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**School life satisfaction and peer connectedness of intellectually gifted adolescents in
France: Is there a labeling effect?**

Guignard, J.-H., Bacro, F. & Guimard, P.

Abstract

Intellectual giftedness is commonly associated with a high level of intellectual functioning, an identification process whereby individuals are labeled as *gifted*, and adjustments in schools such as grade skipping. During adolescence, all these factors are prone to reduce peer connectedness and school life satisfaction. The aim of the present study was to disentangle the effects of these factors in a sample of 492 sixth and 10th graders. We identified three subsamples based on different characteristics associated with giftedness: students previously identified as gifted ($n = 66$), students who scored in the top 10% on a general intelligence test ($n = 49$), and students who had skipped a grade ($n = 57$). Comparative analysis showed that none of these subsamples differed from their respective control groups on school life satisfaction. Students labeled as *gifted* reported a lower level of peer connectedness, and the latter's contribution to school life satisfaction was significantly stronger within this subsample. These results underscore the importance of social integration for adolescents identified as intellectually gifted and exclude grade skipping as a risk factor. Moreover, high intellectual level does not seem to impact either school life satisfaction or peer connectedness.

Keywords: *Intellectual giftedness, adolescence, school life satisfaction, connectedness*

1 **Introduction**

2 One of the numerous education policy concerns in Western countries is that all students
3 should be able to realize their intellectual potential and fully exercise their abilities, while at the
4 same time being given an opportunity to thrive (OECD, 2009). This means that the huge
5 variations in students' psychological profiles need to be taken into account, in order to ensure
6 everyone's wellbeing.

7 *Gifted* individuals, that is, those who display high abilities in one or more domains (Gagné,
8 2004, Guignard et al., 2016; Pereira-Da Costa & Lubart 2016), remain a source of popular
9 fascination, and of questioning for practitioners and researchers. Educators focusing on the
10 early learning experiences of young gifted children have questioned the ability of traditional
11 pedagogies to cater for this population (Courtinat-Camps, 2017; Eddles-Hirsch et al., 2010; Van
12 Tassel-Baska, 2013), while some psychologists have suggested that these children may have
13 difficulties in the traditional school system and encounter socio-emotional problems (Eren et
14 al., 2018; Neihart et al., 2002; Vaivre-Douret, 2011). Researchers have yet to establish whether
15 giftedness is a risk factor or a protective factor for wellbeing (Baudson, 2016; Kermarrec et al.,
16 2020; Neihart, 1999). For example, the *disharmony* hypothesis supports the idea that
17 intellectual giftedness is associated with socio-emotional vulnerabilities that lead to social
18 isolation and reduced wellbeing (Blaas, 2014). By contrast, the *harmony* hypothesis considers
19 that the high levels of intelligence exhibited by gifted individuals increase their understanding
20 of self and their social cognition, allowing them to make advanced social adjustments (Eklund
21 et al., 2015; Shechtman & Silektor, 2012). In this vein, a recent meta-analysis conducted by
22 Ogurlu (2021) examined 17 studies that address emotional intelligence of identified gifted
23 individuals (including elementary school, middle school, high school, as well as adults
24 populations). They found a slight advantage in favor of the gifted group compared to their non-

1 gifted counterparts on emotional intelligence abilities, suggesting no socio-emotional
2 dysfunction for gifted individual.

3 According to Jones (2013), “it would seem pertinent for future research to examine what it is
4 about being gifted and talented that appears to be associated with better psychological well-
5 being. It may be that there are aspects of a gifted individual’s experience of school that underlie
6 or reinforce these improved outcomes.” (p. 62).

7 Given that loneliness is linked to common forms of psychological discomfort (Danneel et al.,
8 2019; Goswick & Jones, 1982; Vanhalst et al., 2012), it is relevant to investigate students’
9 feeling of integration in relation to their wellbeing at school. This is especially important for
10 gifted adolescents, who may feel rejected by their peers, given the stereotypes associated with
11 their special status (Solano, 1987; Swiatek, 1995). The *gifted* label is liable to heighten the risk
12 of stigmatization by peers (Freeman, 2014; Košir et al., 2015), and may be source of inner
13 conflict and discomfort (Robinson, 1990). Additionally, the identification of intellectual
14 giftedness often leads to in-school adjustments, not least grade skipping, which has been shown
15 to efficiently challenge highly able students (Davis, 2009). Studies on the effects of such
16 adjustments on socio-emotional development are scarce and provide conflicting findings. For
17 example, Hoogeveen et al. (2009) and Kretschmann et al. (2016) suggest negative effects of
18 grade skipping on social relationships, whereas the meta-analysis conducted by Steenbergen-
19 Hu & Moon (2011) did not report socio-emotional difficulties for students who experienced
20 academic acceleration. Thus, more empirical evidence is still needed on the effect of academic
21 acceleration, such as grade skipping, on social integration and possible marginalization
22 (Gronostaj et al., 2016).

