

# Predictors of social emotional learning in after-school programming: The impact of relationships, belonging, and program engagement

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## Abstract

After-school youth development programs support social-emotional functioning which leads to better academic and behavioral outcomes. This article examines three common predictors of social-emotional functioning individually and concurrently to better understand the role of these predictors in the after-school setting. The common predictors are staff/student relationships, sense of belonging, and program engagement. That data came from 144, 3rd through 8th grade, students across 9 different elementary and middle school sites who regularly attended a large youth development program. Regression analyses were run and the results indicated that each variable was an individually significant predictor of social-emotional functioning. Results from multiple regression analyses demonstrated that there was a better model fit when including all three variables in the same model. Interestingly, the results indicated that program engagement was a strong predictor above and beyond staff/student relationships and sense of belonging on self-management and self-efficacy. Sense of belonging and program engagement both predicted social awareness. Implications of these findings for after-school program planning and development are discussed.

**KEYWORDS**

after-school youth development, program engagement, SEL, sense of belonging, staff/student relationships

**Practitioner points**

- Students enjoyment in engaging with programming was the most important predictor of self-efficacy and social awareness within an afterschool youth development program.
- Positive feelings of belonging and good staff/student relationships, in part, predict healthy social/emotional outcomes.
- With appropriate funding, afterschool settings are places where relationships, belonging, and engagement influence social-emotional learning (SEL) outcomes and can support the school day SEL curriculum.

## 1 | INTRODUCTION

Social-emotional learning (SEL) curriculum has become almost commonplace within the public education K-12 school system for youth (Jones & Kahn, 2017) with 27 states now incorporating mandatory K-12 SEL competency standards (Dermody & Dusenbury, 2022). SEL is a process that includes developing knowledge, competencies, and attitudes that contribute to healthy development and relates to managing emotions, achieving goals, feeling/showing empathy, maintaining relationships, and making healthy decisions (Collaborative for Academic, Social, and Emotional Learning [CASEL], 2020). The benefits of SEL curriculum and support throughout the school day are widespread with evidence of SEL skill enhancement and lower behavioral infractions like behavioral referrals, suspensions, and expulsions (Top et al., 2016). Increases in SEL skills are also associated with increases in achievement test scores, grades, future educational attainment, and steady employment (Durlak et al., 2011).

These benefits of SEL increase twofold when supplemental SEL support is received outside of the school day. One such environment is within youth development after-school programming (ASP; Durlak et al., 2010) with evidence suggesting additional benefits (Durlak et al., 2010; Jones & Kahn, 2017; Vandell et al., 2020). However, the mechanisms by which these added benefits accumulate in ASP are unclear but essential to understanding how best to use the limited time and financial resources allocated to these programs (Durlak & Weissberg, 2012; Naftzger & Terry, 2018). Despite the benefits of ASP in student psychosocial and academic development, retention of staff and funding for quality programming is limited. One of the largest funding sources across the country is by the federal government for 21st Century Community Learning Centers (CCLC). However, through policy and budget cuts, this source is limited and competitive (Gardner et al., 2009; Minney et al., 2019).

### 1.1 | SEL in ASP

The standard for defining different aspects of SEL within the education system comes from CASEL (2020; Durlak et al., 2010). SEL can be understood as “a process through which all young people and adults acquire and apply the knowledge, skills, and attitudes to develop healthy identities, manage emotions and achieve personal and collective goals,

feel and show empathy for others, establish and maintain supportive relationships, and make responsible and caring decisions" (CASEL, 2020). Development of SEL is particularly salient during adolescence, in which relationships with adults and peers have a major influence (Verhoeven et al., 2019). Most public schools have standardized competency measures based on this framework that are evaluated throughout the school year (Dermody & Dusenbury, 2022). Within youth development ASP curriculum xself-efficacy, self-management, and social awareness domains overlap with public school competencies (Afterschool Alliance, 2023). These three domains are well-documented areas measured as outcomes in evaluation of programming effectiveness (Devaney, 2018; Minney et al., 2019).

Although SEL is often mentioned as an overarching concept, CASEL purports that there are different and separate domains that are impacted differently across contexts (CASEL, 2020; Verhoeven et al., 2019). Self-efficacy is the belief of being capable of succeeding and the ability to exert control over their own functioning (Bandura, 1977). Social awareness is the capability to understand others' perspectives and empathize, whereas self-awareness is the ability to assess and understand personal emotions, thoughts, and values (Usher & Pajares, 2008). Self-management is the ability to manage emotions, thoughts, and behavior productively across different situations and contexts (CASEL, 2020; Transforming Education, 2016). These domains are typically studied in afterschool setting as they measure the outcomes of skills defined by 21st CCLC guidelines for youth development programs which focus on developing goal-setting skills, expressing and managing emotions/behavior, and appropriate socialization with others (Afterschool Alliance, 2023; Transforming Education, 2016).

