MI as a strengths-based approach appears to be helpful for improving negative behaviors (the student rating scale), positive behaviors (the teacher rating scale), and overall classroom behaviors (the DPR) of most students in the treatment group compared with those in the comparison group.

### **Relative Success Rate Analysis**

In this chapter, Relative Success Rate (RSR) was utilized to examine success rates in behavioral improvements of students between treatment and comparison groups. RSR refers to the ratio of treatment group success rate to comparison group success rate in relation to the treatment effect of the intervention on the outcome measure (Parker & Hagan-Burke, 2007). The principal investigator computed RSR using data from the student rating scale, the teacher rating scale, and the DPR. In this regard, the success rate of each group was first computed by counting the total number of data points in the treatment phase that were above the median baseline (for positive and overall classroom behaviors) or below the median baseline (for negative behavior) for each participant and dividing these data points by the total number of observations for that same phase. The principal investigator then divided the success rate of the treatment group by the success rate of the comparison group to calculate the ratio of success rate between two groups.

Table 3 provides an overview of RSR of students in the treatment group compared with students in the comparison group. The analysis included 60 observations for the treatment group (10 students) and 36 observations for the comparison group (six students). If the numerator was greater than the denominator, students in the treatment group demonstrated greater behavioral improvements than those in the comparison group.

Table 3

*Relative Success Rate (RSR) of Students in the Treatment Group to Students in the Comparison Group Using the Student Rating Scale, the Teacher Rating Scale, and the Daily Progress Report*

	Treatment Group (N = 10)		Comparison Group (N = 6)		RSR
	Observations	Success Rate	Observations	Success Rate	
Student Rating Scale					
Positive Behavior	17/60	0.28	10/36	0.28	1.00
Negative Behavior	29/60	0.48	4/36	0.11	4.36
Teacher Rating Scale					
Positive Behavior	27/60	0.45	5/36	0.14	3.21
Negative Behavior	27/60	0.45	2/36	0.06	7.50
Daily Progress Report					
Overall Classroom Behavior	36/60	0.60	6/36	0.17	3.53



On the contrary, if the denominator was greater than the numerator, students in the comparison group displayed greater behavioral improvements than students in the treatment group. If the ratio equaled 1, differences in behavioral improvements between students in treatment and comparison groups were not evident. RSR of positive behaviors, negative behaviors, and overall classroom behaviors between students in the treatment group and those in the comparison group were outlined under each measurement of data: the student rating scale, the teacher rating scale, and the DPR.

### **Positive Behavior**

According to the student rating scale, 28% (17 out of 60) of the total number of data points in the treatment group and in the comparison group (10 out of 36) were recorded above the median baseline. The RSR of the treatment group success rate to the comparison group success rate yielded a value of 1, indicating that there were no differences in behavioral improvements between students in treatment and comparison groups.

With respect to the teacher rating scale, 45% (27 out of 60) of the total number of data points in the treatment group were recorded above the median baseline, whereas 14% (5 out of 36) of the total number of data points in the comparison group were recorded above the median baseline. The RSR of the treatment group success rate to the comparison group success rate yielded a value of 3.21, indicating that students in the treatment group were 3.21 times more likely to improve their positive behaviors while attending the MPCC program than students in the comparison group.

### **Negative Behavior**

According to the student rating scale, 48% (29 out of 60) of the total number of data points in the treatment group were recorded below the median baseline, whereas 11% (4 out of

36) of the total number of data points in the comparison group were recorded below the median baseline. The RSR of the treatment group success rate to the comparison group success rate yielded a value of 4.36, indicating that students in the treatment group were 4.36 times more likely to improve their negative behaviors while attending the MPCC program than students in the comparison group.

With regard to the teacher rating scale, 45% (27 out of 60) of the total number of data points in the treatment group were recorded below the median baseline, whereas 6% (2 out of 36) of the total number of data points in the comparison group were recorded below the median baseline. The RSR of the treatment group success rate to the comparison group success rate yielded a value of 7.5, indicating that students in the treatment group were 7.5 times more likely to improve their negative behaviors while attending the MPCC program than students in the comparison group.

### **Overall Classroom Behavior**

According to the DPR, 60% (36 out of 60) of the total number of data points in the treatment group were recorded above the median baseline, whereas 17% (6 out of 36) of the total number of data points in the comparison group were recorded above the median baseline. The RSR of the treatment group success rate to the comparison group success rate yielded a value of 3.53, indicating that students in the treatment group were 3.53 times more likely to improve their overall classroom behaviors while participating in the MPCC program than students in the comparison group.

### **Within- and Between-Groups Comparison: *t* Test Procedures**

This study used a paired-samples *t* test and an independent-samples *t* test to compare changes in emotional symptoms, conduct problems, hyperactivity, peer problems, total

difficulties, and prosocial behavior of students measured by parent ratings on the Strengths and Difficulties Questionnaire (SDQ) within and between groups of students who completed the MPCC program and those who did not. The independent variable of this study was counseling intervention (the MI-based MPCC program and treatment as usual), whereas dependent variables were scores of the SDQ (emotional symptoms, conduct problems, hyperactivity, peer problems, total difficulties, and prosocial behavior). While the independent-samples  $t$  test compares mean differences between treatment and comparison groups, scores at pre-intervention in the paired-samples  $t$  test serve as their own control (Dimitrov, 2009). In addition to the analysis of statistical significance, this study utilized the effect size statistics called Cohen's  $d$  to compute the magnitude of treatment effect or practical significance (Parker & Hagan-Burke, 2007). Regardless of positive and negative signs,  $d$  values of .2, .5, and .8 indicate small, medium, and large effect sizes, respectively.

### **Paired-Samples $t$ Test**

A non-directional, paired-samples  $t$  test was conducted to examine the nature of the statistical significance between scores on emotional symptoms, conduct problems, hyperactivity, peer problems, total difficulties, and prosocial behavior of the SDQ at pre- and post-interventions among students in treatment and comparison groups. An alpha level of .05 was utilized. Scores of each scale at pretest and posttest in both treatment and comparison groups were normally distributed, and variances were homogenous due to equal group sample sizes. Descriptive statistics for students' scores in emotional symptoms, conduct problems, hyperactivity, peer problems, total difficulties, and prosocial behavior of the SDQ in both treatment and comparison groups are reported in Table 4.

Table 4

*Descriptive Statistics of Mean Scores (M), Standard Deviations (SD), and Effect Sizes (Cohen's d) of Each SDQ Scale of Students in Treatment and Comparison Groups*

SDQ	Treatment Group (N = 10)			Comparison Group (N = 6)		
	Pre-Test	Post-Test	Cohen's	Pre-Test	Post-Test	Cohen's
	M (SD)	M (SD)	d	M (SD)	M (SD)	d
Emotional Symptoms	4.0 (2.36)	2.1 (1.52)*	0.96	2.7 (1.97)	2.8 (1.47)	0.10
Conduct Problems	3.8 (2.20)	2.1 (2.18)*	1.00	3.3 (1.86)	5.2 (3.06)	0.66
Hyperactivity	8.1 (2.38)	4.4 (2.63)**	1.13	6.2 (2.64)	7.0 (2.83)	0.37
Peer Problems	3.6 (2.80)	2.1 (1.79)	0.66	2.2 (1.94)	4.2 (1.47)*	1.58
Total Difficulties	19.5 (7.29)	10.7 (5.95)**	1.55	14.3 (5.72)	19.2 (7.70)	0.79
Prosocial Behavior	7.2 (2.39)	8.2 (2.15)	0.39	7.5 (2.07)	4.8 (3.87)	0.79

*Note: Values represent significant changes in scale scores of the SDQ from pre-test to post-test: \*p < .05; \*\*p < .01.*

**Emotional symptoms.** In the treatment group, posttest scores of emotional symptoms were statistically significant lower than pretest scores,  $t(9) = 3.051, p = .014$ . Effect size for differences in pretest and posttest emotional symptom scores was large ( $d = .96$ ), indicating the significant decrease in emotional symptoms of students in the treatment group after attending six sessions of the MPCC program. In the comparison group, no statistically significant differences were found between pretest and posttest scores of emotional symptoms,  $t(5) = -.255, p = .809$ , indicating a non-significant improvement in emotional symptoms of students who did not complete six sessions of the MPCC program.

**Conduct problems.** In the treatment group, posttest scores of conduct problems were statistically significant lower than pretest scores,  $t(9) = 3.157, p = .012$ . Large effect size ( $d = 1.00$ ) was noted for differences in pretest and posttest conduct problem scores, indicating the significant decrease in conduct problems of students in the treatment group. In the comparison group, no statistically significant differences were found between pretest and posttest scores of conduct problems,  $t(5) = -1.611, p = .168$ , indicating a non-significant improvement in conduct problems of students who did not complete the MPCC program.

**Hyperactivity.** In the treatment group, statistically significant differences were evident between pretest and posttest scores of hyperactivity,  $t(9) = 3.581, p = .006$ . Effect size for differences in pretest and posttest hyperactivity scores was large ( $d = 1.13$ ), indicating a significant improvement in hyperactivity among students in the treatment group. In the comparison group, no statistically significant differences were found between pretest and posttest scores of hyperactivity,  $t(5) = -.916, p = .402$ , indicating a non-significant improvement in hyperactivity of students who did not complete the MPCC program.

**Peer problems.** In the treatment group, statistically significant differences were not found between pretest and posttest scores of peer problems,  $t(9) = 2.087, p = .067$ , indicating a non-significant improvement in peer problems among students in the treatment group. In the comparison group, statistically significant differences were noted between pretest and posttest scores of peer problems,  $t(5) = -3.873, p = .012$ . Effect size for differences in pretest and posttest peer problem scores was large ( $d = 1.58$ ), indicating a significant increase in peer problems among students in the comparison group.

**Total difficulties.** In the treatment group, posttest scores of total difficulties were statistically significant lower than pretest scores,  $t(9) = 4.906, p = .001$ . Large effect size ( $d = 1.55$ ) was noted for differences in pretest and posttest scores of total difficulties, indicating the significant reduction in overall difficulties of students in the treatment group. In the comparison group, no statistically significant differences were found between pretest and posttest scores of total difficulties,  $t(5) = -1.937, p = .111$ , indicating a non-significant improvement in total difficulties of students who did not complete the MPCC program.

