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Effectiveness of an Empathy Intervention for Youths At-Risk

A dissertation submitted in partial satisfaction of the

requirements for the degree Doctor of Philosophy

in Counseling, Clinical, and School Psychology

by

Aileen Fullchange

Committee in charge:

Professor Michael J. Furlong, Chair

Professor Jill Sharkey

Professor Erin Dowdy

Professor Matthew Quirk

September 2017

The dissertation of Aileen Fullchange is approved.

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Jill Sharkey

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Erin Dowdy

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Matthew Quirk

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Michael J. Furlong, Committee Chair

June 2017

Effectiveness of an Empathy Intervention for Youths At-Risk

VITA OF AILEEN FULLCHANGE

June 2017

EDUCATION

Ph.D. Candidate, anticipated graduation June 2017
Counseling, Clinical & School Psychology (CCSP), University of California, Santa Barbara
Dissertation title: Effectiveness of an Empathy Intervention on Youth Aggression
Dissertation chair: Dr. Michael J. Furlong
M.Ed., School Psychology, University of California, Santa Barbara, December 2015
M.A., Teaching Mathematics Education, Western Governors University, UT, August 2009
B.A., Physics, University of California, Berkeley, December 2002
A.S., Chemistry, with honors, Contra Costa College (CCC), San Pablo, CA, May 1999
A.S., Math & A.A., Liberal Studies, both with honors, CCC, San Pablo, CA, May 1997

CLINICAL & SUPERVISION EXPERIENCE

Psychology Doctoral Intern, 40+ hours/week, July 2016 – July 2017
Momentous Institute, Dallas, TX
Primary Supervisor: Dr. Jeannette Gordon-Reinoso
Secondary Supervisor: Dr. Neil Ravella
Director of Training: Dr. Garica Sanford
Client population: children, couples, and families from diverse backgrounds from the surrounding urban community
- Carry a clinical caseload of 12-15 families, facilitate weekly group therapy sessions for children and adolescents, and conduct 1-2 intakes per week, with some sessions in Spanish.
- Determine batteries for, administer, and score psychological assessments for children and adolescents, and lead feedback sessions for caregivers.
- Participate in a weekly Reflecting Team.
- Supervise a practicum student.
- Consult and collaborate with teachers and other professionals.
- Participate in 4+ hours of supervision, 3+ hours of didactic trainings each week, self-reflective activities throughout the year, and annual Changing the Odds conference.

Student Clinician, 4-10 hours/week, September 2015 – June 2016
Hosford Clinic, University of California, Santa Barbara
Supervisor: Dr. Collie Conoley
Client population: children and families from a broad range of socioeconomic statuses in the community
- Conducted videotaped psychotherapy sessions with families, youths, and individual adults utilizing assessment data to guide interventions and treatment planning.

- Wrote intake reports and case notes using Point & Click (PNC) electronic case management system.
- Participated in weekly group and individual supervision.

Student Clinician, up to 4 hours/week**,** March 2015 – October 2015
Psychological Assessment Center, Hosford Clinic, University of California, Santa Barbara
Supervisors: Dr. Jordan Witt and Dr. Erik Lande
Client population: youths ages 10-14 with presenting concerns related to academics, attention, memory, and/or social-emotional and behavioral issues.
- Conducted cognitive, academic, and neuropsychological assessments.
- Consulted during case conferences with fellow assessment team members.
- Assisted in writing comprehensive psychological assessment reports.

School Psychology Practicum Student, 10-15 hours/week, August 2014 – June 2015
Monroe Elementary School, Santa Barbara, CA
Supervisors: Melissa Quigley, MA and Dr. Erin Dowdy
Client population: children ages 5-12, primarily who qualified for special education from low-income families in the community
- Provided individual and group counseling using case conceptualizations and assessment data to inform treatment planning.
- Assessed over 20 students for special education eligibility, wrote comprehensive reports, and presented at IEP meetings.
- Conducted Functional Behavioral Analyses to facilitate intervention development.
- Provided consultation for teachers and parents to address student behavioral and academic issues, including Oppositional Defiant Disorder, depression, anxiety, and selective mutism. Provided consultation regarding systems-level changes, including RtI and crisis response.
- Created and implemented a research-based protocol for suicide risk assessment for young children.

School Psychology Practicum Student, 10-15 hours/week, September 2013 – June 2014
Santa Barbara High School, Santa Barbara, CA
Supervisors: Juan Gallardo, MS, NCSP, and Dr. Jill Sharkey
Client population: children ages 14-17, primarily who qualified for special education from a socioeconomically diverse cross-section of families in the community
- Provided individual counseling for over 15 students.
- Created and implemented a group counseling intervention to increase empathy and prosocial behaviors while reducing anger and aggression.
- Co-created and presented bullying intervention presentations to 9th grade classrooms.
- Provided consultation for teachers to address behavioral and academic issues, including lack of motivation, defiance, suicidality, depression, psychosis, anxiety, and OCD.

- Assessed students' cognitive, academic, social-emotional, and adaptive functioning, wrote psychoeducational reports, and presented at IEP meetings for initial and triennial evaluations for current and prospective special education eligibility.
- Conducted threat assessments for suicidality and homicidality.

Pseudo-therapist, 12 hours/week, January 2013 – June 2013
Hosford Clinic, University of California, Santa Barbara
Supervisor: Dr. Heidi Zetzer
Client population: undergraduate students from diverse backgrounds
- Conducted videotaped pseudo-therapy sessions. Practiced therapy, case conceptualization, and crisis response skills.
- Wrote intake reports and case notes.

School Psychology Practicum Student, 3 hours/ week, October 2012 – June 2013
Carpinteria Family School, Carpinteria, CA
Supervisor: Beth Laurie, MA, NCSP, LEP
Client population: 8 to 9-year-olds from a diverse cross section of families in the community
- Provided small group and 1-1 interventions to third grade students.
- Conducted student observations, teacher and student interviews, and cumulative file reviews.
- Provided consultation for teachers, school counselors, and parents regarding student academic difficulties and social-emotional deficits related to peer friendships.

RESEARCH

Primary Investigator, September 2014 – June 2016
The HEROES Project (Dissertation Project)
Faculty chair: Dr. Michael J. Furlong, University of California, Santa Barbara
- Implemented and evaluated an empathy-based intervention for youths at-risk of negative life outcomes using a pre/post-test design. Results indicated large effect sizes for both positive and negative social-emotional outcomes.
- Conducted an experimental study in several local public secondary schools, including training school staff, as part of dissertation. Anticipated defense date in spring of 2017.

Graduate Student Researcher, August 2015 – August 2016
The Odyssey Project
Supervisor: Dr. Jill Sharkey, University of California, Santa Barbara
- Assist in design and implementation of a study evaluating the effectiveness of a collaboration between UCSB's Theater/Dance Department and Los Prietos Boys Camp, a facility for males involved with the juvenile justice system.
- Administer surveys and conduct weekly interviews and observations. Analyze quantitative and qualitative data and write up findings in a final report.
- Article based on this project is in submission.

Graduate Student Researcher, January 2013 – June 2014
Developing Design Blueprint for the Social Emotional Health Survey Case Management Utility
Supervisor: Dr. Michael Furlong, University of California, Santa Barbara
- Supported implementation of a case management system for a local public high school utilizing data from the Social Emotional Health Survey (SEHS), an inventory of youth's personal strengths and resources.

Researcher, June 2001 – August 2001
Electric-Field Directed Growth of Aligned Single-Walled Carbon Nanotubes
Supervisor: Dr. Hongjie Dai, Stanford University
- Experimented with and theoretically justified methods of carbon nanotube growth.
- Provided theoretical background knowledge for a team of experimental researchers.

TEACHING AND SUPERVISION EXPERIENCE

Teaching Assistant, September 2013 – March 2014, March 2016 – June 2016
Research in Applied Psychology (undergraduate level)
University of California, Santa Barbara
Professor: Dr. Matt Quirk
- Assist in classroom instruction for an undergraduate class on applied psychology research.
- Duties included leading classroom lectures and discussions, developing assessments, meeting with students during office hours, and grading examinations, assignments, and essays.

Teaching Assistant, January 2016 – March 2015
Neuropsychological Assessment (graduate level)
University of California, Santa Barbara
Professor: Dr. Erik Lande
- Design interactive classroom activities to supplement lectures.
- Support students in practicing assessment administration.
- Grade examinations.

Teaching Assistant, September 2015 – December 2015
Neuropsychological Anatomy & Psychopharmacology (graduate level)
University of California, Santa Barbara
Professor: Dr. Erik Lande
- Design interactive classroom activities to supplement lectures.
- Grade examinations.

Teaching Assistant, September 2015 – June 2016
School-Based Practicum Supervision (graduate level)
University of California, Santa Barbara

Professor: Dr. Jill Sharkey
- Lead supervision sessions, facilitating discussions and activities related to NASP practice standards.
- Provide on-site supervision and monitor and address needs from weekly logs of second year school psychology doctoral students participating in school-based practicum experiences.

Teaching Associate, March 2014 – June 2014 & June 2015 – August 2015
Research in Applied Psychology (undergraduate level)
University of California, Santa Barbara
- Design and teach a 6-week, two-hour per week summer session class covering topics related to research methodology in applied psychology. Design and grade quizzes and assignments.

WORK EXPERIENCE

Educational Consultant for Math, June 2010 – October 2013
Consortium on Reaching Excellence (CORE), nationwide
- Supported classroom teachers in high-needs public schools to increase student engagement by co-planning, modeling lessons in classrooms, providing consultation for teachers, and facilitating professional development workshops.
- Collaborated with administrators and teachers to use data to guide instructional decisions.

Content Coach, August 2011 – December 2011
STEM Goes Rural, Purdue University, West Lafayette, IN
- Provide coaching support for physics teachers through observations of instruction and guidance on class management, future lesson content, differentiated instruction, and using assessment information.

Court-Appointed Special Advocate (CASA), May 2011 – July 2012
Alameda County, CA
- advocated for safety needs of abused/neglected youth dependents of the juvenile court through mentoring, written court reports, and communication with social workers, attorneys, therapists and caregivers.

7th/8th grade Math & Math Intervention Teacher, August 2006 – July 2010
School Site Council member, August 2009 – July 2010
Math Department Chair, August 2008 – July 2009
Claremont Middle School, Oakland, CA
- Developed and taught curricula for 7th and 8th math classes and 8th grade math intervention class.
- Contributed to curricular and policy decisions school-wide as part of the Instructional Leadership Team.

- Led weekly Professional Learning Communities which contributed to the school's first standardized test score gains in math in six years.

Instructional Technician, January 2005 – June 2006
Oxford Elementary After-School Program, Berkeley, CA
- Developed and taught science, nutrition, art, reading, and writing curricula for K-5 classes.
- Co-led Girls' Club to improve self-esteem, social skills, and behaviors in 4th and 5th grade girls.

Field Manager and Campaign Coordinator, October 2003 – May 2004
The Fund for Public Interest Research, NY, NY
- Managed teams to fundraise for non-profit organizations, including Save the Children.
- Organized grassroots campaigns for social and environmental issues.

Therapist and Teaching Aide, December 2002 – July 2003
Inside Out Early Intervention, Concord, CA
- Performed individual in-home therapy sessions for autistic toddlers using Applied Behavioral Analysis.
- Collaborated with senior therapists, schools, and parents to aid in IEP development and enactment.

Tutor, January 2000 – June 2000
Independent Living Skills Program, Martinez, CA
- Tutored high school-age youths in foster care transitioning to emancipation.

AWARDS & HONORS

James Hong Memorial Fellowship, UC Santa Barbara, November 2015
Gale Morrison Award for Research in the School Setting, UC Santa Barbara**,** June 2014
Doctoral Scholars Fellowship, UC Santa Barbara, September 2012 – June 2016
Fund for Teachers Fellowship (to conduct educational research in Cuba), June 2009
Oakland Teaching Fellow, Oakland, CA**,** June 2006
Alpha Gamma Sigma Honor Society, June 1997 – December 1997
President of College for Kids Club, College of the Redwoods, Eureka, CA, August 1994 – May 1995

PUBLICATIONS

Fullchange, A. (2016). Empathy and Potential for Positive Outcomes for At-Risk Youth. *NASP Communique, 45*(2).
Fullchange, A. (2016). Activities to Increase Cognitive Empathy in Students. *NASP Communique, 45*(1).

Furlong, M. J., **Fullchange**, A., & Dowdy, E. (2016). Effects of mischievous responding on universal mental health screening: I love rum raisin ice cream, really I do! *School Psychology Quarterly.* http://dx.doi.org/10.1037/spq0000168

Fullchange, A., & Furlong, M. (2016). An exploration of effects of bullying victimization from a complete mental health perspective. *SAGE Open*, 1-12. doi:10.1177/2158244015623593

Fullchange, A., Furlong, M. J., Gilman, R., & Huebner, E. S. (2015). Interventions for subjective well-being. In L. A. Theodore (Ed.), *Handbook of Applied Interventions for Children and Adolescents*. New York, NY: Springer.

Fullchange, A. (2015). Disproportionality in special education: ethical considerations and potential solutions. *From Science to Practice to Policy, 8*(1), 10-15.

*Zhang, Y., **Chang**, A., Cao, J., Wang, Q., Kim, W., Li, Y., Morris, N., Yenilmez, E., Kong, J., & Dai, H. (2001). Electric-field-directed growth of aligned single-walled carbon nanotubes. *Applied Physics Letters*, *79*(19), 3155-3157.

*Last name has been changed from Chang to Fullchange

PRESENTATIONS

Fullchange, A. (2016). *The HEROES Project: An Empathy-Based Intervention for Anger and Aggression.* Paper presented at the National Association of School Psychologists (NASP) Annual Convention, New Orleans, LA.

Fullchange, A., & Adams, S. (2016). *Disproportionality in Special Education*. Paper presented at the National Association of School Psychologists (NASP) Annual Convention, New Orleans, LA.

Fullchange, A., Adams, S., & Widales, O. (2015). *Building Empathy and Prosocial Behaviors in Angry and Aggressive Youth*. Paper presented at the National Association of School Psychologists (NASP) Annual Convention, Orlando, FL.

Fullchange, A. (2015). *Exploring the Role of Positive Psychology in Bullying Victimization*. Poster presented at the NASP Annual Convention, Orlando, FL.

Furlong, M., **Fullchange**, A., & Dowdy, E. (2016). Identifying Mischievous Responders in Social-Emotional Health Screening Surveys. Poster presented at the NASP Annual Convention, New Orleans, LA.

Parker, R., **Fullchange**, A., Dougherty, D., & Sharkey, J. (2015). *Promoting Emotional Competence in Schools.* Paper presented at the NASP Annual Convention, Orlando, FL.

Wroblewski, A., & **Fullchange**, A. (2016). Trauma in Schools: Ethical Considerations and Evidence-Based Interventions. Paper presented at the National Association of School Psychologists (NASP) Annual Convention, New Orleans, LA.

PROFESSIONAL MEMBERSHIPS

Texas Association of Psychologist (TASP), July 2016 - current
American Psychological Association (APA) Student Member, September 2012 – current
National Association of School Psychologists (NASP) Student Member, September 2012 – current

Student Rep & Board Member, Central Coast Assoc. of School Psychologists (CCASP), August 2015 – June 2016

Asian American Psychological Association (AAPA), March 2015 – current

Clinic Committee, CCSP, UC Santa Barbara, October 2014 – June 2015

Curriculum Committee, CCSP, UC Santa Barbara, September 2014 – June 2015

Climate Committee, CCSP, UC Santa Barbara, October 2013 – June 2014

California Association of School Psychologists (CASP) Student Member, September 2012– June 2016

Ventura County Association of School Psychologists (VCASP) Student Member, September 2012 – June 2016

ABSTRACT

Effectiveness of an Empathy Intervention for Youths At-Risk

by

Aileen Fullchange

The effectiveness of an empathy-based intervention, Harnessing Empathy Results in Opportunities for Everyday Success (HEROES), was evaluated using a randomized waitlist control design with follow-up interview questions. HEROES consists of evidence-informed activities, including feelings identification, role-playing, the use of induction and distancing to consider alternative perspectives, management of personal distress through mindfulness, and gratitude. Results showed statistically significant increases in affective empathy with a large effect size. There was also a large effect size seen for increased cognitive empathy and a medium effect size for increased positive school experiences. HEROES did not exacerbate aggressive behaviors or participants' experiences of anger. Further, no changes in prosocial behaviors were seen. Results of this study support the viability of interventions that target underlying positive psychosocial constructs.