## 1.2 | Predictors of SEL in ASP

Effective youth development programs incorporate evidenced based curriculum that is characterized by consistent and sequenced instruction to supplement the SEL curriculum used during the school day (Durlak et al., 2011; Hurd & Deutsch, 2017). The ASP literature demonstrates that maximum benefit in SEL outcomes is predicted by three factors; (a) engagement with programming, (b) positive student perceptions of their relationship with program staff, and (c) a positive sense of belonging (Durlak et al., 2010; Grossman et al., 2002). These three aspects are often measured at the end of the year for youth development programs to meet the needs of 21st Century reporting standards to examine the effectiveness of programming tied to funding (Center for Out-of-School Advancement, 2019). Therefore, most programs integrate opportunities to foster these areas and monitor the impact on SEL outcomes (Hurd & Deutsch, 2017).

Research in ASP and SEL outcomes vary between examining student perceptions of program climate as one construct while some parse this out into subcategories like sense of belonging and staff/student relationships (Durlak et al., 2010; Hurd & Deutsch, 2017).

School climate measures are commonplace within the regular school setting in which belonging, teacher/student relationships, and peer relationships are often combined (Smith & Bradshaw, 2017). However, given the nature of ASP settings in which staff/student relationships are fostered through both structured and unstructured interactions, it is important to parse this concept apart from sense of belonging.

### 1.2.1 | Staff/student relationships

An environment that feels safe and supportive to students is an important factor related to student SEL development (Hirsch et al., 2000). Fortunately, the afterschool setting is conducive to creating a safe and supportive environment as it typically has smaller class sizes and more opportunities to focus on relationships with and between students. Moreover, contrary to the school setting, ASP is not bound to academic requirements that often take up much of the school day (Pianta et al., 2012; Roorda et al., 2011; Yang et al., 2018). Program staff play a key

role in creating a safe and supportive environment in which self-management, social awareness, and self-efficacy can be cultivated, more so for adolescents than for young children (Mantz, 2017; Yang et al., 2018).

ASPs incorporate informal and formal opportunities to enhance student social-emotional development through mentorship, activities, and support. Within ASP, there are many informal opportunities for staff/student interactions. Many programs also incorporate scheduled, structured opportunities that directly foster the quality of the relationship (Devaney, 2018; Kataoka & Vandell, 2013; Minney et al., 2019). Mentoring within SEL programming includes collaborative goal setting between mentor/mentee which enhances student agency. It is a common practice for ASPs to incorporate standard mentorship opportunities throughout the school year (Durlak et al., 2010; Minney et al., 2019).

Scholars consistently agree that the relationship between ASP staff and students benefit social and emotional development (Little et al., 2008; Yoder et al., 2020). The staff/student relationship refers to the social and academic relationship between students and the adults teaching them (Durlak et al., 2010). Supportive staff/student relationships impact student growth in social skills, emotion management, and learning motivation (Pierce et al., 2010; Roorda et al., 2011), especially during adolescent development (Pianta et al., 2012). An essential component in the evaluation of the staff/student relationship is the student's perception of the relationship. When students feel good about their relationship with staff, they are more likely than their peers to improve SEL outcomes (Gregory & Fergus, 2017; Kataoka & Vandell, 2013). Opportunities to develop the staff/student relationship are often built into programming. Staff are trained to reinforce prosocial behaviors, limit opportunities for inappropriate behaviors, and promote efficacy through promotion of values and goal setting (Biglan et al., 2012; Smith & Bradshaw, 2017).

### 1.2.2 | Belonging

Along with the impact of staff/student relationships on SEL outcomes, another important, but different concept, is students' sense of belonging (Osterman, 2000; Pendergast et al., 2018). Sense of belonging refers to students' feelings of value, safety, and acceptance within programming (Allen et al., 2016; Baumeister & Leary, 1995; Osterman, 2000). Sense of belonging is associated with positive social/emotional development (Anderman, 2002; Eccles & Roeser, 2010; Hagborg, 1994). A positive sense of belonging is especially important during adolescents as there is a strong desire for social ties and acceptance as self-esteem is in flux (Ma, 2003). Students' positive perception of belonging is often associated with improvement in student social awareness skills and is also linked to improvements in self-management and self-efficacy across both elementary and secondary ASP (Korpershoek et al., 2020; Naftzger & Terry, 2018).

### 1.2.3 | Program engagement

Additionally, although programs measure engagement separately from program climate, there is little consistency in the type of program engagement measured. Some programs use ratings from staff or students self-report to measure engagement while others use attendance records (Durlak et al., 2010). However, within engagement research and SEL, one important and often overlooked, component of engagement is the students self-reported enjoyment of programming (Fredricks et al., 2004). The afterschool literature demonstrates that student perceptions of their engagement with programming are positively associated with SEL outcomes (Fredricks et al., 2004; Grossman et al., 2002; Li & Lerner, 2011). Positive emotional engagement includes excitement for, interest in, and effort toward participating in activities (Fredricks et al., 2004). Research links interest and engagement with ASP to SEL skill development in both student perceptions of their social-emotional functioning and their behaviors (Herman & Blyth, 2016). Program engagement is also linked to improved social competence (Durlak & Weissberg, 2012; Fredricks & Eccles, 2006;

Shernoff, 2010). Emotional engagement refers to the extent to which a student presents positive or negative reactions to programming (Fredricks et al., 2004). A study examining middle school-aged participants found a positive relationship between enjoyment of programming with social awareness and self-management skill improvement, specifically in teamwork and conflict resolution (Shernoff, 2010). The afterschool setting is a conducive context for students to experience a high level of positive emotional engagement given the relatively small class sizes which allow for more frequent and intentional support (Fredricks et al., 2004; Li & Lerner, 2011).