23 The present study set out to examine the peer connectedness and subjective school wellbeing
24 of adolescents in France, considering three characteristics associated with intellectual
25 giftedness: high-level intellectual functioning, the *gifted* label, and grade skipping.

Wellbeing and Life Satisfaction

According to positive psychologists, mental health cannot be defined solely by the absence of mental illness or psychopathological symptoms. Focusing on the factors that promote happiness—or subjective wellbeing—, they suggest assessing the extent to which people perceive their own wellbeing.

There are classically two approaches to defining subjective wellbeing in the field of positive psychology. According to the *hedonistic* approach, subjective wellbeing corresponds to an individual's assessment of his or her life (Diener et al., 1999, 2002), and includes both an affective component, which refers to the levels of positive and negative affects, and a cognitive component, namely life satisfaction (LS), which can be assessed in either a general (life as a whole) or specific (domains of life) way.

The *eudemonic* approach considers that wellbeing is not only about the search for pleasure, but also about feeling fulfilled and being able to give meaning to one's life. According to this approach, to be in a state of wellbeing, individuals must not only live according to their own values, but also be able to realize their aspirations and desires (Ryff & Keyes, 1995). Researchers have recently suggested integrating these two approaches (hedonistic and eudemonic) by considering that wellbeing has affective (positive and negative affects), cognitive (LS) and eudemonic (self-actualization) components (Maccagnan et al., 2018; Wallander & Koot, 2016).

According to Diener et al. (1985), *LS* refers to a cognitive, judgmental process that can be assessed through different levels of analysis. Contrary to the one-dimensional model, which considers LS to be the synthesis of an individual's different life experiences, the multidimensional model addresses specific life domains (Bacro et al., 2020; Gadermann et al., 2010).

1 Since the publication of the Satisfaction With Life Scale (Diener et al., 1985), which
2 refers to the single-dimensional model, LS has been extensively studied in adults. In the field
3 of developmental and educational psychology, Huebner (1994) developed a multidimensional
4 model in which the LS of children and adolescents can be assessed in five different domains:
5 family, friends, school, self, and living environment. A growing number of studies have
6 examined LS in children from preschool age (Coudronnière et al., 2017) to adolescence
7 (Gilman et al., 2000), using both one- and multidimensional self-report scales. LS has also been
8 associated with school experience, emotion regulation, and social relationships (Gilman &
9 Huebner, 2006), and research among youngsters has been extended to specific populations,
10 such as children with intellectual disability (Coudronnière et al., 2017) and gifted students (Ash
11 & Huebner, 1998; Bergold et al., 2020).

12 **Life satisfaction of gifted students.**

13 Given the many publications on giftedness, studies specifically addressing LS in gifted
14 individuals are surprisingly scarce. These works tend to confirm the results of Terman (1947)'s
15 longitudinal survey, which showed that gifted individuals are not particularly prone to
16 encounter difficulties and are more inclined to experiencing wellbeing. For example, Ash and
17 Huebner (1998) investigated the subjective wellbeing of 61 gifted middle-school students using
18 the one-dimensional Student's Life Satisfaction Scale (Huebner, 1991) and the
19 Multidimensional Students' Life Satisfaction Scale (Huebner, 1994). First, the latter's
20 reliability for the gifted sample was found to be comparable to its reliability for the control
21 group. Second, results highlighted similar LS levels for both gifted and control students,
22 regardless of LS dimension. Third, the contribution of each LS dimension to overall LS was
23 somewhat different for the gifted sample. Their satisfaction with living environment and with
24 school experiences scores contributed the most to their overall LS score, whereas satisfaction
25 with school experiences contributed the least for the nongifted group. This suggests that gifted

1 students may form their wellbeing judgments somewhat differently than their nongifted peers.
2 The school dimension of LS clearly needs to be investigated further, given its importance for
3 the intellectually gifted students in this sample.