Keywords: empathy, perspective-taking, intervention, at-risk, adolescents, aggression, anger, randomized control design, experimental

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I. INTRODUCTION

Positive psychology presumes that focusing on ameliorating deficits is incomplete and that there is a need, instead, to focus on cultivating strengths that may have longer-lasting and preventative effects (Seligman & Csikszentmihalyi, 2011). From Fredrickson's (2006) research on the Broaden and Build Theory of positive emotions, to the work of Seligman (2011) on contributors to well-being, and to Furlong's exploration of youths' Covitality, "the synergistic effect of positive mental health resulting from the interplay among multiple positive-psychological building blocks" (Furlong, You, Renshaw, Smith, & O'Malley, 2013, p. 1013), there is evidence that targeting positive psychological constructs can result in not only increases in these constructs but decreases in deficits as well (Bolier et al., 2013; Sin & Lyubomirsky, 2009). One construct that deserves attention is empathy, as it contributes to multiple domains of social-emotional functioning.

A. Definition of Empathy

While there are many definitions of empathy in the literature, this study refers to the definition proposed by Cohen and Strayer (1996): "the ability to understand and share in another's emotional state or context" (p. 988). Implied within this definition are two types of empathy: affective and cognitive. Affective empathy is a purely emotional reaction that is instinctive and automatic. It can be thought of as mirroring another's emotional state, both figuratively and literally as mirror neurons seem to be involved in this process (Calder et al., 2000; Carr, Iacoboni, Dubeau, Mazziotta, & Lenzi, 2003; Gallese, 2003; Phillips et al., 1997; Wicker et al., 2003). This is not to be confused with sympathy, which is an affective state of feeling sorrow or care for another person (Spinrad & Eisenberg, 2009). Empathy involves a shared emotional experience, whereas sympathy does not. Affective empathy is a state that

exists along a continuum. Over-stimulation of the mechanism that results in affective

empathy can result in personal distress, an affective state in which a shared emotional

experience results in anxiety (Hoffman, 2000). On the other hand, cognitive empathy, also

referred to as perspective-taking, does not have an affective component but, rather, is a

purely intellectual ability to recognize and understand the feelings of another in the context

of that person's perspective. Affective recognition, the ability to distinguish another's

emotions, for example, through interpretation of facial expressions, is a necessary component

of cognitive empathy development. Both cognitive and affective empathy can occur together

and independently of each other. Neuroanatomical studies have confirmed that the cognitive

and affective systems of empathy are localized in distinct locations in the brain (Shamay-

Tsoory, Aharon-Peretz, & Perry, 2009).

B. Social-emotional Outcomes Associated with Intact Empathy

Empathy deserves attention because it is perhaps the single most important

contributor to social functioning and moral development. Eisenberg and Miller (1987)

analyzed 10 different studies related to social competence and found, in all of them, a

correlation between empathy and prosocial behaviors. Empathy is strongly correlated with

the personality trait of friendliness amongst adolescents, but there are also less significant

correlations between empathy and energy, conscientiousness, and openness (Del Barrio,

Aluja, & García 2004). Among 10- to 14-year-olds, empathy is correlated with prosocial,

assertive, and considerate behaviors toward others (Garaigordobil, 2009). In adult romantic

relationships, empathy contributes to partner satisfaction (Davis & Oathout, 1987). Empathy,

specifically perspective-taking, also plays an important role in cooperative behaviors (Paal &

Bereczkei, 2007). Students who rate themselves as being more empathetic than their peers

are rated by teachers as having more prosocial behaviors (McMahon, Wernsman, & Parnes, 2006).

In addition to social skills, empathy informs moral judgment. The empathic distress response is like a moral red flag, cueing the observer that there may be something morally incongruent occurring. Perspective-taking may increase an observer's sensitivity to these cues, which in turn facilitates an affective empathetic response and gives rise to moral actions (Pizarro, 2000).

Further, empathy appears to have an interactional relation to overall well-being. Multiple studies have found that empathic individuals tend to have high self-concepts/self-esteem (Czerniawska, 2002; Garaigordobil, Cruz, & Pérez, 2003; Kukiyama, 2002). This positive outcome may be a result of healthy attachments. In one study, empathy in adolescents was correlated with secure attachment relationships with peers and more prosocial behaviors, which in turn predicted higher self-esteem (Carlo & Randall, 2002; Rushton, Chrisjohn, & Fekken, 1981). The reverse relation seems to be true as well. That is, the probability of the development of empathy increases in contexts where positive self-concept and feelings of competence are stimulated and decreases when such environmental stimulation is absent (Garaigordobil, 2009).

B. Lack of Empathy and Detrimental Effects

While research has established the benefits of empathy, on the other hand, low levels of empathy are correlated with negative life outcomes and behaviors, including bullying and victimization, aggression, pathology, and adult criminal behavior (Ang & Goh, 2010; Jolliffe & Farrington, 2004, 2006; Ritter et al., 2011; Shechtman, 2002; Simons, Wurtele, & Heil, 2002; Sterzer, Stadler, Poustka, & Kleinschmidt, 2007). Some studies have found that youth

with behavioral disorders, bullying, and other displays of anger and aggression tend to have lower overall empathy (de Wied, Goudena & Matthys, 2005). Findings from studies that distinguish between the two types of empathy seem to indicate that cognitive empathy is more relevant when it comes to externalizing behaviors. Jollife and Farrington (2004) found that offending, for example, was more strongly negatively correlated with cognitive empathy (d = -0.48) than affective empathy (d = -0.14). Cohen and Strayer (1996) similarly found that youth with conduct disorders had lower levels of overall empathy but that perspective-taking had a larger association with pathology. Finally, Lovett and Sheffield (2007) examined affective empathy and aggression in children and adolescents and found inconclusive evidence that affective empathy consistently predicted such behaviors. Yet another study found that youths with conduct disorder showed statistically significant correlations between perspective-taking and externalizing behaviors (Kostić, Nešić, Stanković, Žikić, & Marković, 2016). These studies are in line with other findings that some youths, such as those with Autism Spectrum Disorder, react aggressively when they lack cognitive empathy but not affective empathy (Pouw, Rieffe, Oosterveld, Huskens, & Stockmann, 2013). This pattern of association between cognitive empathy and anger and aggression seems to hold true into adulthood. Among both violent and nonviolent adults, self-reported perspective-taking was inversely correlated with self-reported reactive anger (Day, Mohr, Howells, Gerace, & Lim, 2012; Mohr, Howells, Gerace, Day, & Wharton, 2007). It is important to note, though, that there are other studies that have found other connections between cognitive empathy, affective empathy, and bullying behaviors (e.g., You, Lee, Lee, & Kim 2015). Nonetheless, most studies seem to favor a link between cognitive empathy and externalizing behaviors. Hence, it seems that interventions targeting cognitive empathy could be beneficial in

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addressing anger and aggression.

C. Youths At-Risk and Empathy

Empathy also seems to play an important role in the resilience of youths at-risk of negative life outcomes. Judith Jordan, author of Relational-Cultural Therapy, postulated that resilience, rather than being a stand-alone intrinsic set of characteristics of an individual, is fostered through connections and relationships across the life span that involve mutual empathy. Jordan coined the term "relational resilience" to refer to the resilience promoting effect of such empathetic interactions (Jordan, 2004). This theoretical lens seems to be well-supported by a variety of research studies that confirm the importance of empathy in predicting resilience. For example, Leontopoulou (2010) found that empathy and altruism could predict resilience among fifth- and sixth-grade students. In comparisons between stress-affected and stress-resilient youth, empathy has been found to be a distinguishing characteristic of resilient youth (Magnus, Cowen, Wyman, Fagen, & Work, 1999; Parker, Cowen, Work, & Wyman, 1990). Among at-risk adolescent males with a history of suspension or discipline for violence-promoting behavior, affective empathy predicted lower incidents of violent behavior (Sams & Truscott, 2004). In yet another study, it was found that empathy was a protective factor against bullying and victimization behaviors in children (Bollmer, Milich, Harris, & Maras, 2005).

Many youths at-risk present with issues related to anger and aggression. Anger is a negative feeling associated with cognitive distortions, such as hostile attributions, physiological changes, and behaviors (Kassinove, 1995). There is a significant increase in a youth's experience of negative emotions, including anger, during adolescence (Larson & Asmussen, 1991). Normally, as youths develop, their ability to regulate their emotions

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improves (Lochman, Barry, Powell, & Young, 2010). However, for those individuals who are not able to regulate their angry emotions, the consequences can be quite negative. Such youths display reactive aggression, characterized by reactions to perceived or actual threats. These youths may seem easily provoked and emotionally driven—as opposed to proactive aggression—which is used to meet a goal and is not usually associated with feelings of anger (Lochman et al., 2010). Youths with high levels of anger and aggression are also likely to display externalizing behaviors and psychopathology, including oppositional defiant disorder and conduct disorder (ODD and CD, respectively; Eisenberg et al., 2001). Both ODD and CD have been linked to future delinquency (Frick & Loney, 1999) and mental illness (Maughan, Rowe, Messer, Goodman, & Meltzer, 2004). Youths who are angry also have higher rates of internalizing behaviors, such as depression and anxiety (Eisenberg et al., 2001). Peer relations are affected as well: youths who are angry and who display aggressive behaviors are more likely to be rejected by their peers (Deater-Deckard, 2001; Thomas & Smith, 2004). Children who are angry tend to have more academic problems and are at greater risk of retention and dropping out (Risi, Gerhardstein, & Kistner, 2003).

One group of youths that might be vulnerable to not having the life relationship experiences that support the development of empathy is youths in the foster care system. Youths in foster care often experience disrupted early life care and inconsistent relationships with adults (Marx, Benoit, & Kamradt, 2003). These experiences may leave such youths vulnerable to underdeveloped relational resilience and poorer mental health outcomes. By age 21, foster care alums are more likely to have received services for mental health issues, such as substance abuse or emotional problems, to engage in high-risk sexual behaviors, to be involved in the criminal justice system, to report lower levels of life satisfaction, and to be

less optimistic about their future (Courtney et al., 2007). Further, youths in foster care tend to display high levels of distress (Narendorf, McMillen, & Oshima, 2015; Shin 2004) and higher rates of anger and aggression (English, Kouidou-Giles, & Plocke, 1994; Zima et al., 2000). Although there has been minimal research on empathy levels in foster youths, there is some evidence that children who are abused may exhibit impaired empathic responses (Feshbach, 1989). School-based interventions for foster youths are much needed as evidenced by involvement in the foster care system being associated with poorer academic outcomes, such as lower standardized test results, lower high school completion rates, increased likelihood of grade retention, a higher possibility of enrollment in special education (Burley & Halpern, 2001), and decreased likelihood of college attendance (Courtney et al., 2007), compared to those not in care. Hence, foster youths provide a good group of youths to assess an empathy-based intervention.

Another group of youths who could benefit from an empathy-based intervention is students enrolled in community or alternative schools, as such students tend to have histories of expulsion and truancy, which are associated with academic, behavioral, and psychosocial concerns, such as violence, substance use, school disconnectedness, emotional difficulties, and future delinquency (Garry, 1996; Morrison et al., 2001). Given that over 250,000 children enter the foster care system annually, an estimated 415,000 are already in the system (U.S. Department of Health and Human Services, 2014), and approximately 10,000 alternative schools in the United States serve upwards of 600,000 students (U.S. Department of Education, 2010), interventions for these youths seem well worth considering.

D. Existing Interventions for Angry/Aggressive Youth

Several interventions already exist to reduce anger and aggression in youths at-risk. Wilson and Lipsey's (2007) meta-analysis of 249 interventions found that the most common approaches involved cognitive and/or behavioral approaches, social skills training, and counseling or therapy. Cognitive approaches include Aggression Replacement Training (ART; Glick & Goldstein, 1987), Teen Anger Management Education (TAME; Feindler & Gerber, 2008), I Can Problem Solve (ICPS; Shure, 2001), and Brainpower (Hudley & Graham, 1993). These programs address children's thought distortions that might lead to detrimental attributions. Behavioral approaches, such as The Good Behavior Game (Tingstrom, Sterling-Turner, & Wilczynski, 2006), utilize contingency management in individual and group settings. The Anger Coping Program (Lochman, Curry, Dane, & Ellis, 2001) is a cognitive-behavioral approach that addresses thought distortions and aims to increase affect recognition, emotional regulation, and communication skills. Social-skills training is another common approach that is exemplified by programs such as Responding in Peaceful and Positive Ways (RIPP; Farrell, Meyer, Sullivan, & Kung, 2003; Farrell, Meyer, & White, 2001) and Peer Coping Skills Training (PCS; Prinz, Blechman, & Dumas, 1994). These programs teach children the skills necessary to interact with peers in a prosocial manner and are evaluated by observation of learned skills and/or reductions in acting-out behaviors. However, none of these existing approaches specifically targets empathy or measures empathy as an outcome, and none purport to use a positive psychological lens or strengths-based approach. In addition, some of these programs require extensive resources to implement that schools often do not have.

E. Is Empathy Malleable?

Some may question the malleability of empathy and whether focusing an intervention on empathy is warranted, but researchers have found that the hereditability of empathy and its subconstructs leaves ample room for environmental influences. Davis, Luce, and Kraus (2006) examined three facets of empathy—empathic concern (affective empathy), personal distress, and perspective-taking—in over 800 sets of identical and fraternal twins. They found that empathic concern was 28% heritable, personal distress was 32% heritable, and perspective-taking was 20% heritable, indicating that affective components of empathy are more heritable, and perhaps less affected by learning, than the cognitive component. At least one study indicated that the affective component of empathy—empathic concern and personal distress—is more heritable than the cognitive component (Davis et al., 2006). A meta-analysis conducted by Walter (2012) found that genetics accounted for 35% of variability in cognitive and affective empathy and that environmental conditions, such as lower economic circumstances or medical risks, reduced the influence of genetics. Environmental factors that seem to inhibit empathy development in children include authoritarian and neglectful parenting (Cornell & Frick, 2007; Steinberg, Blatt-Eisengart, & Cauffman, 2006), over-exposure to emotional and/or physical violence (Cohen & Strayer, 1996; Main & George, 1985; Straker & Jacobson, 1981), and being a bully (Ang & Goh, 2010; Joliffe & Farrington, 2006; Meines, van de Poll, Reijnders, & Wouters, 2012). Many youths who are considered at-risk have been exposed to such environmental influences. These findings seem to indicate a significant environmental factor in empathy development, particularly for cognitive empathy, the subconstruct most in-need of development for youths at-risk of displaying anger or aggression. The significance of environmental influences in

empathy development also justifies the development and evaluation of an empathy-based intervention for youths at-risk.

