

Article

Feelings about School in Gifted and Non-Gifted Children: What Are the Effects of a Fine Art Program in Primary School?

Christine Sanchez *  and Nathalie Blanc 

Department of Psychology, Laboratory Epsilon EA4556, Université Paul Valéry Montpellier 3, Route de Mende, 34090 Montpellier, France

* Correspondence: christine.sanchez-gaspard@univ-montp3.fr

Abstract: There is a consensus about the benefits of an artistic activity on health and well-being. In France, a gifted child is considered a special needs student for whom enrichment is advocated. Therefore, this study examines the extent to which a whole-class art enrichment program delivered to both gifted and non-gifted children benefits both student populations with respect to their school well-being. The art program was implemented in classrooms over the course of an entire school year (during the COVID-19 pandemic). The self-report French version of the Feelings About School scale (i.e., FAS) was completed in three steps (i.e., before, mid-program, and after) by a sample of gifted and non-gifted children benefiting from the program. The FAS scores of those students were also compared at the end of the school year with those of students who did not participate in the art program. Despite the pandemic context that requires caution in drawing definite conclusions, this study supports that (i) the fine arts practice is a lever of development, (ii) the sanitary situation was detrimental for elementary school students, and (iii) better adaptive capacities were exhibited by gifted children in this context.

Keywords: feelings about school; giftedness; artistic practice; fine arts; enrichment; inclusive school



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1. Introduction

Supported by 3000 scientific studies that explore the relationship between art and health, the WHO (World Health Organization) has published a report rich in perspectives on the beneficial effects of the practice of art on individual and collective development [1]. In the light of this promising synthesis, the objective of our research is to measure the effects of regular participation in fine arts activities at school on the Feelings about School [2] of gifted and non-gifted students enrolled in elementary school (i.e., students from first to fifth grade, aged 6 to 11 years).

1.1. The Gifted Children: Elements of Consensus about What Characterizes Them

Since there is still no consensus on the scientific definition of giftedness and how to detect it [3,4], we will focus on the common denominators that distinguish gifted children in order to define this phenomenon. As a reminder, the gifted child presents an unperturbed yet atypical development. The developmental construction of the gifted children's intellectual abilities, both precocious and exceptional [5–8], allows their detection. Instead of relying solely on IQ scores of 120 [9–11], 125 [12–14], or 130 [15–20], which vary depending on the studies, it is more crucial to consider the child's entire developmental history when discussing the topic of giftedness. Current knowledge relating to the neural substrate of intelligence, using fMRI, has made it possible to objectify this exceptional functioning on the cerebral level, both via the observation of a better integrity of the white matter of the gifted [21] and by the discovery of a correlation between highly fluid intelligence and better structural connectivity (i.e., neuronal; [22]). Taking into account the child's developmental construction, the a posteriori study of really early developmental signs has also been established by science, at the level of motor as well as verbal acquisitions of the gifted infant

and baby (i.e., advanced in the acquisition of babbling and then language [9,10]). In early childhood, gifted children would still be distinguished by extraordinary memory capacities [23,24]. Other cognitive or functional characteristics, for example, early humor [25], a curiosity trait [5,7,8,26,27], or a different sleep [28–30], also appear to distinguish these children, although they deserve further study. Scientific literature supports the concept of asynchronous development in gifted children, where their cognitive development is very advanced compared to their socio-emotional development which is either normalized or similar to that of their peers [6,7,31,32]. This disparity is thought to contribute to the difficulties some of these children encounter in understanding complex concepts at a young age without being emotionally prepared to handle them [6,33].

1.2. The Gifted Student: A Student with Special Educational Needs

Most gifted students, far from experiencing academic difficulties, appear to succeed in school [34]. Nonetheless, a developmental discrepancy is apparent when considering gifted students' diverse potentialities, including creativity, feelings about school, and involvement in the school environment [33]. Coupled with an erroneous social representation of the gifted children in France [35], this gap could be one of the factors that explain the paradox of gifted students who struggle with academic or adaptive difficulties [36]. Indeed, having significant cognitive abilities may not protect these children from the possibility of being insufficiently stimulated [37], underachieving, or even struggling academically [38]. Moreover, the level of well-being in gifted children appears to be related to both their academic achievement in school and the expression of their creativity [39]. However, reliable quantitative data on the prevalence of gifted children experiencing difficulty at school are lacking. The CNAHP (National Center for Assistance to children and adolescents with giftedness), however, conducted a study of 611 gifted children which revealed that 76.6% of them sought counseling for problems related to their schooling [40]. Gifted children are in fact considered by the French education system as a category of "special needs students", for whom recommendations have recently been advanced in order to promote both their academic success and their socio-emotional development in the school environment. The importance of differentiated pedagogy is emphasized, so that the student is offered tutoring, decompartmentalization, grouping, acceleration [41], or enrichment [42–44] on a case-by-case basis.

