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The Impact of Sambhavya-SEL: Strengthening Social and Emotional Competence in Middle School Students

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Abstract

Social and Emotional Learning (SEL) involves developing skills in self-awareness, self-management, empathy, self-management, relationship skills, responsibility, and psychological resilience. The Sambhavya-SEL Program targets enhancing such skills in middle school students. This study aims to evaluate its impact over a one-year period. This study used a repeated-measures design with 735 middle school students (ages 11 - 14) from private schools in Kathmandu. A custom 12-item Likert scale assessed six SEL dimensions. The Wilcoxon Signed-Rank Test analyzed changes, while tool reliability and convergent validity were evaluated using Guttman's λ2 and Spearman's rank correlation coefficient, respectively. Male had significantly higher levels in three SEL component in pretest results while in posttest this increased to five components. Posttest scores showed significant improvements across all SEL dimensions, including self-awareness ($p < 0.001$), empathy ($p = 0.001$), self-management ($p < 0.001$), relationship skills ($p = 0.016$), responsibility ($p = 0.007$), psychological resilience ($p = 0.012$), and overall SEL ($p < 0.001$), with modest to moderate effect sizes. Tool reliability increased from λ2 = 0.72 (pretest) to λ2 = 0.78 (posttest). Convergent validity, assessed using Spearman's rank correlation coefficient, ranged from ρ = 0.53 ($p < 0.001$) to ρ = 0.66 ($p < 0.001$) pretest and ρ = 0.59 ($p < 0.001$) to ρ = 0.70 ($p < 0.001$) posttest, indicating strong validity. This study highlights the SEL program's positive effects on middle school students' social-emotional skills, emphasizing the need for educators and policymakers to integrate SEL into curricula for enhanced mental health support.

Keywords

Empathy, Relationship Skills, Resilience, Responsibilities, Self-Awareness, Self-Management, Social Emotional Learning (SEL)

1. Introduction

Collaborative for Academic, Social, and Emotional Learning (CASEL) offers a research-based framework for evaluating and selecting quality SEL programs, facilitating educators in developing comprehensive initiatives that enhance children's growth and development while emphasizing the need for supportive policies and effective implementation (Payton et al., 2000). Social and emotional learning (SEL) is crucial for education and human development, as it fosters educational equity and excellence through school-family-community partnerships that establish trusting relationships, meaningful curricula, and ongoing evaluation (CASEL, 2024).

Parents identified themselves as the primary facilitators of their child's social-emotional development, leveraging their personal strengths to mitigate the effects of systemic challenges. Furthermore, families highly valued and were significantly impacted by positive interactions with support personnel and beneficial experiences with relevant programs (Finster et al., 2024).

A study found that sharing behavior consistently predicts subsequent moral and social competence over time (Schiele et al., 2024). Additionally, the interaction between moral and social competence, and normative stances plays a key role in shaping prosocial behavior during these early years (Schiele et al., 2024).

Studies show that prioritizing social and emotional learning (SEL) alongside academics enhances student success, with key factors including strong teacher-student relationships, effective interventions, and simple classroom strategies like mindfulness. Proper training and support for educators improve SEL programs, positively affecting students' social-emotional skills, engagement, and academic performance (Pitlik, 2021). A study found that the SEL curriculum significantly enhanced students' knowledge, communication, decision-making, problem-solving skills, emotional regulation, and resilience (Green et al., 2021). Similarly, another study found that SEL programs significantly impacted SEL competencies and psychosocial health, with the greatest effects observed in self-awareness and social awareness, despite the primary focus on self-management and relationship skills (van de Sande et al., 2019). Sklad et al. (2012) found that SEL interventions significantly increased social skills and decreased antisocial behavior, showing overall positive effects on social skills, antisocial behavior, substance abuse, self-image, academic achievement, mental health, and prosocial behavior. Additionally, Jones et al. (2011) reported that children in intervention schools showed improvements in hostile attributional bias, aggressive negotiation strategies, and depression according to self-reports, as well as attention skills, aggression, and social

competence according to teacher reports.

A mixed-methods study conducted in China examined the impact of a SEL curriculum on preschoolers' mental health. Qualitative findings identified three key themes: understanding and managing emotions, problem-solving and conflict resolution, and empathy and kindness. These results suggest that early SEL interventions can enhance emotional regulation, social interactions, and overall mental well-being in young children (Zhou, 2023). In rural China, students rated the SEL curriculum positively, with notable improvements in overall social and emotional competencies—particularly in self-awareness, social awareness, and relationship skills. However, no significant gains were found in self-management and responsible decision-making, and the intervention appeared more effective for boys and children with work-away parents (Fu et al., 2024).

In Nepal, there is no research on the effectiveness of SEL programs for school students. Therefore, the impact of the SEL Program on improving social and emotional competencies is not well-documented.

The Present Study

SEL has gained global recognition for its role in promoting students' holistic development, academic success, and emotional well-being. The CASEL provides a widely accepted framework for implementing SEL in schools. This framework emphasizes five interrelated core competencies: self-awareness, self-management, social awareness, relationship skills, and responsible decision-making. These competencies are designed to be cultivated across classrooms, schools, families, and communities, thereby fostering personal and social responsibility among students (CASEL, n.d.).

In alignment with the CASEL framework, the Sambhavya–SEL program was developed and implemented in Nepalese private schools as a comprehensive, school-based mental health initiative. It integrates SEL with Digital Citizenship and Sexual and Reproductive Health education, embedding these components into daily classroom instruction. The program also involves non-teaching staff, parents, and community members through mental health literacy training and workshops, thereby promoting a whole-school approach to mental well-being (Sambhavya Group, n.d.).

To evaluate the effectiveness of the Sambhavya–SEL program, this study employed a pretest-posttest design using a 12-item self-report questionnaire measuring key dimensions of SEL. The pretest was administered prior to the program's implementation, and the posttest followed its completion. This research is especially relevant in the Nepalese context, where structured SEL initiatives are still emerging. It addresses a critical gap by providing empirical evidence of the program's impact among middle school students. This study aims to evaluate the effectiveness of the Sambhavya SEL Program in the unique cultural context of Nepal. We also aim to evaluate the usefulness of the self-made SEL tool for this particular study.

The study highlights measurable improvements in students' self-awareness, empathy, emotion regulation, social relationships, and psychological resilience. These outcomes support the argument that structured SEL programs can contribute to both academic success and emotional well-being. The findings also offer valuable implications for educators and policymakers, emphasizing the importance of integrating SEL into national curricula and developing sustainable, evidence-based interventions for fostering student mental health.

