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Social and emotional learning during early adolescence: Effectiveness of a classroom-based SEL program for middle school students

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Abstract

Early adolescence and the transition to middle school bring about many challenges for students and negative outcomes are not uncommon, including academic decline and social maladjustment. This developmental period is also marked by increased risk of mental health-related difficulties. Strengthening students' social and emotional competencies through the delivery of school-based Social and Emotional Learning (SEL) programs has been suggested as one strategy for promoting positive development and preventing negative outcomes. In particular, the delivery of developmentally appropriate and evidence-based SEL programs at the universal level of tiered supports has the potential to benefit many students. The current study presents findings from a randomized controlled trial of the Speaking to the Potential, Ability, and Resilience Inside Every Kid (SPARK) Pre-Teen Mentoring Curriculum for 357 students from two schools. Results revealed that students who received the curriculum showed significant improvements in knowledge of curriculum content and principles; communication, decision-making, and problem-solving skills; emotional regulation; and resilience compared to students in the comparison condition. Results provide initial evidence for the efficacy of the SPARK Pre-Teen Mentoring Curriculum for middle school students. Study strengths and limitations as well as directions for future research and program development are discussed.

1 INTRODUCTION

school or junior high school, provide both challenges and opportunities for development (Steinberg, 2017). The transition to middle school is accompanied by changes in social relationships and numerous changes in physical and cognitive development. Students face multiple challenges during this time period, not the least of which are increases in academic competition and social comparison among peers, which may result in decreased self-esteem and school connectedness, as well as increased anxiety and loneliness (Cappella et al., 2019). Students during this developmental period often experience increased vulnerability to emotional and behavioral problems, disengagement from school, and decreased positive peer influence (Steinberg, 2017). Negative outcomes associated with the transition to middle school are not uncommon, including academic decline and social maladjustment (Rockoff & Lockwood, 2010).

Approximately one half of youth in the United States experience a diagnosable mental disorder at some time in their lives and around one quarter experience a diagnosable disorder with severe functional impairment (Merikangas et al., 2010). Given the challenges associated with early adolescence, middle school students may be particularly at risk for developing or worsening mental health problems. In fact, evidence suggests that nearly half of all lifetime cases of mental illness begin by mid-adolescence (Kessler et al., 2005). Furthermore, there is evidence to suggest that, beyond diagnosable mental disorders, students who do not experience complete mental health are at risk for negative outcomes. For example, Suldo and Shaffer (2008) found that 13% of middle school students could be classified as “vulnerable.” While these students demonstrated low levels of psychopathology, they also demonstrated low levels of subjective wellbeing. Compared with students with complete mental health (i.e., those with low levels of psychopathology and high subjective wellbeing), vulnerable youth demonstrated diminished academic self-concept, a more negative view of the importance of school, and reduced motivation to self-regulate behaviors necessary for learning. In addition, these youth performed worse on measures of reading achievement and had a higher rate of absenteeism. These students also reported more problems with their general health compared with youth with complete mental health.

While early adolescence can pose many challenges for youth, the middle school years may also offer an ideal opportunity to intervene to enhance social and emotional competencies as a means by which to promote positive outcomes for youth. The Collaborative for Academic, Social, and Emotional Learning (CASEL, 2020a) has identified five core competencies of social and emotional learning: self-awareness (e.g., recognizing emotions, thoughts, and their influence on behavior; assessing personal strengths and limitations), self-management (e.g., effectively regulating emotions, thoughts, and behaviors in different situations; setting goals),

and maintaining healthy relationships, communicating well with others, negotiating conflict, and seeking and offering help when needed), and responsible decision-making (e.g., making constructive choices, evaluating consequences of actions, and considering the well-being of self and others). Social emotional competencies can be both protective and promotive and are important to the development of healthy coping and problem-solving skills (Eklund et al., 2018). Social and Emotional Learning (SEL) programs delivered in school settings are an ideal way to promote the development of these competencies and foster skills that help students' entire developmental process (Wallender et al., 2020). CASEL defines social and emotional learning as the process through which youth develop social and emotional intelligence to understand and manage emotions, establish, and maintain positive relationships, make responsible decisions, and engage in adaptive behaviors (CASEL, 2020a). Evidence provides support for integrating SEL programs into schools to promote the development of positive social and emotional skills. Promotion of these skills has been associated with increased academic engagement, improved behavior, greater attachment to school, protection for at-risk youth, and improved academic achievement.

