frontiers | Frontiers in Education

TYPE Original Research
PUBLISHED 24 March 2023
DOI 10.3389/feduc.2023.1036577

OPEN ACCESS

EDITED BY
Julien S. Bureau,
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Canada

REVIEWED BY
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Fukuyama City University,
Japan
Callie Little,
University of New England,
Australia

*CORRESPONDENCE
Thérèse Bouffard
✉ bouffard.therese@uqam.ca

SPECIALTY SECTION
This article was submitted to Educational Psychology, a section of the journal Frontiers in Education

RECEIVED 04 September 2022
ACCEPTED 16 February 2023
PUBLISHED 24 March 2023

CITATION
Bouffard T, Marquis-Trudeau A, Bonneville-Roussy A, Vezeau C and Pansu P (2023) Developmental trajectories of conditional parental regard and long-term association with students' academic functioning.
Front. Educ. 8:1036577.
doi: 10.3389/feduc.2023.1036577

Developmental trajectories of conditional parental regard and long-term association with students' academic functioning

Thérèse Bouffard[1]*, Audrey Marquis-Trudeau[1], Arielle Bonneville-Roussy[1], Carole Vezeau[1] and Pascal Pansu[2]

[1]Department of Psychology, Université du Québec à Montréal, Montreal, QC, Canada, [2]Department of Psychology, Université Grenoble Alpes, LaRAC, France

To feel unconditional love and acceptance from parents is a need which fundamental character is widely recognized. This article presents the results of a longitudinal study which first objective is to identify trajectories of change in perceived parental support conditional on academic success over a 5-year period. The second objective examines whether students' gender, mental ability, and parental education predict membership in the trajectories and the third examines whether students' academic functioning differs according to their membership to different trajectories 1 year later, when they were in Secondary 5. A sample of 776 students (371 males) reported their perception of conditional parental support yearly from grade 6 to Secondary 4. In Secondary 5, they answered a questionnaire on their academic motivation, self-regulation, test anxiety and intention to drop out. Teachers also reported their perceptions of the participating students' academic motivation and self-regulation and rated their academic performance. Results of latent class growth analysis (LCGA) shows that the most optimal model identified three patterns of change in students' perceptions of their parents' conditional support. Students' gender, mental ability, and parental education do not predict membership in trajectories. Results of the BCH procedure indicate that whether self-reported or teacher-reported, the academic functioning of students in the low perceived conditional support trajectory was superior to that in the other two trajectories. These results add evidence that parents can have a long-term impact on children's academic functioning and underscore the need to educate parents about the importance of avoiding associating their support and regard with their child's academic performance.

KEYWORDS

conditional support, academic functioning, developmental trajectories, adolescence, person-centered approach

Introduction

To feel loved and accepted by others is a need whose fundamental character is widely recognized. This is even truer when it comes to parents: the quality of parent–child relations is a significant factor in the children's harmonious development and adaptive school functioning (Grant et al., 2000; Cauce et al., 2003; Woolley and Bowen, 2007; Assor and Tal, 2012; Makri-Botsari, 2015). Children's perception of being loved unconditionally by their parents in any situation is an important characteristic of a good parent–child relationship. However, some

children feel loved and supported only if they respect the rules set by their parents, behave according to their desires and reach the standards of performance they expect of them. These children receive what is called "conditional parental regard." Conditional parental regard is usually seen as domain-specific. In this study, we focus on the academic domain.

To date, numerous studies have documented a variety of deleterious outcomes associated with using conditional parental regard the academic domain, but most of them are issued from cross-sectional correlational data. The concept of conditional parenting refers to the perception of children, not to what parents really do. Developmental psychology has well documented the fact that with age and cognitive development, the person's conceptualization of the same phenomenon change (Bouffard et al., 1998). For example, a compliment from a parent seen as positive feedback by a young child may be seen years later as an attempt to control them. From this perspective, one might think that a young person's perception of conditional parental regard may change over time. This may be particularly the case in adolescence, a developmental period where youths assert their growing need for autonomy, which requires renegotiating their relationships with their parents (Laursen and Collins, 2004). According to Grolnick (2012), not all parents manage to respond adequately to the new needs of their child. Some parents react by using more power-assertive and controlling practices that allow for less autonomy granting and do not satisfy a particular need in adolescent but relate to compliance and parents' control. Adolescents can discriminate between legitimate and illegitimate authority and control (Gingo et al., 2017).

Due to the general non developmental nature of prior studies on the perception of conditional parental regard, important questions have not yet been explored. Does the perception of parental conditional regard change during adolescence? Are these changes the same for everyone or are there different trajectories? Are different trajectories linked to different outcomes? This article presents the results of a six-year longitudinal study that used latent class growth analysis to track changes in children's perception of conditional parental regard throughout five consecutive years from grade 6 to grade 11. It also examines whether belonging to different trajectories is related to their school functioning 1 year later at grade 12.

Conditional parental regard

The distinction between conditional and unconditional love is not new. As early as 1959, Rogers suggested that some people feel accepted and loved for who they are as a person and not for what they do, while others feel loved and accepted for their success in meeting the expectations that others have of them. Harter (1999, 2012) has taken up the concept of conditionality proposed by Rogers and defines it in turn as children's perception of being loved and supported only when they behave according to their parents' generally high and sometimes unrealistic expectations. These children do not feel that their parents' love and support is free but believe that they must earn it by meeting their expectations and demands. When they succeed in doing so, they feel that their parents show them more warmth and affection; when they fail, they feel they show them less.

Conditional parental regard operates as a psychological control on children: their feelings of guilt and the withdrawal of affection from their parents when they fail to act as desired make them feel manipulated (Grolnick, 2003; Grolnick and Pomerantz, 2009). Parents' psychological control practices undermine children's intrinsic motivation and their need for autonomy, hinder the development of their perceived academic competence and behavioral self-regulation, instigate the fear of failure, deteriorate their school grade and performance and make them feel disrespected by their parents (Deci and Ryan, 1985, 2002; Barber, 1996; Soucy and Larose, 2000; Bean et al., 2003; Elliot and Thrash, 2004; Barber et al., 2012; Maltais et al., 2021). According to Assor (2018), conditional parental regard reflects a form of psychological control, but it differs from the latter by the presence of intrusiveness and blame from which children cannot escape. It would lead to an introjected regulation of behavior; to gain parental affection or avoid losing it, children feel pressured to act as expected (Brambilla et al., 2015; Israeli-Halevi et al., 2015). They come to disavow or deny those parts of themselves that are different from those valued by their parents, manipulate their public image, and engage in false-self or inauthentic behaviors (Harter et al., 1996; Harter, 2012). Parental expectations are thus transformed into compelling self-evaluation standards: children judge that their personal value is equal to their ability to meet these standards (Assor et al., 2004, 2009; Harter, 2012). In this way, conditional regard would conduct to the development of self-esteem that is contingent on meeting the standards set by others (Assor et al., 2004; Kollat, 2007; Curran et al., 2017; Øverup et al., 2017; Curran, 2018; Otterpohl et al., 2021) which is, according to various authors, weak and unstable (Leary and Baumeister, 2000; Crocker and Wolfe, 2001). Finally, because children may interpret parents' pressure to behave in a specific way as their lack of confidence in their child' ability to behave correctly on their own, this can arouse negative emotions toward the parents.

