

Changes in Students' Social and Emotional Competences Following the Implementation of a School-Based Intervention Program

Maria S. Poulou^{1,*}, Ilaria Grazzani², Valeria Cavioni², Veronica Maria Ornaghi², Elisabetta Conte², Carmel Cefai³, Liberato Camilleri³, Paul Bartolo³

¹Department of Educational Sciences and Early Childhood Education, University of Patras, Patras, Greece

²Department of Human Sciences for Education, University of Milano, Bicocca, Italy

³Department of Psychology, University of Malta, Msida, Malta

Email address:

mpoulou@upatras.gr (Maria S. Poulou)

*Corresponding author

To cite this article:

Maria S. Poulou, Ilaria Grazzani, Valeria Cavioni, Veronica Maria Ornaghi, Elisabetta Conte, Carmel Cefai, Liberato Camilleri, Paul Bartolo. Changes in Students' Social and Emotional Competences Following the Implementation of a School-Based Intervention Program. *American Journal of Applied Psychology*. Vol. 11, No. 5, 2022, pp. 122-132. doi: 10.11648/j.ajap.20221105.11

Received: August 3, 2022; **Accepted:** September 9, 2022; **Published:** September 21, 2022

Abstract: Schools have been identified globally by policy makers as an ideal universal context to promote mental health for all students, to identify students with emerging mental health difficulties, and to target students with emotional and behavioral difficulties. However, studies on multi-informant perceptions of students' social and emotional competences following the implementation of mental health programs at schools are limited. Current study examined teachers, students and parents' perceptions of change in students' social and emotional competences, following the implementation of a school-based intervention program Promoting Mental Health at Schools (PROMEHS). PROMEHS goal was to provide a systematic framework for the development and implementation of an evidence-based universal mental health curriculum at schools, to increase students', teachers' and families' mental health and to support teachers, school leaders and policy makers to integrate mental health promotion into national educational policies effectively. Hundred fifty-two Greek teachers from kindergarten to secondary schools completed the SSIS SEL Brief Scales – Teacher K-12 Form for their 1558 students' social and emotional competences and 458 students completed the SSIS SEL Brief Scales – Student Form for their own social and emotional competences. In addition, 492 parents completed the SSIS SEL Brief Scales – Parent Form for their children. Teachers reported moderate changes for their students' social and emotional competences, which were further confirmed by students' reports, but not by parents. Findings are discussed in terms of plans of action based on multi-informant data.

Keywords: Social and Emotional Competences, Teachers, Students, Parents, Mental Health Program at Schools

1. Introduction

There is no doubt in the literature that schools are the settings for the promotion of students' mental health and well-being, since they reach large groups of children during their formative years of cognitive, emotional and behavioral development [36]. Mental health is defined by the World Health Organization (WHO) as the state of well-being in which every individual realizes his or her own potential, cope with the normal stress of life, work productively and

fruitfully, and is able to contribute to her or his community [37]. Based on this axiom, a plethora of school-based programs have been developed to promote students' Social and Emotional Learning (SEL) competences. SEL is the process through which both students and teachers acquire and effectively apply the same social and emotional competences such as learning to understand and use emotions, set positive goals, establish, and maintain positive relationships and engage in responsible decision making [8]. This process occurs both in school and at home, from early years through adulthood. Such programs are prevalent in schools, as

research provides evidence for the positive link of SEL competences and students' academic engagement and achievement [12]. The Collaborative for Academic, Social and Emotional Learning (CASEL) has further increased the implementation of SEL programs through its advocacy on content standards for students' SEL competences [15]. SEL programs contribute to the effective enhancement of students' SEL competencies and their psychosocial health [35], whereas the delivery of school-based SEL programs has been suggested as an antidote for preventing negative outcomes for students [21].

Most interventions to develop students' social and emotional competences at schools have focused exclusively on students [5, 8, 14], with a paucity of research on the way with which students' social and emotional competences may vary across school and family contexts [13], prior and after the interventions. Interactions with adults and peers at school might generate competences and skills that students do not encounter at home. In this sense, the multi-informant approach to students' social and emotional competences provides a coherent picture to address students' social and emotional competences or deficiencies. Current study aimed to address multi-informant perceptions of students' social and emotional competences following the implementation of PROMEHS, a school-based program for promoting mental health at schools.

2. Multi-Informant Perceptions of Students' Social and Emotional Competences

Successful development of social and emotional skills involves children learning to discriminate what are appropriate and effective behaviors in different settings, such as home and school. It is therefore interesting to investigate teachers, parents and students' themselves regarding perceptions of social and emotional skills [20]. Researchers are interested in both measuring and improving children's SEL competences, without sound multi-informant assessments many fundamental questions about children's SEL competences will go unanswered [27]. Social and emotional competencies are better assessed using multiple sources including self, teacher or parents [27]. However, information for students' social and emotional competences predominantly come from teachers and students [11, 28, 30]. Parents' ratings of their children's social and emotional competences although potentially rich, have not been included in universal SEL screening in schools [19]. Maybe this is because, a few rating scales have been designed for parents or family members to complete for students' SEL competences [15]. All the research on informant discrepancies administered behavior rating scales and measured students' behavior problems [13], with exception Gresham *et al.*'s [23] study. This latter study was one of the first to examine cross-informant agreement regarding children's SEL among teachers, parents and students in

consistency with CASEL model of competences, with the use of SSIS SEL rating forms [22] consisting of common items across rating forms. In fact, SSIS SEL rating forms focus on the domains of self-awareness, self-management, social awareness, relationship skills and responsible decision making, which although they are the focus of many school-based intervention programs, very few measures of these constructs exist [23]. In addition, there is lack of research investigating whether change in these students' social and emotional competences occurs after school-based intervention programs, based on teachers, students and parents' perceptions.

Current study addresses Greek teachers, students and parents' perceptions of students' social and emotional competences, and the way they change following the implementation of PROMEHS, an evidence-based universal mental health curriculum in schools. This is especially important in the country of Greece, where numerous mental health programs have been implemented, especially in primary schools and central cities, but there is no evidence in terms of implementation, fidelity or the long-term outcomes of these programs [29]. Our study was not designed to directly address any discrepancies among multiple informants. We aim to examine how teachers, students and parents' perceptions of students' social and emotional competences change following an intervention program promoting mental health at schools. We hypothesized that changes in perceptions of students' social and emotional competences would be present following PROMEHS implementation. A secondary aim of the study was to pilot the Greek versions of the SSIS measures in teachers, students and parents, first time in the Greek context.