1.3. Theoretical Frameworks for Understanding the Gifted: From the Three-Ring Intelligence Model to the Self-System Theory

As we considered the creation of an enrichment program for gifted children (to approach giftedness with the greatest possible inclusiveness), we drew both from the three-ring intelligence model [45–47] and the enrichment suggestions that resulted from it [48]. Among the theories of intelligence, Renzulli's [46,47,49,50] theory has the main advantage of being holistic and open-ended in terms of how gifted individuals are identified, which is particularly relevant to the education of gifted children. Indeed, the aim is not so much to isolate a small percentage of children with a total IQ of 130 or more but to support the development, in an educational setting, of a wider range of children who do not always have homogeneous cognitive profiles but have very good abilities that should be encouraged. It is also an approach that contributes to the understanding of giftedness, considering the optimization of the gifted child's potentialities as being located at the meeting point between intellectual abilities, creativity, and engagement in the task. Here, we consider creativity as a lever to satisfy the development of the child's well-being in the school environment, by trying to encourage it in the child through the implementation of a fine arts program designed according to the multivariate approach to creativity [51]. Creativity is a dynamic process that allows an individual to juggle, through the flexibility of their thinking, between exploratory divergent thinking (i.e., generating a multiplicity of ideas) and integrative convergent thinking (i.e., achieving a finalized "object" following an effort of synthesis; [52]). Beyond its intrinsic relevance for the intellect of the gifted, this

three-ring theory—coupled with the theories of engagement and the theory of multivariate creativity (see Figure 1)—seems to represent a favorable context to consider an artistic enrichment program for all (not only intended for gifted students) which is likely to induce children to practice the flexibility of their graphic creative thinking. On the one hand, creativity seems essential to prevent the social or behavioral maladjustment of children and adolescents [53,54]. On the other hand, finding ways to meet the needs of all students while meeting those of the gifted could make it possible to overcome the inclusion and differentiation issues that arise in schools, considering the particular needs of non-gifted students [55]. In this study, which is in line with research conducted on the functioning of gifted students compared to their non-gifted peers [33], engagement is understood beyond the task, as conditioning the child’s self-determination in relation to learning [56,57]. The French version of the FAS (Feelings About School; [2,58]), selected to measure engagement in this research, is based on the self-determination theory [57,59,60] and on its mostly adapted derivative in the field of education, the theory of auto-systemic processes [61]. This theory states that students’ development (and involvement) is conditioned by the satisfaction of their basic psychological needs, namely to feel competent, autonomous, and in relation with others [2,58,61].

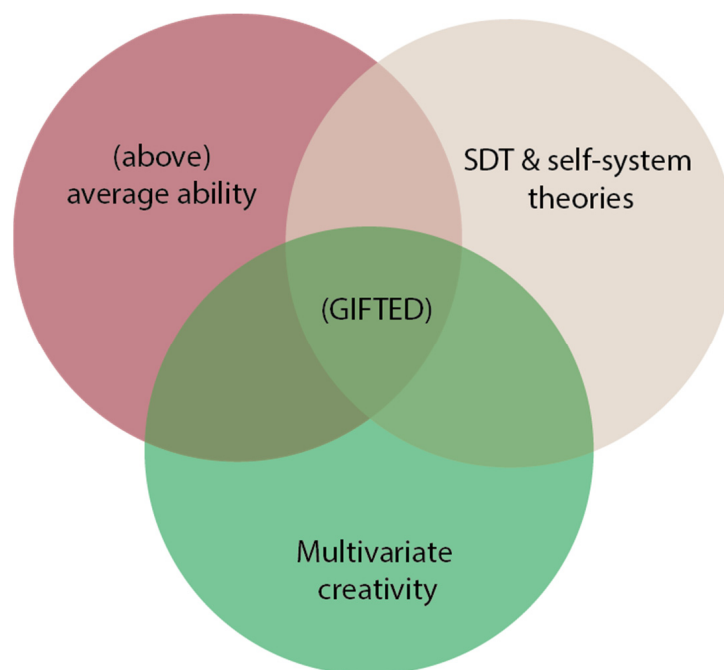


Figure 1. Graphical representation of Renzulli’s three-ring theory [46,47,49,50] with integration of commitment theories and the multivariate approach to creativity [52], adapted from Sanchez and Blanc [33].

This issue of meeting the students’ psychological needs is also of particular interest in this study, given the possible impact of an art enrichment program on students’ engagement. Indeed, with respect to the schoolwide enrichment model (SEM) [62,63], the objective is to develop enrichment programs linked to the interests of gifted children which is similar to the implementation of Renzulli’s theory urging to propose programs that engage (or re-engage) gifted children in learning through an activity that stimulates their creativity. While enrichments can be of three types, this study focuses on Type II enrichment, which is the most inclusive and consists of whole-class activities (exercises) that enable learners to acquire specific skills in a particular domain (in this case, fine arts).