**Prosocial behavior.** In the treatment group, statistically significant differences were not found between pretest and posttest scores of prosocial behavior,  $t(9) = -1.246, p = .244$ , indicating a non-significant improvement in prosocial behavior among students in the treatment group. In the comparison group, statistically significant differences were not found between pretest and posttest scores of prosocial behavior,  $t(5) = 1.929, p = .112$ , indicating a non-significant improvement in prosocial behavior among students in the comparison group.

### **Independent-Samples $t$ Test**

A non-directional, independent-samples  $t$  test was conducted to compare group differences between students who completed six sessions of the MPCC program and those who

did not complete the program based on post-intervention scores of emotional symptoms, conduct problems, hyperactivity, peer problems, total difficulties, and prosocial behavior of the SDQ. An alpha level of .05 was utilized in the study. Each scale scores of the SDQ in the treatment group and the comparison group were normally distributed ( $p > .01$ ) and variances were homogeneous,  $F(1, 14) = .117, p = .737$  for emotional symptoms;  $F(1, 14) = 1.381, p = .260$  for conduct problems;  $F(1, 14) = .096, p = .761$  for hyperactivity;  $F(1, 14) = .643, p = .436$  for peer problems;  $F(1, 14) = .691, p = .42$  for total difficulties; and  $F(1, 14) = 3.531, p = .081$  for prosocial behavior.

In this regard, statistically significant differences between students in treatment and comparison groups were noted in conduct problems,  $t(14) = -2.346, p = .034, d = 1.21$ ; peer problems,  $t(14) = -2.376, p = .032, d = 1.23$ ; total difficulties,  $t(14) = -2.474, p = .027, d = 1.28$ ; and prosocial behavior,  $t(14) = 2.261, p = .04, d = 1.17$ . Large effect sizes in conduct problems, peer problems, total difficulties, and prosocial behavior indicated significant differences in maladaptive behavior (see Figure 26) and productive behavior (see Figure 27) between students in treatment and comparison groups at post-intervention. Despite this result, statistically significant differences between students in treatment and comparison groups were not evident in emotional symptoms,  $t(14) = -.943, p = .362$ , and hyperactivity,  $t(14) = -1.862, p = .084$ .

In summary, this chapter presented comprehensive results based on the single case analysis of individual and group profiles of student participants using visual analysis and PEM procedures, relative success rate of treatment to comparison groups, and  $t$  test procedures regarding the impact of MI as a strengths-based approach on behavioral improvements of elementary-school students. Discussion of research findings, limitations, and implications for counseling practice and future research were summarized in chapter V.

Figure 26

*The Comparison of Total Difficulties Scores on the SDQ between Students in the Treatment Group and Students in the Comparison Group at Pre- and Post-Interventions*

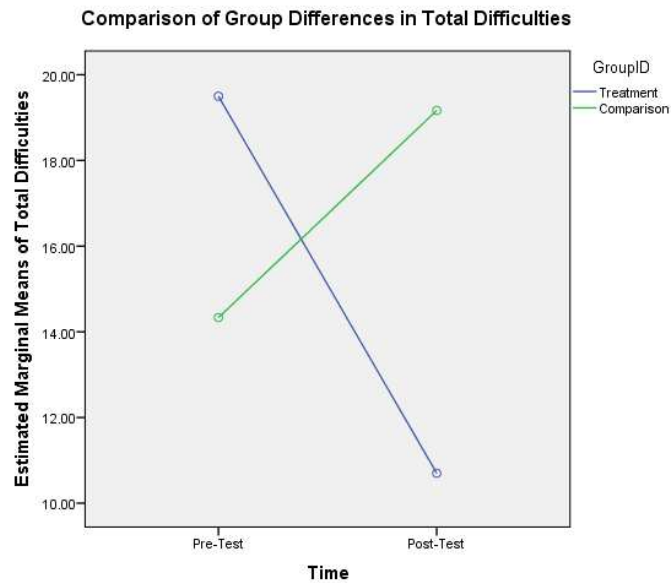
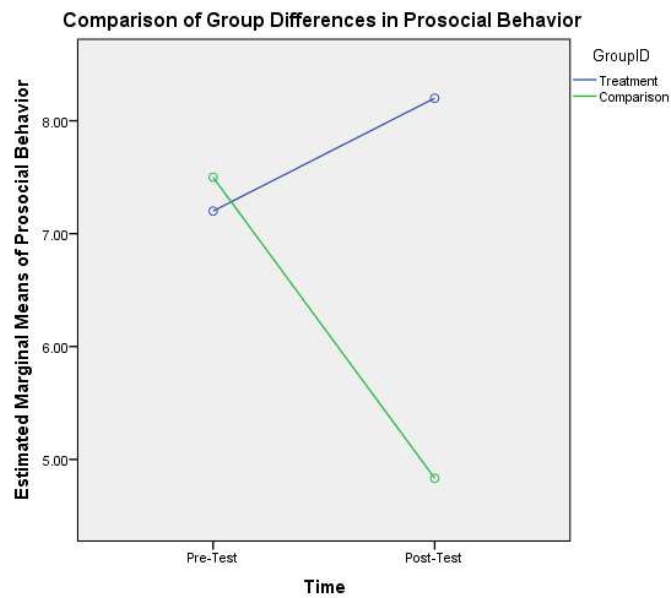


Figure 27

*The Comparison of Prosocial Behavior Scores on the SDQ between Students in the Treatment Group and Students in the Comparison Group at Pre- and Post-Interventions*





## **Chapter V**

### **Discussion**

Due to the need of mental-health services to promote positive changes and reduce the recidivism rate among youth in restrictive facilities (Booker & Mitchell, 2011; Eyberg et al., 2008; Geronimo, 2011; Jolivet & Nelson, 2010; Mathur & Nelson, 2013; Nelson & Eckstein, 2008; Tobin & Sprague, 2000), the current study was conducted to examine the impact of Motivational Interviewing (MI) as a strength-based approach on behavioral changes of children in the Disciplinary Alternative Education Program (DAEP). Many scholars reported that youth at risk for behavioral and mental challenges often experience abuse and neglect, academic problems, anxiety, attention deficits, chronic truancy, communication problems, conduct problems, depression, dysfunctional families, hyperactivity, learning disabilities, peer problems, substance use problems, and suicidal ideation (Aron, 2006; Brennan & Shaw, 2013; Deater-Deckard et al., 2012; Hoglund et al., 2008; Johnson et al., 2013; Nelson & Eckstein, 2008; Racz & McMahon, 2011). As a result of these issues, prior research on counseling interventions and/or programs for reducing behavioral problems and promoting mental-health of youth at risk for negative societal outcomes were reviewed.

In this regard, there are a number of evidence-based treatment programs available for children and adolescents such as anger control training (Lochman, 1992), multisystemic therapy (Brown et al., 1999), positive behavioral interventions and supports (Simonsen & Sugai, 2013), problem-solving skills training (Kazdin et al., 1992), recidivism reduction program (Lancaster et al., 2011), and dialectical behavior therapy infused skills group intervention (Ricard et al., 2013). These programs were primarily designed based on cognitive-behavioral therapy, solution-focused therapy, and family systems therapy (Brasler, 2001; Chang & Nylund, 2013). Despite

the presence of these interventions, many students at the DAEP do not receive counseling services as needed, which in turn result in the repetition of disruptive behaviors among these students (Booker & Mitchell, 2011; Eyberg et al., 2008; Jolivet & Nelson, 2010; Mathur & Nelson, 2013; Nelson & Eckstein, 2008; Tobin & Sprague, 2000).

With respect to these concerns, the principal investigator made an effort to utilize an evidence-based MI framework as a strengths-based counseling intervention with children at the DAEP. This structured programmatic intervention emphasizing positive behaviors of youth may be effective in enhancing positive outcomes of treatment among children at the DAEP. The review of previous literature indicated that there is a dearth of research investigating the use of MI strategies as a strength-based approach to treatment with children at the DAEP (Booker & Mitchell, 2011; Foley & Pang, 2006; Nelson & Eckstein, 2008). As such, the purpose of this study is to examine the treatment effect of the MI approach as a strength-based intervention on behavioral improvements of children in the DAEP environment. This study also aims to explore how the MI approach creates the change process in children.

### **Summary of Findings**

Empirical literature revealed that the MI approach was effective in improving a wide range of issues such as alcohol and substance use, anxiety, depression, dual diagnosis, eating disorders, gambling problems, health-related behaviors, HIV, intimate partner violence and trauma, medication adherence, referral engagement, sleep disorders, suicidality, and treatment attendance among diverse populations (Alexander et al., 2010; Bradley et al., 2007; Floyd et al., 2007; James et al., 2004; Knight et al., 2003; LaBrie et al., 2008; Miller & Rollnick, 2013; Norman et al., 2008; Oei et al., 2010; Santa Ana et al., 2007; Schmiede et al., 2009; Scholl & Schmitt, 2009; Wagner & Ingersoll, 2013; Wenzel et al., 2009; Young & Hagedorn, 2012).

In this study, elementary-school students at the DAEP volunteered to participate in a 6-session program developed based on MI principles and a strength-based approach. Data were collected from students ages 8 to 12, their parents/guardians, and teachers at the DAEP. The majority of students were placed at the DAEP for the first time due to an issue of noncompliance and persistent misbehavior. This infraction was related to the literature as a number of studies have found that more than 50% of students were referred to the DAEP due to such issues as constant academic failure, disruptive behaviors, physical aggression, substance use and possession, truancy problems, and weapon possession (Booker & Mitchell, 2011; Foley & Pang, 2006; Nelson & Eckstein, 2008; Simonsen & Sugai, 2013; Tobin & Sprague, 2000).

Similar to the former literature, student participants in this study experienced academic problems, conduct problems, communication problems, peer problems, ADHD, depression, and learning disabilities (Brennan & Shaw, 2013; Johnson et al., 2013; Nelson & Eckstein, 2008; Racz & McMahon, 2011). The results of this study were generally consistent with empirical literature in that the MI approach was effective in improving counseling outcomes of students. These findings were summarized in regard to three research questions of the current study.