4 More recently, Bergold et al. (2015) worked on a large sample of unselected high-school
5 students ($N = 655$) in 11th or 12th grade. They first classified students with scores more than two
6 standard deviations above the mean on a composite score of general intelligence as *gifted*. They
7 then introduced covariates (parents' education level, sex, and age) to form a matched control
8 group of nongifted students ($n = 74$ for each group), eliminating the biases that are often
9 identified in giftedness studies (selection bias, lack of a control group). Comparative analysis
10 showed that these two groups did not differ significantly on LS. The authors concluded that
11 being intellectually gifted is not a risk factor that is likely to negatively impact children's
12 wellbeing or psychosocial development. Nevertheless, the LS scale used in this study was one-
13 dimensional, and therefore did not distinguish between different LS domains. Moreover, the
14 authors' conclusion seemed to go beyond the strict interpretation of their results, as they did not
15 actually assess psychosocial functioning. Additionally, a lack of information about whether the
16 students had previously been identified as gifted prevented the authors from gauging the
17 potential effects of stigmatization identified by qualitative research (Coleman et al., 2015).

18 **Peer connectedness.**

19 The transition from childhood to adolescence is marked by the growing importance of
20 peer relations, which gradually become more complex (Brown & Larson, 2009). The opinions
21 of others turn to be increasingly central, and social comparison conduce to heightened sensitivity
22 to negative feedbacks (Harter, 1990). As adolescents gain an increasing sense of autonomy, their
23 social self also develops (Erikson, 1968). Because of neural changes in social and affective
24 processing, they place more importance on what their peers think of them. Consequently, they
25 are more prone to reach peer acceptance (Crone & Dahl, 2012).

Numerous authors have emphasized that a perceived sense of belonging or being connected to significant others is a basic psychological need that brings positive outcomes, such as subjective wellbeing, if satisfied (Jose et al., 2012). Baumeister and Leary (1995) described the need to belong or feel connected as “a pervasive drive to form and maintain at least a minimum quantity of lasting, positive and significant interpersonal relationships” (p. 497). Connectedness can be expressed through four key social domains, namely family, school, peers, and community (Jose et al. 2012). Peer connectedness (PC) has been seen as an important element for wellbeing during adolescence. For example, McGraw et al. (2008) found that PC is a strong protective factor against negative affects such as depression or anxiety. Positively perceived relationships with peers at school bring social support and presumably increase school LS. Although José et al. (2012) only found a weak effect of PC on wellbeing indicators such as LS, their study did not really take specific profiles such as intellectually gifted individuals into account.

Peer connectedness of gifted students.

Roedell (1985) emphasized that some gifted children may struggle to find and share common areas of interest with their non-gifted peers. They may interpret their classmates’ lack of understanding or interest as a form of rejection, which may therefore impact their wellbeing. This feeling of being at odds with same-aged peers during childhood may have an impact on interpersonal relationships (Janos et al., 1985). For example, Swiatek (2002) identified specific social coping strategies that are used by intellectually gifted adolescents to gain peer acceptance at school, which is highly valued during this developmental period. These strategies include denial of giftedness, conformity (extent to which students hide their abilities to achieve peer acceptance), humor, and activity level (extracurricular activities, so as not to be seen solely as bright students). If these strategies fail, gifted students may report difficulty creating and/or maintaining friendships with other adolescents, and experience growing feelings of loneliness, leading to withdrawal behaviors. Giftedness may therefore be a potential source of intrapersonal

1 conflict that is prone to hinder PC. Cross et al. (1993) asked 1465 gifted adolescents to report
2 their perceptions of how giftedness influenced their social experiences. Results revealed that
3 these adolescents acknowledged a difference regarding their intellectual abilities, comparing
4 with those of their nongifted peers, but did not feel different regarding social needs. The *gifted*
5 label was perceived as cumbersome and stigmatizing. Therefore, more than 50% of this sample
6 expressed difficulty feeling fully free to be themselves at school. Similarly, Manor-Bullock et
7 al. (1995) emphasized the importance of not labeling gifted youth as such, as *giftedness* is
8 commonly associated with stereotypes that may hinder social integration.

9 However, this body of research has not always been confirmed. Litster & Roberts (2011)
10 identified 40 comparative studies (including 8 non-published studies) from 1978 to 2004 on the
11 subjective self-concept of students with the gifted label. They found a slight mean effect size in
12 favor of the gifted for global self-concept as well as academic and behavioral perceived
13 competencies. It is noteworthy that social perceived competencies did not discriminate the
14 gifted and control samples, which call for further research on this issue. In a large sample of
15 1526 academically gifted students, Lee et al. (2012) found quite positive perceptions of their
16 social skills, comparable to normative data. According to these authors, the *gifted* label was not
17 a particular obstacle to experiencing social relationships, even if the absence of a control group
18 of nongifted students reduced the scope of these findings. More recently, Verschueren et al.
19 (2019) selected students in the top 10% of a composite score of cognitive ability among a large
20 sample of more than 2500 sixth-graders and compared them to average ability-students on
21 social acceptance measurements. They found that high-ability students were perceived as more
22 accepted socially by teachers and peers. Additionally, they did not exhibit difference regarding
23 subjective perception of acceptance.