Conditional parental regard can manifest itself in a variety of areas of child functioning, including the school domain. There is a consensus on the value placed on education as a sure path to success and social status. Thus, it is one of the most important areas for parents likely to generate conflicts and discord with their children (Smetana et al., 2016), leading the latter to believe that parental love depends on their success in school (Harter, 2012). This belief leads children to feel pressure to behave and perform as well as their parents want them to, accompanied by an ongoing sense of threat to alienate their support if they fail to do so.

Conditional parental regard and academic outcomes

Children who benefit from an attitude of acceptance, warmth, and respect in all circumstances from their parents, who evolve in an environment free from all external judgment, can live and reflect on their emotional experience in a safe space that allows them to use their resources and realize their full potential (Rogers, 1968; Harter, 2012; Assor, 2018; Proctor et al., 2021). Difficulties and errors are inherent in school learning situations, making it a context that requires unconditional regard to enable children to use their abilities and meet challenges. Conditional parental regard linked to academic success would lead children to become involved in their learning activities without real interest or personal importance, but because they feel compelled to do so (Roth et al., 2009; Assor, 2018). Furthermore, some of the children's mental resources are diverted to the fear of failure and

thus losing their parents' love. This can make them less cognitively available to mobilize their cognitive and metacognitive resources and thus self-regulate their learning (Bartels and Magun-Jackson, 2009).

Various studies suggest that conditional parental regard on academic achievement relates to student academic outcomes, including motivation, self-regulation, test anxiety, and attitudes toward dropping out (Bartels and Magun-Jackson, 2009; Roth et al., 2009; Assor et al., 2014; Bouffard et al., 2015). Perceived parental regard conditional on academic success and emotional control was related to resentment toward parents, which was associated with poorer control of negative emotions and disengagement from school among high school students (Roth et al., 2009). Others have shown, also among high school students, that conditional parental regard was linked to excessive feelings of pride following academic success and guilt and shame about failure, which in turn were associated with a tendency to over-invest in school (Assor and Tal, 2012). High school students' perceptions of parental and teacher regard conditional on academic achievement were negatively associated with their academic motivation (Makri-Botsari, 2015), which is considered by several authors to be necessary for the exercise of active self-regulation (Schunk and Usher, 2012; Schunk et al., 2014). Côté et al. (2014) showed that conditional regard, both student-perceived and parent-reported, negatively related to students' self-regulation as assessed by their teachers. Other researchers also linked the development of children's self-regulation and emotionally positive parent–child relationships (Brody and Ge, 2001).

Because of the perception that parents' love depends on their ability to do as well as they want, it is likely that this conditional regard promotes the presence of student test anxiety due to fear of failure (Bouffard et al., 2015; Otterpohl et al., 2019). Test anxiety arises when failure is perceived to have adverse consequences and students perceive that the outcomes of actions they think they can take to avoid it are uncertain. Some students become so anxious and uncomfortable at school that they develop a sense of academic alienation and a positive attitude toward dropping out of school (Assor, 2012). Actual dropping out is generally not the result of an impulse or thoughtless action (Christenson and Thurlow, 2004; Rumberger, 2011). This is preceded by a period of disengagement of varying lengths in which the student experiences negative emotions and dispositions toward school, has little interest in what is happening there, has a low sense of belonging to the school, and feels out of place (Alexander et al., 1997; Sameroff and Fiese, 2000; Rowe et al., 2007; South et al., 2007). Contemplating the idea of dropping out of school as a lifeline, a way out of discomfort and anxiety is likely to increase the likelihood of actually doing so (Janosz et al., 2013). Few studies have examined the relationship between conditional parental regard and positive attitudes toward dropping out. Itzhaki et al. (2018) showed that boys aged between 14 and 21 who had dropped out of school early reported higher perceptions of conditional parental regard than those with a mentor or receiving help because they risk dropping out of school and those enrolled in a program for dropout students. Less directly, Côté and Bouffard (2011) showed that conditional parental regard was associated with a negative self-evaluation bias of academic competence and lower achievement, both of which are risk factors for dropping out of school (Janosz et al., 1997; Mahoney and Cairns, 1997; Vallerand et al., 1997; Archambault et al., 2009a,b).

In sum, different studies showed that conditional parental regard for academic achievement is associated with poorer academic outcomes and premature dropout. However, these studies simultaneously measured perceived conditional parental regard and indicators of academic functioning, with the student also typically being the sole informant. This raises the problem of shared common variance, which makes it difficult to assess the validity of observed relationships that may be artifactual due to the contemporary nature of the measurement of the phenomena.

Longitudinal studies of conditional parental regard

According to our review of the literature, few longitudinal studies have been conducted on changes in perception of conditional parental regard whatever its domain of reference. In the Hascoët (2016) study, which lasted only 2 years during the primary-secondary transition, the perception of conditional parental regard based on academic success was low and stable over the entire period. In the cross-sectional study of Seidah (2004) among students in Secondary 1, 3, and 5, those in Secondary 1 perceived lower conditional parental regard than their peers in Secondary 3 and 5, who did not differ. As mentioned earlier, adolescence is a developmental period when children's quest for more autonomy can lead them to wrongly interpret parental behaviors or expectations as attempts to control them. Thereby, the increased importance that some parents place on academic performance when their child enters secondary school may lead some young people to perceive higher conditional regard from their parents (Midgley et al., 1995; Anderman and Midgley, 1997; Bouffard et al., 2001). We found no longitudinal study that investigated whether children's perception of conditional parental regard evolves with time and whether different profiles of evolution are linked to different outcomes. Thus, it is unclear whether the perception of conditional parental regard is momentary or stable, how it may change over time, and whether different developmental trajectories are associated with different aspects of a student's academic functioning. The longitudinal approach used in this study makes it possible to answer these questions and to examine the long-term sequelae of various profiles of conditional parental regard as proposed by others (Haines and Schutte, 2022; Steffgen et al., 2022).

The present study

The study covers a six-year period that began when participants were in grade 6 (the last year of elementary school in the Quebec educational system) and ended when they were in grade 11. The objectives are twofold. The first objective is to examine the patterns of change in students' perceptions of conditional parental regard assessed once a year at spring time during five consecutive years from grade 6 to grade 10. Given the lack of prior longitudinal studies, it is difficult to postulate the precise form of potential trajectories. Thus, this study is largely exploratory. However, based on Hascoët (2016) study, we expect to observe a trajectory of relatively low and stable perception of conditional parental regard. As research showed that a majority of young people perceived weak parental psychological control throughout adolescence (Roth et al., 2009; Assor and Tal, 2012; Rogers et al., 2020; Steffgen et al., 2022), this trajectory should include most of the students. Also, following the results of Seidah (2004), and

because some parents place growing importance on academic performance when their child enters secondary school, we expect a trajectory in which the perception of conditional parental regard should increase throughout the study.

