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EUROPEAN PUBLIC SCHOOL REPORT 2025

PRELIMINARY RESULTS ON STUDENT POPULATION, MATHEMATICS AND LANGUAGE ACHIEVEMENT, MOTIVATION, PARENTAL SUPPORT, AND LEARNING ENVIRONMENTS

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1. INTRODUCTION

1.1 EDUCATIONAL INEQUALITIES IN LUXEMBOURG

Luxembourg has a highly diverse population in terms of its socioeconomic, cultural, and linguistic composition. This diversity is reflected in the national education system with key figures illustrating that a high percentage of both primary (68 %) and secondary school students (66 %) is speaking a different language than Luxembourgish at home (SCRIPT & MENJE, 2024). Although this diversity is a great asset, national and international large-scale studies (e.g., PISA studies) have repeatedly identified important educational inequalities indicating that students with a low socioeconomic status (SES) and/or students speaking another language than Luxembourgish and/or German at home, being at a higher risk to struggle academically when attending schools following the Luxembourgish curriculum (Boehm et al., 2016; Hadjar et al., 2018; Hornung et al., 2021).

These inequalities have once again been confirmed by findings presented in the most recent *National Education Report* (LUCET & SCRIPT, 2024). By following a student cohort from C2.1 (Grade 1) to C4.1 (Grade 5) of primary education, the Luxembourg School Monitoring Programme "*Épreuves Standardisées*" (ÉpStan; see 2.1 for more details) revealed, for example, that a higher share of low-SES students and students speaking another language than Luxembourgish and/or German at home fail to achieve the national education standards (i.e., the *Niveau Socle* as defined by the Ministry of Education, Children and Youth in the *Plan d'Études*; MENFP, 2011) both in mathematics and in German reading comprehension when compared to their peers (i.e., high-SES students, students speaking Luxembourgish and/or German at home; Ottenbacher et al., 2024). In addition, studies focusing on the acquisition of German language skills found that educational differences in favour of students speaking Luxembourgish and/or German at home arise already in early primary education (Hornung et al., 2024; Tremmel et al., 2024), thereby underlining the importance of pedagogical interventions in order to allow all students to fully develop their academic potential regardless of their language background.

In order to deal more adequately with the increasing language diversity of the student population in Luxembourg and to counter the educational inequalities that are assumed to result (at least in part) from the curriculum, where high language expectations present an important challenge for a growing number of students (Sattler, 2022), the Luxembourgish government has widened the educational offer in Luxembourg by introducing European Public Schools (EPS). These schools allow students to choose a main language of instruction among three available language sections (German, French, and English; for an overview see LUCET & SCRIPT, 2023) in contrast to schools following the Luxembourgish curriculum that offer a predefined order of language introduction (i.e., Luxembourgish as the main language of instruction in preschool, German as the language of literacy acquisition in C2.1, and French introduced as an additional language of instruction in early primary education).

1.2 INTEGRATION OF EPS INTO THE LUXEMBOURG SCHOOL MONITORING PROGRAMME

Through the opportunity to choose a main language of instruction among the available language sections, EPS might provide a learning environment that complements the offer of the Luxembourgish curriculum and aims at responding to the needs of Luxembourg's highly diverse student population. By integrating the EPS into the Luxembourg School Monitoring Programme "*Épreuves Standardisées*" (ÉpStan), the full-cohort data collected in autumn of every school year – at both primary and secondary school level – enables educational research to provide a first evaluation of whether the diversification of the school offer through the implementation of EPS can contribute to the reduction of previously observed inequalities in Luxembourg's education system.

The ÉpStan consist of standardised achievement tests assessing academic achievement in selected key areas of education (e.g., German, French, and mathematics; Martin et al., 2015). Administered in autumn at the beginning of each new learning cycle, the ÉpStan systematically monitor whether the education standards of the previous learning cycle (as defined by the Ministry of Education, Children and Youth) have been achieved by all students in the respective grade (MENFP, 2011).

The ÉpStan are administered in the classroom with achievement tests taking approximately 30 to 40 minutes per subject in Cycle 2.1 and 40 to 50 minutes per subject in Cycles 3.1 and 4.1. To allow for an economical and highly standardised assessment, the ÉpStan items are presented in a closed format (e.g., multiple-choice, true-false, or ordering items) or require short answers only (Fischbach et al., 2014).

To ensure a strong test quality, the items included in the ÉpStan standardised achievement tests are developed and compiled by interdisciplinary test development groups that consist of researchers from the ÉpStan team (e.g., expertise in the domains of psychometrics and test development), of teachers actively teaching the different subjects at each respective grade level (e.g., expertise in subject contents and in the educational curriculum), and of members from the Ministry of Education, Children and Youth (e.g., expertise in educational curriculum and in reference documents). Only items that have previously been tested regarding their content, format, and practicability, and validated psychometrically for each grade level in a so-called pretest will be included in the actual ÉpStan achievement tests of the subsequent year(s).

After the achievement tests, students have approximately 20 minutes to complete a student questionnaire, which assesses central features of the students' motivation to learn (e.g., academic self-concept, academic interest, school anxiety), the teacher-student relationship as well as school and class climate. In primary school, all standardised achievement tests and the student questionnaire

are presented in paper-and-pencil format, whereas secondary school students complete computer- or tablet-based tests and questionnaires.

In addition, parents from primary school students are invited to complete a parent questionnaire with the aim of collecting data on the students' individual background characteristics regarding aspects such as the family's language profile, their socio-economic status, and perception of their possibilities to support their child academically.

By taking into account socioeconomic and sociocultural student characteristics (e.g., gender, SES, language, migration background) that were proven to have an important impact on educational success in both national and international studies (e.g., Agirdag & Vanlaar, 2016; Duong et al., 2016; Hornung et al., 2021; Sirin, 2005; Sonnleitner et al., 2021; Voyer & Voyer, 2014), the ÉpStan ensure a fair performance evaluation in Luxembourg's diverse student population and can thus be considered an ideal tool to investigate whether recent policy reforms – such as the introduction of European Public Schools – can contribute to a reduction of the existing educational inequalities.

1.3 CONTEXT, OBJECTIVE AND RESEARCH INTERESTS OF THE PRESENT REPORT

In autumn of the school year 2022/23, the ÉpStan were administered, for the first time, to all five targeted grade levels in EPS (P1, P3, and P5 at primary school level as well as S1 and S3 at secondary school level). By being administered at the same assessment time points than in schools following the Luxembourgish curriculum (C2.1, C3.1 and C4.1 in primary school as well as 7e and 5e in secondary school), the ÉpStan have for a first time allowed to compare how EPS students perform compared to their peers in schools following the Luxembourgish curriculum.

The *European Public School Report 2023* (LUCET & SCRIPT, 2023) presented first findings on differences in the student population between EPS and schools following the Luxembourgish curriculum (e.g., higher share of high-SES students attending EPS at all grade levels), as well as in educational trajectories (e.g., lower share of grade repetitions in EPS at all grade levels), and in the achievement in mathematics (e.g., better mean performance of EPS students at all primary school levels compared to students following the Luxembourgish curriculum). Besides presenting these first important findings, the report discussed the considerable statistical and methodological limitations that need to be taken into consideration when interpreting these findings (e.g., small sample sizes, academic achievement tests developed based on the standards of the Luxembourgish curriculum, differences in the student population).

Although the majority of these statistical and methodological limitations cannot easily be overcome, the stepwise extension of the ÉpStan aiming at a full integration of the European Public Schools in the established school monitoring system allows to broaden these first findings by focusing on additional dimensions such as the academic achievement in language subjects (i.e., Luxembourgish, German,

and French), academic motivation and wellbeing, and the perceptions of parental support. Using encompassing full-cohort data from various sources (e.g., achievement tests, student and parent questionnaires), the present report investigates potential differences between EPS and schools following the Luxembourgish curriculum by addressing the different research aims introduced in the following.

Considering that academic achievement is one of the most central academic outcome variables and that both national and international studies have identified significant achievement differences in the key educational domain of **mathematics** between student groups that become particularly apparent over time (e.g., Ottenbacher et al., 2024), the present report analyses how mathematics achievement develops between C2.1/P1 and C3.1/P3 as well as between C3.1/P3 and C4.1/P5 at primary school level by addressing the following research question in *Chapter 1*:

- *How does the academic achievement in mathematics develop longitudinally in EPS students at primary school level compared to their peers following the Luxembourgish curriculum?*

Whereas the ÉpStan administered in EPS only assessed academic achievement in mathematics in the school year 2022/23, achievement tests assessing listening comprehension in **Luxembourgish** (as main language of integration) and language skills in the students' **language of literacy acquisition** (German and French) have been pretested in the school year 2023/24 and integrated as main test in the school year 2024/25 in EPS (C2.1/P1), allowing to address the following research question in *Chapter 2*:

- *How do EPS students in P1 perform in Luxembourgish (main language of integration) as well as in their respective language of literacy acquisition (German or French) compared to their C2.1 peers following the Luxembourgish curriculum?*

Schools are however not only responsible for teaching academic skills. They should furthermore foster students' academic **motivation** (e.g., academic self-concept and interest) and enable all students to develop a positive attitude towards learning in a supportive environment (e.g., class climate, school satisfaction, and teacher-student relationship), thus guaranteeing their **wellbeing**. In light of the strong consensus in research stating that academic motivation and academic achievement are positively related to each other (Niepel et al., 2014; Schiefele et al., 2016; Wolff et al., 2021), the present report addresses the following research question in *Chapter 3*:

- *How does academic motivation and subjective wellbeing of EPS students at all grade levels compare to their peers following the Luxembourgish curriculum?*

In addition to students' academic achievement and motivation, the parents' possibilities to support their child when it comes to learning (e.g., doing homework, preparing for tests) are positively related to academic achievement (Bakker et al., 2007; Boonk et al., 2018). Therefore, the present report aims

at understanding how the possibility to offer **parental support**, which depends (at least to a certain degree) on the parents' own language skills in the language(s) of instruction, is perceived by parents (or legal representatives) by investigating the following research question in *Chapter 4*:

- *How do the perceptions of EPS parents regarding their ability to support their child academically based on their own skills in their child's language of literacy acquisition differ from the perceptions of parents whose children follow the Luxembourgish curriculum?*

A limitation of the *European Public School Report 2023* was that the available data did not allow to identify one specific explanation for the observed performance differences between students in EPS and their peers following the Luxembourgish curriculum. To address this limitation, a student questionnaire assessing three generic dimensions of **learning environments** (e.g., cognitive activation, classroom management, and student support; Praetorius et al., 2018) has been integrated into the ÉpStan at secondary school level in order to understand whether EPS and schools following the Luxembourgish curriculum differ when it comes to the learning environments they offer to their students; a dimension that could contribute to explaining potential achievement and motivational differences between EPS and schools following the Luxembourgish curriculum. In *Chapter 5*, the present report thus investigates the following research question:

- *How do the perceptions of learning environments differ between EPS students at secondary school level and their peers in secondary schools following the Luxembourgish curriculum?*

By providing first longitudinal results on academic achievement in mathematics as well as cross-sectional results on academic achievement in Luxembourgish (as the main language of integration) and in the respective languages of literacy acquisition, on academic motivation (e.g., self-concept and interest) and subjective wellbeing (e.g., class climate, school satisfaction), on perceived parental support as well as on learning environments in secondary school, the present report will considerably extend existing knowledge on differences between students attending EPS and their peers following the Luxembourgish curriculum (e.g., achievement in mathematics) and generate new knowledge in domains that have thus far remained unexplored (e.g., achievement in languages, parental support, and learning environments). Despite existing statistical and methodological limitations, these results provide important insights into whether the broadening of the language offer via the introduction of European Public Schools can contribute to encountering existing educational inequalities identified in the Luxembourgish education system, whose student population is characterised by a high linguistic diversity.

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CHAPTER I: THE LONGITUDINAL DEVELOPMENT OF ACADEMIC ACHIEVEMENT IN MATHEMATICS IN PRIMARY EDUCATION

HOW DOES THE ACADEMIC ACHIEVEMENT IN MATHEMATICS DEVELOP LONGITUDINALLY IN EPS STUDENTS AT PARIMARY SCHOOL LEVEL COMPARED TO THEIR PEERS FOLLOWING THE LUXEMBOURGISH CURRICULUM?

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2. THE LONGITUDINAL DEVELOPMENT OF ACHIEVEMENT IN MATHEMATICS IN PRIMARY EDUCATION

2.1 THEORETICAL BACKGROUND

In schools following the Luxembourgish curriculum, the subject of mathematics is taught in German at primary school level before the language of instruction is switching to French in secondary education. In Luxembourg's most recent PISA results (Weis et al., 2020), the performance of secondary school students in mathematics was found to be below the OECD average with both low SES-students and students having a non-Luxembourgish language background being disadvantaged when compared to their peers (i.e., high SES-students, students speaking Luxembourgish at home). These results align with observations made in previous PISA iterations (Boehm et al., 2016) as well as in the Luxembourg School Monitoring Programme "Épreuves Standardisées" (ÉpStan).

By following a student cohort from C2.1 (Grade 1) to C4.1 (Grade 5) of primary education, the ÉpStan results showed that a higher share of low-SES students and students speaking a language other than Luxembourgish and/or German at home perform below the expected national education standards (i.e., the *Niveau Socle* as defined by the Ministry of Education, Children and Youth in the *Plan d'Études*; MENFP, 2011) in the subject of mathematics (Ottenbacher et al., 2024). Considering that these differences arise already in early primary education with 28 % of French-speaking and 44 % of Portuguese-speaking students failing to meet the *Niveau Socle* of the previous learning cycle at the beginning of C3.1 (e.g., *Figure 3* in Ottenbacher et al., 2024) despite solid basic mathematical skills at the beginning of primary education, it can be assumed that the need to acquire more advanced mathematical skills in German – a language linguistically more distant from their home language – places these students at a disadvantage.

In this context, European Public Schools (EPS) offering three language sections (German, French, English; LUCET & SCRIPT, 2023) might foster a learning environment that allows students to make better use of their academic potential (e.g., in mathematics), given their home language background. First results published in the *European Public School Report 2023* illustrate that EPS students showed a higher mean performance in mathematics than students in schools following the Luxembourgish curriculum across all three primary school grades assessed, with the strongest difference being observed in C4.1/P5 in higher grade levels (Colling et al., 2023). More particularly, both low-SES students and students with a non-Luxembourgish/non-German language background generally showed higher achievement scores in mathematics across all three primary school grades assessed when attending EPS compared to their peers sharing the same background characteristics in schools following the Luxembourgish curriculum. These results from the ÉpStan cohort of the 2022/23 school year might be considered as a first indication of achievement differences in mathematics that are in favour of EPS

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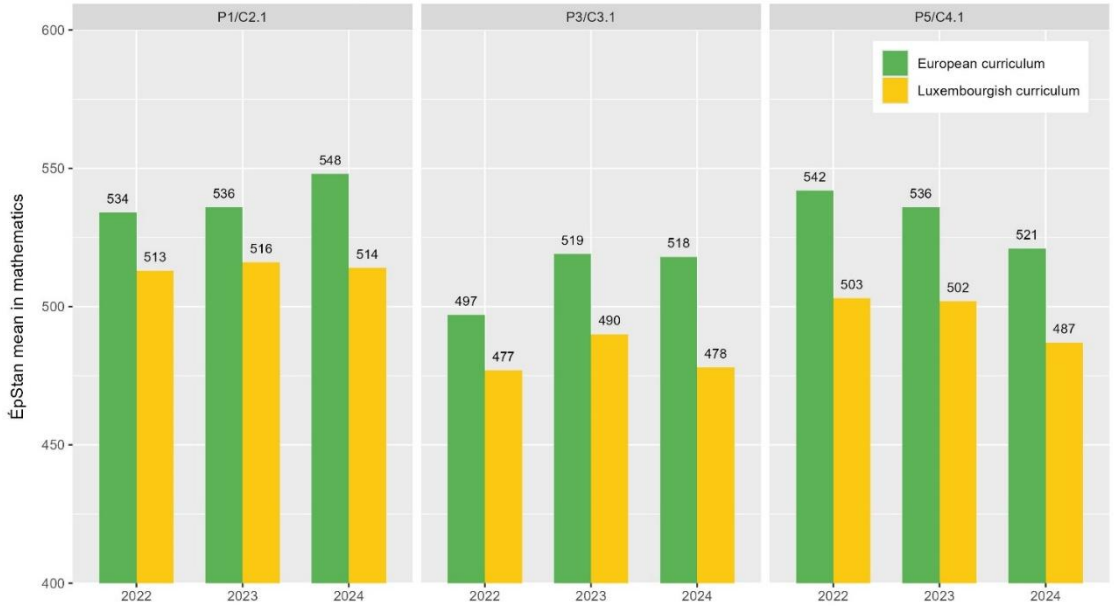
students when compared to their peers in schools following the Luxembourgish curriculum, although they have to be interpreted with caution due to the important statistical and methodological limitations (e.g., small sample sizes, achievement tests developed based on the standards of schools following the Luxembourgish curriculum) discussed in more detail in Colling et al. (2023; see *Section* 4.6.1).

2.2 FIRST CROSS-SECTIONAL RESEARCH FINDINGS IN MATHEMATICS

Figure I.1 extends these findings cross-sectionally by illustrating the mean academic achievement in mathematics not only for the first cohort assessed in the school year 2022/23 (for details see Colling et al., 2023), but also for the two subsequent cohorts assessed in the school years 2023/24 and 2024/25. The green bars show the mean ÉpStan score in mathematics for students in EPS, whereas the yellow bars illustrate the mean ÉpStan score in mathematics for students following the Luxembourgish curriculum. As detailed in *section 2.3.1*, the ÉpStan metric (i.e., the y-axis) is normed in such a way that the mean value for all students in Luxembourg lies at 500 points with a standard deviation of 100 points. Fluctuations of ± 10 ÉpStan points can regularly be observed between student groups and/or school years and should thus not be interpreted as considerable differences in academic achievement.

Figure I.1 – Mean Academic Achievement in Mathematics from 2022-2024 at Primary School Level Split by Curriculum



Note. The data displayed in this figure is **cross-sectional**; it is therefore important to note that they do not track the same students over time but rather represent the academic achievement in mathematics of different cohorts who were in a specific learning cycle at a given point in time (e.g., autumn 2022).

The **cross-sectional ÉpStan findings** displayed in *Figure I.1* show differences ranging between 20 (in C2.1/P1 in the school year 2022/23) to 40 (in C3.1/P3 in 2024/25) ÉpStan points across the three primary

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school grades. By going beyond the regularly observed fluctuations of ± 10 ÉpStan points in all three assessed cohorts, the achievement differences that were observed in favour of primary school students attending EPS offer a first indication of a significant achievement trend with EPS students performing better than students in schools following the Luxembourgish curriculum.

In addition, the cross-sectional ÉpStan data for the three cohorts split by individual student background characteristics (e.g., gender, SES, language and migration background) allow a more fine-grained understanding of the observed performance differences.

Regarding **gender**, EPS students of all cohorts showed higher mean scores in mathematics across all three assessed primary school grades, indicating that both male and female students in EPS are on average performing better than their peers following the Luxembourgish curriculum, with the group difference being most pronounced for male EPS students in C3.1/P3 (44 ÉpStan points) in the school year 2023/24 and least pronounced for female EPS students in C3.1/P3 (9 ÉpStan points) in the school year 2022/23 (see *Figure A.1* in the *Annex* for a visualisation).

Figure I.2 illustrates the academic achievement in mathematics for the three cohorts and grade levels split by curriculum and **socioeconomic status** (SES), for which a more differentiated picture arises than for gender. Looking at high-SES students (i.e., highest 25% of the HISEI distribution, see *section 2.3.2* for details on the operationalisation of the HISEI variable), the differences between EPS students and their peers following the Luxembourgish curriculum fail to go beyond the described regular fluctuations of ± 10 ÉpStan points, indicating that high-SES students seem to perform well in mathematics irrespective of their school's curriculum (with two exceptions noted for the C2.1/P1 cohort assessed in 2023/24 and the C3.1/P3 cohort assessed in 2022/23, where significant group differences have been observed in favour of high-SES students following the Luxembourgish curriculum). For low-SES students (i.e., lowest 25% of the HISEI distribution), a different pattern can be observed in *Figure I.2*. With mean differences ranging from 26 ÉpStan points in the C3.1/P3 cohort assessed in 2024/25 to 77 ÉpStan points in the C2.1/P1 cohort assessed in 2023/24, the observed academic achievement differences in mathematics in favour of low-SES students attending EPS go considerably beyond the regularly observed fluctuations. These patterns seem to indicate that low-SES students in EPS perform better, on average, than their low-SES peers in schools following the Luxembourgish curriculum. As indicated in the note of *Figure I.2*, it must, however, be kept in mind that these results are based on very small *N*s for low-SES students in EPS (between 12 and 29 students only) and should thus be interpreted with caution.

When looking at the students' **migration background**, no consistent pattern that holds across all three cohorts arises for grade levels C2.1/P1 and C3.1/P3. C4.1/P5 is the only grade level in which the mean academic achievement of native students (i.e., students whose own country of birth and that of at

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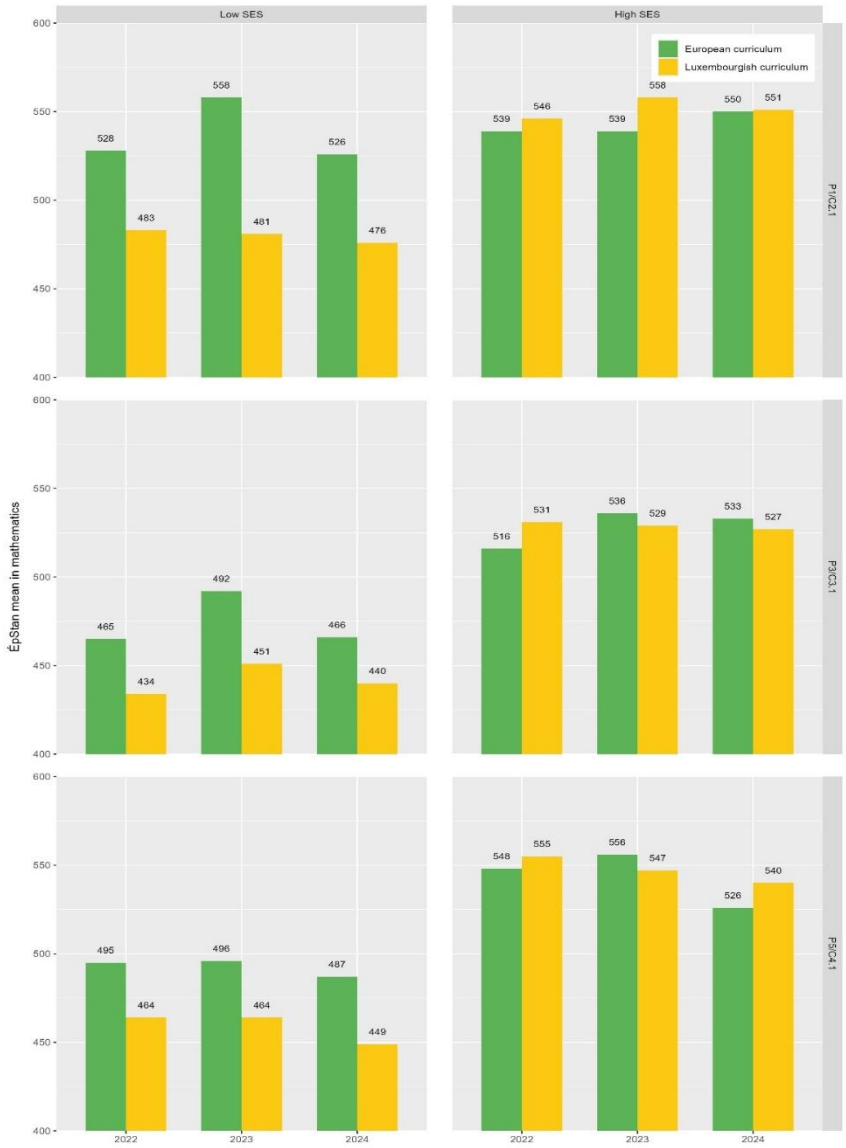
least one of their parents is Luxembourg, see *section* 2.3.2 for details on the operationalisation of the migration background variable) in EPS is considerably higher in all cohorts (with group differences ranging from 13 ÉpStan points in 2024/25 to 29 ÉpStan points in 2022/23) compared to their native peers in schools following the Luxembourgish curriculum. In contrast, EPS students having a migration

Figure I.2 – Mean Academic Achievement in Mathematics (2022-2024) at Primary School Level Split by SES



Note. The data displayed in this figure is **cross-sectional**; it is therefore important to note that it does not track the same students over time but rather represents the academic achievement in mathematics of different cohorts who were in a specific learning cycle at a given point in time (e.g., autumn 2022). The data for low-SES students in EPS has to be interpreted with caution due to very small *N*s (2022/23: *N* = 19 in C2.1/P1, *N* = 22 in C3.1/P3 and *N* = 14 in C4.1/P5; 2023/24: *N* = 16 in C2.1/P1, *N* = 26 in C3.1/P3 and *N* = 12 in C4.1/P5; 2024/25: *N* = 23 in C2.1/P1, *N* = 29 in C3.1/P3 and *N* = 22 in C4.1/P5).

background display higher mean scores in mathematics ranging from 26 ÉpStan points in C2.1/P1 in the school year 2023/24 to 49 ÉpStan points in C4.1/P5 in the school year 2022/23 (see *Figure* A.2 in the *Annex* for a visualisation). By going considerably beyond the regularly observed fluctuations of ± 10

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ÉpStan points, these results seem to indicate that EPS students with a migration background perform better, on average, than their peers following the Luxembourgish curriculum. In light of small student groups (i.e., native students in EPS) and potential differences in the countries of origin between school curricula (for a detailed discussion see Colling et al., 2023), the results on achievement differences in mathematics based on migration background must, however, be interpreted with caution.

Lastly, the results in academic achievement in mathematics were investigated split by **language background**. As illustrated in *Figure I.3*, students with a French language background attending EPS show higher mean values in mathematics across all three cohorts and grade levels with group differences ranging from 18 ÉpStan points in C2.1/P1 in the school year 2022/23 to 47 ÉpStan points in C41/P5 in the school year 2023/24.

For Portuguese-speaking students, a comparable pattern arises with the mean achievement scores in mathematics of EPS students being higher across all three cohorts and grade levels in comparison to their Portuguese-speaking peers in schools following the Luxembourgish curriculum, with the difference being most pronounced in the C4.1/P5 cohort assessed in the school year 2022/23 (58 ÉpStan points) and least pronounced in the C4.1/P5 cohort assessed in the school year 2024/25[1] (28 ÉpStan points).

EPS students with an English language background are also showing higher mean achievement scores in mathematics across all three cohorts and grade levels compared to their English-speaking peers in schools following the Luxembourgish curriculum, with group differences ranging from 14 ÉpStan points in the C3.1/P3 cohort assessed in the school year 2023/24 to 56 ÉpStan points in the C3.1/P3 cohort assessed in the school year 2024/25[2].

For students speaking Luxembourgish and/or German at home, the group differences found in C2.1/P1 and in C3.1/P3 offer a less coherent pattern with differences in mean achievement scores alternating between being in favour of EPS students (e.g., 19 ÉpStan points in the C2.1/P1 cohort assessed in the school year 2024/25) or in favour of students following the Luxembourgish curriculum (e.g., 25 ÉpStan points in the C3.1/P3 cohort assessed in the school year 2022/23). A consistent pattern of EPS students speaking Luxembourgish and/or German showing higher mean scores in mathematics than their peers in schools following the Luxembourgish curriculum does, however, becomes apparent across all three cohorts in C4.1/P5 with group differences ranging from 30 ÉpStan points in the school year 2022/23 to 72 ÉpStan points in the school year 2024/25.

[1] The only exception was identified in the C3.1/P3 cohort (school year 2022/23), where Portuguese-speaking students following the Luxembourgish curriculum displayed a slightly higher mean score than their peers in EPS, a difference (8 ÉpStan points) that did, however, fail to go beyond regularly observed fluctuations of ± 10 ÉpStan points.

[2] Similarly, as for the exception described for Portuguese-speaking students, the difference of 7 ÉpStan points failed to go beyond regularly observed fluctuations of ± 10 ÉpStan points.

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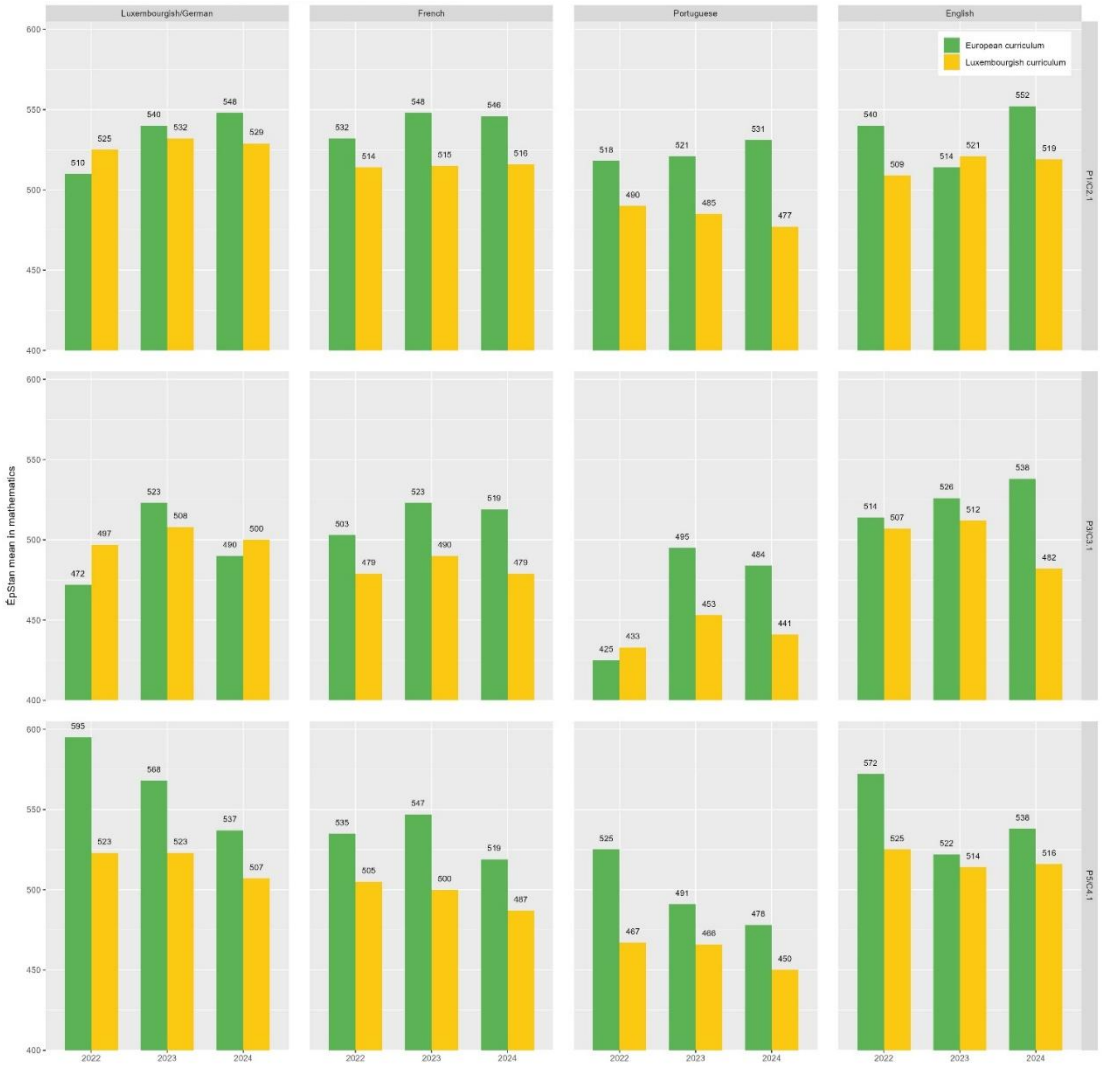
With the group differences in academic achievement in mathematics identified in favour of students attending EPS going beyond regularly observed fluctuations of ± 10 ÉpStan points, the findings split by language background allowed to identify a coherent pattern across cohorts and grade levels of EPS students with a French and Portuguese language background performing better in mathematics than their French- and Portuguese-speaking peers following the Luxembourgish curriculum. As indicated in the note of *Figure I.3*, it must, however, be kept in mind that the results split by language background are based on very small *N*s for certain language groups in EPS (e.g., between 23 and 42 Portuguese-speaking students only) and should thus be interpreted with caution.