1.4. Fine Arts as a Promising Enrichment Activity

After searching for enrichment activities that would be relevant for gifted children as well as for their peers, according to the SEM model mentioned above [62,63], we selected one that was centered around the fine arts. As a reminder, the recent WHO report on the effects of art on health and well-being [1] shows that it is possible to rely on the arts, at all ages, to promote harmonious development and good physical and mental health. While this report reveals a positive effect of participation in an artistic activity on many facets of individual development, this engagement in the arts appears especially relevant for children whose development is “under construction”. One study indicated that the child’s engagement in art would indeed be favorable to their own psychosocial functioning, as well as also having a beneficial impact on that of their parents [64]. Some studies tended to show respectively that it could help the child to strengthen their emotional skills [65] and express their emotions [66] while positively impacting their mood. Indeed, the simple act of drawing could have a positive effect on the mood of children aged 6 to 12 who are enrolled in elementary school [67]. At least two studies documented that the practice of art would also be a more predictive factor of school performance the earlier children are exposed to it [68,69]. Early exposure to music, for example, would have a lasting positive influence on the development of language and reading [70–74] and the ability to pay attention [75]. Participation in an artistic activity would be linked favorably to maintaining individual motivation and tenacity in the face of the task [76]. With the practice of fine arts, this positive effect of engagement in art on students’ cognitive development seems to be added to a positive impact on their socio-emotional development at school, by promoting prosocial behaviors and social cohesion [77–80]. Despite limited literature on the effects of gifted students’ engagement in an artistic practice, it seems to be beneficial for this population. In particular, gifted children who draw would develop more harmoniously than non-artists, and art therapy would be effective in this population [81,82]. Benefits appeared to be also found in the educational environment, with artistic enrichment which may allow underperforming gifted students to improve their academic results by transfer effects from competence to competence [83].

Taking into account the expected benefits of artistic activity on non-gifted as well as gifted students, we created the visual arts educational program *Experiencing Art at School* to facilitate the uniform deployment of visual arts sessions in a large number of schools, simultaneously and by a variety of teachers, in the most homogeneous way possible.

1.5. COVID-19 Context: Effects on Students

With the onset of COVID-19, which notably led to the temporary closure of schools, a distance learning program was put in place with the aim of allowing students, confined to their homes at the time, to follow their lessons remotely. A report by the French DEPP (Directorate of Evaluation, Foresight and Performance) based on seven surveys conducted in May 2020 shows that the system that was implemented allowed students to continue to benefit from learning; it was judged from fairly satisfactory to completely satisfactory (i.e., according to 77% of teachers) between the months of March and May 2020 [83]. However, this report does not take into account the effect of this situation on the functioning and psychological state of students, which it would nevertheless be interesting to consider in view of other studies that report less optimistic results [84,85], such as an increase in mood and sleep disorders [86]. Since the health crisis, the data also show an increase in consultations and hospitalizations in child psychiatry for adolescents aged 12 to 17 years [87], with a significant global upsurge in the development of mental illnesses in this population [85]. Another report by the French DEPP released later in November 2020 and based on the collection of data during the national evaluations of first, second, and sixth grades also showed a decrease in the academic performance of first- and second-grade students who experienced lockdown in Spring 2020.

1.6. Reminder of this Study's Objectives

In this study, we focused on examining whether a beneficial effect of exposure to the “Experiencing Art at School” program could be observed in gifted as well as in non-gifted children, despite the drawback of its being launched during the health crisis. Indeed, the benefits of the program were expected and evaluated with regard to the French Feelings About School [2], both among gifted and non-gifted schoolchildren, over the 2019–2020 school year. We expected to observe an increase in FAS scores after exposure to the program, for both gifted and non-gifted children, with a higher FAS after program follow-up compared to the FAS of children not exposed to the program.

2. Methods

2.1. Participants

Fifty-two elementary school teachers were recruited as part of this study, which was carried out according to a both cross-sectional and longitudinal approach. A total of 1100 students from the Montpellier metropolitan area took part in the Experiencing Art at School program. Among them, 350 students participated in our study, including 45 gifted children. The typical children were randomly selected from each class, after making sure that no neurodevelopmental or learning disorders had been reported concerning them. With regard to the gifted students, their inclusion was based either on the results of psychometric tests already carried out (the results of which were communicated to us beforehand) or via the taking and calculation of their short-form WISC-IV IQ score [88] carried out at the time of the implementation of the project in schools. The children we tested were selected either because their parents or teachers identified them as potentially gifted (using the Eduscol pre-screening grids published by the French Ministry of Education) or because we were able to identify them ourselves during interventions and interactions in the classrooms. Despite the aforementioned health context, we managed to form a control group in June 2020, with children from different public schools of the Montpellier district who had not been exposed to the program.

Our experimental group for which we were able to carry out the three programmed measurements of the FAS (i.e., at the initial state t_0 , mid-program t_1 , and at the end of the school year t_2) included 105 non-gifted participants (including 56 1st- and 2nd-grade students and 49 3rd-, 4th-, and 5th-grade students; 48 girls and 57 boys) and 30 gifted participants (including 13 1st- and 2nd-grade students and 17 3rd-, 4th-, and 5th-grade students; 13 boys and 17 girls). Indeed, among the 350 children initially included in the study, only 135 children (105 non-gifted children and 30 gifted children) completed the FAS questionnaire three times. The other 215 children were excluded until one FAS measurement was missing, this high attrition rate in our sample being largely explained by the pandemic context. The control group ($n = 33$), which was sought out and constituted due to the context in June 2020, included 16 gifted and 17 non-gifted children from ordinary schooling backgrounds who did not benefit from the Art School program. As for the experimental group, the short version of the WISC-IV was administered to children suspected of being gifted by their teachers or parents to ensure that they were indeed gifted. However, it has to be mentioned that for most of the gifted children included in the control group, complete assessments were provided by the parents.