### 1.3 | ASP resources

Adolescents benefit from support in ASP when they experience supportive classroom climates, positive relationships with staff, and meaningful learning engagement in addition to SEL programming (Durlak et al., 2010). Although scholars consistently demonstrate these dimensions of ASP as individually important predictors of SEL, few studies have examined them concurrently. This is most likely due to the majority of afterschool analyses are evaluations of the ASP program itself, which is often a requirement to maintain program funding (Center for Out-of-School Advancement, 2019; Hurd & Deutsch, 2017). Unfortunately, ASP's are increasingly underfunded, resulting in issues with staff turnover and maintaining quality programming. Program funding is tight, and administrators struggle to balance limited resources (Granger, 2010; Hurd & Deutsch, 2017). Examining dimensions of SEL programming concurrently may help to identify the most impactful components of programming on student social/emotional outcomes which will help programs and funding sources prioritize.

The aim of this study is to explore adolescent participants' (who regularly attend ASP) perceptions of common predictors of SEL individually and concurrently. The impact of this study will help ASP staff better understand how three programming components function together in relation to individual SEL domains. It extends on the SEL in education literature by examining three well known individual predictors of SEL concurrently within the ASP setting.

### 1.4 | Current study

Research within the afterschool literature is less developed than the in-school literature due to the nature of ASP in which there is variability across programming in dosage, frequency, and is subject to more frequent staff turnover (Hurd & Deutsch, 2017). However, increasingly, afterschool programs are implementing structured, evidenced-based SEL programming to supplement curriculum during the school day.

Given the importance of SEL in immediate and long-term student outcomes (Durlak et al., 2011) as well as the evidence that ASP supports these outcomes (Durlak et al., 2010), more research related to understanding the dimensions for SEL improvement is needed (Hurd & Deutsch, 2017). Many afterschool programs with a focus on SEL incorporate opportunities related student/staff relationships, sense of belonging, and program engagement in addition to evidence-based SEL curriculum. However, within afterschool literature, analysis is often related to program evaluation and assess overall program effectiveness, like prepost SEL comparisons rather than focusing on individual dimensions. Although there is strong evidence that student perceptions of their relationships with adults, sense of belonging, and enjoyment/engagement with programming is related to SEL outcomes, these concepts have rarely been examined concurrently within the ASP setting. Therefore, this study aims to (1) examine if student perceptions of commonly accepted dimensions of SEL have a predictive association with each domain within this study's sample and (2) better understand which significant predictors of SEL uniquely contribute to understanding the variance in the relationship between each dimension and SEL outcomes. Additionally, this study controls for demographic variables (race, grade, and gender) mirroring previous literature (Durlak et al., 2010, 2011). Due to the predominantly Black youth sample, race was included as a control variable to account for any differences between students. Grade level was included to account for developmental differences (Booth et al., 2022; Naftzger &

Terry, 2018; Yang et al., 2020). In addition, gender was included given that the literature demonstrates that girls often report higher levels of social-emotional functioning than boys, particularly during adolescent years (Booth et al., 2022; Durlak et al., 2011; Maguire et al., 2016; Yang et al., 2020).

The results of this study will advance the afterschool literature by providing an understanding of the concurrent role of student perception in predicting SEL outcomes.

Specifically, we asked two research questions:

- (1) Is there a relationship between each of the predictor variables; program engagement, staff/student relationships, and sense of belonging; with each of the SEL domains; self-efficacy, self-management, and social awareness for adolescents enrolled in an after-school youth development program?
- (2) Which factor(s) (adults/student relationships, sense of belonging, and program engagement) account for the greatest amount of variability in the relationship with SEL relevant domains (self-efficacy, self-management, and social awareness)?

## 2 | METHOD

### 2.1 | Program description

Data were collected from an afterschool SEL-focused youth development program across nine site locations within a large midwestern city. Students were recruited to participate in the after-school program by teachers, parents, and friends. Typically, students are referred for programming for social/emotional support. For this study, participant data were obtained from the enrolled student population through nonprobability, purposeful sampling methods. During the 2019–2020 school year, schools transitioned to virtual learning platforms due to the global pandemic (COVID-19). The afterschool program adopted a Remote Learning Center model that provided in-person support during virtual school day learning. Staff continued to provide in-person regularly scheduled programming after school hours, in-person, as regularly scheduled. All participants in this study regularly attended the same afterschool program at one of nine site locations. Programming occurred every school day immediately after school for a duration of 3 h. Programming consisted of academic enrichment and homework help followed by SEL activities and curriculum. All students enrolled were provided with an evidence based SEL curriculum called Second Step (Jennings & Frank, 2015). Second Step is a research-based curriculum that promotes the development of positive coping, emotional regulation, goal setting, creating, and maintaining positive relationships, among other skills to help students cope with challenges, create and maintain positive relationships, and succeed both socially and academically (Committee for Children, 2020). The curriculum is intended to teach students to identify and understand emotions, make goals, and manage reactions.