Results from some studies have shown that boys perceive higher parental conditional regard than girls do (Côté and Bouffard, 2011; Bornstein, 2013; Côté et al., 2014), but others have found no difference between boys and girls (Israeli-Halevi et al., 2015). Students with weaker intellectual abilities tend to be less successful at school; their parents may be inclined to use more psychological control as conditional regard to promote their success (Gottfredson, 2002; Deary et al., 2007; Laidra et al., 2007). Some authors report that socio-economic status, particularly parents' education, is linked to more controlling parenting style (Coleman and Karraker, 2000; Benner et al., 2016) and students' academic functioning (Stull, 2013; Choi et al., 2015; Wiederkehr et al., 2015). Overall, these studies suggest that having lower academic ability and less educated parents may contribute to boys' greater perception of conditional support from their parents. However, they do not provide information on how these factors may play a role in shaping this perception, and the lack of previous studies does not allow for any specific predictions on this issue. Thus, just as it was unwarranted to hypothesize with certainty the number and shape of expected trajectories, so was it unwarranted to predict how covariates could affect the likelihood of belonging to these trajectories. Thus, students' gender, academic ability, and parents' education were used as covariates to explore whether and to what extent they predict membership in the trajectories.

The second objective examines if students' academic functioning when in grade 11 differs according to their belonging to the trajectories. Based on cross-sectional studies on academic correlates of students' perception of their parents' conditional regard (Bartels and Magun-Jackson, 2009; Roth et al., 2009; Assor and Tal, 2012; Assor et al., 2014; Bouffard et al., 2015), we predict that students in the low and stable trajectory of conditional parental regard will have better academic functioning than those in the other trajectories. In this study, the academic outcomes to assess academic functioning are students' reported motivation, self-regulation, test anxiety, and positive attitudes toward dropping out, and teachers' reports of students' motivation, self-regulation, and academic achievement. In the Quebec educational system, in secondary school, there is a designated teacher responsible for a group of students. This teacher usually delivers teaching in one of the core subjects and spends more time in contact with students than teachers of specialized disciplines. Thus, those teachers provided the rating for students assigned to their group.

Materials and methods

Sample and procedure

This study is part of a large-scale longitudinal project on the school functioning of students conducted between 2005 and 2012. At the beginning of the project, students ($N = 801$) were in grade 4 or 5 and attended nine public schools in the Greater Montreal area (Quebec, Canada). All teachers, parents, and students completed a consent form approved by the University du Québec à Montréal's ethics committee. The acceptance rate of parents was just over 95%. According to the indices of disadvantage calculated each year by the Ministry of Education and Higher Education (MEES) of Quebec, two of those schools served families from low socio-economic backgrounds, five from average socioeconomic backgrounds and two from high socioeconomic backgrounds. Once in secondary school, students attended 25 different schools: 18 were public schools (including a vocational training center and a school for students with learning difficulties) and seven were private schools. Thus, the sample of this study is normative and not representative of disabled, neuroatypical nor students of different ethnic groups.

After removing the students who did not filled out the scales of conditional parental regard at any of the five measurement times, the sample included in the analyses comprises 776 students (371 males). The data are aligned so that all students are in grade 6 at T1 of this study (mean age = 12.4 years old, SD = 0.52). Socio-demographic data are available for 640 families, and they concern the nationality and the age of the responding parent (the mother in 87.8% of cases), the level of education of each parent, the number of children in the family and the annual family income. The vast majority of parents reported being Caucasian (90.7%), 1.3% reported being Haitian or Asian and 8% refused to answer. The age of the responding parent ranged from 28 to 55 years and averaged 38.9 years (SD = 4.69). Among the parents, 24.3% of fathers and 22.5% of mothers had a university degree, and 24.6% of fathers and 36% of mothers had a college diploma. 30.1% of fathers and 23.6% of mothers had a secondary school diploma, and 18% of fathers and 15.7% of mothers had a vocational diploma. Finally, 3% of father and 2.2% of mother had no qualifying diploma. 11.3% of families had one child, 52.4% had two, 27.4% had three, and 8.9% had four or more. The annual family income in Quebec in 2005 was 58,000$ (Institut of Statistic of Quebec, 2005). 12.6% of the parents refuse to report their annual family income. Of those who responded, 7.4% had an income of $30,000 or less, 7.6% had an income between $30,000 and $40,000, 11.6% between $40,000 and $50,000, 13.5% between $50,000 and $60,000, 12.5% between $60,000 and $70,000, and 47.4% had an income greater than $70,000.

Using the sample of 776 participants, we performed attrition analyses on the outcome measures. ANOVAs analyses comparing students who did not complete the last measure of conditional regard at T5 ($n = 214$) and those who did so ($n = 562$) revealed that they did not differ significantly on their self-reported motivation, self-regulation, school anxiety, and attitudes toward dropout ($p_s > 0.10$). Students who did not complete T5 had slightly lower scores on motivation as reported by the teacher ($p < 0.04$) than those who did. However, they did not differ significantly on self-regulation and academic achievement ($p_s > 0.10$) as reported by the teacher. A similar number of boys as girls did not complete the measure of conditional regard at T5. The percentage of missing data was 20.03% over the T1 to T5 measurement times of conditional regard and Little's Missing Completely at Random test indicated that the data were missing completely at random, $\chi^2(68, N = 776) = 74.76$, $p = 0.27$.

At each spring of the longitudinal project, the students filled in questionnaires in collective sessions in their respective classes during school hours. Trained research assistants and psychology university students tested the students. At the beginning of each administration, the experimenter reminded them of the confidentiality of their responses and their right to refuse to answer or to stop at any time, without consequences. To increase the aspect of confidentiality, once

their questionnaire was completed, the students put it in an envelope that they sealed before giving it to the experimenters.

The scales of interest for the present study were included as a part of the testing battery of the large-scale longitudinal project. One experimenter read each question aloud while a second experimenter walked around the classroom to answer any questions and to ensure that students were keeping up. From grade 9, the students filled out the questionnaire at their own pace. We randomly distributed the items relevant to the present study among those of the broader study. This prevents the students from trying to be consistent in referring to previous responses to items of the same variable and thus adds to the credibility of the internal consistency. The whole session lasted approximately 50 min. The responding teachers answered their questionnaire about each of the participating students assigned to their group and returned it to the laboratory by mail.

Measures

Students' gender and mother and father education

Gender (males = 1, females = 2) and mother and father education (no diploma = 1, vocational diploma = 2, secondary school diploma = 3, college diploma = 4, university diploma = 5) were recorded at Year1 of the larger longitudinal project.

Academic ability

At Year-1 of the broader longitudinal project, the French version (Sarrazin et al., 1983) of the standardized Otis-Lennon Ability Test was used to measure students' mental ability. This test is administered in groups and evaluates aspects of intelligence and draws on general knowledge, vocabulary, the ability to manipulate series and sets, and mathematics. The total number of correct answers is converted into a school ability index (SAI), according to the student's chronological age (mean score = 101.63, SD = 10.58). The longitudinal stability of the academic ability test has been established in previous studies, so it was deemed unnecessary to assess it every year (Bouffard et al., 2011).

Students' report

The answer format for each instrument was the same, namely a Likert-type scale ranging from 1 (not at all) to 4 (entirely), measuring the extent to which students deemed themselves to be similar to the fictitious student described in each item.

Conditional parental regard (T1-T5)

The conditional character of parental regard was measured yearly from grade 6 to grade 10 using seven items of the Parental Support Subscale of Harter and Robinson's Approval Support Scale for Children (Harter and Robinson, 1988) translated into French using the translation back-translation method. The instructions told students to indicate which parent was most involved in their school life and to answer the items according to this parent. 88% of students indicated their mother as the parent most involved in their school life. The average score for the items is calculated, and the higher the result, the more it indicates that students feel that their parents' regard depends on meeting their expectations. A sample item is: "This student believes that their parents will not love them as much if they make mistakes." The internal consistency was satisfactory across the five measurement times (α ranged between 0.78 and 0.86). Longitudinal invariance testing is presented in the Results section and Table 2.