F. Existing Empathy-Based Interventions

Evidence supporting existing empathy-based interventions is scant. There is one empirically reviewed program, Roots of Empathy, whose mission is to "build caring, peaceful, and civil societies through the development of empathy in children and adults" (http://www.rootsofempathy.org/). Through monthly visits by an infant and their caregiver(s) to classrooms, Roots of Empathy aims to decrease aggression while increasing social-emotional skills and prosocial behaviors for K-8 students. Evaluations of this program have shown teacher-reported decreases in aggressive behaviors and increases in prosocial behaviors but no changes in empathy, perhaps due to the limitation of the self-report instrument used to measure empathy (Santos, Chartier, Whalen, Chateau, & Boyd, 2011; Schonert-Reichl, Smith, Zaidman-Zait, & Hertzman, 2012). Other existing programs, such as Seeds of Empathy, a social-emotional curriculum for three- to five-year-old children, which is similarly centered around infant-caregiver visits, and Start Empathy's *Toolkit for Promoting Empathy in Schools*, have not yet been evaluated. To date, none of these programs target at-risk populations specifically nor do they address the subconstruct of cognitive empathy that is most responsible for reactive aggression and negative outcomes. Thus, there is a need for further development of empathy-based interventions and evaluation of existing programs.

G. How to Increase Cognitive Empathy

Although no existing anger/aggression interventions explicitly target cognitive empathy and, in general, there is a need for more research on effective interventions for

cultivating empathy and other positive psychological constructs, there has been some research on environmental influences that increase this cognitive empathy. For example, there is evidence that role-playing has a positive and significant effect on empathy at all age levels. At the preschool level, one study found that students participating in role-playing of altruistic behaviors had the largest increases in perspective-taking compared to control conditions of observing altruistic behavior on TV and watching neutral TV programming (Ahammer & Murray, 1979). Among late elementary-age students, participation in acting classes has been correlated with higher cognitive empathy (Goldstein & Winner, 2011). Similarly, Goldstein and Winner (2012) found that role-playing in the form of acting increased cognitive empathy, and, in particular, emotion identification for high school students participating in once-a-week 90-minute acting classes after school. These findings extend to young adulthood (Goldstein, 2011; Goldstein & Wu, 2009) and even to individuals who are merely passively observing others' role-playing (Clore & Jeffery, 1972).

Longitudinal studies have found that when parents make references to feelings in ordinary conversations with young children, children's later perspective-taking and affect recognition increase (Dunn & Brown, 1994; Dunn, Brown, & Beardsall,1991; Dunn, Brown, Slomkowski, Tesla, & Youngblade, 1991; Youngblade & Dunn, 1995). This is especially effective when caregivers refer to the "why" underlying feelings (Garner, Jones, Gaddy & Rennie, 1997). Although most studies examining conversations around feelings have focused on younger children, Bosacki (2013) found similar results with 8- to 12-year-olds and Bohanek, Marin, and Fivush (2008) found that preteens whose family conversations referred to feelings showed improved emotional and behavioral adjustment.

Parenting techniques seem to have a significant impact on children's development of

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cognitive empathy as well. In particular, induction, when a parent refers to the other's perspective, points out their distress, and clarifies that the child's action caused this distress promotes perspective-taking (Hoffman, 2000; Krevans & Gibbs, 1996). Perspective-taking also increases when parents use distancing, in which caregivers question and challenge the child's viewpoint (versus explicitly explaining logic as in induction), thereby promoting consideration of alternative explanations (Peterson & Skevington, 1988). In regard to framing perspective-taking questions, Batson, Early, and Salvarani (1997) found that asking individuals to imagine how others feel was more effective at inducing empathy and reducing personal distress than asking them to imagine how they themselves would feel in the others' situation, which did indeed induce empathy but also induced personal distress.

While research is needed on gratitude interventions and their impact on empathy, there is evidence linking gratitude and empathy (McCullough, Emmons, & Tsang, 2002), gratitude and lower levels of aggression with empathy as a mediator (DeWall, Lambert, Pond, Kashdan, & Fincham, 2012), and gratitude and prosocial behaviors (Grant & Gino, 2010). Some argue that gratitude in and of itself necessitates empathy, as stepping into another's shoes to recognize their contribution is a prerequisite to feeling gratitude (Lazarus & Lazarus, 1994). Gratitude is also a positive emotion that, as Fredrickson (2004, p. 149) argues, broadens and builds personal assets such as empathy by increasing an individual's willingness to consider other perspectives. Additionally, there appears to be a correlation between gratitude and decreased personal distress (Shoshani & Steinmetz, 2014; Uman, Chambers, McGrath, & Kisely, 2008). Hence, gratitude may have a double-effect of both increasing empathy and providing protection against overstressing the empathic response system.

Lastly, there is some preliminary evidence that mindfulness is associated with higher cognitive empathy levels. Mindfulness activities are intentional, in the present moment, and nonjudgmental (Bishop et al., 2004). Mindfulness interventions have been shown to increase empathic accuracy, the ability to infer mental states from facial expressions, a foundation to cognitive empathy (Mascaro, Rilling, Negi, & Raison, 2012). Shapiro, Schwartz, and Bonner's (1998) study supports the assertion that mindfulness increases both affective and cognitive components of empathy, although some studies also show only a positive impact on cognitive empathy (Birnie, Speca, & Carlson, 2010). In youths, there is support for mindfulness having a positive impact on empathy overall (Schonert-Reichl & Lawlor, 2010; Schonert-Reichl et al., 2015) as well as for reducing personal distress (Coholic, Eys, & Lougheed, 2012; Himelstein, Hastings, Shapiro, & Heery, 2012). Such results extend even to younger preschool age children (Flook, Goldberg, Pinger, & Davidson, 2015).

H. The HEROES Project

The Harnessing Empathy Results in Opportunities for Everyday Success (HEROES; http://theHEROESProject.wix.com/HEROES) Project was created for this study based on the existing research on how to cultivate cognitive empathy in youths. The curriculum, consisting of activities lasting 5 to 15 minutes each, focuses on feelings identification, role-playing, the use of induction and distancing to consider alternative perspectives, management of personal distress through mindfulness, and gratitude, all tasks that have been linked with increases in empathy in youths. HEROES is a small group 8-week intervention, and it is the only existing empathy-based intervention intended for youths who are at-risk. The activities are intended to be highly-engaging and require minimal resources (Fullchange, 2016). In addition to activities that specifically target empathy, best practices related to running group

interventions were incorporated, such as voluntary participation and goal-setting activities (Smead, 1995, p. 18).

Evidence from a preliminary study with five students showed large effect sizes for increased empathy, increased prosocial behaviors, decreased anger and aggression, and decreased office disciplinary referrals; hence, this study was a logical step in determining whether there was more robust support for the effectiveness of HEROES. For this study, a six-hour training was also created and facilitated by the author of HEROES (https://prezi.com/flrvejkt_for/the-heroes-project/). Topics covered by the training include psychoeducation on the theoretical foundations of empathy, the specific role of cognitive empathy in anger and aggression, foundations of running effective group interventions, and practice with running the HEROES activities.

A school setting was chosen for this intervention because empathy seems to have a domino-like effect. That is, there is evidence that someone who is a recipient of an empathy-driven action will themselves tend to also display empathy toward others (van Baaren, Decety, Dijksterhuis, van der Leij, & van Leeuwen, 2009). Having an empathy-based intervention within the context of a school, where there are abundant opportunities to "pass it forward," may have the potential to not only address problematic behaviors for participating students but to create a positive cascade that can impact a school's overall culture, potentially improving both social-emotional functioning and academic performance for all children.

It is important to note that some research has pointed to iatrogenic effects of grouping antisocial youths together such that youths involved in interventions to address negative behaviors display more deviant behaviors after participation than controls (Dishion, McCord, & Poulin, 1999). A meta-analysis of delinquency treatment studies found that 29% of

interventions showed iatrogenic impacts, as evidenced by negative effect sizes post-intervention (Lipsey, 1992). Reasons for iatrogenic effects include the false consensus bias, competition, and deviancy training. The false consensus bias refers to the tendency of individuals who engage in a specific behavior to assume an overrepresentation of a similar behavior in peers. For example, a youth who believes that most of their peers are doing drugs may attend a party and gravitate toward those who are inclined to engage in substance use because the youth wants to fit in with this perceived social norm (Prinstein & Wang, 2005). Another proposed reason for iatrogenic effects is competition amongst youths for respect and attention. In school or community contexts where displays of aggression may be helpful in defending against threats, antisocial behaviors may serve an effective mechanism for earning the respect of peers (Warren, Schoppelrey, Moberg, & McDonald, 2005). Dishion and colleagues (1999) also refer to deviancy training as a possible mechanism for the iatrogenic effects of interventions. That is, deviant peers, when grouped together, may provide positive reinforcement through verbal and non-verbal means for continuing deviant behaviors, overriding reinforcements provided by the intervention for prosocial behaviors.

Despite the concern around iatrogenic effects, Weiss and colleagues (2005) argue that there is not substantial evidence to support this phenomenon and that iatrogenic effects are more a result of classroom, school, and community dynamics than group intervention dynamics. Further, their examination of meta-analyses previously cited as suggesting iatrogenic effects showed that "the likelihood of a study producing a negative effect size was actually significantly smaller for studies that involved a peer group component" (p. 1040). Nonetheless, empirical analysis also revealed that the greatest likelihood of iatrogenic effects occurs at age 11 and that iatrogenic effects have occurred in some studies. Preventative

factors to reduce iatrogenic effects include participants having a strong relationship with group facilitators, organizing intervention sessions to minimize unstructured interactions between peers, and providing positive reinforcement of prosocial behaviors that can override any positive reinforcement for deviant behaviors (Dishion, Poulin, & Burraston, 2001). These suggestions were taken into consideration in the development of the HEROES curriculum, as is further described in the procedures section.

II. THE CURRENT STUDY

A. Research Questions and Hypotheses

The present study explored whether HEROES decreases negative social-emotional outcomes and builds positive social-emotional assets. Specifically, this study aimed to address how HEROES would impact positive psychological constructs as well as negative psychological constructs. Research questions and hypotheses follow:

Question 1a: What is the effect of HEROES on students' empathy levels (cognitive empathy, affective empathy, and the closely related construct of personal distress)? *Hypothesis 1a:* Affective empathy was hypothesized to remain stable and cognitive empathy to increase. However, given the interrelated nature of cognitive and affective empathy, it is possible that both constructs would increase despite only one being the target of intervention. Personal distress was predicted to either remain the same or even increase, since some of the intervention activities might increase students' awareness of their distressing thoughts beyond the distress-mitigating effects of other activities such as mindfulness and gratitude. That is, personal distress was not expected to increase; rather, personal distress awareness was anticipated to possibly increase and would be reflected in the empathy measure.

Question 1b: What is the effect of HEROES on students' positive school experiences?

Hypothesis 1b: It was anticipated that students' experiences of school would improve because of the empathy intervention, since the intervention would decrease their expression of anger, which in turn would decrease conflicts with teachers and peers, and result in an overall more pleasant experience of school.

Question 1c: What is the effect of HEROES on students' prosocial behavior?

Hypothesis 1c: It was expected that prosocial behaviors would increase, since there is strong evidence for a correlation between empathy and prosocial behaviors (Eisenberg & Miller, 1987).

Question 2a: What effect does the intervention have on students' self-perceived anger?

Hypothesis 2a: Like distress, it was hypothesized that this measure might reflect an increase due to increased self-awareness of one's anger-related thoughts, feelings, and behaviors.

Question 2b: What effect does the intervention have on students' teacher-reported aggressive behaviors?

Hypothesis 2b: Aggression was expected to decrease, as is in line with a decrease in destructive expression of anger as mentioned above.

B. Method

1. Setting

Participants were from six high schools and two counties in the central coast area of Southern California. Santa Barbara County's population has a median household income of

$63,409, while Ventura County's is $77,335 (www.census.gov/quickfacts). Both Santa Barbara's and Ventura County's schools have a diverse student body. The Ventura County Office of Education, which oversees the alternative school included in this study, has a student enrollment consisting of 46% White, 46% Hispanic or Latino, 3% Asian or Pacific Islander, 2% African American, 3% two or more races, and <1% American Indian or Alaska Native, with 46% of students qualifying for free and reduced-price lunches (http://www.ed-data.org). In Santa Barbara County, the researcher partnered with Fighting Back Santa Maria Valley (FBSMV; http://www.fbsmv.com), a nonprofit organization that serves youths in foster care and aims to promote resilience and create healthy and safe environments for youths and families. The Santa Maria-Bonita School District has a student population with the following demographics: 94% Hispanic or Latino, 3% White, 2 % Asian or Pacific Islander, <1% African American, <1% American Indian or Alaska Native, and <1% two or more races, with 87% of students eligible for free and reduced-price lunches.

2. Participants

For this study, 26 students participated in the HEROES Project, with 15 students randomly assigned to the experimental condition and 11 to the waitlist control condition. In the experimental group, 11 students were from foster care and four from the alternative school setting. In the control group, eight students were from foster care, with the remaining three students from the community school. Six students were in ninth grade, seven in tenth, seven in eleventh, and five in twelfth; one declined to state. Sixty-five percent of students identified as Hispanic/Latino, 15% White, and 15% mixed or two or more races (one student declined to state). Forty-two percent of participants were female and 58% were male.

3. Measures

Empathy. Empathy was measured via self-report using 21 items from three subscales of the Interpersonal Reactivity Index (IRI; Davis, 1983)—Empathic Concern (affective empathy), Perspective-Taking (cognitive empathy), and Personal Distress. A fourth subscale, the Fantasy scale, was omitted from this study as it does not have empirical evidence linking it to other aspects of empathy or behavioral changes. Each subscale consists of seven items, rated on a Likert scale from 0 (*does not describe me well*) to 4 (*describes me very well*). The Empathic Concern subscale includes items such as, "When I see someone being taken advantage of, I feel kind of protective towards them." The Perspective-Taking subscale includes items such as, "When I'm upset at someone, I usually try to 'put myself in his shoes' for a while." The Personal Distress subscale includes items such as, "I sometimes feel helpless when I am in the middle of a very emotional situation." Scoring consists of adding up totals for each subscale, except for reverse coded items.

The original version of the scale has adequate internal consistency and reliability, with Cronbach's alpha ranging between .70 and .78 and test-retest reliability ranging between .61 and .81 with elapsed times ranging from 60 to 75 days between administrations (Davis, 1980). Although originally validated with adults, the IRI has also been previously used in adolescent populations with reliabilities ranging from .67 to .91 (Barr & Higgins-D'Alessandro, 2007; Carrasco, Delgado, Barbero, Holgado, & del Barrio, 2011; Eisenberg, Carlo, Murphy, & Court, 1995; Hawk et al., 2013). The validity of the IRI among youths has also been confirmed with expected correlations with other empathy scales (Schonert-Reichl, 1993). In the present study, internal consistency ranged from poor to good. Specifically, Cronbach's alpha was .84 for Empathic Concern, .72 for Perspective-Taking, and less than

.60 for Personal Distress. Due to the low reliability of the Personal Distress measure, this subscale was not used in analyses.

Positive school experiences. Students' perception of positive school experiences was measured using the Student Subjective Well-Being Questionnaire (SSWQ), a 16-item self-report survey with adequate internal consistency and reliability (Cronbach's alpha above .70; Renshaw, Long, & Cook, 2014). Students rate each statement on a frequency scale from 1 (*almost never*) to 4 (*almost always*). Examples of items include, "I get excited about learning new things in class," "I feel like I belong at this school," "I feel like the things I do at school are important," and "I am a successful student." Scoring consists of adding totals of all items, which yields a student subjective well-being score. The SSWQ shows concurrent validity as evidenced by expected correlations with prosociality, academic perseverance, and endorsement of risk factors (Renshaw et al., 2014). In the current study, internal consistency was adequate for the scale overall (Cronbach's alpha .88).