24 Additionally, gifted students commonly skip grades (acceleration), which may affect
25 the way they are perceived by other students. For example, Hoogeveen et al. (2009) reported

1 lower levels of social self-concept among sixth graders who had skipped a grade during their
2 schooling. Moreover, their peers had a more negative image of them. Kretschmann et al. (2016)
3 investigated the effect of grade skipping on socio-emotional outcomes in a longitudinal study,
4 involving 4926 German adolescents from fourth to sixth grade. The 96 students in this sample
5 who had skipped a grade in elementary school reported less positive peer relationships than
6 those who had not. However, these two samples had similar levels of school LS. These studies
7 suggest a potential impact of skipping a grade on PC. Nevertheless, no information was
8 provided on participants' level of intelligence. On the contrary, the meta-analysis of
9 Steenbergen-Hu & Moon (2011) revealed a minor positive effect of academic acceleration on
10 socio-emotional development. This discrepancy may be due to the fact that this meta-analysis
11 was not specific to grade skipping – only one study on grade skipping were included – but rather
12 on several forms of academic acceleration. Also, social-emotional development mentioned in
13 the meta-analysis was roughly treated, and the authors called for more research on subconstructs
14 of social-emotional development – such as life satisfaction or social relationships – to refine
15 the grain of future meta-analyses.

16 **The Present Study**

17 Gifted adolescents—like most adolescents—gradually elaborate an identity that tends to
18 stabilize and become internalized during adulthood. This construction is partly influenced by
19 the way they are viewed by adults, but also by peers, whose influence grows during
20 adolescence. Consequently, and under certain conditions, giftedness may prove stigmatizing
21 and potentially conducive to negative perceptions, such as peer rejection. Three characteristics
22 associated with giftedness may play a role in this: 1) atypical intellectual functioning, 2)
23 stigmatizing label associated with prior identification of giftedness, and 3) school acceleration
24 associated with a particular status among other students.

1 The aim of the present study was to disentangle the effects of these characteristics on
2 perceived wellbeing and social integration. Each characteristic was tested relative to three
3 research questions:

- 4 - Do intellectually gifted adolescents report lower PC than their nongifted peers? As
5 they are characterized by atypical intellectual functioning, we predicted that this
6 would be the case.
- 7 - Do intellectually gifted adolescents report lower school LS than their nongifted
8 peers? If our first prediction was confirmed, we expected gifted participants to report
9 lower school LS.
- 10 - Does PC contribute to school LS? We expected this potential contribution to be
11 stronger for intellectually gifted adolescents.

12 **Method**

13 **Participants**

14 Our sample included 492 sixth and tenth graders who attended a French private high
15 school, located in the center of Nantes (France). These grade levels correspond to the moment
16 when, in France, students move from elementary to middle school and from middle to high
17 school. Both cases correspond to what Bronfenbrenner (1979) considers as an "ecological
18 transition" which, according to his ecosystemic model, constitutes an ideal time to study the
19 impact of environmental factors on children's development and well-being.

20 The school we approached offers specific services for gifted students, with teachers who are
21 sensitive to giftedness, and holds workshops for intellectually gifted sixth graders. Parents who
22 request this kind of special provision are asked to provide the results of a cognitive assessment
23 to attest intellectual giftedness. Intellectually gifted students follow courses in regular
24 classrooms. However, they receive special and caring attention, and pull-out enrichment

activities are organized to support their centers of interest. Participants included 66 students who had been identified (that is, labeled) as intellectually gifted ($M_{\text{age}} = 12.70$ years; 42 girls and 24 boys) and 426 students who had not been identified as gifted ($M_{\text{age}} = 13.46$ years; 168 girls and 258 boys). The total proportion of participants who reported having skipped a grade was 11.4% ($n = 56$; $M_{\text{age}} = 12.34$ years; 31 girls and 25 boys). Of these, 61.4% had the *gifted* label. None of the participants who had been accelerated had also been held back. As we had no information about the gifted students' IQ and when they had been identified as such, we administered the D48 (Pichot, 1961), in order to have a current measure of general intelligence. This would enable us to distinguish between the *gifted* label and actual intellectual efficiency. Following Gagné (2004)'s model, we formed a subsample of students whose D48 scores were in the upper decile (top 10% scores), based on their z scores. This subsample was composed of 49 students (21 girls and 28 boys), 16.7% of whom had been labeled as *gifted*, and 26.8% of whom had skipped a grade (table 1).