2. Methods

2.1. Research Design

We employed a field experimental research design with a repeated measures approach. Data were collected from participants before and after a year-long intervention program. The pretest was administered prior to the intervention, and the posttest followed after its completion. This design allowed us to observe changes over time and assess the effectiveness of the intervention.

2.2. Participants

The initial dataset comprised 1017 participants. Of these, 248 completed only the pretest and 71 completed only the posttest; both groups were excluded from the analysis. An additional 34 participants were excluded due to concerns about the trustworthiness of their responses. The final sample consisted of 735 participants who completed both tests. Participants ranged in age from 11 to 14 years (M = 11.74, SD = 0.75). The sample included 314 females (42.72%) and 421 males (57.28%), all enrolled in grades 6 (50.78%) and 7 (49.52%). All participants were from private schools and represented diverse demographic backgrounds.

2.3. Materials

We employed a self-made 12-item Likert scale, the Social Emotional Learning Scale (SELS-12), which included SEL elements: self-awareness, empathy, self-management, relationship skills, responsibility, and psychological resilience. Each elements were measured through two different indicators. The reliability score in the pretest was found to be $\lambda 2 = 0.72$, 95% CI [0.69, 0.75], which increased to $\lambda 2 = 0.78$, 95% CI [0.76, 0.81] in the posttest. The correlations between item scores and the total scale ranged from Spearman's rank correlation coefficient (ρ) = 0.42 ($p < 0.001$) to $\rho = 0.55$ ($p < 0.001$) in the pretest and from $\rho = 0.44$ ($p < 0.001$) to $\rho = 0.60$ ($p < 0.001$) in the posttest, indicating moderate to strong convergent validity (Table 1). The response patter for each item was as Completely Disagreed (1) to Completely Agreed (5). Total scale value was obtained after the calculation of each item value and adding all the values of 12 items.

2.4. Procedure

A questionnaire was developed with 12 items Likert style self-report form. The questionnaire was set to measure the aspects in social emotional learning. The

Table 1. Pretest vs posttest correlation matrices.

Pretest		1	2	3	4	5	6	7
					Posttest Scores			
1. Self-awareness	Spearman's rho	—	0.29***	0.35***	0.32***	0.36***	0.31***	0.65***
	p-value	—	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001
2. Empathy	Spearman's rho	0.20***	—	0.26***	0.37***	0.34***	0.31***	0.59***
	p-value	<0.001	—	<0.001	<0.001	<0.001	<0.001	<0.001
3. Self-management	Spearman's rho	0.26***	0.15***	—	0.27***	0.39***	0.41***	0.69***
	p-value	<0.001	<0.001	—	<0.001	<0.001	<0.001	<0.001
4. Relationship Skills	Spearman's rho	0.28***	0.31***	0.27***	—	0.35***	0.33***	0.62***
	p-value	<0.001	<0.001	<0.001	—	<0.001	<0.001	<0.001
5. Responsibilities	Spearman's rho	0.31***	0.23***	0.27***	0.35***	—	0.41***	0.70***
	p-value	<0.001	<0.001	<0.001	<0.001	—	<0.001	<0.001
6. Psychological Resilience	Spearman's rho	0.29***	0.22***	0.29***	0.31***	0.31***	—	0.69***
	p-value	<0.001	<0.001	<0.001	<0.001	<0.001	—	<0.001
7. SEL Total	Spearman's rho	0.62***	0.53***	0.62***	0.66***	0.65***	0.63***	—
	p-value	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	—
					Pretest Scores			

***$p < 0.001$.

questionnaire included consent form, demographic information form and the scale items. A paper based data collection tools was employed. The participants were coded in a specific way with their names and schools to keep record of each participants to track in post assessment with high alert in privacy and confidentiality.

The questionnaire was distributed to the students with clear instruction about the procedure and the time they make take to complete to avoid biases in both pretest and posttest. The pretest was conducted before the day of Sambhavya-SEL program was introduced and the posttest was conducted at the end of the program implementation.

After the pre-assessment, the Sambhavya-SEL was implemented as a comprehensive school-based mental health framework, integrating Social and Emotional Learning (SEL), Digital Citizenship, and Sexual Reproductive Health education into the standard curriculum to provide a holistic view of personal and social responsibility. Daily classroom activities and discussions were designed to proactively address mental health, engaging the entire school community. Non-teaching staff received training on mental health literacy to support both students and themselves. Additionally, workshops and training sessions were offered to parents and community members to extend support beyond the school.

After the implementation of the program, post assessment was conducted using

the same scale. An exact procedure as in pre-assessment was followed to collect the data from all of the school where the program was launched in the same grades with the same participants.

2.5. Data Analysis

Descriptive data were calculated for both the pretest and posttest, following an assessment of normality using the Shapiro-Wilk test, except for gender and grades. The normality test results indicated non-normal distribution for all measures, justifying the use of a median-based analysis. For gender and grade, we only observed the difference in pretest along with Mann-Whitney U test. To compare pretest and posttest medians, the Wilcoxon Signed-Rank Test was employed, with significance levels calculated at a 95% confidence interval with rank-biserial correlations to indicate size effect.

Additionally, we assessed reliability using Guttman's Lambda-2, with bootstrapping applied for robust estimation due to the non-normal distribution of the data. Convergent validity was evaluated by calculating Spearman's rho between each dimension and the total scale separately for the pretest and posttest.

Overall, the Wilcoxon Signed-Rank Test results, including median values, test statistics, and rank-biserial correlations, are presented to demonstrate changes in the students' social-emotional learning outcomes.

We utilized ChatGPT for language editing assistance and Mendeley for citation management.

2.6. Ethical Considerations

This study adhered to the ethical principles outlined in the APA Ethical Principles and Code of Conduct for Psychologists. Informed consent was obtained at three levels: 1) from school authorities, 2) from parents or guardians of each student participant, and 3) from individual student participants. During the consent process, participants were fully informed about data privacy and confidentiality measures, their right to withdraw from the study at any time without penalty, and the potential benefits of participation.

The research protocol was designed to ensure the protection of all participants' rights and well-being. Confidentiality was maintained throughout the study, with all data collected and stored securely. Participants were assigned unique identifiers to protect their identities, and any potentially identifying information was removed from the data before analysis. Additionally, the researchers were committed to minimizing any potential risks to participants and maximizing the benefits of the research.