Prosocial behaviors. Prosocial behaviors were measured by the eight-item Prosocial Behavior subscale of the Social Competence Scale (Corrigan, 2003; www.fasttrackproject.org/techrept/s/sct/sct.pdf). The teacher-report scale has good internal consistency; Cronbach's alpha is .92 and above (Corrigan, 2003). This scale has been normed on middle school students but not on older adolescents. There are a variety of scales available for prosocial behavior in adolescents (Carlo, Hausmann, Christiansen, & Randall, 2003; Midlarksy, Hannah, & Corley, 1995), but these scales are based on self, not teacher, report. Hence, given the need for and limited number of measures available for teacher-reported prosocial behaviors, the Social Competence scale was chosen for this study. The Social Competence Scale asks teachers to rate how statements describe students on a five-choice

Likert scale ranging from 0 (*not at all*) to 4 (*very well*) on items such as "Resolves peer problems on his/her own." Scoring involves totaling these numerical responses. The Social Competence Scale has been shown to have concurrent validity with social skills, emotion regulation, peer relations, and problem behaviors in young children (Gouley, Brotman, Huang, & Shrout, 2008). In the present study, Cronbach's alpha was excellent (.92).

Anger. Anger was measured using the Multidimensional School Anger Inventory (MSAI; Furlong et al., 2013), a psychometrically-validated self-report measure of anger for adolescents in school settings. An abbreviated version of this measure, the 12-item MSAI-12 (www.michaelfurlong.info/msai/msai-forms/msai12-2010-version-final.pdf), was used to avoid excessively testing students. Examples of items include, "You get sent to the principal's office when other students are acting worse than you are," "Rules at school are stupid," and "When I'm mad, I break things." Some items such as, "I talk it over with another person when I'm upset" are reverse coded. Students rate items from 1 to 4, with 1 responses representing *never*, *I would not be mad at all*, or *strongly disagree*, depending on the item, and 4 responses representing *always, I would be furious*, or *strongly agree*, depending on the item. Cronbach's alphas are all above .78 (Furlong, Smith, & Bates, 2002). There is evidence supporting the validity of MSAI, with expected correlations with measures of aggression (Smith, Furlong, Bates, & Laughlin, 1998). For the present study, internal consistency was adequate for the overall scale (Cronbach's alpha .79).

Aggression. Aggression was measured by the six-item Teacher Checklist (Dahlberg, Toal, Swahn, & Behrens, 2005; www.cdc.gov/violenceprevention/pdf/YV_Compendium.pdf), originally developed by Dodge and Coie (1987) and modified to be used by teachers to measure perceived reactive

and proactive aggression of students ranging from 4 to 18 years-old. Questions include, "When this child has been teased or threatened, he or she gets angry easily and strikes back" and "This child gets other kids to gang up on a peer that he or she does not like." Teachers rate students' behavior on a Likert scale ranging from 0 to 4, *this situation is <u>never true</u> for this child* to *this situation is <u>almost always true</u> for this child*. It has good internal consistency; Cronbach's alpha was at least .90 in previous studies (Corrigan, 2003). Convergent validity was confirmed using direct behavioral observations (Dodge & Coie, 1987). For this study, internal consistency was excellent, Cronbach's alpha .92, for the overall scale.

Interviews. In addition to the above-mentioned quantitative measures, further data were collected via semistructured interviews in order to explore the active ingredients of HEROES had an impact on students. The two students with the largest increases and the two students who showed the largest decreases in a combination of affective and cognitive empathy were interviewed and given the following interview prompts:

1. Give a brief summary of what you did in HEROES.

2. How has HEROES changed you, if at all?

3. What did you like about HEROES, if anything?

4. What did you dislike about HEROES, if anything?

Fidelity checks. All four facilitators were asked to complete an online survey indicating which activities were done for each of the eight weekly sessions. Facilitators were also welcome to add any additional activities that may have been done outside of the HEROES protocol.

4. Procedures

An experimental pretest-posttest design was used, with students attending the same school randomly assigned, as best as possible, to either an intervention or waitlist control condition. Students who specifically requested that a fellow student not participate in the group with them, due to a history of negative interactions, were separated such that one participant would be in the experimental group and another in the control group; this occurred for six students total. This decision was made given the applied context of the intervention, best practices in psychotherapeutic groups, and ethical standards to protect the well-being of participants. In the intervention condition, trained staff facilitated small group interventions using the HEROES curriculum with 3-4 students at a time. Staff were trained by the researcher and creator of the HEROES curriculum via a six-hour workshop and follow-up email support. Students in the control condition received treatment as usual, which could include school-based case management services, mentoring, or no services at all. Informed consent was obtained for all students 18 or over and from students' parents/guardians for those who were under 18 years of age; additionally, informed assent was obtained for all students in both conditions. Total, four schools serving youths in foster care participated in HEROES. There were four facilitators, three of whom worked with youths in foster care at their corresponding participating schools, while the fourth facilitator, and primary investigator, was at a community school.

Student recruitment. A total of 80 students at participating schools were given the following description of the HEROES Project:

You're not in trouble. I'm here because your counselor/teacher thought you might be interested in a new program that's starting up. It's called the HEROES Project. It's

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for students who want to do well in school and want to be successful. The HEROES

Project is about helping students do better in school and be able to overcome

whatever obstacles might be getting in their way. The meet-ups happen once a week

on campus. There are up to eight other students who you would be with, at the same

or similar grade level as you. They would also all want to do better in school and they

would be dealing with similar kinds of issues as you. Also, it's confidential, so it

doesn't show up on your record and no one would know that you were in it.

Everything that's said in the groups is confidential. Does this sound like something

you're interested in?

Students who expressed interest were given parent/guardian consent forms to be returned to

facilitators or school staff; this included all students in foster care and seven students enrolled

at the alternative school. Facilitators working with youths in foster care gave students

information about HEROES in a small group or one-on-one format. The facilitator at the

community school gave students information about HEROES in a whole-class format. At the

community school, school staff also spoke with specific individual students whom they

thought could particularly benefit from HEROES because of behavioral difficulties; these

students were also given the option of voluntary participation. All youths in foster care who

were spoken to about HEROES obtained informed consent from their parent/guardian and

participated in the program. Note that these foster youths had prior relationships with case

managers as part of participation in normal programming. All 61 students enrolled at the

community school were informed of the program, as each class received the aforementioned

description of HEROES. Eight students at the community school obtained informed consent

from their parent/guardian. All students who started the program also ended the program,

with the exception of two students in the community school who stayed in HEROES for six weeks instead of the full eight weeks, because they graduated prior to the end date of HEROES. All schools served a low-income, predominantly Hispanic population of youths who could be considered "at-risk" based on factors, such as a history of poor school performance, disruptions to family life, and/or behavioral problems at school. Inclusionary criteria were student interest in participation and exclusionary criteria were active suicidality, homicidality, or psychosis, as determined by school staff input. No students were identified as meeting exclusionary criteria. There were two participants, both twelfth graders, who participated in only six weeks of the eight-week intervention due to graduating from the alternative school during the intervention. For these two students, post-intervention data were collected at the end of six weeks rather than, as for everyone else, at the end of eight weeks. All other participants were part of HEROES for the full eight-week duration.

Intervention procedures. The intervention used, the HEROES (Harnessing Empathy Results in Opportunities for Everyday Solutions) Project is an evidence-informed intervention based on research in facilitating group counseling, including the use of group agreements, goal setting, check-ins, problem-solving, and closing (Smead, 1995). In addition to these, activities that prior research has shown increase cognitive empathy-inducing were included. Research findings about empathy development were adapted by the primary investigator in order to better fit the real-world context of a group intervention within public schools. The activities were designed to be practical, using minimal materials and each requiring between 5 and 15 minutes. They were also designed to be engaging so that students would be motivated to participate and, hence, most benefit from the intervention. A summary of the activities used in HEROES follows.

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Various activities that incorporate the basic principles of **mindfulness** (intentionality, present moment, being nonjudgmental; Bishop et al., 2004) were included in the curriculum, as mindfulness has been shown to increase empathy overall (Schonert-Reichl & Lawlor, 2010; Schonert-Reichl et al., 2015; Shapiro et al., 1998), in particular cognitive empathy (Birnie et al., 2010), as well as decrease personal distress (Coholic et al., 2012; Himelstein et al., 2012). For example, students could be asked to intentionally bring attention and nonjudgmental acceptance to various sensations, including their breath, sounds, thoughts, and physical sensations across their body. In addition to the scripted activities provided in the curriculum, included were links to additional resources for mindfulness activities, such as the University of California, Los Angeles' Mindful Awareness Research Center (MARC; http://marc.ucla.edu/body.cfm?id=22).

The **Feelings Lottery** activity is based on research showing that referring to feelings in the context of everyday situations increases perspective-taking (Bohanek et al., 2008). In this activity, given an envelope filled with pieces of papers with a variety of feelings, students each pick one feeling word randomly. Each student then describes a time or situation when they felt this emotion and/or where they felt that emotion in their body. If the student is not familiar with the feeling word, other group members or the facilitator explain to the student what the feeling word means and/or give an example from their own lives of the identified feeling, then return to the original student who provides their own example.

The **Maybe Game** is based on research showing that caregivers who use induction and distancing tend to rear children with greater perspective-taking skills (Hoffman, 2000; Krevans & Gibbs, 1996; Peterson & Skevington, 1988). The Maybe Game sets up scenarios that allow the facilitator as well as participants to use both induction and distancing. Given an

ambiguous situation, students practice imagining each character's feelings and thoughts and take turns completing the sentence starter "Maybe…" to describe characters' potential feelings and thoughts. There is a competitive element to this game in that students are informed that their goal is to come up with as many pairs of feelings and motivations in as short a time as possible. This is simply to increase student engagement and motivation to do the activity. With each subsequent ambiguous situation, students are challenged to come up with more feelings and thoughts than the previous time. Additionally, as sessions progress, the ambiguous situations become similar to those students may have actually experienced in the school setting. The facilitator uses the techniques of induction and distancing to challenge students to explore a wide range of potential feelings and motivations.

Walk A Mile in Someone Else's Shoes, as well as the following one, **Drama Time**, are based on the research linking role-playing with perspective-taking (Goldstein & Winner, 2012). Given a verbal and written description of a fictitious character, students write about the character's day from their perspective, focusing on feelings, behaviors, and motivations of the character. In dyads or the whole group, students introduce themselves in character. As sessions progress, the characters become similar to individuals whom students may have had difficulty with in the school setting.

In **Drama Time,** given an ambiguous situation and a character, students identify the feelings and thoughts of their character. They then role-play their character, with the aim of conveying the feelings and thoughts of their character effectively enough such that the remaining group members, as observing audience members, can successfully identify each character's feelings and motivations themselves. If audience members are unable to

successfully identify all the feelings and thoughts of the portrayed character, the actors can give audience members a hint by referring to parts of the scene played out.

Recent research has shown that gratitude can be powerful in increasing children's empathic capacity potentially through the practice of perspective-taking to recognize the positive contribution of another (Lazarus & Lazarus, 1994). **Shout Outs** provides an opportunity for participants to express gratitude toward each other. In this activity, the facilitator informs participants that they have an opportunity to acknowledge each other for doing something that was productive or helpful during the session. The facilitator models this using a sentence frame, "I want to give a shout out to (name of individual) for (observable behavior), because (description of how person's behavior had a positive impact)." For example, the facilitator might say, "I want to give a shout out to Hector for coming in on time today, because it really helped me and the group to start smoothly and calmly. Thanks, Hector." Participants are then invited to also give shout outs to other group members.

In the first session, participants introduce themselves to one another and fill out pre-intervention questionnaires. The facilitator then guides students to come up with group agreements and norms to facilitate confidentiality and psychological safety. Next, participants reflect on and share their goals for HEROES. The first session concludes with Shout Outs. Subsequent sessions follow a similar format, beginning with a mindfulness activity, followed by a check-in with each member taking turns to share what has gone well and what could have gone better this past week, followed by Feelings Lottery and possibly other empathy-inducing activities, and ending with Shout Outs. A weekly timeline summarizing each week's activities follows in Table 1:

Table 1

Weekly Timeline of Activities

Week	Activities
1	1) Introductions 2) Pre-assessment administration 3) Group agreements and norms 4) Goal setting 5) Shout Outs
2	1) Mindfulness 2) Check-in 3) Feelings Lottery 4) Shout Outs
3	1) Mindfulness 2) Check-in 3) Feelings Lottery 4) The Maybe Game 5) Solve a Problem (if time permits) 5) Shout Outs
4	1) Mindfulness 2) Check-in, including students' self-assessment of progress toward goals 3) Feelings Lottery 4) The Maybe Game 5) Solve a Problem (if time permits) 5) Shout Outs
5	1) Mindfulness 2) Check-in, including students' self-assessment of progress toward goals 3) Feelings Lottery 4) The Maybe Game 5) Walk A Mile in Someone Else's Shoes 6) Solve a Problem (if time permits) 7) Shout Outs
6 through 8	1) Mindfulness 2) Check-in 3) Feelings Lottery 4) The Maybe Game 5) Walk A Mile in Someone Else's Shoes *or* Drama Time 6) Solve a Problem (if time permits) 7) Shout Outs

Iatrogenic effects. Iatrogenic effects are important to address for this intervention, as it involves grouping participants together who exhibit undesired behaviors. One way in which HEROES attempts to address and prevent iatrogenic effects is by maintaining strong relationships with group facilitators (Dishion et al., 2001). This was done first by asking only for voluntary participation by students. The intrinsic interest of the participants was intended to help lay a positive foundation for the relationship with the facilitators. Further, HEROES facilitators were trained by the primary investigator on the importance of responding empathically to students. Training emphasized the impact of adults' empathic responsiveness on students' empathy development (van Baaren et al., 2009). Another way in which iatrogenic effects were addressed was through the use of highly structured intervention activities (Dishion et al., 2001), which minimized unstructured time and the potential for interactions between peers that would encourage undesirable behaviors. And, lastly,

facilitators practiced during training how to use the Shout Outs activity to provide positive

reinforcement for prosocial behaviors shown in session (Dishion et al., 2001).

The primary researcher trained three staff members at FBSMV, all case managers

with an assigned caseload of youths in foster care, through a one-day, six-hour workshop to

implement the HEROES curriculum and facilitate groups. Follow-up consultation by phone

and in-person was provided. Facilitators were asked to complete a fidelity check at the end of

each session.

C. Results - Preliminary Analyses

1. Descriptive Data and Baseline Comparisons.

Table 3 shows the means and standard deviations of all measured constructs at

baseline. At pre-intervention, there were no significant differences found between control

and intervention groups.

Table 2

Baseline Differences Comparing Experimental to Control Group

Pre-Intervention Variable		Statistic	$df1$	$df2$	p
Cognitive Empathy	Welch	.62	1	22.39	.44
	Brown-Forsythe	.62	1	22.39	.44
Affective Empathy	Welch	.54	1	16.49	.47
	Brown-Forsythe	.54	1	16.49	.47
Positive School Experiences	Welch	.25	1	23.99	.62
	Brown-Forsythe	.25	1	23.99	.62
Prosocial Behavior	Welch	.36	1	4.40	.58
	Brown-Forsythe	.36	1	4.40	.58
Anger	Welch	.63	1	23.39	.44
	Brown-Forsythe	.63	1	23.39	.44
Aggression	Welch	1.60	1	4.05	.27
	Brown-Forsythe	1.60	1	4.05	.27

Given the small sample size, which may have masked extraneous influences on measured variables, an ANCOVA was chosen as the main analysis to control for differences of outcome variables at baseline. Table 3 also shows descriptive data at posttest for both intervention and control groups.