In addition, students received six, one-on-one mentoring sessions throughout the school year with program staff. These sessions provide opportunities to foster a positive and personal relationship between students and adult program staff through goal setting and mentor feedback (Karcher et al., 2010; Lyons et al., 2019). Instructors and staff are trained before SEL program implementation and are provided professional development geared toward promoting scholar SEL throughout the course of the year. Programming fidelity was ensured via random observations of activities by outside evaluators.

### 2.2 | Participants

As part of the inclusion criteria for this study, only regularly attending students' data were included in the study. Regularly attending refers to students who have attended programming for over 30 days. Thirty days is widely considered an appropriate amount of time for students to benefit from ASP (Augustine et al., 2016; Center for

Out-of-School Advancement, 2019; Devaney, 2018; Naftzger et al., 2017). Out of 400 students in grades 3–8 enrolled, 86 students completed paperwork but never attended programming. One hundred and fifty students met the inclusion criteria for the study. There were no patterns within the demographic characteristics between students included in the study and those who were not. After listwise deletion, the total number of student data reported was 144. Students with missing survey data were not present during the survey assessment window. The resulting response rate for survey completion after the inclusion criteria was 96%.

The participants were third through eighth grade students enrolled in an afterschool youth development program across multiple districts in a large midwestern city. The majority of participants (73.6%;  $n = 106$ ) self-identified as “Black or African American” followed by “Biracial or Multiracial” (16.0%;  $n = 23$ ). About half (43.1%;  $n = 62$ ) identified as “Female.” Participant data came from nine program site locations and were evenly distributed with the largest site accounting for 29.9% ( $n = 43$ ) of student data. Site locations for programming are in low social-economic school districts across the county with an estimated 70% of students receiving free and reduced lunches. Across grades there were 27 (18.8%) participants in the third grade, 17 (11.8%) in fourth grade, 30 in fifth grade (20.8%), 25 (17.4%) in sixth grade, 29 (20.1%) in seventh grade, and 16 (11.1%) in eighth grade.

## 2.3 | Procedure

Measures of social-emotional functioning, student/teacher relationships, sense of belonging, and program engagement were collected from scholars over a 2-week span at the end of the 2019–2020 academic school year by each site’s program manager. Participants and guardians provided informed consent for the program to collect data. The data were then deidentified by program coordinators for research purposes. The response rate for survey completion was 37.50% out of students who attended programming for 30 days or more throughout the school year.

## 2.4 | Measures

### 2.4.1 | SEL survey

Both outcome and predictor variables in this study come from the Panorama Social-Emotional Learning survey (Panorama Education, 2020). Panorama is a validated and reliable, self-rated SEL and development measure (Moulton & Gehlbach, 2014; Panorama Education, 2020) that aligns with both CASEL definitions and Second Step curriculum (Committee for Children, 2020). Evidence of validity in the construction of the survey included a six-step design process. The Panorama Student Survey demonstrates strong structural, convergent, and discriminant validity for each subscale (Panorama Education, 2020).

ASP staff consulted with experts in SEL from the Panorama team as well as with other ASP evaluation literature and 21st Century (CCLC) guidelines in choosing the most appropriate and related subscales. The SEL outcome domains were given to students during a 2-week period at the end of the academic year before exiting programming. The programming dimension subscales (staff/student relationship, sense of belonging, and program engagement) were given to students in the spring during a 2-week window during the end of April.

Mean scale scores were calculated for both the outcome and predictor variables for each participant. Reliability estimates between the normative sample and the current sample are presented in Supporting Information: Appendix A. Cronbach’s  $\alpha$  estimates for each scale were above .65, indicating acceptable internal consistency (George & Mallery, 2003, p. 231). Additionally, most of the scales had estimates that were commensurate with the normed Panorama sample estimates. However, both staff/student relationship and sense of belonging subscales had considerably lower estimates when compared to the normed sample. This

may be due, in part, to the wording adaptations that were made for these two scales. There were no issues with skewness or kurtosis on either scale.

All question items and response options can be found in Supporting Information: Appendix B. Response option language varied; however, all response options ranged from negative responses (1) to more favorable responses (5). Within the same survey, students self-reported their racial/ethnic and gender identity. Grade levels were associated and recorded by the program manager at each site and confirmed by the program's data manager.

#### *SEL outcome variables*

The SEL outcome scales include: the self-management scale which measures how well students perceive their own ability to manage their emotions, thoughts, and behaviors across different contexts; the self-efficacy scale which measures students' beliefs about their own ability to have academic success; and the social awareness scale which measures students' perceptions of how well they consider and empathize with their peers.

#### *SEL predictor variables*

For all predictor scales, vocabulary was adapted to fit the after-school context in which "school" was replaced with the name of the afterschool program and "teacher" replaced with "staff." The predictor scales include: the staff/student relationship scale (student perceptions of their own connection between themselves and staff); the sense of belonging scale (the extent to which students feel valued as members of the after-school community); and the program engagement scale, which is designed to address students' self-perceptions of their own behavioral, cognitive, and affective investment in the after-school program – this scale measures cognitive and emotional engagement.