3. Results

3.1. Demographic Characteristics

Our sample included 735 participants from two different grades in both the pretest and posttest. Participants ranged in age from 11 to 14 years. The majority were

11 years old (43.40%), followed by 12-year-olds (39.86%), 13-year-olds (15.92%), and a small proportion aged 14 (0.82%). The sample included more males (57.28%) than females (42.72%). The participants were almost evenly distributed across grades, with 50.48% in grade 6 and 49.52% in grade 7.

3.2. Descriptive and Normality Analysis of Pretest and Posttest SEL Scores

The SEL Total scores showed a slight increase from pretest (Mdn = 41) to posttest (Mdn = 42) among 735 students. Standard deviations were similar (7.62 and 7.64), with slight negative skewness and near-zero kurtosis, indicating approximately symmetric distributions. The Shapiro–Wilk test showed significant results for both pretest ($p < 0.001$) and posttest ($p = 0.005$), suggesting non-normality; however, this is likely due to the large sample size (Table 2).

Table 2. Descriptive and normality analysis (N = 735).

Variables	Median	Std. Deviation	Skewness	Std. Error of Skewness	Kurtosis	Std. Error of Kurtosis	Shapiro-Wilk	P-value of Shapiro-Wilk
Self-awareness (Pretest)	7	2.03	−0.28	0.09	−0.69	0.18	0.96	<0.001
Self-awareness (Posttest)	7	1.91	−0.20	0.09	−0.62	0.18	0.96	<0.001
Empathy (Pretest)	8	1.82	−0.66	0.09	0.10	0.18	0.94	<0.001
Empathy (Posttest)	8	1.64	−0.62	0.09	0.15	0.18	0.93	<0.001
Self-management (Pretest)	6	2.26	−0.15	0.09	−0.84	0.18	0.96	<0.001
Self-management (Posttest)	7	2.18	−0.43	0.09	−0.64	0.18	0.94	<0.001
Relationship Skills (Pretest)	7	1.97	−0.47	0.09	−0.34	0.18	0.95	<0.001
Relationship Skills (Posttest)	7	1.78	−0.44	0.09	−0.29	0.18	0.95	<0.001
Responsibility (Pretest)	7	1.94	−0.26	0.09	−0.51	0.18	0.96	<0.001
Responsibility (Posttest)	7	1.87	−0.39	0.09	−0.28	0.18	0.96	<0.001
Psychological Resilience (Pretest)	7	2.04	−0.36	0.09	−0.43	0.18	0.96	<0.001
Psychological Resilience (Pretest)	7	2.02	−0.45	0.09	−0.32	0.18	0.95	<0.001
SEL Total (Pretest)	41	7.62	−0.27	0.09	−0.24	0.18	0.99	<0.001
SEL Total (Posttest)	42	7.64	−0.15	0.09	0.03	0.18	0.99	0.005

Note: SEL refer to social emotional learning.

3.3. Demographic Comparison

To compare demographic variables, we observed differences in sex and grade variables in the pretest data set. Shapiro-Wilk tests revealed significant deviations from normality for all variables across pretest, including sex and grade-wise distributions. Consequently, the non-parametric Mann-Whitney U test was employed to assess differences.

Gender Comparisons

A significant gender difference was noted in: self-awareness (N_{Female} = 314, Mdn = 6; N_{Male} = 421, Mdn = 7), U = 56695.5, $p < 0.001$, with minimal size effect (Rank Biserial Correlation = −0.14); self-management (N_{Female} = 314, Mdn = 8; N_{Male} = 421, Mdn = 9), U = 54947, $p < 0.001$, with minimal size effect (Rank Biserial Correlation = −0.17); psychological resilience (N_{Female} = 314, Mdn = 6; N_{Male} = 421, Mdn = 7), U = 50984.5, $p < 0.001$, with minimal size effect (Rank Biserial Correlation = −0.23); and the global SEL (N_{Female} = 314, Mdn = 39.5; N_{Male} = 421, Mdn = 42), U = 55172, $p < 0.001$, with minimal size effect (Rank Biserial Correlation = −0.17). However, the other factors such as empathy, relationship skills, and responsibility showed non-significant differences between female and male participants in pretest (Table 3).

Table 3. Descriptive and inferential statistics for gender and grade comparison.

Categories	Groups	N	Shapiro-Wilk		Median	SD	SE	Mann-Whitney U test			
			W	p				W	*p*	Rank-Biserial Correlation	SE Rank-Biserial Correlation
Pretest											
Self-awareness	Female	314	0.95	<0.001	7	1.97	0.11	56695.5	<0.001***	−0.14	0.04
	Male	421	0.95	<0.001	7	2.06	0.1				
Empathy	Female	314	0.94	<0.001	8	1.67	0.09	70446	0.121	0.07	0.04
	Male	421	0.93	<0.001	8	1.91	0.09				
Self-management	Female	314	0.96	<0.001	6	2.22	0.13	54947	<0.001***	−0.17	0.04
	Male	421	0.95	<0.001	7	2.25	0.11				
Relationship Skills	Female	314	0.95	<0.001	7	1.99	0.11	61269.5	0.086	−0.07	0.04
	Male	421	0.95	<0.001	7	1.95	0.1				
Responsibility	Female	314	0.96	<0.001	7	1.81	0.1	63258	0.313	−0.04	0.04
	Male	421	0.96	<0.001	7	2.03	0.1				
Psychological Resilience	Female	314	0.96	<0.001	6	2.02	0.11	50984.5	<0.001***	−0.23	0.04
	Male	421	0.95	<0.001	7	2	0.1				
SEL Total	Female	314	0.99	0.13	39.5	7.46	0.42	55172	<0.001***	−0.17	0.04
	Male	421	0.99	<0.001	42	7.62	0.37				
Posttest											