Social and emotional competencies are important for the development and maintenance of healthy relationships, the ability to cope with difficulties, and the maintenance of overall health and well-being. However, evidence suggests that social and emotional competencies tend to decline in early adolescence. During middle school, it is not uncommon for students to experience declines in self-efficacy, social awareness, self-regulation, and self-management (West et al., 2016, 2020). However, while the lack of core social and emotional competencies increases the risk for future academic, behavioral, and social impairments (Thayer et al., 2019), students with highly developed social and emotional skills are more likely to successfully adapt to the middle school environment (Hall & DiPerna, 2017). In addition, it appears that the transitional nature of the middle school years makes this time period ideal for the delivery of interventions to increase social and emotional functioning (January et al., 2011).

The number of states with K-12 standards for SEL, whether freestanding or integrated into other sets of learning standards, continues to grow (Dusenbury et al., 2015). Many evidence-based SEL programs have been developed and implemented in schools, ranging from universal whole-class programs to targeted programs for at-risk children or those with skill deficits (Carroll et al., 2020). Adoption and support of SEL programs are largely due to a growing evidence base that demonstrates the important benefits of SEL programs on the development of social-emotional skills, academic functioning, mental health, and overall health and well-being of students (Dowling et al., 2019; Jones et al., 2017). In one meta-analysis of school-based universal SEL interventions, findings revealed positive outcomes of SEL related to improved

SEL programming in the school, findings revealed continued long-term benefits following program participation. Benefits were evident for social and emotional competencies, academic performance, prosocial behavior, and prosocial attitudes months and sometimes years after participating in a SEL program. Notably, findings also provide evidence that increases in social and emotional skills that result from program participation have the potential to positively influence students' psychosocial health (Taylor et al., 2017).

While many studies have examined the effectiveness of a variety of SEL programs and interventions, Wallender et al. (2020) note that a need still exists for research on the outcomes of universally implemented SEL programs. Universal programs are a critical component of a multitiered system of supports, as they are likely to have the greatest reach and potential to prevent future problems. Evidence for the effectiveness of universal approaches to SEL is important to inform efforts to promote the psychosocial functioning and mental wellbeing of students. Given the critical period of early adolescence, studies that focus on efforts to promote the development of social and emotional competencies in middle school students through the provision of SEL programs are of particular importance.

1.1 The current study

The Speaking to the Potential, Ability, and Resilience Inside Every Kid (SPARK) Pre-Teen Mentoring Curriculum is a classroom-based SEL program designed to reduce risk factors, build resiliency, promote emotional well-being, and facilitate school success in youth between the ages of 10–13 years. Consistent with CASEL recommendations, the SPARK Pre-Teen Mentoring Curriculum is sequenced, active, focused, and explicit (i.e., SAFE; CASEL, 2020b). The Curriculum includes a series of coordinated lessons that are delivered in a specific order and incorporate multiple learning activities (e.g., group discussions, role plays, videos, demonstrations, etc.) to help students master content and skills. Throughout the lessons, emphasis is placed on the development and generalization of personal and social skills. A primary objective of the curriculum is to promote understanding of the principles of mind, thought, and consciousness to enhance resiliency. Through curriculum lessons and activities, youth gain insight into thought recognition and self-esteem, an understanding of the dynamics of feelings, and the ability to use thought chains in decision-making. In doing so, youth are expected to demonstrate an increase in emotion regulation, resilience, and communication, problem-solving, and decision-making skills. Youth who effectively regulate their emotions are able to monitor, evaluate, and modify their emotional reactions to accomplish their goals (Grant et al., 2018). Furthermore, resilient youth respond to challenges, whether academic or social, in such a way that is positive and beneficial for development. This might be through the use of effective decision-making processes, creative approaches to solving problems, or peaceful conflict

more susceptible to negative outcomes in the face of developmental, social, and academic challenges.