**1. To what extent do classroom behaviors (identified positive and negative behaviors) of children as rated by student self-report and teacher-report change across time?**

According to the student rating scale, the teacher rating scale, and the DPR, more than half of students who completed the MPCC program improved their positive behaviors, negative behaviors, and overall classroom behaviors over time. Although there were some students in the treatment group who did not exhibit significant changes in their classroom behaviors, these students appeared to maintain their normal functioning until withdrawal from the DAEP. With regard to individual profiles of single case analysis, the majority of students perceived that they

were able to improve their negative behaviors more than positive behaviors. On the contrary, teachers noted that students improved their negative and positive behaviors at an equal rate: 60% of students decreased their negative behaviors and 60% of students increased their positive behaviors. Most students improved either positive or negative behaviors; only three students showed improvement in both positive and negative behaviors based on the teacher-report. Nonetheless, eight out of 10 students improved their overall classroom behaviors.

Despite these improvements, most students did not experience the immediacy of treatment effect due to extreme scores within the baseline phase that lessened the possibility for improvement. As a result, overlapping scores of the last three data points at baseline and the first three data points at treatment were occurred among these students. In addition, the majority of students in the comparison group tended to drop out in the second session of the program that emphasized the awareness of discrepancy between students' current behaviors and values/goals. This result indicated that students in the comparison group may not be ready to change or felt uncomfortable to explore their current behaviors. While some students in the comparison group stopped participating due to their lack of interests, other students dropped out because of their low academic performance and school testing.

Developmentally appropriate MI metrics indicated that some students did not have high confidence in making behavioral changes as shown in the readiness to change ruler in the first session of treatment. The confidence level of students ranged from 6 to 10, whereas the importance level of changing varied from 8 to 10. Upon completion of the program, students' confidence and importance levels were increased to 9 and 10. The improvement of the readiness to change level could be accounted for MI strategies of expressing empathy, developing discrepancy, avoiding argumentation, rolling with resistance, and supporting self-efficacy

(Giordano et al., 2013; Miller & Rollnick, 2013). The principal investigator built therapeutic relationships with students, helped them gain awareness regarding their current behaviors and values/goals, promoted students' strengths and self-efficacy, evoked change talk in students, and enhanced students' autonomy to make their own choices.

Specifically, the change process of students could be drawn from an evocation of change talk that was initiated throughout counseling sessions. With respect to self-perception theory, Bem (1997) asserted that the process of change was likely to occur when people discussed or argued about change. Throughout all sessions, most students were able to describe the adaptability of an intention to change and articulate a strategy for changing. In addition, these students were willing to change their behaviors when returning their home campuses and committed to the plan of action. Overall, findings of this study verified the research question that there were moderate to significant changes in classroom behaviors of students who attended the MPCC program across time. Specifically, the MPCC program was effective in promoting behavioral changes of elementary-school students in the DAEP environment.

**2. To what extent are group differences evident between children who complete the MI-based Making Positive Changes Counseling (MPCC) program and those who do not complete the program as rated by student self-report and teacher-report across time?**

With regard to group profiles of the single case analysis, students in the treatment group reported significant improvements in their negative behaviors ( $PEM = 1$ ), whereas students in the comparison group did not demonstrate improvements in both positive and negative behaviors. In contrast to the student-report, the teacher-report indicated that students in the treatment group significantly improved their positive behaviors and overall classroom behaviors across time ( $PEM = 1$ ). These positive changes were consistent with the goal of the study in making positive

changes among students by using MI as a strengths-based approach to support students' self-efficacy and increase their motivation for change.

According to the relative success rate (RSR), students who completed all sessions of the MPCC program showed better improvements in their positive, negative, and overall classroom behaviors than students who did not complete treatment based on the teacher-report and the DPR. Although the student-report indicated that students in the treatment group were more likely to decrease their negative behaviors than students in the comparison group, the improvement of their positive behaviors was not different between groups. Overall, the results of this study supported the research question that there were group differences between students who completed the MPCC program and those who did not complete the program. Specifically, the MPCC program was found to be effective in promoting behavioral changes of students in the treatment group compared with students in the comparison group.

**3. To what extent do emotional symptoms, conduct problems, hyperactivity, peer problems, total difficulties, and prosocial behavior of children measured by parent ratings on the Strengths and Difficulties Questionnaire change within and between groups of children who complete the MI-based MPCC program and those who do not complete the program?**

Results of pre- and post-interventions indicated significant behavioral changes among students in the treatment group, but not students in the comparison group. Parent ratings based on the SDQ confirmed that emotional symptoms, conduct problems, hyperactivity, and total difficulties of students in the treatment group significantly improved from pre- to post-interventions. Large effect sizes were also noted on all of these scales, indicating a large magnitude of the treatment effect without the complication of the sample size (Dimitrov, 2009).

Descriptive statistics showed that students in the treatment group exhibited higher difficulties ( $M = 19.5$ ;  $SD = 7.29$ ) than students in the comparison group ( $M = 14.2$ ;  $SD = 5.72$ ) at pre-intervention. After the intervention, students in the treatment group significantly improved their overall functioning ( $M = 10.7$ ;  $SD = 5.95$ ) compared with students in the comparison group ( $M = 19.2$ ;  $SD = 7.7$ ) who seemed to experience higher difficulties. Despite the improvement in total difficulties, students in the treatment group did not exhibit significant changes in their prosocial behavior. This finding was inconsistent with the single case analysis of individual and group profiles that reported significant improvement in students' positive behavior.

In addition to with-in group differences, the statistical analysis of between-group comparison was conducted. There were statistically significant differences in conduct problems, peer problems, total difficulties, and prosocial behavior among students who completed the MPCC program compared with students who did not complete treatment reported by their parents/guardians. Large effect sizes were also evident on all of these scales, indicating a strong practical significance of the study. Overall, these findings confirmed the research question that there were significant changes in emotional symptoms, conduct problems, hyperactivity, peer problems, total difficulties, and prosocial behavior within and between groups of students who completed the MPCC program and those who did not complete the program. Specifically, students in the treatment group were able to decrease their mental-health symptoms and increase their prosocial behaviors at post-intervention compared with students in the comparison group.

### **Limitations of the Study**

Although the current study provided a number of promising results, there are some limitations that needed to be addressed. First, the use of an A-B design may not promote stronger inference of the effectiveness of interventions to outcome variables. Since the A-B design lacks a

control for history, counseling outcomes of clients may be influenced by confounding variables (Kratochwill et al., 2010). Due to a short duration of stay at the DAEP, treatment had to be provided before a predictable trend of participants' target behaviors in the baseline phase was evident. Four observations before the treatment phase may not have represented the stabilization of actual baseline, which in turn may represent inaccurate results of the study. The lack of the follow-up phase also prevents the principal investigator to assess the stability of gains after treatment. Second, the single-case research design offered few options for data interpretation (Ray et al., 2010). Although visual analysis was helpful for interpreting data, it was a subjective method that could affect an accurate interpretation of results.

Third, the testing effect may have occurred in the current study as parents/guardians, teachers, and students completed the same rating scales, the DPR, and the SDQ at least twice, thereby affecting the internal validity of the study. Fourth, the use of a self-report rating scale among student participants have created a social desirability effect (Kratochwill et al., 2010) as students provided ratings that overestimated their positive behaviors and underestimated their negative behaviors, thereby creating the ceiling and floor effects of outcome data that can impact the accurate results of the study. To mitigate this limitation, the principal investigator employed a teacher-report, a parent-report, and a researcher note to strengthen the validity and generalizability of current findings.

Fifth, MI may not be appropriate for all children, particularly those with low verbal comprehension, low intellectual abilities, and serious mental-health conditions that guarantee medications or hospitalization. Sixth, the effect of treatment implementation could also confound the results of the study. Even though the principal investigator was the only person who implemented the MPCC program with all students, the utilization of MI-adherent skills may be



varied from one student to another. While the principal investigator attempted to control this limitation by taking a reflective note regarding the content of sessions, MI spirits and skills used in each session, and the reaction of each participant in regard to the counseling process as well as seeking an ongoing consultation and supervision from a licensed professional counselor-supervisor and a faculty advisor, the use of standardized instruments to measure treatment fidelity and direct feedback from MI experts could enhance the validity of this study.

Seventh, the generalizability of the current findings to children on other DAEP campuses was limited due to a non-probabilistic sampling method and a focus on one school campus. The convenience sampling was used to select participants in this study; thus, the ability to claim that positive current outcomes were due to the treatment effect of the MPCC program was reduced. Students who completed the MPCC program may be more motivated to change than students who did not complete the program. In addition, this study was conducted on one DAEP campus where students are predominately Hispanic male. The generalization of findings to other DAEP campuses and restrictive facilities with students who are female and have diverse ethnic backgrounds should be made with caution.

### **Implications for Counseling Practice**

Despite the noted limitations, this study was designed to address the gap of the literature and advance knowledge regarding the utilization of MI as a strengths-based approach with children in the DAEP environment. The results of the current study provided evidentiary supports of the impact of MI on children placed in the DAEP. This study illustrated a structured programmatic intervention that can be implemented in a school setting, particularly with children who are at risk for behavioral and mental challenges. These research findings are expected to provide helpful information for researchers, counselors, other helping professionals, and

stakeholders who work or have contact with this young population. Significance of the current study and implications of the utilization of MI as a strengths-based approach for counselors and practitioners in particular and for the counseling profession in general were outlined below.

### **The Utilization of MI with Children**

Findings of the current study affirmed that MI was effective in improving counseling outcomes of children ages 8 to 12 years. This study supported the extant literature examining the effectiveness of MI in such issues as anxiety, depression, class participation, and treatment attendance (Mason, 2009; Strait et al., 2012; Sterrett et al., 2010). The current study also provided important findings that can be contributed to the existing research examining the efficacy of MI with adolescents on such issues as alcohol and substance use problems (Bailey et al., 2004), diabetes management (Knight et al., 2003), and sexual risk behavior (Schmiege et al., 2009). Findings of this study confirmed that the MI approach could be used with children to promote positive behaviors and reduce such issues as emotional symptoms, conduct problems, hyperactivity, and peer problems. Unlike the report of previous literature regarding the medium effect size ( $d = .77$ ) of short-term MI interventions (Mason, 2009), the principal investigator recorded large effect sizes of the MI-based program with predominately Hispanic children.