Continued

Self-awareness	Female	314	0.96	<0.001	7	1.76	0.1	53300.5	<0.001***	−0.19	0.04
	Male	421	0.95	<0.001	7	1.96	0.1				
Empathy	Female	314	0.93	<0.001	8	1.56	0.09	69645.5	0.205	0.05	0.04
	Male	421	0.94	<0.001	8	1.7	0.08				
Self-management	Female	314	0.95	<0.001	7	2.25	0.13	56369.5	<0.001***	−0.15	0.04
	Male	421	0.94	<0.001	7	2.09	0.1				
Relationship Skills	Female	314	0.95	<0.001	7	1.72	0.1	57270	0.002**	−0.13	0.04
	Male	421	0.94	<0.001	7	1.8	0.09				
Responsibility	Female	314	0.94	<0.001	7	1.82	0.1	58132	0.005**	−0.12	0.04
	Male	421	0.96	<0.001	7	1.89	0.09				
Psychological Resilience	Female	314	0.96	<0.001	7	2.04	0.12	53058	<0.001***	−0.2	0.04
	Male	421	0.94	<0.001	7	1.96	0.1				
SEL Total	Female	314	0.99	0.206	41	7.34	0.41	53638.5	<0.001***	−0.19	0.04
	Male	421	0.99	0.01	43	7.68	0.37				
Grades											
Pretest											
Self-awareness	Grade Six	371	0.96	<0.001	7	1.98	0.1	68827	0.647	0.02	0.04
	Grade Seven	364	0.96	<0.001	7	2.09	0.11				
Empathy	Grade Six	371	0.93	<0.001	8	1.92	0.1	65743	0.531	−0.03	0.04
	Grade Seven	364	0.94	<0.001	8	1.71	0.09				
Self-management	Grade Six	371	0.95	<0.001	6	2.22	0.12	65924	0.576	−0.02	0.04
	Grade Seven	364	0.95	<0.001	6	2.3	0.12				
Relationship Skills	Grade Six	371	0.94	<0.001	7	1.94	0.1	73102.5	0.05*	0.08	0.04
	Grade Seven	364	0.95	<0.001	7	2	0.11				
Responsibility	Grade Six	371	0.96	<0.001	7	1.94	0.1	71619	0.15	0.06	0.04
	Grade Seven	364	0.97	<0.001	6	1.94	0.1				
Psychological Resilience	Grade Six	371	0.96	<0.001	7	1.99	0.1	69250.5	0.544	0.03	0.04
	Grade Seven	364	0.95	<0.001	7	2.1	0.11				
SEL Total	Grade Six	371	0.98	<0.001	41	7.38	0.38	70391	0.318	0.04	0.04
	Grade Seven	364	0.1	0.296	41	7.86	0.41				
Posttest											
Self-awareness	Grade Six	371	0.96	<0.001	7	1.89	0.1	67089	0.879	−0.01	0.04

Continued

	Grade Seven	364	0.96	<0.001	7	1.92	0.1				
Empathy	Grade Six	371	0.94	<0.001	8	1.62	0.08	65476.5	0.47	−0.03	0.04
	Grade Seven	364	0.93	<0.001	8	1.67	0.09				
Self-management	Grade Six	371	0.94	<0.001	7	2.18	0.11	65760.5	0.537	−0.03	0.04
	Grade Seven	364	0.94	<0.001	7	2.18	0.11				
Relationship Skills	Grade Six	371	0.95	<0.001	7	1.69	0.09	67707.5	0.948	0	0.04
	Grade Seven	364	0.95	<0.001	7	1.86	0.1				
Responsibility	Grade Six	371	0.96	<0.001	7	1.85	0.1	65508	0.478	−0.03	0.04
	Grade Seven	364	0.95	<0.001	7	1.9	0.1				
Psychological Resilience	Grade Six	371	0.95	<0.001	7	1.96	0.1	70525.5	0.291	0.04	0.04
	Grade Seven	364	0.95	<0.001	7	2.08	0.11				
SEL Total	Grade Six	371	0.99	0.062	42	7.56	0.39	67759	0.934	0	0.04
	Grade Seven	364	0.99	0.03	42	7.74	0.41				

Note. *$p = 0.05$, **$p = 0.01$, ***$p < 0.001$. The effect size is given by the rank biserial correlation.

In the posttest, males generally scored higher than females in self-awareness ($N_{Female} = 314$, Mdn = 7; $N_{Male} = 421$, Mdn = 7), U = 53300.5, $p < 0.001$, with a small effect size (Rank-Biserial Correlation = −0.19); self-management ($N_{Female} = 314$, Mdn = 7; $N_{Male} = 421$, Mdn = 7), U = 56369.5, $p < 0.001$, with a small effect size (Rank-Biserial Correlation = -0.15); relationship skills ($N_{Female} = 314$, Mdn = 7; $N_{Male} = 421$, Mdn = 7) (U = 57270, $p = 0.002$, Rank-Biserial Correlation = −0.13); responsibility ($N_{Female} = 314$, Mdn = 7; $N_{Male} = 421$, Mdn = 7), U = 58132, $p = 0.005$, Rank-Biserial Correlation = -0.12; psychological resilience ($N_{Female} = 314$, Mdn = 7; $N_{Male} = 421$, Mdn = 7), U = 53058, $p < 0.001$, with a small effect size (Rank-Biserial Correlation = -0.20); and the SEL total ($N_{Female} = 314$, Mdn = 41; $N_{Male} = 421$, Mdn = 43), U = 53638.5, $p < 0.001$, with a small effect size (Rank-Biserial Correlation = −0.19). However, no significant differences were found in empathy (Table 3).

Grade Comparisons

Unlike sex, no significant grade-wise differences were found in all factors except Relationship skills in pretest. A significant grade difference was observed in relationship skills ($N_{grade\ 6} = 371$, Mdn = 7; $N_{grade\ 7} = 364$, Mdn = 7), U = 73102.5, $p = 0.05$, with minimal effect size suggested by Rank-Biserial Correlation (−0.08) (Table 3).

However, in posttest, grade wise comparison showed non-significant results in the global SEL and its all components (Table 3).

3.4. Pretest vs Posttest Comparison

Self-Awareness

The Shapiro-Wilk test results for the pretest (W = 0.96, $p < 0.001$) and posttest (W = 0.96, $p < 0.001$) indicated non-normal distribution in self-awareness (Table 2). Therefore, we employed the Wilcoxon Signed-Rank Test to find the difference between the two tests. We observed significant increase in self-awareness in posttest scores (N = 735, Mdn = 7) from pretest scores (N = 735, Mdn = 7), W = 71318, z = −3.46, $p < 0.001$, with a small effect size indicated by a rank-biserial correlation, −0.17, (95% CI [−0.25, −0.07]) (Table 2 & Table 4). The increment trend from pretest to posttest in this dimension is shown below (Figure 1).

Table 4. Paired samples t-test (Wilcoxon Signed Rank Test).