Table 3

Pretest and Posttest Variables Means and Standard Deviations for Intervention and Control Groups

	Intervention				Control			
	Pretest		Posttest		Pretest		Posttest	
	M	SD	M	SD	M	SD	M	SD
Cognitive Empathy	15.40	4.77	16.11	5.67	19.67	2.31	16.27	5.00
Affective Empathy	15.20	3.42	20.27	5.06	14.67	11.02	16.45	7.20
Positive School Experiences	37.60	3.05	46.67	8.40	45.00	3.46	43.27	8.33
Prosocial Behavior	18.66	3.70	20.43	6.99	21.72	5.84	21.29	5.74
Anger	29.23	5.85	29.60	6.34	27.55	4.97	27.00	4.34
Aggression	5.65	1.63	3.02	3.27	8.29	3.84	4.45	4.50

2. Power analysis.

A power analysis was conducted to detect a large effect size ($F = .40$) at a statistical significance level of .05 for a sample size of 26 total participants using G*Power 3 (Faul, Erdfelder, & Buchner, 2007). The estimated power given these parameters was .10. This preliminary analysis emphasizes the underpowered nature of this study and, therefore, the importance of including effect sizes as a valid measure of the effectiveness of the HEROES intervention. The use of effect sizes has been supported by scholars who point to the utility of effect sizes given their non-scale dependent, non-sample-size dependent properties and, hence, their potential for practical and clinical implications (Hojat & Xu, 2004; Johnson, 1999; Nakagawa & Cuthill, 2007; Schmidt, 1996).

3. Intervention implementation.

Six group leaders attended a six-hour workshop in October 2015 and began implementation in January 2016. Engagement was high as indicated by group leaders' post-workshop ratings: all group leaders indicated 5s on a scale of 1 to 5, with 5 being *agree* and 1 being *disagree*, that they understood the workshop objectives, that the content was well-organized, that the difficulty level was appropriate, that they were engaged in activities, that the activities gave sufficient practice and feedback, and that workshop was useful. The primary investigator consulted with group leaders on an as-needed basis by email and phone; this amounted to three in-person interactions, two phone/videoconference calls, and over 150 email exchanges. Over 75% of interactions with facilitators were related to logistics, such as getting questionnaires back from teachers in order to facilitate the evaluation of HEROES. All four participating facilitators completed all eight weeks of the HEROES curriculum. An average of 76% of activities within the curriculum were completed, with the three facilitators completing 53%, 75%, 76%, and 100% of activities. Lack of a practical method for the HEROES primary investigator to be on site and consulting with group leaders in-person may have contributed to the less-than-optimal implementation fidelity for some individuals, as is elaborated on in the discussion section. However, the fact that the primary investigator completed all activities lends viability to HEROES being completed with increased fidelity in the future given enough resources, such as increased opportunities for professional development and supervision of facilitators.

D. Results—Main Analyses

To use an ANCOVA, assumptions for outliers, univariate normality, independence of the treatment variable and covariates, homogeneity of variance-covariance, and homogeneity

of regression were examined. There were two outliers for pre-intervention affective empathy and one for pre-intervention aggression. Outliers in covariates can make a substantial difference in ANCOVA; hence, these outliers in pre-intervention data were deleted.

Assumptions of univariate normality were met based on visual inspection of histograms as well as examination of skewness and kurtosis values, which were all within -2 and +2 and -5 and +5, respectively (Kendall & Stuart, 1958; see Table 4).

Table 4

Skewness and Kurtosis Values Pre- and Post-Intervention

Variable		Skewness	Std. Error	Kurtosis	Std. Error
Pretest	Cognitive Empathy	-.35	.46	-.58	.89
	Affective Empathy	-.18	.46	.35	.89
	Personal Distress	-.53	.75	-1.28	1.48
	Positive School Experiences	.26	.75	-.91	1.48
	Prosocial Behaviors	.24	.75	.44	1.48
	Anger	.49	.46	.61	.89
	Aggression	-.02	.75	-1.48	1.48
Posttest	Cognitive Empathy	-.59	.46	.60	.89
	Affective Empathy	-.57	.46	.95	.89
	Personal Distress	.27	.46	-.11	.89
	Positive School Experiences	.71	.46	-.15	.89
	Prosocial Behaviors	.68	.58	-.65	1.12
	Anger	1.83	.46	4.63	.89
	Aggression	1.37	.55	1.45	1.06

Further, the independence of the treatment variable and covariates was tested by running ANOVAs with the pre-intervention constructs as the outcome and grouping, experimental or control, as the predictor. There were no significant differences on any of the variables, indicating that this assumption was met (see Table 5).

Table 5

Tests for Independence of Treatment Variables and Covariates

Covariate (Pre-Intervention)	F	p
Cognitive Empathy	0.14	.50
Affective Empathy	1.48	.24
Personal Distress	3.01	.10
Positive School Experiences	.16	.69
Prosocial Behaviors	.05	.83
Anger	.01	.95
Aggression	.31	.62

The assumptions of homogeneity of variance-covariance matrices and multicollinearity were met for all variables (see Table 6 below) with the following exception: pretest cognitive empathy, Levene's statistic = 7.10, *df1* 1, *df2* 24, *p* = .01. A Welch Test was used in the main analysis to account for this violation to homogeneity of variance-covariance in the pretest data. Homogeneity of regression was tested for as well. All interaction variables were nonsignificant, indicating that this assumption was met. Although this study examined six outcome variables in the same population, no Bonferroni corrections were made to *p*-values as such an adjustment would increase the likelihood of Type II errors. Given that this is a pilot study of an intervention that has never before been evaluated, such corrections would have potentially resulted in important differences being incorrectly identified as non-significant. Further, Bonferroni corrections are less suitable when there are a priori hypotheses specified (Perneger, 1998), as is the case with this study.

Table 6

Homogeneity of Variance-Covariance for Pre- and Post-Intervention Variables

Variable		Levene Statistic	*df*1	*df*2	*p*
Pretest	Cognitive Empathy	7.10	1	24	.014
	Affective Empathy	1.31	1	24	.263
	Personal Distress	.12	1	24	.728
	Positive School Experiences	1.26	1	24	.273
	Prosocial Behaviors	.37	1	24	.550
	Anger	.04	1	24	.847
	Aggression	1.86	0	3	.221
Posttest	Cognitive Empathy	.00	1	24	.949
	Affective Empathy	.69	1	24	.415
	Personal Distress	.38	1	24	.545
	Positive School Experiences	.25	1	24	.624
	Prosocial Behaviors	.98	1	24	.333
	Anger	1.19	1	24	.287
	Aggression	.29	1	5	.478

Hence, an ANCOVA using SPSS 22 was carried out with the independent variable being a categorical variable consisting of either being part of the experimental group as a participant in HEROES or being part of the waitlist control group and receiving treatment as usual. Effect sizes were also calculated between intervention and control groups. Effect sizes were considered pertinent to this study given the study's low power. Specifically, partial eta-squared values were examined and guidelines of .01 for small effects, .06 for medium effects, and .14 for large effects were used (Field, 2013, p. 474)

1. Positive psychological outcomes.

Empathy. An ANCOVA was carried out to compare the effect of HEROES on intervention versus control groups on the following dependent variables: cognitive empathy and affective empathy, controlling for baseline levels of each construct. Although personal

distress was measured, this construct was not included in the main analyses given the low reliability of the items measuring this subconstruct in this study. For cognitive empathy, the covariate of baseline levels of cognitive empathy was significantly related to post-intervention cognitive empathy levels, $F(1, 23) = 7.69$, $p = .01$, $r = .50$. There was a large effect size seen for cognitive empathy, although results were not statistically significant, on post-intervention cognitive empathy levels after controlling for baseline levels of cognitive empathy, $F(1, 23) = .10$, $p = .75$, partial $\eta^2 = .25$. That is, HEROES had a large effect on cognitive empathy levels such that the intervention group improved their cognitive empathy, whereas the control group's cognitive empathy levels appeared to decrease (see Figures 1 and 2).
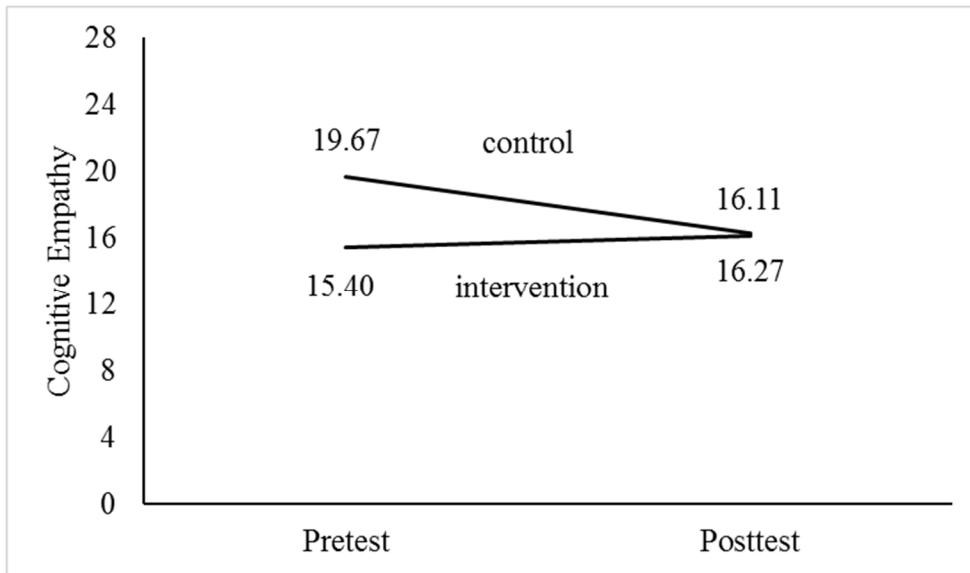

Figure 1. Pretest and posttest cognitive empathy for intervention and control groups.
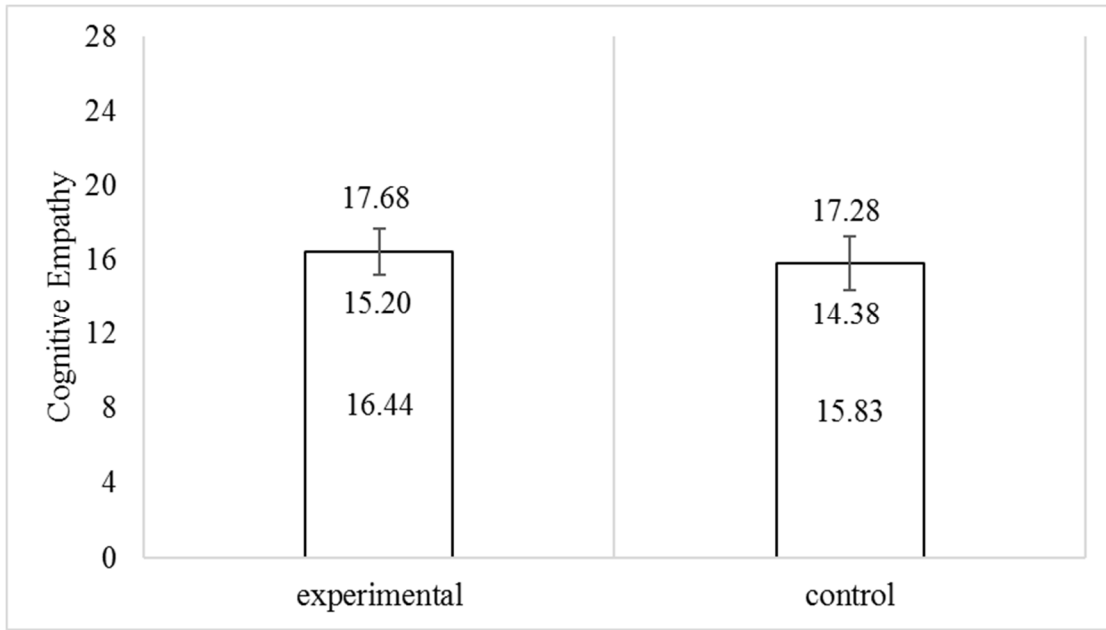
Figure 2. Adjusted mean values for cognitive empathy controlling for baseline levels.

For affective empathy, baseline levels were significantly related to post-intervention levels, $F(1, 21) = 7.78$, $p = .01$, $r = .52$. After controlling for pre-intervention levels of affective empathy, there was a significant effect of HEROES on post-intervention affective empathy levels, $F(1, 23) = 5.09$, $p = .04$, partial $\eta^2 = .20$. Participating in HEROES resulted in a large and statistically significant improvement in affective empathy, whereas the control group's affective empathy levels appeared to stay relatively flat (see Figures 3 and 4).
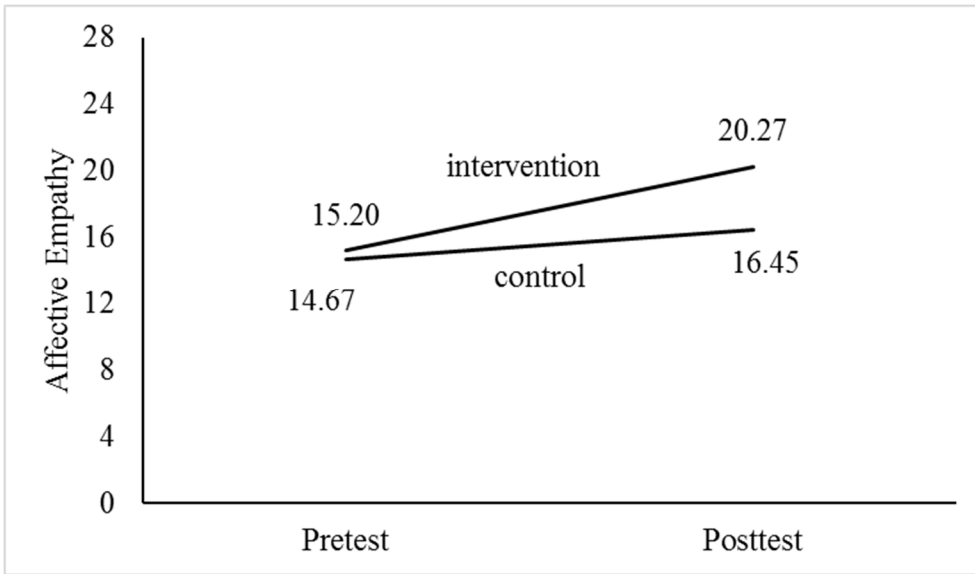
Figure 3. Pretest and posttest affective empathy for intervention and control groups.
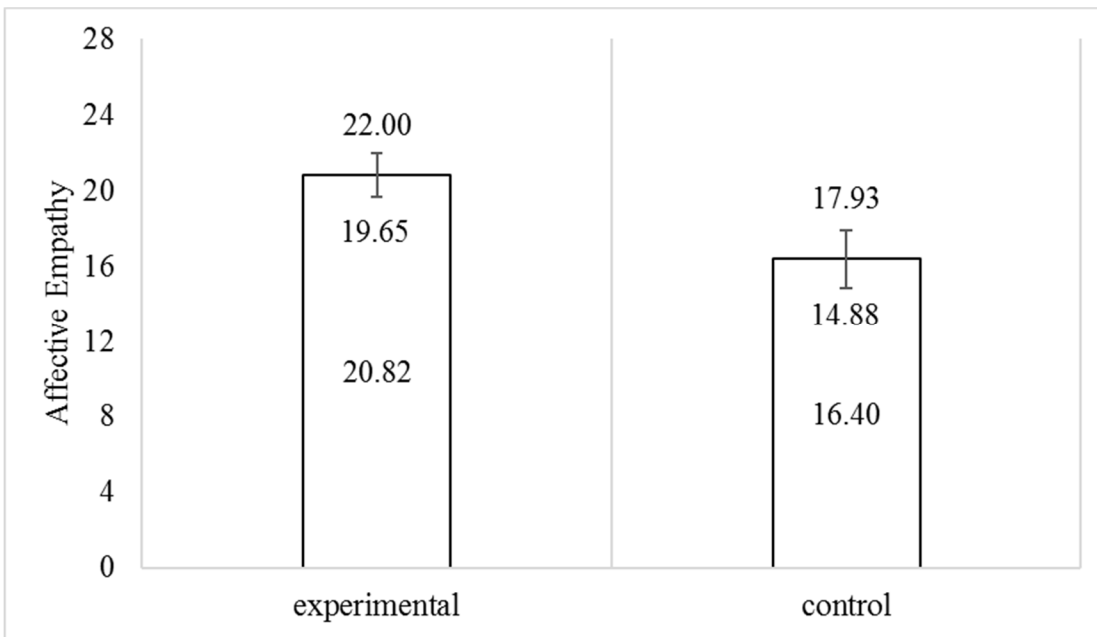
Figure 4. Adjusted mean values for affective empathy controlling for baseline levels.