The current study provides an initial evaluation of the SPARK Pre-Teen Mentoring Curriculum. The specific aims of this evaluative study are to determine if the SPARK Pre-Teen Mentoring Curriculum: (1) increases participants' understanding of the principles of mind, thought, and consciousness; (2) increases participants' communication, problem-solving, and decision-making skills; (3) increases participants' emotional regulation skills; and (4) increases participants' resilience level.

2 METHODS

2.1 Setting

This study took place in two middle schools located in the southwest region of a large southern school district. School A is a Title 1 school with approximately 1400 students, 68% of whom are classified as economically disadvantaged. The demographic composition of School A is 33.0% Hispanic, 29.5% White, 27.5% Black, 7.3% Multi-race, 2.4% Asian, and 0.4% Indian. School B serves approximately 1340 students, 48% of whom are classified as economically disadvantaged. The demographic composition of School B is 54.1% White, 27.8% Hispanic, 9.1% Black, 6.4% Multi-race, 2.5% Asian, and 0.2% Indian.

2.2 Participants

Written informed consent for participation was obtained from parents of 365 students in 22 classes (12 classes from School A and 10 classes from School B). A comparison of participants between School A and School B revealed significant differences between schools. Participants from School A were significantly more likely to be younger (mean age = 12.2 years vs. 12.5 years, $t = -4.72$, $p < .0001$), female (47.5% vs. 21.2%, $\chi^2 = 27.18$, $p < .0001$), Black (36.0% vs. 11.2%, $\chi^2 = 34.59$, $p < .0001$), and to receive free/reduced lunch (64.0% vs. 39.7%, $\chi^2 = 21.25$, $p < .0001$). While differences in demographic characteristics of students from School A and School B were observed, these variables were not expected to affect the impact of the intervention.

To preserve the characteristics of students in each school in the design, participants were randomly assigned by classroom within schools to either the intervention or comparison condition. Randomization procedures resulted in 11 classes (six from school A and five from school B) being randomized to the intervention condition and 11 classes (six from School A and

male, 40.4% White, and 36.6% Hispanic. Just under half received free/reduced lunch (49.2%). Students from classes randomized to the comparison condition (n = 177) had a mean age of 12.4 years, were 64.2% male, 39.1% white, and 26.4% Hispanic. Just over half received free/reduced lunch (54.6%). To evaluate the adequacy of random assignment in equating the groups for each condition, students in the intervention and comparison groups were compared on demographic characteristics and on scales from the Time 1 student questionnaire. This analysis indicated no statistically significant differences between students in the intervention and comparison groups on the measures or student demographics.

Five students from the intervention group and three students from the comparison group were lost to follow up and did not complete the Time 2 student questionnaire. All of the students who were lost to follow-up were males. Otherwise, students lost to follow-up did not differ significantly from the other students on any demographic variables measured. The final sample for analysis includes 357 students for whom both Time 1 and Time 2 data were available (see Figure 1).