2.2. Material

2.2.1. Design of a Fine Arts Program

“Experiencing Art at School” is a fine arts teaching program consisting of short animated videos, along with guide booklets for teachers and step-by-step instructions intended to promote children’s autonomy. Each session takes a major work of art as a starting point, allowing the children to copy it when they need reassurance or to move away from it to create their own work of art by appropriating it, by asserting themselves through different choices than those of the original artist. The idea was to allow the children, from sequence to sequence and from session to session, to acquire a variety of techniques (drawing, painting,

collage, overlays, etc.), by manipulating different materials (pencil, charcoal, Indian ink, dry pastels, watercolor pencils, pastels, paint, etc.) to achieve their production. The program includes a total of 58 videos, which were designed according to the same format for the different levels considered. The program is available in three versions to suit three distinct levels (i.e., 1st/2nd grade, 2nd/3rd grade, and 4th/5th grade), the objective of which is to present a realistic program that follows the expected progression of the children's skills in terms of graphics, mastery of tools, and visual-spatial abilities.

The videos (each about five minutes in length) are all structured the same way and according to the following synopsis: opening credits of the program, statement of the title of the target artwork introduction providing knowledge about the work and the artist, presentation of the objective of the session and the steps to achieving it, disclosure of a technical "secret" to guide the children in carrying it out, presentation of a "Freedom space" allowing them to make their own choices to appropriate their creation, brief musical interlude during which the children are invited to pick up their equipment for the session, ending credits.

The Freedom space, which was present in all the sessions, allowed the child who claimed it to not copy the original work and opened the possibility of reinterpreting it while complying with a realization methodology (for example, completion of a preliminary drawing in the first session, inking or cutting and gluing in the second session, and coloring and painting in the third session). At the end of each video, step-by-step instructions summarizing the production steps for the session were projected on the whiteboard in order to allow the children to complete their art project with the greatest possible autonomy. The Freedom space was also made salient in the step-by-step instructions to encourage the children to seize it to bring their own ideas to their artwork.

During the lockdown due to COVID-19, we participated in the continuing education plan by allowing children to carry out the sessions at home, thanks to the creation of a YouTube channel and the distribution of temporary private links to view the videos (for example, here is a link to view the video of the first session of the last art sequence for 4th- and 5th-grade students: <https://youtu.be/UqkczPHzir0> (accessed on 2 May 2020).

To conclude, the art program was supposed to have ended with an exhibit designed to fit into a class project. Although the pandemic context did not allow the children to exhibit a work of their choice in a physical room as was initially planned, they were nevertheless able to do so via the online museum Experiencing Art at School (<https://www.musee-art-ecole.fr/> (accessed on 1 July 2020)) that we created for this purpose.

2.2.2. The French FAS Scale

The self-evaluative scale of the French FAS [2] measures feelings about school. The original FAS scale [58] has been translated into French and adapted for elementary school students from 6 to 11 years old, with the added measure of the Perception of Art Skills (PAS). The French version was validated by Sanchez et al. [2] through exploratory factor analysis, confirmatory factor analysis, composite reliability analysis, and ANOVA to ensure external validation. The FAS scale consists of 15 items distributed over five sub-dimensions: the PAS factor relates to the children's perception of their art skills, the PLS factor relates to perception of literacy skills, the PMS factor relates to perception of math skills, the FRT factor (Feelings about Relationship with Teacher) relates to the children's perception of their relationship with their teacher and the GAS factor (General Attitudes toward School) relates to the children's general feelings toward school. Easy to administer, the scale is both short (therefore adapted to the school setting) and simple for children to understand, because the items are clear and they can visualize their responses on a visual stick scale (see Figure 2).

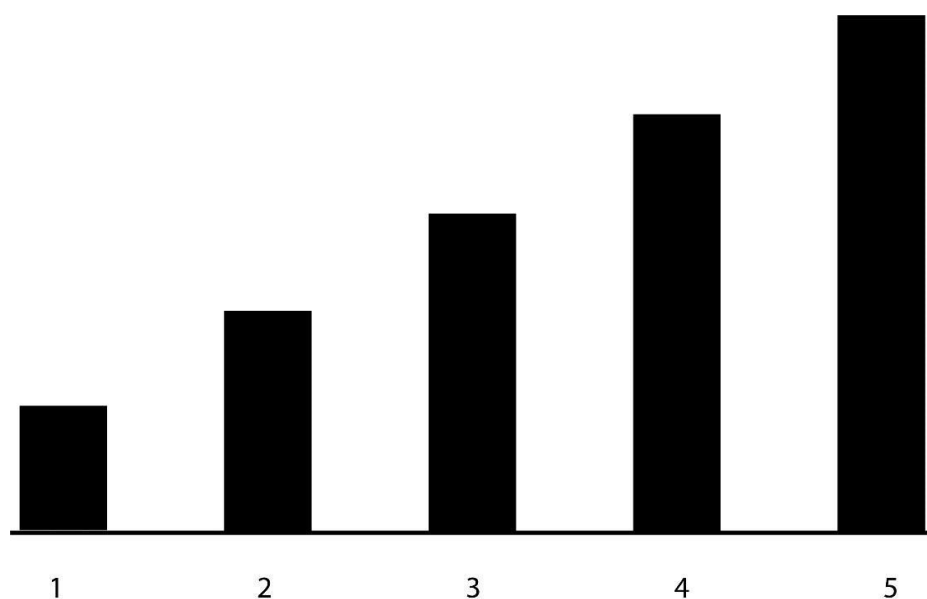


Figure 2. Bar's scale adapted from FAS [58] for the French FAS [2].