Insert table 1 here

All in all, our sample was composed of 130 students with at least one characteristic associated with giftedness ($M_{\text{age}} = 12.83$ years; 70 girls and 60 boys), and 362 students with none of these characteristics ($M_{\text{age}} = 13.54$ years; 140 girls and 222 boys).

Measures

General intelligence test (D48).

Participants completed the D48, a nonverbal culture-fair fluid intelligence test designed to capture the g factor (Pichot, 1961). Each of the 44 items is a suite of domino pieces. The dominoes vary in the numbers of dots (0-6) in the top and bottom areas. Participants have to

1 grasp the underlying logical relationships in a given suite of dominoes, such as dot symmetry
2 or number of dots, to complete a blank one. They are therefore asked to elaborate their own
3 answer, rather than choose the correct one from a set of propositions. They have to complete as
4 many domino suites as they can in 25 minutes.

5 The psychometric qualities of the D48 have been confirmed, with internal consistency
6 and test-retest coefficients of .89 and .69. Regarding convergent validity, the D48 has shown
7 high saturation of the *g* factor (Colom et al., 2015) as well as strong correlations with other
8 intelligence tests and academic achievement (Colom et al., 2015; Domino, 2001; Gil-Espinosa
9 et al., 2019).

10 **Integration Feeling Questionnaire.**

11 This French-language multidimensional questionnaire comprises 38 items specifically
12 designed to elicit information about adolescents' connectedness in three different social
13 systems: family ("I share leisure activities with my family"), peers ("I feel close to my friends"),
14 and community ("I participate in the classroom"). Participants were asked to respond to each
15 item using a 5-point Likert scale ranging from 1 (*Totally disagree*) to 5 (*Totally agree*). Internal
16 consistency was acceptable for each social dimension, with Cronbach's alpha ranging from .83
17 to .89.

18 **French version of Multidimensional Students' Life Satisfaction Scale (short form).**

19 The MSLSS is a self-report questionnaire designed to assess the LS of children and adolescents
20 across five specific domains: family, friends, school, self, and living environment. The French
21 adaptation of the short form used in this study (Coudronnière et al., 2018) is composed of 30
22 items formulated in affirmative sentences. Referring to their experiences in recent weeks,
23 adolescents had to assess their degree of satisfaction in different domains of their lives. They
24 were given several possible responses and had to choose the one that corresponded most closely

to what they felt concerning each domain. For each item, they had to assess their level of agreement on a continuum ranging from 1 (*Strongly disagree*) to 6 (*Strongly agree*). Satisfaction scores in each life domain were then calculated by summing the scores on the corresponding items. Alpha coefficients computed to test the internal consistency of each scale were all between .75 and .90. In addition, this questionnaire was found to have high test-retest reliability and good convergent validity, as indicated by the correlations with positive and negative affectivity (Coudronnière et al., 2018).

Procedure

Prior to the data collection, an information letter was sent to parents of students to present the study. They were free to refuse to have their child participate in the study. Moreover, students were informed that they had the choice to participate or no to this study and were free to quit the study at any moment of the data collection, by simple oral request. Measurements were administered to large groups of approximately 60 students in two sessions (1 hour each). The experimenters read the instructions out to participants and stayed in the room throughout the testing, to assist students individually if needed.

Results

Preliminary Analyses

We first tested the independence of our three experimental subsamples to evaluate the links between the characteristics associated with giftedness. We found that students with the *gifted* label were significantly more likely to have experienced grade skipping than nonidentified participants ($\chi^2 = 36.41, p < .001$), with a moderate effect size ($\phi = .27$). Students whose scores were in the last decile of the D48 test of general intelligence had experienced grade skipping significantly more frequently than the rest of the sample ($\chi^2 = 19.95, p < .001$), with a slightly weaker effect size ($\phi = .20$). Surprisingly, the relationship

between the *gifted* label subsample and the D48-based gifted subsample failed to reach significance ($\chi^2 = 3.82, p = .051$).