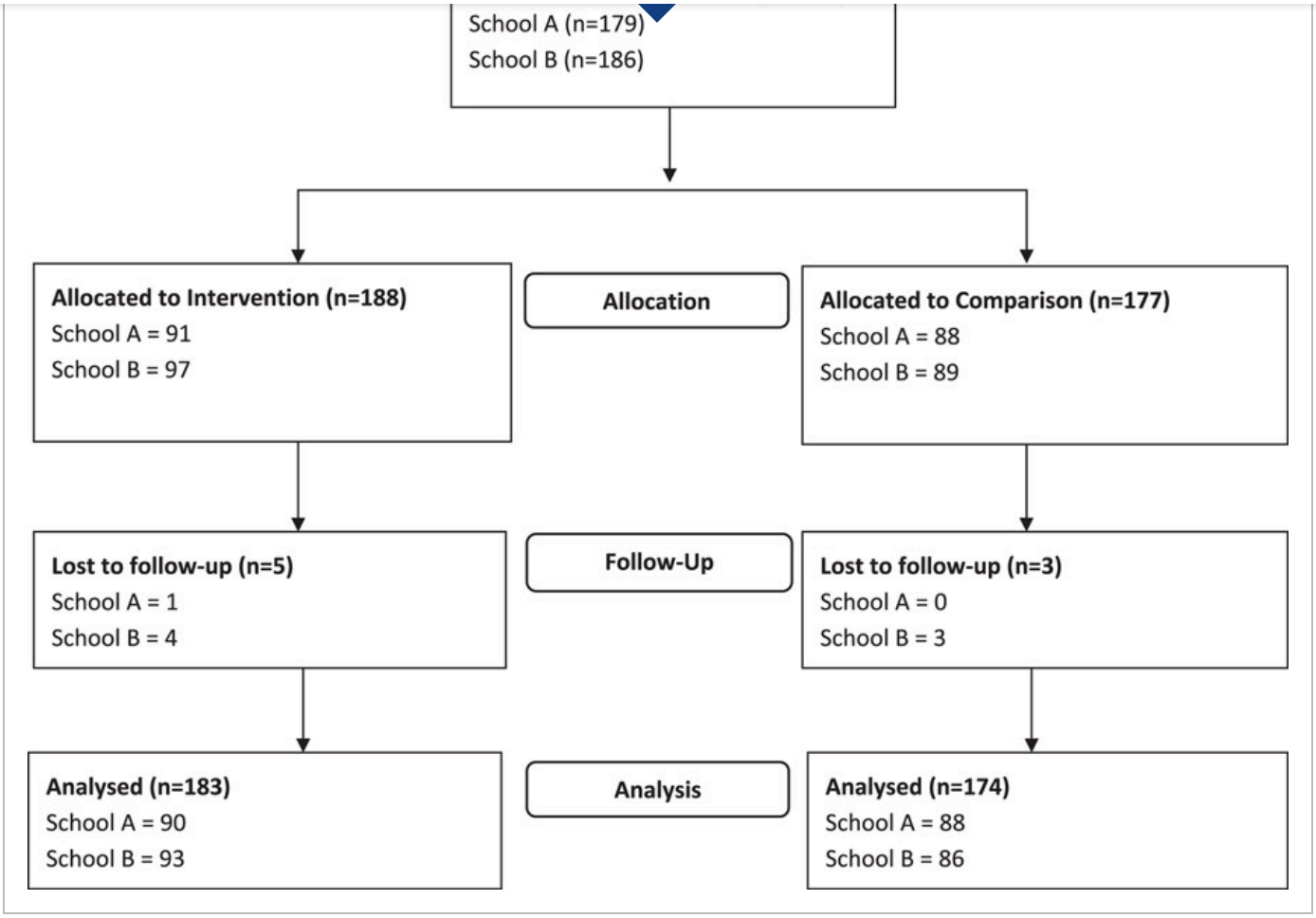

Figure 1

Open in figure viewer | PowerPoint

Participant flow chart

2.3 SPARK intervention protocol

The SPARK Curricula are mentoring curricula designed to reduce risk factors, build resiliency, promote emotional well-being, and facilitate school success in elementary, middle, and high school students. The SPARK Curricula are based on guiding principles and values, relevant age-specific topics and content, and associated subject matter and activities. SPARK curriculum lessons are designed to promote positive development and coping. Developing and strengthening these competencies within students can bolster their resilience and capacity to manage the relationships, responsibilities, expectations, and the challenges they face. Rather than focusing on deficits that predispose, enable, and reinforce negative behaviors, the SPARK program focuses on student assets and resources as agents of change. The SPARK program

to inform senses, direct attention and awareness, and produce experienced reality) to achieve this goal. The specific objectives of the SPARK Curricula are to: (1) teach students an understanding of the mind to reduce risky behavior and enhance resiliency; (2) connect skills learned to life experiences and circumstances; (3) build relationships and connectedness that support students and the skills learned; and (4) empower students to utilize their leadership and creativity in giving back to their community.