Figure I.3 – Mean Academic Achievement in Mathematics (2022-2024) at Primary School Level Split by Language Background



Note. The data displayed in this figure is **cross-sectional**; it is therefore important to note that they do not track the same students over time but rather represent the academic achievement in mathematics of different cohorts who were in a specific learning cycle at a given point in time (e.g., autumn 2022). The data for student groups split by language background have to be interpreted with caution due to very small *N*s of, for example, Portuguese-speaking students in EPS (2022/23: *N* = 42 in C2.1/P1, *N* = 28 in C3.1/P3 and *N* = 23 in C4.1/P5; 2023/24: *N* = 34 in C2.1/P1, *N* = 28 in C3.1/P3 and *N* = 31 in C4.1/P5; 2024/25: *N* = 30 in C2.1/P1, *N* = 34 in C3.1/P3 and *N* = 30 in C4.1/P5).

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2.3 MAIN RESEARCH INTEREST AND LONGITUDINAL METHODOLOGY OF THE CHAPTER

2.3.1 RESEARCH INTEREST

Whereas the cross-sectional ÉpStan data from three different cohorts assessed between 2022/23 and 2024/25 allowed to (1) identify a systematic trend of EPS students in primary school performing better in mathematics than students following the Luxembourgish curriculum and furthermore offered (2) an important indication that student groups that have repeatedly been found to struggle academically in schools following the Luxembourgish curriculum (e.g., low-SES students, students speaking a language other than Luxembourgish and/or German) seem to perform better in mathematics when attending EPS, no knowledge exists thus far on how the mathematics achievement of primary school students develops over time.

By assessing school competences in the same key domains across multiple grade levels in primary school, the most recent ÉpStan data (collected in autumn 2024/25) allows, for the first time, to investigate how academic achievement in mathematics develops longitudinally following two students cohorts; one from C2.1/P1 (assessed in the school year 2022/23) to C3.1/P3 (assessed in 2024/25) and one from C3.1/P3 (assessed in 2022/23) to C4.1/P5 (assessed in 2024/25). This **longitudinal data** thereby provides a better understanding of whether differences between EPS students and their peers following the Luxembourgish curriculum can also be observed in their educational trajectories for the subject of mathematics. The following research question is thus addressed in the present chapter:

- *How does the academic achievement in mathematics develop longitudinally in EPS students at primary school level compared to their peers following the Luxembourgish curriculum?*

2.3.2 METHODOLOGY AND MEASURES

MATHEMATICS ACHIEVEMENT TESTS

All tasks presented in the standardised ÉpStan achievement tests in mathematics are based on the education standards defined by the Ministry of Education, Children and Youth (MENFP, 2011). In primary school, the mathematics tests target the following content areas: (a) *Space and Shapes*, (b) *Numbers and Operations*, and (c) *Sizes and Measures* (MENFP, 2011, p. 26-31). In both C3.1 and C4.1, the ÉpStan mathematics tasks are presented in either a contextualized (*problem solving and modeling*) or decontextualized way (*specific basic skills*, defined as knowledge and skills that can be applied independently, without any context or transfer work) to allow an implicit assessment of the content area (d) *Solving arithmetic word problems* (MENFP, 2011, p. 32-33).

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In line with international large-scale assessments (e.g., PISA), one global score is computed across all items assessing the different content dimensions, which is normed in such a way that the mean value for all students in Luxembourg lies at 500 points, with a standard deviation (mean deviation of the test values from the mean) of 100 points in a reference school year (usually the first school year the respective competency was assessed in the respective grade; Fischbach et al., 2014). Regular fluctuations of ± 10 ÉpStan points from one year to the next are observed at both the primary and secondary school levels. These relatively small variations should generally not be interpreted as significant differences[3].

For all primary schools following the Luxembourgish curriculum, the mathematics achievement test in C2.1 is presented in Luxembourgish, considering that the ÉpStan retrospectively evaluate whether the educational standards of previous learning cycles have been achieved and that the main language of instruction in preschool is Luxembourgish. In C3.1 and 4.1, the mathematics achievement tests are presented in German, which is the main language of instruction in primary school. In EPS, mathematics achievement tests were presented to the primary school students in the language of their respective language section (i.e., German, French, or English).

STUDENT BACKGROUND CHARACTERISTICS

At primary school level, students and parents provide information on the background characteristics of socioeconomic status (SES), language, and migration background via a self-report questionnaire.

The *International Socio-Economic Index of Occupational Status* (ISEI, Ganzeboom, 2010; Ganzeboom et al., 1992) was used for the classification of a student's SES based on the occupational status of the parents. The Index can take on values between 10 and 90. Within ÉpStan, the highest available ISEI value (HISEI) of either the father or the mother (or the respective caretaker) is considered. This value is used to classify students into high and low SES groups. The lowest 25% of the distribution are defined as low-SES students and the highest 25% as high-SES students (Muller et al., 2014).

Looking at migration background, students are considered as natives when the students themselves and at least one of their parents were born in Luxembourg.

To compare students based on language background, students are considered to have a specific language background (Luxembourgish/German, French, Portuguese, or English) when they speak the respective language with at least one of their parents at home. This means that a student can be found in different language groups (e.g., a student speaking Luxembourgish with their mother and

[3] However, if the ÉpStan results trend in one direction by ± 10 points over several years, it indicates a systematic deterioration or improvement in academic achievement.

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Portuguese with their father is considered to have a Luxembourgish and Portuguese language background).

With regard to gender, the student administrative database of the Ministry of Education, Children and Youth (SCOLARIA) has been used to split the student population into male and female students.

2.4 RESULTS

2.4.1 DEMOGRAPHIC INFORMATION ON THE ANALYSED COHORTS

The data analysis of the present chapter is based on two cohorts, whose demographic characteristics are presented in *Table I.1*. Only students[4] who had a regular educational pathway (i.e., without grade repetition) between the school years 2022/23 and 2024/25 were included in the cohorts.

Table I.1 - Detailed Sample Description of the Two ÉpStan Cohorts

						Language background			
		N	**HISEI (*M*)**	**% female**	**% native**	**% Lux/German**	**% French**	**% Portuguese**	**% English**
C2.1/P1 – C3.1/P3	Luxembourgish curriculum	4820	52	50 %	45 %	46 %	21 %	19 %	6 %
	European Public Schools	337	59	49 %	12 %	12 %	42 %	10 %	24 %
C3.1/P3 – C4.1/P5	Luxembourgish curriculum	5069	49	49 %	43 %	45 %	21 %	21 %	5 %
	European Public Schools	237	57	52 %	11 %	12 %	49 %	11 %	18 %

Note. *N* = Number of students. HISEI = Highest *International Socio-Economic Index of Occupational Status* value. *M* = Mean. For more details on the operationalisation of the student background variables, see section 2.3.2.

Out of the *N* = 5876 students who started C2.1 in schools following the Luxembourgish curriculum in the school year 2022/23 (see *Table IV.1* in Colling et al., 2023), *N* = 4820 students had regular educational pathways and advanced to C3.1 in the school year 2024/25. In EPS, *N* = 337 students displayed regular educational pathways by attending P3 in the school year 2024/25 out of a total of *N* = 363 EPS students who started P1 in the school year 2022/23. These results indicate that the share of students assessed at both time points is higher among EPS students (93 %) than among students in schools following the Luxembourgish curriculum (82 %). It needs, however, to be noted that **different reasons** might contribute to this observation with one of them being grade repetition and another potential explanation being student moves to schools that are not covered by the ÉpStan (e.g., private schools

[4] Although the *International School Michel Lucius* takes part in the ÉpStan both at the primary and secondary school level, students following its UK-Style education (i.e., A-levels) have been excluded from the cohorts used in the present chapter as its aim is to focus on schools following the European curriculum.

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within Luxembourg that do not follow the Luxembourgish nor the European curriculum, schools abroad).

A similar observation can be made for the cohort followed from C3.1/P3 to C4.1/P5. Out of *N* = 5861 students that were in C3.1 in schools following the Luxembourgish curriculum in the school year 2022/23 (see *Table IV.1* in Colling et al., 2023), *N* = 5069 students advanced to C4.1 in the school year 2024/25. In EPS, *N* = 237 students had advanced to P5 in the school year 2024/25 out of a total of *N* = 268 EPS students that were P3 in the school year 2022/23. In this cohort, the share of students assessed at both time points is comparable between EPS students (88 %) and students following the Luxembourgish curriculum (86 %).

In line with the cross-sectional findings discussed in previous reports (Colling et al., 2023; Colling et al., 2024), the composition of the EPS student population differs considerably from the composition of the student population in schools following the Luxembourgish curriculum also in the two longitudinal cohorts analysed in the present chapter.

Whereas the distribution of students by **gender** is comparable between EPS and schools following the Luxembourgish curriculum in both cohorts, a different observation can be made when looking at **socioeconomic status (SES)**. As shown in *Table I.1*, the student population in EPS is characterized by a higher mean SES in both cohorts (HISEI mean of 59 in the C2.1/P1 to C3.1/P3 cohort and of 57 in the C3.1/P3 to C4.1/P5 cohort) than the student population following the Luxembourgish curriculum (HISEI mean of 52 in the C2.1/P1 to C3.1/P3 cohort and of 49 in the C3.1/P3 to C4.1/P5 cohort). Consequently, this observed difference in mean HISEI translates into smaller groups of students characterized as having a low SES in EPS when compared to the Luxembourgish curriculum; an observation which needs to be taken into consideration when interpreting the results of the present chapter.

Regarding **migration background**, *Table I.1* indicates that the percentage of native students lies at approximately 44% in schools following the Luxembourgish curriculum and at approximately 11 % in EPS. This considerably lower share of native students in EPS can be observed in the two assessed cohorts. In addition, it has to be presumed that EPS students with a migration background are having different countries of origin (e.g., other non-EU countries) than their peers with a migration background following the Luxembourgish curriculum (e.g., Portuguese). In light of small student numbers and these potential differences in the countries of origin between both student populations, the results on the development in academic achievement in mathematics split by migration background should be interpreted with caution.

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Looking at students' **language background**, students speaking Luxembourgish and/or German at home constitute the highest share of students in schools following the Luxembourgish curriculum (≈ 45 %) in the two cohorts, followed by students with a French (21 %) or Portuguese language background (≈ 20 %). Only about 6 % of students that follow the Luxembourgish curriculum have an English language background. In EPS, on the other hand, students speaking French at home account for the highest share in both cohorts (42 % in the C2.1/P1 to C3.1/P3 cohort and 49 % in the C3.1/P3 to C4.1/P5 cohort) followed by students with an English language background (24 % and 18 %, respectively). In EPS, students with a Luxembourgish and/or German background as well as Portuguese-speaking students account for only about 12 % in both cohorts. The low share of English-speaking students in schools following the Luxembourgish curriculum and of students with a Luxembourgish/German or Portuguese language background in EPS translates into small student groups, thus related findings in the present chapter have to be interpreted with caution.

2.4.2 LONGITUDINNAL DEVELOPMENT OF MATHEMATICS ACHIEVEMENT BETWEEN C2.1/P1 AND C3.1/P3

In the following, first **longitudinal ÉpStan results** on the development of academic achievement in the subject of mathematics between C2.1/P1 and C3.1/P3 will be presented for the full cohort of students in EPS compared to students following the Luxembourgish curriculum. In a second step, the chapter is analysing whether students with certain background characteristics (e.g., students who do not speak Luxembourgish and/or German at home, low-SES students) show a more positive development in their mean score in mathematics when attending EPS compared to their peers with the same background characteristics attending schools following the Luxembourgish curriculum. The **information box** below provides important guidance on how lower ÉpStan scores in C3.1/P3 compared to C2.1/P1, reflected in negative difference values (deltas) between the two grade levels, should be interpreted.

Information box

The aim of the ÉpStan is to assess whether students have achieved the educational standards (*Socles*) defined by the Ministry of Education at the beginning of each learning cycle, based on the standards of the previous cycle. While students in C2.1/P1 are, for example, expected to count and compare collections of up to 10 elements, students in C3.1/P3 are expected to order and compare numbers up to 100 to meet the *Niveau Socle*. The educational standards to be achieved are thus becoming more challenging as the grade level progresses. A lower mean score in C3.1/P3 reflected by the negative difference value (delta) between the two grade levels does **not** indicate that students have lost competences acquired in C2.1/P1 but rather reflect the fact that fewer students have reached the *Niveau Socle* in C3.1/P3 compared to C2.1/P1.

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Figure I.4 shows the longitudinal development of the students' ÉpStan mean score in mathematics between C2.1/P1 and C3.1/P3 for EPS students (in green) and for students following the Luxembourgish curriculum (in yellow). Each student's difference between their ÉpStan score in C2.1/P1 and their ÉpStan score in C3.1/P3, called **delta value** in the following, is represented by an individual dot and the density of the dots reflects the size of each group (i.e., total *N* of students as indicated on the x-axis), allowing to graphically identify outliers (e.g., students with a particularly low or high delta value in mathematics). Mean delta values are indicated in the center of each distribution. Considering that regular fluctuations of ± 10 ÉpStan points have been observed in mathematics between assessment years, changes staying below ± 10 ÉpStan points over time (i.e., between C2.1/P1 and C3.1/P3) as well as between different student groups (i.e., EPS students and students following the Luxembourgish curriculum) should thus not be interpreted as considerable differences in the development of academic achievement in mathematics[5].

Figure I.4 – Mean Score Development in Mathematics Between C2.1/P1 and C3.1/P3

In C2.1/P1, EPS students had a mean ÉpStan score of 537 in mathematics, whereas students following the Luxembourgish curriculum displayed a mean ÉpStan score of 530. With a group difference of only

[5] However, if the ÉpStan results trend in one direction by ± 10 points over several years, it indicates a systematic deterioration or improvement in academic achievement.

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7 ÉpStan points between EPS students and their peers following the Luxembourgish curriculum, results indicate that C2.1/P1 students, in general, started with comparable skills in mathematics into primary education. As illustrated by the negative average delta values in *Figure I.4* that go beyond ± 10 ÉpStan points, a mean score decline between C2.1/P1 and C3.1/P3 can be observed for both EPS students and their peers following the Luxembourgish curriculum. With 43 ÉpStan points, this decline is, however, considerably more pronounced in students following the Luxembourgish curriculum than for students in EPS, where a mean score decrease of 15 ÉpStan points was recorded. These results illustrate that students in EPS show a smaller decline in their mean ÉpStan score in mathematics between C2.1/P1 and C3.1/P3 compared to their peers following the Luxembourgish curriculum, which translated into considerable group differences in C3.1/P3, where EPS students display a mean ÉpStan score of 522 in mathematics compared to 487 for students following the Luxembourgish curriculum.

Considering that low SES students, students having a migration background, and/or students speaking a language other than Luxembourgish or German at home have repeatedly been found to struggle academically in schools following the Luxembourgish curriculum, the present chapter investigates in a second step, how EPS students with specific background characteristics perform in mathematics compared to their peers with the same characteristics following the Luxembourgish curriculum.

As for the full cohort, both female and male students in EPS and in schools following the Luxembourgish curriculum started with comparable skills in mathematics into primary education with female students having had a mean ÉpStan score of 536 in EPS and of 529 when following the Luxembourgish curriculum and male students having started with a mean ÉpStan score of 539 in EPS compared to 532 in schools following the Luxembourgish curriculum. *Figure I.5* shows the longitudinal development of the students' ÉpStan mean score in mathematics between C2.1/P1 and C3.1/P3 for EPS students and their peers in schools following the Luxembourgish curriculum split by **gender**. With an average delta value of -1, male students in EPS can be identified as the only group for which a stable mean score in mathematics was observed between C2.1/P1 and C3.1/P3. With delta values ranging from -29 (for female students in EPS) to -51 (female students following the Luxembourgish curriculum), a considerable mean score decline can be identified between C2.1/P1 and C3.1/P3 for all the other student groups. Female (-29) as well as male students (-1) in EPS are showing considerably less pronounced declines in their mean score in mathematics compared to their respective female (-51) and male (-35) peers following the Luxembourgish curriculum, thus demonstrating a more positive development in their mathematics mean scores between C2.1/P1 and C3.1/P3.

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Figure I.5 – Mean Score Development in Mathematics Between C2.1/P1 and C3.1/P3 Split by Gender

Regarding **socioeconomic status (SES)**, high-SES students following the Luxembourgish curriculum started into their primary education with a slightly higher ÉpStan mean score in mathematics of 554 in C2.1/P1 compared to their high-SES peers in EPS, who showed a mean score of 542. As illustrated in *Figure I.6*, EPS students with a high SES display a stable mean score development (average delta value of -9 that fails to go beyond ± 10 ÉpStan points) in mathematics between C2.1/P1 and C3.1/P3, whereas their high-SES peers in schools following the Luxembourgish curriculum are on average showing a mean score decrease of -23 ÉpStan points. Regarding low-SES students, both EPS students (497) as well as students following the Luxembourgish curriculum (503) had comparable ÉpStan mean score in mathematics in C2.1/P1. *Figure I.6* shows that the achievement scores in mathematics decreased significantly for low-SES students between C2.1/P1 and C3.1/P3, and this irrespective of the attended curriculum. With an average delta value of -58, this decline is, however, considerably more pronounced in low-SES students following the Luxembourgish curriculum than in their low-SES peers attending EPS (average delta value of -39). This mean score development in mathematics results in a group difference in favour of low-SES students in EPS in C3.1/P1, where they display a mean score of 458 compared to their low-SES peers following the Luxembourgish curriculum (445 points). As visualised by the small number of individual points in *Figure I.6* and as discusses in more detail in section *2.3.1*, it has to be underlined that the results for students with a low SES in EPS are based on a very small group of students (*N* = 24) and should thus be interpreted with caution.

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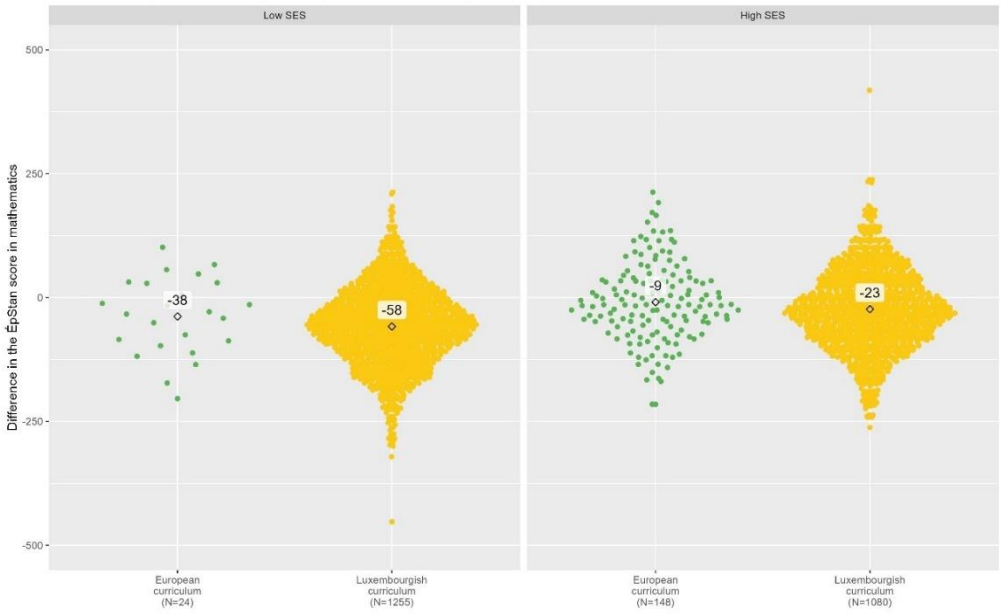
Figure I.6 – Mean Score Development in Mathematics Between C2.1/P1 and C3.1/P3 Split by SES



When looking at students split by **migration background**, native students following the Luxembourgish curriculum showed a higher ÉpStan mean score in mathematics (540) in C2.1/P1 compared to native students in EPS (523). *Figure I.7* illustrates the mean score development of academic achievement in mathematics between C2.1/P1 and C3.1/P3 split by migration background. Native students are showing a decrease in their mathematics mean score irrespective of the attended curriculum. With an average delta of -38, this decrease is, however, considerably more pronounced in native students following the Luxembourgish curriculum, compared to their native peers in EPS (average delta value of -24). This development leads to comparable mean scores in mathematics in C3.1/P3 between native EPS students (ÉpStan mean score of 499) and their native peers in schools following the Luxembourgish curriculum (mean score of 502). For students with a migration background, a different pattern can be observed. In EPS, students with a migration background started with a considerably higher mean score in mathematics into their primary education (540 in P1) compared to their peers with a migration background following the Luxembourgish curriculum (mean of 523 in C2.1). As depicted in *Figure I.7,* EPS students with a migration background are showing an average decline in their mathematics mean score of -14, whereas students with a migration background following the Luxembourgish curriculum display a significantly stronger decline of -46 between C21/P1 and C3.1/P3. As discussed in section *2.4.1*, the small number of native students in EPS and the fact that EPS students with a migration background are likely to have different countries of origin (e.g., non-EU countries) than their peers with a migration background following the Luxembourgish curriculum (e.g., Portuguese), the results on the development in achievement in mathematics split by migration background must be interpreted with caution.

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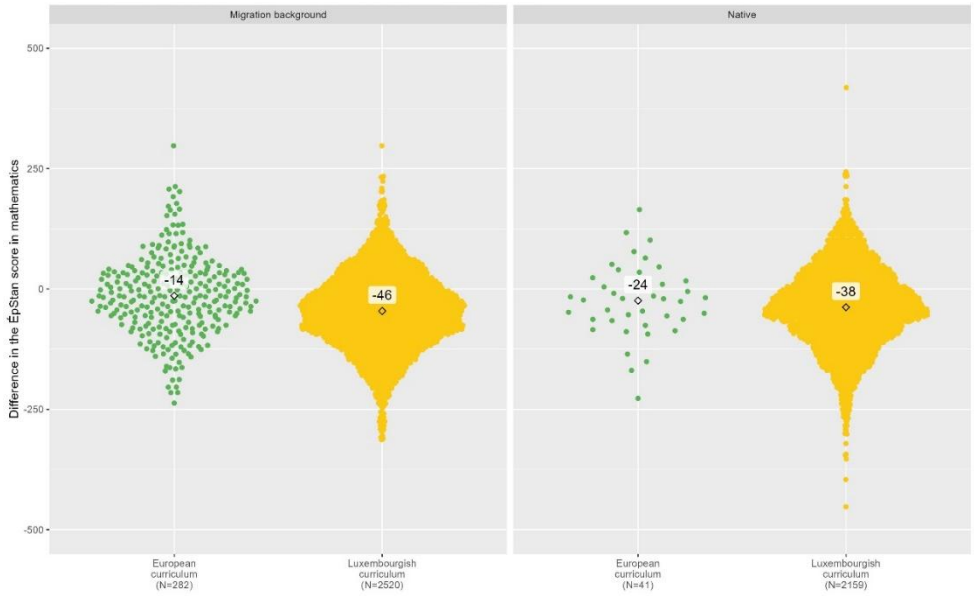
Figure I.7 – Mean Score Development in Mathematics Between C2.1/P1 and C3.1/P3 Split by Migration Background



With regard to **language background**, Luxembourgish-speaking students started their primary school with higher achievement scores in mathematics when following the Luxembourgish curriculum (mean score of 540) compared to their Luxembourgish-speaking peers in EPS (mean score of 519) in C2.1/P1. In contrast, Portuguese-speaking students showed a higher mean score in C2.1/P1 when in EPS (mean score of 525) than their peers with a Portuguese language background following the Luxembourgish curriculum (mean score of 511). For French- as well as for English-speaking students no significant group differences could be observed in C2.1/P1, indicating that they started with comparable mathematics skills into their primary school education. As can be seen in *Figure I.8*, which illustrates the mean score development in mathematics between C2.1/P1 and C3.1/P3 split by language background, French- and English-speaking students attending EPS display a stable development of their mean scores in mathematics with average delta values that fail to go beyond regularly observed fluctuations of ± 10 ÉpStan points (with -5 and 7, respectively). While all other student groups are showing a decrease in their means irrespective of their curriculum, the observed decline is considerably more pronounced in French- (average delta value of -45), in Portuguese- (average delta value of -64), and in English-speaking students (average delta value of -42) when following the Luxembourgish curriculum than for their peers with the same language background in EPS. The only divergence from this pattern was found in students with a Luxembourgish and/or German language background, where students in EPS (average delta value of -44) are showing a slightly stronger mean score decline in mathematics than Luxembourgish- and/or German-speaking students following the Luxembourgish curriculum (-34). In C3.1/P3, group differences in favour of EPS students can thus be observed for French- (mean score of 524 compared to 486), Portuguese- (488 compared to 447), as well as English-speaking students (538

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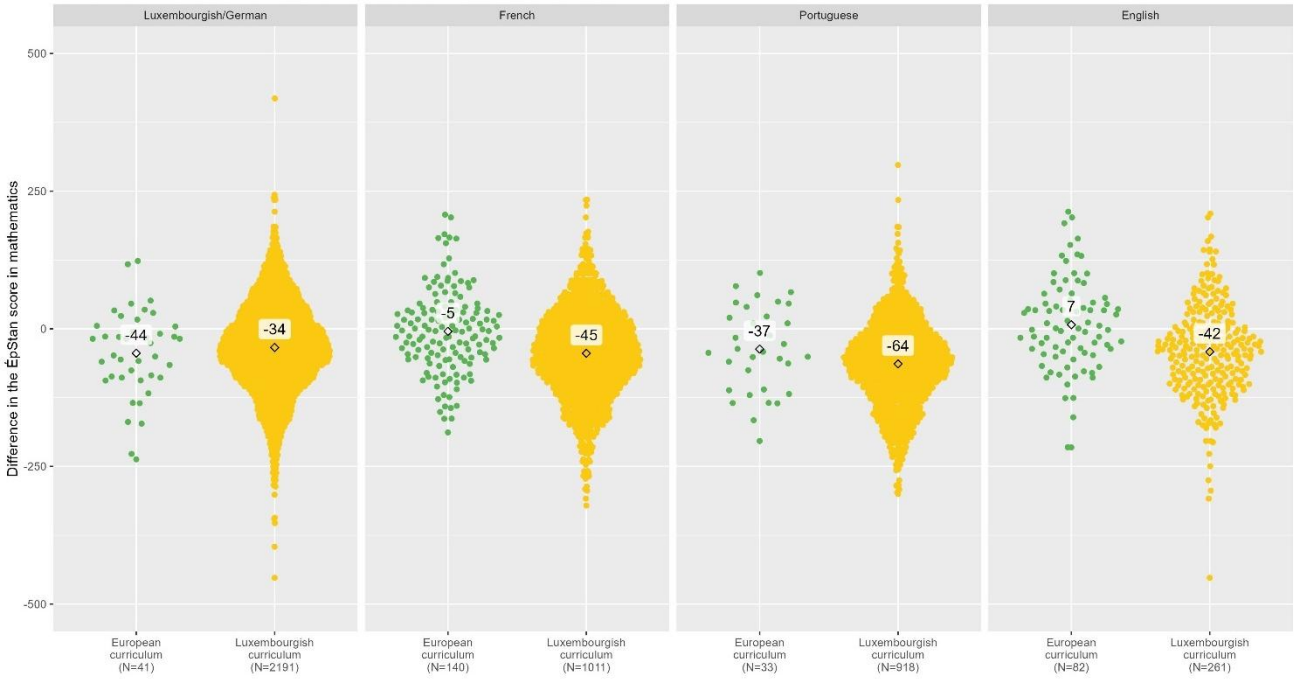
compared to 490). For students with a Luxembourgish and/or German background, group differences in favour of students following the Luxembourgish curriculum can, however, be observed with a mean score of 506 compared to 475 for Luxembourgish- and/or German speaking students in EPS. Given the small number of EPS students with a Luxembourgish/German (*N* = 41) or Portuguese (*N* = 33) language background, the results on the development in mathematics split by language background must be interpreted with caution.

Figure I.8 – Mean Score Development in Mathematics Between C2.1/P1 and C3.1/P3 Split by Language Background



2.4.3 LONGITUDINAL DEVELOPMENT OF MATHEMATICS ACHIEVEMENT BETWEEN C3.1/P3 AND C4.1/P5

In the following, the development of the mean scores in mathematics between C3.1/P3 and C4.1/P5 will be presented. *Figure I.9* shows the longitudinal development of the ÉpStan mean scores in mathematics for students attending EPS (in green) and for students following the Luxembourgish curriculum (in yellow) between C3.1/P3 and C4.1/P5, by displaying each student's difference between their ÉpStan score in C3.1/P3 and their ÉpStan score in C4.1/P5, called **delta value** in the following (for more details on how to read the figures below and on when to consider a difference as statistically significant see section 2.3.2).

In C3.1/P3, EPS students had a mean ÉpStan score of 494 in mathematics, whereas students following the Luxembourgish curriculum displayed a mean ÉpStan score of 490. With a group difference of only 4 ÉpStan points between EPS students and their peers following the Luxembourgish curriculum, results

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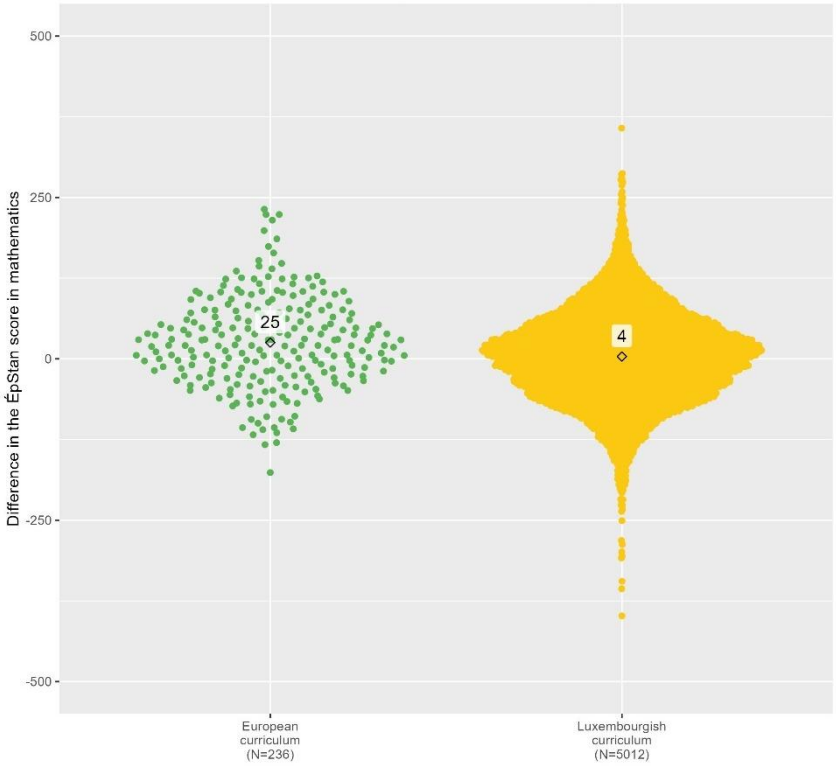
indicate that C3.1/P3 students showed comparable skills in mathematics irrespective of the curriculum they attended. With an average delta value of +4 (failing to go beyond regularly observed fluctuations of ± 10 ÉpStan points), the mean score development in mathematics between C3.1/P3 and C4.1/P4 is stable for students following the Luxembourgish curriculum. Students in EPS, on the other hand, are showing a considerable increase in their mathematics mean score with an average delta value of +25. These results illustrate that EPS students develop more positively in mathematics between C3.1/P3 and C4.1/P5 compared to their peers following the Luxembourgish curriculum.