Positive school experiences. ANCOVA results indicated that pre-intervention levels of positive school experiences had a significant effect on post-intervention levels of this construct, $F(1, 23) = 4.92$, $p = .04$, $r = .42$. However, HEROES had no statistically significant effect on positive school experiences after controlling for baseline levels, $F(1, 23)$

= 1.71, p = .20, partial η^2 = .07. Contrasting experimental and intervention groups showed that HEROES resulted in a medium effect size for improved positive school experiences after controlling for pre-intervention levels of this construct (see Figures 5 and 6). Compared to baseline, the intervention group reported more positive school experiences, whereas the control group reported lower levels of positive school experiences.
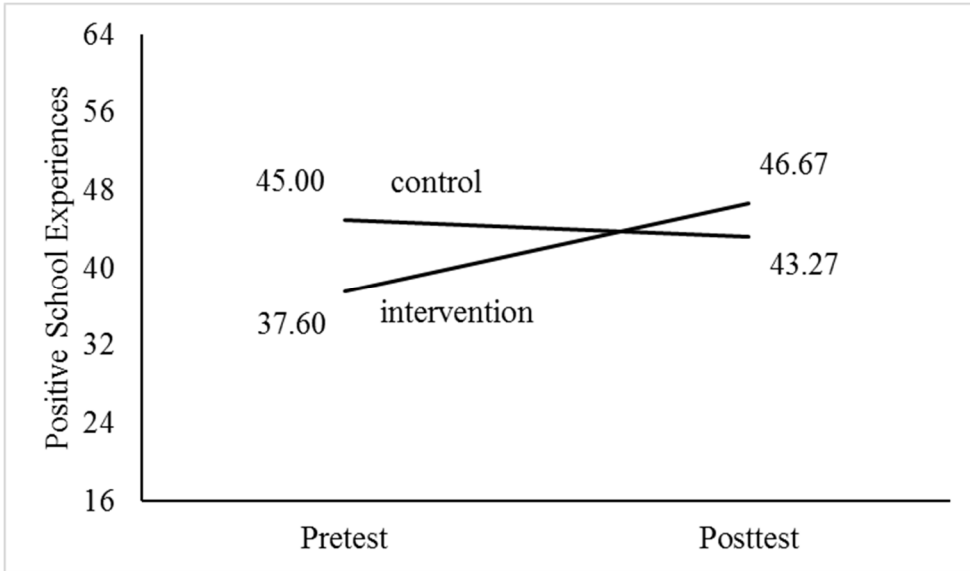
Figure 5. Pretest and posttest positive school experiences for intervention and control groups.
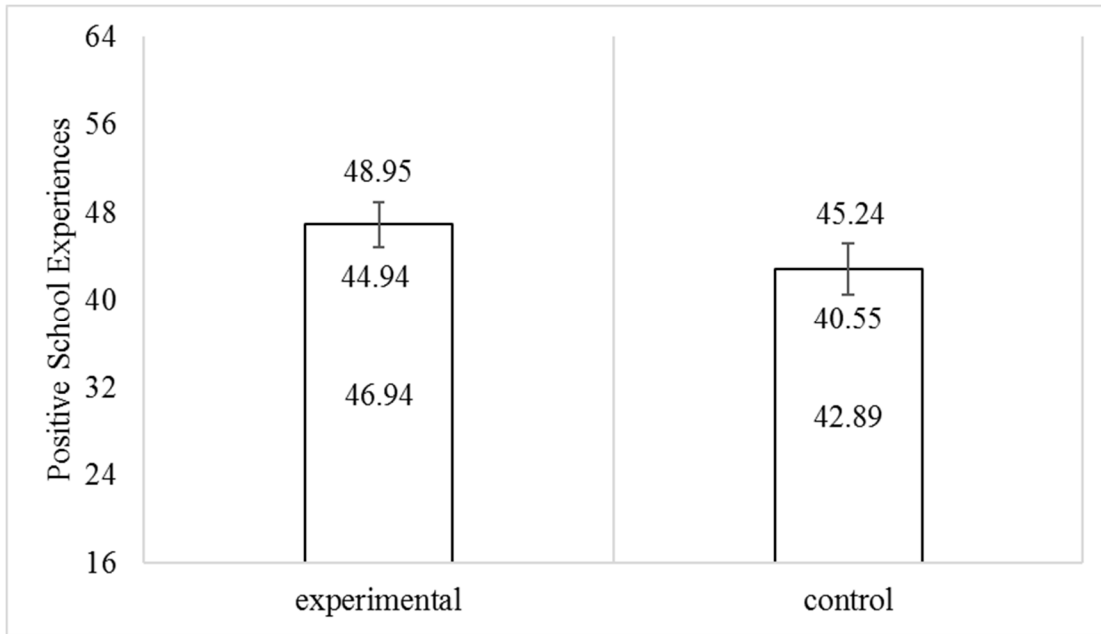
Figure 6. Adjusted mean values for positive school experiences controlling for baseline levels.

Prosocial behavior. ANCOVA results indicated that there were no significant effects found for the covariate, baseline levels, on post-intervention levels of prosocial behaviors, $F(1, 8) = 2.36$, $p = .16$, $r = .48$. There were also no statistically significant effects seen for the intervention after controlling for these baseline level, $F(1, 8) = .11$, $p = .75$, partial $\eta^2 = .01$. It appears that participation in HEROES resulted in a small effect size for improved prosocial behaviors after controlling for baseline levels (see Figures 7 and 8). However, interpretation of this result as indicative of a positive impact by HEROES on prosocial behavior should be done with caution given that the combination of a small effect size with a large p-value decreases the probability that this finding is true (Ioannidis, 2005).
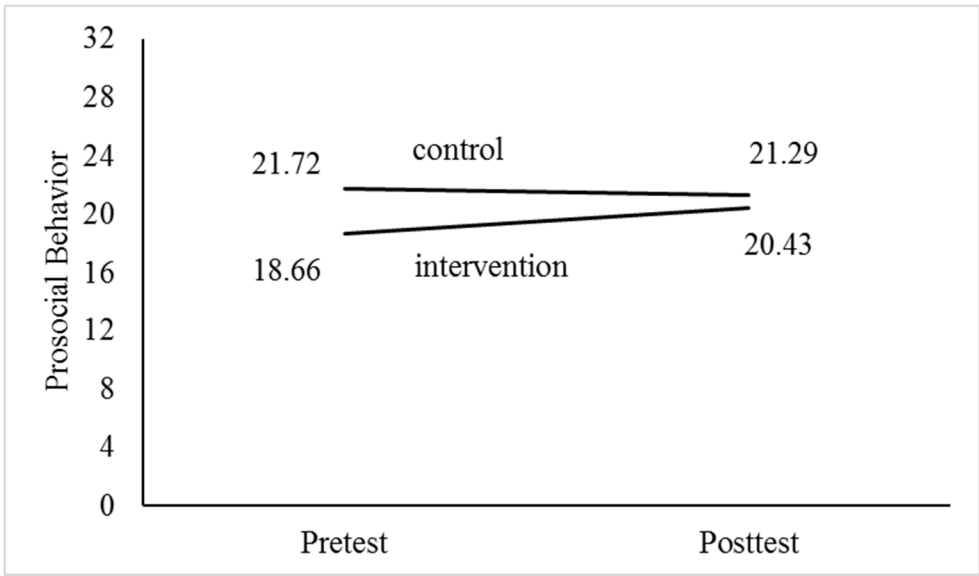
Figure 7. Pretest and posttest prosocial behavior for intervention and control groups.
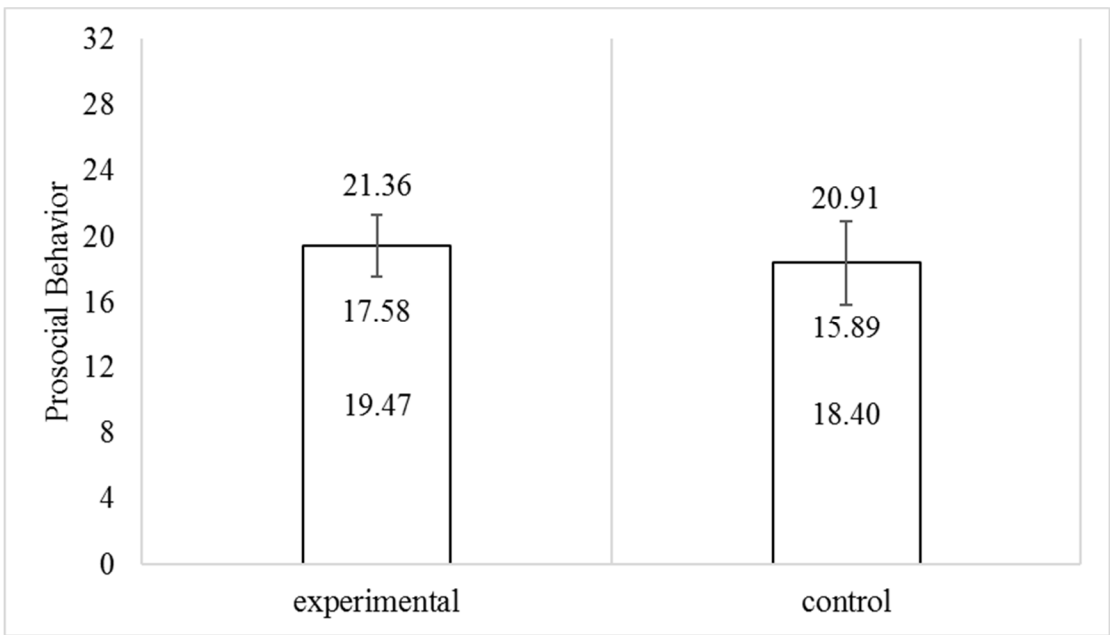
Figure 8. Adjusted mean values for prosocial behaviors controlling for baseline levels.

2. Negative psychological outcomes.

Anger. Pre-intervention levels of anger did not have any significant effect on the outcome variable of post-intervention levels of anger, $F(1, 23) = 16.00$, $p < .01$, $r = .64$. After controlling for baseline levels of anger, there also was no significant effect of HEROES on

anger, $F(1, 23) = .722$, $p = .40$, partial $\eta^2 = .03$. There was a small effect size seen for higher

levels of self-reported anger after controlling for baseline levels because of participation in

HEROES (see Figures 9 and 10). However, given the large p-value combined with the small

effect size, it is difficult to ascertain if the intervention group did in fact show a slight

increase in self-reported experiences of anger and/or the control group a slight decrease.
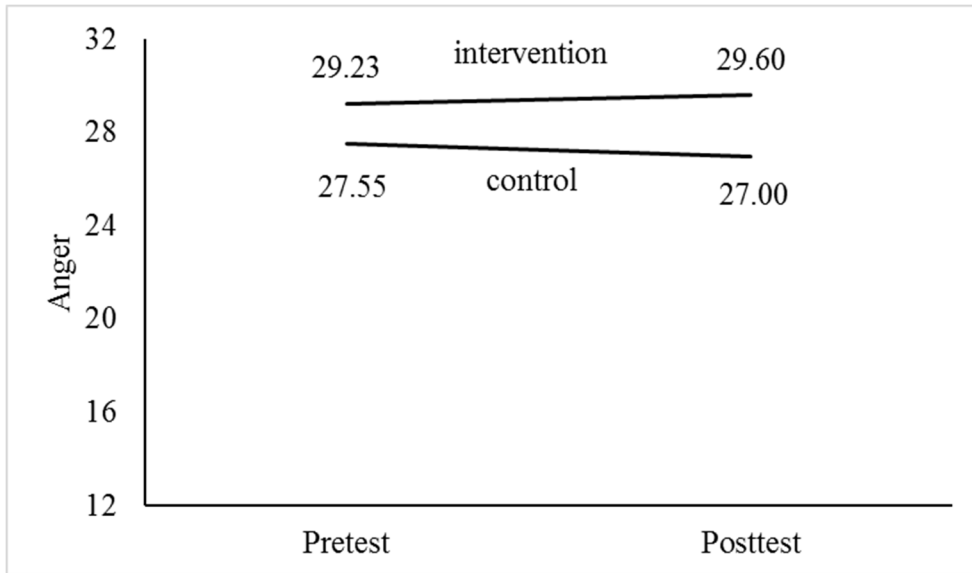
Figure 9. Pretest and posttest anger for intervention and control groups.
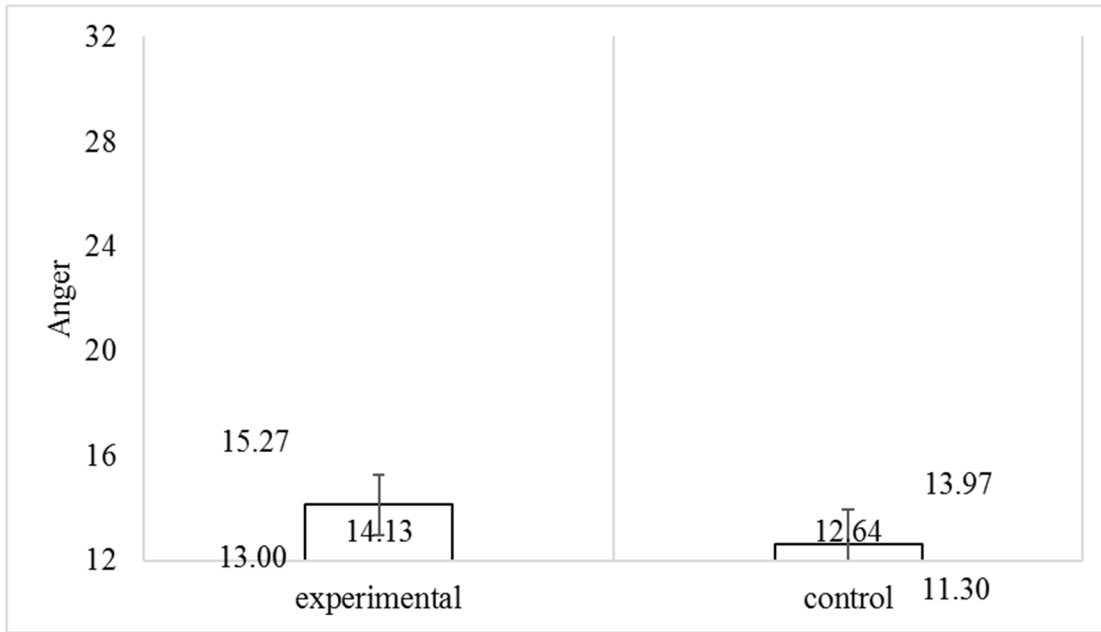
Figure 10. Adjusted mean values for anger controlling for baseline levels.

