

Research Article

Effects of a social-emotional learning-based program on self-esteem and self-perception of gifted kindergarten students: A pilot study

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Article Info

Received: 25 June 2020
Revised: 21 August 2020
Accepted: 01 Sept 2020
Available online: 15 Sept 2020

Keywords:

Gifted children
Gifted kindergarten students
Social-emotional learning
Self-esteem
Self-perception
Preventive programs
Psychological development of the gifted

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Abstract

Social-emotional learning (SEL) and mental health preventive programs are very popular internationally; however, there is limited research evaluating their effects on gifted children. This study aimed to design a SEL-focused preventive program for gifted preschoolers and assess its effects on variables related to personal and character strengths. In addition, the relative differential impact of the program on both genders was explored. The study used an experimental design, with repeated pretest–post-test measures and a control group. A total of 120 gifted students aged 5-6 years were recruited and randomly assigned to the intervention (n = 60) and control (n = 60) groups. To measure the dependent variables, two assessment instruments were administered before and after the program. The experimental group joined a 12 one-hour lesson program based on SEL principles and used cognitive-behavior strategies. At the baseline, no significant difference between the groups in terms of self-esteem and self-perceptions ($p > 0.005$) were observed, except for peer relations self-perception ($p = 0.028$). The results revealed that the program was effective in increasing students' self-esteem and self-perception scores; moreover, the analysis showed a significant group-by-time interaction effect in the assessed variables ($p < 0.005$). Regardless of the impact of the program on both genders, the change was very similar; however, the boys showed higher scores than the girls across most variables. This program significantly improved all taught skills, corroborating the findings of other studies, which support that SEL can improve children's self-esteem. The strengths and limitations of this study and the importance of implementing prevention programs to promote socio-emotional development are also discussed.

To cite this article:

Papadopoulos, D. (2020). Effects of a social-emotional learning-based program on self-esteem and self-perception of gifted kindergarten students: A pilot study. *Journal for the Education of Gifted Young Scientists*, 8(3), 1275-1290. DOI: <http://dx.doi.org/10.17478/jegys.779438>

Introduction

The early years of a gifted child's life are a crucial developmental period characterized by various psychological, biological, and behavioral changes across many domains (Vaivret-Dourett, 2011). Beginning in early childhood, and continuing throughout development, gifted children's social-emotional growth, along with competencies related to the self – including the establishment of self-esteem and self-perception – provide gifted individuals with the skills needed to experience, deal with, and efficiently manage the unique challenges facing them when engaging with others (Papadopoulos, 2020). These skills are critical for gifted children's holistic development, well-being, and personality functioning (Neihart & Yeo, 2018; Corso, 2007). However, the pursuit of academic success is often seen as a top priority by gifted children as well as by their parents (Davis & Rim, 2004), while students' necessary social and emotional needs may be neglected (Ch'ng, 2014). This is particularly true for a number of societies around the world, where academic achievement is typically seen as the greatest predictor of a gifted child's self-worth.

Much time and energy has been devoted to research aimed at developing high quality academic programs, as well as at examining the impacts of such programs on gifted students' school grades and interests (van Tassel-Baska &

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Stambaugh, 2008). However, extraordinary school abilities and a strong academic commitment are not considered reliable indicators of gifted students' social and emotional maturity, stress levels, or abilities to cope, as gifted students are usually capable of maintaining high levels of achievement while simultaneously being able to hide psychological distress (Vialle, Heaven & Ciarrochi, 2007). Indeed, these students may feel pressured and are usually overwhelmed by their own tendency for perfectionism which, in combination with adults' high demands, can cause frustration and unhappiness (Speirs Neumeister, Williams & Cross, 2009).

The literature reiterates that some gifted children struggle with unique social and emotional complexities and issues; these include issues related to social self-esteem, loneliness, and anxiety – which arises out of the perceived differences between their own abilities and interests and those of their non-gifted peers due to uneven development (Smith, 2017). In fact, gifted children's intellectual abilities and thinking skills are higher than those of their typically-developing peers; however, their social and emotional competencies could respond to their age level, or may even be inferior in some cases (McGee & Hughes, 2011; Rinn, Plucker & Stocking, 2010). This asynchrony – which is more prominent during early childhood, may incur the risk of developing emotional difficulties among gifted students, potentially impeding their talent development trajectories, educational performance, learning abilities, and self-perception (Silverman, 2002; Gagne, 2010). These challenges, in particular, develop in situations where gifted services are not available or provided, and where gifted students' holistic needs are left unresolved (Hertzog, 2008).

Studies indicate that positive attitudes about oneself – including self-perception, self-esteem, and self-confidence, as well as self-awareness and self-regulation of emotions – can protect gifted children from social vulnerabilities and emotional problems (Shechtman & Silektor, 2012). Indeed, during early childhood, positive self-esteem and self-perception are important determinants of personal creativity and productivity (Park & Park, 2015) and contribute to psychosocial functioning and adaptive prosocial behavior (Mann, Hosman, Schaalma & de Vries, 2004). Furthermore, positive self-perception has been linked to greater academic attainment and persistence (Marsh & Craven, 2006) and improved school engagement (Cava & Musitu, 2000), as well as to the ability of students to make positive adjustments to their behavior (Arslan & Yukay-Yuksel, 2018). Conversely, low self-esteem and negative self-perception are factors that increase mental health problems and risky behaviors, and are generally linked to underachievement among gifted students (Supple, Su, Plunket, Peterson & Bush, 2013).