Results of the current study were also consistent with prior literature in that MI could predict the change process in clients, promote recognition of ambivalence and problems, support autonomy of clients, and enhance self-efficacy and strengths of clients (Brown et al., 2007; Foote et al., 1999; Lincourt et al., 2002; Michael et al., 2006). With respect to MI metrics used in this investigation, most students became aware of the discrepancy between their behaviors and values/goals, recognized their strengths and abilities to change, and increased their confidence levels and willingness to change after attending the MPCC program. Overall, the current study

supported the fundamental belief of MI that people have the potential to change regardless of their developmental milestones (Martino et al., 2007).

In regard to these findings, counselors and other practitioners can utilize the MI approach as an early intervention with children (Tobin & Sprague, 2000). Counselors can provide counseling and teach skills based on MI principles to children by scaffolding talking with concrete activities that are age appropriate (Mason, 2009; Wagner & Ingersoll, 2013). This study provided a variety of activities that were aligned with MI principles and could be applied to children. The use of creative activities such as arts, games, music, worksheets, cards sort, and case scenarios was found to be useful in facilitating counseling sessions with children.

Because students can learn best by seeing, hearing, talking, or acting, counselors need to find appropriate activities that can engage students in treatment and build therapeutic relationships with them. Counselors can integrate skills training with counseling by guiding students to complete MI-adherent activities and allowing them to discuss and reflect on activities or certain issues in their lives. Since the MI goal is to elicit change talk from clients (Miller & Rollnick, 2013; Wagner & Ingersoll, 2013), counselors should refrain from confronting, arguing, and/or giving advice to children without asking permission (Mason, 2009).

### **The Utilization of MI as a Strengths-Based Approach**

This study created an innovative model that utilized MI as a strengths-based intervention. Because the transtheoretical application of MI principles and a strengths-based approach emphasize human goodness, optimal growth, strengths, resources, and hopes (Cox, 2006; Englar-Carlson & Kiselica, 2013; Miller & Rollnick, 2013; Nelson & Eckstein, 2008; Wagner & Ingersoll, 2013), the use of MI as a strengths-based approach in the current study was found to promote significant improvements in positive, negative, and overall classroom behaviors of

student participants based on student- and teacher-reports. In addition, parents/guardians of students reported significant reductions in their children's emotional symptoms, conduct problems, hyperactivity, and total difficulties over the course of the study. In comparison with students who did not complete the program, students who completed the MPCC program exhibited significant changes in conduct problems, peer problems, total difficulties, and prosocial behavior at post-intervention.

Student participants in this study increased their confidence levels in making positive decisions and choices over the course of treatment. The use of MI strategies as a strengths-based approach was consistent with the literature in that counselors who emphasized children's strengths and resources rather than their deficits and problems were more likely to reduce children's stigma (Bozic, 2013; Denborough, 2009; Miller & Rollnick, 2013; Nelson & Eckstein, 2008; Watts & Pietrzak, 2000). Counselors who plan to use a strengths-based model need to shift their perceptions from problem-focused to solution-focused (Brasler, 2001; Chang & Nylund, 2013; Colville, 2013; Hughes, 2014; Padesky & Mooney, 2012; Tobin & Sprague, 2000). Counselors who disregard children's positive qualities and focus only on their problems are likely to create resistance and rebellion among children (Barton & Mackin, 2012; Tate, 2010).

As such, counselors working with children can utilize MI as a strengths-based approach by focusing on positive assets, unique talents, skills, and resources of children. In this regard, counselors can encourage children to talk about their concerns and interests and work collaboratively with them to find solutions for their presenting concerns. The establishment of a therapeutic relationship with children is also important to enhance their motivation for change and promote successful outcomes in counseling (Brasler, 2001; Chang & Nylund, 2013; Hughes, 2014; Rawana & Brownlee, 2009; Wagner & Ingersoll, 2013). The MPCC program in this study

provided examples of how the MI approach promoted a trusting and collaborative relationship with children as well as enhancing children's self-efficacy, strengths, and autonomy to make their own decisions by encouraging a conversation about strengths and goals and using positive language and solution-focused questions as supported by Barton and Mackin (2012), Colville (2013), Nickerson and Fishman (2013), and Padesky and Mooney (2012).

### **The Utilization of MI in the DAEP Environment**

This study advanced knowledge in the area of using MI with children on the DAEP campus. Results of this study can be added to the existing literature concerning mental-health services for children and adolescents (Brown et al., 1999; Kazdin et al., 1992; Lancaster et al., 2011; Lochman, 1992; Sterrett et al., 2010). To address a gap of the literature, the current study offered an evidence-based program for children in the DAEP environment where appropriate interventions and support are necessary to improve the overall functioning of children in a restrictive facility (Barton & Mackin, 2012; Booker & Mitchell, 2011; Eyberg et al., 2008; Jolivet & Nelson, 2010; Mathur & Nelson, 2013; Nelson & Eckstein, 2008; Nickerson & Fishman, 2013; Ricard et al., 2013; Stormont et al., 2011; Tobin & Sprague, 2000).

As recommended by many scholars (Aron, 2006; Johnson et al., 2013; Simonsen & Sugai, 2013), this study implemented positive behavioral interventions or a strengths-based approach within the framework of MI to promote positive changes of children in the DAEP. Even though the MPCC program provided structured interventions with a same set of activities in each session, individualized support for each student was also implemented. Results of this study were consistent with the extant literature in that the implementation of positive behavioral interventions and supports were found to be effective in promoting positive behaviors, reducing problem behaviors, enhancing school attendance, and supporting positive interactions between

staff and students (Geronimo, 2011; Horner, et al., 2009; Luiselli et al., 2005; Muscott et al., 2008; Scott & Barrett, 2004; Sherrod et al., 2009).

Findings of this study are particularly useful for school counselors who work with children on the DAEP environment. School counselors and/or mental-health professionals can employ the MPCC program on their campuses to promote positive changes among students. Counselors should work as a multidisciplinary team with the principal, school administrators, teachers, and staff to build rapport with students; help students recognize their strengths and resources; and empower students to use their positive assets to achieve academic and personal goals (Brownlee et al., 2012; Colville, 2013; Nickerson & Fishman, 2013; Rawana & Brownlee, 2009). Counselors who work in a punitive environment can also be an agent of change by providing evidence-based information and data relating to some drawbacks of punishment and zero tolerance policies and benefits of a strengths-based intervention and systematic support to school personnel and mental-health staff. By gaining this information, school and mental-health personnel may become aware of alternative solutions and counseling services that can help children and adolescents engage in the change process, receive appropriate interventions, and attain their optimal development.

### **MI Spirit of Counselors**

Based on the principal investigator's experiences in implementing MI with children, the change process of students was fundamentally supported by the spirit of MI. MI is not a technique; rather, it is a conversational style that utilizes various strategies such as expressing empathy, developing discrepancy, avoiding argumentation, rolling with resistance, and supporting self-efficacy (Miller & Rollnick, 2013) to resolve ambivalence about change and increase motivation for change. The spirit of MI is an attitude of counselors for being with

clients, building a supportive and collaborative relationship with clients, promoting clients' strengths and self-efficacy, and supporting clients' autonomy to make their own choices (Engle & Arkowitz, 2008; Osborn, 2011; Wagner & Ingersoll, 2013).

Counselors who plan to use MI in their practice need to ensure that basic needs of clients are met in order for them to become engaged in the counseling process (Allsop, 2007; Scholl & Schmitt, 2009). These fundamental needs are derived from self-determination theory (Deci & Ryan, 2008), which include 1) a need for competence, 2) a need for autonomy, and 3) a need for connection with other people. In this regard, the MPCC program was designed to meet all these basic needs. While participating in the program, students developed a connection with the principal investigator. Expressing empathy and being with students are key elements to create the change process in students. Once students felt safe, supported, and accepted, they were likely to engage in counseling, explore their personal concerns, and become aware of their needs that led to the development of change plan.

Supporting self-efficacy is also essential for counselors to promote a basic need of competence in students. The principal investigator found that many children at the DAEP were not aware of their own strengths and resources. The list of strengths and a conversation about past successes and compliments received from others helped these students own their positive qualities and use their strengths as strategies to improve their current situations. The principal investigator believed that the focus of strengths and solutions would promote long-term changes as students became aware of their own capacities and gained more confidence to resolve their future problems and challenges.

Although the purpose of the MPCC program is to promote positive changes among students, counselors need to be aware that the decision for change belongs to students (Engle &

Arkowitz, 2008). Counselors should not force students to change. Rather, they can promote students' autonomy by guiding them to a productive conversation and allowing them to make decisions on their own. The principal investigator always reminded students that they had choices, and they were the only person who made their own choices. In the last session of the program, all 10 students in this study made their own decisions to comply with school procedures and try new behaviors when they returned their home campuses.

Because many students attending the MPCC program were not aware of their problems or ambivalence about change, the principal investigator developed a program that emphasized the experiential process of students. Prochaska et al. (1992) pointed out that clients in early stages of change (e.g., precontemplation, contemplation, preparation) are more likely to engage in the experiential processes than those in later stages of change (e.g., action, maintenance, termination). Hence, the MPCC program focused primarily on covert experiences such as thoughts and emotions of students to increase awareness about their current behaviors, needs, and goals; explore and resolve their ambivalence about change; and enhance their intrinsic motivation for change while integrating overt activities and strategies to support their self-efficacy and enhance the behavioral process of change.

During the course of treatment, many students have experimented with small behavioral changes observed by their improvements in classroom behaviors across time. These results implied that the majority of students have moved from precontemplation or contemplation stage to preparation stage of change (Prochaska et al., 1992) over the course of treatment. Because the key ingredient of change is the MI spirit, counselors who would like to apply the MPCC program to their practice can utilize different activities other than those provided in the protocol as long as their activities aim to build rapport with students, increase students' awareness of their current



behaviors and values/goals, explore students' strengths and abilities, help students learn about perspective taking or empathy, evoke change-talk statements, and develop effective decision making. MI trainings, workshops, and supervision are necessary for counselors to perform MI-adherent skills and uphold their treatment fidelity (Allsop, 2007).