School functioning at grade 11

Motivation

The general subscale of the Children Intrinsic Motivation Inventory of Gottfried (1985) served to assess students' academic motivation. Gottfried et al. (2001) verified and showed the validity of items for young people aged 9, 10, 13, 16, and 17. An example of the five items used follows: "This student keeps working on a problem until they understand it." The internal consistency is satisfactory (α = 0.77).

Self-regulation

Students' self-regulation was assessed using the Self-regulated Questionnaire (Bouffard et al., 1995). Among the 20 items, seven concern means students used to acquire knowledge and solve problems ("When encountering a difficulty or a problem, this student tries to find a solution"). The internal consistency is satisfactory (α = 0.79). Another group of eight items refers to study strategies students used when studying material, as in the following sample statement: "When studying, this student set specific objectives to reach." Internal consistency is satisfactory (α = 0.86). Finally, five other items concern students' organization of time to deal with learning activities like in the following example: "Most of the time, this student waits until the last minute to study for their exams and homework." Internal consistency is satisfactory (α = 0.79). As the relations between the three categories were high (r = 0.67), an average score of self-regulation was computed, and the internal consistency is satisfactory (α = 0.88). The higher this score, the higher the level of self-regulation.

Test anxiety

Students' test anxiety was measured using five items (α = 0.84) from Govaerts and Grégoire (2008) slightly reformulated to apply to academic evaluation. Here is a sample statement: "This student is worried when they know that a test is coming up." The average score for these items was then calculated, and the higher the result, the more it indicates that students experience test anxiety. Internal consistency is satisfactory (α = 0.83).

Attitudes toward dropout

Attitudes toward dropout refer to students' feelings that schooling has no value, that school learning is not meaningful to them, and that they are out of place at school. We used five items drawn from Galand and Philippot (2002) as the following: "This student thinks school is not made for them." The internal consistency for the present study is satisfactory (α = 0.79).

Teachers' report

Teachers' report of students' school functioning at grade 11 comprises three indicators: their perception of students' motivation, self-regulation and academic achievement. For both motivation and self-regulation, teachers rated on a three-point scale (0, never or rarely, 1, sometimes, and 2 almost always or always), how often the student shows each behavior described in the statements.

Motivation

We assessed teachers' perception of students' motivation with the same five items used to assess students' motivation. The internal consistency is satisfactory ($\alpha = 0.94$).

Self-regulation

Several cognitive and metacognitive self-regulation strategies used by students are internal processes that are not easily accessible to observation by others. Thus, for teachers to assess students' self-regulation, we selected from the Self-regulated Questionnaire (Bouffard et al., 1995) seven items that tap into the students' overt use of planning, effort to solve problems before help-seeking, perseverance in the face of difficulty, sustained attention, etc. An example follows: "This student organizes themselves in order to finish their work on time." The internal consistency is satisfactory ($\alpha = 0.95$).

Academic achievement

Given the varying evaluation practices used in different schools of the Quebec educational system, the quality of academic achievement was assessed by asking the teacher to answer the following question: "In your opinion, compared to his/her classmates, the academic results of this student are." Teachers indicated their response on a six-point Likert scale as follows: very poor (1) poor (2), average (3), good (4), very good (5), and excellent (6).

Data analysis strategy

First, the measurement model for perception of conditional parental regard was tested based on the items of measurement at grade 6–10. Then, we performed longitudinal measurement invariance across the five time points to ensure that students understood the conditional parental regard questions in a similar way over the years. To evaluate the adequacy of the theoretical model to the data, we used the following indicators of model fit: chi-square ($\chi 2$); comparative fit index (CFI) and Tucker-Lewis Index (TLI), with values >0.90 deemed adequate, and > 0.95 excellent; standardized root-mean-square residual (SRMR), with values <0.08 considered adequate; and root mean square error of approximation (RMSEA) less than <0.08 (or less than 0.05 for an excellent fit), with the lower-bound confidence interval closest to zero (0) and the higher-bound confidence interval less than 0.10 (Wang and Wang, 2019). Although we report χ^2, this fit index tends to favor small samples, therefore, is likely to always be significant with complex models and large samples (Wang and Wang, 2019). To compare the adequacy of a more restrictive model, we used delta values of change between a more restrictive and a less restrictive model, according to Chen (2007). A non-significant chi-square change ($\Delta\chi^2$) indicates that the more constrained model fits the data as well as a less constrained model (though $\Delta\chi^2$ is also sensitive to sample size, with the index likely to be significant with large samples). Chen (2007) also indicates that a change in CFI and TLI equal to or less than 0.010 complemented by a change of less than 0.015 in RMSEA and SRMR would indicate invariance within the adequate threshold. The parameters of the models were estimated using the Maximum Likelihood estimator. Missing data were accounted for using Full Information Maximum Likelihood using the Mplus software version 8.6 (Muthén and Muthén, 2017).

Then, the approach of latent curve trajectory models (Muthén, 2002; Jung and Wickrama, 2008) served to examine the objectives of the study. We used a semi-parametric group-based modeling strategy to verify the presence of latent longitudinal classes of students sharing a similar initial level of conditional regard and the same change pattern from grade 6 to grade 11. We estimated models in Mplus v.8.1 *via* latent class growth analysis (LCGA) in which individual variation across time is considered to be homogenous in each sub-group (Muthén and Muthén, 2000). We treated time as a fixed parameter in the models. The time points were fixed incrementally based on the equidistant spacing between each assessment session (e.g., spring of Grade 6 fixed at 0, spring of Grade 7 fixed at 1, etc). We carried out the LCGA models using the maximum likelihood with robust standard errors estimator (MLR), which is robust to non-normality in the data. As missing at random (MAR) was the likely missing data mechanism, full information maximum likelihood (FIML) was used to accommodate missing data. We compared models comprising two, three, four, and five classes. To determine the most optimal model, we used the Bayesian information criterion (BIC), the adjusted Bayesian information criterion (SSABIC), the Bayesian information criterion (AIC), the Lo–Mendell–Rubin Likelihood Ratio Test (LMR LRT), the Vuong-Lo–Mendell–Rubin likelihood ratio test (VLMR LRT), the bootstrapped likelihood ratio test (BLRT) ($p < 0.05$), entropy and the posterior probabilities of latent class membership. The smallest absolute values of BIC, SSABIC and AIC indicate the best model in the data. Non-significant LMR-LRT and BLRT suggest that adding one class to a given model does not provide a better fit. The entropy summarizes the classification precision and values close to 1 indicate higher classification precision with values higher than 0.8 indicating good classification. The posterior probability of latent class membership allows determining the models' classification precision and values lower than 0.8 suggest classification uncertainty. Then, we incorporated students' gender, SAI, and parents' education as covariates directly into the model to estimate their likelihood of affecting membership into the various trajectories using multinomial logistic regression. The regression coefficients represent the importance of the predictors on the log odds of the outcome (i.e., the probability of membership in one profile versus another in a pairwise comparison) that can be expected for a one-unit increase in the predictor.