Research suggests that social and emotional learning (SEL) could be beneficial in teaching all children, including gifted students, the necessary social and emotional skills needed to promote character strengths in order to reach their full potentials (Cavilla, 2019; Bates-Krakoff, McGrath, Graves & Ochset, 2016). This procedure, in turn, can foster one's ability to effectively cope with stressful situations in life (WHO, 2000, p. 13) and can also promote resilience and emotional intelligence. It is argued that mental health, in particular, is a vital component of children's learning and positive development and that the promotion of children's social-emotional wellbeing should be a major educational and social priority worldwide (U.S. Public Health Service, 2000).

SEL is a process that focuses on the development of a framework – similar to Bronfenbrenner's ecological system theory (1977) and Vygotsky (1978) views for development – whereby SEL skills are the core components through which children encourage the development of their character strengths in order to increase other outcomes – such as success at school and self-confidence – as well as to promote fewer conduct problems (Blyth, Jones & Borowski, 2018). This goal can be achieved more easily when SEL interventions involve more active ecosystems of the children, such as family, school, and community interrelationships (Collaborate for Academic Social Emotional Learning [CASEL], 2015; see Figure 1). If this occurs, children may reinforce their SEL competencies and implement them widely in their everyday life. The five SEL competencies include self-management (to self-regulate emotions and behaviors), self-awareness (to understand one's emotions, character strengths, and weakness), social awareness (to empathetically understand others' perspectives, including feelings and thoughts), relationship skills (to develop and maintain healthy relationships), and responsible decision-making (to make moral and constructive choices) (CASEL, 2013; Elias, 2013).



Figure 1.

Visualization of the five core SEL competencies (CASEL, 2015)

An emerging body of research indicates the significance of SEL programming in reference to children's cognitive and socio-emotional development, both of which form a foundation for school outcomes and success in life (Letcher, Smart, Sanson & Toumbourou, 2009). A meta-analytical review conducted by Payton et al. (2008) includes 317 studies concerning 324,303 children and shows that SEL programs produce multiple benefits in students' academic and social-emotional functioning, both for students with and without identified problems. Furthermore, Durlak et al. (2011) conducted a meta-analysis of 213 SEL programs serving over 270,000 students from kindergarten through to secondary education. Their findings indicate that SEL participants demonstrate significant improvements in achievement-test scores and school grades as well as regarding positive indicators of well-being, such as self-esteem and self-concept. More recently, in a systematic review and meta-analysis of SEL programs, Evans, Murphy and Scourfield (2015) confirm the significant impact had such interventions on students' social-emotional competencies and academic performance of SEL students when compared to controls. In addition, such interventions are also found to have beneficial effects for the whole school community (Hatzichristou, Lykitsakou, Lampropoulou & Dimitropoulou, 2010).

Nevertheless, little attention has been paid to developing SEL-focused programs which target gifted students' social-emotional needs, despite the general belief that these students need a safe place to talk about their concerns (Peterson & Lorimer, 2012; Reis & Renzulli, 2004). Accordingly, supporting gifted students' personal strengths in small groups is appropriate for addressing their social and emotional concerns (Mofield & Chakraborti-Ghosh, 2010). Group consultancy interventions can help the gifted to communicate their developmental struggles with individuals who share similar concerns (Peterson, Betts & Brandley, 2009). In addition, gifted students can learn about themselves and others and further can develop their understanding and tolerance regarding others' views using SEL principles (McGrath, Graves & Ochs 2016; Betts & Neihart, 1985); this may also help gifted children to realize the complex nature of giftedness. Peterson and Lorimer (2012) implemented an affective curriculum for addressing the social and emotional needs of gifted elementary students in grades 5-8 attending a private elementary school. Subsequently, they found positive significant changes concerning social and emotional development among gifted participants. Smith (2017) suggests that community-based consultancy interventions, and a wide variety of after-school enrichment programs, can address the unique needs of gifted students; therefore, can holistically and collaboratively foster their cognitive, social, and emotional development. Similarly, Suhaila, Heyam, Naifa & Wafa' (2020) investigated the effects of a group intervention program in developing friendship skills among gifted and talented high school students from Jordan. The study findings showed that this program helped the participants in the experimental group to increase their friendship skills.

In the Greek context – where the present study was conducted – gifted and talented education is not given its proper place and recognition; furthermore, the development of gifted services for gifted students are neither educational nor social priorities. Gifted students in Greece are categorized as those students with special educational

needs; however, no specific modification to the general curriculum has been conducted so as to address the needs of gifted students in order to create opportunities in support of their development (Bablekou & Kazi, 2016). Furthermore, the teaching principles that were published by the Greek Pedagogical Institute in 2004, and which were made in support of gifted students' learning, were not integrated into the curriculum due to a lack of available resources and funding (Matsagouras & Dougali, 2009). Nonetheless, there have been a few small-scale studies in the field of giftedness in Greece which have largely echoed findings from other countries, including the motivational profiles and academic achievement of gifted students (Agaliotis & Kalyva, 2019; Gonida, Karabenick, Stamovlasis, Metallidou & the CTY Greece, 2018; Zbainos & Kyritsi, 2011) and Greek teachers' perceptions of giftedness and gifted children's characteristics (Gari, Mylonas & Portešová, 2013; Theodoridou & Davazoglou, 2006). However, these studies focus on the academic aspect of giftedness, while the social and emotional learning needs of gifted students in Greece remains seriously underrepresented throughout the empirical literature.

Aim of the Study

This study aims to evaluate the effectiveness of a post-school SEL-focused program for gifted preschoolers targeted at reinforcing their personal strengths. This program, which was created by the author titled "Think, Feel, Learn", is conducted in combination with cognitive-behavior education techniques designed to aid gifted students in improving their self-esteem and self-perception. First off, it was hypothesized that, after the intervention, the self-esteem and self-perception of the participants in the experimental group would be significantly improved compared with that prior to intervention. It was also hypothesized that participants in the control group would not show any significant changes in either measure. Secondly, it was hypothesized that the effect of the intervention would be similar across both genders.