Then, we conducted comparative analysis to test the effects of giftedness on PC and school LS, considering the sample of students with at least one characteristic associated with giftedness, e.g. without considering differential effects of each of these characteristics. Mean scores and standard deviations are reported in Table 2. Concerning PC scores, students with at least one characteristic of giftedness had a lower mean score than the control group. This difference was significant, $t(490) = 2.26, p = .025$, with a small effect size (Cohen's $d = .23$). The difference between these groups on school LS failed to reach significance, $t(490) = -.17, p = .87$.

Insert table 2 here

For the following analysis, we focused on students with only one characteristic of giftedness, in order to give a comprehensive view of the influence of each characteristic on PC and school LS.

Comparative Analyses

We conducted one-way ANOVAs to appreciate separately the effects of each giftedness characteristics on PC and school LS (Table 3) in four conditions: *gifted* label, grade skipping, D48-based giftedness, and non-gifted.

Insert table 3 here

There was a significant effect of characteristics associated with intellectual giftedness on PC, $F(3, 454) = 3.24, p = .02$. Post hoc comparisons with Tukey's HSD test indicated that the mean PC score in the *gifted* label condition ($M = 3.75, SD = .70$) was lower than in the nongifted

condition ($M = 4.03$, $SD = 0.63$), and this difference was significant, $t(454) = -2.64$, $p = .04$. None of the other comparisons were significant ($p > .05$). Concerning school LS, no significant difference was found between the conditions, $F(3, 454) = .59$, $p = .62$.

Correlational Analyses

The correlation between PC and school LS was positive (the higher the PC score, the higher the school LS score), and low but significant ($r = .23$, $p < .001$). School LS scores were correlated negatively with grade level ($r = -.29$, $p < .001$) and positively with D48 z scores ($r = .089$, $p = .049$), PC scores were not correlated with either grade level ($r = .025$, $p = .59$) or D48 z scores ($r = .002$, $p = .96$). We therefore tested the contributions of PC, grade level, and giftedness to school LS in a regression model.

Regression Analyses

We ran a hierarchical linear regression to determine the relative associations between PC and school LS scores. First, we entered grade level and sex as control variables. Second, we entered the characteristics associated with giftedness (grade skipping, D48 score, and *gifted* label) and PC. Third and last, we entered the interactions between PC and characteristics associated with giftedness.

The first step of the regression (Model 1) revealed significant contributions of both sex ($\beta = .29$, $p = .005$) and grade level ($\beta = .72$, $p < .001$) to school LS. Boys tended to report higher school LS than girls, and 10th graders reported lower school LS than sixth graders. The second step of the regression (Model 2) revealed a significant contribution of PC ($\beta = .35$, $p < .001$) to school LS, after controlling for grade level and sex. The contributions of the characteristics associated with giftedness were not significant ($p > .05$). The last step of the regression (Model 3) included interactions between each characteristic associated with giftedness and PC and explained 16.3% of school LS variance.

Insert table 4 here

As shown in Table 4, this model showed the same main effects as the previous ones, except that students with the *gifted* label reported lower school LS than nongifted students ($\beta = -2.64, p = 0.009$). The Gifted label x PC interaction effect on school LS was statistically significant ($\beta = .65, p = .012$). Thus, the positive effect of PC on school LS was greater for students with the *gifted* label (Graph 1). The other interactions we tested for D48-based giftedness ($\beta = .11, p = .793$) and Grade skipping ($\beta = .68, p = .109$) variables were not significant ($p > .05$).

Insert graph 1 here

Discussion We conducted the present study to enhance the literature on the subjective wellbeing of adolescents with characteristics of intellectual giftedness, by 1) examining LS from a multidimensional perspective and focusing on the school dimension, 2) investigating gifted students' perceptions of social integration (PC), and 3) exploring the impact of PC on gifted students' school LS, controlling for sex and school grade.

Concerning the first objective, our findings were in line with previous research (Ash & Huebner, 1997; Santili, 2017). The three gifted subsamples (*gifted* label, general intelligence D48 score, and grade skipping) had the same level of school LS as the nongifted students. This result is also found in the preliminary analyses, considering a larger sample of student with one or more characteristics associated with giftedness. These results contradict the idea that intellectually gifted adolescents experience poorer school LS. As emphasized by Guez et al. (2018), the popular confusion between giftedness and psychopathology – especially in France

– is based on clinical reports or studies of clinically referred children. However, this statement is not supported when considering less specific samples, even if the context may have influenced our results. More specifically, the fact that the adolescents labeled as *gifted* were enrolled in a special program means that at some point, they had experienced a form of recognition of their intellectual functioning. This identification had led to special care and attention—from both family and school—, which may have had a positive impact on their LS. Nevertheless, we found the same result for our unlabeled sample of students classified as gifted according to their score on the D48 test of general intelligence. Taken together, these findings do not support the assumption that high levels of intellectual ability are associated with poorer school LS and support previous results on unlabeled students with high intellectual abilities (Bergold et al., 2015). In addition, grade skipping – which is generally associated with giftedness – had no impact on school LS. This result is also in line with previous studies on unselected samples of accelerated students, such as Kretshmann et al. (2016).