							95% CI for Rank-Biserial Correlation	
Measure 1 (Pretest)	Measure 2 (Posttest)	W	z	p	RBC	SE RBC	Lower	Upper
Self-awareness	Self-awareness	71318	−3.46	<0.001***	−0.17	0.05	−0.25	−0.07
Empathy	Empathy	72057.5	−3.15	0.001***	−0.15	0.05	−0.24	−0.06
Self-management	Self-management	58784	−7.54	<0.001***	−0.35	0.05	−0.43	−0.27
Relationship Skills	Relationship Skills	78074	−2.39	0.016*	−0.11	0.05	−0.20	−0.02
Responsibility	Responsibility	80465.5	−2.67	0.007**	−0.13	0.05	−0.21	−0.03
Psychological Resilience	Psychological Resilience	80130.5	−2.49	0.012*	−0.12	0.05	−0.21	−0.03
SEL Total	SEL Total	87104.5	−6.75	<0.001***	−0.29	0.04	−0.37	−0.21

Note. *$p = 0.05$, **$p = 0.01$, ***$p < 0.001$. Wilcoxon signed-rank test. RBC refers to Rank-Biserial Correlation and SE RBC refers to Standard Error of Rank-Biserial Correlation. SEL refer to social emotional learning.

Figure 1. Trend of Increment from pretest to posttest in self-awareness.

Empathy

The Shapiro-Wilk test results for the pretest (W = 0.94, $p < 0.001$) and posttest (W = 0.93, $p < 0.001$) indicated non-normal distribution in self-awareness (Table 2). Therefore, we employed the Wilcoxon Signed-Rank Test to find the difference

between the two tests. We observed a significant increase in empathy in posttest scores (N = 735, Mdn = 8) compared to pretest scores (N = 735, Mdn = 8), W = 72057.5, z = −3.15, $p = 0.001$, with a small effect size indicated by a rank-biserial correlation, −0.15 (95% CI [−0.24, −0.06] (Table 2 & Table 4). The increment trend from pretest to posttest in is shown below (Figure 2).

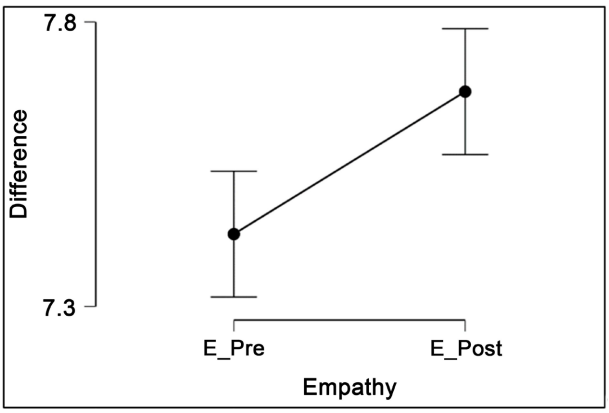

Figure 2. Trend of Increment from pretest to posttest in Empathy. Note: E_Pre refers to empathy in pretest and E_Post refers to empathy in posttest.

Self-management

The Shapiro-Wilk test results for the pretest (W = 0.96, $p < 0.001$) and posttest (W = 0.94, $p < 0.001$) indicated non-normal distribution in self-awareness (Table 2). Therefore, we employed the Wilcoxon Signed-Rank Test to find the difference between the two tests. We observed a significant increase in self-management in posttest scores (N = 735, Mdn = 7) from pretest scores (N = 735, Mdn = 6), W = 58784, z = −7.54, $p < 0.001$, with a moderate effect size indicated by a rank-biserial correlation, −0.35 (95% CI [−0.43, −0.27]) (Table 2 & Table 4). The trend of increment between two tests in is shown below (Figure 3).

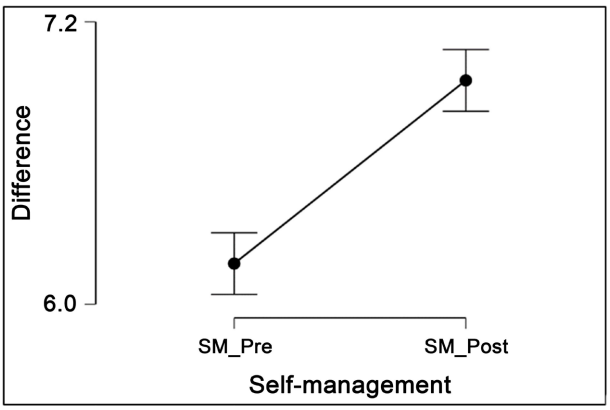

Figure 3. Trend of increment from pretest to posttest in self-management. Note: SM_Pre refers to self-management in pretest and SM_Post refers to self-management in posttest.

Relationship Skills

The Shapiro-Wilk test results for the pretest (W = 0.95, $p < 0.001$) and posttest (W = 0.95, $p < 0.001$) indicated non-normal distribution in self-awareness (Table 2). Therefore, we employed the Wilcoxon Signed-Rank Test to find the difference between the two tests. We found significant increase in relationship from pretest (N = 735, Mdn = 7) to posttest (N = 735, Mdn = 7), W = 78074, z = −2.39, p = 0.016, with a small effect size indicated by a rank-biserial correlation, −0.11 (95% CI [−0.20, −0.02]) (Table 2 & Table 4). The trend of increment from pretest to posttest is shown below (Figure 4).

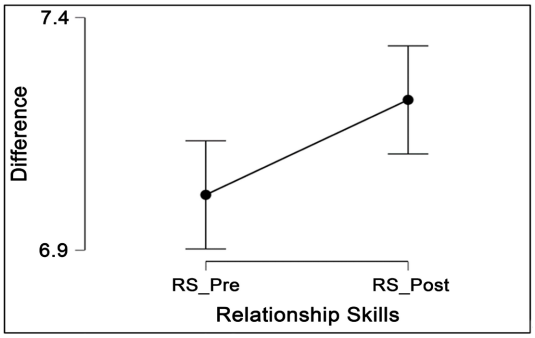

Figure 4. Trend of increment from pretest to posttest in relationship skills. Note: RS_Pre refers to relationship skills in pretest and RS_Post refers to relationship skills in posttest.

Responsibility

The Shapiro-Wilk test results for the pretest (W = 0.96, $p < 0.001$) and posttest (W = 0.96, $p < 0.001$) indicated non-normal distribution in self-awareness (Table 2). Therefore, we employed the Wilcoxon Signed-Rank Test to find the difference between the two tests. We found a significant increase in scores from pretest (N = 735, Mdn = 7) to posttest (N = 735, Mdn = 7), W = 80465.5, z = −2.67, p = 0.007, with a rank-biserial correlation indicating small size effect, −0.13 (95% CI [−0.21, −0.03]) (Table 2 & Table 4). The figure below shows the trend of increment from pretest to posttest (Figure 5).