Method

Study Design and Procedure

This study employed a pretest and post-test experimental design involving gifted preschoolers, based on their intellectual status. A cutoff of 115 on the IQ assessment (through the Greek standardized version of the Wechsler Preschool and Primary Scale of Intelligence) was set as the minimum score for inclusion of participants. This cutoff IQ score has also been used in previous research by other authors (Gross, 2000; Silverman, 1989). Following selection, participants were randomly assigned to the experimental group (which participated in the program) and the control group (which did not provide any training but continued to teach the general class curriculum) using a predetermined computer-generated sequence (Shadish, Cook & Campbell, 2002). For ethical reasons, the program was offered to the control group following the end of the study (see Figure 2).

In an effort to prevent any potential factors that could affect measurement, participants were required to not have attended a similar program before and, in addition, should not have received any developmental or mental health diagnosis requiring specific treatment either. All measures concerning dependent variables were conducted using well-validated survey instruments under the same conditions at baseline (T0) and one week following the completion of the "Think, Feel, Learn" twelve lessons program (T1). Parental background and demographic data were recorded by the parents at baseline (T0). Consent forms have been used and includes details about participating procedures, risks and benefits, a description of the purpose of the study, the availability of counseling services for parents of the gifted, voluntary participation, and researchers' contact information (APA, 2002). Importantly, parents provided written consent to participate their children in the study. Moreover, all gifted students had verbally agreed to participate in the study, and both gifted students and their parents were informed that they were able to discontinue participation at any time and that this decision would not lead to further penalties. However, none of the participants in either group dropped out before the study's completion.

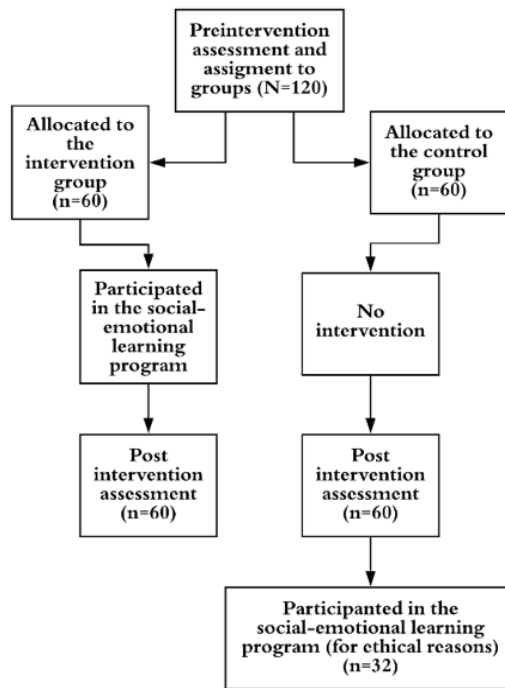


Figure 2.
Participants Flow Chart

Participants

A total of 120 gifted kindergarten students, aged 5 to 6 years, were recruited through 59 private nursery schools situated in the urban areas of Athens. Approximately equal numbers of males (n = 64) and females (n = 56) were enlisted. Gifted students with a full-scale intelligence quotient (FIQ) greater than 115 (IQ > 115) in the Greek standardized version of the Wechsler Preschool and Primary Scales of Intelligence – WPSI-III^{GR} – were randomly assigned to either the experimental (n= 60) or control group (n = 60). All participants in this study were volunteers. The majority of the participants were from Greece (93.3%) and came from families of medium and higher socioeconomic status. As for the total group (n = 120) intelligence quotient (IQ), the median was 120; the minimum IQ score was 115, whereas the maximum was 138. Regarding living status, the majority of children lived with both parents. The details of the participants are presented below.

Table 1.
Baseline Socio-demographic Characteristics of the Participants Included in the Study

Variables	Total		Experimental Group		Control Group		p
	N=120	%	n=60	%	n=60	%	
Gender							
Male	64	53.3	36	60	28	46.7	0.143 ⁺
Female	56	46.7	24	40	32	53.3	
Age							
5-5.5 years	108	90	54	90	54	90	>0.999 ⁺
5.6-6.0 years	12	10	6	10	6	10	
IQ							
Median	120	(-)	122.5	(-)	119	(-)	0.083 [‡]
Living status							
Live with two parents	98	81.7	46	76.7	52	86.7	0.157 ⁺
Live with one parent	22	18.3	14	23.3	8	13.3	
Nationality							
Greek	112	93.3	54	90	58	96.7	0.272 [‡]
USA	8	6.7	6	10	2	3.3	
Parents' perceived economic status							
Very good or quite good	79	65.83	38	63.3	40	66.6	0.183 ⁺
Average	38	31.6	21	35	18	28.3	
Not very good or not good	3	2.5	1	1.66	2	3.33	

Abbreviations: ⁺Pearson Chi square test, [‡]Fisher exact test, [†]Mann Whitney test, p = p-value

Intervention

At the time of the present study, a predetermined SEL curriculum covering the unique needs of the entire gifted population did not exist (Smith, 2017; Gross, 2010). A newly designed SEL-focused program, named “Think, Feel, Learn”, has, subsequently, been developed by the author after having reviewed the relevant literature. In designing this program, previous studies were taken into account (Foley-Nicpon et al. 2017; Garaigordobil & Peña-Sarrionandia, 2015; Wong, Li-Tsang & Siu, 2014; Payton et al. 2008) with regard to the theoretical framework, the methods, and the characteristics of the activities previously used. More specifically, this program was based on the principles and philosophy of the “Strong Start” (Merrell, Parisi & Whitcomb, 2007b) and the “Friends” curricula (Stallard, Simpson, Anderson, Carter, Osborn & Bush, 2005), both of which have been found to be effective in increasing participants’ self-esteem and variables related to well-being and emotional resiliency (Durlak et al. 2011; Caldarella, Christensen, Kramer & Kronmiller, 2009). However, the present curriculum was enriched in order to be compatible with the developed level of gifted children’s abilities so that they would not get tired or bored, while further tasks were also designed to stimulate their interest.