### **Implications for Future Research**

The rationale for using a single-case research design as a fundamental approach in this study is due to the nature of the research setting that is unable to obtain a large number of participants with identical symptoms to assess over time. Despite certain limitations of the design, there are several advantages related to the use of a single-case research design in counseling practices. First, the single-case research design allows researchers to evaluate causal relationships between treatment conditions and their effects on an individual's performance or behavioral changes over time (Ray et al., 2010). Second, the single-case research design is beneficial for the study of mental disorders with low prevalence that have difficulties obtaining a large number of participants (Kratochwill et al., 2010). Third, the need for counseling practices based on rigorous research methodologies is enhanced by managed care organizations, funding agencies, schools, and other stakeholders (Lenz, 2013). Since a single-case research design with a series of at least nine single-case investigations is considered as a method that meets necessary standards for well-established treatments, counselors and practitioners can use this research design to justify the effectiveness of their services (Ray et al., 2010).

As a result, the implementation of a single-case research design is suggested for future research. Since the current study was conducted using an A-B design, replications of the study with multiple baselines and the follow-up phase could generate a more reliable baseline, provide an opportunity to examine the stability of gains, and strengthen the outcomes of the study. The

implementation of MI as a strengths-based approach with children and adolescents in a group format is also promising (Wagner & Ingersoll, 2013) as students can practice skills learned in sessions with their peers and help one another explore perspectives for change. In addition, the utilization of qualitative study or mixed methods is recommended for future research in order to extend the understanding of the change process and meaningful experiences of students attending the MI-based MPCC program. Emerging themes may reveal change factors that could be related to characteristics of counselor or researcher, students' perceptions of activities related to MI principles, the spirit of MI, and change talk.

### **Conclusion**

The results of this study indicated that the MI-based MPCC program was effective in improving children's positive, negative, and overall classroom behaviors (student- and teacher-reports) as well as reducing emotional symptoms, conduct problems, hyperactivity, and total difficulties (parent-report) across time. Children who completed the MPCC program also exhibited significant improvements in conduct problems, peer problems, total difficulties, and prosocial behavior compared with children who did not complete treatment. With respect to these benefits, counselors, practitioners, school personnel, and other stakeholders may consider to implement this structured program as a brief intervention for children in their facilities. The MPCC program can promote positive changes among children, enhance positive interactions between children and adults, and facilitate a collaborative and supportive environment in the setting. Due to limited studies in the DAEP environment, these findings were contributed to the literature by offering a rigorous single-case research design that is suitable for replication. Additional research on the use of MI as a strengths-based approach with pre-adolescent population was recommended to substantiate this intervention as an evidence-based treatment.

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## APPENDIX A

Institutional Review Board Approval

Outside Research Approval

Parental Consent Form

Parental Survey Consent Form

Teacher Consent Form

Child Assent Form



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Human Subjects Protection Program

Institutional Review Board

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APPROVAL DATE: July 23, 2014  
TO: Ms. Wannigar Ratanavivan  
CC: Dr. Richard Ricard  
FROM: Office of Research Compliance  
Institutional Review Board  
SUBJECT: Initial Approval

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Protocol Number: 75-14  
Title: Using Motivational Interviewing Techniques as a Strength-Based Approach with Children in a Disciplinary Alternative Education Program  
Review Category: Full Board Review  
Expiration Date: July 23, 2015

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**Approval determination was based on the following Code of Federal Regulations:**

Criteria for Approval has been met (45 CFR 46.111) - The criteria for approval listed in 45 CFR 46.111 have been met (or if previously met, have not changed).

(a) In order to approve research covered by this policy the IRB shall determine that all of the following requirements are satisfied:

- (1) Risks to subjects are minimized: (i) By using procedures which are consistent with sound research design and which do not unnecessarily expose subjects to risk, and (ii) whenever appropriate, by using procedures already being performed on the subjects for diagnostic or treatment purposes.
- (2) Risks to subjects are reasonable in relation to anticipated benefits, if any, to subjects, and the importance of the knowledge that may reasonably be expected to result. In evaluating risks and benefits, the IRB should consider only those risks and benefits that may result from the research (as distinguished from risks and benefits of therapies subjects would receive even if not participating in the research). The IRB should not consider possible long-range effects of applying knowledge gained in the research (for example, the possible effects of the research on public policy) as among those research risks that fall within the purview of its responsibility.
- (3) Selection of subjects is equitable. In making this assessment the IRB should take into account the purposes of the research and the setting in which the research will be conducted and should be particularly cognizant of the special problems of research involving vulnerable populations, such as children, prisoners, pregnant women, mentally disabled persons, or economically or educationally disadvantaged persons.
- (4) Informed consent will be sought from each prospective subject or the subject's legally authorized representative, in accordance with, and to the extent required by §46.116.
- (5) Informed consent will be appropriately documented, in accordance with, and to the extent required by §46.117.
- (6) When appropriate, the research plan makes adequate provision for monitoring the data collected to ensure the safety of subjects.

.....  
(7) When appropriate, there are adequate provisions to protect the privacy of subjects and to maintain the confidentiality of data.

(b) When some or all of the subjects are likely to be vulnerable to coercion or undue influence, such as children, prisoners, pregnant women, mentally disabled persons, or economically or educationally disadvantaged persons, additional safeguards have been included in the study to protect the rights and welfare of these subjects.

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Provisions:

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Comments: The TAMUCC Human Subjects Protections Program has implemented a post-approval monitoring program. All protocols are subject to selection for post-approval monitoring.

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This research project has been approved. As principal investigator, you assume the following responsibilities:

1. Informed Consent: Information must be presented to enable persons to voluntarily decide whether or not to participate in the research project unless otherwise waived.
2. Amendments: Changes to the protocol must be requested by submitting an Amendment Application to the Research Compliance Office for review. The Amendment must be approved by the IRB before being implemented.
3. Continuing Review: The protocol must be renewed each year in order to continue with the research project. A Continuing Review Application, along with required documents must be submitted 45 days before the end of the approval period, to the Research Compliance Office. Failure to do so may result in processing delays and/or non-renewal.
4. Completion Report: Upon completion of the research project (including data analysis and final written papers), a Completion Report must be submitted to the Research Compliance Office.
5. Records Retention: All research related records must be retained for three years beyond the completion date of the study in a secure location. At a minimum these documents include: the research protocol, all questionnaires, survey instruments, interview questions and/or data collection instruments associated with this research protocol, recruiting or advertising materials, any consent forms or information sheets given to participants, all correspondence to or from the IRB or Office of Research Compliance, and any other pertinent documents.
6. Adverse Events: Adverse events must be reported to the Research Compliance Office immediately.
7. Post-approval monitoring: Requested materials for post-approval monitoring must be provided by dates requested.



**Office of Assessment and Accountability**

**CORPUS CHRISTI INDEPENDENT SCHOOL DISTRICT**

P. O. Box 110 • Corpus Christi, Texas 78403-0110

3130 Highland Avenue • Corpus Christi, Texas

78405 Office: 361-844-0396 • Fax: 361-886-9371

Website: [www.ccisd.us](http://www.ccisd.us)

June 4, 2014

Wannigar Ratanavivan  
5750 Curtis Clark Dr., Apt. 217  
Corpus Christi, TX 78412

Dear Ms. Wannigar:

Formal permission is granted to you to conduct your research entitled *Using Motivational Interviewing (MI) Techniques as a Strength-Based Approach with Children in a Disciplinary Alternative Education Program (DAEP)* in the Corpus Christi Independent School District (District). This permission indicates that your proposal meets all research/evaluation and FERPA standards.

This permission allows the campuses/principals identified in your proposal the option of participating or not. No campus/principal is required to participate in this study.

It is a pleasure to welcome you to the District as you begin this significant research initiative. At the conclusion of your work, please provide my office with a copy of the results.

Should you need additional assistance during your study or have changes in the proposal, please contact me at 361-844-0396, ext. 44250 and/or via e-mail at [James.Gold@ccisd.us](mailto:James.Gold@ccisd.us).

Sincerely,

James H. Gold  
Executive Director

JHG/mdf

CC: Dr. D. Scott Elliff  
Dr. Bernadine Cervantes



## **PARENTAL CONSENT FORM**

### **Making Positive Changes Counseling (MPCC) Program**

#### **Introduction**

The purpose of this form is to provide you (as the parent/guardian of a prospective research study participant) information that may affect your decision as to whether or not to let your child participate in this research study. This form will also be used to record your consent if you decide to let your child be involved in this study.

If you agree, your child will be asked to participate in a research study evaluating Motivational Interviewing (MI) used in the Making Positive Changes Counseling (MPCC) program at Elementary Student Support Center (ESSC). MI is a counseling approach used to increase people's motivation for change. The purpose of this study is to monitor the effects of MI strategies on behavioral changes of children. Your child was selected to be a possible participant because he/she is 8 years of age or older and currently participating in ESSC.

#### **What will my child be asked to do?**

If you allow your child to participate in this study, he/she will be asked to attend a series of six 45-minute individual sessions of the MPCC program with a researcher, Wannigar Ratanavivan. Wannigar is a researcher and a qualified counselor in training from Texas A&M University - Corpus Christi. Your child will be interviewed by the researcher before joining the program to identify his/her target behaviors that he/she would like to improve while staying at ESSC. All sessions of the MPCC program will be conducted at ESSC. The focus of the MPCC program is to assist your child in 1) learning the MI principles and 2) applying them to decisions relevant to his/her life at ESSC and upon his/her return to the home campus. Your child will have an opportunity to learn important skills and explore more positive and adaptive behaviors that might be expected to reduce future difficulties that led to his/her referral to ESSC. As part of your child's participation, he/she will be asked to complete a short rating scale (5 minutes) asking how his/her day is and how he/she does on that day. Your child will complete the rating scale everyday while he/she stays at ESSC. The rating scale will be used to measure the improvement or change of your child's target behaviors before, during, and after attending the MPCC program.

#### **What are the risks involved in this study?**

The risks associated with this study are minimal, and are not greater than risks your child ordinarily encounters in daily life. Potential risks involved in this study could include some emotional discomfort and anxiety arising from self-disclosure, self-reflection, and decision making process regarding various aspects of your child's target behaviors while participating in the study. If emotional discomfort and anxiety are severe and beyond what normally experience in a typical classroom guidance curriculum, your child will be referred to individual counseling provided by a school counselor at ESSC or other community agencies to process any discomfort as appropriate.

Academic interfering could also happen in this study. Because your child will be taken from the classroom, his/her academic schedule may be affected. Based upon researcher/teacher agreement in regards to timing, your child will be asked to participate in situations that minimally interfere with his/her work assignments. Your child will have the opportunity to make up any missed work when he/she returns to the classroom.