2.1. Method

2.1.1. Design and Setting

A quasi-experimental longitudinal design was used to evaluate the impact of the PROMEHS project on students' outcomes within time (pre-test vs post-test) and between groups (experimental vs control group). The schools were matched for socio-economic status (SEC), location (regional, rural, remote) and number of students enrolments. We used a multi-method design (qualitative and quantitative data), multi-site and multi-informant (school leaders, teachers, support staff, students, parents/carers and policy makers). In the current paper we present teachers, students and parents' quantitative information on students' social and emotional competences.

2.1.2. Recruitment and Participants

Open call to kindergarten, primary and secondary schools of Achaia prefecture resulted in the volunteering schools, which in turn recruited students' parents. The study was conducted in conformity with the recommendations of the Ethics Committee of the University of Patras. Participants were ensured about the anonymity and confidentiality of their responses. All participants (teachers, students and parents) completed a formal online consent form.

Hundred fifty-two teachers teaching in public schools in Achaia prefecture in Greece (12 male; 7.9% and 140 females; 92.1%), divided into experimental (82; 53.9%) and control (70; 46.1%) groups completed questionnaire for their students' social and emotional competences. Fifty of them (32.9) were kindergarten teachers, teaching students aged 5-6 years old, 60 of them (39.5%) were primary teachers, teaching students aged 6-12 years old, 28 of them (18.4%) were high school teachers, teaching students 12-15 years old, and 16 of them (10.5%) were lyceum schoolteachers, teaching students 15-18 years old (high school and lyceum are grades of secondary education). In total 1558 questionnaires (758; 48.7% male and 800; 51.3% female students) were completed, with 846 (54.3%) of them were completed by the experimental and 712 (45.7%) from the control group. In addition, 698 (44.8%) questionnaires were completed by teachers of kindergarten students, 656 (42.1%) by teachers of primary students, 80 (5.1%) of high school students, and 124 (8.0%) of lyceum students. Students completed questionnaires for their own social and emotional competences. In total 458 questionnaires were completed by students (214; 46.7% male and 244; 53.3% female), divided into experimental (200; 43.7%) and control groups (258; 56.3%). Two hundred eighty (61.1%) of them were primary students and 178 (38.9%) were high and lyceum school students. Finally, 492 students' parents (85.5% female, 14.4% male, 270 from the experimental and 222 from the control group) were asked to complete questionnaires about their children's social and emotional competences. The majority of parents 43.3% had completed secondary education (10% primary, 35% tertiary and 11.8% had postgraduate studies).

2.1.3. PROMEHS Curriculum

PROMEHS is the first mental health curriculum designed to address teachers' and students' mental health, developed collaboratively by researchers, policy-makers and scientific associations from 7 European countries (Croatia, Italy, Latvia, Romania, Portugal, Malta and Greece). PROMEHS goal was to provide a systematic framework for the development and implementation of an evidence-based universal mental health curriculum at schools, to increase students', teachers' and families' mental health and to support teachers, school leaders and policy makers to integrate mental health promotion into national educational policies effectively. The curriculum was designed following the high-quality criteria identified by CASEL [9]. PROMEHS was based on three core modules with activities targeting both teachers and students. These core modules of mental health were the following: a) Social and Emotional Learning (SEL), the process of cultivating skills and attitudes to students and adults to develop healthy relationships with self and others. CASEL [9] identifies five core inter-related competencies and skills namely self-awareness, self-management, social awareness, relationship skills and responsible decision-making; b) Promoting resilience, the dynamic process of

successful adaptation in the contexts of significant threats to development [34]; and c) Preventing social, emotional and behavioral problems and challenging behaviors, that are outside the norms of children's age. PROMEHS was based on the whole school approach principle, acknowledging the importance of the collaboration among students, teachers, families, community stakeholders and policymakers. The curriculum also supports the active family engagement axiom, that is schools and families need to work together for the improvement of students' mental health. Therefore PROMEHS designed parents' handbooks in addition to teachers and students' handbooks, so that families share the same language and goals with schools, and consistently apply the social and emotional competences learnt at school at home too.

2.1.4. PROMEHS Training and Implementation Program

Teachers social and emotional competences need to be strengthened in a micro level through teachers' professional training, to develop their own competences and incorporate SEL practices in their regular teaching, and in a macro level, through SEL implementation on a policy level [32]. PROMEHS aimed to address teachers' needs in both levels. Teachers and parents of both experimental and control groups participated in a purpose designed training program, delivered by the research team, to increase their knowledge, skills and attitudes, in different time-points (experimental group received training before PROMEHS program implementation, and control group received training after PROMEHS implementation). The training comprised sessions based on three core modules (Promoting Social and Emotional Learning; Resilience; and Prevention of emotional and behavioral difficulties). The instruction delivered over an intensive 3-day training program for teachers, via a synchronous online environment, using teleconference technology to facilitate the building of networks and communities of practice. This decision was based since training program took place during the restrictions of COVID-19 (October 2020). Similarly, parents of the experimental group received a 6-hours on-line training program for implementing PROMEHS at home. Following teachers and parents' training, PROMEHS was implemented at schools, with the consent of participating school directors, teachers, students, parents and local policy makers. PROMEHS implementation lasted six months (December 2020 to May 2021). During the implementation, teachers of the experimental group were asked to implement in classrooms at least 12 of PROMEHS activities (4 for each core model: social and emotional learning, resilience, and preventing social and emotional problems) described in PROMEHS handbooks for teachers and students. Parents were also asked to implement the same activities with their children at home. In Greece, the majority of the implementation was conducted through teleconferencing due to COVID-19 policy restrictions. During the implementation, teachers and parents received 9 hours of mentoring and monitoring by qualified project trainers.

2.2. Measures

2.2.1. SSIS SEL Brief Scales (SSIS SELb)

The SSIS SEL Brief Scales (SSIS SELb; 17) is a multi-informant assessment that evaluates the social-emotional skills of children and adolescents. The brief version of this assessment was developed from the SSIS SEL Rating Forms [22], and it is typically administered as a universal screening assessment. The items in this assessment were created to align with the CASEL framework for social-emotional learning competency [1]. Three forms of the SSIS SELb have been developed: the SSIS SELb Teacher K-12 Form (SSIS SELb-T), the SSIS SELb Parent K-12 Form (SSIS SELb-P), and the SSIS SELb Student form (SSIS SELb-S). Studies with representative samples of children from the U.S. indicate the scores from this assessment to be highly reliable and valid [1, 2, 17]. Specifically, alpha values for SEL composite scores were found to be .95 for teachers, .91 for parents, and .94 for students. High levels of concurrent validity were also evident when comparing scores from the SSIS SELb and related measures, such as the Behavior Assessment System for Children – Second Edition (BASC-2; 31). The SSIS SELb teacher, parent, and student versions were all translated for use in the six countries participating in PROMEHS, with good levels of measurement invariance across the translated versions [3].