Overall, the goal of the program is to prevent future psychosocial issues by teaching gifted children – who do not otherwise receive any gifted services in their schools – the skills related to social and emotional competencies. The emphasis is on the development of a positive self-esteem and a healthy self-concept, as well as improved feelings of well-being. In addition, using cognitive-behavioral strategies, gifted students can learn to relax and, it is hoped, can subsequently recognize the connections between thoughts, emotions, and behaviors while improving their creativity using problem-solving skills. Ultimately, participants can realize how to address and overcome potential problems and challenges arising from their giftedness – which are likely to face in life. Hence, the program gives students the chance to experience success and disappointment, recondition themselves, gain self-confidence, and improve their relationship skills with significant others. Table 2 presents the topics and key objectives of the program.

Twelve lessons of 60 minutes each were conducted in an after-school community setting that was developmentally appropriate, with large rooms specially designed to support such intervention programs with young children. These lessons took place over a period of 6 weeks and conducted outside the participants’ regular school day due to the nature of the program. Additionally, the setting met the criteria for ensuring children’s safety and was also comfortable, providing children with enough space to interact using play and movement. The program coordinator was the author, a doctoral-level researcher in child development, and a certified cognitive-behavioral therapist with experience in implementing SEL programs. The curriculum uses numerous group dynamics strategies to facilitate activity production and discussion. Sources of these strategies include role play, brainstorming, pantomime, play dramatization, and other appropriate tasks and controlled conversations through the formulation of questions. Some of the tasks implemented were combined with musical instruments and music from CDs (e.g., music for relaxation) that help children learn to regulate their negative emotions.

An example of activity is “self-awareness”, which aims to: (1) identify and recognize emotions in both the self and others verbally and non-verbally, and (2) to learn appropriate ways to express emotions. Two specific activities were used for these purposes. Regarding the first activity, the coordinator assigns an emotion to each student, and the child is encouraged to talk about the role this emotion might have in his/her life and the thoughts it brings to mind. Then, the coordinator assigns a different participant to express this emotion non-verbally to the rest of the group. As for the second activity, participants sat in a circle surrounding the box placed by the coordinator. The box contains cards with the faces of people expressing various emotions. The coordinator asks children to take a card and (a) recognize the emotion in the card and then (b) to express this emotion verbally and non-verbally to another participant. Moreover, participants are encouraged to brainstorm about emotions, their causes, consequences, and ways of expressing and resolving these emotions. The brainstorm sessions can lead to questions about the interactions and emotions experienced in everyday situations.

The program validity was seen by two external supervisors who are experts in social-emotional learning theory and practice. Firstly, they observed 100% of the videotaped lessons and presented feedback about the content of the lessons, as well as the targeted activities used by the researcher to achieve the goals of the program (Chambless & Hollon, 2012). Secondly, external supervisors have ensured that the curriculum is implemented while taking into account the aforementioned factors, as suggested by Garaigordobil and Peña-Sarrionandia (2015), presenting the methodological framework of the program. These include that: (a) the length of the lessons is constant every week (1 hour), (b) the scheduling of the lessons must be performed in the same physical location on the same weekday at

the same time, and (c) the coordinator provides constancy in the layout of every session, having prior experience in implementing these programs.

Table 2.

Program Overview

Lessons	Topic	Objective
1	Introduction	<ul style="list-style-type: none"> • Adjustment of children to objectives of the program: overview of the program, purposes, rules and expectations
2-5	Self-awareness: Understanding sensations, emotions and desires	<ul style="list-style-type: none"> • Recognizing conscious emotions in both self and others • Identifying both pleasant and unpleasant emotions and behaviors experienced by gifted children • Body reactions to our emotions
6-8	Connecting stimuli, thoughts, and behaviors	<ul style="list-style-type: none"> • Understanding links between stimulus, thoughts and behaviors • Identifying common negative thoughts • Relaxation training
9	Building relationships	<ul style="list-style-type: none"> • Understanding the principles of social communication • Identifying positive characteristics of peers and accept diversity and integration of all children (regardless of their backgrounds and ability level) • Respecting the needs and desires of others
10-11	Being creative through problem solving	<ul style="list-style-type: none"> • Learning to solve social conflicts using self-instructions • Evaluating potential solutions and taking responsible decisions
12	Generalization and closure	<ul style="list-style-type: none"> • Rethinking the benefits of the program • Sharing experiences with others • Evaluating the overall usefulness of the program

Data Collection Tool

1) The Greek standardized version of the “Wechsler Preschool and Primary Scale of Intelligence” (WPPSI-III; Wechsler 2002; Sideridis & Antoniou, 2015) was used to identify the intelligence quotient (IQ) of the participants. WPPSI-III is an individually-applicable clinical instrument with excellent psychometric properties (Watkins, & Beaujean, 2013); it assesses the cognitive abilities of children aged 2.6 to 7.3 years. Moreover, it is, worldwide, the most widely used valid measurement for identifying intellectual giftedness and planning psycho-educational services (Kaufman, 1992). Additionally, WPPSI-III is a unique tool that yields a Full-Scale IQ (FSIQ) score and four composite scores: verbal IQ (VIQ), performance IQ (PIQ), processing speed quotient (PSQ), and a general language composite (GLQ). The division into two age groups (2.6–3.11 years and 4.0–7.3 years), with different arrays of subtests for each group, reduces undue stress and fatigue among younger children while also increasing developmental appropriateness. In the current study, the Cronbach’s alpha for the WPPSI-III subtests ranged from 0.72 (for animal coding) to 0.81 (for block design).