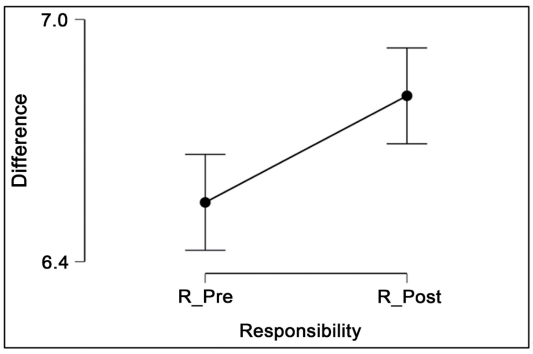

Figure 5. Trend of increment from pretest to posttest in responsibility. Note: R_Pre refers to responsibility in pretest and R_Post refers to responsibility.

Psychological Resilience

The Shapiro-Wilk test results for the pretest (W = 0.96, $p < 0.001$) and posttest (W = 0.96, $p < 0.001$) indicated non-normal distribution in self-awareness (Table 2). Therefore, we employed the Wilcoxon Signed-Rank Test to find the difference between the two tests. We found a significant increase in psychological resilience from pretest (N = 735, Mdn = 7) to posttest (N = 735, Mdn = 7), W = 80130.5, z = −2.49, $p = 0.012$, with a rank-biserial correlation indicating small size effect, −0.12 (95% CI [−0.21, −0.03]) (Table 2 & Table 4). The figure below demonstrates the trend of increment from pretest to posttest (Figure 6).

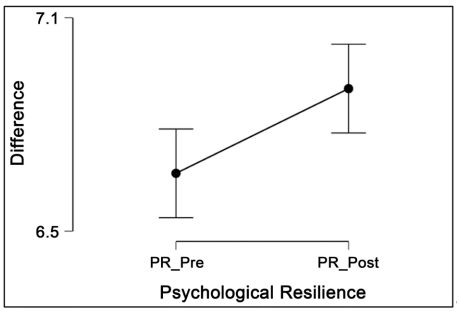

Figure 6. Trend of increment from pretest to posttest in psychological resilience. Note: PR_Pre refers to relationship skills in pretest and RS_Post refers to relationship skills in posttest.

Overall Social Emotional Learning

The Shapiro-Wilk test results for the pretest (W = 0.96, $p < 0.001$) and posttest (W = 0.96, $p < 0.001$) indicated non-normal distribution in overall social emotional learning (Table 2). Therefore, we employed the Wilcoxon Signed-Rank Test to find the difference between the two tests. We observed a significant increase in the social emotional learning scores in posttest (N = 735, Mdn = 42) compared to pretest scores (N = 735, Mdn = 41), W = 87104.5, z = −6.75, $p < 0.001$, with a moderate effect size indicated by a rank-biserial correlation, −0.29 (95% CI [−0.37, −0.21]) (Table 2 & Table 4). The trend of increment between two tests in is shown below (Figure 7).

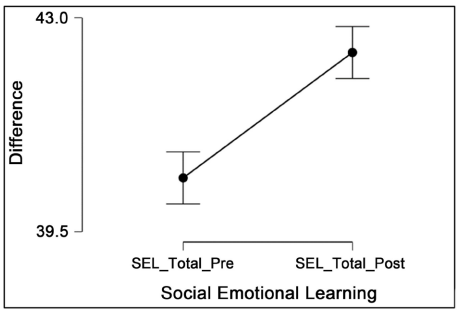

Figure 7. Trend of increment from pretest to posttest in over all SEL. Note: SEL_Total_Pre refers to social learning total pretest and SEL_Total_Post refers to social emotional learning total posttest.

4. Discussion

In the current study we aim to investigate the effectiveness of Sambhavya SEL (Social Emotional Learning) program. We employed 735 middle school students (grade 6 & 7, age between 11 & 14), 314 females (42.72%) and 421 males (57.28%). We conducted a Wilcoxon Signed-Rank Test to evaluate the effectiveness of an intervention program on participants' different abilities in social emotional skills. The Rank-Biserial Correlation was calculated to determine the effect size. Additionally, error analysis and reliability analysis were conducted to gain insights into the increasing trend in consistency levels from the pretest to the posttest.

We observed higher overall social-emotional learning (SEL) levels in male participants compared to females. This difference was significant in three SEL dimensions: self-awareness, self-management, and psychological resilience. Our findings align with evidence suggesting that male participants tend to exhibit a stronger connection between intrapersonal skills (their ability to manage their own emotions) and interpersonal skills (their ability to interact effectively with others), as well as a robust link between intrapersonal skills and adaptability than females (Parker et al., 2004). Additionally, males had significantly higher scores in relationship skills and responsibility in the posttest, while no significant differences were observed in the pretest. This suggests that males are more capable of learning these skills through the Sambhavya SEL program than females.

We observed no difference between grade 6 and 7 in SEL and its dimensions, except relationship skills in pretest. However, posttest indicated non-significant differences between grade 6 and 7.

The findings of this study indicate a significant improvement in students' social-emotional learning (SEL) scores following the intervention program. Consistent with prior research, SEL programs have been shown to positively impact social-emotional development in school students (Cipriano et al., 2023; Durlak et al., 2010, 2011; Green et al., 2021; Pitlik, 2021; van de Sande et al., 2019; Schiele et al., 2024). The positive outcomes observed in the Chinese context suggest that SEL curricula can be effectively implemented across different cultural settings (Shi & Cheung, 2024). Additionally, SEL plays a critical role in promoting both social and academic outcomes (Jones & Doolittle, 2017). A separate study found that students participating in universal school-based SEL interventions showed significant improvements in skills, attitudes, behaviors, school climate and safety, peer relationships, school functioning, and academic achievement compared to control conditions (Cipriano et al., 2023).

The intervention program had a significant impact on all elements of SEL—self-awareness, empathy, self-management, relationship skills, responsibilities, and psychological resilience. Among these, the greatest improvement was seen in self-management, a finding consistent with research showing that SEL programs enhance emotional literacy and contribute to students' long-term psychological well-being (Pitlik, 2021). Previous studies have highlighted the role of SEL in reducing stress and improving emotional regulation (Bradshaw et al., 2012). SEL

programs also foster responsible decision-making and prosocial behaviors, which are crucial for academic success and life beyond school (Durlak et al., 2011; Payton et al., 2000).

The moderate effect size observed in the current study aligns with other research findings. For example, Durlak et al. (2011) found moderate gains in emotional regulation, social skills, and self-awareness following structured SEL programs. While SEL programs are generally effective, the effect sizes tend to be modest, even for the most promising interventions, as noted by Jones and Bouffard (2012), which may account for some variability in the results.