2.2.2. SSIS SEL Brief Scales – Teacher K-12 Form [1]

The SSIS SEL Brief Scales- Teacher K-12 Form includes 20 statements for students' social and emotional learning skills, aged 3-18, taxonomized into five subscales (relationship skills, responsible decision making, self-awareness, self-management, and social awareness). Teachers indicate the frequency with which students exhibit each social and emotional skill. Responses are rated on a 4-point Likert scale from 0 (Never) to 3 (Almost always). Example items are: "Asks for help when needed" and "Completes tasks without bothering others". The SEL items were translated to Greek and back-translated to English by three students of English literature and piloted to five elementary teachers to ensure the conceptual accuracy of the items and their adherence to the original content. A CFA with robust maximum likelihood estimation was used to examine the 5-factor measurement model. The model fit indices were $\chi^2 = 1558.59$, $df = 160$, $p = .00$ ($p > .05$), $CFI = .85$ ($> .95$), $RMSEA = .10$ ($< .08$). Cronbach's alphas were .77 for relationship skills, .83 for responsible decision making, .76 for self-awareness, .78 for self-management, and .80 for social awareness, which are comparable to reliability coefficients reported in the U.S. [4; 19].

2.2.3. SSIS SEL Brief Scales – Student Form [2]

Students' perceptions of their social and emotional competences were measured with the SSIS SEL Brief Scales – Student Form (students in grades 3-12) of the SSIS SEL brief scale [2]. The SSIS SEL brief scale consists of 20 items with four item scales: self-awareness, self-management, social awareness, relationship skills and responsible decision

making. Responses are rated on a 4-point Likert scale from 0 (Never) to 3 (Almost always). Example items are: "I ask for help when I need it" and "I stay calm when dealing with problems". As previously, the SSIS items were translated to Greek and back-translated to English by three students of English literature and piloted to 4 primary, 4 secondary high and 4 secondary lyceum students to ensure the conceptual accuracy of the items and their adherence to the original content. A CFA with robust maximum likelihood estimation was used to examine the 5-factor measurement model. The model fit indices were $\chi^2 = 336.96$, $df = 160$, $p = .00$ ($p > .05$), $CFI = .88$ ($> .95$), $RMSEA = .06$ ($< .08$). Cronbach's alphas were .64 for relationship skills, .70 for responsible decision making, .71 for self-awareness, .69 for self-management, and .72 for social awareness, similarly to US studies [17].

2.2.4. SSIS SEL Brief Scales – Parent Form [16].

Parents' perceptions of students' social and emotional competences were measured with the SSIS Brief scales - Parent Form, which consists of 20 items with four item scales: self-awareness, self-management, social awareness, relationship skills and responsible decision making. Responses are rated on a 4-point Likert scale from 0 (Never) to 3 (Almost always). Example items are: "Asks for help when needed", and "Stays calm when teased". The items were piloted to five parents with different educational background, for their conceptual accuracy. A CFA with robust maximum likelihood estimation was used to examine the 5-factor measurement model. The model fit indices were $\chi^2 = 406.44$, $df = 160$, $p = .00$ ($p > .05$), $CFI = .81$ ($> .95$), $RMSEA = .07$ ($< .08$). Cronbach's alphas were .67 for relationship skills, .70 for responsible decision making, .61 for self-awareness, .65 for self-management, and .67 for social awareness.

3. Results

3.1. Teachers' Perceptions of Students' Social and Emotional Skills

Students were matched by code to combine the pre-test and post-test scores. Only children who had scores in both tests were included in the data set. Missing values were replaced by the mean test item score. Table 1 presents teachers' perceptions of students' social and emotional competences. Students of the experimental and control groups presented significant differences mainly in self-awareness and social awareness subscales, according to teachers' ratings. However, significant interactions between groups and phases reveal that higher scores were met in experimental groups comparing to control groups from pre-test to post-test phase. Taken separately, ANOVA results show that there was no significant difference between experimental and control groups on the Relationship skills ($F(1, 777) = 2.65$, $p = .10$, $\eta_p^2 = .00$), but there was significant main effect between pre and post-test phases ($F(1, 777) = 24.35$, $p = .38$, $\eta_p^2 = .00$). A significant interaction was found between group and phase ($F(1, 777) = 27.86$, $p = .00$,

$\eta_p^2 = .03$) (Figure 1). There was no significant difference between experimental and control groups on the Responsible decision-making ($F(1, 777)=75, p= .10, \eta_p^2 = .00$). However, there was significant main effect between pre and post-test phases ($F(1, 777)=13.09, p= .00, \eta_p^2 = .01$), and a significant interaction was found between group and phase ($F(1, 777)=28.31, p= .00, \eta_p^2 = .03$) (Figure 2). In contrast, two-way mixed ANOVA results showed that there was significant difference between experimental and control groups on the Self-awareness ($F(1, 777)=7.52, p= .00, \eta_p^2 = .01$), significant main effect between pre and post-test phases ($F(1, 777)=17.80, p= .00, \eta_p^2 = .02$) and significant interaction between group and phase ($F(1,$

$777)=22.00, p= .00, \eta_p^2 = .02$), (Figure 3). On the self-management subscale, no significant difference was found between experimental and control groups ($F(1, 777)=15, p= .69, \eta_p^2 = .00$). There was significant main effect between pre and post-test phases ($F(1, 777)=13.05, p= .00, \eta_p^2 = .01$), and significant interaction between group and phase ($F(1, 777)=6.63, p= .01, \eta_p^2 = .00$) (Figure 4). Finally, there was significant difference between experimental and control groups on the social awareness ($F(1, 777)=6.56, p= .01, \eta_p^2 = .00$), significant main effect between pre and post-test phases ($F(1, 777)=36.57, p= .00, \eta_p^2 = .04$), and significant interaction between group and phase ($F(1, 777)=31.87, p= .00, \eta_p^2 = .03$) (Figure 5).