Regarding the second objective, preliminary analyses showed a significantly lower mean score of PC for students with one or more characteristics associated with giftedness. When considering subsamples of students with only one characteristic, we observed this effect only among the *gifted* label subsample. This result supports the view that being labeled as gifted may have an impact on social integration (Coleman et al., 2015; Rimm, 2002), and complements more recent findings. For example, Verschueren et al. (2019) failed to find lower subjective feelings of social acceptance in an unselected sample of gifted sixth graders. However, the inclusion criterion was not as the *gifted* label, but a score in the top 10% of an aggregate cognitive ability measure ($IQ \geq 120$). These students were compared with a reference group of average-ability students ($IQ = 90-110$). The operationalization of a similar criterion of giftedness in our study—students scoring in the top 10% of the D48—also led to the absence of a difference on the IF scale between students scoring below the top 10% on the D48 and a

control group. This finding supports the idea that the *gifted* label reinforces a feeling of being different (Coleman et al., 2015). Consequently, identification with peers is rendered more difficult for adolescents who have been labelled as intellectually *gifted* (Tomchin et al., 1996). Because this identification process is essential for adolescents, if they are to fulfill their need for relatedness – or their desire for social interactions and feeling connected to others, one of the three human fundamental needs according to Deci and Ryan (2000) –, our study sheds new light on the effect of the *gifted* label during adolescence through this theoretical framework.

Regarding the third objective, regression analyses showed that prior identification was the only variable associated with giftedness that influenced the contribution of PC to school LS. As seen in Graph 1, the lowest levels of PC for participants with the *gifted* label were associated with a lower level of school LS, compared with students without this label. Conversely, students with the *gifted* label who showed the highest levels of PC reported higher school LS than participants without the label. This interaction can be interpreted as a compensating effect of PC on school LS for participants labeled as *gifted*. This result clearly emphasizes the importance of supporting the social integration of gifted adolescents in a school environment. However, our results showed that this effect was not due to a high level of intellectual functioning and/or grade skipping. As pointed out by Preckel et al. (2015), a set of negative stereotypes influence attitudes of teachers who encounter students labelled as intellectually *gifted*. As these stereotypes or negative attitudes toward gifted students may impair the latter's social integration, it seems important to avoid any such marginalization. If the focus is shifted away from what separates them from other adolescents to what they have in common with them, gifted adolescent may find it easier to identify with others.

Limitations and suggestions for future research. Although our study had several strengths, it also had several limitations that reduce the scope of its findings.

1 First, as our sample was drawn from a private town-center school, it was not necessarily
2 representative of the whole school population. Our results therefore need to be replicated on a
3 larger scale including schools from different neighborhoods.

4 Second, the school that provided participants operated an inclusive policy concerning
5 intellectually gifted students. This special treatment may have had an impact on the LS and IF
6 ratings of our gifted participants. The impact of such policies on these variables should be
7 studied in future research.

8 Third, our data do not yield any information on developmental processes that could either favor
9 or impede gifted individuals' feeling of integration. Further research adopting a longitudinal
10 approach might shed light on this complex issue. Given the heterogeneity of this population, a
11 profile-based approach relying on general social development could be useful to differentiate
12 between the developmental trajectories of gifted students (Courtinat-Camps et al., 2017).

13 Fourth, it is important to bear in mind that this study focused on *intellectual* giftedness. Its
14 results cannot be generalized to other types of giftedness described in the literature (Gagné,
15 2004), such as creative giftedness. Future research might explore socio-emotional outcomes
16 and wellbeing among these populations, for whom no explicit advocacy services are
17 provided-at least not in France.

18 Fifth, we only gained access to limited samples of gifted students in Grades 6 and 10. Even if
19 the correlation between age and SPC was not significant for the whole sample, the weak size
20 of our gifted sample did not allow us to specifically analyze the grade effect in this particular
21 developmental period and should be investigated in further studies.