The SPARK curricula consist of a Young Child Mentoring Curriculum for children ages 5–8 years old, a Child Mentoring Curriculum for children ages 8–10 years old, a Pre-Teen Mentoring Curriculum for youth ages 10–13 years old, a Teen Mentoring Curriculum for adolescents ages 13–22 years old, additional topic specific modules which include Healthy Relationships, Leadership, Life Skills, Expectations and Social Pressures, Teen Parenting, and a Sex Education and Teen Pregnancy Infusion Program for ages 13–22 years old. The focus of the current study is the Pre-Teen Mentoring Curriculum. The SPARK Pre-Teen Mentoring Curriculum covers relevant and relatable topics that help students better understand themselves and others, develop vital social and emotional skills, and access their leadership and creativity to foster academic achievement and healthy community functioning. The SPARK Pre-Teen Curriculum consists of 12 lessons taught in group format by SPARK facilitators in hourly sessions delivered sequentially over 12–13 weeks.

2.4 Procedure

Program implementation and data collection took place during the Spring semester of the 2018–2019 school year and the Fall semester of the 2019–2020 school year. During each of these semesters, students completed a questionnaire at Time 1 (at the start of the study period, before intervention delivery) and again approximately 13 weeks later (at the conclusion of the study period, immediately following the intervention). Students from both semesters were combined into a single sample for the purposes of the current study. The SPARK Pre-Teen Mentoring Curriculum was delivered by certified SPARK facilitators to students in classrooms assigned to the intervention condition. SPARK facilitators delivered the curriculum using a standardized instruction manual that incorporates group activities, discussions, and games designed to help students understand the content of the intervention curriculum. For the current study, one facilitator delivered the curriculum to students in eight of the classes assigned to the intervention condition and a second facilitator delivered the curriculum to students in the remaining three classes assigned to the intervention condition.

Fidelity of implementation was measured using two scales that assess adherence to the program model and quality of delivery. The Session Fidelity Rating Scale was completed by

intervention. Sample statements include “follow the lesson content” and “knowledgeable of subject matter.” Facilitators rated each item on a scale of 1 “Not met” to 4 “Met.” Completed rating scales were reviewed with the SPARK Initiative supervisor on a weekly basis. In addition, the Supervisory Fidelity Scale, which includes the same 23 items as the Session Fidelity Rating Scale, was completed by the SPARK supervisor during two random observations of each SPARK facilitator. Results from observations were reviewed individually with each SPARK facilitator following completion of the rating scale. Average ratings on the Session Fidelity Rating Scale across intervention classrooms was 3.98 out of 4.00. An examination of agreement of fidelity ratings between the facilitators and supervisor revealed similar ratings. Overall, facilitators and the supervisor agreed on fidelity ratings 97.75% of the time. Collectively, results from these measures support the likelihood that the SPARK Curriculum was delivered with fidelity for the current study.

Student attendance of SPARK sessions was monitored to help ensure that students received the intended amount of program exposure. The average attendance rate across all classrooms assigned to the intervention condition was 92%, or roughly 11.04 out of 12 sessions. Average attendance ranged from a low of 10.13 sessions attended to a high of 11.40 sessions attended. The lowest number of sessions attended by any student was nine ($n = 6$). Ten students attended only ten sessions. These data suggest that students received an adequate amount of the curriculum to demonstrate program impact.

2.5 Measures

2.5.1 Level of knowledge of curriculum content

Level of knowledge of the curriculum was measured using six items from the Three Principles Inventory (3PI; Kelley, 2011). The 3PI assesses student knowledge of primary principles of the SPARK curriculum. Responses to the 3PI items range from 1 “Disagree Completely” to 6 “Agree Completely.” Higher scores indicate more knowledge of the curriculum content. The range of total scores possible on the selected items from the 3PI is from 6 to 36. The 3PI has demonstrated adequate reliability (Cronbach's alpha = .70) when used with adults (Kelley et al., 2017). For the current study sample, Cronbach's alpha (using both Time 1 and Time 2 data) was 0.68.