Table 1. Teachers' reports on students' Social and Emotional Competences.

	Group	Phase	Mean	Sd	N
Relationship skills	Experimental	Pre	3.15	.51	423
		Post	3.33	.55	423
	Control	Pre	3.18	.56	356
		Post	3.18	.61	356
Responsible decision-making	Experimental	Pre	3.27	.55	423
		Post	3.41	.55	423
	Control	Pre	3.32	.60	356
		Post	3.29	.65	356
Self-awareness	Experimental	Pre	3.02	.51	423
		Post	3.17	.60	423
	Control	Pre	3.00	.51	356
		Post	2.99	.55	356
Self-management	Experimental	Pre	3.10	.57	423
		Post	3.20	.56	423
	Control	Pre	3.13	.57	356
		Post	3.14	.61	356
Social awareness	Experimental	Pre	3.13	.53	423
		Post	3.35	.57	423
	Control	Pre	3.14	.57	356
		Post	3.15	.62	356

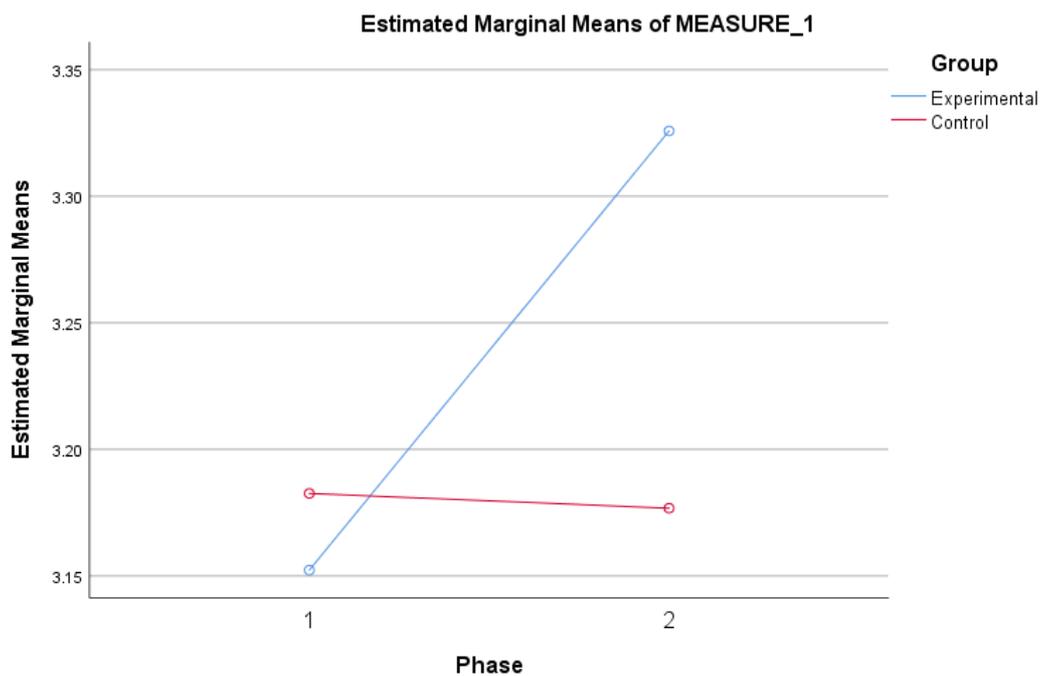


Figure 1. Teachers' perceptions of students' relationship skills.

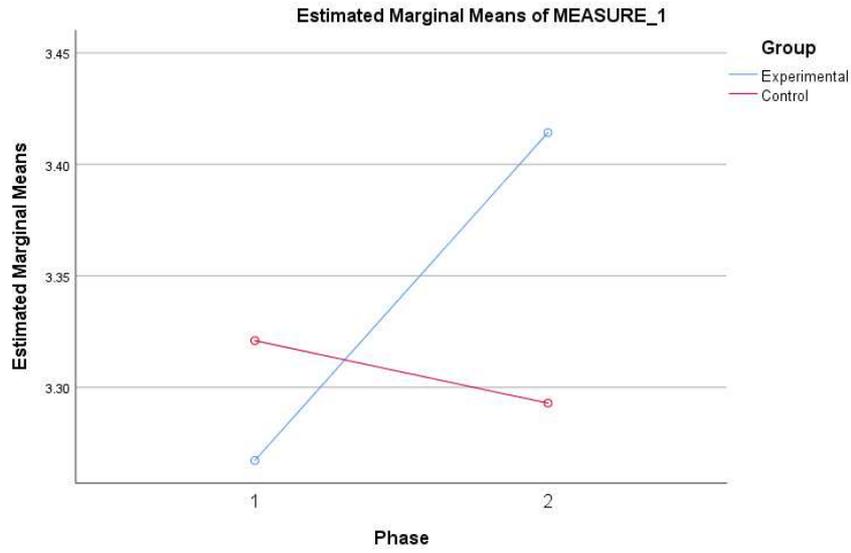


Figure 2. Teachers' perceptions of students' decision-making.

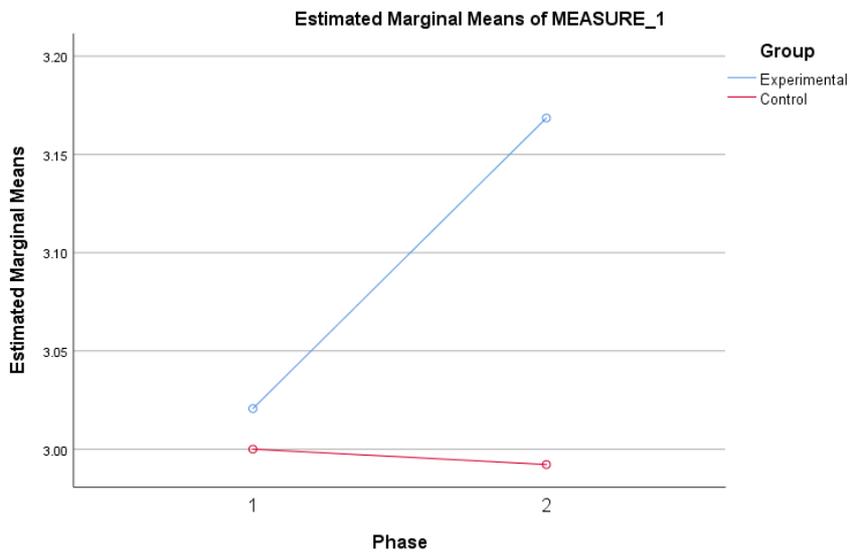


Figure 3. Teachers' perceptions of students' self-awareness.