2) The “Behavioral Academic Self-Esteem Scale” (BASE; Coopersmith and Gilberts, 1982) was translated into Greek and validated by Kakourous and Maniadaki in 2002. According to the BASE manual, this instrument measures students' self-esteem through direct observations of classroom behaviors; it consists of 16 sentences and requires only a few minutes to complete. The teacher completes the questionnaire based on his/her personal teaching experience with a specific student and grades how often the learner behaves in certain ways. BASE has been used to assess self-esteem among preschool children as well as in primary and secondary school students. BASE uses a five-point Likert scale (1: never, 2: rarely, 3: sometimes, 4: usually, and 5: always) that follows an evolutionary course, with a lower score of 1 and a higher score of 5. The calculation of overall self-esteem is the sum of the scores for each statement. Coopersmith and Gilberts (1982) suggest the following classifications: students with a total score of 67–80 have high self-esteem; students with scores between 45 and 66 have a moderate level of self-esteem; and students with scores between 16 and 44 have low self-esteem. Regarding the internal consistency of the instrument, there is some evidence for the reliable use of BASE (Johnson Redfield, Miller & Simpson, 1983). In the current study, Cronbach’s alpha for this scale was 0.941.

3) The “How do I Perceive Myself” questionnaire is the Greek version of the “Pictorial Scale of Perceived Competence and Social Acceptance for Young Children” (PATEM-I; Hater & Pike, 1984; Makri-Mpotsari, 2013). This instrument uses images to evaluate four domains of self-perception among young children (up to age 8) and contains 20 descriptive questions (five for each factor): school competence, peer relations, physical competence, and maternal relations. The questionnaire is available in two versions: one for girls and one for boys. With this instrument,

20 pictorials are presented to the child; the items are formulated in binary form, which minimizes socially desirable answers. Each picture plate shows a gender-matched child succeeding in an activity and performs less adequately in the same activity for each of the four domains. The child is asked to decide which child he/she likes best, and then if he/she is “a little bit like that kid” or “a lot like that kid.” Each item is scored on a four-point scale; a score of 4 reveals that the child feels very competent or adequate, and a score of 1 indicates that the child feels less competent. Item scores are then averaged across the five items for a given subscale so that a value (1–4) is assigned for school competence, physical competence, peer relations, and maternal relations, with the highest values reflecting higher levels of self-perception (Makri-Mpotsari, 2013). In the present study, Cronbach’s alpha for the four self-perception subscales ranged from 0.702 for physical competence to 0.814 for school competence.

Data Analysis

Statistical analyses were performed using the Statistical Package for Social Sciences (SPSS; version 18.0, Chicago, Illinois). First, a Pearson’s chi-squared and Mann-Whitney U statistical test was performed to check for any significant associations between the demographic variables and assignment to the experimental and control conditions. If the criteria for the use of the chi-squared test were not fulfilled, Fisher’s exact test was performed. Second, Student’s t-test was carried out at the beginning of the research to ensure homogeneity between groups regarding participants’ baseline outcomes in self-esteem and self-perception. Third, a paired-sample t-test was used to compare the differences between the pre- and post-mean values in self-esteem and self-perception outcomes for the experimental and control groups (Salkind, 2010). In addition, a series of 2x2x2 mixed model ANOVAs were used to test the within-subject effect for self-esteem and self-perception scores (pre-test, post-test for the overall BASE and four subscales of PATEM-I) and the between-subject effects of condition (experimental, control) and gender (male, female), and their interactions (Woodrow, 2014). In keeping with Payton et al.’s (2008) principles, effect sizes were estimated. The measure of effect sizes was derived from ANOVA as partial eta-squared (η^2), where values of 0.01, 0.06, and 0.14 should be interpreted as small, medium, and large (Cohen, 1988). All p-values ≤ 0.05 were regarded as statistically significant; additionally, all p-values were two-tailed.

Results

Baseline Data – Pre-intervention Difference between Groups

The baseline socio-demographic characteristics of the participants from both groups did not significantly differ in terms of gender, age, IQ, ethnicity, living status, and parents’ perceived economic status (see Table 1). However, the result of the Student’s t-test show that there were initial differences between the control and experimental groups regarding *peer relations* self-perception, as answered by the students, where the control group obtained higher scores than the experimental group [$t(118) = 2.232, p = 0.028$]. In addition, the BASE scale answered by the teachers referring to the gifted students’ overall self-esteem did not show any significant difference between the control and the experimental group [$t(118) = 1.921, p = 0.058$]. In this case, the control group also had higher (albeit insignificant) mean scores, compared to the experimental group. All other comparisons of the assessed dependent variables were not significant ($p > 0.05$), showing a high level of homogeneity between the two conditions.

Effects of the Program on Self-esteem and Self-Perception

First, paired samples t-tests were employed to compare pre- and post-measures in study outcomes for the experimental and control groups. For the experimental group, a statistically significant increase was observed for all the assessed dependent variables under study. As presented in Table 3, overall self-esteem [$t_{(59)} = -17.696, p < 0.001$], school competence self-perception [$t_{(59)} = -14.010, p < 0.001$], physical competence self-perception [$t_{(59)} = -5.028, p < 0.001$], peer relations self-perception [$t_{(59)} = -18.970, p < 0.001$], and maternal relations self-perception [$t_{(59)} = -11.096, p < 0.001$] were significantly improved when comparing the scores before and after the program, thereby indicating that the “Think, Feel, Learn” program has a positive impact on increasing gifted children’s attitudes about themselves. As expected, the control group did not show significant changes when comparing the pre- and post-intervention scores in terms of overall self-esteem, school competence, and peer relations self-perception ($p > 0.05$). However, Table 3 also shows that significant increases were observed for the control group regarding physical competence [$t_{(59)} = -2.862, p = 0.006$] and maternal relations self-perception [$t_{(59)} = -2.707, p = 0.009$].