2.5.2 Communication, decision-making, and problem-solving skills

The Communication, Decision-Making and Problem-Solving (CDP) scale has 16 items and was developed by SPARK Initiative staff. Items on this scale are based on items from the National Life Skills Evaluation System scales of decision-making, problem-solving, and communication,

decision-making skills (five items), and communication skills (six items). Items for each subscale have responses that range from 1 “Never” to 5 “Almost Always.” The total score on the CDP is the sum of all items and ranges from 11 to 55 with higher scores indicating greater communication, decision-making, and problem-solving skills. Subscale scores range from 1 to 5 and are derived by summing items for each subscale and then dividing by the number of items for that subscale. Based on the current study sample, Cronbach's alphas (using both Time 1 and Time 2 data) were 0.91 for the total scale, 0.76 for the communication skills subscale, 0.80 for the decision-making skills subscale, and 0.84 for the problem solnicollving skills subscale.

2.5.3 Difficulties in emotional regulation

Difficulties in emotional regulation were measured using the Impulse and Clarity subscales from the short form of the Difficulties in Emotional Regulation Scale (DERS-SF; Kaufman et al., 2016). The Impulse subscale measures difficulties with impulse control and the Clarity subscale measures lack of emotional clarity. Each subscale includes three items with response options that range from 0 “Almost Never” to 4 “Almost Always.” Subscale scores are derived by summing the items for that subscale and range from 0 to 12. The total score, which ranges from 0 to 24, is obtained by adding the two subscale scores. Lower scores on the DERS-SF are desirable as they indicate fewer difficulties with emotional regulation. The DERS-SF total and subscales scores have demonstrated good internal reliability (0.78 to 0.91) and adequate construct and concurrent validity (Kaufman et al., 2016). Based on the current study sample, Cronbach's alphas (using both Time 1 and Time 2 data) were .86 for the total scale, .88 for the clarity subscale, and .92 for the impulse subscale.

2.5.4 Resilience

Resilience was measured using the following three subscales from the Resiliency Scales for Children and Adolescents (RSCA; Prince-Embury, 2007): the sense of relatedness subscale (24 items), the sense of mastery subscale (20 items), and the optimism subscale (seven items: all taken from the sense of mastery subscale). Response options for items on all three subscales range from 0 “Never” to 4 “Almost Always.” Subscale scores are the sum of the items for each subscale and range from 0 to 96 for the sense of relatedness subscale, 0–80 for the sense of mastery subscale, and 0–28 for the optimism subscale. A total resilience score is calculated by summing the relatedness and mastery subscale scores with higher scores indicating greater resilience. The RSCA scales have demonstrated validity through structural investigations and acceptable internal consistency reliability (0.61–0.94) and test-retest reliability (0.79–0.83; Prince-Embury, 2007, 2011). Based on the current study sample, Cronbach's alphas (using both

2.6 Data analysis

Each of the scales contained within the questionnaire were analyzed to compare change over time for students in the intervention condition versus students in the comparison condition. Average Time 2 scores for the two groups were compared using analysis of covariance. In this analysis, the condition variable (intervention vs. comparison) was entered as a factor in the model and the Time 1 score for that measure was entered as a covariate. This corrects for bias due to Time 1 group differences and regression to the mean. In addition, controlling for outcome measures at Time 1 helps to ensure that results yield a more accurate evaluation of program effectiveness (Corcoran et al., 2018). From this analysis, the test statistic for the condition variable is reported using Type III Sums of Squares (this represents the contribution of the condition variable after adjusting for Time group differences on the outcome measure). Twisk and Proper (2004) have argued that this approach is preferable (less biased) than the use of residualized change scores for analyzing change over time in randomized controlled trials. Finally, the effect size for that measure using Hedges' *g* is presented. For this statistic, 0.8 or more indicates a large effect, 0.5 to <0.8 indicates a medium effect, and 0.2 to < 0.5 indicates a small effect, although these cutoffs are generally not applied rigidly (Cohen, 1992).

3 RESULTS

3.1 Level of knowledge of curriculum content

Overall, 85% of students in the intervention condition showed a positive change in their knowledge of the SPARK curriculum from Time 1 to Time 2 compared with 41% of students in the comparison condition. On the 3PI, scores for students in the comparison condition were essentially unchanged from Time 1 to Time 2. In contrast, mean scores on the 3PI increased from Time 1 to Time 2 for students in the intervention condition. Comparison of the groups on change from Time 1 to Time 2 after controlling for Time 1 levels was significant, suggesting that students in the intervention condition significantly increased their knowledge of the curriculum compared with the comparison group. The effect size estimate for this comparison is considered large (Hedges' *g* = 1.4; see Table 1).