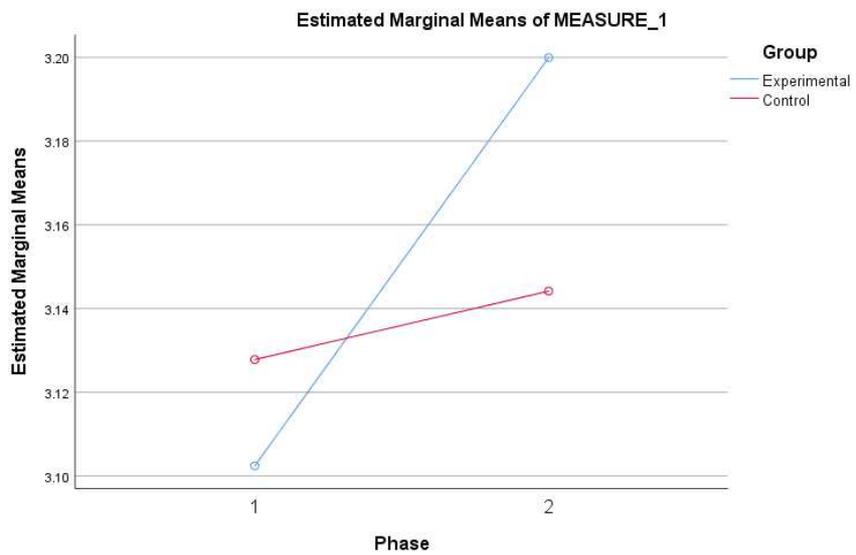


Figure 4. Teachers' perceptions of students' self-management.

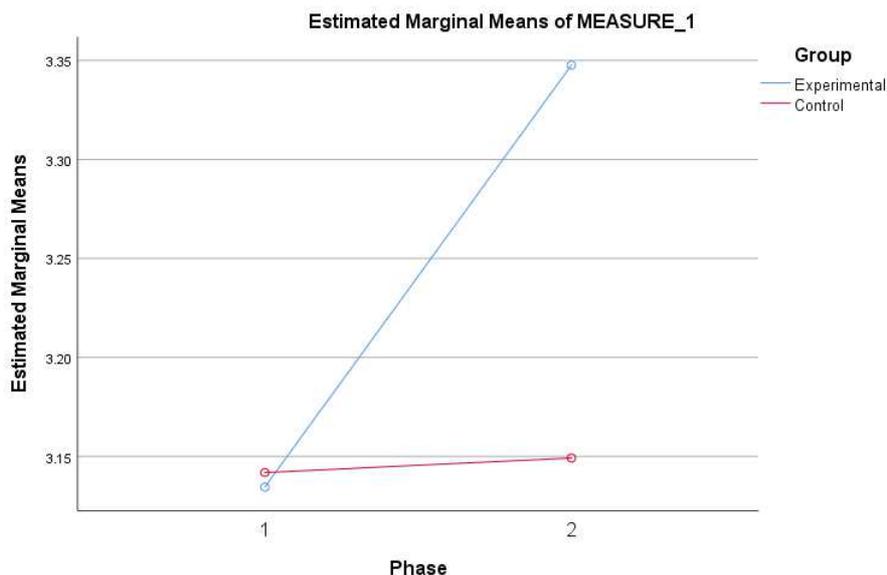


Figure 5. Teachers' perceptions of students' social awareness.

3.2. Students' Perceptions of Their Own Social and Emotional Competences

Besides teachers' perceptions of students' social and emotional competences, students themselves were asked to rate their competences before and after PROMEHS implementation. Students were matched by code to combine the pre-test and post-test scores. Only students who had scores in both tests were included in the data set. Missing values were replaced by the mean test item score. Table 2 presents students' ratings. According to students, there were significant differences in their social and emotional competences between experimental and control groups, providing evidence that the implementation brought about significant changes to the students who received it. Specifically, a significant difference was found between experimental and control groups on the Relationship skills ($F(1, 227)=6.73, p=.01, \eta_p^2=.02$), significant main effect between pre and post-test phases ($F(1, 227)=5.23, p=.02, \eta_p^2=.02$), but non-significant interaction between group and phase ($F(1, 227)=.44, p=.50, \eta_p^2=.00$). In a similar line, there was significant difference between experimental and control groups on the Responsible decision-making ($F(1,$

$227)=9.32, p=.00, \eta_p^2=.03$), significant main effect between pre and post-test phases ($F(1, 227)=8.08, p=.00, \eta_p^2=.03$), but non-significant interaction between group and phase ($F(1, 227)=.20, p=.64, \eta_p^2=.00$). There was significant difference between experimental and control groups on the Self-awareness ($F(1, 227)=19.09, p=.00, \eta_p^2=.07$). There was no significant main effect between pre and post-test phases ($F(1, 227)=2.15, p=.14, \eta_p^2=.02$), and no significant interaction between group and phase ($F(1, 227)=.12, p=.72, \eta_p^2=.00$). Self-management was the only subscale where no significant difference was found between experimental and control groups ($F(1, 227)=3.55, p=.06, \eta_p^2=.01$). There was however significant main effect between pre and post-test phases ($F(1, 227)=8.02, p=.00, \eta_p^2=.03$). No significant interaction was found between group and phase ($F(1, 227)=.57, p=.45, \eta_p^2=.00$). Finally, there was significant difference between experimental and control groups on the social awareness ($F(1, 227)=6.56, p=.01, \eta_p^2=.00$), significant main effect between pre and post-test phases ($F(1, 227)=3.62, p=.05, \eta_p^2=.01$), and non-significant interaction between group and phase ($F(1, 227)=.10, p=.74, \eta_p^2=.00$), suggesting that both experimental and control groups evolve in a similar direction.

Table 2. Students' self-reports on Social and Emotional Competences.