Figure I.9 – Mean Score Development in Mathematics Between C3.1/P3 and C4.1/P5



With regard to **gender**, female students displayed comparable skills in mathematics in C3.1/P3 whether they attended EPS (ÉpStan mean score of 478) or followed the Luxembourgish curriculum (mean score of 485). As depicted in *Figure I.10,* female students following the Luxembourgish curriculum stay stable in their mathematics mean score between C3.1/P3 and C4.1/P5 (average delta value of -3), whereas female EPS students, on the other hand, are showing a positive development in their mean scores with an average delta value of +23. In C4.1/P5, group differences in favour of female students in EPS can thus be observed (mean of 501 compared to 482 for female students following the Luxembourgish curriculum). In contrast to female students, male students in EPS display already stronger achievement in mathematics in C3.1/P3 (mean score of 513) compared to their male peers in schools following the Luxembourgish curriculum (mean score of 495). Their mean score development in mathematics

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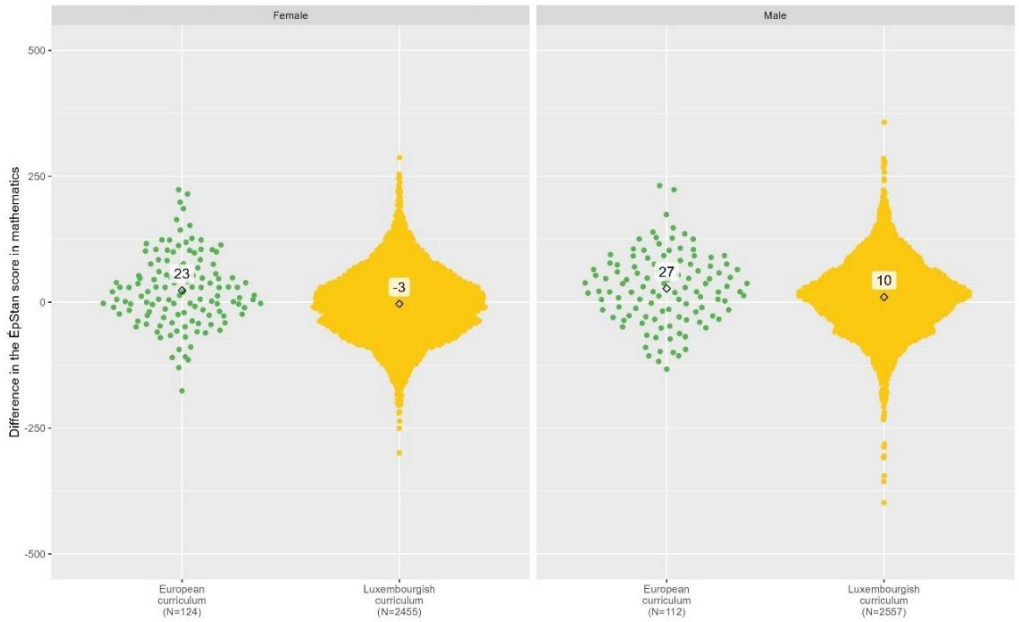
between C3.1/P3 and C4.1/P5 is also considerably more positive (average delta value of +27) than the development in male students following the Luxembourgish curriculum (average delta value of +10).

Figure I.10 – Mean Score Development in Mathematics Between C3.1/P3 and C4.1/P5 Split by Gender



Looking at students split by **socioeconomic status (SES)**, high-SES students following the Luxembourgish curriculum showed a considerably higher mean score in mathematics in C3.1/P3 (539) than their high-SES peers in EPS (mean score of 505). For low-SES students on the other hand, EPS students displayed considerably higher skills in mathematics in C3.1/P3 (mean score of 483) compared to students with a low-SES following the Luxembourgish curriculum (mean score of 448). As illustrated by *Figure I.11*, high-SES students in EPS are the only group for which a significant increase in their mathematics mean score can be observed between C3.1/P4 and C4.1/P5 (average delta value of +21). The three other student groups are showing a stable mean score development with average delta values that fail to go beyond regularly observed fluctuations of ± 10 ÉpStan points. The group differences in favour of low-SES students in EPS (mean score of 490) compared to their low-SES peers in schools following the Luxembourgish curriculum (mean score of 451) and in favour of high-SES students following the Luxembourgish curriculum (mean score of 542) compared to their high-SES peers in EPS (mean score of 526; a difference now less pronounced than in C3.1/P3 due to the positive development observed for high-SES students in EPS) can thus also be identified in C4.1/P5. As visualised by the small number of individual points in *Figure I.10* and as discussed in more detail in section *2.4.1*, it has to be underlined that the results for students with a low SES in EPS are based on a very small group of students (*N* = 21) and should thus be interpreted with caution.

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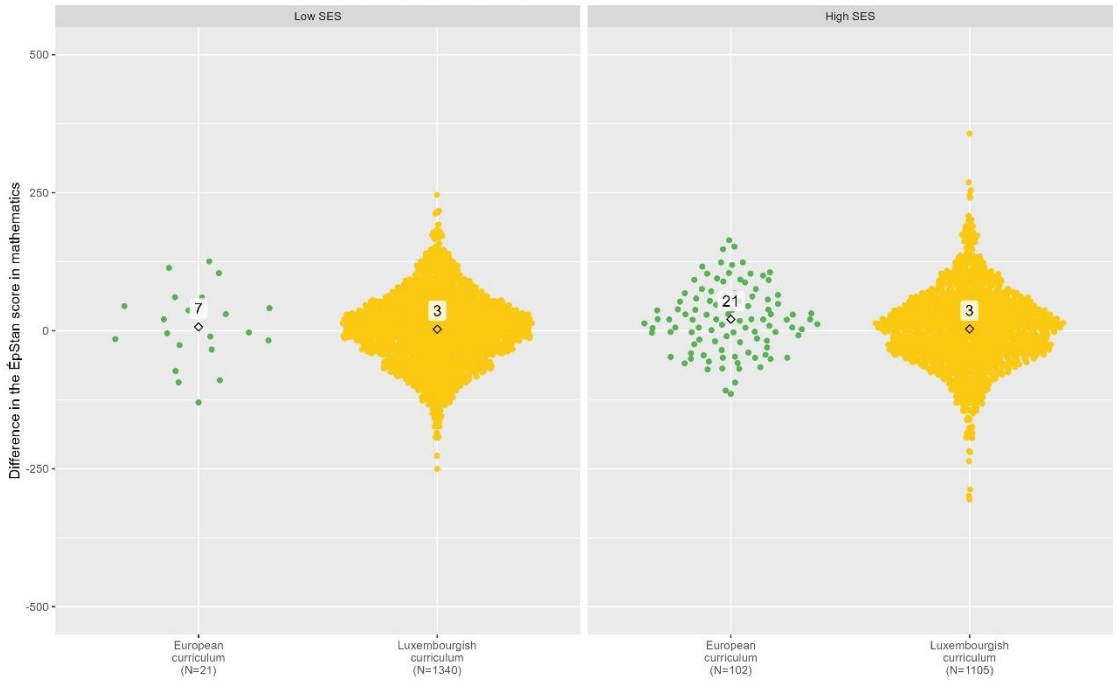
Figure I.11 – Mean Score Development in Mathematics Between C3.1/P3 and C4.1/P5 Split by SES



When looking at students split by **migration background**, native students following the Luxembourgish curriculum showed a considerably higher ÉpStan mean score in mathematics (506) in C3.1/P3 compared to native students in EPS (454). *Figure I.12* illustrates the mean score development in mathematics between C3.1/P3 and C4.1/P5 split by migration background, indicating that native students following the Luxembourgish curriculum are showing a stable development in mathematics with an average delta value of +4. Native students in EPS, on the other hand, are showing a considerable increase in their mathematics mean score between C3.1/P3 and C4.1/P5 with an average delta of +55. Due to this positive development for native students in EPS, the group differences in favour of their peers in schools following the Luxembourgish curriculum that were observed in C3.1/P3 no longer exist, with native students showing comparable skills in mathematics in C4.1/P5 whether they are attending EPS (mean score of 509) or schools following the Luxembourgish curriculum (mean score of 510). With regard to students having a migration background, students in EPS displayed considerably higher skills in mathematics in C3.1/P3 (mean score of 500) compared to their peers with a migration background in schools following the Luxembourgish curriculum (mean score of 479). They furthermore show a more positive mean score development between C3.1/P3 and C4.1/P5 (average delta value of +23) compared to their peers following the Luxembourgish curriculum, which display a stable mean score development in mathematics (average delta value of +3). As discussed in more detail in section *2.4.1*, the small number of native students in EPS (*N* = 25) and the fact that EPS students with a migration background likely have different countries of origin (e.g.,

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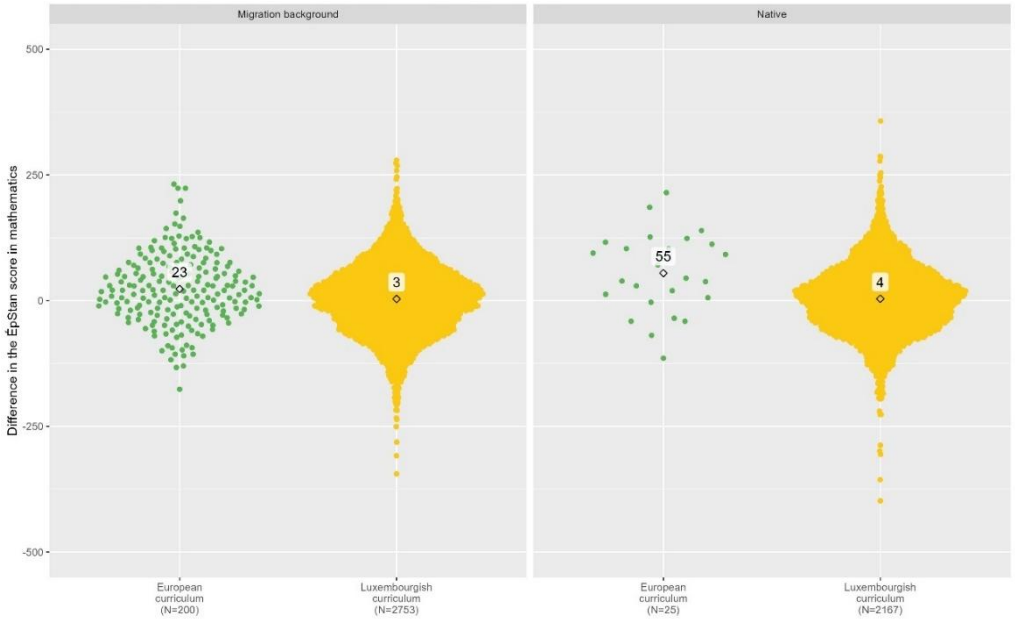
non-EU countries) than their peers with a migration background following the Luxembourgish curriculum (e.g., Portuguese), the results on the development in achievement in mathematics split by migration background must be interpreted with caution.

Figure I.12 – Mean Score Development in Mathematics Between C3.1/P3 and C4.1/P5 Split by Migration Background



Considering the students' **language background**, Luxembourgish-speaking students displayed a higher mean achievement score in mathematics in C3.1/P3 (508 points) when following the Luxembourgish curriculum than their peers with a Luxembourgish and/or German language background in EPS (473 points). A group difference in favour of students following the Luxembourgish curriculum has also been identified for Portuguese-speaking students with a mean ÉpStan score of 449 in C3.1/P3 compared to their Portuguese-speaking peers in EPS (mean score of 435). French-speaking students in EPS display, on the other hand, higher skills in mathematics in C3.1/P3 (mean score of 508) than their peers with a French language background in schools following the Luxembourgish curriculum (mean score of 486). For English-speaking students no significant group differences could be observed in C3.1/P3, a result which indicates that English-speaking students have comparable skills in mathematics irrespective of the attended curriculum. *Figure I.13,* which illustrates the mean score development in mathematics between C3.1/P3 and C4.1/P5 split by language background, shows that students in schools following the Luxembourgish curriculum have a stable mean score development between C3.1/P3 and C4.1/P5, with average delta values that fail to go beyond regularly observed fluctuations of ± 10 ÉpStan points, irrespective of their language background. For EPS students, a more differentiated picture arises. With an average delta value of +54, Luxembourgish- and/or German-speaking students in EPS show a pronounced increase in their mathematics mean score. Portuguese-speaking students

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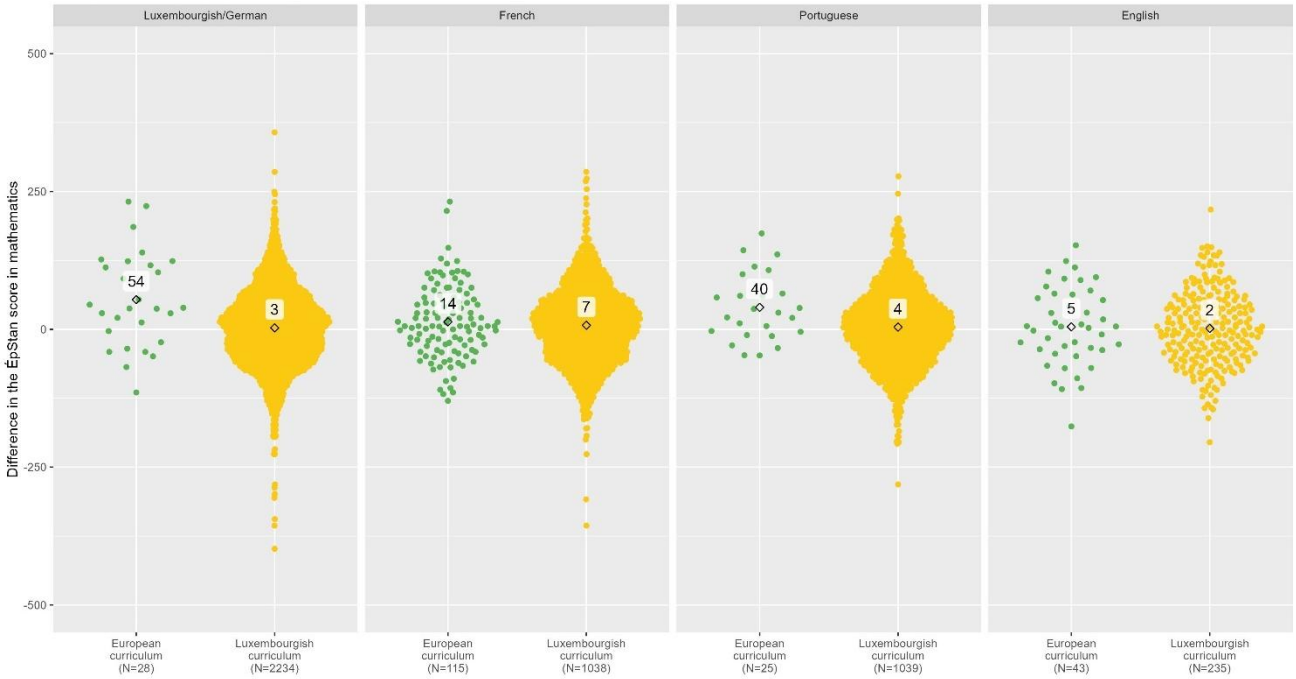
also show an important increase (average delta value of +40), whereas French-speaking students in EPS show an increase that is less pronounced but still significant (average delta value of +14). Only English-speaking students in EPS show a stable development in mathematics (with an average delta value of +5, which fails to go beyond ± 10 ÉpStan Points). Due to this positive pattern, group differences in favour of EPS students can be found in C4.1/P5 for students with a Luxembourgish and/or German (mean score of 527 compared to 511), a Portuguese (mean score of 475 compared to 453) or a French language background (522 compared to 493). English-speaking students, on the other hand, show comparable skills in mathematics in C4.1/P5 with a mean score of 534 for EPS students and of 525 for students following the Luxembourgish curriculum. Considering the small number of EPS students with a Luxembourgish/German (*N* = 28), Portuguese (*N* = 25) or English (N = 43) language background, the results on the mean score development in mathematics split by language background must, however, be interpreted with caution.

Figure I.13 – Mean Score Development in Mathematics Between C3.1/P3 and C4.1/P5 Split by Language Background



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2.5 INTERMEDIARY SUMMARY

The **longitudinal ÉpStan data** collected in the school years 2022/23 and 2024/25 allowed for a first time to investigate whether the trends of EPS students performing better in mathematics than their peers in schools following the Luxembourgish curriculum that were identified in previous cross-sectional studies (Colling et al., 2023; Colling et al., 2024), are reflected in the development of mathematics by following two cohorts longitudinally; one from C2.1/P1 to C3.1/P3 and one from C3.1/P3 to C4.1/P5.

Findings indicate that EPS students from both cohorts display a more favourable development of their mean scores in mathematics than their peers following the Luxembourgish curriculum that is expressed by a more moderate mean score decline between C2.1/P1 and C3.1/P3 for students in EPS compared to students following the Luxembourgish curriculum (see *Figure I.4*), and by a mean score increase between C3.1/P3 and C4.1/P5 compared to a stable development observed for their peers following the Luxembourgish curriculum (see *Figure I.9*). In addition, students that have repeatedly been found to be at a higher risk of struggling academically in Luxembourg's education system (e.g., students with a low-SES, students with a migration background, and students having a non-Luxembourgish/German language background) showed a more positive mean score development in mathematics between C2.1/P1 and C3.1/P3 when attending an EPS compared to their peers with comparable background characteristics in schools following the Luxembourgish curriculum (see *Figure I.6* to *Figure I.8*). In the cohort followed from C3.1/P3 to C4.1/P5, a comparable pattern can be observed for those students groups either in the form of a more positive mean score development in mathematics between time points (see *Figure I.10* to *Figure I.12*) or in a stable mathematics development that confirms group differences in favour of EPS students that were already observable in C3.1/P3.

Taken together, these longitudinal results strengthen the assumption that the opportunity to choose a language section and thereby a main language of instruction (i.e., German, French, or English) in EPS, allowing students to pursue their education in a language that corresponds or is linguistically closer to the language they speak at home, results in a better linguistic fit for EPS students, which could, in turn, contribute to a reduction of educational inequalities that have been identified persistently in schools following the Luxembourgish curriculum (Boehm et al., 2016; Hadjar et al., 2018; Hornung et al., 2021; Sonnleitner et al., 2021). Considering all the statistical and methodological limitations surrounding the interpretation of the present chapter's results (see *Chapter 6* for a detailed discussion), the findings for specific student groups with particularly small *N*s (e.g., low-SES students as well as Portuguese-speaking students in EPS) should, however, be interpreted with caution.

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CHAPTER II: CROSS-SECTIONAL ACADEMIC ACHIEVEMENT OF C2.1/P1 STUDENTS IN LANGUAGE SUBJECTS

HOW DO EPS STUDENTS IN P1 PERFORM IN LUXEMBOURGISH LISTENING COMPREHENSION AND IN THEIR RESPECTIVE LANGUAGE OF LITERACY ACQUISITION COMPARED TO THEIR C2.1 PEERS FOLLOWING THE LUXEMBOURGISH CURRICULUM?

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3. CROSS-SECTIONAL ACADEMIC ACHIEVEMENT OF C2.1/P1 STUDENTS IN LANGUAGE SUBJECTS

3.1 LANGUAGE LEARNING IN LUXEMBOURG'S EDUCATION SYSTEM

In schools following the Luxembourgish curriculum, Luxembourgish is the main language of instruction in *Cycle 1* (consisting of one optional year of *Éducation Précoce* and two compulsory years of *Éducation Préscolaire*) and an important mean to facilitate understanding and communication in a plurilingual school population (MENJE, 2018). In *Cycle 2* (beginning of the *Éducation Fondamental*), the language of literacy acquisition is German (with the exception of the students in the French literacy pilot project "*ALPHA – zesumme wuessen"; see* Colling et al., 2024), and key school competences such as reading, writing, and mathematics are taught in German. After introducing students to oral French during *Cycle 2*, written French is taught in *Cycle 3* as an additional language. The use of the three official languages of the country (Luxembourgish, German, and French) as languages of instruction throughout primary and secondary education and the high language expectations related to this multilingual curriculum seem to present, however, an important challenge (e.g., achievement gaps, grade retentions) for a growing number of students (Hornung et al., 2021; ONQS, 2022).

In light of research findings from international studies in linguistically diverse student populations which suggest that students are at an academic disadvantage when the language of literacy acquisition or the language of instruction in school differ from the language(s) spoken at home (e.g., Hornung et al., 2023; Rogde et al., 2019), the fact that merely 42 % of primary school students have a Luxembourgish and/or German language background (see *Table IV.1* in Colling et al., 2023) might contribute to explain why a higher share of French- and Portuguese-speaking students are failing to meet the national education standards in C4.1 when compared to their peers with a Luxembourgish and/or German language background in both mathematics (36 % and 54 %, respectively, compared to 29 %) and in German reading comprehension (53 % and 71 %, respectively, compared to 20 %; Ottenbacher et al., 2024).

In contrast to schools following the Luxembourgish curriculum, EPS students start literacy acquisition in P1 in the language of their selected section (i.e., German, French, or English) and mainly pursue their education in this language (L1). In the first year of primary school, students also select a first foreign language that they follow up to their baccalaureate (L2) and in the first year of secondary school, a second foreign language (L3) is required.

Based on the assumption that the opportunity to choose a language section in EPS, thereby allowing the students to pursue their education in the language they speak at home or in a linguistically related language, the better linguistic fit offered by EPS could contribute to reducing educational inequalities

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that have been identified persistently in schools following the Luxembourgish curriculum (Boehm et al., 2016; Hadjar et al., 2018; Hornung et al., 2021; Sonnleitner et al., 2021).

3.2 RESEARCH INTEREST AND METHODOLOGY OF THE PRESENT CHAPTER

3.2.1 RESEARCH INTEREST

In order to investigate whether EPS can contribute to reducing existing educational inequalities within Luxembourg's school system, the ÉpStan are gradually being extended. Whereas the ÉpStan iterations of the school years 2022/23 and 2023/24 only assessed academic achievement in mathematics in EPS, based on a joint decision by all the involved stakeholders (Ministry of Education, Cildren and Youth, the *Service de Coordination de la Recherche et de l'Innovation pédagogiques et technologiques*, as well as the *Luxembourg Centre for Educational Testing* and EPS representatives), achievement tests in the language subjects have for a first time been administered to P1 EPS students in the school year 2024/25.

By assessing academic achievement in Luxembourgish listening comprehension (in all three language sections) and in the students' language of literacy acquisition in German and French, the ÉpStan data collected in autumn of the school year 2024/24 thus allow for a first time to investigate how students in EPS perform in language subjects compared to their peers following the Luxembourgish curriculum. In the present chapter, the following guiding research question will thus be addressed:

- *How do EPS students in P1 perform in Luxembourgish listening comprehension (main language of integration) as well as in their respective language of literacy acquisition (German or French) compared to their C2.1 peers following the Luxembourgish curriculum?*

3.2.2 MEASURES

ACHIEVEMENT TESTS IN THE LANGUAGE SUBJECTS IN C2.1/P1

LUXEMBOURGISH LISTENING COMPREHENSION

Whereas Luxembourgish has been the main language of instruction and communication in *Cycle 1* (first two years of compulsory preschool education) in all schools following the Luxembourgish curriculum, Luxembourgish becomes a compulsory subject for EPS students of all three language sections at the beginning of primary education. In the scope of at least two weekly units of 45 minutes each, EPS are aiming at fostering their students' language skills in Luxembourgish, which is considered as an important integrative language for students who have another language background and might thus generally not speak Luxembourgish at home, throughout their whole primary education and up to the third year of secondary school (MENJE, 2024a).

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All tasks presented in the standardised ÉpStan test assessing **Luxembourgish listening comprehension** are based on the national education standards as defined by the Ministry of Education, Children and Youth (MENFP, 2011). The test is presented to the students by the means of an audio file and includes tasks assessing the three sub-skills of being able to (a) *complete instructions*, to (b) *identify and apply information presented in a text* as well as to (c) *construe information and activate listening strategies*. The test consists of different text forms (e.g., dialogues, tales, and stories) that deal with familiar topics (e.g., family, school, and nature).

In line with international large-scale assessments (e.g., PISA), one global score is computed across all items assessing different dimensions, and this global score is normed in such a way that the mean value for all students in Luxembourg lies at 500 points with a standard deviation (mean deviation of the test values from the mean) of 100 points in a reference school year (usually the first school year the respective competency was assessed in the respective grade; Fischbach et al., 2014). Regular fluctuations of ± 10 ÉpStan points from one year to the next are observed at both the primary and secondary school levels. These relatively small variations should generally not be interpreted as significant differences.

Although the formal start of exposure to the Luxembourgish language in the education system might differ for EPS students (beginning of primary education) compared to their peers following the Luxembourgish curriculum (beginning of preschool education), all C2.1/P1 students completed the same test in Luxembourgish listening comprehension, irrespective of their curriculum and the language section attended.

LISTENING COMPREHENSION IN THE LANGUAGE OF LITERACY ACQUSITION

Considering that research has continuously shown that the skills observed for listening comprehension in the language of literacy acquisition are a key precursor for a student's subsequent academic learning (e.g., reading; Röthlisberger et al., 2021), an achievement test in German listening comprehension was added to the ÉpStan in the school year 2022/23. With the stepwise extension of the ÉpStan to follow students in the French literacy pilot project "*ALPHA – zesumme wussen!*", the ÉpStan have furthermore introduced an achievement test in French listening comprehension in the school year 2023/24.

The achievement test in **German and French listening comprehension** include tasks aiming at measuring students' skills at two theoretical difficulty levels. Items at difficulty level 1 refer to basic listening comprehension skills relying on easy tasks such as understanding short stories based on familiar topics (e.g., on school or friends). Items at difficulty level 2 refer to the understanding of more detailed information from slightly longer audio texts and require a broader vocabulary. As for the academic achievement test in Luxembourgish listening comprehension, the tests in German and French listening

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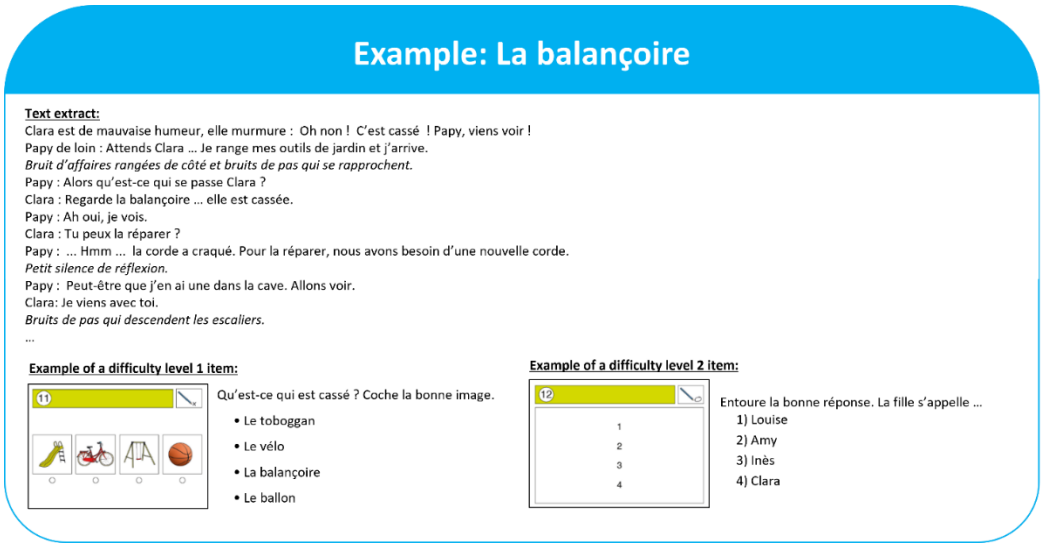
comprehension are also presented to the students by the means of an audio file and include tasks assessing the three sub-skills of being able to (a) *complete instructions*, (b) *identify and apply information presented in a text* as well as (c) *construing information and activating listening strategies*. Each test entails different text forms (e.g., dialogues, tales, and stories).

In the following, the composition of the French listening comprehension test is described and illustrated by the means of examples and a text extract administered to the students of the French literacy pilot project in the school year 2023/24 (Colling, Hornung, et al., 2024). Basic comprehension skills (e.g., word or sentence comprehension) were assessed by relying on vocabulary (e.g., "*Out of the four pictures, choose the picture depicting a table.*") and short instructions (e.g., "*Colour the shoes in blue!*"). Text comprehension was measured by two short stories with the first one referring to an interaction between two children at school and the second one referring to an interaction between a child and her grandfather repairing a swing in the garden (see *Figure II.1*). Each text was followed by several items assessing comprehension. At difficulty level 1, these items measured basic information targeting the main characters (e.g., "*Who is talking?*"), the location of the story (e.g., in the garden), and the context or activity (e.g., repairing a swing). At difficulty level 2, the items assessed the students' comprehension of more detailed information or the interpretation of a situation, for instance the main characters' names, their favourite game or emotional state. The text, question and response options are presented via an audio file.

Figure II.14 – Example of French Listening Comprehension Items (School Year 2023/24)



Note. On the website www.epstan.lu (download section for C2.1), example items can also be found for Luxembourgish listening comprehension and for German listening comprehension.

In order to gain first insights into how EPS students perform in their language of literacy acquisition when compared to their peers following the Luxembourgish curriculum, C2.1/P1 students from the German language section, who learn to read and write in German, were assessed in **German listening**

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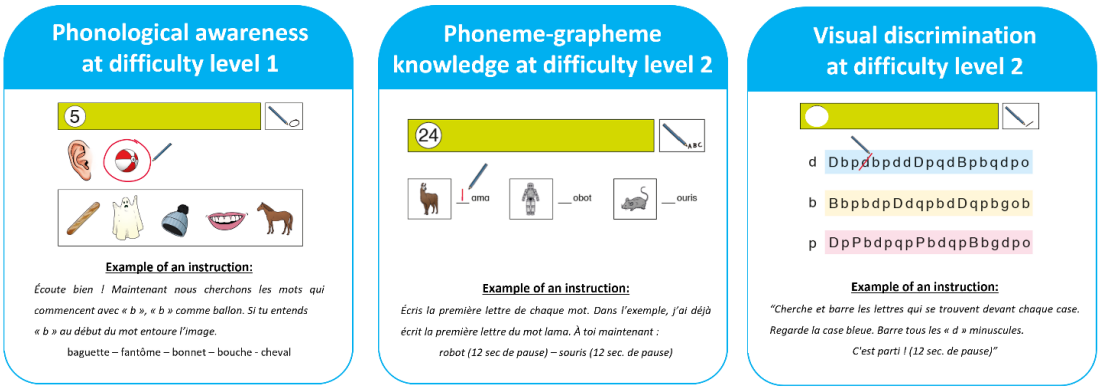
comprehension (thereby completing the same test than their peers in the Luxembourgish curriculum), whereas EPS students attending the French language section and who are thus learning to read and write in French were assessed in **French listening comprehension** in the school year 2024/25. As English does not constitute a language that is introduced during primary education in schools following the Luxembourgish curriculum, no English language test is currently being developed in the scope of the ÉpStan and the ÉpStan can, thus, currently not be extended to EPS students learning to read and write in English.

EARLY LITERACY SKILLS

As for listening comprehension, the standardised ÉpStan achievement test in C2.1/P1 aiming to assess early literacy is presented to the students via an audio file. It is primarily designed to assess the students' ability of constructing and using written language units by measuring the sub-skills of (a) *phonological awareness* (e.g., identifying the initial sound of a word, rimes, and syllables), (b) *visual discrimination* (e.g., identifying words or differences between pictures) as well as the students' (c) *comprehension of the alphabetic principle* (e.g., letter knowledge, writing or identifying the first letter of a familiar word).

With Luxembourgish being the main language of instruction in *Cycle 1* for all children in schools following the Luxembourgish curriculum, the ÉpStan achievement test ***Éischt Schrëtt zur Schrëftsprooch*** measures early literacy skills in Luxembourgish and was administered to all C2.1 students. As part of the stepwise ÉpStan extension in the scope of the French literacy pilot project "*ALPHA – zesumme wussen!*", a test assessing early literacy competences in French (***Premiers Pas vers l'Écrit***) has been developed and was administered for a first time to EPS students from the French language section in the school year 2024/25.

Figure II.15 – Examples of French Early Literacy Items (School Year 2023/24)



Note. On the website www.epstan.lu (download section for C2.1), example items can also be found for the test assessing early literacy skills in Luxembourgish.