Finally, to test the equality of means between profiles for each variable of school functioning reported by students and teachers, we applied the automatic BCH approach in Mplus 8. This method is recommended by Asparouhov and Muthén (2014) when latent profiles are used to predict continuous distal variables. In addition, unlike alternative methods, it avoids latent class changes at the last step of model estimation because it uses a weighted multi-group analysis, in which groups correspond to latent classes.

Results

Descriptive statistics

Table 1 displays the means and standard deviations of students' perception of conditional parental regard at five time points, potential covariates and academic variables, as well as Pearson correlation coefficients between all variables. Stability over time between the adjacent time-points of the conditional regard measures varied between $r = 0.24$ and $r = 0.62$. Results indicate that most of the relations between conditional regard and academic functioning variables are statistically significant, and these relations are in the expected

TABLE 1 Descriptive statistics and bivariate correlations between all variables.

	M	*SD*	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15
1. CR T1	1.39	0.54	–														
2. CR T2	1.48	0.59	0.42**	–													
3. CR T3	1.51	0.64	0.31**	0.52**	–												
4. CR T4	1.58	0.64	0.24**	0.50**	0.57**	–											
5. CR T5	1.56	0.62	0.26**	0.48**	0.54**	0.62**	–										
6. Gender	0.52	0.50	−0.06	−0.01	−0.01	−0.07	−0.05	–									
7. SAI	102.6	10.7	−0.11**	−0.05	0.02	−0.03	0.02	0.03	–								
8. FEdu	2.40	1.22	−0.06	−0.03	−0.01	0.06	0.11*	−0.05	0.19**	–							
9. MEdu	2.57	1.16	0.01	0.01	−0.01	−0.03	−0.01	−0.03	0.20**	0.46**	–						
10. Mot	2.82	0.54	−0.05	−0.17**	−0.17**	−0.13**	−0.18**	0.13**	0.12**	0.10	0.09	–					
11. SReg	2.45	0.80	−0.13**	−0.15**	−0.16**	−0.17**	−0.17**	0.15**	0.03	0.12*	0.16**	0.63**	–				
12. Anx	2.07	0.67	0.13**	0.07	0.10*	0.08	0.14**	0.21**	−0.10*	0.04	0.04	−0.12**	−0.09*	–			
13. Adrop	1.81	0.63	0.15**	0.12*	0.11*	0.18**	0.20**	−0.20**	−0.13**	−0.14**	−0.14**	−0.58*	−0.50**	0.09	–		
14. TMot	1.38	0.55	−0.03	−0.06	−0.08	−0.11*	−0.16**	0.25**	0.15**	0.10*	0.10*	0.35**	0.35**	0.03	−0.29**	–	
15. TReg	1.39	0.59	−0.03	−0.06	−0.06	−0.11*	−0.14**	0.33**	0.21**	0.12**	0.12**	0.29**	0.29**	0.03	−0.35**	0.79**	
16. AAchie	3.40	0.81	0.08	0.07	0.04	0.06	0.07	0.16	0.21	0.07	0.06	0.23**	0.24**	−0.09	−0.19**	0.40**	0.45**

CR T1, conditional regard time 1; CR T2, conditional regard time 2; CR T3, conditional regard time 3; CR T4, conditional regard time 4; CR T51, conditional regard time 5; Gender, boy = 0, girl = 1; SAI, school ability index; FEdu, Father's education; MEdu, Mother's education; Mot, motivation; SReg, self-regulation; Anx, test anxiety; Adrop, attitudes toward dropout; TMot, motivation reported by teacher; TReg, self-regulation reported by teacher; academic achievement. $^{**}p < 0.01$; $^{*}p < 0.05$.

10.3389/feduc.2023.1036577

TABLE 2 Results of the longitudinal measurement invariance analysis of the conditional regard questions measured at T1, T2, T3, T3, and T5.

Model	χ2	CFI	TLI	RMSEA	SRMR	$\Delta\chi$2	ΔCFI	ΔTLI	ΔRMSEA	ΔSRMR
1a. Configural	417 (215)	0.966	0.952	0.035	0.035	–	–	–	–	–
1b. Metric	616 (235)	0.935	0.918	0.046	0.065	199	0.031	0.034	−0.011	−0.030
1c. Partial metric	490 (231)	0.956	0.943	0.038	0.047	73	−0.010	−0.009	0.003	0.012
1d. Scalar	700 (242)	0.922	0.903	0.050	0.052	210	−0.034	−0.040	0.012	0.005
1e. Partial scalar	554 (240)	0.947	0.933	0.041	0.044	64	−0.009	−0.010	0.003	−0.003

In Model 1c., four factor loadings (out of 25 loadings) were allowed to be freely estimated between time points. In model 1e, intercepts of two items at T-1 were allowed to be freely estimated (out of 25 intercepts). All the $\Delta\chi$2 are significant at $p < 0.001$.

direction. Table 1 also reveals that students' perception of conditional regard is generally unrelated to their gender and SAI, and to parents' education levels. However, students' gender, SAI, and both mothers' and fathers' education levels relate significantly to all variables of academic functioning although these relations are mainly weak.

The scale of conditional parental regard had an excellent model fit at each year of measurement: Grade 6: χ^2 ($df = 5$) = 12.11, $p = 0.04$; *CFI* = 0.988; *RMSEA* = 0.03; Grade 7; χ^2 ($df = 5$) = 4.39, $p = 0.49$; *CFI* = 1.00; *RMSEA* = 0.000; Grade 8: χ^2 ($df = 5$) = 11.85, $p = 0.03$; *CFI* = 0.99; *RMSEA* = 0.01; Grade 9: χ^2 ($df = 5$) = 11.11, $p = 0.03$; *CFI* = 0.988; *RMSEA* = 0.01; Grade 10: χ^2 ($df = 5$) = 8.31, $p = 0.09$; *CFI* = 1.00; *RMSEA* = 0.03. We tested the longitudinal measurement invariance hypothesis by examining the stability of the factor structure of the conditional regard scale over time (T1 through to T5). Model fit information and their delta difference tests are reported in Table 2. We applied increasing equality constraints to test the longitudinal invariance as reported above. In the first step (model 1a in Table 2), the five-item structure of the scale was applied to all the time points. Thresholds for model adequacy of the configural solution were met, with an excellent fit of the model to the data, $\chi^2_{215} = 417$, $p < 0.001$, CFI = 0.97, TLI = 0.95, RMSEA = 0.035 (95% C.I. 0.030–0.040), SRMR = 0.035. This means that the factorial structure remained equal over time. Test of metric invariance (Model 1b) revealed significant changes in CFI, TLI, RMSEA and SRMR when all factor loadings were constrained to equality. Therefore, full metric invariance was not supported. We performed partial metric invariance (Model 1c) by allowing the loadings of two items to be freely estimated (the first item at only one time point and the second item at three time points) which yielded an adequate solution. As can be seen in Model 1d (Table 2), scalar invariance stemming from constraining the item intercept to equality with the results of the partial metric model was not supported. Results of the partial scalar invariance testing (Model 1e) revealed that two item intercepts needed to be freed at T1 in order to achieve invariance. From these results, we can conclude that the conditional regard scale used in this study is partially time-invariant at the scalar level. These results support the use of the conditional regard scale in our latent trajectory classes.