Table 3.

Paired t-Test for the Self-esteem and Self-perceptions in the Pre-test and Post-test in the Control and Experimental Group

	Control Group (n = 60)		t(59)	p	Experimental group (n = 60)		t(59)	p
	Pre-test M (SD)	Post-test M (SD)			Pre-test M (SD)	Post-test M (SD)		
Self-esteem								
Overall self-esteem	54.03(8.95)	54.77(5.18)	-0.53	0.596	51.40(5.71)	69.93(4.51)	-17.69	<0.001
Self-perception								
School competence	3.26(0.22)	3.31(0.14)	-1.39	0.168	3.15(0.21)	3.63(0.20)	-14.01	<0.001
Physical competence	2.79(0.40)	2.91(0.32)	-2.86	0.006	2.85(0.45)	3.09(0.41)	-5.02	<0.001
Peer relations	3.03(0.25)	3.09(0.26)	-1.11	0.271	2.93(0.24)	3.60(0.17)	-18.97	<0.001
Maternal relations	2.93(0.24)	3.01(0.23)	-2.70	0.009	2.90(0.32)	3.35(0.19)	-11.09	<0.001

Abbreviations: M = mean, SD = standard deviation, p = p-value

Subsequently, a repeated measures ANOVA was conducted to assess the effectiveness of the program on self-esteem according to the group conditions. As can be seen in Table 4, in terms of overall self-esteem score, the mixed ANOVA reveals a significant group-by-time interaction effect [$F_{(1,116)} = 131.197$, $p < 0.001$, $\eta^2 = 0.531$]. A significant main effect of time [$F_{(1,116)} = 143.809$, $p < 0.001$, $\eta^2 = 0.554$] and the main effect of group [$F_{(1,116)} = 74.595$, $p < 0.001$, $\eta^2 = 0.391$] as well as the main effect of gender [$F_{(1,116)} = 36.512$, $p < 0.001$, $\eta^2 = 0.239$] was also found. In addition, the effect sizes were large. In terms of the self-perception-related variables (physical competence, peer relations, and maternal relationships), the mixed ANOVA shows significant three-way interactions between time, group, and gender (in each case $p < 0.05$; see Table 4 for details). Regarding school competence self-perception, although there was a significant and observed interaction with group-by-time ($F_{(1,116)} = 81.611$, $p < 0.001$, $\eta^2 = 0.413$), there was no significant main effect observed along lines of gender ($F_{(1,116)} = 0.368$, $p = 0.545$, $\eta^2 = 0.003$).

Table 4.

Effect of the Program on Self-esteem and Self-perception Outcomes

Outcome variable	Parameter	F	p	η^2_p
Self-esteem				
Overall self-esteem	Group	74.595	<0.001	0.391
	Time	143.809	<0.001	0.554
	Group x Time	131.197	<0.001	0.531
	Gender	36.512	<0.001	0.239
Self-perception				
School competence	Group	14.942	<0.001	0.114
	Time	119.144	<0.001	0.507
	Group x Time	81.611	<0.001	0.413
	Gender	0.368	0.545	0.003
Physical competence	Group	1.247	0.266	0.011
	Time	34.838	<0.001	0.231
	Group x Time	5.903	0.017	0.048
	Gender	134.643	<0.001	0.537
Peer relations	Group	49.512	<0.001	0.299
	Time	143.853	<0.001	0.554
	Group x Time	108.572	<0.001	0.483
	Gender	5.378	0.022	0.044
Maternal relations	Group	46.882	<0.001	0.288
	Time	103.944	<0.001	0.473
	Group x Time	49.379	<0.001	0.299
	Gender	93.284	<0.001	0.446

Abbreviations: p = p-value, η^2_p = partial eta-squared.

Effects of the Program: Gender Differences

According to the Student's t-test, before the intervention, boys in both groups were found to have significantly higher scores than girls in physical competence self-perception ($p < 0.001$) and overall self-esteem ($p < 0.001$). Antithetically,

girls were found to have significantly higher scores than boys in maternal relationships self-perception ($p < 0.001$) in both the control and intervention groups, respectively.

Subsequently, in order to evaluate whether the program differentially affected the outcomes of boys and girls, paired t-tests for gender was conducted in all the assessed variables of the study. As shown in Table 5, the results for the experimental group revealed statistically significant differences in the change produced in both genders after the intervention program. Moreover, the results confirm that the change after the intervention in both genders was similar in most of the study variables ($p < 0.001$) except for physical competence ($p = 0.002$ for males and $p = 0.001$ for females). Although negligible, boys scored higher than girls in most of the assessed variables after the intervention, with the exception of maternal relations self-perception.

Table 5.