### 2.4.2 | Demographic control variables

Due to the predominantly Black youth sample, race was included as a control variable to account for any differences between students. Grade level was included to account for developmental differences (Booth et al., 2022; Naftzger & Terry, 2018). In addition, gender was included given that the literature demonstrates that girls often report higher levels of social-emotional functioning than boys, particularly during school-aged years (Booth et al., 2022).

## 2.5 | Data analysis

Univariate and bivariate assumption testing for linearity, homoscedasticity, independence of error terms, normality and multicollinearity was completed before analysis. To clarify the nesting structure of the data, intraclass correlation coefficients (ICC) were used to determine independence of outcome observations between location sites of programming. Following Heck (2016), an ICC value of less than .5 is considered a "cut off" value indicating that less than 5% of the variance is attributed to group membership. Scale means, standard deviations, and correlation analyses were conducted between the independent variables, dependent variables, and control variables to establish if there is a relationship present within and between the independent and dependent variables. Scale reliability analyses were conducted for each independent and dependent variable scale and compared to the normative sample from the Panorama using Cronbach's  $\alpha$  measure of internal consistency. Generally, values at or above .70 are considered reliable (Bandalos, 2018). Results were then visually compared to the Panorama's normative sample reliability analysis by scale to determine if the scales could be used as specified by the validated measure (see Supporting Information: Appendix A).

Before running a series of regression analyses, the predictor variables were mean centered for interpretation. Regression analyses were used to measure the predictive relationship between predictor variables and outcome



variables. First, predictors were modeled individually by domain to establish if a predictive relationship existed. Then multiple regression analyses were conducted to examine the strength and direction of the relationship for each SEL domain with the inclusion of all predictors and controls. Adjusted  $R^2$  statistics were compared between simple and multiple regressions to determine the model that accounts for the most variance within the specified SEL domain. Additionally, standard error of the regression (SER) values were compared to address residual errors in model performance. The better performing model was determined by an improvement in variance and decreased error.

A sensitivity analysis was conducted to determine the influence of the control variables on the model (see Supporting Information: Tables 1–8). First, mean difference testing was conducted to determine if there were mean differences in the outcomes by demographic variable. Independent *t*-tests were run for the dichotomous control variables (race and grade) and a one-way ANOVA was run for grade for each of the three outcome variables. Full regression models were run with the inclusion of the control variables with statistically significant mean differences. Additionally, a regression model including all three independent variables and no control variables was conducted, as well as Model 4 with no control variables. Comparison of significance and SER between all models were examined to determine the best performing model. All models run for the sensitivity analysis can be found in Supporting Information.

### 3 | RESULTS

Univariate and bivariate assumption testing for OLS regression revealed no severe violations. ICC's were calculated for each of the three outcome variables and all fell above the acceptable value of  $>.05$  indicating there were no meaningful differences across all 9 program locations (Heck, 2016). Preliminary Pearson's *r* correlation analysis results are found in Table 1. Of note, a positive and statistically significant linear relationship was evident between all predictor variables and outcome variables. Specifically, the strength of association ranged from moderately weak to moderate in strength (0.37 and 0.56). These results were similar to previous SEL literature and helped to establish that the relationship between variables was similar between the current sample and the general population (Durlak et al., 2010). Tests for multicollinearity issues were assessed across all models and no issues were detected. Tables 2–4 present all model results. Given that the predictor variables of interest were mean

**TABLE 1** Correlations of all study variables including means (*M*) and standard deviations (*SD*).

Variable	<i>M</i> ( <i>SD</i> )	1	2	3	4	5	6	7	8
1. Self-management	3.63 (0.73)	–							
2. Self-efficacy	3.44 (0.84)	.65**	–						
3. Social awareness	3.66 (0.78)	.72**	.56**	–					
4. Staff/student relationship	3.97 (0.85)	.39**	.37**	.37**	–				
5. Sense of belonging	3.78 (0.78)	.42**	.35**	.52**	.68**	–			
6. Engagement	3.29 (0.98)	.50**	.43**	.46**	.56**	.57**	–		
7. Grade	5.42 (0.78)	.14	.01	–.08	–.12	–.18*	.01	–	
8. Race – Black ( <i>n</i> = 106)		–.09	.04	–.05	.00	–.02	.01	.06	–
9. Gender – Female ( <i>n</i> = 62)		.00	.01	.00	–.03	.00	.11	–.06	.01

Note. All correlations are Pearson's *r* except for Variables 8 and 9 in which point-biserial *r* is reported.

\**p* < .01; \*\**p* < .001.

centered for interpretation, unstandardized coefficients are interpreted for practical significance. They can be interpreted as “on average, for every one-point increase in the independent variable there is a ( $B =$  ) increase in the SEL scale when controlling for grade, race, and gender.”