There is a breach of confidentiality associated with this study. Because your child will be taken of his/her classroom, other students not participating in the MPCC program could possibly question this and therefore find out about participation in the study. Limitations of confidentiality such that in any disclosure related to self harm, other harm, or abuse will be reported to the appropriate authorities. The potential for breach of confidentiality will be addressed with your child throughout the study. Your child will be provided with pseudonym that either may be selected by the researcher or one of his/her own choosing when completing activity worksheets and the rating scale.

**What are the possible benefits of this study?**

The possible benefits of participation are an improvement of your child's target behaviors and the development of important skills based on MI principles such as acceptance and responsibility, self-awareness, strengths recognition, perspective taking, and effective decision making. The potential benefit to you as a parent/guardian could be an increased satisfaction regarding the improvement of your child's target behaviors. The possible benefit to society includes more efficient strategies in assisting elementary school children on disciplinary alternative education campuses to recognize their strengths and resources, improve their behaviors and/or emotions, and learn decision-making skills that they can apply to their typical living.

**Does my child have to participate?**

No, your child doesn't have to be in this research study. You can agree to allow your child to be in the study now and change your mind later without any penalty. If you do not want your child to participate, he/she will receive a regular classroom guidance curriculum.

**What if my child does not want to participate?**

In addition to your permission, your child must agree to participate in the study. If your child does not want to participate, he/she will not be included in the study without penalty. If your child initially agrees to be in the study, he/she can withdraw at any point during the study without penalty.

**Who will know about my child's participation in this research study?**

The researcher and teachers at ESSC will know about your child's participation in this study. However, this study conforms to procedures to ensure that details of your child's participation will remain strictly confidential. The records of this study will be kept private. No identifiers linking you or your child to this study will be included in any sort of report that might be published. Research records will be stored securely and only the researcher, Wannigar Ratanavivan, will have access to the records.

**Whom do I contact with questions about the research?**

If you have questions regarding this study, you may contact the researcher, Wannigar Ratanavivan at (361)585-3040 or [wratanavivan@islander.tamucc.edu](mailto:wratanavivan@islander.tamucc.edu) and/or a faculty advisor, Richard J. Ricard, Ph.D. at (361)825-3725 or [richard.ricard@tamucc.edu](mailto:richard.ricard@tamucc.edu).

**Whom do I contact about my child's rights as a research participant?**

This research study has been reviewed by the Research Compliance Office and/or the Institutional Review Board at Texas A&M University – Corpus Christi. For research-related problems or questions regarding your rights as a research participant, you can contact Erin Sherman, Research Compliance Officer, at (361)825-2497 or [erin.sherman@tamucc.edu](mailto:erin.sherman@tamucc.edu).

**Signature**

Please be sure you have read the above information, asked questions and received answers to your satisfaction. You will be given a copy of the consent form for your records. By signing this document, you consent to allow your child to participate in this study.

**Signature of Parent/Guardian:** \_\_\_\_\_ **Date:** \_\_\_\_\_

**Printed Name:** \_\_\_\_\_

**Printed Name of Child:** \_\_\_\_\_

**Signature of Person Obtaining Permission:** \_\_\_\_\_ **Date:** \_\_\_\_\_

**Printed Name:** \_\_\_\_\_

## **PARENTAL SURVEY CONSENT FORM**

### **Making Positive Changes Counseling (MPCC) Program**

#### **Introduction**

The purpose of this form is to provide you information that may affect your decision as to whether or not to participate in this research study. If you decide to participate in this study, this form will also be used to record your consent.

You have been asked to participate in a research project evaluating Motivational Interviewing (MI) used in the Making Positive Changes Counseling (MPCC) program at Elementary Student Support Center (ESSC). MI is a counseling approach used to increase people's motivation for change. The purpose of this study is to monitor the effects of MI strategies on behavioral changes of elementary school children. You were selected to be a possible participant because you are a parent/guardian of a child ages 8 to 12 referred to ESSC.

#### **What will I be asked to do?**

If you agree to participate in this study, you will be asked to complete the Strengths and Difficulties Questionnaire (SDQ) relating to your child's strengths and difficulties. The SDQ will take approximately 10 minutes to complete. You will complete the SDQ twice: at the registration and exit process from ESSC. Data from the SDQ provided by you will be used to measure the improvement or change of your child's difficulties and strengths from the first day to the last day of referral.

#### **What are the risks involved in this study?**

The risks associated in this study are minimal, and are not greater than risks ordinarily encountered in daily life. However, you may experience discomfort and anxiety identifying your child's difficulties. If emotional discomfort and anxiety persist, you have rights to refuse to complete the SDQ. There are no positive or negative repercussions for agreeing or refusing to participate in the study. If you experience severe emotional discomfort and anxiety that are beyond what normally experience in daily life while completing the SDQ, you will be referred to counselors in the community agencies as appropriate.

#### **What are the possible benefits of this study?**

The possible benefit of participation will be an opportunity to voice your opinions and concerns relating to your child's difficulties and strengths. Your participation will provide useful information to the researcher in evaluating the effects of MI strategies on behavioral changes of children in disciplinary alternative education environments.

#### **Do I have to participate?**

No. Your participation is voluntary. You may decide not to participate or to withdraw at any time without your current or future relations with Texas A&M University-Corpus Christi being affected.

**Who will know about my participation in this research study?**

This study conforms to procedures to ensure that details of your participation will remain strictly confidential. The records of this study will be kept private. No identifiers linking you or your child to this study will be included in any sort of report that might be published. Research records will be stored securely and only the researcher, Wannigar Ratanavivan, will have access to the records.

**Whom do I contact with questions about the research?**

If you have questions regarding this study, you may contact the researcher, Wannigar Ratanavivan at (361)585-3040 or [wratanavivan@islander.tamucc.edu](mailto:wratanavivan@islander.tamucc.edu) and/or a faculty advisor, Richard J. Ricard, Ph.D. at (361)825-3725 or [richard.ricard@tamucc.edu](mailto:richard.ricard@tamucc.edu).

**Whom do I contact about my rights as a research participant?**

This research study has been reviewed by the Research Compliance Office and/or the Institutional Review Board at Texas A&M University-Corpus Christi. For research-related problems or questions regarding your rights as a research participant, you can contact Erin Sherman, Research Compliance Officer, at (361) 825-2497 or [erin.sherman@tamucc.edu](mailto:erin.sherman@tamucc.edu)

**Signature**

Please be sure you have read the above information, asked questions and received answers to your satisfaction. You will be given a copy of the consent form for your records. By signing this document, you consent to participate in this study.

**Signature of Participant:** \_\_\_\_\_ **Date:** \_\_\_\_\_

**Printed Name:** \_\_\_\_\_

**Signature of Person Obtaining Consent:** \_\_\_\_\_ **Date:** \_\_\_\_\_

**Printed Name:** \_\_\_\_\_

## **TEACHER CONSENT FORM**

### **Making Positive Changes Counseling (MPCC) Program**

#### **Introduction**

The purpose of this form is to provide you information that may affect your decision as to whether or not to participate in this research study. If you decide to participate in this study, this form will also be used to record your consent.

You have been asked to participate in a research project evaluating Motivational Interviewing (MI) used in the Making Positive Changes Counseling (MPCC) program at Elementary Student Support Center (ESSC). MI is a counseling approach used to increase people's motivation for change. The purpose of this study is to monitor the effects of MI strategies on behavioral changes of elementary school students. You were selected to be a possible participant because you are a teacher of elementary school students ages 8 to 12 referred to ESSC.

#### **What will I be asked to do?**

If you agree to participate in this study, you will be asked to observe how students who attend the MPCC program behave in a classroom and track the frequency of their behaviors being observed using a teacher rating scale. The teacher rating scale will take approximately 10 minutes to complete. You will fill out this rating scale each day until students return their home schools. Data from the rating scale provided by you will be used to measure the improvement or change of students' target behaviors before, during, and after attending the MPCC program.

#### **What are the risks involved in this study?**

The risks associated in this study are minimal, and are not greater than risks ordinarily encountered in daily life. However, the rating scale could add more duties to you and interfere with your time to complete other tasks. Therefore, you may feel pressured and burdened to complete this rating scale everyday. If you feel uncomfortable to complete the teacher rating scale, you have rights to refuse to participate in the study. There are no positive or negative repercussions for agreeing or refusing to participate in the study.

#### **What are the possible benefits of this study?**

The possible benefit of participation could be a sense of pleasure in observing students' growth and improvement in their target behaviors, helping the researcher document effective response to intervention (RTI) in alternative education environments using the teacher rating scale, and making contributions to the research study.

The possible benefit to society includes more efficient strategies in assisting elementary school children on alternative education campuses to recognize their strengths and resources, improve their behaviors and/or emotions, and learn decision-making skills that they can apply to their typical living. Publication regarding the efficacy of MI strategies can advance knowledge and provide useful information to counselors and other helping professionals working with children in alternative education environments and other restrictive facilities.

**Do I have to participate?**

No. Your participation is voluntary. You may decide not to participate or to withdraw at any time without your current or future relations with Texas A&M University-Corpus Christi being affected.

**Who will know about my participation in this research study?**

This study conforms to procedures to ensure that details of your participation will remain strictly confidential. The records of this study will be kept private. No identifiers linking you or your students to this study will be included in any sort of report that might be published. Research records will be stored securely and only the researcher, Wannigar Ratanavivan, will have access to the records.

**Whom do I contact with questions about the research?**

If you have questions regarding this study, you may contact the researcher, Wannigar Ratanavivan at (361)585-3040 or [wratanavivan@islander.tamucc.edu](mailto:wratanavivan@islander.tamucc.edu) and/or a faculty advisor, Richard J. Ricard, Ph.D. at (361)825-3725 or [richard.ricard@tamucc.edu](mailto:richard.ricard@tamucc.edu).

**Whom do I contact about my rights as a research participant?**

This research study has been reviewed by the Research Compliance Office and/or the Institutional Review Board at Texas A&M University-Corpus Christi. For research-related problems or questions regarding your rights as a research participant, you can contact Erin Sherman, Research Compliance Officer, at (361) 825-2497 or [erin.sherman@tamucc.edu](mailto:erin.sherman@tamucc.edu)

**Signature**

Please be sure you have read the above information, asked questions and received answers to your satisfaction. You will be given a copy of the consent form for your records. By signing this document, you consent to participate in this study.