Defining the latent trajectory classes

Analysis of the single-class trajectory of conditional regard indicated that a quadratic model fit the data, $\chi^2(6, N = 776) = 4.77$, $p = 0.57$, CFI = 1.00, TLI = 1.00, RMSEA = 0.01, SRMR = 0.02. Then, we determined the number of homogenous latent classes using model fit information. Table 3 displays fit information for the models with two, three, four, and five classes. The fit indices of the model with three growth trajectories were excellent: entropy was 0.89, the values of the LMR-LRT and the VLMR-LRT were both significant, and the posterior probability of belonging to a trajectory was greater or equal to 0.90. The model with four trajectories had a better AIC, BIC and SSABIC when compared to the three classes and the values of the LMR-LRT and the VLMR-LRT remained significant. However, the fourth class did contain only 2.4% ($n = 19$) of students. Therefore, taking into account the conceptual clarity of the models, as well as the number of participants included in each trajectory (< 5% of the sample; Nylund et al., 2007), we retained the unconditional quadratic LCGA with three latent classes.

Figure 1 depicts the developmental trajectories of conditional regard. As predicted, a "*Low stable*" trajectory represents 78.6% of students whose perception of conditional parental regard is low at baseline (Intercept: $M = 1.25$, $p < 0.001$), and remains relatively stable, although slightly more conditional over time (Linear slope: $M = 0.04$, $p < 0.04$; Quadratic slope: $M = -0.01$, $p = 0.47$). As also postulated, an "Increasing" trajectory comprises 12.4% of students who have a low level of conditional parental regard at baseline (Intercept: M = 1.39, p < 0.001) that significantly increases over time (Linear slope: $M = 0.85$, $p < 0.001$; Quadratic slope: $M = -0.142$, $p < 0.001$). Finally, a "*Declining*" trajectory includes 9% of students whose high level of perception of conditional parental regard at baseline (Intercept: $M = 2.68$, $p < 0.001$) significantly decreases to a moderate level over time (Linear slope: $M = -0.48$, $p < 0.001$; Quadratic slope: $M = 0.08$, $p < 0.01$).

Predictors of membership to trajectories

We conducted a multinomial logistic regression to estimate the trajectory membership probability considering students' gender, SAI, and father and mother education. The results show that there is no significant relationship between any of these variables and trajectory membership.

Students' academic functioning according to their trajectory membership

Table 4 presents the means and standard deviations of students and teachers' report of variables of students' school functioning. There are significant differences across the latent trajectory classes for

TABLE 3 Model fit indices for 1–5 class solutions of latent trajectories of perception of conditional parental regard.

C	AIC	BIC	SSABIC	Ent	LMR LTR	VLMR LRT	Post. prob.	Smallest group
1	4833.07	4898.23	4853.77					
2	4832.51	4888.36	4850.25	0.87	805.65***	2822.21***	0.97/0.92	16.1%
3	**4608.14**	**4682.61**	**4631.80**	**0.89**	**223.95***	**2404.25***	**0.90/0.90/0.97**	**9.02%**
4	4449.85	4542.93	4479.42	0.89	160.27*	2288.07*	0.88/0.95/0.96/ 0.89	2.50%
5	4335.28	4446.98	4370.77	0.86	123.46	2207.69	0.88/0.97/0.83/0.87/0.93	2.06%

Fit information for the retained model is presented in bold typeface. C, number of classes; AIC, Akaike information criterion; BIC, Bayesien information criterion; SSABIC, Sample-size adjusted BIC; Ent, entropy; LMR LRT, Lo-Mendel-Rubin likelihood ratio test; VLMR LRT, Vuong LMR LRT. *$p < 0.05$; **$p < 0.01$; ***$p < 0.001$.

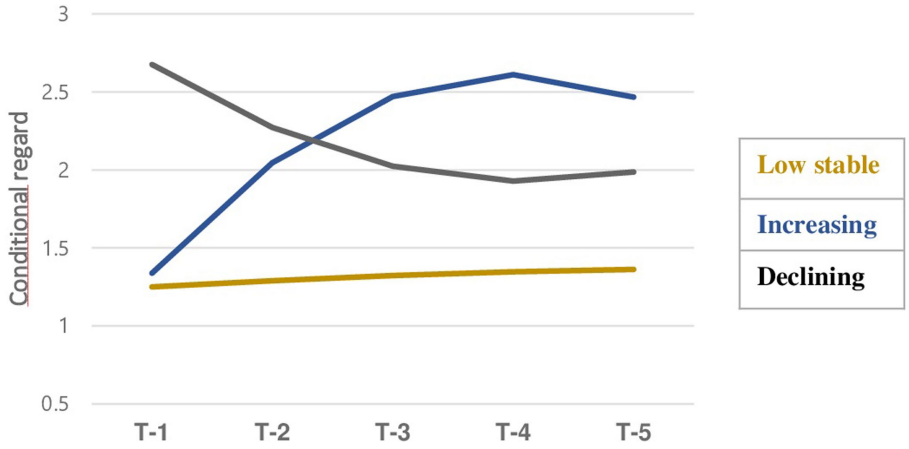

FIGURE 1
Latent growth trajectories of conditional support from T1 to T5. Low stable=78.6% of the sample; increasing=12.4% of the sample; declining=9% of the sample.

self-reported motivation, χ^2 (2, $N=776$) = 16.40, $p < 0.001$, self-regulation, χ^2 (2, $N=776$) = 20.37, $p < 0.001$, and positive attitudes toward dropout, χ^2 (2, $N=776$) = 16.83 $p < 0.001$, but not school anxiety, χ^2 (2, $N=776$) = 3.15, $p = 0.21$. There are also significant differences across the latent trajectory classes for teachers' reports of students' motivation, χ^2 (2, $N=776$) = 5.94, $p < 0.05$, and self-regulation, χ^2 (2, $N=776$) = 4.97, $p < 0.05$, but only marginally significant differences for academic achievement χ^2 (2, $N=776$) = 5.42, $p = 0.06$.

As expected, results indicate that compared to students from the Low stable trajectory, those in the Increasing trajectory report lower motivation. Students in the Increasing and Declining trajectories report lower self-regulation and more positive attitudes toward dropout than those in the Low stable trajectory. Students from the Increasing and Declining trajectories have similar scores on all variables. The teachers rate the motivation and self-regulation of students in the Increasing trajectory lower than those in the Low stable trajectory. Finally, they evaluate that the academic achievement of students in the Low stable group is marginally superior (p = 0.06) to that of students in the other two groups.

Discussion

The objectives of this five-year longitudinal study were two-fold. The first was to identify heterogeneous developmental trajectories of students' perceptions of conditional parental regard based on academic success while testing whether students' gender, academic ability, and their parents' education are involved in the belonging to trajectories. The second objective compared, 1 year later, students' academic functioning according to their membership in the different developmental trajectories observed. The variables of school functioning were obtained from two sources: the students themselves and their teachers.