Paired t-Test for Gender for Self-esteem and Self-perception in the Pre-test and Post-test

Outcome variable		Experimental group males (n = 36)				Experimental group females (n = 24)			
		M	SD	t(35)	p	M	SD	t(23)	p
Overall self-esteem	<i>Pre-test</i>	53.61	6.09	-10.77	<0.001	48.08	2.84	-21.66	<0.001
	<i>Post-test</i>	70.00	5.06			69.83	3.63		
School competence	<i>Pre-test</i>	3.13	0.22	-15.53	<0.001	3.17	0.20	-6.164	<0.001
	<i>Post-test</i>	3.71	0.12			3.52	0.23		
Peer relations	<i>Pre-test</i>	2.92	0.20	-14.73	<0.001	2.95	0.29	-11.86	<0.001
	<i>Post-test</i>	3.61	0.17			3.58	0.18		
Physical competence	<i>Pre-test</i>	3.10	0.33	-3.32	0.002	2.48	0.34	-3.84	0.001
	<i>Post-test</i>	3.29	0.25			2.80	0.43		
Maternal relations	<i>Pre-test</i>	2.78	0.26	-9.01	<0.001	3.08	0.31	-6.65	<0.001
	<i>Post-test</i>	3.28	0.18			3.47	0.15		

Abbreviations: M = Mean, SD = Standard deviation, p = p-value

Discussion and Conclusion

Despite the steady increase in interest in social-emotional learning (SEL) over the last few years, there remains a lack of programs offered to gifted students aimed at addressing their unique SEL needs (Smith, 2017). As such, gifted students – and particularly those in their early childhood years who do not receive any gifted services – may be at risk of developing social-emotional issues (Harrison, 2004). More recently, literature on gifted education supports that developing and implementing effective SEL-focused prevention and intervention programs might be a beneficial educational and psychosocial priority – particularly in promoting gifted children's social and emotional development as a means to enrich their potential (Reis & Renzulli, 2004; Peterson & Lorimer, 2012; Cavilla, 2019).

In line with these priorities, the goals of the present study were to evaluate the effects of a SEL-focused improvement program on gifted students' self-esteem and self-perceptions, as well as to assess its differential effect across both genders. The program was developed to improve gifted students' attitudes toward the self for prevention-oriented purposes. The "Think, Feel, Learn" program has been designed to use activities that are culturally, contextually, and developmentally appropriate to facilitate their implementation by educators and childcare providers via group sessions. Moreover, according to the author's knowledge, the effectiveness of a program targeted at improving variables related to personal strengths using SEL principles in gifted students aged 5-6 years has not been studied before.

The findings of this study provide preliminary evidence supporting the effectiveness of "Think, Feel, Learn" program on gifted students' self-esteem and self-perception, indicating that this structured and developmentally appropriate 6-week period program helped participants in improving the way in which they perceived their overall self-worth. More specifically, in every dependent assessed variable evaluated, the experimental group increased their scores after the implementation of the program. First off, the results reveal that the program significantly promoted an increase in overall self-esteem outcomes among the experimental group. In addition, the effect size of the intervention was large, suggesting its effectiveness in improving participants' self-esteem. Compared to the intervention group, the control group did not show statistically significant changes before and after the intervention in terms of self-esteem. These findings are consistent with results of previous studies, indicating that SEL-based programs are effective in enhancing children's self-esteem and self-confidence (Coelho, Marta & Shane, 2016; Stallard, Simpson, Anderson, Hibbert & Osborn 2007; Wong, Lee, Jing, Stewart & Cheng, 2009) and emotional intelligence

(Di Fabio & Kenny, 2011) which, in turn, results in greater well-being and resilience among children (Durlak et al. 2011).

Along this line, Thanou, Flea, and Zafeiropoulou (2011) conducted a study that implemented the “Friends” program in a sample of Greek elementary school-aged students. It was found that, after the intervention, there was a statistically significant difference between the intervention and control groups in terms of the children's self-esteem and self-efficacy; in particular, the participants in the intervention group showed increases in their average scores after the intervention took place. Lending further credence to the efficacy of the intervention, Shechtman (1993) examined the effectiveness of an after-school program using cognitive behavior principles for enhancing the self-esteem of 52 school-aged children. The results of the intervention were positive regarding the improvement in children's self-esteem and self-efficacy.

An explanation of the positive effect of the program on self-esteem may be associated with the characteristics of the activities used, as several of them promote character strengths and a positive mood (for example, in engaging in “emotional expressiveness activity”, the participants expressed emotions through gestures, drawings, and words so that the other participants can recognize them; moreover they listen to music and use movement activities and dramatization that guide them through different positive situations); additionally, other activities emphasize the creative aspects of the self (e.g., the students' exposure to a social scenario in which they must think of a solution to the problem by developing a proposal from an alternate, creative perspective).

Second, the results show that the program increases all assessed self-perception variables. At the same time, participants in the control group experienced no statistically significant changes in their levels of school competence and peer relations self-perceptions before and after the program was conducted. Moreover, as measured by the effect size, the impact ranged from medium (physical competence) to large (school competence and peer and maternal relations).

These findings point in the same direction as other studies that have shown the positive effect of group programs in increasing students' academic (Coelho, Sousa & Figueira, 2014) and social self-perceptions' (Rinn, 2006; Olszewski-Kubilius & Lee, 2004), as well as their relationship skills (van Tassel-Baska Landau & Olszewski-Kubilius, 1984). Regarding the effects of the program on school competence, a large body of research has indicated that after-school SEL programs have positive effects on students' academic achievement and school grades (Payton et al. 2008; McCormick, Cappella, O'Connor & McClowry, 2015), which is consistent with the results of the current study. Furthermore, the literature suggests that one's academic self-concept is an advantage for gifted children (Hoge & Renzulli, 1993) as they typically show evidence of superior performance, due to their advanced cognitive and academic development; therefore, this may be partly explained by the positive effect of the program on this dimension of self-perception. In addition, Suhaila Heyam, Naifa & Wafa' (2020) suggest that group counseling programs can increase the ability of participants to create relationships and build friendship skills. This finding indicates that relationship skills can be coached and learned, even in preschool children, through appropriate group-based activities (Domitrovich, Cortes & Greenberg, 2007). This can aid participants in such programs to develop an enhanced sense of self-worth, which, in turn, improves their academic outcomes and social competencies (Durlak, Weissberg & Pachan, 2010).