**Signature of Participant:** \_\_\_\_\_ **Date:** \_\_\_\_\_

**Printed Name:** \_\_\_\_\_

**Signature of Person Obtaining Consent:** \_\_\_\_\_ **Date:** \_\_\_\_\_

**Printed Name:** \_\_\_\_\_

## **CHILD ASSENT FORM**

### **Making Positive Changes Counseling (MPCC) Program**

#### **Introduction**

My name is Wannigar Ratanavivan and I am a doctoral candidate at Texas A&M University – Corpus Christi. I am doing a research project about counseling techniques used to promote change in elementary school students. Research is a way to test new ideas. Research helps us learn new things.

I would like you to help with my study because you are 8 years of age or older and currently studying at Elementary Student Support Center (ESSC). This research can help you learn new skills and make changes while you are on this campus.

#### **What will I be asked to do?**

If you want to help with my study, I will ask you to attend six sessions of the Making Positive Changes Counseling (MPCC) program with me. You will learn different skills by completing a variety of activities, worksheets, and games. Each session will take 45 minutes per day. The study will begin on your first day at ESSC until you go back to your home school. You will be interviewed by me before joining the program so that I will know what you want to change or do differently while staying at this school. You will also complete a short survey asking how your day is and how you do on that day. The survey will take about five minutes to complete. You will need to complete the survey everyday until you go back to your home school.

#### **What are the risks to me?**

The risks to you are no bigger than the risks you have each day. You will decide how much you want to talk about yourself in sessions. If you ever feel uncomfortable or worried, you can decide to not attend the program anymore. You may not finish your schoolwork during the sessions because you will be taken from the classroom. However, I will talk to your teachers, and you will have a chance to complete your work when you return to the classroom. You need to know that what you say in sessions will be kept between you and me. However, other students in your class who are not helping with my study could possibly find out that you are helping. This can happen because you will be taken of your classroom. You also need to know that I am here to help you feel safe and comfortable. However, I have to report to school officials and other professionals if you tell me that you are being hurt or planning to hurt yourself or someone else. This way I can keep you and others as safe as possible.

#### **What good can happen?**

There are some good things that could happen to you. You will have a chance to learn about yourself and different skills in a fun and creative way. You may decide to change or do something different that make you, your parent/guardian, and your teachers feel happy about it.

#### **Do I have to be part of the study?**

No. You do not have to be part of the study. Your parent/guardian said you can be in the study, and you do not have to because he/she said you can. You are a part of the study because you want to.

### Who will know I am part of the study?

Your parent/guardian, your teachers at ESSC, and I will know that you will be part of this study. However, your name will be kept secret from everyone except your teachers and your parent/guardian. You can stop being part of the study whenever you want to. You can tell your parent/guardian, your teachers, me, or any adult that you would like to stop, and it is OK.

**Signature**

Now that I have asked my questions and think I know about the study and what it means, here is what I decided:

\_\_\_\_\_ OK, I'll be in the study. \_\_\_\_\_ No, I do not want to be in the study.

I have been told about the research study. I had a chance to ask questions. I know I can ask questions at any time. I want to be in the study.

If you sign your name below, it means that you want to be in this research study.

Your Name (Printed)	Age	Date
---------------------	-----	------

---

Your Signature \_\_\_\_\_

Printed Name of Witness	Date
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---

Signature of Witness

Printed Name of Person Obtaining Assent	Date
---	------

---

Signature of Person Obtaining Assent



## APPENDIX B

### Instruments and Questionnaire

## Pre-Survey: Strengths and Difficulties Questionnaire

P or T 4-10

For each item, please mark the box for Not True, Somewhat True or Certainly True. It would help us if you answered all items as best you can even if you are not absolutely certain. Please give your answers on the basis of the child's behavior over the last six months or this school year.

Child's name .....

Male/Female

Date of birth.....

	Not True	Somewhat True	Certainly True
Considerate of other people's feelings	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Restless, overactive, cannot stay still for long	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Often complains of headaches, stomach-aches or sickness	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Shares readily with other children, for example toys, treats, pencils	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Often loses temper	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Rather solitary, prefers to play alone	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Generally well behaved, usually does what adults request	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Many worries or often seems worried	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Helpful if someone is hurt, upset or feeling ill	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Constantly fidgeting or squirming	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Has at least one good friend	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Often fights with other children or bullies them	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Often unhappy, depressed or tearful	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Generally liked by other children	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Easily distracted, concentration wanders	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Nervous or clingy in new situations, easily loses confidence	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Kind to younger children	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Often lies or cheats	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Picked on or bullied by other children	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Often offers to help others (parents, teachers, other children)	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Thinks things out before acting	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Steals from home, school or elsewhere	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Gets along better with adults than with other children	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Many fears, easily scared	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Good attention span, sees work through to the end	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>

Signature .....

Date .....

Please identify one positive thing that you would like your child to learn while staying here:

\_\_\_\_\_

**Thank you very much for your help**

© Robert Goodman, 2005

**Student Self-Report Rating Scale**

**Student's name** \_\_\_\_\_ **Johnny** \_\_\_\_\_

**Date** \_\_\_\_\_

How was your day?



Did you listen to your teachers today?



Did you run around in the classroom today?



## Teacher Rating Scale

Teacher's Name \_\_\_\_\_

Date \_\_\_\_\_

Name of Students	Behavior Today	Not at all	Rarely	Sometimes	Often	Always
Johnny	Listen attentively to teachers					
	Run around in the classroom					
Tom	Complete schoolwork					
	Use foul language in class					
Bob	Respect teachers, classmates, and others					
	Get angry and lose control					
Joshua	Follow rules in the classroom					
	Easily distracted					
Chris	Stay on task					
	Interrupt the class and others					

## Daily Progress Report

Name: \_\_\_\_\_

Week: \_\_\_\_\_

Number of days: \_\_\_\_\_ GRD: \_\_\_\_\_

HMSCH: \_\_\_\_\_

**Daily Progress Report**

Progress reports are designed to provide students with daily feedback on their **good behavior** as well as identifying behaviors that need **improvement**.

### Bonus

Rewards: Students with a commended progress report and no absence qualify for bonus and basic rewards at the end of each week.

0-5 Marks qualify for a bonus reward

5-10 Marks qualify for basic reward

Date Progress Report Ret'd	Day _____	Day _____	Day _____	Day _____	Day _____
Academic Goal	A D V	1 2 3 L N C	5 6 7 A D V	1 2 3 L N C	5 6 7 A D V
Completes daily assignments					
Participates in class as required					
Follows class procedures & expectation					
Uses appropriate classroom behavior/ language					
Total Marks					
Date	Conduct		Comments		

Parent Signature: \_\_\_\_\_ Date: \_\_\_\_\_ Teacher Signature: \_\_\_\_\_ Date: \_\_\_\_\_

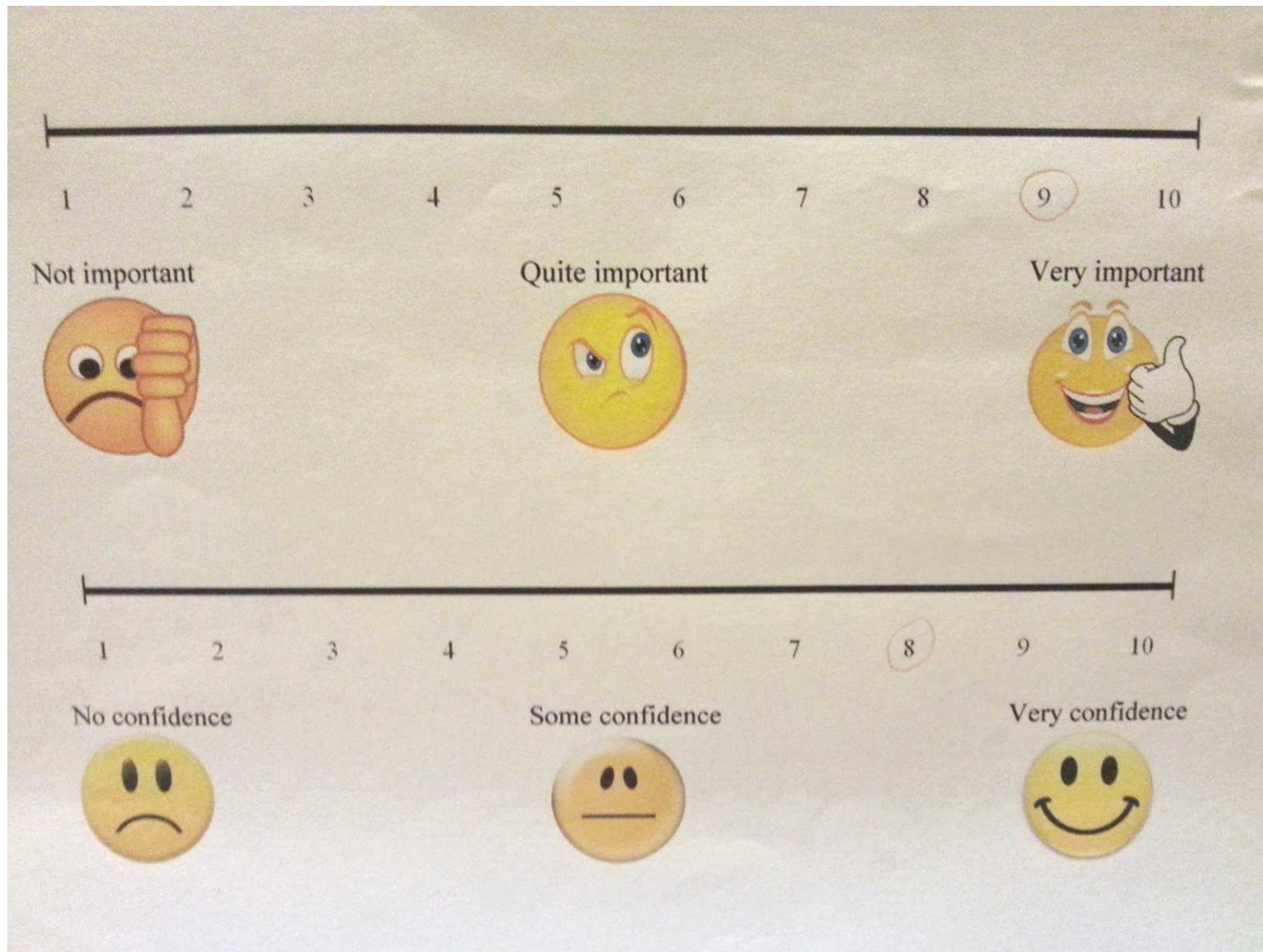
Revised 8/2014

## APPENDIX C

### Samples of MI Metrics and Activities



## Readiness to Change Ruler



## **Magic Key**

Read the following instructions to the child:

"Close your eyes and imagine that you have been given a magic key that opens one room in a huge castle. There are four floors in the castle and since the castle is huge, there are many rooms on each floor, but your magic key only opens one of the many, many rooms in the castle. Pretend you go from room to room, and from floor to floor, trying your magic key in each door until you finally come to the door that your key opens. You turn the key and the lock opens. Because you have been given a magic key that only opens this door, what you see is the one thing that money cannot buy that you always thought would make you happy. Pretend that you are looking into the room. What is it that you see? When you have a clear picture, open your eyes and draw it as best as you can."