Furthermore, the year-long increase in SEL across all dimensions suggests the program's long-term impact through school-based mental health support. This aligns with research showing that programs with extended durations allow more time to practice and reinforce essential skills, such as emotional recognition and adaptability (Meyers et al., 2019). For instance, a four-month SEL curriculum in a Chinese context led to significantly higher scores in self-awareness, relationship skills, and responsible decision-making, with a moderate overall effect size (Shi & Cheung, 2024). Importantly, the success of SEL interventions depends heavily on the quality of the program (Weissberg et al., 2015).

Furthermore, the improvement across all dimensions of SEL following the intervention program may indicate additional benefits because of its additional ingredients such as digital citizenship, sexual reproductive health education and implementation of daily classroom activities and discussions in the school-based mental health program. This notion is supported by the finding that social-emotional competence has been a key focus of universal preventive interventions in schools due to its strong associations with positive social, behavioral, and academic outcomes, as well as adult success (Domitrovich et al., 2017). Meaningful social interactions can boost students' motivation, social confidence, and positive attitudes toward learning (Bramwell, 2006). Adolescents, in particular, require social and emotional support as they navigate academic challenges, intense emotions, and increasing independence (Yeager, 2017). Short-term outcomes of SEL programs include shifts in awareness, knowledge, skills, attitudes, and aspirations, while long-term outcomes involve significant impacts on social, economic, and environmental conditions (Panorama for Social-Emotional Learning, 2023).

Our intervention program was successful in increasing SEL-components, consistent with findings that SEL programs significantly improve targeted social-emotional skills and positively influence participants' perceptions of themselves, their relationships, and their attitudes toward school (Durlak et al., 2011). However, the lack of research on SEL programs in certain countries (Cristóvão et al., 2017) underscores the need for more diverse and culturally-specific studies.

5. Limitation

This study has several limitations. First, the reliance on a self-report tool may introduce bias, and the brief, self-developed 12-item scale may not fully capture the

complexity of SEL constructs despite acceptable reliability. Second, the one-year gap between pretest and posttest allows for potential external influences on outcomes, limiting the ability to attribute changes solely to the intervention. Third, the absence of a control group restricts causal interpretation. Finally, although the sample size was substantial, its focus on private schools in Kathmandu limits generalizability; future research should involve more diverse settings and employ comprehensive validated measures.

6. Conclusion

This study found gender differences in social-emotional learning (SEL) and significant improvements across all dimensions following the Sambhavya intervention, with the strongest gains in self-management. These findings support the long-term value of culturally responsive, school-based SEL programs in enhancing students' emotional and social competencies. Reflecting principles such as continuity, academic integration, and relational and cultural relevance, future research should view SEL as an embedded, ongoing process rather than a fixed curriculum. Collaborative efforts involving educators, families, policymakers, and community stakeholders are essential to develop inclusive and sustainable SEL strategies that foster holistic student development.

7. Future Direction

Future research could build on these findings by exploring the long-term impacts of school-based SEL programs beyond a one-year period, assessing how sustained interventions affect both social-emotional and academic outcomes over time. Since the study evaluated only the SEL components, the program may have the potential to cause changes in different factors that should be studied further. Additionally, studies with larger, more diverse samples across different cultural and socio-economic settings could offer deeper insights into the generalizability of SEL interventions. Given the modest effect sizes observed, future investigations might also examine which specific components of SEL programs contribute most to student development, and how program quality, delivery methods, and teacher training influence outcomes. Future research could examine the integration of SEL and digital citizenship education as a strategy to enhance students' ethical awareness and responsible digital engagement in increasingly technology-driven learning environments (Flanagan, 2022). Additionally, incorporating sexual and reproductive health or relationship education may support students in understanding boundaries, respect, and informed choices. Future research should explore how family involvement, cultural values, community initiatives, and service influence SEL effectiveness. These factors can help make programs more culturally responsive and contextually relevant, supporting more holistic and lasting approaches to student well-being (Simmons, 2021; Stark et al., 2021).

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Conflicts of Interest

The authors declare no conflicts of interest regarding the publication of this paper.

References

Bradshaw, C. P., Waasdorp, T. E., & Leaf, P. J. (2012). Effects of School-Wide Positive Behavioral Interventions and Supports on Child Behavior Problems. *Pediatrics, 130,* e1136-e1145. https://doi.org/10.1542/peds.2012-0243

CASEL (2024). *What Is the CASEL Framework: A Framework Creates a Foundation for Applying Evidence-Based SEL Strategies to Your Community.* https://casel.org/fundamentals-of-sel/what-is-the-casel-framework/#:~:text=The%20CASEL%205%20addresses%20five,and%20across%20diverse%20cultural%20contexts

CASEL (n.d.). *Advancing Social and Emotional Learning.* https://casel.org/

Cipriano, C., Strambler, M. J., Naples, L. H., Ha, C., Kirk, M., Wood, M. et al. (2023). The State of Evidence for Social and Emotional Learning: A Contemporary Meta-Analysis of Universal School-Based Sel Interventions. *Child Development, 94,* 1181-1204. https://doi.org/10.1111/cdev.13968

Cristóvão, A. M., Candeias, A. A., & Verdasca, J. (2017). Social and Emotional Learning and Academic Achievement in Portuguese Schools: A Bibliometric Study. *Frontiers in Psychology, 8,* Article 1913. https://doi.org/10.3389/fpsyg.2017.01913

Domitrovich, C. E., Durlak, J. A., Staley, K. C., & Weissberg, R. P. (2017). Social-Emotional Competence: An Essential Factor for Promoting Positive Adjustment and Reducing Risk in School Children. *Child Development, 88,* 408-416. https://doi.org/10.1111/cdev.12739

Doyle, B. G., & Bramwell, W. (2006). Promoting Emergent Literacy and Social-Emotional Learning through Dialogic Reading. *The Reading Teacher, 59,* 554-564. https://doi.org/10.1598/rt.59.6.5

Durlak, J. A., Weissberg, R. P., & Pachan, M. (2010). A Meta-Analysis of After-School Programs That Seek to Promote Personal and Social Skills in Children and Adolescents. *American Journal of Community Psychology, 45,* 294-309. https://doi.org/10.1007/s10464-010-9300-6