Table 1. Analysis of variance (ANOVA) of pre-intervention scores and analysis of covariance (ANCOVA) of post-intervention scores controlling for pre-intervention scores for students in the intervention condition (*n* = 183) compared to students in the comparison condition (*n* = 174)

Variable	Intervention group	Comparison group	*F*	*p*
Knowledge of Curriculum (3PI)				
Pre-Intervention	17.46	18.41	5.60	.19
Post-Intervention	24.41	18.28	173.52	<.0001
				$g = 1.4$
Total CDP Score				
Pre-Intervention	56.19	56.44	0.05	.831
Post-Intervention	61.78	55.40	61.03	<.0001
				$g = 0.82$
Communication Skills Subscale				
Pre-Intervention	3.46	3.42	0.29	.590
Post-Intervention	3.87	3.44	44.21	<.0001
				$g = 0.70$
Decision-Making Skills Subscale				
Pre-Intervention	3.53	3.60	0.64	.423

3.2 Communication, decision-making, and problem-solving skills

On the total CDP scale, 78% of students in the intervention condition showed a positive change from Time 1 to Time 2, compared with 45% of students in the comparison condition. On the total CDP scale and the three CDP subscales, scores for students in the comparison condition were essentially unchanged from Time 1 to Time 2. For students in the intervention condition, mean scores for all of these measures increased from Time 1 to Time 2. Comparison of the groups on change from Time 1 to Time 2 after controlling for Time 1 levels was significant for the total CDP scale and all three subscales. Higher scores on these scales reflect more skill in each of these areas. Effect size estimates for Time 2 differences between groups are in the large range for the total CDP score (Hedge's $g = 0.82$) and in the medium ranges for individual CDP subscale scores (Hedges' $g = 0.69$–0.70) (see Table 1).

Overall, 69% of students in the intervention condition showed a positive change in their levels of emotional regulation from Time 1 to Time 2 compared with 42% of students in the comparison condition. For both the impulse and clarity subscales of the DERS-SF and for the total score, the mean Time 2 scores for students in the comparison condition were essentially unchanged from Time 1. For students in the intervention condition, mean scores decreased from Time 1 to Time 2 for both subscales and the total score. The change from Time 1 to Time 2 after controlling for Time 1 levels was significant for both subscales and for the total score. Lower scores on the DERS-SF reflect less difficulty with emotional regulation. Time 2 differences obtained Hedges' *g* values that reflect a medium effect size for the total score (0.54) and the clarity subscale (0.74), and a small effect size for the impulse subscale (0.39; see Table 1).

3.4 Resilience

The majority (78%) of students in the intervention condition showed a positive change in their levels of resiliency from Time 1 to Time 2 compared with 49% of students in the comparison condition. For the total resilience scale and each of the RASE subscales, mean Time 2 scores for students in the comparison condition remained essentially unchanged from Time 1. For students in the intervention condition, mean scores on all scales increased from Time 1 to Time 2. The change from Time 1 to Time 2 after controlling for Time 1 levels was significant for the total resilience scale and for each of the subscales. Higher scores on the RASE indicate higher levels of resilience. Hedge's *g* values for the total resilience scale, the sense of relatedness subscale, the sense of mastery subscale, and the optimism subscale were all in the medium range (0.51–0.76; see Table 1).

4 DISCUSSION

In their work, Ni et al. (2016) conceptualized the daily stressors experienced by middle school students as adversity. Indeed, the challenges associated with this developmental period and time of transition are many and have been linked to a variety of negative academic, psychosocial, and mental health outcomes. While this period marks a time of significant challenge, it may also mark a time of significant opportunity to intervene to teach and strengthen students' social and emotional competencies to promote resilience and prevent future problems (Duong & Bradshaw, 2017). SEL programs are a promising approach for achieving this goal as they have been shown to contribute to the effective enhancement of SEL competencies and to psychosocial health (Van de Sande et al., 2019).