Results of the sensitivity analysis can be found as Supporting Information. There were no significant mean differences found for race or gender. For grade, the omnibus  $F$ -test was significant for Social Awareness. The  $F$ -tests were not significant for self-management and self-efficacy, but post hoc comparisons revealed significant differences between individual grades. Therefore, grade was included in the regression models. An additional regression model with no control variables was estimated as well. Results of these analyses indicated no practical or substantial differences between any supplemental models and the final models presented in this study. Moreover, across all supplemental models, the SER was higher than the final models.

### 3.1 | Individual predictor results

Individual predictor regression models were analyzed to determine if there was a predictive relationship with each of the SEL outcome domains. The results of each domain self-management, self-efficacy, and social awareness regressed onto each independent variable while controlling for demographics indicated the presence of predictive relationships at the 5% level across the board. Results for each individual predictor are presented in Tables 2–4, Models 1–3. Staff/student relationships, sense of belonging, and program engagement were all significant individual predictors of self-management, self-efficacy, and social awareness, controlling for demographics at the 5% level.

### 3.2 | Full model results

The full model results in which all three predictor variables were included in the model, are presented in Tables 2–4, Model 4. All three full models were better performing than the other individual predictor models as each explained

**TABLE 2** Regression results for self-management ( $N = 144$ ).

Variable	Model 1			Model 2			Model 3			Model 4		
	B	SE	$\beta$	B	SE	$\beta$	B	SE	$\beta$	B	SE	$\beta$
Staff/student relationships	0.35**	0.07	.42							0.08	0.09	.09
Sense of belonging				0.43**	0.07	.46				0.19	0.10	.20
Program engagement							0.37**	0.05	.50	0.25**	0.07	.20
Grade	0.09*	0.03	.20	0.10*	0.03	.23	0.06	0.32	.14	0.08*	0.03	.19
Black/African American	-0.18	0.13	-.11	-0.17	0.12	-.10	-0.18	0.12	-.11	-0.17	0.12	-.11
Female	0.05	0.11	.03	0.03	0.10	.02	-0.06	0.11	-.04	-0.03	0.10	-.02
Intercept	3.27**	0.22		3.19**	0.21		3.46**	0.20		3.32**	0.20	
$F$	8.74**			10.64**			13.60**			10.91**		
$R^2$		.20			.23			.28			.32	
Adjusted $R^2$		.18			.21			.26			.29	
SER		0.66			0.64			0.62			0.61	

Abbreviations:  $\beta$ , standardized coefficient; B, coefficient estimate; SE, standard error; SER, standard error of the regression. \* $p < .05$ ; \*\* $p < .001$ ;  $F$  statistic Models 1–3 (3, 139), Model 4 (5, 137).

**TABLE 3** Regression results for self-efficacy ( $N = 144$ ).

Variable	Model 1			Model 2			Model 3			Model 4		
	B	SE	$\beta$	B	SE	$\beta$	B	SE	$\beta$	B	SE	$\beta$
Staff/student relationships	0.37**	0.08	.38							0.15	0.11	.15
Sense of belonging				0.39**	0.09	.36				0.10	0.12	.09
Program engagement							0.37**	0.07	.43	0.25*	0.08	.29
Grade	0.03	0.04	.06	0.04	0.04	.08	0.003	0.04	.006	0.02	0.04	.04
Black/African American	0.06	0.15	.03	0.07	0.15	.04	0.06	0.15	.03	0.06	0.14	.03
Female	0.04	0.13	.03	0.02	0.13	.01	-0.07	0.13	-.04	-0.03	0.13	-.02
Intercept	3.22**	0.26		3.16**	0.26		3.41**	0.25		3.29**	0.25	
F	5.74**			5.18**			7.88**			6.19**		
$R^2$			.14			.13			.19			.21
Adjusted $R^2$			.12			.11			.16			.18
SER			0.79			0.79			0.77			0.76

Abbreviations:  $\beta$ , standardized coefficient; B, coefficient estimate; SE, standard error; SER, standard error of the regression. \* $p < .05$ ; \*\* $p < .001$ ; F statistic Models 1–3 (3, 139), Model 4 (5, 137).

**TABLE 4** Regression results for social awareness ( $N = 144$ ).

Variable	Model 1			Model 2			Model 3			Model 4		
	B	SE	$\beta$	B	SE	$\beta$	B	SE	$\beta$	B	SE	$\beta$
Staff/student relationships	0.33**	0.07	.36							-0.06	0.09	-.06
Sense of belonging				0.52**	0.07	.52				0.41**	0.10	.42
Program engagement							0.36**	0.06	.46	0.20*	0.07	.26
Grade	-0.02	0.04	-.03	0.01	0.04	.02	-0.04	0.04	-.09	-0.01	0.04	-.02
Black/African American	-0.08	0.14	-.05	-0.06	0.13	-.04	-0.08	0.13	-.04	-0.06	0.12	-.04
Female	0.02	0.12	.01	0.01	0.11	.01	-0.08	0.12	-.05	-0.04	0.11	-.03
Intercept	3.80**	0.24		3.66**	0.22		3.98**	0.23		3.77**	0.22	
F	5.61**			5.89**			9.67**			10.39**		
$R^2$			.14			.27			.23			.31
Adjusted $R^2$			.11			.25			.20			.28
SER			0.73			0.67			0.70			0.66

Abbreviations:  $\beta$ , standardized coefficient; B, coefficient estimate; SE, standard error; SER, standard error of the regression. \* $p < .05$ ; \*\* $p < .001$ ; F statistic Models 1–3 (3, 139), Model 4 (5, 137).

more of the variance in the relationship and reduced residual error. In comparing model performance, all three full models resulted in higher adjusted  $R^2$  values and lower standardized error of the regression. All three models explained more of the variance and reduced residual error compared to the individual predictor models.