2.2.3. Short IQ

This is an abbreviated form of the WISC-IV [89], developed by Grégoire [88]. Very ecological, this short version of the WISC-IV makes it possible to obtain an approximate value of a child's IQ in four subtests: Similarities (i.e., to estimate the Verbal Comprehension Index), Matrix (i.e., to estimate the Perceptual Reasoning Index), Sequence-Letters-Numbers (i.e., to estimate the Working Memory Index), and Symbols (i.e., to estimate the Processing Speed Index). As with IQ, the distribution of short IQ values is normalized, following a Gaussian curve with a mean of 100.02 and a standard deviation of 14.98. In addition, the values of the QIT and the short IQ are correlated with 0.92 ($p < 0.001$). The test was exclusively administered to children who had been identified as potentially gifted through pre-screening and had not undergone a complete psychometric evaluation to confirm their giftedness. The children in the non-gifted group were not submitted to this test.

2.3. Procedure

The experiment was conducted from September 2019 through early July 2020. The Experiencing Art at School program was delivered in the classrooms every week by the teachers involved in the study, which allowed the participating students to take part in 26 fine arts sessions over the school year, including during lockdown.

All of the individual screenings (i.e., for the calculation of the Short IQ [88] and the FAS [2]) took place in the schools, in a separate room where the experimenter received the children individually. The WISC-IV Short Form was administered in a single session to the students for whom it was scheduled. As a reminder, this short version of the WISC-IV was administered only to children who had been previously identified as potentially gifted (by their teachers, parents, or during classroom observations). The French FAS [2] was completed several times by all of the children benefiting from the program, at t0 (i.e., initially, before the launch of the Experiencing Art at School program), t1 (i.e., mid-program), and t2 (i.e., at the end of the school year). To evaluate the FAS of the children benefiting from the artistic program compared to children who did not benefit from it, a control group completed the same scale, under the same conditions, at the end of the 2019–2020 school year (i.e., at t2).

For each interview, the experimenter comfortably installed the student at a table on which a file was arranged representing the visual stick scale. After reminding the child that all his/her answers would remain confidential, the experimenter explained to him/her how he/she could use the stick scale in order to answer according to the example of the first item. Then, for each item read by the experimenter, the child was reminded of the meaning of the first and fifth sticks before positioning themselves on the scale, verbally or by pointing at the stick that reflected his/her feelings.

3. Results

In order to examine the effects of the artistic program implemented on the FAS of the gifted and non-gifted children who benefited from it, we conducted intra-individual analyses in two stages (i.e., on non-gifted children, then on a homogeneous sample of gifted and non-gifted children), before proceeding to a comparative analysis at t2 with a control group that did not benefit from the program.

To facilitate the reading of the results that follow, we would like to clarify that the scores of the French FAS scale are established from a rating ranging from 0 (at the bottom of the scale) to 5 points (at the top of the scale) for each item (according to the stick designated by the child). Since each sub-dimension is composed of three items, the maximum score obtained by each child is 15 points per factor. Finally, the total possible points obtained on the FAS is 75 (15 five-point items).

3.1. Effects of the Art Program on the French FAS of Non-Gifted Schoolchildren

To account for the effect of the fine art program Experiencing Art at School, via the effect of time, on the FAS scores of the typical individuals from the experimental sample ($n = 105$; see Table 1), two repeated-measurement ANOVAs were performed using the software Jamovi. The FAS scores and its five sub-dimensions are the dependent variables at the different measurement times (t0, t1, t2). We expected to observe an improvement in children's feelings about school over the school year, but given the pandemic context that occurred between t1 and t2, the positive effect of the program expected at t1 may disappear at t2.

Table 1. Descriptive statistics of the sample composed of an art program beneficiary group and a control group.

	Student Types		School Grades		Gender	
	Non-Gifted	Gifted	Grades 1 and 2	Grades 3, 4, and 5	Girls	Boys
Art group ($n = 135$)	105	30	69	66	65	70
Control group ($n = 33$)	17	16	7	26	9	24

From the initial state to the intermediate state (i.e., from t0 to t1, see Table 2), first of all, the first ANOVA made it possible to establish a main effect of the program on the average FAS score ($F(1, 104) = 4.65$; $p = 0.033$; $\eta^2 = 0.007$), with scores increasing at t1. Specifically, the student's perception of his/her relationship with his/her teacher (FRT; $F(1, 104) = 4.58$; $p = 0.035$; $\eta^2 = 0.009$) and his/her literacy skills (PCL; $F(1, 104) = 15.4$; $p < 0.001$; $\eta^2 = 0.036$) improves from t0 to t1.

From the intermediate state to the final state (i.e., from t1 to t2, see Table 2), a decline in the GAS sub-score (i.e., general feelings toward school) is observed ($F(1, 104) = 13.4$; $p < 0.001$; $\eta^2 = 0.037$).

Table 2. Average French FAS scores from t_0 to t_1 and from t_1 to t_2 for the non-gifted children of the art group.