22 Sixth, we did not have access to the cognitive assessments of the students identified as gifted.
23 WISC profiles in this population are known to be heterogeneous (Pereira Da Costa & Lubart,
24 2016; Guignard et al., 2016), and may have played a role in our results. Thus, most of these
25 participants were not included in the D48-based gifted sample and may have been labelled

1 because of other strengths besides logical abilities, such as verbal abilities. The heterogeneity
2 of intellectual giftedness should not be neglected in future research, as the intellectual profiles
3 of gifted individuals, such as a high level of fluid intelligence, can protect against internal
4 disorders such as anxiety (Kermarrec et al., 2020). Additionally, our main goal was to focus on
5 subsamples of students with only one characteristic associated with intellectual giftedness. Due
6 to the weakness of the subsamples of students who cumulates several characteristics, we were
7 not able to investigate this heterogeneity. Future research should specifically address this issue,
8 because this variety of profiles might be source of inter-individual differences.

9 In conclusion, the present study emphasizes the particular nature of subjective peer
10 connectedness among adolescents labelled as *gifted* based on non-verbal cognitive assessments.
11 This does not seem to stem from grade skipping or the g factor of intelligence, but rather from
12 the singularities of students who, for some reasons and at some point, found themselves engaged
13 in an identification process to deal with special needs that led to the *gifted* label. This
14 recognition of a difference in their intellectual functioning does not seem to have negatively
15 impacted their school LS. However, it may have influenced their representations of social
16 integration and, perhaps, the way these students are seen in their daily social environment. As
17 wisely suggested by Dai (2019), talent development must be understood through the prism of a
18 relational developmental systems framework. If we consider *giftedness* as a prerequisite for
19 developing talent, we must question further the positive or negative impacts of labellisation on
20 identity construction at different level of development.

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Table 1

Numbers of students with unique characteristic of giftedness ($n=96$) and students with more than one characteristic of giftedness ($n=34$)

	Unique characteristic of giftedness			Mixed characteristics of giftedness				Total
	<i>GL only</i>	<i>GS only</i>	<i>D48 only</i>	<i>GL+GS+D48</i>	<i>GL+D48</i>	<i>GL+GS</i>	<i>GS+D48</i>	
<i>n</i>	40	26	30	7	4	15	8	130

Note. GL: Gifted label; GS: Grade skipping; D48: top 10% score on D48

Table 2

Descriptive analysis of quantitative measure for 1) students with at least one characteristic associated with giftedness and 2) students with no characteristic of giftedness

	Characteristic of giftedness	N	Mean	SD
Peer connectedness	<i>no</i>	362	4.03	0.63
	<i>yes</i>	130	3.88	0.63
School life satisfaction	<i>no</i>	362	4.56	1.10
	<i>yes</i>	130	4.58	1.35

Table 3

Analysis of Peer Connectedness and School Life Satisfaction in Four Unique Conditions of Giftedness: Gifted Label, Grade Skipping, D48-Based Giftedness, and Nongifted

	Condition of Giftedness	<i>n</i>	Mean	<i>SD</i>	<i>SE</i>
Peer connectedness	<i>D48-based only</i>	30	4.10	0.47	0.09
	<i>Label only</i>	40	3.75	0.70	0.11
	<i>Grade skipping only</i>	26	3.82	0.52	0.10
	<i>Nongifted</i>	362	4.03	0.63	0.03
School life satisfaction	<i>D48-based only</i>	30	4.59	1.36	0.25
	<i>Label only</i>	40	4.33	1.26	0.20
	<i>Grade skipping only</i>	26	4.66	1.25	0.24
	<i>Nongifted</i>	362	4.56	1.11	0.06

Table 4

Hierarchical Regression of School Life Satisfaction Scores on Grade Level, Sex, Peer Connectedness Scores (PC), and Characteristics Associated with Giftedness (Gifted Label, D48 Score, and Grade Skipping)

Predictors	Model	β	SE	t	p
Grade (6 th -10 th)	step 1	0.72	0.10	7.02	< .001**
Sex		0.29	0.10	2.84	.005**
PC	step 2	0.35	0.08	4.36	< .001**
Label only		-0.18	0.18	-1.02	.309
D48-based only		0.03	0.20	0.13	.899
Grade skipping only		0.19	0.22	0.90	.369
PC * Label only	step 3	0.65	0.26	2.51	.012*
PC * D48-based only		0.11	0.43	0.26	.793
PC * Grade skipping only		0.68	0.42	1.60	.109

Note. ** $p < .01$. * $p < .05$. Step 1: Grade Level, Sex; Step 2: PC, Characteristics Associated with Giftedness; Step 3: Interactions of PC and Characteristics Associated with Giftedness.