	Group	Phase	Mean	Sd	N
Relationship skills	Experimental	Pre	3.28	.53	100
		Post	3.34	.47	100
	Control	Pre	3.40	.51	129
		Post	3.50	.46	129
Responsible decision-making	Experimental	Pre	3.17	.60	100
		Post	3.26	.49	100
	Control	Pre	3.31	.45	129
		Post	3.44	.44	129
Self-awareness	Experimental	Pre	2.98	.59	100
		Post	3.05	.47	100
	Control	Pre	3.24	.51	129
		Post	3.28	.47	129

	Group	Phase	Mean	Sd	N
Self-management	Experimental	Pre	2.60	.67	100
		Post	2.77	.59	100
	Control	Pre	2.76	.58	129
		Post	2.86	.57	129
Social awareness	Experimental	Pre	3.25	.61	100
		Post	3.35	.53	100
	Control	Pre	3.40	.50	129
		Post	3.47	.49	129

3.3. Parents' Perceptions of Students' Social and Emotional Competences

Parents were matched by code to combine the pre-test and post-test scores. Only parents who had scores in both tests were included in the data set. Missing values were replaced by the mean test item score. Parents' ratings on their children social and emotional competences show similarity between experimental and control groups, and between pre and post test phases, with parents giving higher scores to children's relationship skills and responsible decision making and lower scores to children's self-management and self-awareness (Table 3). Based on parents' perceptions, there were no significant differences in students' social and emotional competences, between experimental and control groups, pre and post test phases or their interaction, implying that PROMEHS implementation brought no significant changes to children who received it. Specifically, no significant difference was found between experimental and control groups ($F(1, 491)=2.54$, $p=.11$, $\eta_p^2=.00$), no significant main effect between pre and post-test phases ($F(1, 491)=.06$, $p=.79$, $\eta_p^2=.00$), and no significant interaction between group and phase ($F(1, 449)=.36$,

$p=.54$, $\eta_p^2=.00$) in relationship skills. In responsible decision making, no significant difference was found between experimental and control groups ($F(1, 491)=.00$, $p=.93$, $\eta_p^2=.00$), no significant main effect between pre and post-test phases ($F(1, 491)=.36$, $p=.54$, $\eta_p^2=.00$), and no significant interaction between group and phase ($F(1, 449)=.11$, $p=.73$, $\eta_p^2=.00$). In self-awareness, no significant difference was found between experimental and control groups ($F(1, 491)=1.15$, $p=.28$, $\eta_p^2=.00$), no significant main effect between pre and post-test phases ($F(1, 491)=.39$, $p=.53$, $\eta_p^2=.00$), and no significant interaction between group and phase ($F(1, 449)=.91$, $p=.50$, $\eta_p^2=.00$). In self-management, no significant difference was found between experimental and control groups ($F(1, 491)=1.00$, $p=.31$, $\eta_p^2=.00$), no significant main effect between pre and post-test phases ($F(1, 491)=.01$, $p=.91$, $\eta_p^2=.00$), and no significant interaction between group and phase ($F(1, 449)=.05$, $p=.81$, $\eta_p^2=.00$). Finally, in social awareness, no significant difference was found between experimental and control groups ($F(1, 491)=2.21$, $p=.13$, $\eta_p^2=.00$), no significant main effect between pre and post-test phases ($F(1, 491)=.34$, $p=.55$, $\eta_p^2=.00$), and no significant interaction between group and phase ($F(1, 449)=.65$, $p=.41$, $\eta_p^2=.00$).

Table 3. Parents' reports on students' Social and Emotional Competences.

	Group	Phase	Mean	Sd	N
Relationship skills	Experimental	Pre	3.42	.44	135
		Post	3.46	.44	135
	Control	Pre	3.38	.45	111
		Post	3.36	.52	111
Responsible decision-making	Experimental	Pre	3.36	.48	135
		Post	3.35	.48	135
	Control	Pre	3.38	.45	111
		Post	3.34	.47	111
Self-awareness	Experimental	Pre	3.23	.44	135
		Post	3.21	.45	135
	Control	Pre	3.19	.37	111
		Post	3.16	.44	111
Self-management	Experimental	Pre	2.92	.48	135
		Post	2.94	.52	135
	Control	Pre	2.98	.44	111
		Post	2.97	.50	111
Social awareness	Experimental	Pre	3.37	.47	135
		Post	3.31	.51	135
	Control	Pre	3.26	.51	111
		Post	3.27	.55	111

4. Discussion

The study presented a quasi-experimental cluster research investigating changes in teachers, students and parents'

perceptions of students' social and emotional competences, following an intervention promoting mental health at schools. To our knowledge, this is the first study to examine multi-informant perceptions of students' social and emotional competences following a school-based intervention program

in Greece. This kind of multi-informant source of evidence can offer positive insights in educational context. Although students' self-reports provide sufficient and valid information [7], teachers and parents' perceptions contribute new information for educational decision-making regarding social and emotional competences.

Our study indicated moderate change in students' social and emotional competences as reported by teachers, which were further confirmed by students' self-reports, similar to prior studies [27], where overall teachers and students do not perceive their level of social and emotional competences differently. Moderate changes between the experimental and control groups in students' social and emotional competences, based on teachers and students' ratings might be attributed to the implementation of PROMEHS activities, a finding though which needs further investigation. Parents however did not perceive changes in children's social and emotional competences. Overall, discrepancies among informants reflect differences in settings where students' competences are observed. Certain social and emotional competences are context-specific [24]. Schools may require students to use social and emotional competences to negotiate differences with others, which are not required at home [20]. In the case of students, ratings of their own behavior in contexts similar to their parents and teachers, might include information unique to themselves (e.g., peer interactions that neither parent nor teacher observes) [25]. It is argued that even when events are alike, teachers and parents may interpret them differently based on the context they arise [6]. Teachers report "school behaviors" and parents report "home behaviors" [23] and since human behaviors are influenced by social situations it is rather anticipated teachers, students and parents to rate social and emotional competences rather differently. Furthermore, participants of our study have been significantly impacted by the pandemic, including experiencing a large number of stressors that were linked to poor mental health, coping and teaching. Different picture of results would have been obtained if implementation with face-to-face activities would have been practiced, and if teachers, students and parents had an interactive dialogue to cultivate students' mental health consistently.

After all, it is common finding that multi-informant data tend to demonstrate small-to-moderate relationships [19]. The main thing beyond these discrepancies is how they inform teachers in their work to promote students' social and emotional competences, and how policy makers and educators interpret these discrepancies for the implementation of school-based programs. Challenges may arise when attempting to draw conclusions about plans of action based on conflicting multi-informant data. Our study contributes a piece of information regarding students' social and emotional competences change with a SEL program, based on the most important agents of the program, teachers, parents and students themselves. Future research needs to determine how best to interpret multi-informant data to yield the best decisions and outcomes for students. A secondary aim of the study was to pilot the Greek version of SSIS SEL

Brief Scales in different samples (teachers, students and parents). Results of CFA and alpha coefficients provide initial evidence of the validity of these forms in line with Anthony et al [3] and incentives for further studies.