These results may be explained by the fact that the activities of the program place considerable emphasis on self-confidence strategies; furthermore, role-play games allowed participants to act in front of their peers in order to establish a degree of self-acceptance and a positive perception of the self. Moreover, these findings may also be partly explained by the inclusion of gifted children in groups with like-ability peers. This seems to positively affect the development of a more realistic self-perception of the gifted (Vogl & Preckel, 2014); in addition, they experience a greater degree of acceptance in interacting with others in such a safe environment (Coleman & Cross 2000; Olszewski-Kubilius & Lee, 2004). Importantly, it is worth noting that the improvements observed in the dimensions concerning overall self-esteem and self-perception of gifted children, both in the experimental and control groups, may also be related to other internal and external factors that were not the focus of the current study. These include the maturity of these children across the cognitive and socio-emotional domains of development – developments that typically occur during early childhood – in addition to parental and peer influences (Masten & Reed, 2002).

Third, the last hypothesis – which assumed that the effect of the intervention would be similar across both genders – is proven almost in its entirety; the change produced by the intervention in both genders in the experimental group was identical, showing a significant increase in boys' and girls' results. These findings are in line with those obtained in studies that have generally revealed a similar change, via intervention, across both genders' (Garaigordobil & Peña-

Sarrionandia, 2015; Diekstra & Gravesteyn, 2008), but also with studies that have shown that boys improve self-concept and other SEL-related competencies the most (Coelho, Sousa & Figueira, 2014; Bierman, et al. 2010). However, in order to better understand the impact of the program, there is a need to take into account the initial levels of a participant's self-esteem and self-perception along lines of gender, as boys showed significantly higher scores than girls in physical competence self-perception and overall self-esteem; hence, these advantages persist after the intervention. Conversely, although girls had higher scores in terms of school competence and peer relations prior to the intervention, they showed lower scores after the intervention. This indicates that girls did not receive the same benefits from the program as boys who, in turn, displayed stable higher scores in overall self-esteem and self-perception questionnaire dimensions (with the exception of maternal relations). Therefore, there is a need to adjust the activities of such programs so as to be effective in promoting self-concepts among girls. Additionally, the fact that the boys increased their scores in the self-perception variables substantially more after the program may be explained by the presence of lower score in these indicators prior to intervention and, thus, had more potential for further improvement.

This study has practical implications for the psychological and educational field and for the socio-emotional development of gifted children, suggesting that the implementation of gifted services – even from early childhood – is critical in creating opportunities for gifted students to further develop their unique potentials and to give the same importance in not only enhancing cognitive, but also affective characteristics (Olszewski-Kubilius, Subotnik & Worrell, 2015, p. 260). Furthermore, this study makes a significant contribution to gifted education research by providing preliminary data in support of this program as a unique tool for increasing aspects related to personal and character strengths in order to prevent difficulties throughout development. It should also be mentioned that the inclusion of early childhood prevention programs for gifted students, as part of both school and after-school curricula, will be favorable (Reis & Renzulli, 2004).

In conclusion, the current study presents significant results on the delivery of an empowerment prevention program targeted at gifted preschoolers that was implemented in Greece. This SEL-focused program was successful in improving self-esteem and self-perception outcomes, which could be incorporated in community-based settings that provide extra-curricular services for gifted children. This thereby enhances gifted children's access to mental health promotion in order to foster their holistic development which, in turn, can increase positive life outcomes.

Strengths and Limitations

The most important strength of this study is the study design – a randomized controlled trial, in which random assignment was performed to minimize cross-contamination between the intervention and control groups (National Institute for Health and Care Excellence, 2019). In addition, activities used in this study are not only developmentally, but also culturally and contextually, appropriate for gifted students at this stage of their development. Moreover, the data were analyzed using appropriate statistical analysis. Lastly, in contrast with studies that only used teacher nominations in determining giftedness, participants in this study were enrolled after having taken a formal IQ assessment, which is the most globally acceptable identification process for identifying eligible students for gifted services (Papadopoulos, 2016).

However, this study also has some limitations that are worth discussing. Study participants were recruited from private schools; thus, the sample is limited by some important socio-economic factors and, therefore, the results of the current study cannot be easily generalized. Indeed, a larger sample may be more reliable concerning the self-esteem and self-perceptions of gifted children, including gifted children from minority groups and children from low socioeconomic environments. In this study, the participants' ages were between 5 and 6 years old; however, a sample that would involve students from elementary school may yield different results regarding a gifted child's self-perceptions, as older children may have more adequate and objective perceptions of the self (Inhelder & Piaget, 1958). Finally, the lack of a follow-up measurement examining the viability of the results is another limitation of this study.

Although the findings of the present study are encouraging, continued examination of such programs for gifted children is strongly recommended. Furthermore, the inclusion of children from elementary schools, as well as children who show extraordinary outcomes in creativity and in other talents, is also suggested for future studies. Additionally, the involvement of extra sources of information (e.g., parental reports) would be recommended in order to develop a global perspective of the gifted child's psychosocial functioning – particularly by recognizing the positive impacts of self-esteem and self-perception on a child's developmental trajectory.

Acknowledgement

I would like to thank all gifted children and their parents, as well as their teachers; without their generous support, this study would not have been possible. Furthermore, I would like to thank Assoc. Professor Maria Mutafova for motivating me to conduct this research.

Conflicts of Interest

The author reports no conflicts of interest relevant to this work.

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