Measures	t_0 M (SD)	t_1 M (SD)	t_2 M (SD)	De t_0 à t_1 (p-Value)	De t_1 à t_2 (p-Value)
FAS (Overall Score)	58.6 (7.3)	59.94 (7.47)	58.58 (10.03)	0.033	0.112
PCA (Perceived Competence in Art)	11.55 (2.69)	11.53 (2.66)	11.54 (2.74)	0.944	0.972
PCL (Perceived Competence in Literacy)	11.09 (2.71)	12.06 (2.36)	11.76 (2.35)	<0.001	0.211
PCM (Perceived Competence in Math)	12.35 (2.51)	12.41 (2.38)	12.24 (2.56)	0.728	0.399
FRT (Feelings about Relationship with Teacher)	10.93 (2.94)	11.46 (2.51)	11.35 (2.89)	0.035	0.637
GAS (General Attitude toward School)	12.74 (2.23)	12.47 (2.44)	11.46 (2.79)	0.206	<0.001

3.2. Effects of the Fine Arts Program on the FAS of Gifted Compared to Non-Gifted Schoolchildren

Among the 105 non-gifted students of the experimental group, we randomly composed a subsample of 30 non-gifted students in order to establish a comparison with the gifted students ($n = 30$) with two groups of the same size. The effect of the program, via the effect of time, on the FAS scores (see Table 3) of the non-gifted compared to the gifted individuals of this experimental sample was measured by performing one-factor ANOVAs (i.e., the type of student: gifted vs. non-gifted) and repeated measurements. Our goal was to examine whether the program could have a different effect on the feelings of gifted and non-gifted students. Between t_1 and t_2 with the occurrence of the pandemic context, we explored how the relationship to school of this population of children with special needs, compared to a population of non-gifted children, has been impacted by the pandemic situation.

Table 3. Program effects (via the effect of time) from t_0 to t_1 and from t_1 to t_2 on the average French FAS scores of the 60 students in the art group sample.

Measures	FAS (Overall Score)	PCA (Perceived Competence in Art)	PCL (Perceived Competence in Literacy)	PCM (Perceived Competence in Math)	FRT (Feelings about Relationship with Teacher)	GAS (General Attitude toward School)
t_0 to t_1 (p-value)	0.010	0.128	0.004	0.579	0.268	0.736
t_1 to t_2 (p-value)	0.081	0.674	0.290	0.071	0.156	<0.001

There is a main effect of time on the FAS ($F(1, 58) = 7.11$; $p = 0.010$; $\eta^2 = 0.022$), with an increase in scores from t_0 to t_1 . In addition, a trend interaction effect of the type of student on the progression of the FAS scores from t_0 to t_1 is reported ($F(1, 58) = 3.02$; $p = 0.08$; $\eta^2 = 0.039$). This positive progression tends to be more marked among non-gifted ($Mt_0 = 56.13$; $SDt_0 = 6.71$; $Mt_1 = 58.8$; $SDt_1 = 6.66$) compared to gifted students ($Mt_0 = 59.47$; $SDt_0 = 6.62$; $Mt_1 = 60.13$; $SDt_1 = 5.5$).

The significant effect of t_0 to t_1 is found for the child's perception of his/her literacy skills (PCL; $F(1, 58) = 9.18$; $p = 0.004$; $\eta^2 = 0.029$), with scores that signal an increase. An interaction effect between the type of student and time is also observed on the average

scores of the PCL sub-dimension ($F(1, 58) = 3.76$; $p = 0.057$; $\eta^2 = 0.012$); this positive progression is more marked in the non-gifted compared to the gifted students.

From t1 to t2, a trend effect of time is observed on the FAS scores ($F(1, 58) = 3.16$; $p = 0.081$; $\eta^2 = 0.017$), signaling a slight decline. This effect of time is accompanied by a trend interaction effect with the type of student on the FAS scores ($F(1, 58) = 3.15$; $p = 0.081$; $\eta^2 = 0.035$). The scores of the gifted ($Mt1 = 60.13$; $SDt1 = 5.5$; $Mt2 = 59.8$; $SDt2 = 7.64$) decline less than those of their non-gifted peers ($Mt1 = 58.8$; $SDt1 = 6.66$; $Mt2 = 55.13$; $SDt2 = 12.82$). Considering the sub-dimensions of the FAS, a significant decline in general feelings toward school (GAS) emerges from t1 to t2 ($F(1, 58) = 13.53$; $p < .001$; $\eta^2 = 0.054$), while a significant interaction effect with the type of student is also observed ($F(1, 58) = 6.60$; $p = 0.013$; $\eta^2 = 0.026$). The decline in general feelings about school is stronger in the non-gifted children ($Mt1 = 12.3$; $SDt1 = 2.55$; $Mt2 = 10.23$; $SDt2 = 3.21$) than in the gifted children ($Mt1 = 12.23$; $SDt1 = 1.91$; $Mt2 = 11.86$; $SDt2 = 2.25$). Finally, the score relative to students' perception of their skills in mathematics also reveals a slight decline for all the students considered ($F(1, 58) = 3.37$; $p = 0.071$; $\eta^2 = 0.014$).

3.3. Comparison with a Control Group at t2

To assess whether the participation in the fine arts program influenced children's feelings about school, the FAS scores of gifted and non-gifted children who benefited from the fine arts program were compared with the scores of those who did not benefit from it (control group) at the end of the school year. Thus, two-factor ANOVAs were carried out here by considering the control sample (see Table 1) and the experimental sample composed of the same number of gifted students ($n = 30$) as non-gifted students ($n = 30$).