5. Limitations

Our study has several limitations that must be acknowledged. The context consideration that limited our efforts need to be considered during data interpretation. Greece in 2021 had school closures and remote learning due to COVID-19 pandemic. Because of this fluid situation, higher attrition rate for schools and participant than anticipated resulted, whereas PROMEHS training and implementation at schools were conducted exclusively via teleconference. Different picture of results would have been obtained if implementation with face-to-face activities would have been practiced and parents had the opportunity to interact with teachers regarding the implementation process. Respondents' voluntarily participation and the use of report measures are subject to bias and social desirability. The use of objective measures, methods to assess students' social and emotional competencies at school and home contexts would further enhance the validity of our findings. Employing a multimethod and multi-reporter design in conjunction with direct observations should be a goal of future research addressing the questions we explore. Finally, it is also important to point out that our data were mainly descriptive precluding correlational, or causal conclusions.

6. Conclusions

Nevertheless, this research has important implication for several reasons. First, it is one of the first to examine cross-informant changes in students' social and emotional competences following the implementation of PROMEHS, an evidence-based program promoting mental health at schools. Second, the voice of students' themselves regarding any potential changes in their social and emotional competences following a SEL implementation provides insights to teachers who implement SEL programs. Third, the investigation of teachers, students and parents' perceptions of social and emotional competences with the use of comparable formats of rating scales, besides the discrepancies found, provide complimentary information [10] when designing programs for the promotion of students' skills in different contexts. When students' social and emotional competences are reviewed together with teachers and parents' perceptions, the results yield a broad-based solution focused approach to students' development [33].

References

- [1] Anthony, C. J., Elliott, S. N., DiPerna, J. C., & Lei, P. (2020a). Initial Development and Validation of the SSIS SEL Brief Scales - Teacher Form (SSIS SELb-Teacher) *Journal of Psychoeducational Assessment* 39 (3), <http://10.1177/0734282920953240>

- [2] Anthony, C. J., Elliott, S. N., DiPerna, J. C., & Lei, P.-W. (2020b). The SSIS SEL Brief Scales–Student Form: Initial development and validation. *School Psychology, 35* (4), 277–283. <https://doi.org/10.1037/spq0000390>
- [3] Anthony, C. J., Elliott, S. N., Yost, M., Lei, P.-W., DiPerna, J. C., Cefai, C., Camilleri, L., Bartolo, P. A., Grazzani, I., Cavioni, V., Ornaghi, V., Conte, E., Vorkapić, S. T., Poulou, M., Martinsone, B., Simoes, C., & Colomeischi, A. (in press). Multi-Informant Validity Evidence for the SSIS SEL Brief Scales across Six European Countries. *Frontiers in Psychology*.
- [4] Anthony, C. J., Elliott, S. N., DiPerna, J. C., & Lei, P.-W. (2020c). Multirater Assessment of Young Children's Social and Emotional Learning via the SSIS SEL Brief Scales – Preschool Forms. *Early Childhood Research Quarterly, 53*, 625–637. [10.1016/j.ecresq.2020.07.006](https://doi.org/10.1016/j.ecresq.2020.07.006).
- [5] Ashdown, D. M., & Bernard, M. E. (2012). Can explicit instruction in social and emotional learning skills benefit the social-emotional development, well-being, and academic achievement of young children? *Early Childhood Education Journal, 39*, 397–405. [http://10.1007/s10643-011-0481-x](https://doi.org/10.1007/s10643-011-0481-x)
- [6] Beebe-Frankenberger M., Lane K. L., Bocian K. M., Gresham F. M., MacMillan D. L. (2005). Students With or At Risk for Problem Behavior: Betwixt and Between Teacher and Parent Expectations. *Preventing School Failure, 49*, 10–17. [https://10.3200/PSFL.49.2.10-17](https://doi.org/10.3200/PSFL.49.2.10-17).
- [7] Brinkworth, M. E., McIntyre, J., Juraschek, A. D., & Gehlbach, H. (2018). Teacher-student relationships: The positives and negatives of assessing both perspectives, *Journal of Applied Developmental Psychology, 55*, 24–38, <https://doi.org/10.1016/j.appdev.2017.09.002>.
- [8] CASEL (2009). SEL: What is it and how does it contribute to students' academic success? http://casel.org/wp-content/uploads/Tool2_2009.pdf
- [9] CASEL (2020). CASEL evidence-based social and emotional learning programs: CASEL criteria updates and rationale. http://casel.org/wp-content/uploads/2021/01/11_CASEL_Program-Criteria-Rationale.pdf
- [10] Chen Y. Y., Ho S. Y., Lee P. C., Wu C. K., Gau S. S. (2017). Parent-child discrepancies in the report of adolescent emotional and behavioral problems in Taiwan. *PLoS ONE, 12*, 6. [https://10.1371/journal.pone.0178863](https://doi.org/10.1371/journal.pone.0178863).
- [11] Denham, S. A. (2015). Assessment of SEL in educational contexts. In J. Durlak, C. Domitrovich, R. Weissberg, & T. Gullotta (Eds.), *Handbook of social and emotional learning: Research & practice* (pp.285-300). Guilford.
- [12] DiPerna, J. C., Lei, P., Cheng, W., Hart, S. C., & Bellinger, J. (2018). A cluster randomized trial of the social skills improvement system-classwide intervention program (SSIS-CIP) in first grade. *Journal of Educational Psychology, 110* (1), 1–16. [http://10.1037/edu0000191](https://doi.org/10.1037/edu0000191)
- [13] De Los Reyes A., Kazdin A. E. (2005). Informant discrepancies in the assessment of childhood psychopathology: A critical review, theoretical framework, and recommendations for further study. *Psychological Bulletin, 131*, 483–509. [https://10.1037/0033-2909.131.4.483](https://doi.org/10.1037/0033-2909.131.4.483).
- [14] Durlak, J. A., Weissberg, R., Dymnicki, A. B., & Schellinger, K. B. (2011). The impact of enhancing students' social and emotional learning: a meta-analysis of school-based universal intervention. *Child Development, 82* (1), 405–432. [http://10.1111/j.1467-8624.2010.01564x](http://doi.org/10.1111/j.1467-8624.2010.01564x)
- [15] Dusenbury, L., Yoder, N., Dermody, C., & Weissberg, R. (2019). An examination of framework for social and emotional learning (SEL) reflected in state K-12 learning standards. *Measuring SEL: Using Data to Inspire Practice*. CASEL.
- [16] Elliott, S., Anthony, C., Lei, P.-W., & DiPerna, J. (2021b). Parents' assessment of students' social emotional learning competencies: The SSIS SEL brief scales-parent version. *Family Relations, 70*. [https://10.1111/fare.12615](https://doi.org/10.1111/fare.12615).
- [17] Elliott, S. N., Anthony, C. J., DiPerna, J. C., Lei, P. W., & Gresham, F. M. (2020). *SSIS SEL Brief + Mental Health Scales - Student*. Scottsdale, AZ: SAIL Collaborative.
- [18] Elliot, S. N., & Gresham, F. M. (2017). *SSIS SEL edition screening/progress monitoring scales*. Bloomington. Pearson Assessments.
- [19] Elliott S. N., Lei P.-W., Anthony C. J., & Di Perna J. C. (2021a). Screening the whole social-emotional child: Expanding a brief SEL assessment to include emotional behavior concerns. *School Psychology Review, 50*. [http://10.1080/2372966x.2020.1857659](https://doi.org/10.1080/2372966x.2020.1857659)
- [20] Garcia-Salguero B. I., & Mudarra M. J. (2020). Importance of Social Skills in the Prevention of Risk Situations and Academic Achievement in Secondary Education in Spain: What Do Teachers Expect from Their Students? How Can Coexistence and Well-Being Be Improved? In: Malik-Liébano B., Álvarez-González B., Sánchez-García M. F., editors. *International Perspectives on Research in Educational and Career Guidance*. Springer; Cham, Switzerland. pp. 153–161.
- [21] 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* (6), 1056–1069. <https://doi.org/10.1002/pits.22487>
- [22] Gresham, F. M., & Elliot, S. N. (2017). *Social skills improvement system*. Social emotional learning edition rating forms. Pearson Assessments.
- [23] Gresham, F. M., Elliot, S. N., Metallo, S., Byrd, S., Wilson, E., & Cassidy, K. (2018). Cross-informant agreement of children's social-emotional skills: An investigation of ratings by teachers, parents, and students from a nationally representative sample. *Psychology in the Schools, 55*, 208–223. [https://10.1002/pits.22101](https://doi.org/10.1002/pits.22101)
- [24] Hauser-Cram P., Sirin S. R., Stipek D. (2003). When teachers' and parents' values differ: Teachers' ratings of academic competence in children from low-income families. *Journal of Educational Psychology, 95*, 813–820. [https://10.1037/0022-0663.95.4.813](https://doi.org/10.1037/0022-0663.95.4.813).
- [25] Kraemer H., Measelle J., Ablow J., Essex M., Boyce W., Kupfer D. (2003). A new approach to integrating data from multiple informants in psychiatric assessment and research: Mixing and matching contexts and perspectives. *American Journal of Psychiatry, 160*, 1566–1577. [https://10.1176/appi.ajp.160.9.1566](https://doi.org/10.1176/appi.ajp.160.9.1566)
- [26] Los Reyes A., Talbott E., Power T. J., Michel J. J., Cook C. R., Racz S. J., Fitzpatrick O. (2022). The Needs-to-Goals Gap: How informant discrepancies in youth mental health assessments impact service delivery. *Clinical Psychology Review, 92*. [http://10.1016/j.cpr.2021.102114](https://doi.org/10.1016/j.cpr.2021.102114).