Derived from:

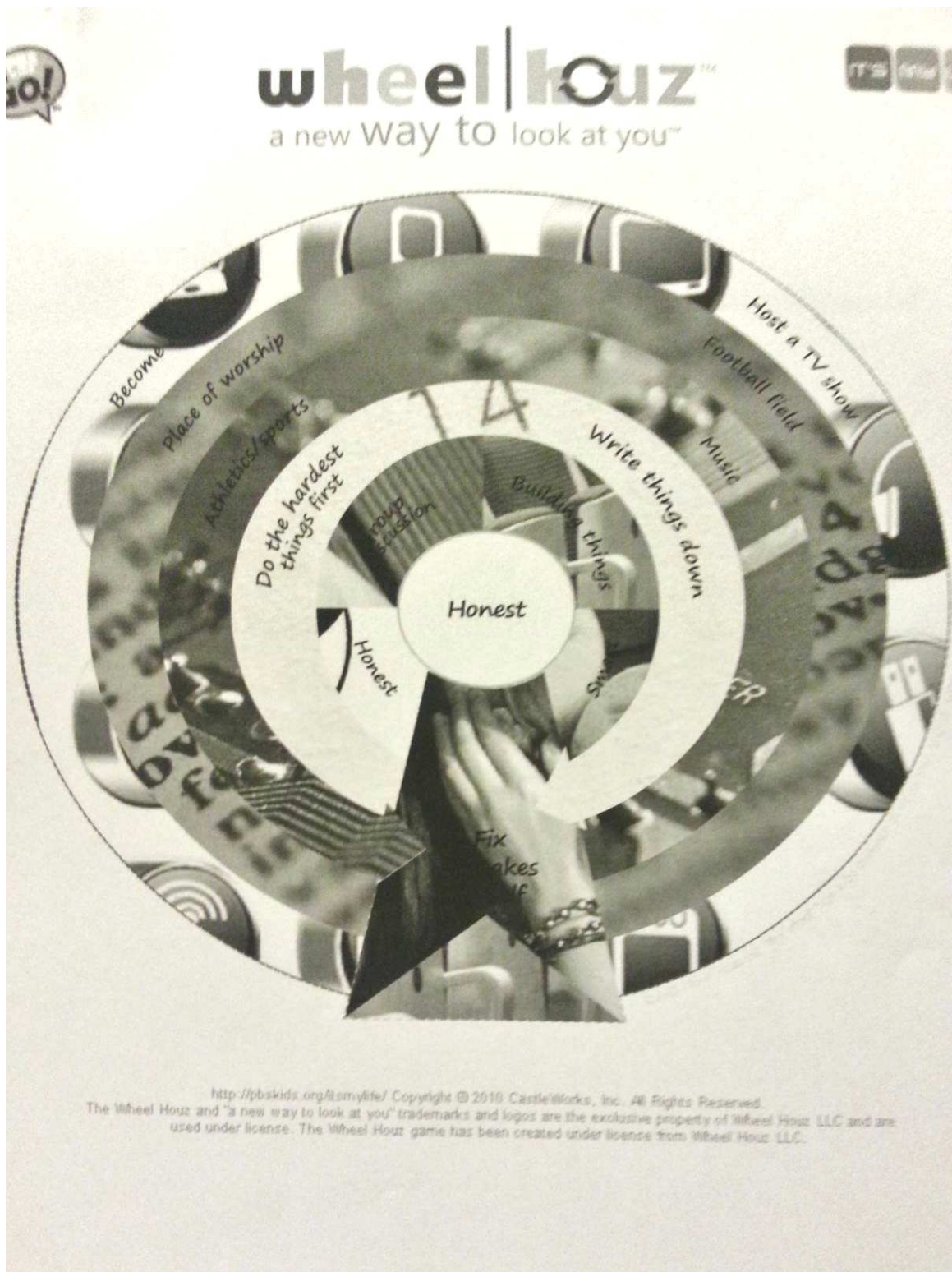
Lowenstein, L. (2011). Favorite therapeutic activities for children, adolescents, and families: Practitioners share their most effective interventions. *Champion Press*. Retrieved from <http://www.lianalowenstein.com/e-booklet.pdf>



## Exploring My Strengths



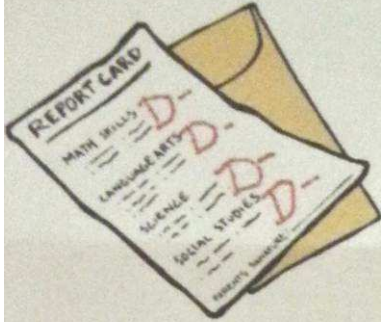
## Wheel Houz Game





## Perspective Taking

Brittney got Ds on her report card.



If you were Brittney, how would you feel?

I would feel bad  
and try to improve  
and scared

Ryan is in a wheelchair. He loves to play sports.



If you were Ryan, how would you feel?

that i would be sad that  
i can't play sports

The class laughed when Tony got the wrong answer.



If you were Tony, how would you feel?

embarrass that  
i got the wrong  
answer.

The class brakes into partners for math. Everyone has a partner, except John.



If you were John, how would you feel?

i would feel  
left out of group



## Case Scenario

### Josh and Nicky Story



Josh and Nicky has been friends for over a year, and they hang out together almost everyday. About a month ago, they got into the biggest fight they've ever had. It started on Saturday when Nicky went over to Josh's house to play video games, but Josh said he wanted to go watch his older brother's soccer game instead.

When Nicky asked if he could come too, Josh said no. Nicky felt hurt and betrayed, and didn't know what was going on. He asked why he couldn't come, and Josh got mad and said "I want to do something without you for a change!"



Monday at school, Josh chose to sit at a lunch table on the other side of the cafeteria, rather than his regular table with Nicky. Angry, Nicky left a nasty note on Josh's locker, and the two friends stopped talking for a week.

## Recognition of Possible Changes (Change Talk)

1. Do you think Josh has a problem?

No

Yes

If yes, what is Josh's problem?

---

2. Are you worried about Josh?

No

Yes

If yes, what worries you about Josh?

he could of let Nicky go to the soccer game

---

3. Do you think Josh needs to change?

No

Yes

If yes, what are the reasons for Josh to make a change?

---

4. Are there some things that Josh can do to change?

No

Yes

If yes, what do you think would work for Josh, if he decided to change?

benice, be more aware of Nicky's feelings

---



## Decisional Balance

### Decisional Balance Sheet

	Good Things	Not So Good Things
<b>Follow school procedures and expectations</b>	<ul style="list-style-type: none"> <li>- Not get in trouble</li> <li>- Get rewards</li> <li>- Get love from mom</li> </ul>	<ul style="list-style-type: none"> <li>- Sit in an assigned seat</li> <li>- Can't talk a lot</li> </ul>
<b>Do not follow school procedures and expectations</b>	<ul style="list-style-type: none"> <li>- More freedom</li> <li>- Go back home</li> <li>- Eat chocolates</li> </ul>	<ul style="list-style-type: none"> <li>- Get in trouble</li> <li>- <del>Take</del> being taken advantage of</li> <li>- Chaos</li> </ul>

**What is your decision?**

Yes, I want to follow school procedures

Maybe, I need to think about it

No, I do not want to follow school procedures

**It's your decision!** You are the one who make your own choices.

## Plan of Action

### Change Plan

1. The steps I plan to take in following school directions

- Raise hands to ask question
- Do not interrupt the class
- Ignore distractions
- Stay away from bully

2. Some things that could interfere with my plan are

- Some annoying students
- \_\_\_\_\_
- \_\_\_\_\_
- \_\_\_\_\_

3. What I will do if the plan is not working

- See school counselor
- Ignore annoying people again
- Tell teachers
- \_\_\_\_\_

4. What or who will keep me motivated to reach my plan

- Mother
- \_\_\_\_\_



## APPENDIX D

### Demographic Data of Students in Treatment and Comparison Groups

	Treatment Group		Comparison Group	
	Frequency	Percent	Frequency	Percent
<b><u>Age</u></b>				
8	1	10.0	0	0.0
9	1	10.0	1	16.7
10	4	40.0	3	66.7
11	3	30.0	1	16.7
12	1	10.0	1	16.7
Total	10	100.0	6	100.0
<b><u>Grade</u></b>				
3rd	2	20.0	2	33.3
4th	1	10.0	2	33.3
5th	7	70.0	2	33.3
Total	10	100.0	6	100.0
<b><u>Gender</u></b>				
Female	1	10.0	0	0.0
Male	9	90.0	6	100.0
Total	10	100.0	6	100.0
<b><u>Ethnicity</u></b>				
Hispanic/Latino(a)	5	50.0	4	66.7
African American	1	10.0	1	16.7
Caucasian	2	20.0	1	16.7
Alaska Native	1	10.0	0	0.0
Biracial	1	10.0	0	0.0
Total	10	100.0	6	100.0
<b><u>Number of Referral</u></b>				
1 time	8	80.0	3	50.0
2 times	2	20.0	1	16.7
3 times	0	0.0	2	33.3
Total	10	100.0	6	100.0