A main effect of the condition (control vs. experimental) was found for the PCA sub-score ($F(1, 89) = 18.624$; $p < 0.001$; $\eta^2 = 0.169$): children exposed to the "Experiencing Art at School" program ($MPCA = 11.52$; $SDPCA = 2.79$) had a better perception of their art skills than those who did not benefit from the program ($MPCA = 8.79$; $SDPCA = 3.11$). On the other hand, no effect of the program was observed on the overall FAS score and its other sub-dimensions. However, there was a simple effect of the type of student, with increased scores for gifted compared to non-gifted students, in terms of Feelings About School ($F(1, 89) = 4.4$; $p = 0.039$; $\eta^2 = 0.047$), of connection with the teacher ($F(1, 89) = 4.051$; $p = 0.047$; $\eta^2 = 0.043$), and of perception of their literacy skills ($F(1, 89) = 3.19$; $p = 0.077$; $\eta^2 = 0.034$).

4. Discussion

The objective of this study was to examine whether exposure to a fine arts program, designed according to Renzulli's model, could have a beneficial effect on the well-being at school of gifted and non-gifted children. Starting from the self-evaluative measurement of the Feelings About School [2] of the students taken at different times, we followed the progression of the FAS of these two populations of children over an unusual school year since it was disrupted by the pandemic. Our results seem to indicate a positive effect of the fine arts program implemented among gifted as well as non-gifted students; the main contributions of this study will be discussed and conclusions will be formulated with caution due to the context in which our study was conducted.

4.1. Effects of the Program Experiencing Art at School on Students' Feelings about School

The program seems to have had a positive effect on the Feelings About School of both non-gifted and gifted children, according to the observed intra-individual progression from the initial state (i.e., before the launch of the program) to mid-program, or the middle of the 2019–2020 school year (before lockdown). In detail, the program seems notably to have promoted a better perception by the children of their literacy skills and of the student–teacher relationship. First, this echoes previous findings on the beneficial effects of numerous educational programs inspired by the SEM and Renzulli's three-ring theory [43,62], with several decades of hindsight. Second, this also echoes studies that have shown how

participation in an artistic activity can be beneficial, both to the well-being of the student [1] and, by extension, to the strengthening and/or acquisition of new skills [68,79,82], in this case in the domain of literacy. This last result could find an explanation in the fact that the mental processes that allow one to apprehend a work of art are potentially similar to those that allow one to understand a text [90].

In the end, after the children's schooling was impacted by the occurrence of the pandemic (i.e., school closures, lockdowns, implementation of online learning, etc.), we no longer observed a positive intra-individual progression of Feelings About School of gifted and non-gifted children between the measures carried out mid-program and those that were recorded at the very end of the school year. The comparison of the results obtained at the end of the school year between our experimental group who benefited from the art program and the control group of children who did not benefit from it does not show any difference in terms of children's Feelings About School, except with regard to the students' perception of their artistic skills. Indeed, the children who benefited from the art program had a better perception of their artistic skills than the children who did not benefit from it. However, even if this result deserves to be replicated, the absence of an increase in the perception of art skills by the students in the experimental group between the different times may seem surprising. If the students who benefited from the art program, having learned and progressed, did not overestimate themselves in the subject, it is perhaps because they developed a finer, more adjusted vision of their art skills. Moreover, the comparison of the experimental group with the control group seems to support the hypothesis of a direct benefit of the practice of fine arts on the student's feeling of competence in the discipline itself, resulting in a more adjusted vision by the student of his/her real skills.

4.2. The Detrimental Impact of COVID-19 on Feelings about School

While the fact that this research was conducted in schools during the 2019–2020 school year, marked by the health crisis, constitutes an important limit to the measuring of the effects of the art program on Feelings About School, this context paradoxically sheds light on how this unprecedented situation may have impacted the feelings about school of the students considered [2].

Fortuitously, it was this context that made it possible to question the impact of this first lockdown in France associated with COVID-19 on the FAS of students. This research study seems to signal a detrimental effect of this unprecedented situation on students' development through the measurement of their Feelings About School (FAS). Indeed, by comparing the scores obtained mid-program (i.e., late January/early February) with the scores obtained at the end of the year, our study highlights a decline in children's FAS. In detail, this decline manifests itself in particular with respect to the general feelings that the children hold about school and regarding the perception that they have of their skills in mathematics. To not overinterpret these results, which were not the initial scope of this study, we could only draw cautious links with a study conducted at the national level, which reports a decrease in performance in French as well as in mathematics for first- and second-grade students, observed via national evaluations carried out during the start of the 2020/21 school year (DEPP, 2020). Our results seem to echo the national survey [86], which pointed to a negative effect of the first lockdown on both the daily life and the psychological functioning of 8- and 9-year-old children in France (i.e., increased levels of screen usage, as well as of mood and sleep disorders). They also tend to indicate an alteration in the psychological functioning of children, with a prevalence of clinical signs of anxiety and depression among those under 18 years of age that has more than doubled since the onset of the pandemic [84,85]. Overall, it seems reasonable to think that if children experience a decline in their well-being, their feelings about school would also be negatively affected, as suggested by the findings of this study.