- [27] Mudarra, M. J., Álvarez-González, B., García-Salguero, B., Elliott, S. N. (2022). Multi-Informant Assessment of Adolescents' Social-Emotional Skills: Patterns of Agreement and Discrepancy among Teachers, Parents, and Students. *Behavioral Science*, 12, 62. <https://i.org/10.3390/bs12030062>
- [28] Poulou, M. (2017). An examination of the relationship among teachers' perceptions of social-emotional learning, teaching efficacy, teacher-students interactions and students' behavioral difficulties. *International Journal of School and Educational Psychology*, 5 (2), 126-136. <http://10.1080/21683603.2016.1203851>.
- [29] Poulou, M. (2020). "I want Greeks to be Odysseus...". In Cefai, C., Regester, D., & Dirani, L. (Eds.). *Social and Emotional Learning in the Mediterranean*. Cross cultural perspectives and approaches, (pp. 13-24).
- [30] Poulou, M. & Denham, S. A. (2022). Teachers' Emotional Expressiveness and Coping Reactions to Students' Emotions: Associations with Students' Social-Emotional Competences and School Adjustment. *Early Education and Development*, <https://doi.org/10.1080/10409289.2022.2053486>
- [31] Reynolds, C. R., & Kamphaus, R. W. (2007). *Behavior assessment system for children* (2nd ed.). Circle Pines, MN: American Guidance Service. *Assessment for Effective Intervention*, 32 (2), 121–124.
- [32] Schiepe-Tiska, A., Dzhaparkulova, A., & Ziernwald, L. (2021). A mixed-methods approach to investigating social and emotional learning at schools: Teachers' familiarity, beliefs, training and perceived school culture. *Frontiers in Psychology*, 12, 518634. <http://10.3389/fpsyg.2021.518634>
- [33] Stillman, S. B., Stillman, P., Martinez, L., Freedman, J., Jensen, A. L., & Leet, C. (2018). Strengthening social emotional learning with student, teacher and schoolwide assessments. *Journal of Applied Psychology*, 55, 71-92. <http://10.1016/j.appdev.2017.07.010>
- [34] Ungar, M. (2018). Systemic resilience: principles and processes for a science of change in contexts of adversity. *Ecology and Society*, 23, 1-17. <http://10.5751/ES-10385-230434>
- [35] Van de Sande, M. C., Fekkes, M., Kocken, P. L., Diekstra, R. F. W., Reis, R., & Gravesteyn, 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 (10), 1545–1567. <https://doi.org/10.1002/pits.22>
- [36] Weare, K. (2020). *Promoting Mental, Emotional and Social Health: A Whole School Approach*. Routledge.
- [37] World Health Organization (WHO). (2005). *Promoting mental health: Concepts, emerging evidence, practice*. World Health Organization.