Results from the current study demonstrate that students who received the SPARK Pre-Teen Mentoring Curriculum increased their knowledge and understanding of the primary principles

convey this information to students. However, because evaluating knowledge and understanding is not sufficient to fully understand the impact of the curriculum on student behavior, the current study addressed behavioral outcomes as well. Results examining the impact of the curriculum on behavioral outcomes indicate that students who received the SPARK Curriculum demonstrated significant increases in their communication, problem-solving, and decision-making skills compared with students who did not receive the curriculum. Furthermore, students who received the SPARK Curriculum demonstrated improvement in their ability to understand the connection between their thoughts and their emotions and manage how they respond to their emotions. Finally, results from this study provide initial evidence for the effectiveness of the SPARK Curriculum in increasing resilience in middle school students. Collectively, these findings are encouraging as social and emotional competencies have been shown to play a key role in development of youth into healthy and competent young adults (Carroll et al., 2020; Nicoll, 2014). For middle school students in particular, strengthening social and emotional competencies and the ability to cope with the daily challenges of this developmental period may serve as an important protective factor for overall health and wellbeing.

A notable strength of this study is the inclusion of measures of adherence to program implementation, quality of delivery, and amount or duration of exposure to the intervention. In their meta-analysis of school-based social and emotional learning programs, Durlak et al. (2011) noted the importance of high-quality program implementation for producing positive outcomes. A frequently acknowledged challenge in the implementation of school-based interventions is that of fidelity monitoring and ensuring high fidelity program implementation (Vroom et al., 2020). Not only do the results from implementation fidelity measures used in the current study provide evidence that the SPARK Curriculum was delivered as intended, but their use in the current study also demonstrates the feasibility and utility of these measures as a tool for monitoring implementation fidelity of the SPARK Curriculum within the context of school-based program delivery.

5 LIMITATIONS

There are a few limitations to the current study. The first is related to the generalizability of findings. While students were sampled from two diverse middle schools, both schools were recruited from the same school district within a single state. Larger scale studies of the SPARK Curriculum are needed to determine if the effects of the program generalize to different middle school student populations in different geographic regions. Regarding instrumentation, the relatively low estimate of internal consistency reliability for the 3PI is a noted limitation.

study design (Kutash et al., 2007). While it was not possible to randomize individual students to classrooms for the current study, this is reflective of the realities of the school setting. However, this limitation should be taken into consideration when interpreting the findings from this study. Finally, the duration between Time 1 and Time 2 assessment for the current study was relatively short. To fully understand the potential of the SPARK Pre-Teen Mentoring Curriculum for middle school students, additional research that examines longer term effects is necessary.

6 CONCLUSIONS AND FUTURE DIRECTIONS

Overall, findings from this study provide preliminary evidence for the effectiveness of the SPARK Pre-Teen Mentoring Curriculum. As the first systematic evaluation of the SPARK Pre-Teen Mentoring Curriculum, this study is an initial step toward building evidence in support of the program and its impact on middle school students. An important direction for future research will be to examine specific aspects of program implementation and their effect on outcomes. This is especially important for school-based intervention programs as the school context presents many unique opportunities and challenges in terms of implementation. For example, because reliance on outside facilitators to deliver the curriculum could present a barrier to implementation in some schools, additional research is needed to examine the feasibility and effectiveness of training school staff to deliver the SPARK Curriculum. Another line of research might focus on the implementation of the SPARK Curriculum as part of existing multi-tiered systems of supports. Research suggests that an integrated approach in which SEL programs are combined with existing positive-behavior support systems may increase the benefit to students (Djambazova-Popordanoska, 2016). As a classroom-based intervention focused on prevention and resilience, the SPARK Pre-Teen Mentoring Curriculum could prove to be an important component of a school's universal support system. A strong universal approach to social and emotional learning in schools can provide the foundation on which to build an effective system of supports in which social and emotional competencies are promoted and students experience positive academic, psychosocial, and mental health outcomes.

CONFLICT OF INTERESTS

The authors declare that there are no conflict of interests.

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