Patterns of change in perception of conditional parental regard

The interest of the longitudinal and person-centered approach used in this study is to show that while the perception of conditional parental regard is well correlated from one measurement time to the next, there are three subgroups of students who evolve in different ways based on yearly assessments from grade 6 to grade 11. A majority of students follow a low-stable trajectory where they rarely perceive that doing well in school is a necessary condition to merit their parents' regard. This finding is consistent with that of others who observed that the majority of young people perceived weak parental psychological control throughout adolescence (Roth et al., 2009; Assor and Tal, 2012; Rogers et al., 2020; Steffgen et al., 2022). By showing that low perception of conditional parental regard is maintained

TABLE 4 Mean scores (standard errors) and equality tests of means across trajectory classes using the BCH procedure for academic outcomes.

	Class specification means			Wald χ^2 tests of mean equality		
	Increasing n=96	Declining n=70	Low stable n=610	Increasing vs. Declining	Increasing vs. Low stable	Declining vs. Low stable
Students' report						
Motivation	2.58(0.07)	2.73(0.09)	2.87 (0.03)	1.62	15.22***	1.95
Self-regulation	3.28(0.11)	3.46(0.12)	3.77 (0.04)	1.24	15.83***	6.09**
Anxiety	2.19(0.11)	2.18(0.10)	2.04 (0.04)	0.01	1.60	1.76
Dropout	2.10(0.09)	1.97(0.11)	1.74 (0.03)	0.72	13.47***	4.17*
Teachers' report						
Motivation	1.26(0.14)	1.38(0.14)	1.40 (0.05)	2.44	5.91**	0.11
Self-regulation	1.22(0.09)	1.36(0.09)	1.42 (0.03)	1.24	4.69*	0.46
Academic achievement	3.29 (0.20)	3.28 (0.27)	3.94 (0.27)	0.00	2.91~	2.98~

~ $p < 0.07$; *$p < 0.05$; **$p < 0.01$; ***$p < 0.001$.

throughout high school, it adds to Hascoët (2016) who reported that the perception of conditional parental regard for academic success was generally low and stable over 2 years during the primary-secondary transition.

As we predicted, a trajectory known as "Increasing" includes students whose weak perception of conditional parental regard in grade 6 increases abruptly at their arrival at middle school, and again slightly in subsequent years. This trajectory shows a pattern similar to that reported by Seidah (2004) in her cross-sectional study, where students in the late years of secondary reported higher conditionality in their parents' regard than those starting secondary school. However, this pattern is far from being a general developmental fact and characterizes a minority of students. Without data to verify this, students in this group may have more academic difficulties, causing their parents to insist on the importance of having better academic results. This hypothesis is consistent with studies that have shown that parents of less competent children use more controlling strategies, which undermines their performance (Pomerantz and Eaton, 2001; Grolnick et al., 2002; Grolnick, 2003). The growing perception of conditional parental regard may also reflect the higher importance some parents put on academic performance when students arrive at secondary school (Midgley et al., 1995; Anderman and Midgley, 1997; Bouffard et al., 2001). Although some children may interpret parents' expectations of achievement and performance goals as reflecting their appreciation of their competence, others may interpret them as a condition for their love and acceptance. Finally, in contrast to the previous group, we observe an unexpected trajectory where students perceive high conditional parental regard already in Grade 6, which declines slightly thereafter but remains moderate. In this group, which includes 9% of the students in our sample, the perception of high conditional regard in Grade 6 fades slightly the following year and remains moderate in the following 3 years. This shows that even in elementary school, some students feel that their academic success is among the factors that matter to their parents' approval. Even if this feeling diminishes slightly afterward, it remains present throughout secondary school. The first explanation for this downward trend is that the perception of these students being quite high, there was a greater chance that it would decline rather than the reverse. However, it may also signal that student have internalized the criteria initially set by their parents (Rogers, 1959; Harter, 1999, 2012; Assor et al., 2004). They then focus their attention more on their perception of themselves and their emotional world rather than on the regard of their parents. A third possibility is that while parents remain the most important source of support for school issues during adolescence (Harter, 1999), some students are exceptions and instead seek this support from their peers.

All that said, it must be remembered that conditional support is not an objective measure, but that perceived by the youth. This leads to the question of whether some personal characteristics of students shape how they perceive parental reactions. Is optimism, adaptability, openness, etc., lead to positive and sustained view of the relationship with one's parents? Similarly, is the lability in the perception of the relationship with parents due to a personal factor like emotional instability and dysregulation, nevrotism, difficulty in interpreting relational information, etc.? To date, research that has examined the relationship between conditional parental regard and personality variables has generally taken a correlational perspective that does not determine the direction of the relationship. A notable exception is Otterpohl et al. (2021) who used cross-lagged analyses to examine paths from conditional parental regard and contingent self-esteem in two studies with adolescent students. The authors reported that in both studies, students' contingent self-esteem predicted their perception of conditional parental regard, which they said supports their assumption of reciprocal effects of the constructs. They proposed a perspective where children act in such a way that brings their parents to show how child's efforts and performance matter to appreciate the child.

Finally, past research suggest that perception of conditional parental regard may be linked to student's gender, academic ability, or parents' education (Laidra et al., 2007; Côté and Bouffard, 2011; Bornstein, 2013; Stull, 2013; Choi et al., 2015; Israeli-Halevi et al., 2015). In this study, none of these variables is involved in the belonging to trajectories. Thus, being a boy or a girl, having more or less academic ability or more or less educated parents do not modify the probability of belonging to the trajectories of perceived conditional parental regard.

Trajectories of perception of conditional regard and school functioning

Previous studies have shown that conditional parental regard linked to academic achievement affects student academic functioning (Roth et al., 2009; Assor et al., 2014; Bouffard et al., 2015). However, the concurrent measurement of perceived conditional regard and indicators of academic functioning and the fact that the student was also generally the sole informant limit the scope of these studies. These studies also did not make it possible to know whether a temporary or more lasting perception of conditional parental regard by students is differently related to their school functioning.

We hypothesized that students with a low perception of conditional parental regard all over the 5 years from grade 6 to grade 10 would perform better academically than those in the other trajectories in grade 11. This hypothesis is only partially supported, as contrary to studies that reported an association between the perception of conditional parental regard and test anxiety (Bouffard et al., 2015; Otterpohl et al., 2019; Steffgen et al., 2022), in this study, there was no group difference in self-reported test anxiety and in academic achievement as judged by their teachers. It is likely that differences in the methodology of this study and prior studies are involved. In the study by Bouffard et al. (2015), the authors computed a mean score for students' perception of conditional parental regard from grade 5 to grade 7 and showed an indirect link between this perception and test anxiety in grade 8 mediated by the perception of competence in boys and by concern about errors in girls. In the two cross-sectional studies by Otterpohl et al. (2019) with single-time measurement in high school students (study 1) and university students (study 2), the problem of shared common variance prevents a good understanding of the nature of the relationships. That said, our results showed that students exposed over several years to conditional parental regard reported more positive attitudes toward dropping out of school. Thus, these students may see school dropout as an escape from the situation, which reduces their anxiety. Studies have shown that making educational and career choices that require abilities inferior to those possessed by the individual or choosing to drop out of school prematurely are strategies for reducing psychological illness (Kahn and Nauta, 2001; Bonneville-Roussy et al., 2017). With regard to academic achievement, the difference between the groups does not reach the conventional significance level and is only marginal ($p < 0.07$). We recall that the responding teachers were only in contact with the students for a limited amount of time each week and therefore may have lack information to judge accurately their general academic performance in all school subjects.