Figure II.2 provides examples of ÉpStan tasks assessing early literacy in French. Whereas items assessing the theoretical difficulty level 1, for instance, measure phonological awareness (e.g., identifying rimes,

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initial sound of words, and syllables), the more difficult items at level 2 are tapping into the early literacy skill of phoneme-grapheme association (e.g., writing the first letter of a word). In addition, items at both level 1 and 2 are designed to assess visual discrimination (e.g., identifying specific letters or shapes).

An early literacy achievement test in German has recently been developed and will for the first time be administered to EPS students attending the German language section in the school year 2025/26; an extension that will provide further insights into the language skills of EPS students compared to their peers in schools following the Luxembourgish curriculum. As for listening comprehension, an extension of the assessment of language skills in early literacy is currently not foreseen for EPS students attending an English language section.

STUDENT BACKGROUND CHARACTERISTICS

At primary school level, students and parents provide information on the background characteristics of socioeconomic status (SES), language, and migration background via a self-report questionnaire. A detailed description of how the individual student background characteristics are operationalized can be found in *section 2.3.2* of the present report.

3.2.3 METHODOLOGY

REPORTING OF RESULTS IN THE LANGUAGE OF LITERACY ACQUISITION BY DIFFICULTY LEVEL

In line with well-established international large-scale assessments (e.g., PISA; OECD, 2018), the results of the ÉpStan achievement tests are generally being reported by the means of one global score for each competence domain (e.g., mathematics), which is normed in such a way that the mean value for all students of a certain grade in Luxembourg lies at 500 points with a standard deviation of 100 points in a reference school year (usually the first year the competence was assessed in the respective grade; Fischbach et al., 2014).

Considering that a certain sample size is required in order to validly scale the results of an academic achievement test on this so-called ÉpStan metric and that only a small number of students attending the French language section in EPS (N = 180) completed the two French achievement tests in listening comprehension and early literacy, it was not possible to scale these tests in the same way as the other ÉpStan achievement tests (Luxembourgish listening comprehension, mathematics), which were taken by the full cohort of students (N = 5787) attending C2.1. as well as by the EPS students in the German language section (N = 25).

The present report is therefore presenting the results for the students' academic achievement in their language of literacy acquisition by the items' level of theoretical difficulty (i.e., level 1 corresponding to the *Niveau Socle* and level 2 to the *Niveau Avancé* as defined in the national education standards; MENFP, 2011).

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COMPARABILITY OF RESULTS AND CONCEPTUAL EQUATING

As explained in section *3.2.2*, the ÉpStan achievement test in Luxembourgish listening comprehension was completed by all C2.1/P1 students of the 2024/25 cohort irrespective of whether they are following the Luxembourgish or the European curriculum. As a consequence, the results are directly comparable between student groups – with the caveat that some additional psychometric analyses commonly performed to formally test comparability (measurement invariance) could not be carried out due to the small number of students enrolled in EPS.

In contrast, the tests assessing listening comprehension and early literacy differed depending on the students' language of literacy acquisition (French for P1 students attending a French language section in EPS compared to German for P1 students in a German language section as well as for C2.1 students following the Luxembourgish curriculum). Thus, the achievement results of EPS students attending a French language section in the French tests (i.e., listening comprehension in French, *Premiers Pas vers l'Écrit*) are **not directly comparable** to the results of their peers attending a German language section in EPS or following the Luxembourgish curriculum.

However, **conceptual equating** between the academic achievement tests across the two languages of literacy acquisition can be guaranteed. This means that the same reference documents were used for the development of all tests *(i.e., Plan d'Études*; MENFP, 2011) and that the tests were developed using the same procedures (e.g., in teams of interdisciplinary experts, see section *1.2* for more details).

3.3 RESULTS

3.3.1 DEMOGRAPHIC INFORMATION ON THE C2.1/P1 COHORT OF THE SCHOOL YEAR 2024/25

The data analysis of the present chapter is based on the full C2.1/P1 cohort of the school year 2024/25. The demographic characteristics of the cohorts are presented in *Table II.1*[6]. Considering that the results on academic achievement in the language subjects are presented based on the students' language of literacy acquisition, the demographic characteristics of EPS students are reported split by language section.

In C2.1/P1, *N* = 5787 students were in schools following the Luxembourgish curriculum and *N* = 339 were in EPS. In EPS, the highest share of students attended the French language section (*N* = 180) followed by the English language section (N = 134). A considerably smaller share of only *N* = 25 students opted for the German language section.

[6] Although the *International School Michel Lucius* takes part in the ÉpStan both at primary school level, students following its UK-Style education (i.e., A-levels) have been excluded from the cohort used in the present chapter as its focus is on schools following the European curriculum.

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Table II.1 – Detailed Sample Description of the C21/P1 Cohort in the School Year 2024/25

						Language background			
		N	HISEI (*M*)	% female	% native	% Lux/German	% French	% Portuguese	% English
C2.1	Luxembourgish curriculum	5787	52	48 %	40 %	41 %	23 %	21 %	6 %
P1 – Euripean curriculum	English language section	134	63	51 %	3 %	9 %	11 %	5 %	54 %
	French language section	180	58	45 %	13 %	13 %	64 %	12 %	6 %
	German language section	25	58	56 %	40 %	76 %	8 %	4 %	8 %

Note. *N* = Number of students. HISEI = Highest *International Socio-Economic Index of Occupational Status* value. *M* = Mean. For more details on the operationalisation of the student background variables, see section 2.3.2.

In line with cross-sectional findings discussed in previous reports (Colling et al., 2023; Colling et al., 2024), the composition of the EPS student population in C2.1/P1 differs considerably from the one in schools following the Luxembourgish curriculum. Whereas the distribution of students by **gender** remains largely comparable ranging from 45 % (French language section in EPS) to 56 % (English language section in EPS), considerable differences can be observed with regard to **socioeconomic status (SES)** between EPS and schools following the Luxembourgish curriculum. As shown in *Table II.1*, the student population in EPS is characterized by a higher SES across all three language sections (HISEI mean ranging from 58 to 63) than the student population following the Luxembourgish curriculum (HISEI mean of 52). Looking at the students' **migration background**, *Table II.1* indicates that the percentage of native students (i.e., students whose own country of birth and that of at least one of their parents is Luxembourg) lies at 40 % in both schools following the Luxembourgish curriculum and in the German language section in EPS. In the French (13 %) an in the English language section in EPS (3 %) the share of native students is, however, considerably lower. Regarding **language background**, students speaking Luxembourgish and/or German at home constitute the highest share in schools following the Luxembourgish curriculum (41 %), followed by the students with a French (23 %) or Portuguese language background (21 %). Only around 6 % of students that follow the Luxembourgish curriculum have an English language background. Considering that EPS offer their students the possibility to select between three language sections, allowing them to learn in a language that corresponds or is linguistically related to their home language background, a stronger alignment between the main language of instruction and the students' home language background can be expected. In this context, *Table II.2* shows that 54 % of students in the English language section have an English language background, whereas the alignment is even stronger in the French language section (64 % of students with a French language background) and in the German language section (76 % of students with a

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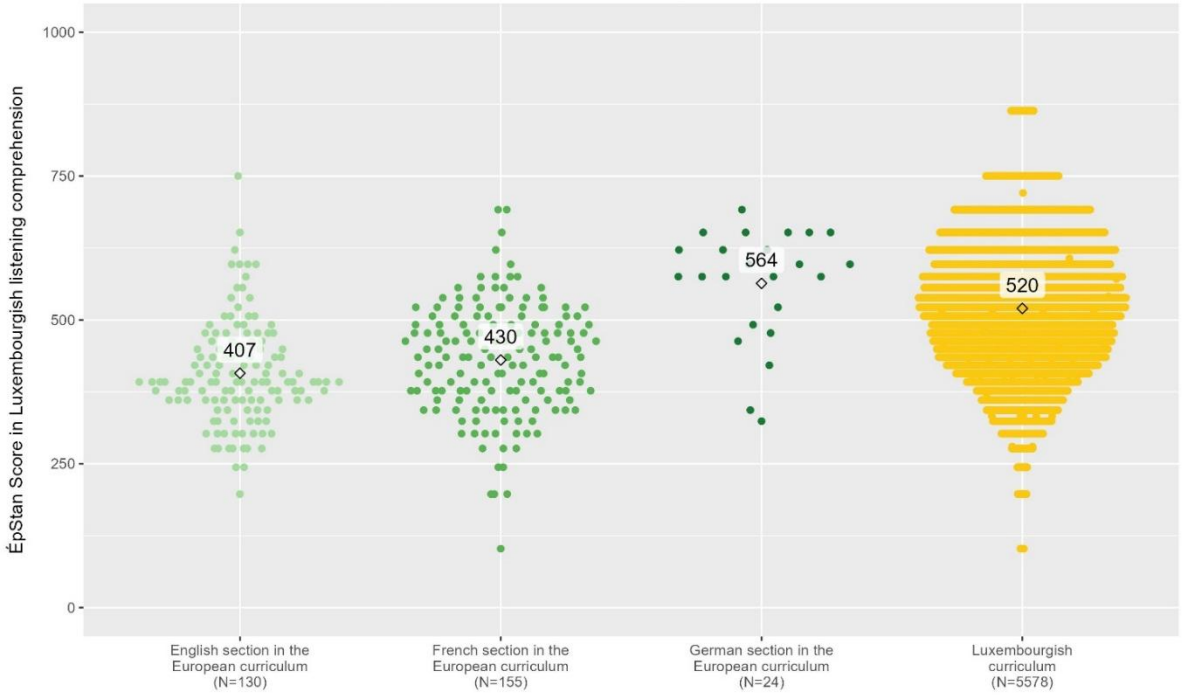
Luxembourg and/or German language background). All other language groups are only accounting for ≈ 12 % or less in the respective language sections.

3.3.2 ACADEMIC ACHIEVEMENT IN LUXEMBOURGISH LISTENING COMPREHENSION

The ÉpStan achievement test in Luxembourgish listening comprehension was completed by all C2.1/P1 students of the 2024/25 cohort irrespective of the curriculum. As a consequence, the results are directly comparable between student groups and are reported on the ÉpStan metric (see 3.2.3 for details).

Figure II.3 shows the distribution of academic achievement in Luxembourgish listening comprehension in C2.1/P1 for students following the Luxembourgish curriculum (in yellow) and for EPS students split into the respective language section they attend (in shades of green). The **ÉpStan achievement score** for each students is represented by an individual dot and the density of the dots reflects the size of each group (i.e., total *N* of students as indicated on the x-axis). The **mean values** are depicted in the center of each distribution. This visualisation, furthermore, allows to graphically display outliers (e.g., students with a particularly low or high ÉpStan score in Luxembourgish listening comprehension). Considering that fluctuations of ± 10 ÉpStan points can regularly be observed between different student groups (i.e., EPS students and students following the Luxembourgish curriculum), changes staying below ± 10 ÉpStan points should not be interpreted as considerable achievement differences.

Figure II.16 – Achievement in Luxembourgish Listening Comprehension in C2.1/P1



A comparison of the mean ÉpStan scores displayed in *Figure II.3* indicates that students following the Luxembourgish curriculum (mean of 520) display on average considerably higher achievement scores

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in Luxembourgish listening comprehension than their EPS peers attending the French (mean of 430) or English language section (mean of 407). With the group differences in favour of students following the Luxembourgish curriculum going beyond the regularly observed fluctuations of ± 10 Épstan points both when compared to EPS students in the French language section (difference of 90 points) and to their peers in the English language section (difference of 113 points), the achievement differences indicate that students following the Luxembourgish curriculum have considerably more encompassing skills in Luxembourgish listening comprehension. With a group difference of 44 ÉpStan points, students attending the German language section in EPS however, show a considerably higher mean score (564 ÉpStan points) in Luxembourgish listening comprehension than students following the Luxembourgish curriculum. Due to the small number of students attending the German language section in EPS (*N* = 24), these findings should, nevertheless, be considered with caution.

3.3.3 ACADEMIC ACHIEVEMENT IN THE LANGUAGE OF LITERACY ACQUISITION

LISTENING COMPREHENSION

As discussed in detail in *section 3.2.3*, C2.1/P1 students following the Luxembourgish curriculum as well as their EPS peers in the German language section, who learn to read and write in German, completed the ÉpStan test in **German listening comprehension**, whereas EPS students from the French language section, who learn to read and write in French, were assessed in **French listening comprehension**[7]. Thus, the results of EPS students in a French language section are not directly comparable to the results of their peers attending a German language section in EPS or following the Luxembourgish curriculum as the tests are conceptually but not psychometrically comparable.

Figure II.17 depicts the academic achievement results in the students' language of literacy acquisition. Considering that the sample size of EPS students attending the French language section is too small to validly scale their results on the ÉpStan metric using advanced Item Response Theory (IRT) models, the present report displays the results for listening comprehension in the students' language of literacy acquisition split by the two theoretical levels of item difficulty (see *sections 3.2.2* and *3.2.3* for more details). The green bars indicate the percentage of items that students answered correctly, whereas the grey bars indicate the percentage of items for which the students gave false or no answers.

At level 1, C2.1/P1 students attending a German language section in EPS completed 92 % of the items correctly, closely followed by their peers attending a French language section in EPS, who answered

[7] As English does not constitute a language that is introduced during primary education in schools following the Luxembourgish curriculum, EPS students attending an English language section have not been considered in the analyses on achievement in the language of literacy acquisition.

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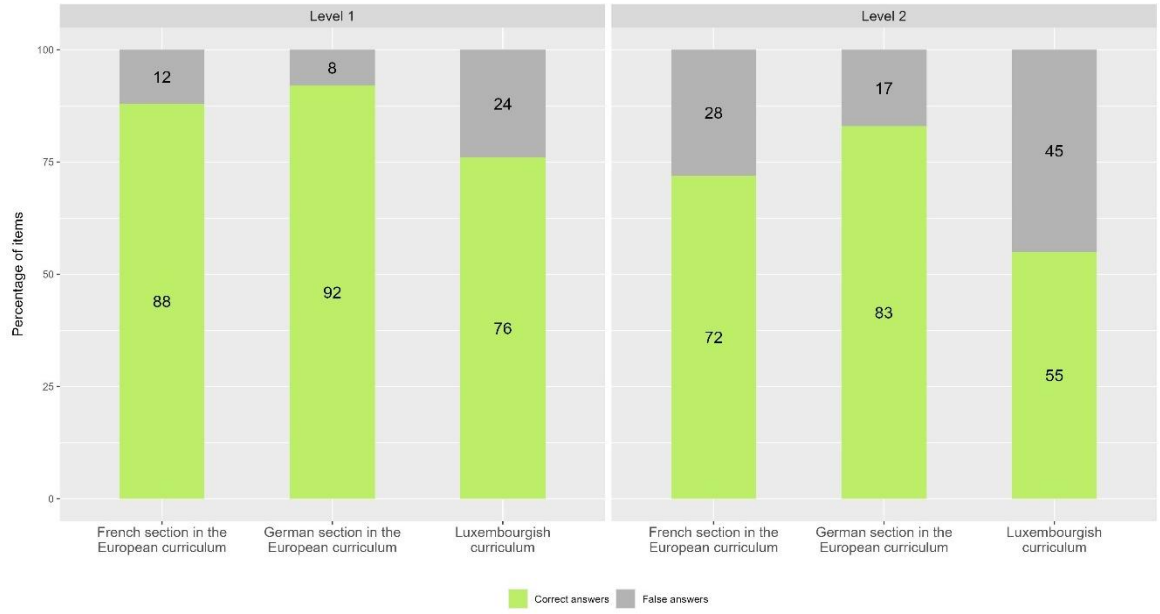
correctly to 88 % of the items. With a group difference of only 4 % between EPS students attending the German language section and their peers in the French language section, the results indicate that EPS students have comparably high skills in listening comprehension, an observation that can be made irrespective of their language of literacy acquisition. By contrast, students following the Luxembourgish curriculum show a lower rate of correctly answered items at level 1 (76 %) in German listening comprehension when compared to their peers in EPS. At level 2, EPS students attending the German language section answered 83 % of the items correctly. With a group difference of 11 % compared to their peers attending the French language section (72 % of correctly answered items), the students from the German language section seem to have slightly higher skills in tasks assessing a more advanced level of listening comprehension (e.g., understanding more detailed information from audio texts) than their EPS peers learning to read and write in French. As for the level 2 items, students following the Luxembourgish curriculum have a lower success rate than their peers in both EPS language sections by answering correctly to only 55 % of the items. The group differences between students following the Luxembourgish curriculum compared to their EPS peers thus seem to indicate that students following the Luxembourgish curriculum are, on average, showing considerably lower achievement skills in the listening comprehension of their language of literacy acquisition than EPS students.

Figure II.17 – Achievement in Listening Comprehension in the Students' Language of Literacy Acquisition in C2.1/P1



Note. *N* = 5521 students following the Luxembourgish curriculum and *N* = 24 EPS students attending a German language section completed the test in **German** listening comprehension. *N* = 173 EPS students in the French language section completed the **French** listening comprehension test.

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As discussed in detail in *section 3.2.3*, students following the Luxembourgish curriculum completed the achievement test ***Éischt Schrëtt zur Schrëftsprooch*** measuring early literacy skills in Luxembourgish. EPS students attending the French language section were assessed in their early literacy skills in French by taking the test ***Premiers Pas vers l'Écrit***[8]. Thus, the results of EPS students in the French language section are not directly comparable to the results of their peers following the Luxembourgish curriculum.

Figure II.5 illustrates the students' academic achievement in early literacy in their respective language of literacy acquisition. Considering that the sample size of EPS students attending the French language section is too small to validly scale their results using advanced Item Response Theory (IRT) models, the present report is presenting the results for early literacy in the students' language of literacy acquisition split by two theoretical levels of item difficulty (see *sections 3.2.2* and *3.2.3* for more details). The green bars indicate the percentage of items that students answered correctly, and the grey bars indicate the percentage of items for which the students gave false or no answers.

At level 1, C2.1/P1 students following the Luxembourgish curriculum and their EPS peers from the French language section demonstrated comparable early literacy skills, correctly answering 80% and 88% of the items, respectively. The group difference of 8 % indicates no significant group differences. Looking at level 2, a more differentiated pattern can be observed with EPS students from the French language section answering correctly to 83 % of the items compared to their peers following the Luxembourgish curriculum, who answered 62 % of the items correctly. With a group difference of 21 %, students from the French language section seem to encompass considerably higher skills in level 2 tasks assessing a more advanced level of early literacy skills (e.g., phoneme-grapheme association) compared to their peers following the Luxembourgish curriculum. The results on early literacy skills thereby seem to indicate that C2.1/P1 students have comparable competences at level 1, whereas EPS students attending a French language section are, on average, showing considerably higher early literacy skills in their language of literacy acquisition than students following the Luxembourgish curriculum. Considering that students following the Luxembourgish curriculum completed the test ***Éischt Schrëtt zur Schrëftsprooch*** assessing early literacy skills in Luxembourgish in comparison to the EPS students from a French language section, which completed the test ***Premiers Pas vers l'Écrit*** assessing early literacy skills in French, the presented results have, however, to be interpreted with caution (see *section 3.2.3* for more details).

[8] As English does not constitute a language that is introduced during primary education in schools following the Luxembourgish curriculum, EPS students attending an English language section have not been considered in the analyses on achievement in the language of literacy acquisition. For the results on early literacy, EPS students attending a German language section were also excluded considering that a German early literacy test has only recently been developed and will for the first time be administered in the school year 2025/26.

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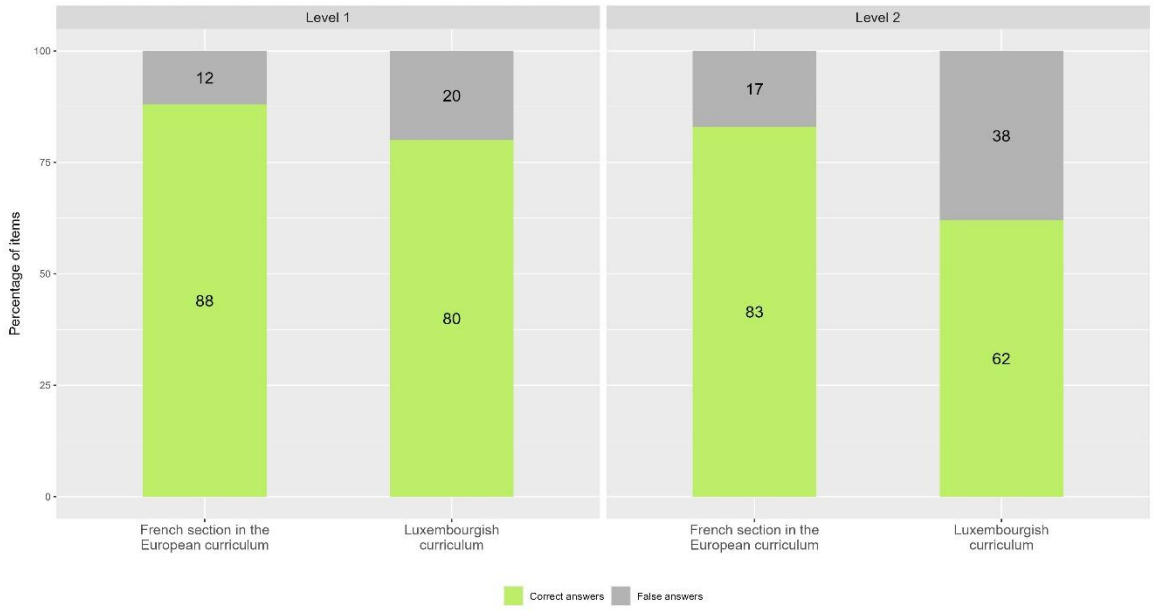
Figure II.18 – Achievement in Early Literacy in the Students' Language of Literacy Acquisition in C2.1/P1



Note. *N* = 5604 students following the Luxembourgish curriculum completed the test ***Éisch Schrëtt zur Schrëftsprooch*** assessing early literacy in Luxembourgish. *N* = 177 EPS students attending a French language section completed the test ***Premiers Pas vers l'Écrit*** assessing early literacy in French.

In contrast to the results on the longitudinal development in academic achievement in mathematics (see *Chapter I*), the results on academic achievement in Luxembourgish listening comprehension and on academic achievement in the students' language of literacy acquisition cannot be presented by taking the students' individual background characteristics (e.g., gender, SES, language, and migration background) into account. The small groups of EPS students with specific background characteristics (e.g., students with a low SES; Portuguese speaking students; see *Table II.1* and *section 3.1.1* for details) result in the fact that no valid conclusions could be drawn based on results split by language section in combination with student background characteristics at this stage.

3.4 INTERMEDIARY SUMMARY

Based on the ÉpStan results of the school year 2024/25, academic achievement in language subjects could for a first time be compared between EPS students and their peers following the Luxembourgish curriculum in C2.1/P1.

In **Luxembourgish listening comprehension** *(main language of integration)*, C2.1/P1 students following the Luxembourgish curriculum display more encompassing skills compared to EPS students attending the French or the English language section. This advantage observed in favour of students following the Luxembourgish curriculum might be explained by the fact that Luxembourgish is the main language of instruction and communication in *Cycle 1* (compulsory preschool education) in schools following the Luxembourgish curriculum, whereas Luxembourgish only becomes a compulsory subject for EPS students of all language sections at the beginning of primary education (MENJE, 2024a). This

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difference might contribute to the considerably higher achievement in Luxembourgish listening comprehension that was observed in C2.1 students following the Luxembourgish curriculum. Students attending the German language section in EPS perform better in Luxembourgish listening comprehension compared to students following the Luxembourgish curriculum. This results could potentially be explained by the fact that 76 % of the students from the German language section in EPS have a Luxembourgish/German language background while this applies to a considerably lower share of their peers that are following the Luxembourgish curriculum (41 %) or attending the French (13 %) or English language section (9 %; see *Table II.1*) in EPS. The C2.1/P1 students attending a German language section in EPS are thus more familiar with the Luxembourgish language due to their own home language background. Due to the small number of students attending the German language section in EPS (*N* = 24), these results should, nevertheless, be considered with caution.

Looking at **listening comprehension** in the students' language of literacy acquisition, EPS students in the French as well as in the German language sections showed considerably higher skills in the listening comprehension of their respective language of literacy acquisition than students following the Luxembourgish curriculum. When it comes to **early literacy skills**, EPS students attending the French language section also showed higher skills compared to their peers following the Luxembourgish curriculum. The advantage in favour of EPS students in both listening comprehension as well as in early literacy might be explained by the fact that EPS students are attending the language section of their choice, in which the language of literacy acquisition is more closely aligned with their home language profile (e.g., 64 % of students with a French language background attending the French language section, see *Table II.1*) allowing them to learn to read and write in a language linguistically closer to their home language. In light of the fact that EPS students in the French language section completed the achievement test in **French listening comprehension** compared to their EPS peers in the German language section and students following the Luxembourgish curriculum, who did the test in **German listening comprehension**, the present results have to be interpreted with caution (see *section 3.2.3* for more details). In addition, the student population in EPS differs from the students following the Luxembourgish curriculum with regard to their SES, which might also contribute to explaining the observed achievement differences.

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CHAPTER III: CROSS-SECTIONAL ACADEMIC MOTIVATION AND SUBJECTIVE WELLBEING IN PRIMARY AND SECONDARY SCHOOL

HOW DO ACADEMIC MOTIVATION AND SUBJECTIVE WELLBEING OF EPS STUDENTS AT ALL GRADE LEVELS COMPARE TO THEIR PEERS FOLLOWING THE LUXEMBOURGISH CURRICULUM?

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4. CROSS-SECTIONAL ACADEMIC MOTIVATION AND WELLBEING IN PRIMARY AND SECONDARY SCHOOL

4.1 THEORETICAL BACKGRAND AND RESEARCH AIM OF THE PRESENT CHAPTER

Schools are not only responsible to teach academic skills but should furthermore be considered as learning environments that foster students' motivation (e.g., academic self-concept and interest) and enable them to develop a positive attitude towards learning in a supportive climate (e.g., class and school climate, teacher-student relationship). In light of a strong consensus in research that academic motivation and academic achievement are reciprocally related to each other (Niepel et al., 2014; Schiefele et al., 2016; Wolff et al., 2021), the present chapter investigates whether academic motivation and wellbeing in EPS students differ when compared to their peers following the Luxembourgish curriculum. Based on the ÉpStan student questionnaires assessing domain-general and domain-specific academic motivation as well as academic wellbeing, the ÉpStan data collected in the autumn in the school year 2024/25, thus, allow to address the following guiding research question:

- *How do academic motivation and subjective wellbeing of EPS students at all grade levels compare to their peers following the Luxembourgish curriculum?*

4.2 MEASURES

4.2.1 ACADEMIC MOTIVATION AND WELLBEING

Considering that schools are not only responsible to teach academic skills but should furthermore be fostering students' academic motivation within a supportive learning environment, the ÉpStan assess motivational aspects and student wellbeing by the means of a self-report student questionnaire. In the student questionnaire, various statements such as "*I am interested in most school subjects*" are presented to the students who are invited to express their level of agreement with each item.

In primary education, the students express their level of agreement on a two-point (C2.1/P1) or a four-point Likert scale (C3.1/ P3 and C4.1/P5) using age-appropriate shaking heads as symbols to represent their agreement or disagreement[9]. In secondary education, students rate their level of agreement with a statement on a four-point Likert scale ranging from "*does not apply*" to "*applies*". The number of items used to assess a specific construct is increasing over time with the fewest items in C2.1/P1 and the most in S3/5e.

[9] The student questionnaires for all primary school grades are available in the respective download areas on the ÉpStan website.

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Primary school students following the Luxembourgish curriculum are completing a German version of the questionnaire, whereas EPS students complete the questionnaire in the language of their selected language section. In secondary education, students following the Luxembourgish curriculum have the option to switch between German and French, which are their two main languages of instruction, while their peers in EPS can switch between German, French, and English.

The following three **motivational constructs**, that have repeatedly been found to be associated with academic achievement (Caviola et al., 2022; Jansen et al., 2016; Wu et al., 2021) are assessed in the ÉpStan student questionnaires:

(a) **General and domain-specific academic self-concept**:
Academic self-concept can broadly be defined as the entirety of cognitive representations an individual has regarding its own academic abilities and it evolves based on the attitudes, experiences, feelings, and beliefs a student gathers on its academic abilities in the educational context (e.g., Brunner et al., 2009; Gogol et al., 2016; Hoferichter et al., 2018). While a number of items are designed to assess the students' general academic self-concept (e.g., *I am good at most school subjects*), other items target the domain-specific self-concept in mathematics and the students' respective language of literacy acquisition that remains the main language of instruction over the course of primary education (e.g., *I learn things quickly in German*).

(b) **General and domain-specific academic interest:**
Academic interest describes the personal importance and emotional value towards a topic, idea, or school subject resulting in a relatively enduring preference for and predisposition to (re-)engage with the content of interest (e.g., Gogol et al., 2016; Hidi & Renninger, 2006; Krapp, 2002). As for academic self-concept, some items target general interest (e.g., *I enjoy most school subjects*), while other items assess domain-specific interest both in mathematics as well as in the students' main language of instruction (e.g., *I am interested in French*).

(c) **General and domain-specific academic anxiety**:
Academic anxiety describes the students' cognitive, physiological, and behavioural responses (e.g., worry, stress, or avoidance) related to situations in the educational context such as, for example, the extent to which students are afraid of a specific school subject, how much it worries them, or in how far exams in the subject are making them nervous (e.g., Carey et al., 2017; Fishstrom et al., 2022). "*I am afraid of most school subjects*" is an example item assessing general academic anxiety, whereas "*I am afraid of French*" aims at assessing domain-specific academic anxiety.

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Besides these motivational variables, the ÉpStan student questionnaire measures **student wellbeing**, which has also repeatedly been found to be related to academic achievement (e.g., Praetorius et al., 2018; Wollschläger et al., 2022) by the means of the following four constructs:

(a) **General school satisfaction**:
The construct of school satisfaction describes the subjective cognitive appraisal of a student regarding the quality of their school life (Baker et al., 2003) and it is measured by the means of items such as "*I am happy when I am at school*".

(b) **Teacher-student relationship**:
Tapping into the student support dimension of instructional quality (Praetorius et al., 2018), the ÉpStan student questionnaire explores whether students have a positive relation with their teacher (e.g., *In my class, I get extra support from my teacher when I need it*).

(c) **Class climate**:
Besides the relationship between the teacher and the students, the interaction between peers is important for the students' wellbeing in school. Therefore, class climate is measured by items such as "*In my class, we help each other*".

(d) **Tendency for disruptions**:
In addition, the ÉpStan student questionnaire assesses the tendency for disruptions within a class that relates to whether students can learn without being disturbed (e.g., *In my class, we sometimes disrupt the class on purpose*).

4.2.2 STUDENT BACKGROUND CHARACTERISTICS

In the scope of the ÉpStan student (in all grades) and parent questionnaires (at primary school level), students and parents provide information on the background characteristics of socioeconomic status (SES), language, and migration background. A detailed description of how the different background characteristics are operationalized can be found in *section* 2.3.2 of the present report.

4.3 RESULTS

4.3.1 DEMOGRAPHIC INFORMATION ON THE ÉPSTAN COHORTS OF THE SCHOOL YEAR 2024/25

The findings on academic motivation and wellbeing presented in the present chapter are based on representative data from approximately 25.500 students from three primary (C2.1/P1, C3.1/P3, and

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C4.1/ P5) and one secondary school grade (S3/5e)[10]. Students from S1/7e were excluded from the analyses considering that not all students of this grade are taking part in the ÉpStan, resulting in the fact that the data is not (yet) fully representative.

At primary school level, 1045 students attended EPS, which equals to 5.6 % of the full ÉpStan cohort of primary school students. With regard to secondary education, 750 students attended EPS in S3/5e (10.7 % of the full ÉpStan cohort of secondary school students at that grade level). The sociodemographic characteristics of the two student populations (i.e., EPS students in green and students following the Luxembourgish curriculum in yellow) can be found in *Table III.1* (see section 2.3.2 for more details).