Aggression. Baseline teacher reports of aggression were not significantly predictive of post-intervention levels of aggression, $F(1, 4) = .16$, $p = .71$, $r = .20$. Further, there was no statistically significant effect of HEROES on participants in the intervention group, even after controlling for pre-intervention levels of aggression, $F(1, 4) = .09$, $p = .79$, partial $\eta^2 = .02$. There was a small effect size seen such that participants in HEROES tended to have decreased aggression after controlling for baseline levels (see Figure 11 and 12). However, it is possible that, as evidenced by the large p value, that this small effect size is due to random effects rather than the intervention itself (Ioannidis, 2005). Nonetheless, HEROES did not appear to exacerbate students' aggressive behaviors.
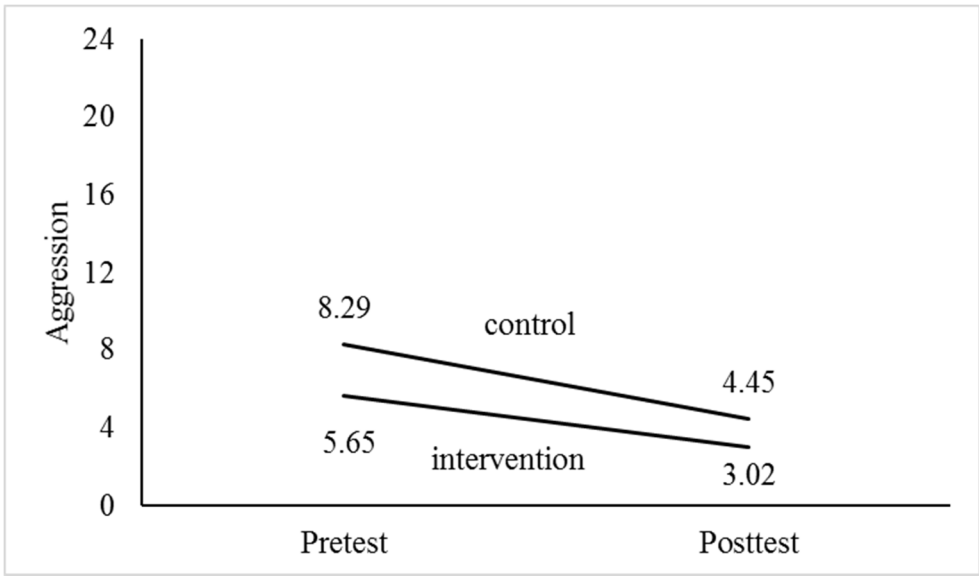
Figure 11. Pretest and posttest aggression for intervention and control groups.
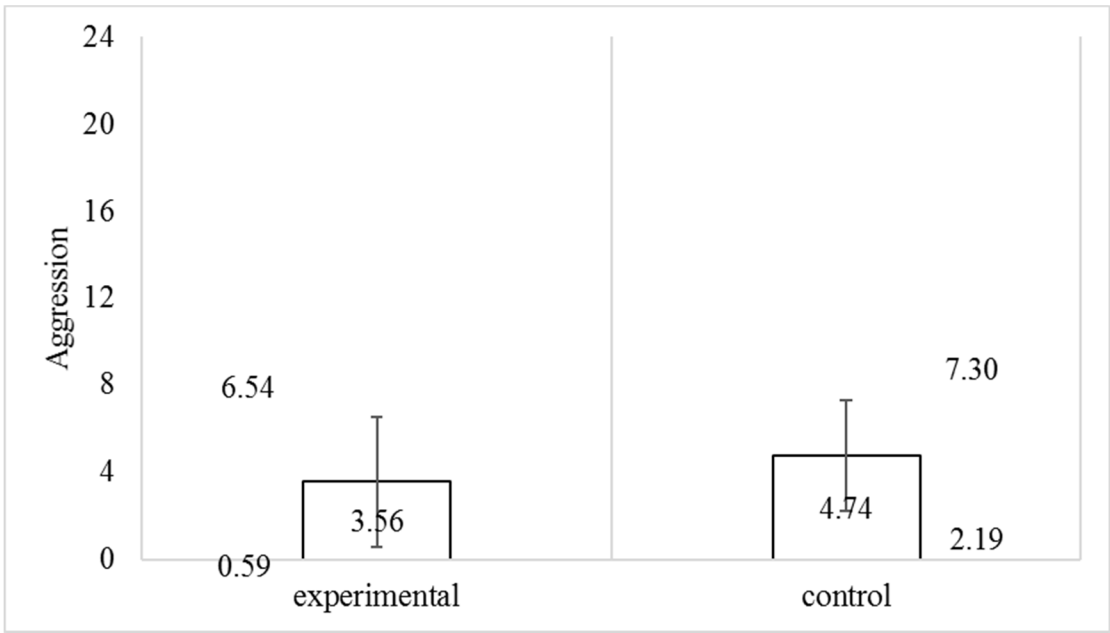
Figure 12. Adjusted mean values for aggression controlling for baseline levels.

3. Interview results.

Participants' changes in a combination of cognitive and affective empathy ranged from an increase of 12 points to a decrease of 12 points ($M = 2.89$, $SD = 7.07$) between the start and end of the intervention. An interview was done with a female eleventh grader who

showed the largest increase of 12 points. Although attempts were made to interview the student who showed the next largest increase, due to factors including changes in school, graduation, and absences, a ninth-grade female who showed a six-point increase was interviewed instead. The students who showed the largest decreases who were available for the interview included a male eleventh grader who showed a one-point decrease in empathy and a female twelfth grader who showed a 12-point decrease in empathy. Students were asked to complete an online survey after completion of HEROES.

When asked to give a summary of activities done in HEROES, three out of these four students referred to at least one activity of HEROES, either by naming it specifically or providing a description of the activity (e.g., "talking about other people's perspective"). However, two of the four responses also went beyond this and described discussions about life events, despite this not being a central component of the HEROES curriculum. There did not appear to be any association between the qualitative and quantitative responses. That is, students who had shown large increases in empathy on quantitative measures were just as likely to respond to this prompt by saying that the HEORES group had discussed life events as were students who had shown large decreases in empathy on quantitative measures.

When asked how HEROES had changed participants, if at all, all participants' responses fell into two broad categories: responses that indicated improvements in functioning with others and responses that indicated self-improvement. Responses that related to functioning with others conveyed empathy. For example: "I'm more easy at understanding people," "helped me understand," and "I think about other people's feelings and other people's perspective." The remaining responses seemed to relate to aspects of self-improvement, such as "I think about talking about every problem I have and making it

better" and "It let me open up with a lot of things I didn't open up about." Participants who had smaller gains in empathy tended to have responses that were focused on self-improvement. The participant who showed the largest decrease in empathy on quantitative measures had responses that were exclusively categorized as self-improvement.

When participants were asked what they liked about HEROES, if anything, half the respondents noted the activities themselves and half indicated they enjoyed talking. For example, one participant simply stated "I enjoyed the activities." One student said, "It gave me a chance to talk about things that were on my mind." Another said, "I enjoyed talking and finding new ways to work out my problems and how to calm myself down." There were no apparent patterns in responses based on changes in empathy on quantitative measures.

When asked what participants disliked about HEROES, one student said that she wished "we could have met more" because she disliked "that we only met once a week." Otherwise, there were no aspects of HEROES that participants reported disliking. The student who indicated a desire for more frequent meetings was also one who made the most gains in empathy on quantitative measures.

IV. Discussion

The purpose of this study was to examine the effectiveness of a novel empathy-based intervention, HEROES, targeting at-risk students with anger or aggression issues. The need for such an intervention was implied by the sparsity of evidence-based strengths-focused interventions for youths at-risk of negative life outcomes in the literature. Hence, this study was intended as a contribution to research and practice in the fields of positive psychology and social-emotional interventions for youths. Staff from one urban, alterative public school and from a non-profit organization serving youths in foster care in California expressed

interest in implementing HEROES with their student population. The primary researcher implemented HEROES at one site and trained staff at the other sites on how to facilitate HEROES groups. Variations in implementation fidelity were seen such that the primary investigator fully implemented HEROES to fidelity, whereas other facilitators had less success with implementation to fidelity. HEROES was implemented in the spring of 2016 and ran for eight weeks on a weekly basis for up to an hour in small groups. A randomized control design was used with a total of 26 students, most of whom identified as Latino/a. ANCOVAs were run for six constructs—cognitive empathy, affective empathy, positive school experiences, prosocial behaviors, self-reported anger, and aggression—to control for any variations in baseline levels of these constructs. Although an ANCOVA was used, effect sizes are more relevant to the discussion of effectiveness given the underpowered nature of this study. Effect sizes have also been considered a valid measure of effectiveness over statistical significance (Hojat & Xu, 2004; Johnson, 1999; Nakagawa & Cuthill, 2007; Schmidt, 1996). Interviews were further used to deepen understanding of and gain further insights into the effects of the intervention.

The first hypothesis (1a) was that HEROES would improve affective and/or cognitive empathy. This hypothesis was confirmed by both quantitative and qualitative results. Despite the limitations in sample size and the underpowered nature of this study, affective empathy showed a statistically significant improvement in the experimental group after controlling for pre-intervention baseline levels. Cognitive empathy did not show any statistically significant changes between intervention and control groups. Nonetheless, HEROES appeared to result in a large effect size for both affective empathy and cognitive empathy in the expected direction. This may be because subconstructs of empathy have a complicated relation such

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that it is possible that, although the intervention was intended to target cognitive empathy, because of the interrelated nature of the constructs, changes in affective empathy were well. It is also possible that the measurement of empathy for youths did not adequately disentangle the two subconstructs and that other measures, such as those that rely on participants' reactions to scenarios (e.g., Empathy Continuum Scoring Manual [ECM]; Strayer, 1993) or that take advantage of physiological measures of empathy such as brain imaging of mirror neurons (e.g., Kilner, Neal, Weiskopf, Friston, & Frith, 2009), could have more accurately distinguished between cognitive and affective empathy. Regardless, qualitative responses indicated that several participants understood themselves to have changes in empathy—e.g., "I think about other people's feelings and other people's perspective," and HEROES "helped me understand [others]." Those who showed smaller gains in empathy tended to have responses that focused on self-improvement rather than improvements in functioning with others. This is supported by the literature that indicates that an individual's self-awareness is foundational to fully experiencing other-oriented emotions such as empathy (Gallup & Platek, 2002). Unfortunately, due to the low reliability of the personal distress subscale, no conclusions could be draw from the quantitative data about personal distress. However, qualitative data seems to indicate that the participants did not experience undue distress, as all interviewees acknowledged benefitting from HEROES and no interviewees reported any distressing thoughts or feelings.

It was hypothesized that students' experiences of school would improve because of the empathy intervention, since HEROES would decrease their expression of anger, which in turn would decrease conflicts with teachers and peers and result in an overall more pleasant experience of school (hypothesis 1b). This hypothesis was confirmed. There was a medium

effect size seen for improvement in student's positive experiences of school in the experimental group compared to the control group. This is important given the literature on school engagement and its association with other positive academic and social emotional outcomes, especially for youths at-risk (Bond et al., 2007; Darensbourg & Blake, 2013). Interview results showed that participants enjoyed HEROES and wished for its continuation. This lends credibility to HEROES being used as a school-based intervention.

It was also hypothesized that students in the intervention group would show greater improvements in prosocial behaviors given the correlation between empathy and prosocial behaviors (hypothesis 1c; Eisenberg & Miller, 1987). This hypothesis was not confirmed as the combination of a small effect size and large p-value prevent conclusions about the impact of HEROES on this construct. The purpose of HEROES was not to teach specific prosocial behaviors or even to ameliorate undesired behaviors; hence, this finding is not surprising. It is possible, though, that changes in a latent construct such as empathy might take longer to result in behavioral changes and that perhaps such changes would be seen only over the long-run.

It was further hypothesized that HEROES might heighten students' self-perception of anger and that this would reflect improvements in self-awareness rather than true increases in anger (hypothesis 2a). Indeed, students' self-reported anger did show a small effect size such that HEROES resulted in higher levels of perceived anger in the experimental group than in the control group. While it is possible that there were iatrogenic effects that account for this finding, teacher reports of lower aggression seem to indicate that behaviorally there were positive changes and, hence, iatrogenic effects do not seem likely. This is further supported by qualitative results, which indicated positive outcomes and no negative outcomes. Hence, it

is more possible that, as hypothesized, students experienced heightened awareness of their feelings of anger as well as heightened awareness of their externalizing behaviors. Self-awareness is an important component of social-emotional health in youths (CASEL, 2003), and these findings may support the impact of HEROES on this positive construct rather than actual negative impacts.

The hypothesis that students' aggressive behaviors would be lower in the experimental group compared to the control group was not confirmed (hypothesis 2b). There was a small effect size for fewer aggressive behaviors in the experimental compared to the control group but this result, combined with the large p-value, was not conclusive of any impact of HEROES on aggression. This result does, however, support the conclusion that HEROES did *not* contribute to increased aggressive behaviors or iatrogenic effects and, hence, does not seem to have negative impacts on students. As mentioned above regarding prosocial behaviors, it is possible that any changes in aggression or other behaviors would only be seen after changes in internal experiences of empathy have solidified and have an opportunity to manifest in observable actions.

Corroborating the quantitative results, no participant noted any specific examples of decreases in aggressive behaviors or increases in prosocial behaviors. Nonetheless, participants did identify internal changes, such as finding it easier to understand others, taking others' perspectives, being able to utilize others to facilitate problem-solving, and being more open to connecting with others. All interviewees, regardless of outcomes as measured by quantitative assessments, described activities that they had participated in during HEROES and all indicated aspects of HEROES that they liked without indicating any aspect of HEROES that they disliked, except for the frequency of HEROES meet ups, which

one participant wished would be more often. The combination of effect sizes and qualitative results in favor of the positive impact of HEROES provides support for further studies regarding empathy-based activities as part of viable intervention options for youths at-risk.

V. Limitations and Future Directions

There are several strengths of this study, including the use of a randomized waitlist control design, which increases internal validity. The use of multiple informants increases construct validity, and the naturalistic setting of the intervention in a diverse public high school utilizing existing resources increases external validity and the viability of this intervention in other similar settings. The use of more than one group facilitator also increases the likelihood that the intervention is responsible for the effects seen rather than the facilitator.

One of the major limitations of this study is the small sample size, which reduces generalizability and power. The sample consisted of predominantly Latinx students. There is some evidence that Latinx individuals, due to cultural values, experience more empathy than their Caucasian counterparts (Segal, Gerdes, Mullins, Wagaman, & Androff, 2011). Such differences may have impacted the results of this study such that Latinx participants may have been more receptive to this intervention and, hence, more likely to benefit from it. Future studies should strive to include a larger and more diverse population to address this limitation. Because many youths who are at-risk also are part of historically oppressed racial/ethnic demographic groups, it is important to consider how empathy development differs by such cultural factors. For example, at least one study has found that the neural mechanisms by which individuals experience empathy for in-group members is different for African-American and Caucasian individuals (Mathur, Harada, Lipke, & Ciao, 2010).

Further, comparisons among Asian versus American children and youths have shown that Asian individuals tend to experience heightened distress compared to their America counterparts (Cassels, Chan, & Chung, 2010).

It is also important in future iterations of this study to consider how cross-cultural factors between facilitators and participants impact the intervention, as studies have shown that inter-cultural empathic responses tend to be more limited than intra-cultural ones because of societally-reinforced implicit bias (Chiao & Mathur, 2010). Given the importance of facilitator empathy in preventing iatrogenic effects and in promoting empathy in participants (van Baaren et al., 2009), and the likelihood of school-based professionals serving participants who are not of the same ethnic/racial background (National Center for Education Statistics, 2013), future professional development for facilitators should include ways to increase inter-cultural empathy.

There were also some limitations and, hence possible future directions to consider, regarding some of the measures. For example, the measure for prosocial behavior, the Social Competence Scale, is not yet validated with adolescents. There were no other teacher-report measures for prosocial behavior in adolescents, indicating an opportunity for further research in developing such a measure. Furthermore, the Interpersonal Reactivity Index, although used in numerous studies in adolescent populations (e.g., Barr & Higgins-D'Alessandro, 2007; Carrasco et al., 2011; Hawk et al., 2013; Mayberry & Espelage, 2007), has only been fully validated in adult populations. An empathy measure that addresses the multidimensional nature of this construct and which is specifically designed for adolescents would be useful in future studies. It is possible that the low reliability seen in the Personal Distress subscale for this study could be addressed in the future with such a measure,

allowing for examination of this important outcome in empathy-related studies. Further, the measure of aggression is six items, with three items each for proactive and reactive aggression. Having a more detailed measure of aggression might have increased the validity of this measure, although it was also important to consider the combined length of all instruments so as to not overwhelm raters. Other instrumental limitations exist as well, particularly for the self-report measures of empathy and anger, which inherently carry the potential for being influenced by participants' desire to give favorable impressions.