Durlak, J. A., Weissberg, R. P., Dymnicki, A. B., Taylor, R. D., & Schellinger, K. B. (2011). The Impact of Enhancing Students' Social and Emotional Learning: A Meta-Analysis of School-Based Universal Interventions. *Child Development, 82,* 405-432. https://doi.org/10.1111/j.1467-8624.2010.01564.x

Finster, H., Buccelli, A., Hobbs, E., & Haskett, M. (2024). In Parents' Words: Reflections on the Social-Emotional Health System for Young Children Experiencing Homelessness. *Social and Emotional Learning: Research, Practice, and Policy, 3,* Article 100023. https://doi.org/10.1016/j.sel.2023.100023

Flanagan, E. (2022). SEL and Digital Citizenship. *Erintegration.Com.* https://www.erintegration.com/2022/10/28/sel-and-digital-citizenship/

Fu, L., Zhang, Z., Yang, Y., & Curtis McMillen, J. (2024). Acceptability and Preliminary Impact of a School-Based SEL Program for Rural Children in China: A Quasi-Experimental Study. *Children and Youth Services Review, 160,* Article 107579.

https://doi.org/10.1016/j.childyouth.2024.107579

Green, A. L., Ferrante, S., Boaz, T. L., Kutash, K., & Wheeldon-Reece, B. (2021). Social and Emotional Learning during Early Adolescence: Effectiveness of a Classroom-Based SEL Program for Middle School Students. *Psychology in the Schools, 58,* 1056-1069. https://doi.org/10.1002/pits.22487

Jones, S. M., & Bouffard, S. M. (2012). Social and Emotional Learning in Schools: From Programs to Strategies and Commentaries. *Social Policy Report, 26,* 1-33. https://doi.org/10.1002/j.2379-3988.2012.tb00073.x

Jones, S. M., & Doolittle, E. J. (2017). Social and Emotional Learning: Introducing the Issue. *The Future of Children, 27,* 3-11. https://doi.org/10.1353/foc.2017.0000

Jones, S. M., Brown, J. L., & Lawrence Aber, J. (2011). Two-Year Impacts of a Universal School-Based Social-Emotional and Literacy Intervention: An Experiment in Translational Developmental Research. *Child Development, 82,* 533-554. https://doi.org/10.1111/j.1467-8624.2010.01560.x

Kate Zhou, P. (2023). Influence of Social Emotional Learning Curriculum on Preschoolers' Mental Health in School-Setting: A Mixed-Methods Study. *Psychology, 14,* 1793-1809. https://doi.org/10.4236/psych.2023.1412105

Meyers, D. C., Domitrovich, C. E., Dissi, R., Trejo, J., & Greenberg, M. T. (2019). Supporting Systemic Social and Emotional Learning with a Schoolwide Implementation Model. *Evaluation and Program Planning, 73,* 53-61. https://doi.org/10.1016/j.evalprogplan.2018.11.005

Parker, J. D. A., Summerfeldt, L. J., Hogan, M. J., & Majeski, S. A. (2004). Emotional Intelligence and Academic Success: Examining the Transition from High School to University. *Personality and Individual Differences, 36,* 163-172. https://doi.org/10.1016/s0191-8869(03)00076-x

Payton, J. W., Wardlaw, D. M., Graczyk, P. A., Bloodworth, M. R., Tompsett, C. J., & Weissberg, R. P. (2000). Social and Emotional Learning: A Framework for Promoting Mental Health and Reducing Risk Behavior in Children and Youth. *Journal of School Health, 70,* 179-185. https://doi.org/10.1111/j.1746-1561.2000.tb06468.x

Pitlik, K. (2021). *Social-Emotional-Learning and the Impact on Student Achievement*. Northwestern College. https://nwcommons.nwciowa.edu/cgi/viewcontent.cgi?article=1365&context=education_masters

Sambhavya Group (n.d.). Sambhavya SEL Program. *Sambhavyagroup.Com*. https://sambhavyagroup.com.np/about

Schiele, T., Mues, A., Wirth, A., Christner, N., Paulus, M., Birtwistle, E. et al. (2024). Bridging the Gap: A Longitudinal Study on the Relation between Preschool Children's Moral Self-Concept, Normative Stances, and Sharing Behavior. *Social and Emotional Learning: Research, Practice, and Policy, 3,* Article 100027. https://doi.org/10.1016/j.sel.2024.100027

Shi, J., & Cheung, A. C. K. (2024). The Impacts of a Social Emotional Learning Program on Elementary School Students in China: A Quasi-Experimental Study. *The Asia-Pacific Education Researcher, 33,* 59-69. https://doi.org/10.1007/s40299-022-00707-9

Simmons, D. (2021). Why SEL Alone Isn't Enough. *Ascd.Org*. https://www.ascd.org/el/articles/why-sel-alone-isnt-enough

Sklad, M., Diekstra, R., Ritter, M. D., Ben, J., & Gravesteijn, C. (2012). Effectiveness of School-Based Universal Social, Emotional, and Behavioral Programs: Do They Enhance Students' Development in the Area of Skill, Behavior, and Adjustment? *Psychology in*

the Schools, 49, 892-909. https://doi.org/10.1002/pits.21641

Stark, L., Robinson, M. V., Gillespie, A., Aldrich, J., Hassan, W., Wessells, M. et al. (2021). Supporting Mental Health and Psychosocial Wellbeing through Social and Emotional Learning: A Participatory Study of Conflict-Affected Youth Resettled to the U.S. *BMC Public Health, 21,* 1-14. https://doi.org/10.1186/s12889-021-11674-z

van de Sande, M. C. E., Fekkes, M., Kocken, P. L., Diekstra, R. F. W., Reis, R., & Gravesteijn, C. (2019). Do Universal Social and Emotional Learning Programs for Secondary School Students Enhance the Competencies They Address? A Systematic Review. *Psychology in the Schools, 56,* 1545-1567. https://doi.org/10.1002/pits.22307

Weissberg, R. P., Durlak, J. A., Domitrovich, C. E., & Gullotta, T. P. (2015). Social and Emotional Learning: Past, Present, and Future. In J. A. Durlak, C. E. Domitrovich, R. P. Weissberg, & T. P. Gullotta (Eds.), *Handbook of Social and Emotional Learning: Research and Practice* (pp. 3-19). Guilford Press. https://www.guilford.com/books/Handbook-of-Social-and-Emotional-Learning/Durlak-Domitrovich-Weissberg-Gullotta/9781462527915

Yeager, D. S. (2017). Social and Emotional Learning Programs for Adolescents. *The Future of Children, 27,* 73-94. https://doi.org/10.1353/foc.2017.0004