In line with the hypothesis, having low and stable perception of conditional parental regard all over the study is linked to the most positive pattern of outcomes: compared to students in the other two groups, they have higher scores on self-regulation and lower scores on positive attitudes toward dropping out. In addition, they report higher motivation than those whose perception of conditional consideration increases. Teachers corroborate this judgment and also rate them more positively on self-regulation than they did for those in the increasing group. Overall, these results are consistent with those of Steffgen et al. (2022) who reported that adolescent students with low perceived parental conditional regard exhibited the most adaptive configuration of academic and psychological outcomes.

Finally, students whose perception of conditional parental regard declines have generally similar scores to those of students whose perception increases. This finding may suggest that that the level of conditional parental regard of students in the declining group may still be high enough to contribute to similar low adaptive school functioning to that of students in the increasing group. Alternatively, this lack of difference between the increasing group and the descending group could be due to enduring educational costs for students of past exposure to high conditional parental support that would remain partly manifest even when the conditional aspect decreases. This seems particularly true for self-regulation and attitudes toward dropping out that are outcomes known to develop early (Archambault et al., 2009a,b; Bowers et al., 2011).

Altogether, findings of this study replicate those from variable-oriented studies reporting that students perceiving high conditional parental regard show unfavorable developmental outcomes (e.g., Roth et al., 2009; Roth and Assor, 2010, 2012; Assor and Tal, 2012; Wouters et al., 2018; Steffgen et al., 2022). According to Assor et al. (2004), Assor and Tal (2012), and Assor et al. (2014) unconditional regard allows children to see themselves as valuable individuals regardless of their academic performance. This helps them feel safe enough to be attentive to the task, interested in learning, take risks, be creative and bounce back if they fail. This study suggests that youths who receive such regard from parents on an ongoing basis report better school functioning over the long term. However, it must be remembered that conditional regard is not an objective measure, but that perceived by the youth. This leads to the question of whether students' personal characteristics shape how they perceive parental reactions. Is optimism, adaptability, openness, etc., lead to positive and sustained view of the relationship with one's parents and may explain the links with academic outcomes? Similarly, is the lability in the perception of the relationship with parents comes from a factor like emotional instability and dysregulation, a difficulty in interpreting the information that would also affect those in the school environment? To date, research that has examined the relationship between conditional parental regard and personality variables has generally taken a correlational perspective that does not determine the direction of the relationship. A notable exception is Otterpohl et al. (2021) who used cross-lagged analyses to examine paths from conditional parental regard and contingent self-esteem in two studies with adolescent students. The authors reported that in both studies, students' contingent self-esteem predicted their perception of conditional parental regard, which they said supports their assumption of reciprocal effects of the constructs. They proposed a perspective where children act in such a way that brings their parents to show how child's efforts and performance matter to appreciate the child.

Limitations, future studies and conclusion

The findings of our study are promising, but there are several limitations. First, the measure of conditional parental regard relates strictly on students' assessments. Although previous research (Roth et al., 2009) has also documented the negative correlates of conditional parental regard measures taken from other informants, associations between trajectory membership and indicators of school functioning may be overestimated. It may be misleading to believe that students' perceptions accurately

reflect parental behavior. As stated earlier, certain personal characteristics of young people may shape their judgment of their parents' love and play a greater role in their academic functioning. This possibility appears to offer a promising avenue for research to better understand the antecedents of children's perception of parental regard and clarify its role in children development. Second, since 88% of the students referred to their mother in responding to the conditional parental regard questionnaire, it was impossible to distinguish between father and mothers. Some studies found associations that varied with parent type (Assor et al., 2004; Roth, 2008). Third, despite its longitudinal approach, our design does not allow us to determine whether or not the hypothesized mechanisms are in fact, operating the way we assume they did. The correlational nature of the data makes it difficult impossible to determine the direction of causation among the variables included in this study. An appropriate design for doing this would be to longitudinally assess the two constructs and examine whether their relationships are reciprocal and whether one of the constructs predicts the other. This study included a number of covariates but cannot exclude the possibility that unmeasured variables play a role on the observed associations. Thus, future studies should assess whether there are characteristics of children such as perfectionism, low self-esteem, negative emotionality, etc., that make them prone to perceived conditionality in their parents' regard. Moreover, since several young students already had a fairly high perception of a conditional parental view from the start of the study, future research should also look at this phenomenon earlier in the students' schooling to understand when this perception emerges. Finally, our sample is normative and by no means representative of students from migration backgrounds, socially disadvantaged, disabled, or neuro atypical students.

Unless mistaken, this study is the first that examined conditional parental regard using a person-centered approach and a longitudinal design with multiple measurement times over a long period. This innovative aspect allowed us to observe that students' perceptions of conditional parental regard follow distinct patterns of evolution. Relatively low among the majority of students from the end of elementary school to the penultimate year of secondary school, the perception of conditional regard increases quite strongly for some but declines while remaining moderate for others. This study is also the first to have examined the links between the different patterns of change in the perception of conditional regard from parents over a 5-year period and students' academic functioning 1 year later. This makes it possible to affirm that the links observed are not due to the contemporary nature of the measurement of the phenomena while the multi-respondent approach for academic outcomes limits the problem of shared variance. The results indicate that a steady perception of being unconditionally loved seems the most favorable context for good school functioning. On the other hand, the high and transitory perception that parental regard and love are not acquired but depend on the fulfillment of their expectations is associate with less good students' academic functioning. More specifically, students who feel that their parents' support is conditional on their success tend to have weaker motivation and self-regulation and cultivate ideas of dropping out of school. The importance of the sample size, the balanced distribution between boys and girls, and the relatively low attrition rate are among strengths of this study.

Parents generally want the best for their children and want to be good parents. In an academic context, they want to foster their child's learning and intellectual development and provide an environment that will help them navigate through the challenges of their school adventure. Showing interest in the child's academic success and letting them know that we believe they can succeed is not in itself detrimental. These expectations indicate to them that we believe they are competent. However, parents need to make sure that their children understand that their emphasis on academic success is meant to be benevolent and in the best interest of their future, not a means of controlling them and certainly not a condition for earning their love. By focusing on the learning processes rather than the outcomes, by supporting the child in defining and achieving their personal goals, and by valuing their choices and commitment to their interests, parents contribute to the development of their child's autonomy. In so doing, they allow the child to discover, and nurture their own identity and thus flourish and develop their full potential.

Data availability statement

The raw data supporting the conclusions of this article will be made available by the authors, without undue reservation.

Ethics statement

The studies involving human participants were reviewed and approved by Comité Institutionel d'Éthique de la Recherche avec des Êtres Humains (CIEREH), Université du Québec à Montréal. Written informed consent to participate in this study was provided by the participants' legal guardian/next of kin.

Author contributions

TB is the principal investigator of the large-scale longitudinal project from which the data for this study were drawn. TB and AM-T organized the material preparation, data collection and analysis, wrote the draft of the theoretical part and discussion, and commented by other authors. AM-T carried out and reported the statistical analyzes. All authors contributed to the study conception and design, read, and approved the final manuscript.

Funding

This work was supported by the Social Sciences and Humanities Research Council of Canada [435–2013-0969].

Conflict of interest

The authors declare that the research was conducted in the absence of any commercial or financial relationships that could be construed as a potential conflict of interest.

Publisher's note

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