In line with the cross-sectional findings discussed in previous reports (Colling et al., 2023; Colling et al., 2024), the composition of the EPS student population differs considerably from the composition of the student population following the Luxembourgish curriculum also in the school year 2024/25. While the distribution of students by **gender** appears to be comparable across curricula with ≈ 49 % of female students following the Luxembourgish curriculum and ≈ 50 % of female students attending EPS, a more differentiated observation can be made when looking at **socioeconomic status (SES)**. As indicated in *Table III.1*, the EPS student population is characterized by a higher mean SES (HISEI mean of ≈ 57) than students in schools following the Luxembourgish curriculum (HISEI mean of ≈ 48). Regarding **migration background,** *t*he percentage of native students (i.e., students whose own country of birth and that of at least one of their parents is Luxembourg) lies at approximately 39 % in students that are following the Luxembourgish curriculum and at approximately 12 % in students in EPS. Looking at students' **language background**, students speaking Luxembourgish and/or German at home constitute the highest share of students following the Luxembourgish curriculum (≈ 40 %), followed by students with a French (≈ 20 %) or Portuguese language background (≈ 21 %). Only around 5 % of students in schools following the Luxembourgish curriculum have an English language background. In EPS, on the other hand, students speaking French at home are accounting for the highest share (≈ 38 %), followed by students with an English language background (≈ 19 %). EPS students with a Luxembourgish and/or German language background as well as Portuguese-speaking students are accounting for only around 12 %.

Consequently, the observed differences in the composition of the student population in EPS compared to students following the Luxembourgish curriculum (e.g., higher SES, lower share of native students, higher share of students with a French or English language background) translates into smaller students groups with specific background characteristics in EPS, which needs to be taken into consideration when interpreting the results of the present chapter.

[10] Although the *International School Michel Lucius* takes part in the ÉpStan both at the primary and secondary school level, students following its UK-Style education (i.e., A-levels) have been excluded from the cohorts used in the present chapter as its aim is to focus on schools following the European curriculum.

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Table III.1 - Detailed Sample Description of the ÉpStan Cohorts for the School Year 2024/25

							Language background			
			N	HISEI (mean)	% female	% natives	% Lux/German	% French	% Portuguese	% English
Schools following the Luxembourgish curriculum	EF	C2.1	5787	52	48 %	40 %	41 %	23 %	21 %	6 %
		C3.1	5889	51	49 %	40 %	41 %	20 %	21 %	5 %
		C4.1	5818	49	49 %	39 %	41 %	20 %	21 %	5 %
	ES – G9	ESC	1963	58	53 %	55 %	59 %	22 %	10 %	4 %
		ESG	3645	41	47 %	32 %	33 %	15 %	34 %	2 %
		ESG-VP	686	34	35 %	23 %	22 %	14 %	46 %	2 %
EPS	EF	P1	339	60	48 %	11 %	16 %	39 %	9 %	25 %
		P3	407	59	48 %	12 %	9 %	39 %	8 %	23 %
		P5	299	56	52 %	10 %	11 %	44 %	10 %	16 %
	ES	S3	750	54	47 %	13 %	17 %	29 %	20 %	11 %

Note. *N* = Number of students. HISEI = Highest *International Socio-Economic Index of Occupational Status* value. EF = *Enseignement fondamental* (primary school level). ES = *Enseignement secondaire* (secondary school level). ESC = *Enseignement secondaire classique*. ESG = *Enseignement secondaire général - voie d'orientation*. ESG-VP = *Enseignement secondaire général - voie de préparation*. For details on the operationalisation of student background variables, see 2.3.2. Due to methodological differences in the composition of the HISEI variable, means cannot be compared between EF and ES.

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4.3.2 ACADEMIC MOTIVATION AT PRIMARY SCHOOL LEVEL

DOMAIN-GENERAL ACADEMIC MOTIVATION

Figure III.1 shows the results for primary school students' general academic motivation split by curriculum and grade level. The exact wording of all items is provided in the table below the figure with the first two items assessing general academic self-concept, items 3 and 4 assessing general academic interest, and item 5 assessing general academic anxiety (see section *4.2.1* for more information on the assessed constructs). As expressed by the green bars, students across all three grades indicated to have a high general academic self-concept with the share of students (rather) agreeing with item 1 ("*I am good at most school subjects*"), for example, ranging from 89 % in C2.1/P1 students in schools following the Luxembourgish curriculum to 94 % in C3.1/P3 students attending EPS. Regarding the students' general academic interest, a similar pattern of high agreement rates across students from all grade levels can be observed with the share of students (rather) agreeing with item 3 ("*I enjoy most school subjects*"), for example, ranging from 87 % in C4.1/P5 students following the Luxembourgish curriculum to 93 % in C3.1/P3 students attending EPS. As indicated by the grey bars for item 5 ("*I am afraid of most school subjects*"), a vast majority of students across all three grade levels indicated that they do not experience feelings of general academic anxiety. General academic motivation is thus very high across all items; an observation that can be made irrespective of the curriculum, considering that differences between groups for a specific grade level and item consequently stay below 10 %.

In order to gain deeper insights, the analysis on domain-general academic motivation was, in a second step, split by curriculum and the student background variables of gender, SES as well as language and migration background, respectively.

With regard to **gender** (see *Table A.1* in the Annex), both female and male students display a high general academic motivation across all three grades with no group differences between students in EPS and their peers following the Luxembourgish curriculum.

When looking at the students' **socio-economic status (SES)**, low-SES students generally display a comparably high general academic motivation than their high-SES peers in C2.1/P1 and in C3.1/P3. This observation can be made irrespective of the curriculum they attend with the only exception being item 2 assessing the students' academic self-concept ("*I learn things quickly in most school subjects*"), where low-SES students in EPS report a higher self-concept compared to their low-SES peers following the Luxembourgish curriculum (see *Table A.2* for details). In C4.1/P5, small group differences going beyond 10 % have been identified for all items (except item 4), and they generally seem to go in favour of students following the Luxembourgish curriculum for both high-SES and low-SES students.

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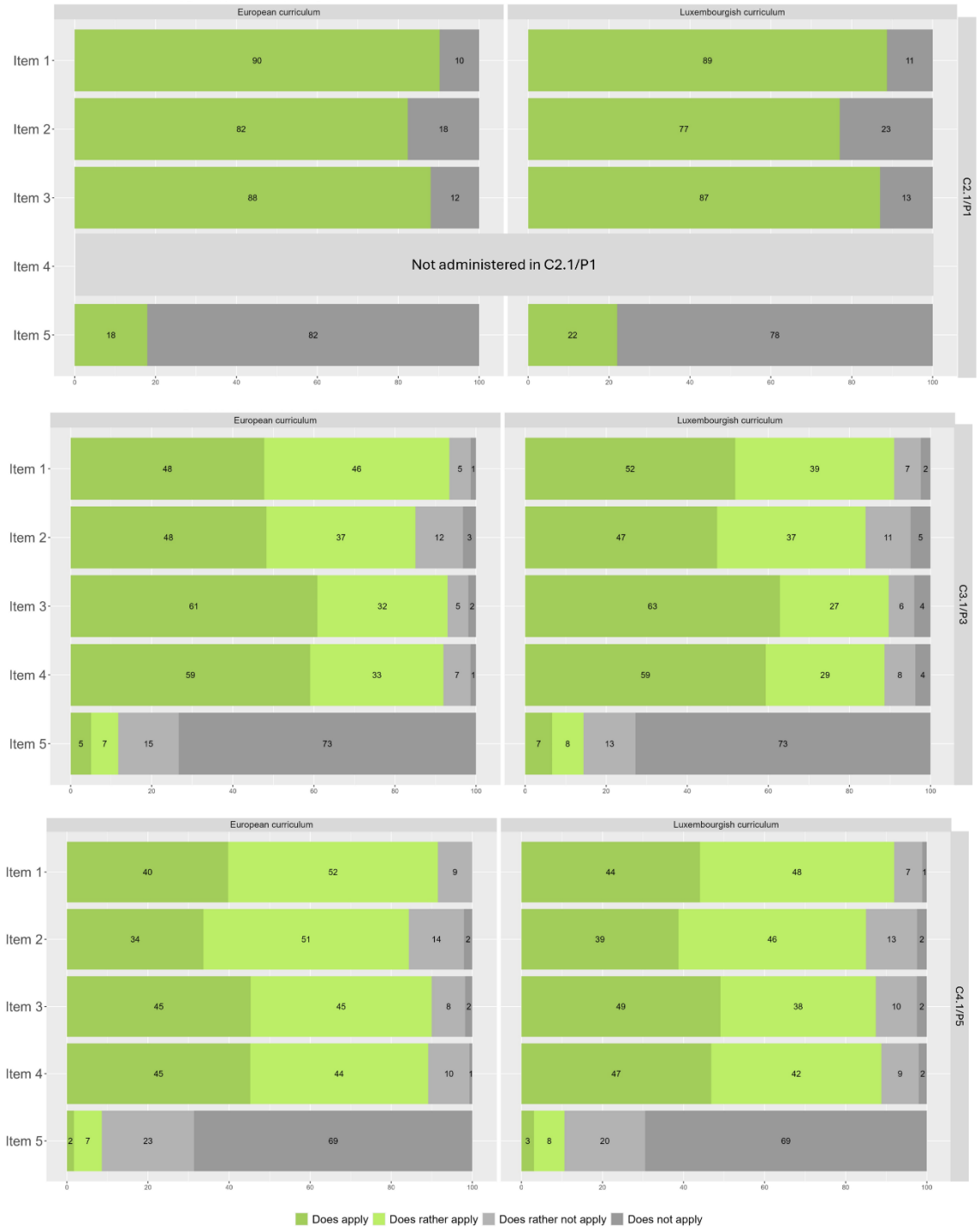
Figure III.1 – General Academic Motivation at Primary School Level Expressed in Percentages



Item 1	I am good at most school subjects.
Item 2	I learn things quickly in most school subjects.
Item 3	I enjoy most school subjects.
Item 4	I am interested in most school subjects.
Item 5	I am afraid of most school subjects.

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This observation can best be illustrated by looking at the students' replies to item 1 ("*I am good at most school subjects*"). Whereas 59 % of students with a high-SES following the Luxembourgish curriculum fully agreed with the statement, only 46 % of their high-SES peers attending EPS claimed the same about themselves. In addition, only 17 % of low-SES students in EPS fully agreed to be good at most school subjects compared to 34 % of their low-SES peers in schools following the Luxembourgish curriculum. Due to the small number of EPS students with a low-SES, these findings have, however, to be interpreted with caution.

Considering the students' **migration background** (see *Table A.3* for details), no considerable group differences could be identified between students based on the curricula they attended in C2.1/P1 and C3.1/P3. As observed for SES, the picture becomes more differentiated when comparing students attending both curricula based on their migration background in C4.1/P5. For items 2 to 4, it can be seen that the share of native EPS students fully agreeing with the respective statement is consistently lower when compared to their native peers following the Luxembourgish curriculum (e.g., 28 % of EPS native students fully agreeing with "*I learn things quickly in most school subjects*" compared to 45 % of their native peers following the Luxembourgish curriculum). No considerable differences between curricula have been found for students with a migration background, although it has to be noted that the results for students with a migration background have to be interpreted with caution due to differences in the students' countries of origin (for more details see Colling et al., 2023).

Looking at **language background** (see *Table A.4*), students across all three grades and irrespective of their home language background generally reported a high general academic motivation with no indication of systematic group differences between EPS and schools following the Luxembourgish curriculum.

DOMAIN-SPECIFIC ACADEMIC MOTIVATION

Besides domain-general academic motivation, the ÉpStan student questionnaires at all grade levels in primary school education also assesses domain-specific academic motivations in mathematics and in the students' main language of instruction. The exact wording of all items is provided in the tables below the respective figures.

MATHEMATICS

Figure III.2 shows the results for primary school students' domain-specific motivation in mathematics split by curriculum and grade level. The first two items assess domain-specific self-concept in mathematics, items 3 and 4 assess domain-specific interest, and item 5 assesses domain-specific anxiety (see section *4.2.1* for more information on the assessed constructs). As expressed by the green bars, students across all grades indicate to have a high domain-specific self-concept in mathematics with the percentage

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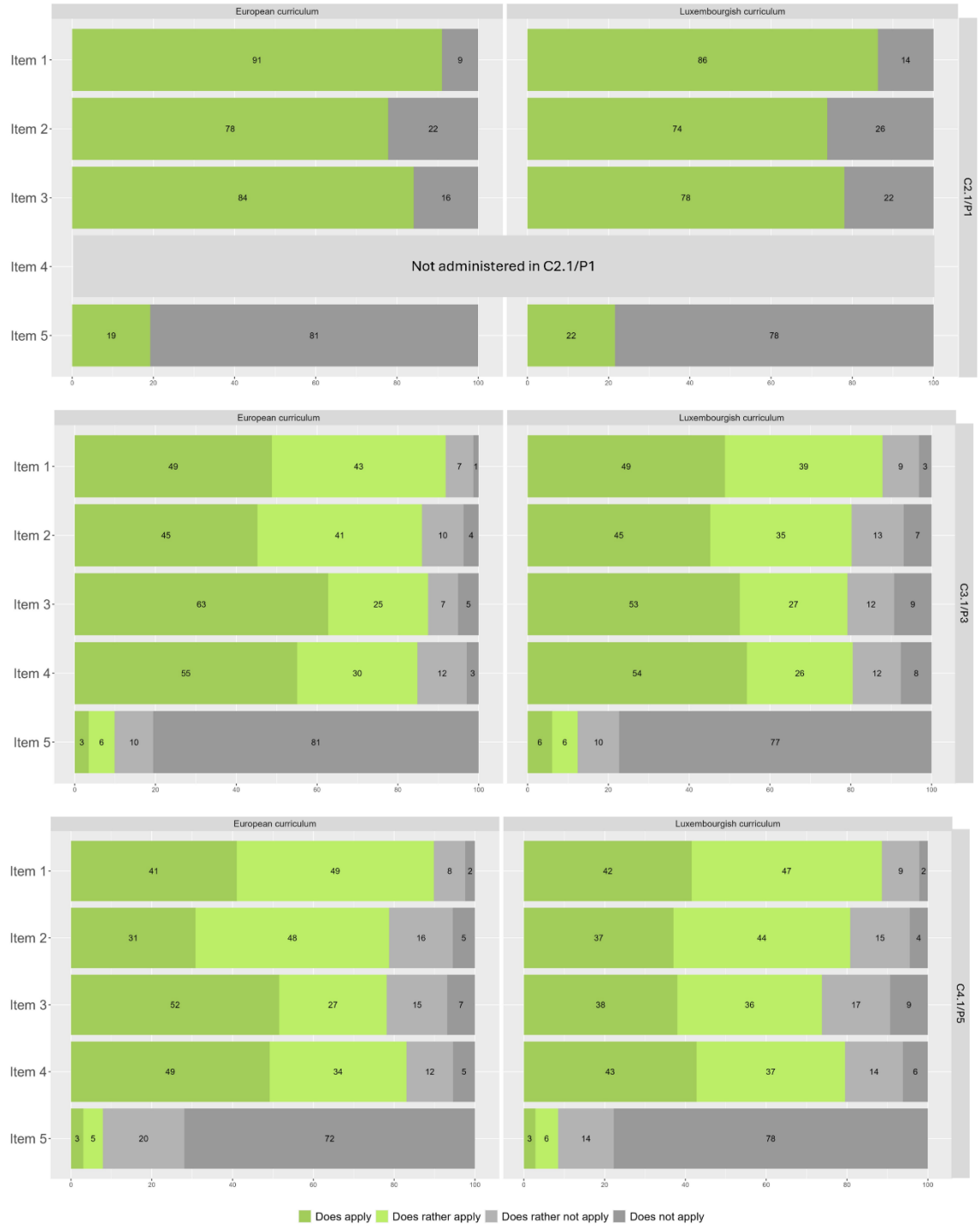
Figure III.2 – Domain-Specific Academic Motivation in Mathematics at Primary School Level Expressed in Percentages



Item 1	I am good at maths.
Item 2	I learn things quickly in maths.
Item 3	I enjoy maths.
Item 4	I am interested in maths.
Item 5	I am afraid of maths.

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of students (rather) agreeing with item 1 ("*I am good at mathematics*"), for example, ranging from 86 % (C2.1/P1 students following the Luxembourgish curriculum) to 92 % (C3.1/P3 students in EPS).

Regarding students' domain-specific interest in mathematics, a similar pattern of high agreement rates across students from all grade levels can be observed with the share of students (rather) agreeing with item 3 ("*I enjoy maths*"), for example, ranging from 74 % (C4.1/P5 students following the Luxembourgish curriculum) to 88 % (C3.1/P3 students attending EPS). As indicated by the grey bars for item 5 ("*I am afraid of maths*"), a vast majority of students across all three grade levels indicated that they do not perceive feelings of domain-specific academic anxiety in mathematics. Domain-specific motivation in mathematics is thus high across all items; an observation that can be made irrespective of students' curriculum, considering that differences in percentages between groups for a specific grade level and item consequently stay below 10 %.

As for domain-general academic motivation, the analysis on domain-specific academic motivation in mathematics was, in a second step, split by both curriculum and the student background variables of gender, SES as well as language and migration background, respectively.

With regard to **gender** (see *Table A.5* in the Annex), both female and male students generally display a high domain-specific motivation in mathematics across all three grades with male students expressing a slightly higher academic self-concept compared to their female peers in C3.1/P3 and C4.1/P5 (see items 1 and 2); an observation that can be made both in EPS and in schools following the Luxembourgish curriculum. These differences are slightly less pronounced when looking at domain-specific interest in mathematics (see items 2 and 3) and at domain-specific anxiety (see item 5). No systematic differences can be identified between students in EPS and in schools following the Luxembourgish curriculum based on their gender, with the only significant group difference in favour of male EPS students arising for item 3 assessing the students' domain-specific interest in mathematics ("*I enjoy maths*") in C3.1/P3 and C4.1/P5 compared to their male peers following the Luxembourgish curriculum (e.g., 61 % of male EPS students fully agreeing with the statement in C4.1/P5 compared to 47 % of male students following the Luxembourgish curriculum). In C4.1/P5, this observation also holds true for female EPS students compared to their female peers that are following the Luxembourgish curriculum.

When looking at **socio-economic status (SES)**, a pattern of group differences in favour of low-SES students attending EPS can be identified in both C2.1/P1 and in C3.1/P3 (see *Table A.6*). In this context, low-SES students in EPS express a higher domain-specific self-concept in mathematics (see items 1 and 2; e.g., 96 % of low-SES students in EPS fully agreeing with the statement "*I am good at maths*" in C2.1/P1 compared to 83 % of their low-SES peers in schools following the Luxembourgish curriculum) as well as a lower domain-specific anxiety (see item 5; e.g., 13 % of low -SES students in EPS fully

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agreeing with the item "*I am afraid of maths*" in C2.1/P1 compared to 26 % of their low-SES peers following the Luxembourgish curriculum). In C3.1/P3, low-SES students in EPS express furthermore a higher domain-specific interest in mathematics (see items 3 to 4; e.g., 72 % of students with a low-SES attending EPS fully agreeing with the item "*I enjoy maths*" compared to 54 % of low-SES students following the Luxembourgish curriculum). Due to the small number of EPS students with a low-SES, these findings have, however, to be interpreted with caution. In C4.1/P5, small group differences going beyond 10 % have been identified for all items with, however, no clear pattern emerging for a specific curriculum. Whereas differences when looking at high-SES students seem to be going in favour of students following the Luxembourgish curriculum (e.g., 51 % of high-SES students in schools following the Luxembourgish curriculum agreeing with the statement "*I am good at maths*" compared to 39 % of high-SES students in EPS), no clear direction can be identified for low-SES students with items assessing domain-specific self-concept in mathematics going in favour of low-SES students in schools following the Luxembourgish curriculum (e.g., 32 % of low-SES students following the Luxembourgish curriculum fully agreeing with the statement "*I learn things quickly in maths*" compared to 17 % of low-SES students in EPS), and items assessing domain-specific interest in mathematics rather being in favour of low-SES students in EPS (e.g., 52 % of low-SES students in EPS fully agreeing with the statement "*I enjoy maths*" compared to 35 % of low-SES students following the Luxembourgish curriculum).

Considering **migration background** (see *Table A.7* for details), no systematic group differences could be identified between students in C2.1/P1 based on the curricula they attended. By contrast, a more differentiated picture arises in both C3.1/P3 and C4.1/P5 when comparing EPS students and their peers following the Luxembourgish curriculum based on migration background. Native students in EPS express a lower domain-specific self-concept in mathematics in C3.1/P3 (e.g., 38 % of native students in EPS fully agreeing with the statement "*I am good at maths*" compared to 49 % of their native peers following the Luxembourgish curriculum) as well as in C4.1/P5 (e.g., 29 % of native EPS students fully agreeing with the statement "*I learn things quickly in maths*" compared to 40 % of their native peers following the Luxembourgish curriculum). With regard to domain-specific academic interest, identified group differences in C3.1/P3 and C4.1/P5 (see items 3 and 4) are, however, going in favour of native students in EPS (e.g., 52 % of native EPS students fully agreeing with the item "*I enjoy maths*" compared to 40 % of their native peers following the Luxembourgish curriculum). For students with a migration background, no considerable differences between curricula have been found (with the exception of item 3 in C4.1/P5, where students with a migration background attending EPS express a higher enjoyment of mathematics than their peers with a migration background in schools following the Luxembourgish curriculum).

Looking at **language background** (see *Table A.8* for details), students across all three grades and irrespective of their home language background generally reported a high domain-specific

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academic motivation in mathematics. In C2.1/P1, small group differences going in favour of EPS students have been identified for both domain-specific self-concept (see items 1 to 2) and interest in mathematics (see item 3). However, no coherent pattern can be observed across all language groups. In C3.1/P3 and C4.1/P5, the pattern of group differences for domain-specific self-concept going rather in favour of students following the Luxembourgish curriculum (e.g., 36 % of English speaking students in EPS fully agreeing with the statement "*I am good at maths*" compared to 47 % of English speaking students in schools following the Luxembourgish curriculum) and group differences for domain-specific interest in favour of EPS students (e.g., higher share of full agreement with the statement "*I enjoy maths*" across all language groups in EPS in C4.1/P5 compared to their peers with the same language background following the Luxembourgish curriculum) could also be identified. Due to the small number of students with a specific language background in EPS (e.g., Portuguese speaking students) or in schools following the Luxembourgish curriculum (e.g., English speaking students), these results do, however, have to be interpreted with caution.

MAIN LANGAUGE OF INSTRUCTION

Figure III.3 shows the results for primary school students' domain-specific motivation in their main language of instruction (i.e., German for students following the Luxembourgish curriculum compared to either German, French or English for EPS students based on their language section) split by curriculum and grade level. The first two items assess domain-specific self-concept in the students' main language of instruction, items 3 and 4 assess domain-specific interest, item 5 assesses domain-specific interest in reading and item 6 assesses domain-specific anxiety (see section *4.2.1* for details).

As expressed by the green bars, students across all grades indicate to have a high domain-specific self-concept in their main language of instruction with the percentage of students (rather) agreeing with item 1 ("*I am good in my main language of instruction*"), for example, ranging from 74 % (C4.1/P5 students following the Luxembourgish curriculum) to 94 % (C2.1/P1 students in EPS). In C2.1/P1, group differences in favour of EPS students can be observed for all items assessing domain-specific motivation in the students' main language of instruction ranging from 11 % for item 5 assessing the students' interest to read in their main language of instruction ("*I like to read in my main language of instruction*") to 15 % for item 1 assessing the students' domain-specific self-concept ("*I am good in my main language of instruction*").

In both C3.1/P3 and C4.1/P5, this coherent pattern of group differences in favour of EPS students has not been observed. Only for item 3 assessing domain-specific interest in the students' main language of instruction ("*I enjoy my main language of instruction*") and for item 5 assessing the students' domain-specific interest to read in their main language of instruction ("*I like to read in my main language of instruction*"), the identified group differences in favour of EPS students go beyond 10 %.

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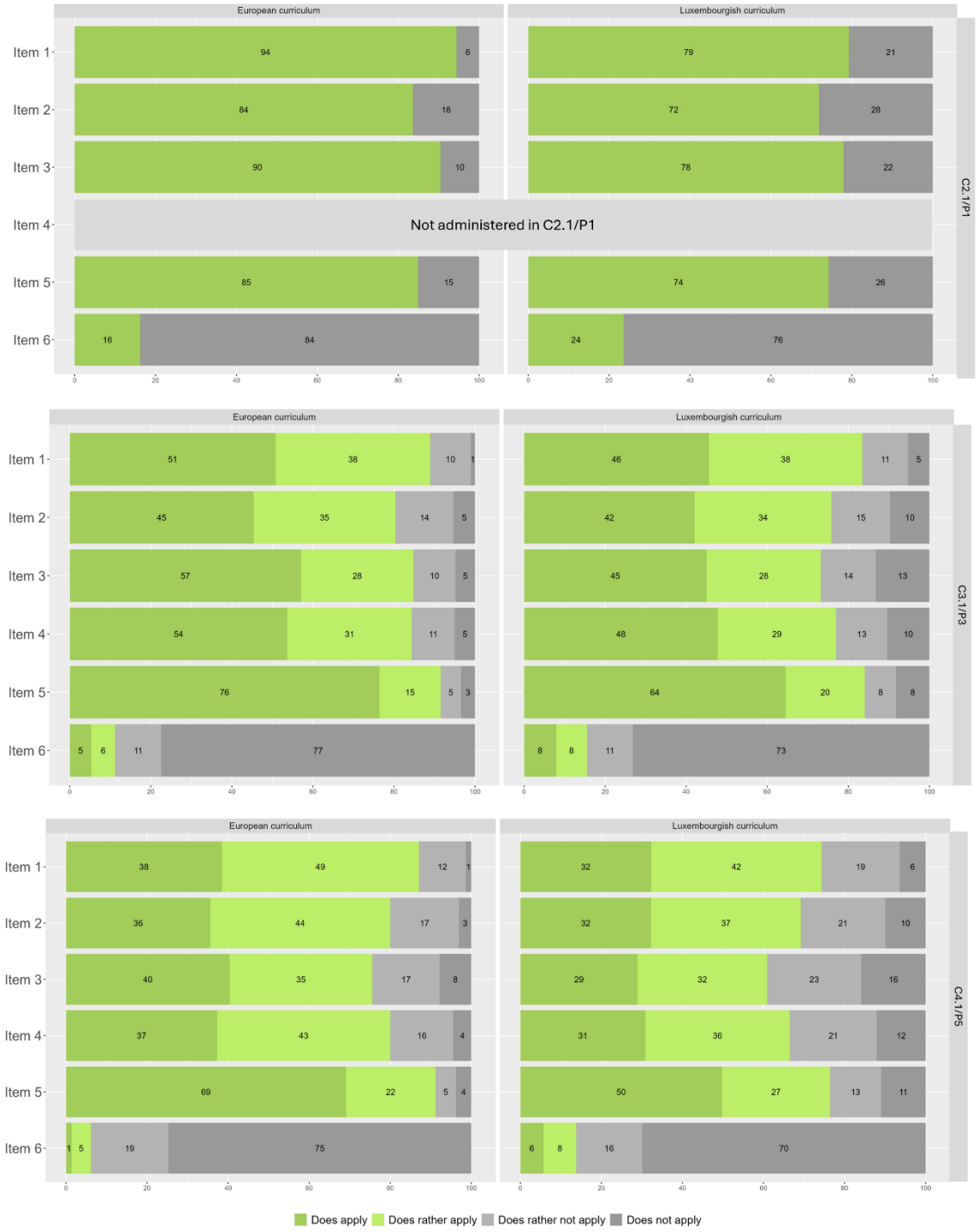
Figure III.3 – Domain-Specific Academic Motivation in the Main Language of Instruction At Primary School Level Expressed in Percentages



Item 1	I am good in my main language of instruction.
Item 2	I learn things quickly in my main language of instruction.
Item 3	I enjoy my main language of instruction.
Item 4	I am interested in my main language of instruction.
Item 5	I like to read in my main language of instruction.
Item 6	I am afraid of my main language of instruction.

Note. For visualisation purposes, the questionnaire items were rephrased for the present figure in such a way that all items apply to the different student groups, whereas the phrasing in the original questionnaire presented to the students was in line with their respective main language of instruction (i.e., German for students following the Luxembourgish curriculum compared to German, French, or English for EPS).

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The analysis on domain-specific academic motivation in the students' main language of instruction was, in a second step, split by curriculum and the student background variables of gender, SES as well as language and migration background, respectively.

With regard to **gender** (see *Table A.9* in the Annex), EPS students indicate thus slightly more motivation to learn in their main language of instruction compared to students in schools following the Luxembourgish curriculum, and this irrespective of their gender, although the differences are more coherently observed among female students. In C3.1/P3 and C4.1/P5, the general pattern of students in EPS showing a slightly higher domain-specific interest in their main language of instruction identified in the full sample of students becomes particularly apparent when looking at item 5, assessing the interest to read in the main language of instruction ("*I like to read in my main language of instruction*") in C4.1/P5, where the share of both male (65 %) and female EPS students (72 %) fully agreeing with this statement is considerably higher than the share of full agreement among male (48 %) and female (52 %) students following the Luxembourgish curriculum.

When looking at **socio-economic status (SES)**, students with a high-SES show a comparably high domain-specific motivation in their language of main instruction both in EPS and when following the Luxembourgish curriculum with the only group differences going beyond 10 % being identified in favour of EPS students for item 3 in both C2.1/P1 and C4.1/P5, and for item 5 in C4.1/P5, indicating a slightly higher domain-specific interest in their main language of instruction among EPS students. *Figure III.4* shows the results for domain-specific motivation in the students' main language of instruction for students with a low-SES for which a more differentiated picture arises across all three assessed grade levels in primary school. In C2.1/P1, students with a low-SES attending EPS display a higher domain-specific self-concept in their main language of instruction compared to their peers following the Luxembourgish curriculum (e.g., 91 % of low-SES students in EPS fully agreeing with the item "*I learn things quickly in my main language of instruction*" compared to 68 % of students with a low-SES following the Luxembourgish curriculum, where 32 % of students already indicate at the very beginning of their primary education that this statement does not apply to them). In addition, a higher share of low-SES students attending EPS expressed a higher domain-specific interest to read in their main language of instruction I (86 %, see item 5) compared to low-SES students following the Luxembourgish curriculum (70 %), and furthermore report less domain-specific anxiety in their main language of instruction (17 % compared to 28 %; see item 6). With the exception of item 2 in C3.1/P3 and item 4 in C4.1/P5, group differences in favour of students with a low-SES attending EPS can be identified across the two grades and across all constructs. Results thus indicate that low-SES students attending EPS have a higher domain-specific self-concept (e.g., 60 % of low-SES students attending EPS fully agreeing with the statement "*I am good in my main language of instruction*" compared to 38 % of low-SES students following the Luxembourgish curriculum in C3.1/P3), a higher domain-specific interest (e.g.,

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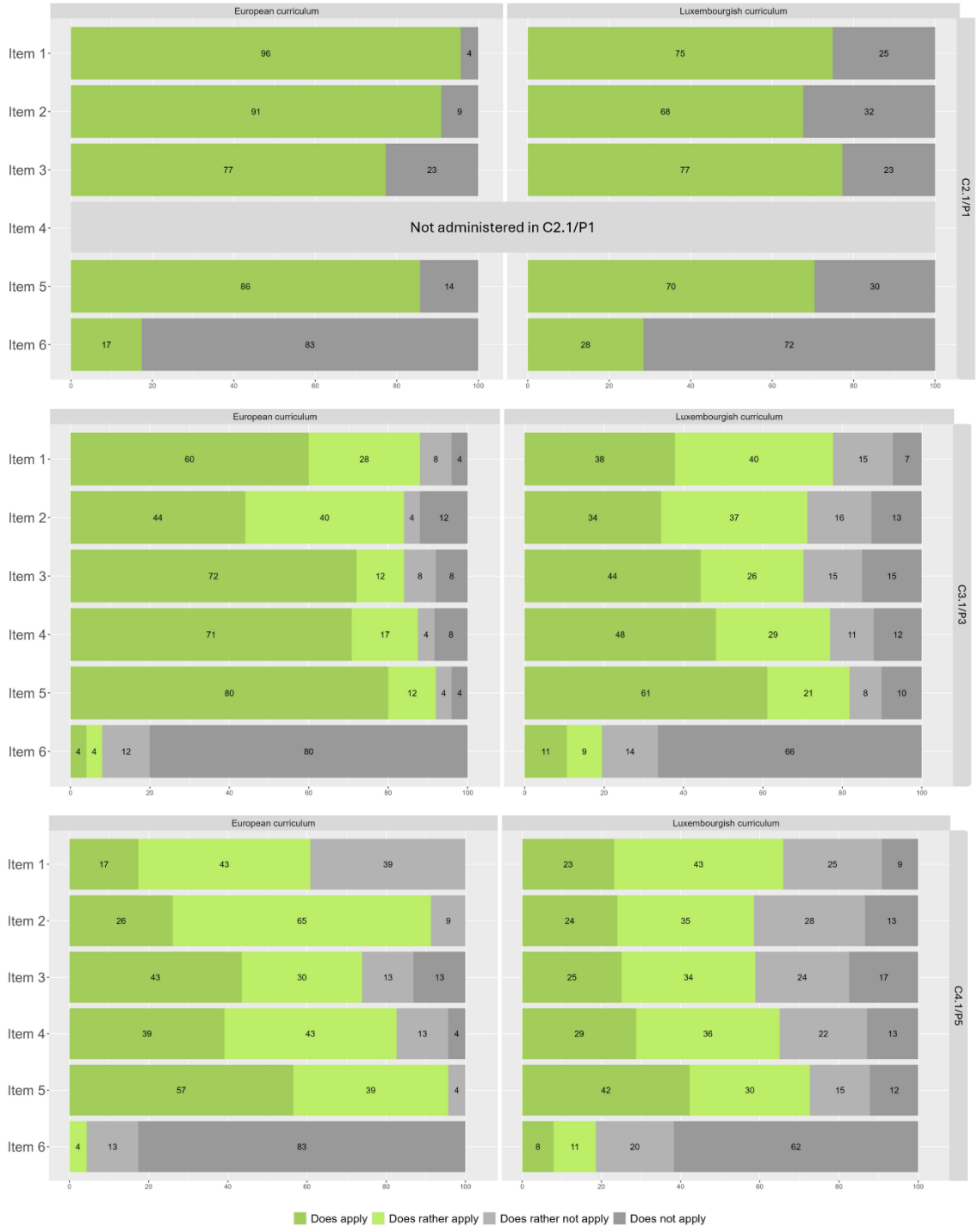
Figure III.4 – Domain-Specific Academic Motivation in the Main Language of Instruction at Primary School Level for Students with a Low-SES



Item 1	I am good in my main language of instruction.
Item 2	I learn things quickly in my main language of instruction.
Item 3	I enjoy my main language of instruction.
Item 4	I am interested in my main language of instruction.
Item 5	I like to read in my main language of instruction.
Item 6	I am afraid of my main language of instruction.