The results for both self-management and self-efficacy, indicated program engagement accounted for the variability in the relationship over and above staff/student relationships and sense of belonging. On average, a 1-point increase in

program engagement is associated with a 0.25-point increase in perceptions of self-management and self-efficacy when accounting for staff/student relationships, sense of belonging, and demographics. Both staff/student relationships and sense of belonging were no longer statistically significant in this model.

Similar to both self-management and self-efficacy, in the social awareness full model, program engagement remained significant and staff/student relationships was no longer significant. However, in this model, sense of belonging remained a significant predictor. This indicates that sense of belonging, and program engagement are more important variables in accounting for the variance in the relationship with social awareness than staff/student relationships alone. Additionally, social awareness was a stronger predictor than program engagement in that a 1-point increase in sense of belonging was associated with a 0.41 increase in the social awareness outcome compared to a 0.20 increase for every 1-point in program engagement.

## 4 | DISCUSSION

The aim of this study was to examine three well-documented dimensions of ASP that promote development of SEL for a group of students regularly attending a youth development program in a large midwestern city. In line with the literature, this study demonstrated a linear and positive predictive relationship between the individual dimensions (staff/student relationships; sense of belonging; and program engagement) and each of the dependent variables of interest (self-management, self-efficacy, and social awareness) when controlling for demographics (Durlak et al., 2010, 2011; Grossman et al., 2002).

The second aim of this study was to compare individual predictor models to the full model to better understand how each predictor uniquely contributed to the variability in SEL outcomes. The results indicated that program engagement was one of the most influential predictors of SEL, especially within the domains of self-management and self-efficacy. Sense of belonging was the most influential predictor of social awareness followed by program engagement. Within the model predicting social awareness, both sense of belonging and program engagement were significant predictors. Sense of belonging accounted for substantially more of the variability in the relationship than program engagement. Sense of belonging being an influential predictor of social awareness is consistent with the literature. Feelings of security and safety are essential to practicing social awareness skills with peers and adults (Osterman, 2000; Pendergast et al., 2018).

### 4.1 | Program engagement findings

This study contributes to the ASP literature by demonstrating that there may be differences in the role that each of the well-known predictors of SEL play. Specifically, the findings show the importance of understanding the uniqueness or lack thereof, in accounting for the variance in the model. By examining all three individually significant predictors of SEL in the same model, the researchers of this study were able to highlight the most influential dimension of SEL, program engagement. The literature suggests that program engagement is one of the most important predictors of SEL during the school day whereas, in comparison, staff/student relationships is believed to be more influential on SEL within the ASP setting. One of the more surprising findings in this particular study was the lack of influence that staff/student relationships played in each of the full predictor models.

For both self-management and self-efficacy domains, program engagement accounted for the relationship above and beyond both staff/student relationships and sense of belonging. Both staff/student relationships and sense of belonging were not unique predictors of self-management and self-efficacy in these analyses. Student perceptions in their enjoyment and engagement with programming was significant, and uniquely contributed as a predictor of self-management and self-efficacy. Program engagement is often measured in one of two ways, behavioral data or by perceptions of enjoyment with program material. This study focused on students' perception of their own enjoyment and engagement with programming.

Participants in this study were frequent attenders of programming and in programs that offered students more agency than younger level programs. Likely, students within this age group continued to participate and attend programming because they enjoyed it. The implications suggest the need for better understanding of how self-reported program engagement compares to behavioral data of engagement and if there are differences between younger grade levels where less agency is embedded within programming.

## 4.2 | Staff/student relationship findings

Interestingly, in all three full models, the dimension of staff/student relationships did not uniquely account for the variance in the relationship to the SEL outcome as expected. This finding deviates from much of the literature that emphasizes the importance of the staff/student relationship in promoting SEL (e.g., Mantz, 2017; Yang et al., 2018). Similarly, Minney et al. (2019), examined the role of staff/student relationships on SEL with the inclusion of other predictor variables. With the inclusion of other predictors, staff/student relationships was not a unique predictor of self-efficacy. However, contrary to our findings, it was an influential predictor of both social awareness and self-management (Minney et al., 2019).

## 4.3 | Program and policy implications

Staff/student relationships is often hypothesized as one of the more salient predictors of positive student SEL outcomes within the after-school setting (Durlak et al., 2010; Hurd & Deutsch, 2017). However, this study demonstrated that although there was a significant relationship, it did not uniquely account for all the relationship with SEL outcomes over and above student sense of belonging and program engagement.