4.3. Findings about the Intellect of the Gifted

In this study, gifted children's FAS are reaffirmed as being more positive than those of non-gifted children [33], especially with regard to the perception that children have of their literacy skills and their appreciation of the bond they share with their teacher. This result is consistent with the idea that most of them are successful at school and as such benefit from the status of "good students" which likely promotes the establishment of a good relationship with their teacher [38]. It is further consistent with the fact that they can correctly perceive themselves as more comfortable in literacy given their particularly developed intellectual abilities [5–8].

Moreover, it is interesting to note that a program designed around the intellect of the gifted, the SEM, and the theories on intelligence and enrichment of Renzulli [30,31,33,34] also contributed positively to the increase in Feelings About School of non-gifted children. While reaffirming the relevance of this theoretical framework for a pedagogical approach to the gifted (resulting in a stronger engagement among gifted children) [91], this indeed tends to show that an inclusive and non-elitist approach to the gifted, through the implementation of an enrichment program in the entire classroom, is quite conceivable to promote the development of all students.

Regarding the effect of the pandemic situation on the FAS of elementary school students (in particular the decline in general feelings toward school and the perception of math skills), it seems necessary to note a difference in the observed decline from t1 to t2 between the two populations studied. Since the Feelings About School of gifted children decreased less markedly than those of their non-gifted peers, this raises the question of the existence of a greater adaptation capacity of gifted students to this unprecedented situation. In fact, this suggests a latent capacity for engagement in gifted children, which is more resistant to environmental factors than that of their peers. It also suggests a possible increased resilience (i.e., ability to adapt to a negative situation) on the part of gifted children [92], which opens up new perspectives both for research and for the support of these students. Indeed, if greater resilience capacities were to be identified for this population, it might be appropriate to find a way to help these children tap into this resilience, which could constitute a lever to promote their harmonious development. However, it is also possible that gifted children suffer less from the school closures because they are bored at school and are not stimulated to the level of their skills [38,93], compared to the way they are stimulated or self-stimulated at home. A study by Leddo and collaborators [94] showed that gifted adolescents would have progressed equally with or without the guidance of a teacher in learning programs that allowed them to create websites. Their non-gifted peers, on the other hand, would have achieved similar results to gifted children only with the support of a teacher. It therefore also seems possible that the gifted children from the experimental group suffered less than their non-gifted peers from the absence or distance of their teacher during the pandemic. In view of the difficulty of deciding in favor of one of these proposed interpretations, it seems necessary to be able to dig in those different directions in future research, with the goal of a greater understanding of the adaptive capacities of these children in order to better support their development in the school environment.

5. Conclusions

While our results are at least partly in favor of a beneficial effect of the Experiencing Art at School program on scores of the FAS scale, we need to be cautious given the loss of the positive progression of FAS at t2 post-COVID-19 and the existence of a control group only at t2. Because other studies support the observation of the beneficial effects of participation in an artistic activity on the child [65,67,77–80], we are inclined to consider our results as promising regarding the presence of the beneficial effect of the Experiencing Art at School program on a positive progression of gifted and non-gifted children's Feelings About School. This study encourages further research aimed at determining the precise effects of artistic activity on the well-being of the child so that, in the interest of students, schools may have educational policies in favor of the arts, especially in France, where

the teaching of plastic arts in primary schools still needs to be consolidated and better supported [95].

Interesting interindividual differences emerged between gifted and other students in this research, pointing to gifted children having better Feelings About School. In addition, the finding of an increased benefit from the Experiencing Art at School program for non-gifted children allows us to point out that inclusive approaches that support the development of gifted children can benefit everyone. Finally, there is the question of increased resilience among gifted students and/or these students' greater ease in adapting to a situation that leaves more room for self-directed learning. Overall, this research contributes to the understanding of the effect of the health crisis of Spring 2020 on students by showing that the health situation led to a deterioration in their FAS, although the effect is less marked among gifted students.

6. Limits and Perspectives

Within the context of the pandemic, this study yielded encouraging results, which, however, it is necessary to replicate by bringing together more substantial numbers of students. Specifically, the control group would benefit from being constituted up front and analyzed at the different measurement times. This study has another limitation: due to ethical and practical reasons, it was not possible to administer the short version of the WISC-IV to all of the children who participated. This means that we cannot rule out the possibility that gifted children were included in the group of non-gifted ones. Although this risk seems to have been reduced since the implementation of the art program allowed for repeated observations of children in the classroom, it should not be overlooked, and results should be treated with caution before being generalized. The context also prevented the full implementation of the art program, which initially also included a three-week sequence for the children to explore three-dimensionality through the creation of a sculpture. Obviously, this sequence would have been important to allow the children to benefit from a complete art education program.

Our work nevertheless paves the way for other research examining (i) art as a lever for student development, (ii) the gifted as a relevant gateway for optimizing the development of all learners, and (iii) resilience or self-directed learning as resources to support the development of gifted students. A future study should also shed even more light on the benefits of the Experiencing Art at School program, using a qualitative method in addition to a quantitative method. Indeed, in a more favorable context, all of the children's productions would benefit from being collected and studied so that the benefits of the art program can be determined more accurately with respect to creativity and diversified graphic expression through the different techniques taught. The proposed art program could also influence gifted and non-gifted children to varying degrees, but our study does not allow us to know exactly how: In the perception of an art object? In its description, its interpretation? In a certain "afterglow effect" by creating one's own work under the impression of the art object just studied? All these questions provide promising research lines for future studies.

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