Note. For visualisation purposes, the questionnaire items were rephrased for the present figure in such a way that all items apply to the different student groups, whereas the phrasing in the original questionnaire presented to the students was in line with their respective main language of instruction (i.e., German for students following the Luxembourgish curriculum compared to German, French, or English for EPS).

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43 % of low-SES students in EPS fully agreeing with the statement "*I enjoy my main language of instruction*" compared to 25 % in students following the Luxembourgish curriculum in C4.1/P5) as well as a lower domain-specific anxiety (e.g., 83 % of low-SES students in EPS indicating that the statement "*I am afraid of my main language of instruction*" does not apply to them compared to 62 % of their low-SES peers following the Luxembourgish curriculum in C4.1/P5). These results should, however, be interpreted with caution due to the small number of EPS students with a low SES.

Looking at **migration background** (see *Table A.11* for details), students with a migration background display a higher domain-specific motivation in their main language of instruction in C2.1/P1 when attending EPS both with regard to domain-specific self-concept (e.g., 94 % of EPS students with migration background fully agreeing with the statement "I am good in my main language of instruction" compared to 75 % of their peers with a migration background following the Luxembourgish curriculum) and to their domain-specific interest (e.g., 90 % of EPS students with a migration background fully agreeing with "*I enjoy my main language of instruction*" compared to 76 % of students with a migration background following the Luxembourgish curriculum) with no group difference, however, emerging for domain-specific anxiety. Whereas this pattern of EPS students with a migration background showing a higher-domain specific motivation in their main language of instruction across constructs can also be observed in C4.1/P5 (e.g., 38 % of EPS students with a migration background fully agreeing with the statement "*I am good in my main language of instruction*" compared to 19 % of students with a migration background following the Luxembourgish curriculum), the pattern is less coherent in C3.1/P3, where EPS students with a migration background only display group differences in their domain-specific interest (e.g., 59 % of EPS students with a migration background fully agreeing with the statement "*I enjoy my main language of instruction*" compared to 40 % of their peers with a migration background following the Luxembourgish curriculum). In C2.1/P1 and in C3.1/P3, no systematic group differences were found for native students. In C4.1/P5, however, a similar observation than for domain-specific motivation in mathematics can also be made for domain-specific motivation in the students' main language of instruction. Whereas native students tend to express a lower domain-specific self-concept (e.g., 29 % of native EPS students fully agreeing with the statement "*I am good in my main language of instruction*" compared to 52 % of native students following the Luxembourgish curriculum), group differences in domain-specific interest are, however, rather going in favour of native students in EPS (e.g., 55 % of native EPS students rather being in agreement with "*I am interested in my main language of instruction*" compared to 35 % of their native peers following the Luxembourgish curriculum). Due to the small number of native students in EPS and the differences in the students' countries of origin (for more details see Colling et al., 2023), the findings split by migration background have, however, to be interpreted with caution.

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Looking at the students' **language background** (see *Table A.12* for details), a systematic trend of group differences in favour of EPS students can be identified across all language groups in C2.1/P1, with the differences being most pronounced for domain-specific self-concept in the students' main language of instruction (e.g., 95 % of students with a French language background in EPS fully agreeing with the statement "*I am good in my main language of instruction*" compared to 75 % of their peers with a French language background following the Luxembourgish curriculum; 83 % of students with a Portuguese language background in EPS fully agreeing with the statement "*I learn things quickly in my main language of instruction*" compared to 67 % of students with a Portuguese language background following the Luxembourgish curriculum). The group differences in favour of EPS students in C2.1/P1 also appear when looking at domain-specific interest in the students' main language of instruction, but are less systematic across the different language groups (e.g., no considerable group differences for the item "*I like to read in my main language of instruction*" when looking at Luxembourgish/German and French speaking students). For domain-specific anxiety regarding the students' main language of instruction, only students having an English language background report lower anxiety when attending EPS (88 %) compared to their peers with an English language background following the Luxembourgish curriculum (74 %). Whereas the pattern of group differences in favour of EPS students across different language groups is less coherent in C3.1 /P3 (e.g., higher domain-specific self-concept for EPS students with a French, English, and Portuguese language background compared to their peers with the same language background in schools that are following the Luxembourgish curriculum, but a lower domain-specific self-concept for students with a Luxembourgish and/or German language background when attending EPS compared to their peers with the same language background following the Luxembourgish curriculum), a coherent and more pronounced pattern of group differences in favour of EPS students can be observed in C4.1/P5. *Figure III.5* illustrates these differences for the four language groups. EPS students with a French, Portuguese, or English language background display considerably higher domain-specific self-concept (e.g., 52 % of EPS students with an English language background fully agreeing with the statement "*I am good in my main language of instruction*" compared to 25 % of their peers with an English language background following the Luxembourgish curriculum), a higher domain-specific interest (e.g., 71 % of EPS students with a French language background fully agreeing with the item "*I like to read in my main language of instruction*" compared to 33 % of their peers with a French language background in schools following the Luxembourgish curriculum) as well as a lower domain-specific anxiety (e.g., 0 % of EPS students with a Portuguese language background fully or rather agreeing with the item "*I am afraid of my main language of instruction*" compared to 9 % of students with a Portuguese language background following the Luxembourgish curriculum fully and 13 % rather agreeing with this statement). For students having a Luxembourgish/German language background, however, the identified group differences for items 1 ("*I am good in my main language of instruction*") and 2 ("*I learn things quickly*

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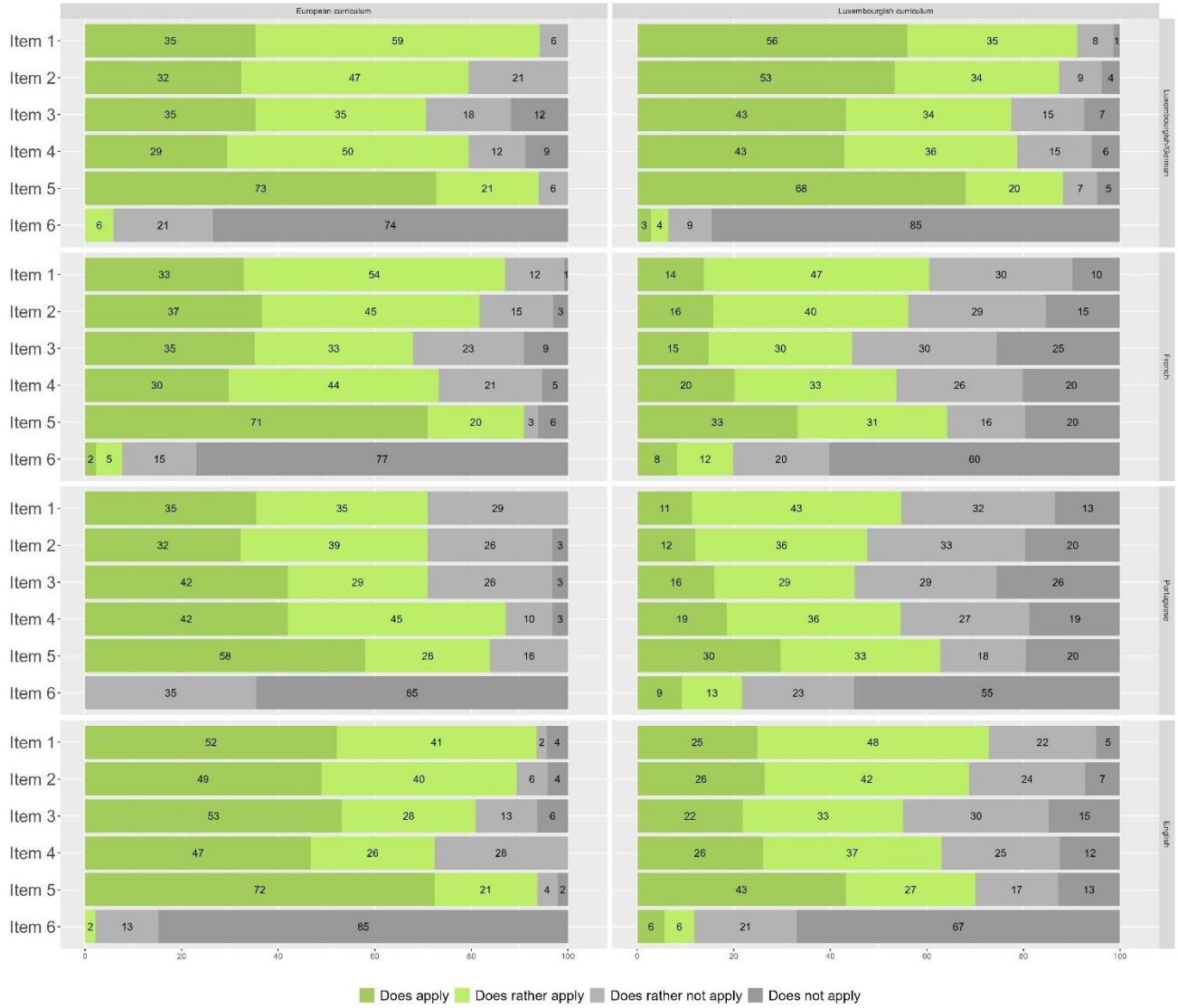
in my main language of instruction ") assessing domain-specific self-concept, for item 4 ("*I am interested in my main language of instruction*") assessing domain-specific interest as well as for item 6 ("*I am afraid of my main language of instruction*") assessing domain-specific anxiety are in favour of students following the Luxembourgish curriculum. Due to small student numbers with a specific language background in EPS (e.g., Portuguese speaking students) or following the Luxembourgish curriculum (e.g., English speaking students), these results have to be interpreted with caution.

Figure III.5 – Domain-Specific Academic Motivation in the Main Language of Instruction in C4.1/P5 Split by Language Background



Item 1	I am good in my main language of instruction.
Item 2	I learn things quickly in my main language of instruction.
Item 3	I enjoy my main language of instruction.
Item 4	I am interested in my main language of instruction.
Item 5	I like to read in my main language of instruction.
Item 6	I am afraid of my main language of instruction.

Note. For visualisation purposes, the questionnaire items were rephrased for the present figure in such a way that all items apply to the different student groups, whereas the phrasing in the original questionnaire presented to the students was in line with their respective main language on instruction (i.e., German for students following the Luxembourgish curriculum compared to German, French, or English for EPS).

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4.3.3 ACADEMIC WELLBEING AT PRIMARY SCHOOL LEVEL

In the ÉpStan student questionnaire, academic wellbeing is assessed at all three grades levels in primary education with the first three items assessing general school satisfaction and items 4 to 6 assessing the class climate. In addition, item 7 is assessing the teacher-student relationship and item 8 is assessing the students' tendency for disruption (see section *4.2.1* for more information on all the assessed constructs). The exact wording of all items is provided in the tables below the respective figures.

Figure III.6 shows the findings for primary school students' academic wellbeing split by curriculum and grade level. As expressed by the green bars, students across all three grades generally indicate a high academic wellbeing with high agreement rates for school satisfaction (e.g., ranging from 76 % among C4.1/P5 students following the Luxembourgish curriculum that are (rather) agreeing with the statement "*I like going to school*" to 83 % in C2.1/P1 students in EPS), for class climate (e.g., ranging from 79 % for C4.1/P5 students following the Luxembourgish curriculum that are (rather) agreeing with the statement "*In my class, we help each other*" to 93 % in C2.1/P1 students in EPS), as well as for the teacher-student-relationship (e.g., ranging from 82 % of C4.1/P5 students in EPS that are (rather) agreeing with the item "*In my class, we get extra support from my teacher if we need it*" to 92 % in C4.1/P5 students that are following the Luxembourgish curriculum). In addition, as expressed by the grey bars for item 8, students across all grades express a rather low tendency for purposeful disruptions in class (e.g., ranging from 27 % expressed by C2.1/P1 students following the Luxembourgish curriculum to 46 % in C4.1/P5 students following the Luxembourgish curriculum). In C2.1/P1, all students express a comparable wellbeing with group differences between curricula consequently staying below 10 %. In C3.1/P3 and C4.1/P5, a more differentiated picture emerges. Whereas in C3.1/P3, a group difference in favour of students following the Luxembourgish curriculum can be observed for items 5 and 6 assessing class climate (e.g., 28 % of EPS students fully agreeing with the item "*In my class, we get along well*" compared to 49 % of students following the Luxembourgish curriculum), group differences in favour of C4.1/P5 students attending EPS can be identified for items 1 and 3 assessing general school satisfaction (e.g., 47 % of EPS students fully agreeing with the item "*I like going to school*" compared to 36 % of their peers in schools following the Luxembourgish curriculum). In both grades, students following the Luxembourgish curriculum expressed a more positive teacher-student-relation (e.g., 73 % of students following the Luxembourgish curriculum fully agreeing with the statement "*In my class, we get extra support from my teacher if we need it*" compared to 50 % of EPS students).

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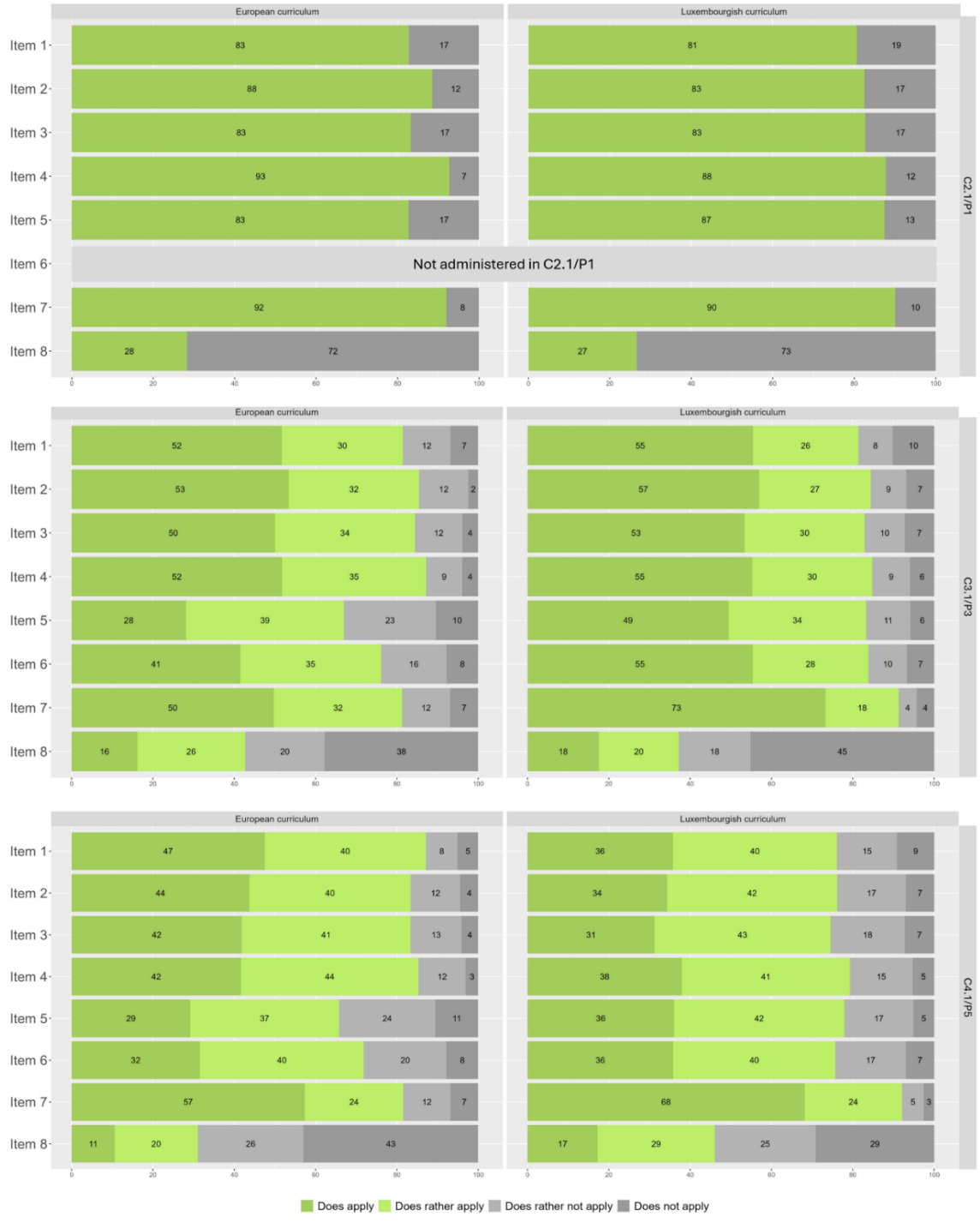
Figure III.6 –Academic Wellbeing at Primary School Level Expressed in Percentages



Item 1	I like going to school.	Item 5	In my class, we get along well.
Item 2	School is fun.	Item 6	In my class, we all stick together.
Item 3	I am happy when I am at school.	Item 7	In my class, we get extra support from my teacher if we need it.
Item 4	In my class, we help each other.	Item 8	In my class, we sometimes disrupt the class on purpose.

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Academic wellbeing was, in a second step, analysed split by curriculum and the student background variables of gender, SES as well as language and migration background, respectively.

Regarding **gender** (see *Table A.13* in the Annex), the pattern of group differences that was identified for the full student sample can generally also be observed for male and female students, with no group differences emerging in C2.1/P1 and the picture being more differentiated for C3.1/P3 and C4.1/P5. Whereas the differences in favour of students following the Luxembourgish curriculum identified in C3.1/P3 for the constructs of class climate as well as teacher-student-relationship hold true for both male and female students, the group differences in favour of C4.1/P5 students in EPS for general school satisfaction can only be found for male students. When looking at the teacher-student relationship, a lower share of female students in EPS (58 %) are, on the other hand, fully agreeing with item 7 assessing teacher-student-relationship ("*In my class, we get extra support from my teacher if we need it*") compared to their female peers following the Luxembourgish curriculum (70 %); for male students, however, no differences were found for this item.

As for gender, no considerable differences in academic wellbeing could be identified based on the students' **socioeconomic status (SES)** in C2.1/ P1 (with the exception of a 13 % group difference for item 2 in favour of low-SES students in EPS, which can, however, be considered as incidental due to the fact of no coherent pattern being identifiable across items). In C3.1/P3, students in EPS reported a less positive class climate compared to their peers following the Luxembourgish curriculum; an observation that can be made irrespective of the students' SES, but seems to be more pronounced for EPS students having a low-SES (e.g., 17 % of low-SES students in EPS fully agreeing with the statement "*In my class, we get along well*" compared to 47 % of their low-SES peers following the Luxembourgish curriculum). In C4.1/P5, the group difference in favour of EPS students for general school satisfaction can only be found for students with a low-SES (e.g., 52 % of low-SES students in EPS fully agreeing with the statement "*I like going to school*" compared to 34 % of their low-SES peers following the Luxembourgish curriculum). Regarding class climate, no coherent pattern can be identified between students based on their SES (see items 4 to 6 in *Table A.14*). Results split by SES do, however, need to be interpreted with caution due to the small number of EPS students with a low SES.

Looking a **migration background** (see *Table A.15*), native students and their peers with a migration background expressed comparably high academic wellbeing with no group differences arising between curricula in C2.1/P1. In C3.1/P3, no group differences were identified for school satisfaction, but the group differences in favour of students following the Luxembourgish curriculum that were identified in the full sample for class climate can also be found when splitting the analysis based on the students' migration background (e.g., 32 % of native EPS students fully agreeing with the statement "*In my class, we all stick together*" compared to 53 % of their native peers following the Luxembourgish

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curriculum; 27 % of students with a migration background attending EPS fully agreeing with this same statement compared to 48 % of their peers with a migration background following the Luxembourgish curriculum). When it comes to the teacher-student-relationship, a lower share of EPS students is fully agreeing with the statement "*In my class, we get extra support from my teacher if we need it*", and this irrespective of whether they are native students or have a migration background; see item 7). In C4.1/P5, the group difference in favour of EPS students for general school satisfaction can be found for all students irrespective of their migration background (e.g., 48 % of native students in EPS fully agreeing with the statement "*School is fun*" compared to 35 % of their native peers in schools following the Luxembourgish curriculum; 45 % of students with a migration background attending EPS fully agreeing with this same statement compared to 34 % of their peers with a migration background following the Luxembourgish curriculum). Regarding class climate, native students in EPS show lower agreement rates with the items assessing class climate compared to their native peers following the Luxembourgish curriculum (e.g., 14 % of native EPS students fully agreeing with the item "*In my class, we all stick together*" compared to 38 % of their native peers in schools following the Luxembourgish curriculum) and they also indicated a less positive teacher-student-relationship (e.g., 45 % of native EPS students fully agreeing with the item "*In my class, we get extra support from my teacher if we need it*" compared to 69 % of native students following the Luxembourgish curriculum). No difference in class climate has, however, emerged when looking at students with a migration background. Due to the small number of native EPS students and the different countries of origin, the results split by migration background have to be interpreted with caution.

Finally, splitting the results by **language background** (see *Table A.16*), no systematic group differences were observed across all the constructs and language groups in C2.1/P1, with some differences in favour of EPS students with a Portuguese or English language background emerging for item 2 assessing the general school satisfaction (e.g., 100 % of EPS students with a Portuguese language background fully agreeing with the statement "*School is fun*" compared to 84 % of students with the same language background following the Luxembourgish curriculum) and item 5 assessing class climate, where group differences in favour of Luxembourgish and/or German speaking as well as French speaking students following the Luxembourgish curriculum were observed (e.g., 71 % of French speaking students attending EPS fully agreeing with the statement "*In my class, we get along well*" compared to 85 % of students with the same language background following the Luxembourgish curriculum). For students with a Portuguese language background, on the other hand, a group difference in favour of EPS students can be found (e.g., 100 % of EPS students with a Portuguese language background fully agreeing with the statement "*In my class, we get along well*" compared to 85 % of students with the same language background following the Luxembourgish curriculum). In C3.1/P3, no group differences in general school satisfaction (see items 1 to 3) emerge for students with

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a Luxembourgish/German or French language background, but EPS students with a Portuguese or English language background reported a higher general school satisfaction (e.g., 82 % of English speaking students attending EPS fully agreeing with the statement "*I am happy when I am at school*" compared to 48 % of students with the same language background following the Luxembourgish curriculum). With regard to class climate (see items 4 to 6), the differences in favour of students following the Luxembourgish curriculum identified in the full sample are also found for students with a Luxembourgish/German, a French, or a Portuguese language background (e.g., 25 % of French speaking students in EPS fully agreeing with the statement "*In my class, we get along well*" compared to 47 % of their peers with the same language background following the Luxembourgish curriculum). EPS students of these three language groups furthermore reported a less positive teacher-student-relationship (e.g., 33 % of Portuguese speaking students in EPS fully agreeing with the statement "*In my class, we get extra support from my teacher if we need it*" compared to 74 % of their peers with the same language background following the Luxembourgish curriculum). For students with an English language background, however, a different pattern emerges with group differences in favour of EPS students arising with regard to class climate (e.g., 73 % of English speaking students in EPS fully agreeing with the statement "*In my class, we all stick together*" compared to 48 % of their peers with the same language background following the Luxembourgish curriculum), and no group difference being found for the construct of teacher-student-relationship. In C4.1/P5, group differences in favour of EPS students for general school satisfaction (see items 1 to 3) can be found for all language groups (e.g., 50 % of Luxembourgish/German speaking students in EPS fully agreeing with the item "*I like going to school*" compared to 36 % of their peers with the same language background following the Luxembourgish curriculum) with the only exception of French speaking students, where no difference could be identified between curricula. With regard to class climate, EPS students with a Luxembourgish/German or a French language background showed lower agreement rates with items assessing class climate compared to students with the same language background following the Luxembourgish curriculum that were, however, rather uncoherent across items (e.g., no differences for item 4; differences for both group for item 5; differences only for French speaking students for item 6). Both groups furthermore indicated a slightly less positive teacher-student-relationship (e.g., 56 % of French speaking students in EPS fully agreeing with the item "*In my class, we get extra support from my teacher if we need it*" compared to 67 % of their peers with the same language background following the Luxembourgish curriculum). Due to small student numbers with specific language backgrounds in EPS (e.g., Portuguese speaking students) or in schools following the Luxembourgish curriculum (e.g., English speaking students), these results should be interpreted with caution.

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4.3.4 ACADEMIC MOTIVATION AT SECONDARY SCHOOL LEVEL

In secondary schools following the Luxembourgish curriculum, students are allocated to three different school tracks based on their abilities. The *Enseignement secondaire classique* (ESC) prepares students for higher academic studies. Within the *Enseignement secondaire général,* the *Voie d'orientation* (ESG) prepares students either for professional life or further academic studies, and the *Voie de préparation* (ESG-VP) prepares students for joining the ESG or for starting a vocational training (Lenz & Heinz, 2018). Considering that previous national and international studies (e.g., Boehm et al., 2016; Keller et al., 2014) have identified that extensive differences in academic achievement exist between school tracks, the present chapter reports findings for secondary school students following the Luxembourgish curriculum separated by school tracks. In contrast, secondary school students attending EPS are represented as a single group because EPS follow the principle of allocating all students to one common track until the end of lower secondary education. This different approach needs to be taken into consideration when interpreting the findings at secondary school level (i.e., comparison of three ability-based school tracks to one common school track in EPS), as it is likely to affect various aspects such as classroom management and teaching, that are in turn related to academic motivation and wellbeing.

In addition, primary education in EPS spans from P1 to P5 and after these five years of primary school, students transition into S1, which marks the first year of lower secondary education in EPS. Students with regular educational pathways (i.e., no grade repetition) are generally 11 years of age at that time. In schools following the Luxembourgish curriculum, primary education spans over a duration of six years (instead of five), so that students with regular educational pathways are generally 12 years old when transitioning into 7e (first year of lower secondary education). Previous analyses targeting the age distribution of secondary school students in Luxembourg (Colling et al., 2023) showed that approximately two thirds of the EPS student population are of a comparable age (i.e., 12 years and older) to students in schools following the Luxembourgish curriculum. This observation seems to indicate that the majority of EPS students at secondary school level have transitioned to the EPS system from primary schools following the Luxembourgish curriculum.

Against the backdrop that two thirds of EPS students have only transitioned into the EPS system after having pursued primary education in school following the Luxembourgish curriculum and that the other third has had one year less of primary education than their peers in secondary schools following the Luxembourgish curriculum, the following results on secondary education should be interpreted with additional caution.

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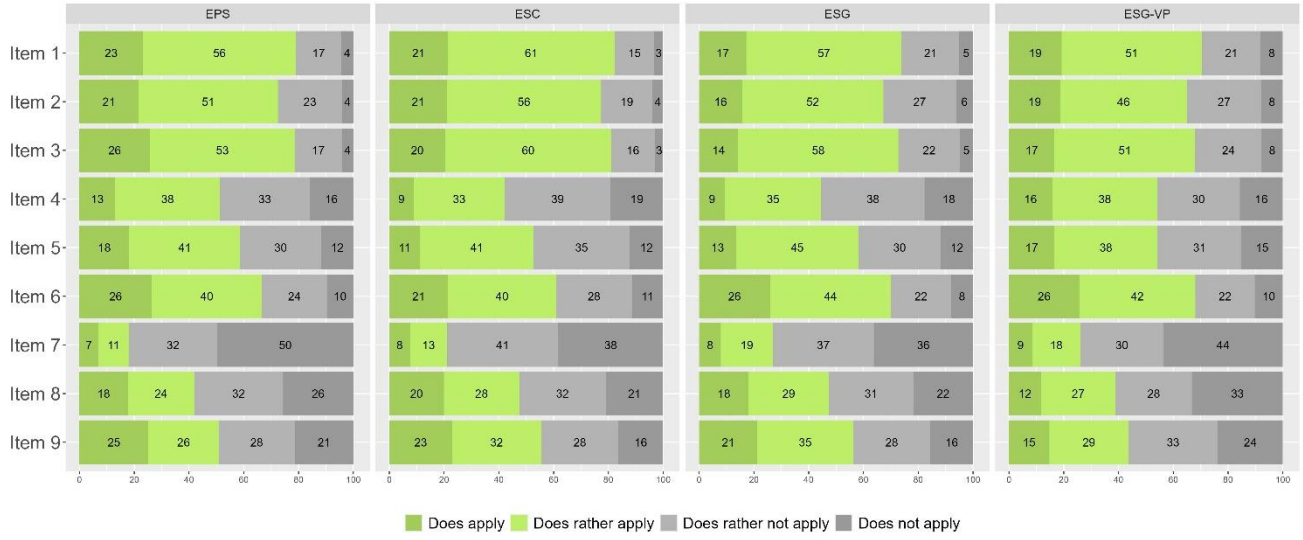
DOMAIN-GENERAL ACADEMIC MOTIVATION

Figure III.7 shows the results for secondary school students' general academic motivation in S3/5e for EPS students and their ESC, ESG, and ESG-VP peers following the Luxembourgish curriculum. The exact wording of all items is provided in the table below the figure with the first three items assessing general academic self-concept, items 4 to 6 assessing general academic interest, and items 6 to 9 assessing general academic anxiety (see section *4.2.1* for more details on the assessed constructs).

Figure III.7 – General Academic Motivation at Secondary School Level Expressed in Percentages



Item 1	I am good at most school subjects.
Item 2	I learn things quickly in most school subjects.
Item 3	I do well in exams in most school subjects.
Item 4	I enjoy most school subjects.
Item 5	I am interested in most school subjects.
Item 6	Most school subjects are important to me personally.
Item 7	I am afraid of most school subjects.
Item 8	In most school subjects I am very nervous before exams.
Item 9	For most school subjects, I worry about exams.