There are also inherent limitations to self-report measures, which were used in this study to assess empathy and anger. Self-report measures have been shown to be heavily influenced by participants' self-awareness (Pryor, Gibbons, Wicklund, Fazio, & Hood, 1977). Hence, instead of measuring empathy or anger, it is possible that this study's measures might have tapped into participants' self-awareness of their empathy or anger. If this is the case, then decreases on empathy measures might reflect an increased self-awareness of empathy and a realization that there is more room to grow in oneself in terms of empathy development. Alternative measurement techniques might be warranted to yield more valid results. For example, retrospective self-report surveys could ask participants to recall their previous empathy levels and then rate their current empathy levels—this might give a more complete picture. Similarly, this could be done with self-reported levels of anger (Sheets & Henry, 1988).

Another issue to consider in future studies is how to best structure professional development for facilitators. In this study, facilitators received six hours of training by the lead researcher and then occasional follow-up consultation on an as-needed basis via phone (audio and video) or email. Arguably, this study used a "spray and pray" approach to

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professional development that is commonly utilized in schools but that research has shown to be less effective than professional development that is longer in duration and that encourages collective participation (Garet, Porter, Desimone, Birman, & Yoon, 2001). More specifically, one study found that professional development opportunities that last at least 30 hours tend to have more positive outcomes (Guskey & Yoon, 2009), well above the number of hours of training given for HEROES. Further, training for HEROES facilitator would have been more effective if there was a component that included feedback and on-site coaching for the facilitators, as is recommended as part of best practices for professional development (Guskey & Yoon, 2009). Such on-site support could also help with monitoring and prevention of iatrogenic effects as well as support in fidelity of implementation. Other psychosocial interventions, such as cognitive-behavioral therapy (CBT) and Parent-Child Interaction Therapy (PCIT), both of which have significant evidence in support of them (e.g., Butler, Chapman, Forman, & Beck, 2006; Thomas & Zimmer-Gembeck, 2007), have training programs that incorporate these best practices in professional development (http://www.academyofct.org/certification-criteria-2/, and http://www.pcit.org/therapist-requirements.html, respectively). With additional resources, future studies of HEROES could adhere to these best practices.

Future studies should address these limitations by recruiting a larger and more diverse sample, further manualizing the intervention for use by other facilitators, using instruments with higher validity and reliability, and providing higher quality and more effective training for facilitators. Additionally, with enough resources, the use of behavioral observations by third parties who are not privy to students' status with respect to experimental or control

groups would be helpful in identifying more objectively whether prosocial and/or negative social behaviors are occurring.

Furthermore, although HEROES is unique in that there do not seem to be other interventions in the literature that target a positive psychosocial construct to ameliorate negative ones, and there do not seem to be any interventions that target empathy for youths at-risk, it is certainly not the only social-emotional learning (SEL) intervention. It would be useful to compare HEROES to other SEL interventions to ascertain the differences in outcomes when using a positive-psychology-based approach to intervention for at-risk populations compared to more traditional SEL curricula. Given that research about SEL curricula is rapidly growing, such additional examination of HEROES could be pertinent and timely.

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Appendix

Parent/Guardian Consent for Participation in the HEROES Group

Your child, _____, is invited to participate in a research study, the HEROES weekly meet up, conducted by Aileen Fullchange, from the University of California, Santa Barbara's Department of Counseling, Clinical, and School Psychology. I hope to establish the effectiveness of an intervention for youth with behaviors related to anger, aggression, or impulsivity. Your child was selected as a possible participant in this study because his/her teacher believed that he/she could benefit from this intervention.

If you decide to allow your child to participate:

1. He/she will be part of an intake interview lasting no more than 30 minutes to establish that he/she is a good fit for the group.
2. If your child is selected for participation, he/she will attend weekly group meet-ups on the _____ High School Campus. Each meet-up will last no more than 45 minutes. The meet-ups will occur for eight weeks either in the winter quarter or the spring quarter.
3. He/she will be asked to complete questionnaires about his/her feelings and thoughts. There will be NO audio or videotaping.
4. His/her teachers will be asked questions about their perceptions of his/her behaviors.

Risks associated with this include emotional or psychological discomfort. All participants will be able to access one-on-one counseling during the course of the intervention if desired. There is no cost to participation. It is expected that participants will benefit from the group meet-ups by improving their self-regulation and making better choices, and, therefore, having better academic engagement. However, I cannot guarantee that your child personally will receive any benefits from this research.

Any information that is obtained in connection with this study and that can be identified with your child will remain confidential (unless there is threat of harm to self or others) and will be disclosed only with your permission or as required by law. Subject identities will be kept confidential by using alphanumeric codes and password protecting all electronic documents. Absolute confidentiality cannot be guaranteed, since research documents are not protected from subpoena. If your child is injured as a direct result of research procedures, you will receive reasonably necessary medical treatment at no cost. The University of California does not provide any other form of compensation for injury.

Your child may refuse to participate and still receive any benefits your child would receive if he/she were not in the study. You may change your mind about being in the study and remove your child after the study has started. Your decision whether or not to allow your child to participate will not affect your or your child's relationship with _____ High School.

If you have any questions about the study or if you think you may have been injured as a result of your participation, please feel free to contact Aileen Fullchange_____, and/or Dr. Michael Furlong _____, If you have any questions regarding your rights and participation as a research subject, please contact the Human Subjects Committee at _____. Or write to the University of California, Human Subjects Committee, Office of Research, Santa Barbara, CA 93106-2050.

Your signature indicates that you have read and understand the information provided above, that you willingly agree to allow your child to participate, that you and/or your child may withdraw your consent at any time and discontinue participation without penalty, that you will receive a copy of this form, and that you are not waiving any legal claims.

Parent/guardian name: _____

Signature: _____   Date: ___
_____

Student Assent for Participation in the HEROES Group

Purpose: You are being asked to participate in a research study. The purpose of the study is to help students do better in school.

Procedures: If you decide to participate:
- You will be asked to answer some questions about your thoughts, feelings, and experiences.
- You will be invited to participate in weekly meet-ups with about seven other students at _____ High School lasting no more than 45 minutes.
- Your teachers will be asked questions about you.

Alternatives: You can always ask for 1-1 counseling instead.

RISKS: You might feel uncomfortable answering some questions or participating in some activities.

Benefits: You might be able to make better choices and do better in school.

Confidentiality: Information collected from questionnaires will be used to determine how useful the weekly meet ups are. Besides for the researchers, no one will know your answers on questionnaires, including parents, other students, teachers, and strangers. Absolute confidentiality cannot be guaranteed, since research documents are not protected from subpoena.

Right To Refuse Or Withdraw:
You may refuse to participate and still receive any benefits you would receive if you were not in the study. You may change your mind about being in the study and quit after the study has started.

Questions: If you have any questions about this research project or if you think you may have been injured as a result of your participation, please contact:

Michael Furlong: mfurlong@education.ucsb.edu, _____
Aileen Fullchange: afullchange@education.ucsb.edu, _____

If you have any questions regarding your rights and participation as a research subject, please contact the Human Subjects Committee at _____ or _____. Or write to the University of California, Human Subjects Committee, Office of Research, Santa Barbara, CA 93106-2050.

Participation in research is voluntary. Your signature below will indicate that you have decided to participate as a research subject in the study described above. You will be given a signed and dated copy of this form to keep.

Name:

Signature of Participant:_____ Date:_____ Age :
_____

Measures

Interpersonal Reactivity Index

(Available from

http://fetzer.org/sites/default/files/images/stories/pdf/selfmeasures/EMPATHY-

InterpersonalReactivityIndex.pdf; Davis, 1983)

The following statements inquire about your thoughts and feelings in a variety of situations. For each item, indicate how well it describes you by choosing the appropriate letter on the scale at the top of the page:
A, B, C, D, or E. When you have decided on your answer, circle the letter on the answer sheet next to the item number.

READ EACH ITEM CAREFULLY BEFORE RESPONDING. Answer as honestly as you can. Thank you!

		A Does not describe me well	B	C	D	E Describes me very well	
1.	I often have tender, concerned feelings for people less fortunate than me.	A Does not describe me well	B	C	D	E Describes me very well	EC
2.	I sometimes find it difficult to see things from the "other guy's" point of view.	A Does not describe me well	B	C	D	E Describes me very well	PT-
3.	Sometimes I don't feel very sorry for other people when they are having problems.	A Does not describe me well	B	C	D	E Describes me very well	EC-
4.	In emergency situations, I feel apprehensive and ill-at-ease.	A Does not describe me well	B	C	D	E Describes me very well	PD
5.	I try to look at everybody's side of a disagreement before I make a decision.	A Does not describe me well	B	C	D	E Describes me very well	PT
6.	When I see someone being taken advantage of, I feel kind of protective towards them.	A Does not describe me well	B	C	D	E Describes me very well	EC
7.	I sometimes feel helpless when I am in the middle of a very emotional situation.	A Does not describe me well	B	C	D	E Describes me very well	PD
8.	I sometimes try to understand my friends better by imagining how things look from their perspective.	A Does not describe me well	B	C	D	E Describes me very well	PT

#	Statement	A	B	C	D	E	
9.	When I see someone get hurt, I tend to remain calm.	A Does not describe me well	B	C	D	E Describes me very well	PD-
10.	Other people's misfortunes do not usually disturb me a great deal.	A Does not Describe me well	B	C	D	E Describes me very well	EC-
11.	If I'm sure I'm right about something, I don't waste much time listening to other people's arguments.	A Does not describe me well	B	C	D	E Describes me very well	PT-
12.	Being in a tense emotional situation scares me.	A Does not describe me well	B	C	D	E Describes me very well	PD
13.	When I see someone being treated unfairly, I sometimes don't feel very much pity for them.	A Does not describe me well	B	C	D	E Describes me very well	EC-
14.	I am usually pretty effective in dealing with emergencies.	A Does not describe me well	B	C	D	E Describes me very well	PD-
15.	I am often quite touched by things that I see happen.	A Does not describe me well	B	C	D	E Describes me very well	EC
16.	I believe that there are two sides to every question and try to look at them both.	A Does not describe me well	B	C	D	E Describes me very well	PT
17.	I would describe myself as a pretty soft-hearted person.	A Does not describe me well	B	C	D	E Describes me very well	EC
18.	I tend to lose control during emergencies.	A Does not describe me well	B	C	D	E Describes me very well	PD
19.	When I'm upset at someone, I usually try to "put myself in his shoes" for a while.	A Does not describe me well	B	C	D	E Describes me very well	PT
20.	When I see someone who badly needs help in an emergency, I go to pieces.	A Does not describe me well	B	C	D	E Describes me very well	PD
21.	Before criticizing somebody, I try to imagine how I would feel if I were in their place.	A Does not describe me well	B	C	D	E Describes me very well	PT

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Student Subjective Well-Being Questionnaire (SSWQ)

(Available from http://www.tylerrenshaw.com/sswq/; Renshaw, Long, & Cook, 2014)

Here are some questions about what you think, feel, and do at school. Read each sentence and circle the <u>one</u> best answer.

		Almost Always	Almost Some-times	Often	
1.	I get excited about learning new things in class.	1	2	3	4
2.	I feel like I belong at my school.	1	2	3	4
3.	I feel like the things I do at school are important.	1	2	3	4
4.	I am a successful student.	1	2	3	4
5.	I am really interested in the things I am doing at school.	1	2	3	4
6.	I can really be myself at my school.	1	2	3	4
7.	I think school matters and should be taken seriously.	1	2	3	4
8.	I do good work at school.	1	2	3	4
9.	I enjoy working on class projects and assignments.	1	2	3	4
10.	I feel like people at my school care about me.	1	2	3	4
11.	I feel it is important to do well in my classes.	1	2	3	4
12.	I do well on my class assignments.	1	2	3	4
13.	I feel happy when I am working and learning at school.	1	2	3	4
14.	I am treated with respect at my school.	1	2	3	4
15.	I believe the things I learn at school will help me in my life.	1	2	3	4
16.	I get good grades in my classes.	1	2	3	4

Social Competence Scale

(Available from http://fasttrackproject.org/techrept/s/sct/; Corrigan, 2003)

Please rate each of the listed behaviors according to how well it describes this child.

	Not at all	A little	Moderately well	Well	Very well
1. Resolves peer problems on his/her own	0	1	2	3	4
2. Very good at understanding other people's feelings	0	1	2	3	4
3. Shares materials with others	0	1	2	3	4
4. Cooperates with peers without prompting	0	1	2	3	4
5. Is helpful to others	0	1	2	3	4
6. Listens to others' points of view	0	1	2	3	4
7. Can give suggestions and opinions without being bossy	0	1	2	3	4
8. Acts friendly toward others	0	1	2	3	4

Multidimensional School Anger Inventory (MSAI-12)

(Available from http://www.michaelfurlong.info/msai/; Furlong et al., 2013)

If these things happened to you AT SCHOOL, how mad (angry) would you be?				
1. Someone in your class acts up (behaves badly), so your whole class has to stay after school.	I would not be mad at all.	I would be a little angry	I would be pretty angry	I would be furious
2. You go to your desk in the morning and find out someone has stolen some of your school supplies.	I would not be mad at all.	I would be a little angry	I would be pretty angry	I would be furious
3. You get sent to the principal's office when other students are acting worse than you are.	I would not be mad at all.	I would be a little angry	I would be pretty angry	I would be furious

How much do you disagree or agree with these ideas?				
4. School is worthless (junk).	Strongly Disagree	Disagree	Agree	Strongly Agree
5. School is really boring.	Strongly Disagree	Disagree	Agree	Strongly Agree
6. Rules at school are stupid.	Strongly Disagree	Disagree	Agree	Strongly Agree

How do you try to calm down when you get mad (angry) at school?				
7. I talk it over with another person when I'm upset.	Never	Occasionally (Sometimes)	Often	Always
8. When I get mad at school, I share my feelings.	Never	Occasionally (Sometimes)	Often	Always
9. When I'm mad, I break things.	Never	Occasionally (Sometimes)	Often	Always
10. Before I explode, I try to understand why this happened to me.	Never	Occasionally (Sometimes)	Often	Always
11. I punch something when I'm angry.	Never	Occasionally (Sometimes)	Often	Always
12. When I get a bad grade, I figure out ways to get back at the teacher.	Never	Occasionally (Sometimes)	Often	Always

Reactive/Proactive Aggression Teacher Checklist

(Available from http://fasttrackproject.org/techrept/t/tcl/; Dahlberg, Toal, Swahn, & Behrens, 2005)

INSTRUCTIONS: For each of the six statements, please fill in the oval of the number that best applies to this child.

	This situation is never true	This situation is rarely true	This situation is sometimes true	This situation is usually true	This situation is almost always true
1. When this child has been teased or threatened, he or she gets angry easily and strikes back.	⓪	①	②	③	④
2. This child always claims that other children are to blame in a fight and feels that they started the trouble.	⓪	①	②	③	④
3. When a peer accidentally hurts this child (such as by bumping into him or her), this child assumes that the peer meant to do it, and then overreacts with anger/fighting.	⓪	①	②	③	④
4. This child gets other kids to gang up on a peer that he or she does not like.	⓪	①	②	③	④
5. This child uses physical force (or threatens to use force) in order to dominate other kids.	⓪	①	②	③	④
6. This child threatens or bullies others in order to get his or her own way.	⓪	①	②	③	④