This result may be related to other contextual factors that influence student perceptions of the relationship. For example, broadly, afterschool staff are poorly paid, fluctuate in background knowledge and experience, and have a high turnover (Hurd & Deutsch, 2017). Given that staff/student relationships are an important component of programming and require highly trained staff, more high-quality resources are needed for staff (Granger, 2010). Hurd and Deutsch (2017) suggest policy improvements in which there are requirements for professional trainings for afterschool staff like professional development requirements for educators. These trainings would be focused components of programming like building quality relationships with youth.

The findings of this study support the previous literature demonstrating an association between student perceptions of staff/student relationships, sense of belonging, and program engagement on SEL outcomes. This research supports the notion that programs that focus on these aspects will produce more positive developmental outcomes for youth (Hurd & Deutsch, 2017). Given the widespread benefits of healthy social-emotional functioning on student outcomes, this study more specifically supports the continual funding of ASP. Adequate and sustained funding for ASPs that incorporate SEL will help to foster environments where students feel they belong, develop important relationships, and are engaged in learning. Skills that are developed during ASP time can then be transferred to learning during the school day. However, program quality often fluctuates due to frequent, and high staff turnover within ASP (Hurd & Deutsch, 2017). These results may be helpful in determining where to focus limited resources and suggest the importance of understanding SEL in this setting (Hurd & Deutsch, 2017).

## 4.4 | Limitations and future directions

The present study is not without its limitations. This study was cross-sectional with only student-reported variables so the authors cannot make conclusions about cause and effect, and the results may be subject to mono-method

bias as well as social desirability bias (Shadish et al., 2002, pp. 72–81; Schwarz, 1999). Results are not generalizable beyond the study participants; students self-selected into the program and there was no control group in the current study. In addition, those students who met the inclusion criteria of a 30-day minimum participation may differ in some systematic way from those who were not included. This study was limited to student perceptual data. Moreover, no data were available to determine if there was any staff turnover and if this impacted student perceptions of their relationships with staff. Even though programming was progressing in person, the time was during COVID-19 in which all schools were mandated to provide virtual instruction during the school day. Therefore, no claims beyond student perceptions of their own functioning within this particularly unique time period can be made.

Given that staff/student relationships have a positive relationship with both sense of belonging and program engagement, a larger sample size would be helpful in the future to test for possible interactive relationships. Indeed, the body of research examining staff/student relationships, sense of belonging, and program engagement illustrate that the associations among these concepts are complex and require further investigation (e.g., Hurd & Deutsch, 2017; Li & Lerner, 2011).

As a result of this exploratory study, future study would allow the researchers to develop a better-specified model and address some of the issues described above. Despite a clear consensus that program engagement, staff/student relationships, and sense of belonging are all individually important predictors of SEL within ASP (Durlak et al., 2010), there is not consistency on how the predictors relate, or interact, with each other (Allen et al., 2016; Greene et al., 2013; Woolley & Bowen, 2006; Yang et al., 2018). This study supported that the predictors have a moderate positive association with each other; however, future research utilizing structural equation modeling would further illuminate the interrelationship between the predictor variables, as well as the identification of direct and indirect effects of each predictor variable on each outcome variable. The literature also suggests the need to examine further if there is a mediating or moderating relationship which could point to potential intervention points. For example, program engagement may be mediating the effects of student/adult relationships and sense of belonging on self-management and self-efficacy. Understanding the paths to improved outcomes would assist afterschool programs in developing the process in implementing their curriculum content.

This study supports the strong literature base demonstrating the connection between program engagement and SEL. However, there is evidence that the relationship is likely related to the level of choice or agency that student have within programming. Notably, Naftzger et al. (2017) looked at SEL outcomes for students in grades fourth through ninth enrolled (for at least 60 days) in 11 afterschool youth development programs. The results indicated that students self-report of engagement with programming was not a significant predictor of self-efficacy, or self-management. However, when elementary programming grades were removed, there was a significant relationship for students involved in secondary programming. This was hypothesized to be due to qualitative programming differences in which secondary programming provided more student choice or agency than elementary programming. Future research can explore choice or agency as an additional path between program engagement and SEL outcomes.

## 5 | CONCLUSION

This study supports the literature in that the afterschool setting is an important place for supplemental SEL improvement to occur. Consistent with ASP literature, student perceptions of their relationships with staff, feelings of belonging, and program engagement were all significant and substantial predictors of SEL. This study uniquely contributes to the literature by examining these three dimensions of SEL concurrently. The results suggested that of these three important SEL dimensions, program engagement was the most salient. Although program engagement is an important predictor in school day activities, more research is needed to determine

the influence in ASP compared to other social and environmental dimensions that can be fostered within the ASP setting.

### CONFLICT OF INTEREST STATEMENT

The authors declare no conflict of interest.

### DATA AVAILABILITY STATEMENT

Data are not publicly available.

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## SUPPORTING INFORMATION

Additional supporting information can be found online in the Supporting Information section at the end of this article.

**How to cite this article:** Fisher, A. E., Johnson, L. R., Minnes, S., Miller, E. K., Riccardi, J. S., & Dimitropoulos, A. (2023). Predictors of social emotional learning in after-school programming: The impact of relationships, belonging, and program engagement. *Psychology in the Schools*, 1–18. <https://doi.org/10.1002/pits.23113>