As expressed by the green bars, S3/5e students generally indicated to have a high general academic self-concept with the share of students (rather) agreeing with item 1 ("*I am good at most school subjects*") ranging, for example, from 70 % in ESG-VP students to 82 % in ESC students. With regard to general academic interest, a slightly lower agreement rate can be observed across all students groups indicating a more moderate general academic interest with the amount of students (rather) agreeing with item 5 ("*I am interested in most school subjects*") ranging, for example, from 52 % in ESC students to 59 % in their EPS peers. As indicated by the grey bars for item 7 ("*I am afraid of most school subjects*"), a vast majority of students across all groups indicated that they do (rather) not experience feelings of general academic anxiety (e.g., with disagreement rates ranging from 61 % in ESG-VP students to 82 % in EPS students). In contrast, a slightly higher general anxiety can be observed for item

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8 ("*In most school subjects I am very nervous before exams*") and item 9 ("*For most school subjects, I worry about exams*"). The general academic motivation in S3/5e students thus remains (rather) high; an observation that can be made for both EPS students and their peers following the Luxembourgish curriculum, considering that differences between curricula consequently stayed below 10 % (with the exception of items 3 and 7, for which small group differences in favour of EPS students emerged that can, however, be seen as incidental due to the fact of no coherent pattern being identifiable across constructs and student groups).

DOMAIN-SPECIFIC ACADEMIC MOTIVATION

Figure III.8 and *Figure III.9* show the results for secondary school students' domain-specific motivation in mathematics and science, respectively, for S3/5e students in EPS and their ESC, ESG, and ESG-VP peers following the Luxembourgish curriculum. The exact wording of all items is provided in the tables below the figures. In contrast to the students' domain-general academic self-concept, their domain-specific self-concept in both mathematics and science is slightly lower with the share of students that (rather) agree with item 1 assessing domain-specific self-concept in mathematics ("*I am good at mathematics*") ranging, for example, from 58 % in ESG students to 65 % in ESC students. Looking at the domain-specific interest in mathematics and science, a comparable agreement rate can be observed for all students groups indicating a moderate domain-specific interest with the amount of students (rather) agreeing with item 5 assessing domain-specific interest in science ("*I am interested in most science subjects*") ranging, for example, from 47 % in ESG-VP students to 58 % in their EPS peers. As indicated by the grey bars for item 7 assessing domain-specific anxiety in mathematics and in science, respectively, a vast majority of students across all groups indicated that they do (rather) not perceive feelings of domain-specific anxiety (e.g., with disagreement rates ranging from 71 % in ESG students to 75 % in ESC students for the item "*I am afraid of mathematics*"). As for general academic anxiety, a slightly higher domain-specific anxiety can be observed for items 8 and 9 in both mathematics and science. When comparing the domain-specific motivation in mathematics and science of S3/5e students in EPS to the motivation of their peers in schools following the Luxembourgish curriculum (ESC, ESG, and ESG-VP), no systematic differences going beyond 10 % could be observed (with the exception of item 6 for mathematics and item 9 for science, for which small differences in favour of EPS students emerged that can, however, be seen as incidental due to the fact of no coherent pattern being identifiable across constructs and student groups).

Considering that the concept of "main language of instruction" is more difficult to apply to the secondary school setting (e.g., different main language of instruction based on track allocation in schools following the Luxembourgish curriculum; considerable share of students having transitioned into EPS from primary schools that followed the Luxembourgish curriculum resulting in a potential switch

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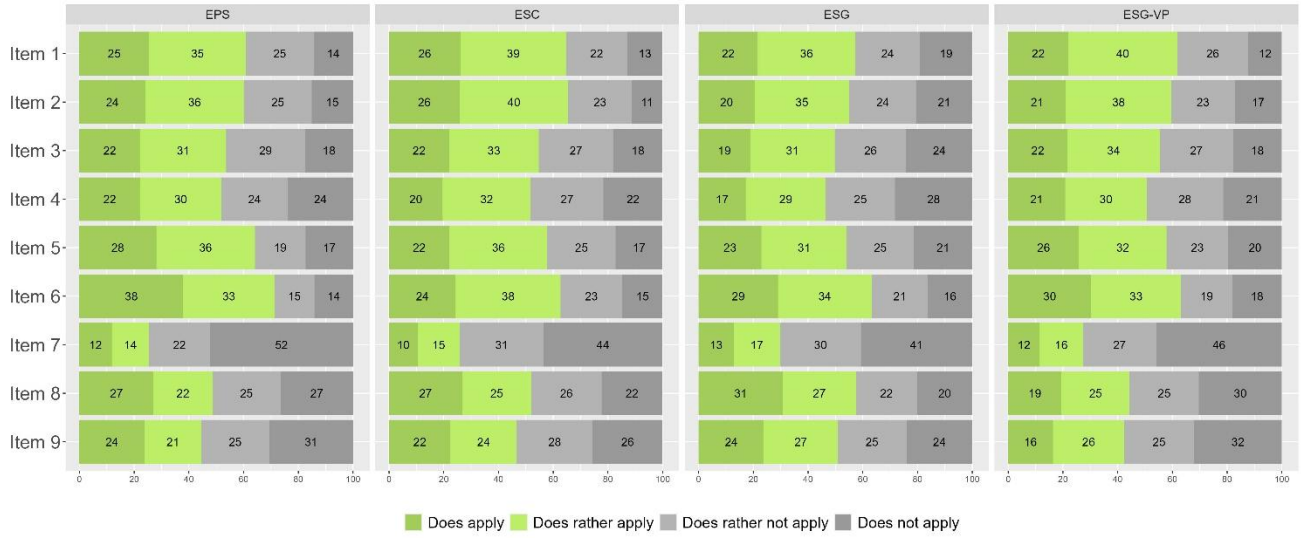
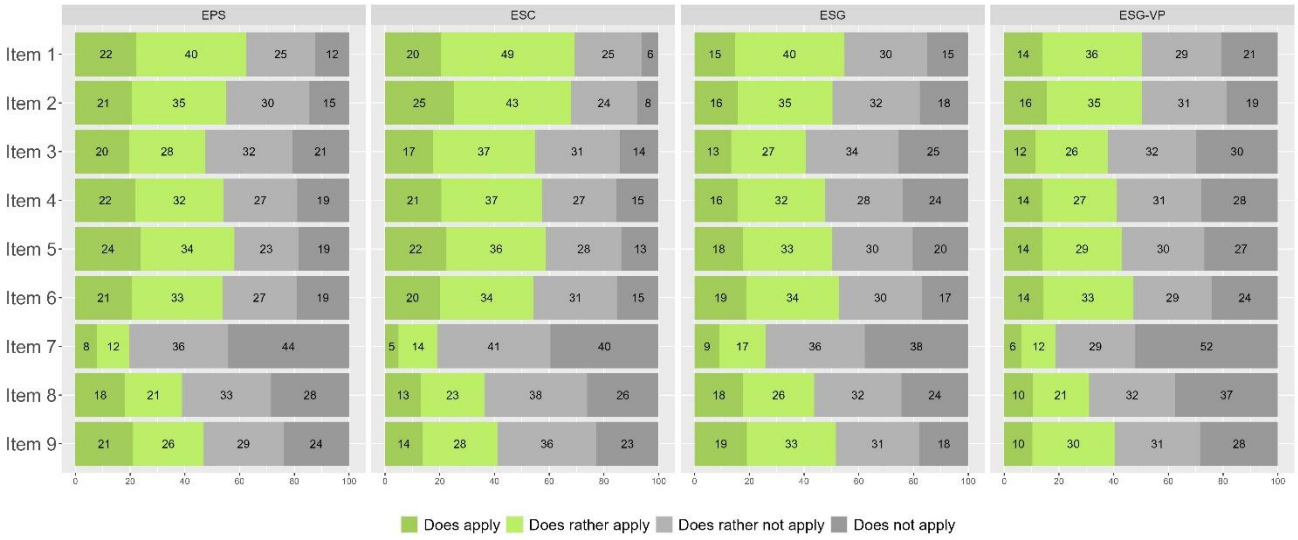
in the main language of instruction), the present chapter does not report on domain-specific academic motivation in language subjects.

Figure III.8 – Domain-Specific Academic Motivation in Mathematics at Secondary School Level Expressed in Percentages



Item 1	I am good at mathematics.
Item 2	I learn things quickly in mathematics.
Item 3	Mathematics is one of my best subjects.
Item 4	I enjoy mathematics.
Item 5	I am interested in mathematics.
Item 6	Mathematics is important to me personally.
Item 7	I am afraid of mathematics.
Item 8	I am very nervous before exams in mathematics.
Item 9	I often worry before exams in mathematics.

Figure III.9 – Domain-Specific Academic Motivation in Science at Secondary School Level Expressed in Percentages



Item 1	I am good at science subjects.
Item 2	I learn things quickly in science subjects.
Item 3	Science is one of my best subjects.
Item 4	I enjoy science subjects.
Item 5	I am interested in science subjects.
Item 6	Science subjects are important to me personally.
Item 7	I am afraid of science subjects.
Item 8	I am very nervous before exams in science subjects.
Item 9	I often worry before exams in science subjects.

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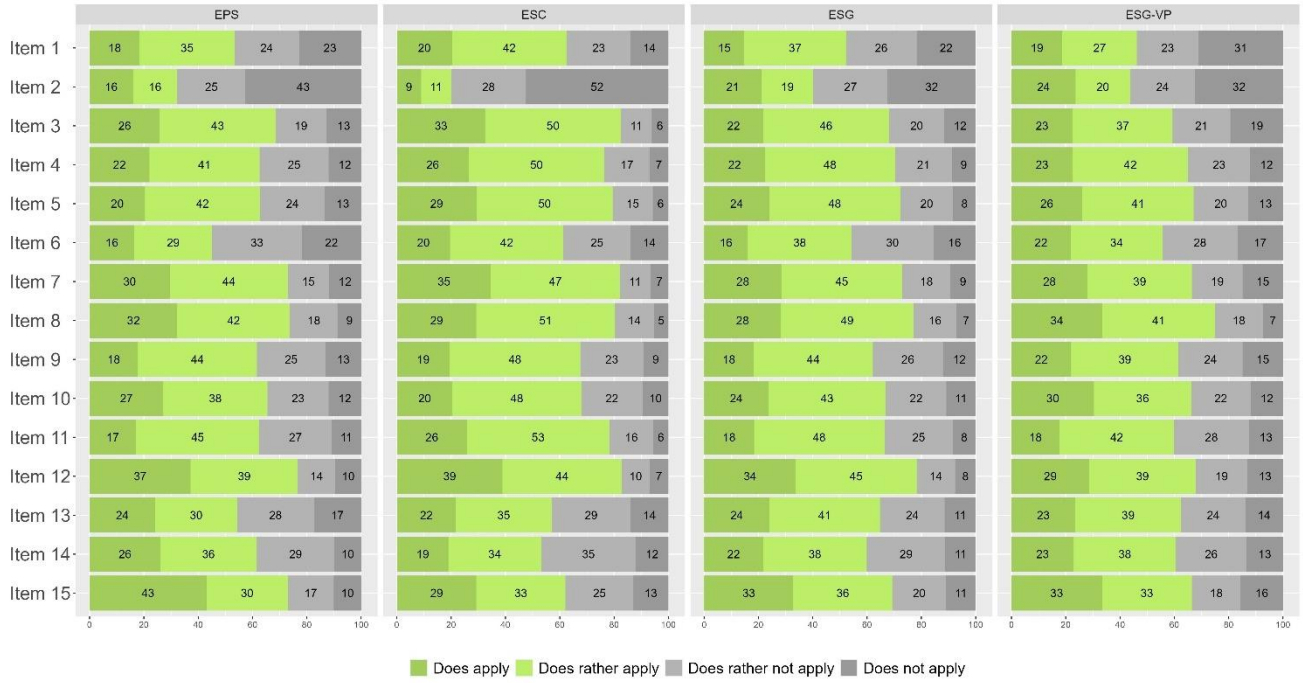
4.3.5 ACADEMIC WELLBEING AT SECONDARY SCHOOL LEVEL

Figure III.10 illustrates the results for secondary school students' academic wellbeing for S3/5e students in EPS and their ESC, ESG, and ESG-VP peers following the Luxembourgish curriculum. The exact wording of the items is provided in the table below the figure with the first three items assessing general school satisfaction, items 4 to 7 assessing class climate, items 8 to 12 assessing the teacher-student-relationship, and items 13 to 15 assessing the students' tendency for disruption (see section *4.2.1* for more details on the assessed constructs).

Figure III.10 –Academic Wellbeing at Secondary School Level Expressed in Percentages



Item 1	I like going to school.
Item 2	I feel well taken care of in school.
Item 3	If I could, I would rather go to another school.
Item 4	In my class, we help each other.
Item 5	In my class, we get along well.
Item 6	In my class, we all stick together.
Item 7	In my class, I feel good.
Item 8	In my class, I get extra support from my teacher when I need it.
Item 9	In my class, the teachers are interested in what I have to say.
Item 10	In my class, it is important to the teachers that the students feel comfortable.
Item 11	In my class, the students get along well with most teachers.
Item 12	In my class, most teachers treat me in a fair manner.
Item 13	In my class, we sometimes disrupt the class on purpose.
Item 14	In my class, it is often not easy for the teachers to keep the classroom quiet.
Item 15	In my class, some students keep disturbing, even though the others want to work.

With regard to general school satisfaction, approximately half of the student population reports to be satisfied with their school experience in general, with the share of students that (rather) agree with item 1 ("*I like going to school*") ranging, for example, from from 46 % in ESG-VP students to 62 % in ESC

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students. For item 2 and 3, however, a slightly different pattern emerges with a high share of students being critical towards the secondary school they attend (e.g., agreement rates with the item "*I feel well taken care of in school*" ranging from 20 % in ESC to 44 % in ESG-VP). Looking at class climate, secondary school students seem to perceive it as generally positive with agreement rates ranging, for example, from 62 % in EPS students to 67 % in ESG-VP students for item 5 ("*In my class, we get along well*"). For the construct of teacher-student-relationship, the majority of students reports a positive teacher-student-relationship with the share of students (rather) agreeing with item 8 ("*In my class, I get extra support from my teacher when I need it*"), for example, ranging from 74 % for students in EPS to 80 % for their peers in ESC. However, a considerable share of students also indicates that they perceive a (rather) high tendency for disruption in their class (e.g., share of students (rather) agreeing with item 13 "*In my class, we sometimes disrupt the class on purpose*" ranging from 54 % in EPS to 65 % in ESG). When comparing the academic wellbeing of S3/5e students in EPS to the academic wellbeing of their peers in schools following the Luxembourgish curriculum (ESC, ESG, and ESG-VP), no systematic differences going beyond 10 % could be observed.

In contrast to the results on motivation (domain-general and domain-specific) as well as on academic wellbeing at primary school level, the results at secondary school level will not be investigated split by the student background variables of gender, SES as well as language and migration background, considering that previous national studies have shown that students in the three tracks differ considerably in their background variables (e.g., Boehm et al., 2016; Hadjar et al., 2018; Keller et al., 2014). In this context, female students are usually overrepresented in the ESC, whereas students with a low-SES, students with a non-Luxembourgish/German language background, and students with a migration background are generally overrepresented in the lower tracks (ESG and ESG-VP in particular; see also *Table III.1* for the distribution of the student population across the three tracks in the present sample). These correlations between track allocation and student background variables would further hamper the comparability of results at secondary school level.

4.4 INTERMEDIARY SUMMARY

Using the ÉpStan results of the school year 2024/25, different aspects of students' general and domain-specific motivation as well as their academic wellbeing have been investigated at primary and secondary school level comparing EPS students to their peers following the Luxembourgish curriculum.

At primary school level, students across all three grades (C2.1/P1, C3.1/P3, and C4.1/P5) generally show a high **general academic motivation** (i.e., academic self-concept and interest) and low anxiety rates; an observation that can be made irrespective of the curriculum, considering that differences between groups for a specific grade level and item consequently stayed below 10 %. A similar pattern was also observed for **domain-specific academic motivation in mathematics**. When analysing the

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results split by student background characteristics, no systematic differences across grades and constructs could be identified between EPS student and their peers following the Luxembourgish curriculum for the grade level C2.1/P1. Nevertheless, some specific group differences emerged for certain constructs and student subgroups, particularly in the higher grade levels (i.e., C3.1/P3 and C4.1/P5). Certain EPS student groups, which are generally at an academic advantage in Luxembourg's education system (e.g., high-SES students, native students, and students speaking the language(s) of instruction at home; Hornung et al., 2021; Ottenbacher et al., 2024) displayed, for example, a slightly lower domain-specific academic self-concept in mathematics compared to students with the same background characteristics that are following the Luxembourgish curriculum (e.g., high-SES students in C4.1/P5, native students in C3.1/P3 and C4.1/P5; for more details see *Tables A.6* and *A.7*[11]). With regard to general and domain-specific interest, on the other hand, group differences generally seem to go in favour of EPS students irrespective of their individual background characteristics. One potential explanation for the observation that items measuring self-concept tend to go in favour of specific student groups following the Luxembourgish curriculum, whereas items that assess academic interest rather go in favour of EPS students, could be rooted in the *Big-Fish–Little-Pond Effect* (Marsh & Hau, 2003). This effect suggests that a student's perception of their own abilities (i.e., self-concept) is influenced not only by how well they are doing in absolute terms, but also by how they compare to those around them. In EPS, the student population differs from the one in schools following the Luxembourgish curriculum with classrooms in schools following the Luxembourgish curriculum being considerably more diverse regarding aspects such as SES or language background (see *Table III.1*). In addition, cross-sectional (Colling et al., 2023; Colling et al., 2024) as well as first longitudinal results (see *Chapter I* of the present report) indicate that EPS students perform better in mathematics compared to their peers following the Luxembourgish curriculum. Through the lens of the *Big-Fish–Little-Pond Effect,* EPS students might thus have fewer opportunities to compare themselves with lower-performing peers, which might contribute to explain why their self-concept is not as high as the self-concept of students with comparable background characteristics following the Luxembourgish curriculum. In contrast, academic interest is less driven by social comparisons (Trautwein et al., 2006), and the fact that EPS students have the opportunity to pursue their education in a selected main language of instruction – resulting potentially in a better understanding of school subjects in general and in mathematics – might thereby contribute to explaining group differences in favour of EPS students for the construct of domain-specific interest.

[11] This observation of certain EPS student groups which are generally at an academic advantage in Luxembourg's education system displaying a lower academic self-concept has also been observed for native students (in C4.1/P5) as well as for students with a Luxembourgish/German language background (in C3.1/P3 and C4.1/P5) when looking at domain-specific motivation in the students' main language of instruction.

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When looking at **domain-specific academic motivation in the students' main language of instruction** at primary school level, the majority of students across the three grades express high levels of academic motivation in their main language of instruction. In contrast to the constructs of general motivation and domain-specific motivation in mathematics, consistent group differences in favour of EPS students were found in C2.1/P1, indicating a higher motivation, for example to learn and read, in their main language of instruction. This finding might indicate that the possibility to start literacy acquisition in a selected main language of instruction, which might be linguistically closer to the students home language background (see Table III.1), could contribute to foster the students' motivation to start formal learning at the early stages of primary education. This finding is in line with first findings on the impact of the French literacy pilot project "*ALPHA- zesumme wuessen!*" (SCRIPT & MENJE, 2023), which showed that students who learn to read and write in French showed a higher domain-specific motivation in their language of literacy acquisition compared to their reference group, who consists of students with comparable background characteristics in terms of gender, SES, as well as language and migration background (Colling et al., 2024). In both C3.1/P3 and C4.1/P5, this coherent pattern of group differences in favour of students attending EPS can, however, only be observed for the items assessing domain-specific interest with regard to the students' enjoyment ("*I enjoy my main language of instruction*") as well as their interest to read in their main language of instruction ("*I like to read in my main language of instruction*"). While the pattern of group differences in favour of EPS students identified for the full sample was also found for male and female students, the findings were more differentiated when splitting the students by their SES. For students with a low SES, systematic and considerable group difference in favour of EPS students were found across the three constructs of domain-specific self-concept, interest, and anxiety, indicating that students with a low SES have a higher domain-specific motivation in their main language of instruction compared to their low SES peers in schools following the Luxembourgish curriculum (see *Figure III.4*). A similar, although slightly less coherent pattern, was found for students with a migration background. Here, EPS students with a migration background expressed a higher domain-specific self-concept and interest in their main language of instruction in both C2.1/P1 and in C4.1/P5, with no differences, however, arising for domain-specific anxiety. In C3.1/P3, EPS students with a migration background only displayed group differences in their favour with regard to the construct of domain-specific interest. Looking at students' language background, group differences in favour of EPS students were identified across all language groups in C2.1/P1, with the differences being most pronounced for domain-specific self-concept in the students' main language of instruction, but slightly less systematic for domain-specific interest as well as anxiety. Whereas the pattern of group differences in favour of EPS students is – as for SES – less coherent in C3.1/P3, a systematic trend across the three assessed constructs (i.e., domain-specific self-concept, interest, and anxiety) in favour of EPS students was found for students with a French, Portuguese, and English language background (see *Figure III.5*).

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Taken together, these observations offer a first indication that student groups that are at a particular risk of struggling academically in Luxembourg's education system (i.e., students having a low SES, students with a migration background, students having a non-Luxembourgish/German language background; Boehm et al., 2016; Hornung et al., 2021; Ottenbacher et al., 2024) have a higher motivation in their main language of instruction when attending EPS, where they are more likely to be taught in a language that is linguistically closer to their home language (see Table III.1). In light of a strong consensus in research that academic motivation and academic achievement are positively related to each other (Niepel et al., 2014; Schiefele et al., 2016; Wolff et al., 2021), this observation seems particularly noteworthy.

With regard to **academic wellbeing**, primary school students across all grades generally indicated a high school satisfaction, a positive class climate and teacher-student-relationship as well as a (rather) low tendency for purposeful disruptions in their class. Whereas no group differences between EPS students and their peers following the Luxembourgish curriculum were observed in C2.1/P1, students following the Luxembourgish curriculum reported a considerably more positive teacher-student-relationship in both C3.1/P3 and in C4.1/P5, and a more positive class climate in C3.1/P3 compared to their EPS peers. These observations could potentially be explained by existing structural differences in the organization of teaching between EPS and schools following the Luxembourgish curriculum at primary school level. Whereas in schools following the Luxembourgish curriculum, each class has one main teacher, who is responsible for teaching the majority of subjects (e.g., mathematics, languages, selected side subjects) and usually teaches the same class for a full learning cycle (e.g., C2.1 and C2.2; MENJE, 2024b), EPS draw upon subject teachers that are teaching the discipline they are qualified experts in to different classrooms (e.g., mathematics teacher, science teacher, English teacher, arts teacher). Although EPS classrooms also have a main class teacher (i.e., head teacher) teaching a specific subject and being particularly responsible for their class (e.g., organizational matters, contact with parents), research on the topic of teacher-student-relationship comparing a generalist teacher (like in schools following the Luxembourgish curriculum) to a specialist teacher setting (like in EPS) suggests that students perceive higher levels of trust and respect towards their teacher as well as higher levels of supportiveness from their teacher in generalist compared to specialist settings (Chang et al., 2008). Considering that the time specialist teachers spent with their students is considerably shorter, it might be easier for teachers in generalist teacher settings to build up strong and supportive relationships with their students (Russo et al., 2022; Wellington et al., 2024), and this assumption seems to be reflected in the group differences in favour of students following the Luxembourgish curriculum compared to their peers in EPS that were observed in the sample of the present chapter. In addition, all primary school students following the Luxembourgish curriculum generally remain within the same group constellation for a full learning cycle and might therefore

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perceive themselves as a more cohesive group compared to students in EPS, who attend one language section but are coming together in changing group constellations based on the choice of their second foreign language (i.e., L2; Gezer et al., 2023). This difference could contribute to explaining why group differences with regard to class climate were observed for C3.1/P3 students between both curricula. In contrast, EPS students reported a higher school satisfaction in C4.1/P5, which might be due to the fact that they can pursue their education in their selected main language of instruction, and this aspect might become particularly beneficial in higher school grades, in which the academic expectations the students are confronted with are higher. The pattern of group differences found in the full sample of primary school students has generally also been reflected in the analyses split by individual student background characteristics, with small deviations that do, however, not allow the identification of a systematic pattern and can thus mainly be considered incidental (e.g., group difference in favour of EPS students for general school satisfaction not observable for C4.1/P5 students with a high SES; no group difference in favour of EPS students with a migration background for class climate in C4.1/P5; group difference in favour of Portuguese speaking students in EPS in C2.1/P1 and for English speaking students in C3.1/P3 for class climate). Additionally, due to small student numbers with specific background characteristics in EPS (e.g., students having a low SES, Portuguese speaking students) or in schools following the Luxembourgish curriculum (e.g., English speaking students), results split by background variables should be interpreted with caution.

At secondary school level, 9e/S3 students attending EPS and their ESC, ESG, and ESG-VP peers following the Luxembourgish curriculum generally showed a high **general academic motivation** (i.e., academic self-concept and interest with the agreement rates for interest being, however, slightly lower than for self-concept) and low general anxiety rates, although they tend to worry and be nervous before exams. In contrast to domain-general academic self-concept, 9e/S3 students express a slightly lower **domain-specific academic self-concept** in both mathematics and science, but comparable domain-specific academic interest and anxiety agreement rates. No systematic group differences could be identified for secondary school students in EPS compared to their peers following the Luxembourgish curriculum. Considering that the concept of "main language of instruction" is more difficult to apply to the secondary school setting (e.g., different main languages of instruction based on track allocation in schools following the Luxembourgish curriculum; a considerable share of students having transitioned into EPS from primary schools that followed the Luxembourgish curriculum resulting in a potential switch in the main language of instruction), the related chapter does not report on domain-specific academic motivation in language subjects.

Looking at the construct of **academic wellbeing**, approximately half of the student population reports to be satisfied with their school experience in general and a majority of students reported a generally positive class climate and a positive teacher-student-relationship. In contrast to findings at the primary

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school level, no systematic differences in class climate and teacher-student-relationship in favour of students following the Luxembourgish curriculum could be identified, which might be rooted in the fact that secondary schools following the Luxembourgish curriculum as well as EPS draw upon a specialist teacher setting, thereby erasing structural differences in the organization of teaching that exist at the primary school level.

Against the backdrop that two thirds of EPS students have only transitioned into the EPS system after having pursued primary education in schools following the Luxembourgish curriculum and that the other third has had one year less of primary education than their peers in secondary schools following the Luxembourgish curriculum, the results on secondary school students' motivation and wellbeing need to be interpreted with additional caution. Considering that previous national studies have shown that students in the three tracks differ considerably in their background variables (Boehm et al., 2016; Hadjar et al., 2018; Keller et al., 2014), the analyses have furthermore not been split by individual background characteristics.

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CHAPTER IV: CROSS-SECTIONAL PARENTAL PERCEPTIONS OF MULTILINGUALISM AND PARENTAL SUPPORT

HOW DO THE PERCEPTIONS OF EPS PARENTS REGARDING THEIR ABILITY TO SUPPORT THEIR CHILD ACADEMICALLY DIFFER FROM THE PERCEPTIONS OF PARENTS WHOSE CHILDREN FOLLOW THE LUXEMBOURGISH CURRICULUM?

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5. CROSS-SECTIONAL PARENTAL PERCEPTIONS OF MULTILINGUALISM AND PARENTAL SUPPORT

5.1 THEORETICAL BACKGRAND AND RESEARCH AIM OF THE PRESENT CHAPTER

In educational research, parental support is defined as the active role parents take to foster their child's learning and academic progress. It can be considered as a multidimensional construct, encompassing behavioural involvement (e.g., offering support when learning or doing homework, active participation in school activities, regular communication with teachers), attitudes (e.g., values related to school, expectations towards their child's academic development, perception of their own role in their child's education), and cognitive-intellectual stimulation (e.g., provision of learning materials, exposing their child to stimulating activities; Grolnick & Slowiaczek, 1994; Kohl et al., 2000). Parental support has been found to be positively related to student outcomes such as academic achievement and motivational aspects (e.g., persistence) with parental expectations often being the strongest predictor (e.g., Barger et al., 2019; Boonk et al., 2018; Lee & Mendoza, 2025; Pinquart & Ebeling, 2020).

In contrast to parental attitudes and cognitive-intellectual stimulation, the dimension of the behavioural involvement of parents in their child's learning and academic progress is likely to be influenced by the parents' own language skills in their child's (main) language(s) of instruction. In this context, international research has, for example, found that a higher parental proficiency in their child's language of instruction relates to a higher parental involvement among parents that are having another home language background, whereas lower language skills tend to hamper the parents' involvement in their child learning and academic progress either directly or moderated via perceived self-efficacy (e.g., Choe, 2022; Ortega & Ludwig, 2023; Smith et al., 2018; Wong & Hughes, 2006).

Considering the high linguistic diversity of the student population in Luxembourg (e.g., SCRIPT & MENJE, 2024) and the fact that only about a 40 % of primary school students speak Luxembourgish and/ or German at home – which are the most important main languages of instruction through primary education – parents of children attending schools following the Luxembourgish curriculum might encounter language barriers when it comes to offering parental support to their child (e.g., communication with teachers, helping with learning and homework). Based on the ÉpStan parent questionnaires assessing parents' perceptions of multilingualism in Luxembourg's education system, their perceived role in their child's education as well as their abilities to communicate with their child's teacher and to support their child in their learning, the ÉpStan data collected in the autumn 2024/25, thus, allow to address the following guiding research question:

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How do the perceptions of EPS parents regarding their ability to support their child academically based on their own skills in their child's language of literacy acquisition differ from the perceptions of parents whose children follow the Luxembourgish curriculum?

5.2 MEASURES

5.2.1 PARENTAL PERCEPTIONS OF MULTILINGUALISM AND PARENTAL SUPPORT

In light of the broadening of the linguistic offer in Luxembourg's education system, the ÉpStan parent questionnaire has been extended in the school year 2023/2024 in order to be able to analyse whether the option of choosing their child's main language of instruction (e.g., in EPS or in the scope of the French literacy pilot project "*ALPHA – zesumme wuessen!*") impacts the parents' perceived ability to support their child academically.

Parents of primary school children attending C2.1/P1, C3.1/P3, and C4.1/P4 were thus invited to fill out the ÉpStan parent questionnaire. Two items are thereby assessing the parents' general perceptions of multilingualism in the education system (e.g., *The multilingualism of the schools in Luxembourg offers our child good future opportunities*) and two items aim at understanding how parents perceive their and the teachers' role in supporting their child academically (e.g., *"It is our task as parents/legal representatives to support our child in their school learning"*). In addition, five items are measuring to what extent the parents' own language skills allow them to support their child academically regarding aspects such as communication with teachers (e.g., *Our language skills allow us to have an exchange with our child's teacher, for example, during Bilan talks or parents' evenings*) and academic support in the child's main language of instruction, in mathematics as well as when doing homework (e.g., *Our language skills in our child's language of literacy acquisition allow us to support our child in the subject of mathematics*).

These statements are presented to the parents on a 4-point Likert scale (ranging from "*does not apply*" to "*does apply*") and parents are invited to express their level of agreement with each item. In order to support parents with different home language backgrounds in completing the questionnaire, they can choose between a German, French, Portuguese, and English language version.

5.2.2 STUDENT BACKGROUND CHARACTERISTICS

In the scope of the ÉpStan student (in all grades) and parent questionnaires (at primary school level), students and parents provide information on the background characteristics of socioeconomic status (SES), language, and migration background. A detailed description of how the different background characteristics are operationalized can be found in *section 2.3.2* of the present report.

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5.3 RESULTS

5.3.1 DEMOGRAPHIC INFORMATION ON THE ÉPSTAN COHORTS OF THE SCHOOL YEAR 2024/25

The findings on parental perceptions of multilingualism and parental support presented in the present chapter are based on representative data from approximately 18.500 primary school students (C2.1/P1, C3.1/P3, and C4.1/ P5)[12]. 1045 students attended EPS, which equals to 5.6 % of the full ÉpStan cohort of primary school students. The sociodemographic characteristics of the two student populations (i.e., EPS students in green and students following the Luxembourgish curriculum in yellow) can be found in *Table IV.1*.

Table IV.1 - Detailed Sample Description of the ÉpStan Primary School Cohorts for the School Year 2024/25

						Language background			
		N	HISEI (mean)	% female	% natives	% Lux/German	% French	% Portuguese	% English
Luxembourgish curriculum	C2.1	5787	52	48 %	40 %	41 %	23 %	21 %	6 %
	C3.1	5889	51	49 %	40 %	41 %	20 %	21 %	5 %
	C4.1	5818	49	49 %	39 %	41 %	20 %	21 %	5 %
EPS	P1	339	60	48 %	11 %	16 %	39 %	9 %	25 %
	P3	407	59	48 %	12 %	9 %	39 %	8 %	23 %
	P5	299	56	52 %	10 %	11 %	44 %	10 %	16 %

Note. *N* = Number of students. HISEI = Highest *International Socio-Economic Index of Occupational Status* value. For details on the operationalisation of student background variables, see 2.3.2.

In line with the cross-sectional findings discussed in previous reports (Colling et al., 2023, Colling et al., 2024), differences in the composition of the EPS student population when compared to the student population following the Luxembourgish curriculum also apply for the school year 2024/25. In EPS, students across all three grades generally display a higher SES. In addition, the share of native students is lower in EPS. With regard to language background, students having a French language background are accounting for the highest share in EPS, followed by students with an English language background. A more detailed description of how the EPS student population differs from the student population in schools following the Luxembourgish curriculum at primary school level can be found in *Chapter III* (see *section 4.3.1*), as both chapters draw on the ÉpStan data from the school year 2024/25.

[12] Although the *International School Michel Lucius* takes part in the ÉpStan at primary school level, students following its UK-Style education (i.e., A-levels) have been excluded from the cohort used in the present chapter as its aim is to focus on schools following the European curriculum.

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5.3.2 PARENTAL PERCEPTIONS OF MULTILINGUALISM AND PARENTAL SUPPORT

ATTITUDES: GENERAL PERCEPTIONS OF MULTILINGUALISM AND ROLES IN EDUCATION

Figure IV.1 shows how parents of primary school students generally perceive the multilingual education system in Luxembourg and furthermore provides insight in how the parents perceive their own as well as the teacher(s) roles in their child's education split by curriculum and grade level. The exact wording of all items is provided in the table below the figure (see *5.2.1* for details on the assessed constructs).

As indicated by the dark and light green bars, a vast majority of parents (rather) agree that the multilingualism of the schools in Luxembourg offers their child good future opportunities, ranging from 95 % in parents of C4.1/P5 students attending EPS to 96 % in parents of C2.1/P1 students following the Luxembourgish curriculum (see item 1). Despite this positive perception of multilingualism as such, approximately one third of the parents did (rather) agree that the multilingualism in Luxembourg's schools poses a difficulty to their child with this perception ranging from 22 % in parents of C2.1/P1 students attending EPS to 38 % in parents of C4.1/P5 students following the Luxembourgish curriculum (see item 2). Considering that differences between groups for a specific grade level and item consequently stay below 10 %, these observations hold true for all parents irrespective of whether their child is attending EPS or following the Luxembourgish curriculum.

When looking at the role that parents accord to themselves and to the child's teacher, results indicate that a vast majority of parents perceive their child's education as a shared responsibility between the teacher (e.g., with agreement rates ranging from 93 % in parents of C2.1/P1 children that are following the Luxembourgish curriculum to 98 % in parents of C4.1/P5 children in EPS for item 3 "*It is the task of the teacher to support our child in their school learning*") and themselves (e.g., with agreement rates ranging from 95 % in parents of C4.1/P5 children that are following the Luxembourgish curriculum to 97 % in parents of C3.1/P3 students in EPS for item 4 "*It is our task as parents/legal guardians to support our child in their school learning*"). No group differences between EPS parents and parents of students following the Luxembourgish curriculum could be identified.

In order to gain deeper insights, the analysis on the parents' general perceptions of multilingualism and their own as well as the teacher(s) roles in education was, in a second step, split by curriculum and the student background variables of gender, SES as well as language and migration background, respectively. The general pattern observed in the full sample of primary school students has also been found in these split analyses and no coherent group differences were identifiable across grades and student groups based on their background characteristics (see *Tables A.17* to *A.20* for more details).

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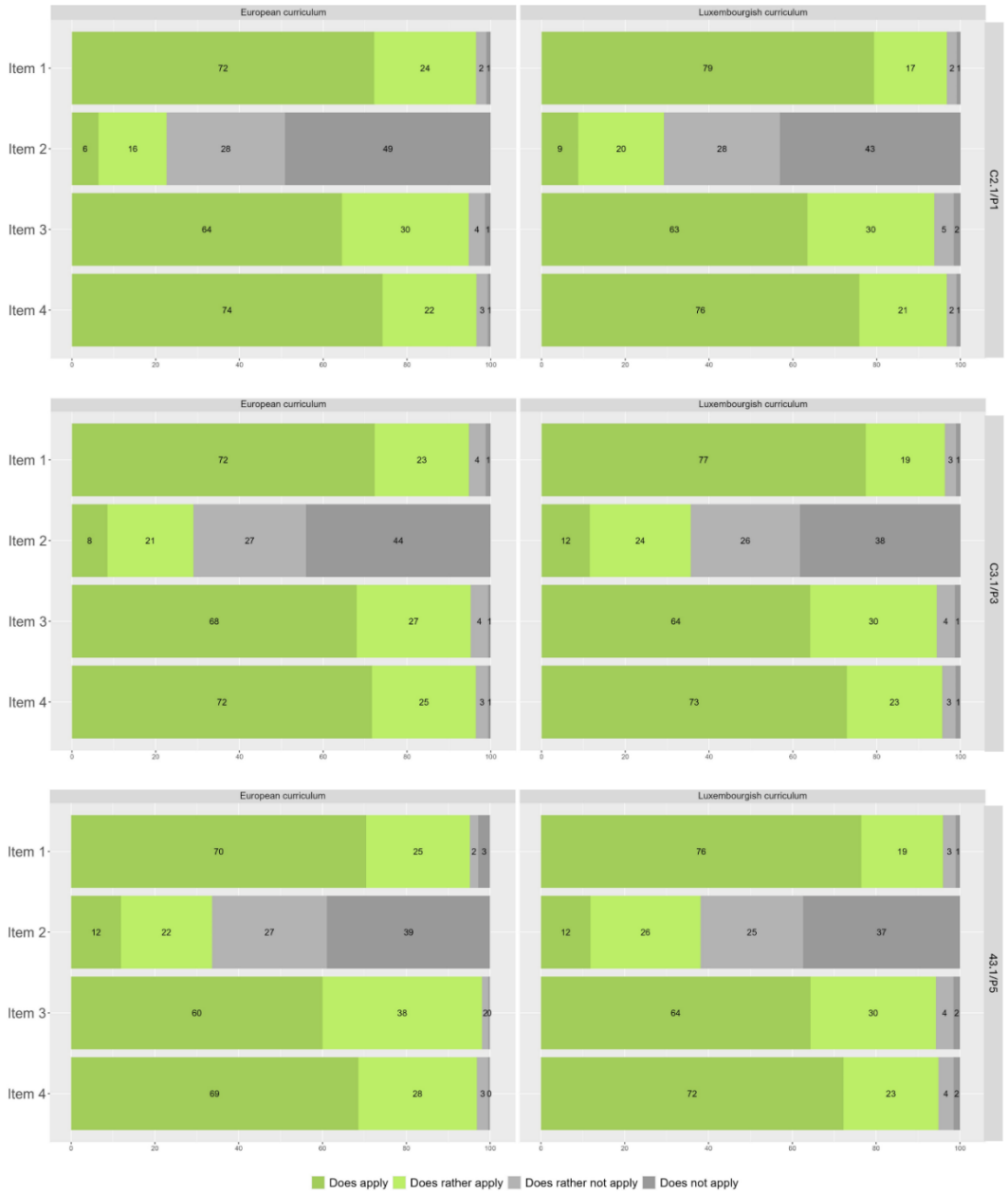
Figure IV.1 – General Perceptions of Multilingualism and Roles in Education at Primary School Level Expressed in Percentages



Item 1	The multilingualism of the schools in Luxembourg offers our child good future opportunities.
Item 2	The multilingualism of the schools in Luxembourg poses a difficulty to our child.
Item 3	It is the task of the teacher to support our child in their school learning.
Item 4	It is our task as parents/legal guardians to support our child in their school learning.

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BEHAVIOURAL INVOLVEMENT: COMMUNICATION WITH TEACHERS AND ACADEMIC SUPPORT

Figure IV.2 illustrates how parents of primary school students perceive their possibilities to communicate with their child's teacher(s) and to support their child academically based on their own language skills in their child's main language of instruction – namely German for students following the Luxembourgish curriculum and the respective language of the language section selected for students in EPS – split by curriculum and grade level. The exact wording of all the items is provided in the table below the figure (see *5.2.1* for details on the assessed constructs).

As indicated by the dark and light green bars, the vast majority of parents (rather) agree that their own language skills allow them to have an exchange with their child's teacher, ranging from 95 % in parents of C4.1/P5 students following the Luxembourgish curriculum to 97 % in parents of C2.1/P1 students in EPS (see item 1). In addition, most parents indicated to be able to rely on school internal and/or external help in case of communication difficulties with their child's teacher with agreement rates ranging from 72 % in parents of C3.1/P3 students in EPS to 82 % in parents of C4.1/P5 students following the Luxembourgish curriculum (see item 2). Considering that differences between parents of students in EPS and parents of students following the Luxembourgish curriculum consequently stay below 10 % (with the exception of item 2 in C3.1/P3 where EPS parents report to be less frequently able to rely on school internal and/or external help in case of communication difficulties when exchanging with their child's teacher), these observations hold true for all parents irrespective of their child's curriculum.

A different picture does, however, arise when looking at the parents' perceptions to support their child academically (see items 3 to 5), where EPS parents express across all three grades that they perceived themselves as being more able to support their child based on their own language skills compared to parents of students following the Luxembourgish curriculum. In C4.1/P5, for example, 95 % of EPS parents (rather) agree with the statement that their own language skills allow them to support their child when learning in their main language of instruction compared to 71 % in parents of students who follow the Luxembourgish curriculum (see item 3). When it comes to supporting their child in the subject of mathematics (see item 4) as well as when doing their homework (see item 5), differences in favour of EPS parents are, however, considerably less pronounced – particularly in C3.1/P3 and C4.1/P5. In C2.1/P1, however, group differences in favour of EPS parents can also be observed for the parents' perceived abilities to support their child in mathematics and when doing homework based on their own language skills in their child's main language of instruction.

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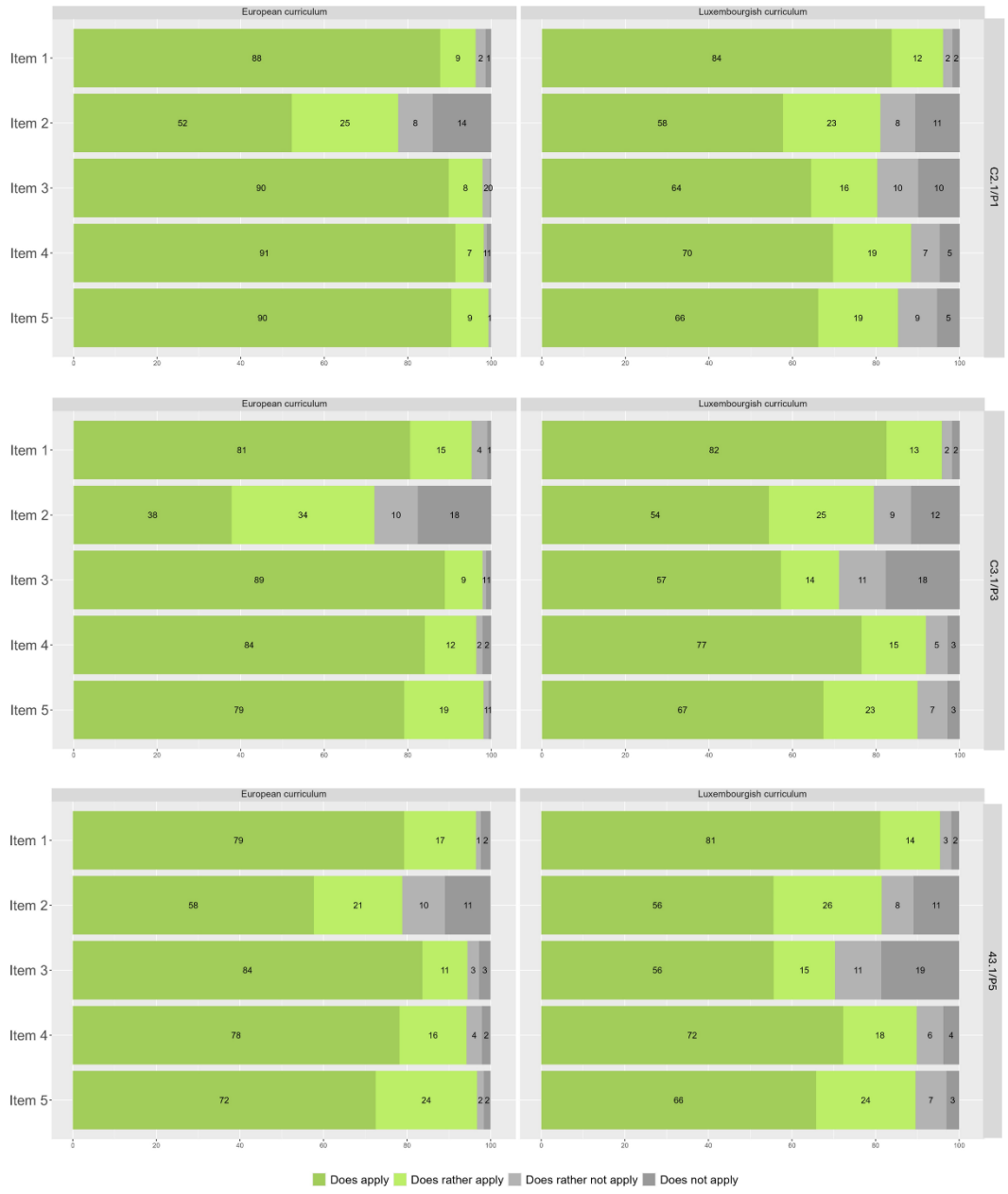
Figure IV.2 – Communication with Teachers and Academic Support at Primary School Level Expressed in Percentages



Item 1	Our language skills allow us to have an exchange with our child's teacher (e.g., *Bilan* talks, parents' evening).
Item 2	If there are difficulties in exchanging with our child's teacher, we can rely on help from the school and/or on school external help.
Item 3	Our language skills in our child's main language of instruction allow us to support our child in learning in German OR French OR English.
Item 4	Our language skills in our child's main language of instruction allow us to support our child in the subject of mathematics.
Item 5	Our language skills in our child's main language of instruction allow us to support our child with their homework.

When splitting the analysis on the parents' behavioural involvement in their child's academic learning by curriculum and the background variables of gender, SES as well as language and migration background, it becomes apparent that the group difference in favour of EPS parents in offering their child academic support (and this particularly so in their main language of instruction) that was observed in the full sample of primary school students across grades, can also be found when

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investigating the students based on their background characteristics (e.g., among both parents of male and female EPS students and among both parents of low and high SES students; see item 3 in *Tables A.21* and *A.22*, respectively). When looking at students split by migration background (see *Table A.23*), however, results indicate that the group differences in supporting their child academically that were identified in favour of EPS parents can only be observed for students with a migration background (and this across all the items assessing the parents' perceived ability to provide academic support), whereas no differences could be found for parents of native EPS students. The most pronounced differences between EPS parents and parents of students following the Luxembourgish curriculum can be observed when splitting the students by their language background. *Figure IV.3* illustrates these findings by the example of C4.1/P5 students.

Whereas no group differences can be identified for parents of students with a Luxembourgish/German language background when it comes to their perceived ability of supporting their child academically based on their own language skills, coherent differences in favour of parents of EPS students in C4.1/P5 can be observed for all other language groups. Looking at the item "*Our language skills in our child's main language of instruction allow us to support our child in learning in German* ***OR*** *French* ***OR*** *English*", 100 % of parents of French-speaking and English-speaking EPS students (rather) agreed compared to 59 % of parents of French-speaking students and 54 % of parents of English-speaking students following the Luxembourgish curriculum. The same, but slightly less pronounced pattern, has also been found for parents of Portuguese-speaking students, where 81 % of EPS parents (rather) agreed to be able to support their child academically when learning in its main language of instruction based on their own language skills compared to 51 % of parents of students who follow the Luxembourgish curriculum. For parents of French- and English-speaking EPS students, group differences in their favour also arise for items 4 ("*Our language skills in our child's main language of instruction allow us to support our child in the subject of mathematics*") and 5 ("*Our language skills in our child's main language of instruction allow us to support our child with their homework*"). This pronounced pattern of group differences that are in favour of parents of EPS students with a French, Portuguese, or English language background is also observable in C2.1/P1 and C3.1/P3 (see *Table A.24*).

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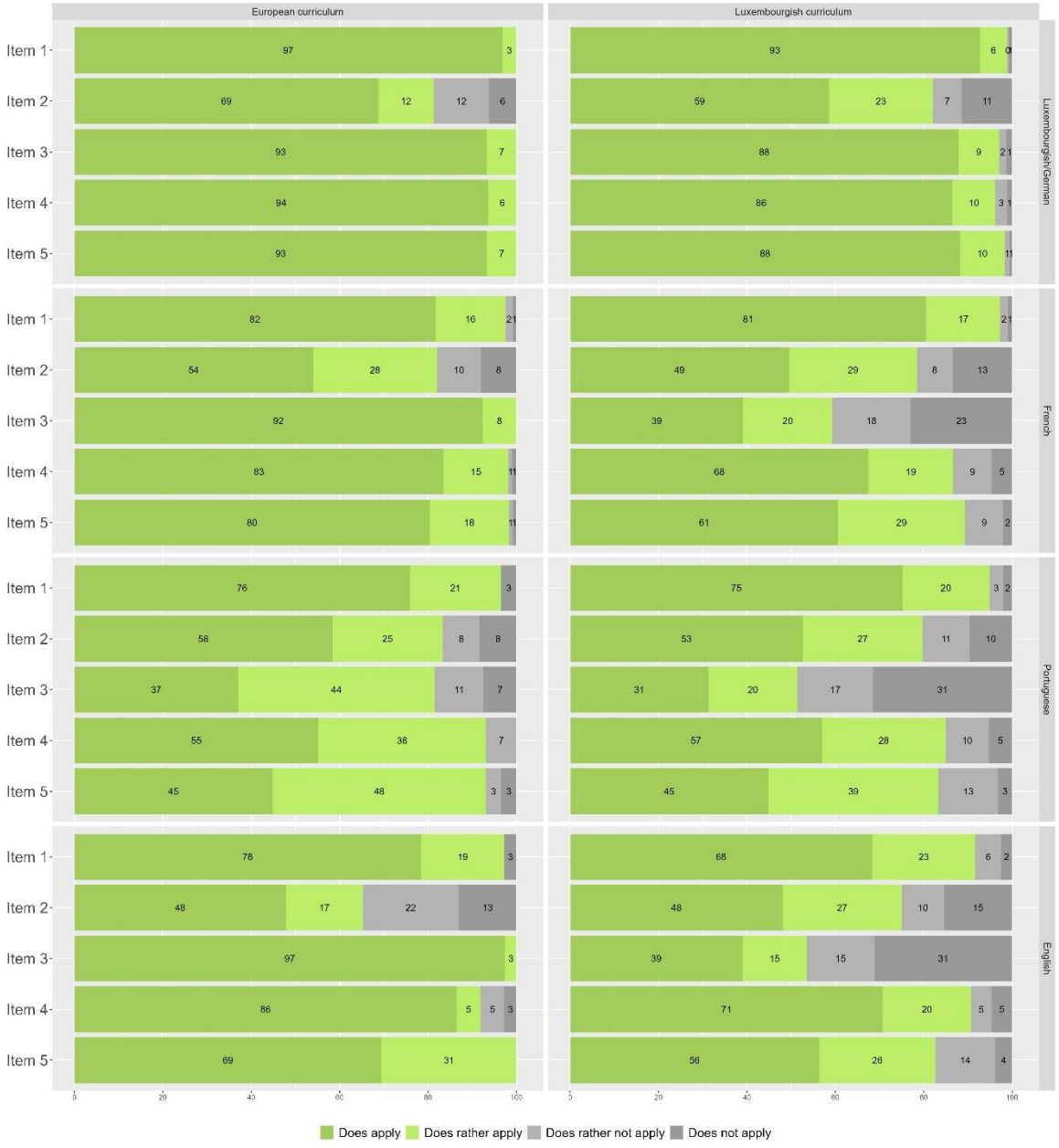
Figure IV.3 – Communication with Teachers and Academic Support in C4.1/P5 – Split by Language Background



Item 1	Our language skills allow us to have an exchange with our child's teacher (e.g., *Bilan* talks, parents' evening).
Item 2	If there are difficulties in exchanging with our child's teacher, we can rely on help from the school and/or on school external help.
Item 3	Our language skills in our child's main language of instruction allow us to support our child in learning in German OR French OR English.
Item 4	Our language skills in our child's main language of instruction allow us to support our child in the subject of mathematics.
Item 5	Our language skills in our child's main language of instruction allow us to support our child with their homework.

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5.4 INTERMEDIARY SUMMARY

Using the ÉpStan results of the school year 2024/25, the parents' general perceptions of multilingualism in Luxembourg's education system as well as their ability to support their child academically based on their own language skills in their child's main language of instruction were investigated at primary school level with a focus on group differences between EPS parents and parents of students following the Luxembourgish curriculum.

The results from the parental support questionnaire indicated that parents of primary school students in Luxembourg generally agree that the multilingualism of the country's school system offers their child good future opportunities. Despite these positive perceptions of multilingualism, one third of the parents expressed their worries that the expectations related to such a multilingual school curriculum may pose a difficulty to their child (see *Figure IV.1*).

When looking at the role that parents accord to themselves and to the child's teacher, results indicate that, irrespective of the curriculum, a vast majority of parents perceive their child's education as a shared responsibility between the teacher and themselves (see *Figure IV.1*).

Results furthermore showed that the parents of primary school students generally agree across curricula that their own language skills allow them to exchange with their child's teacher, for example, during *bilan talks* or at a parents' evening. In case of communication difficulties, most parents furthermore indicated to be able to rely on school internal and/or school external help (see *Figure IV.2*).

Whereas no considerable group differences between EPS parents and parents of students following the Luxembourgish curriculum could be identified for their attitudes (towards multilingualism, and regarding their shared responsibility in their child's education) and for their possibilities to communicate with the child's teacher, a more differentiated picture could be observed with regard to the parents' perceived ability to support their child academically based on their own language skills in the child's main language of instruction.

Across all three grades, EPS parents perceived themselves as more able to support their child based on their own language skills compared to parents of students following the Luxembourgish curriculum. This observation was most pronounced when it comes to support their child when learning in their main language of instruction and less coherent for academic support in the subject of mathematics and when supporting their child during homework (see *Figure IV.2*). A more fine-grained analysis of the parents' perceived ability to support their child academically based on their own language skills in their child's main language of instruction, furthermore, showed that the differences in favour of EPS parents are particularly pronounced among student groups that have repeatedly been found to be

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at a higher risk of struggling academically in schools following the Luxembourgish curriculum (i.e., students with a migration background, students speaking a language other than Luxembourgish and/or German at home; Boehm et al., 2016; Hadjar et al., 2018; Hornung et al., 2021). Looking at students split by migration background, for example, showed that the group differences in supporting their child academically could only be observed for parents of EPS students with a migration background (and this across all items assessing the parents' perceived ability to provide academic support), whereas no differences could be found for parents of native EPS students (see *Table A.23*).

The most pronounced differences between EPS parents and parents of students following the Luxembourgish curriculum were found when splitting the students by their language background. Whereas no group differences can be identified for parents of students with a Luxembourgish/German language background when it comes to their perceived ability to support their child academically based on their own language skills, coherent differences in favour of EPS parents could be observed for all other language groups (see *Figure IV.3* and *Table A.24*).

These observations are in line with international research (e.g., Choe, 2022; Ortega & Ludwig, 2023; Smith et al., 2018; Wong & Hughes, 2006) and offer an important indication that parents perceive themselves as more able to support their child academically when their child is learning in a main language of instruction they are themselves proficient in. Furthermore, they underline that a broadening of the language offer in Luxembourg might contribute to reducing educational inequalities, particularly in light of the fact that parental support has been found to be positively related to student outcomes such as achievement and motivational aspects (e.g., Barger et al., 2019; Boonk et al., 2018; Lee & Mendoza, 2025; Pinquart & Ebeling, 2020).

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CHAPTER V: CROSS-SECTIONAL STUDENT PERCEPTIONS OF LEARNING ENVIRONMENTS IN SECONDARY EDUCATION

HOW DO THE PERCEPTIONS OF LEARNING ENVIRONMENTS DIFFER BETWEEN EPS STUDENTS AT SECONDARY SCHOOL LEVEL AND THEIR PEERS FOLLOWING THE LUXEMBOURGISH CURRICULUM?

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6. CROSS-SECTIONAL STUDENT PERCEPTIONS OF LEARNING ENVIRONMENTS IN SECONDARY EDUCATION

6.1 THEORETICAL BACKGRAND AND RESEARCH AIM OF THE PRESENT CHAPTER

With EPS giving their students the opportunity to choose a language section and thus a main language of instruction (German, French, or English), which allows them to pursue their education in a language that is linguistically closer to their home language background (e.g., another Romance language), a potential explanation for the observed achievement differences in favour of EPS students compared to their peers following the Luxembourgish curriculum (Colling et al., 2023, Colling et al., 2024; see also *Chapter I* and *Chapter II* of the present report) might lie in the better linguistic fit offered in EPS.

However, other important structural differences exist between EPS and schools that are following the Luxembourgish curriculum, such as, for example, the external evaluation that EPS need to undergo on a regular basis in order to be considered as an Accredited European Schools (AES, Schola Europea, 2019). In addition, EPS have a higher flexibility when it comes to the recruitment of their teachers, who furthermore must pass a statutory evaluation every four years (for more details see Colling et al., 2023).

In educational research, different school systems and tracks are also understood as differential learning environments, whose characteristics vary with regard to the three generic dimensions of teaching quality, namely classroom management (e.g., the provision of a structured and low-noise learning environment), teacher support (e.g., the alignment of instruction to individual student needs and goals), and cognitive activation, defined as the degree of cognitive challenge and the stimulation of higher-order thinking (Praetorius et al., 2018).

With one limitation of the *European Public School Report 2023* being that the available data did not allow to identify one specific explanation for the observed performance differences between students in EPS and their peers following the Luxembourgish curriculum, a student questionnaire assessing the three dimensions of learning environments (e.g., cognitive activation, classroom management and student support; Praetorius et al., 2018) has been integrated into the ÉpStan at secondary school level in order to understand whether EPS and school following the Luxembourgish curriculum differ when it comes to the learning environments they offer to their students; a dimension that could contribute to explaining potential achievement and motivational differences between EPS and schools following the Luxembourgish curriculum. The present chapter thus investigates the following research question:

How do the perceptions of learning environments differ between EPS students at secondary school level and their peers following the Luxembourgish curriculum?

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6.2 MEASURES

In order to assess learning environments at secondary school level within the ÉpStan, the existing student questionnaire was extended by items targeting the three following generic dimensions of teaching quality (Praetorius et al., 2018) that are well-established in international research and proven to shape differential learning environments:

(a) **Cognitive activation**:

Cognitive activation relies on central perceptions of constructivist learning theories, emphasizing that knowledge cannot simply be transferred from one person (i.e., the teacher) to another (i.e., the student), but that the learner must actively construct and integrate their knowledge through experiences and interpretations (Helmke, 2009). Cognitive activation thus refers to instructional practices that stimulate students' active engagement in critical thinking and problem-solving, through challenging tasks and a collaborative discourse that encourages them to apply their learning strategies and to use their prior knowledge in order to develop a stronger conceptual understanding of the introduced concepts (Klieme et al., 2001; Praetorius et al., 2018; Schiepe-Tiska, 2019). The dimension of cognitive activation is assessed in the student questionnaire via eight items tapping into central elements of this definition such as, for example, "*In my classes, we have to apply the things we have learned to new situations*" (e.g., assessing task format) or "*In my classes, we work in groups to find solutions together*" (e.g., assessing the social setting).

(b) **Classroom management:**

Classroom management refers to a teacher's ability to create and sustain a productive learning environment by preventing and regulating disruptions, by establishing clear rules and routines, and managing time effectively so that instructional and learning time can be used optimally (Helmke, 2009; Praetorius et al., 2018). The six items in the ÉpStan student questionnaire assessing classroom management are tapping into the teachers' ability to regulate disruptions by items such as "*In my classes, the teachers don't know what to do when we disrupt the lessons*" or "*In my classes, some students keep disturbing, even though the others want to work*". While three items were newly included into the questionnaire, three other items tapping into classroom management are already administered in the ÉpStan student questionnaire as part of the concept of students' tendency for disruption (see *4.2.1*).

(c) **Teacher support**:

Teacher support can generally be defined as the teacher's ability to align its teaching to the students' individual needs by creating a supportive, student-centered environment, in which students are feeling that their teacher is interested in their learning progress, provides them with

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constructive feedback and builds a positive teacher-student-relationship with them. The nine items assessing teacher support within the ÉpStan student questionnaire are tapping into these central aspects of teacher support by including, for example, statements such as "*In my classes, the teachers are interested in my learning progress*" or "*In my classes, the teachers talk with me about my strengths and weaknesses*". Besides four newly included items, five other items are already administered in the student questionnaire as part of the concept of teacher-student relationship (e.g., "In my classes, I get extra support from my teacher when I need it"; see *4.2.1*).

All statements were presented to the students on a 4-point Likert scale (ranging from "*does not apply*" to "*does apply*") and they were invited to express their level of agreement with each item. Whereas students following the Luxembourgish curriculum could switch between German and French versions of the items (i.e., their two main languages of instruction), students attending EPS could switch between German, French, and English (i.e., the languages of the three main language sections in EPS).

6.3 RESULTS

6.3.1 DEMOGRAPHIC INFORMATION ON THE ÉPSTAN COHORT OF THE SCHOOL YEAR 2024/25

The findings on the students' perceptions of learning environments in secondary education presented in the present chapter are based on the full cohort of S3/5e students of the school year 2024/25. At the secondary school level, 750 students attended EPS in S3/5e (which equals to 10.7 % of the full ÉpStan cohort of S3/5e students). In secondary schools following the Luxembourgish curriculum, *N* = 1963 students attended the *Enseignement secondaire classique* (ESC; highest school track). Within the *Enseignement secondaire général*, *N* = 3645 students attended the *Voie d'orientation* (ESG; intermediary track) and *N* = 686 students were allocated to the *Voie de préparation* (ESG-VP; lowest track). Students from S1/7e were excluded from the analyses considering that not all students of this grade are taking part in the ÉpStan, resulting in the fact that the data is not (yet) fully representative.

The sociodemographic characteristics of the two student populations (i.e., EPS students in green and students following the Luxembourgish curriculum in yellow) can be found in *Table V.1* (see section 2.3.2 for more details on the measures used to assess the students' background characteristics).

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Table V.1 - Detailed Sample Description of the ÉpStan Cohort of S3/5e students for the School Year 2024/25

						Language background			
		N	HISEI (mean)	% female	% natives	% Lux/German	% French	% Portuguese	% English
Luxembourgish curriculum	ESC	1963	58	53 %	55 %	59 %	22 %	10 %	4 %
	ESG	3645	41	47 %	32 %	33 %	15 %	34 %	2 %
	ESG-VP	686	34	35 %	23 %	22 %	14 %	46 %	2 %
EPS	S3	750	54	47 %	13 %	17 %	29 %	20 %	11 %

Note. *N* = Number of students. HISEI = Highest *International Socio-Economic Index of Occupational Status* value. ESC = *Enseignement secondaire classique*. ESG = *Enseignement secondaire général - voie d'orientation*. ESG-VP = *Enseignement secondaire général - voie de préparation*. For details on the operationalisation of student background variables, see 2.3.2.

In line with the cross-sectional findings discussed in previous reports (Colling et al., 2023, Colling et al., 2024), the composition of the EPS student population differs considerably from the composition of the student population following the Luxembourgish curriculum also at secondary school level. In EPS, the student population is characterised by a high SES (HISEI mean of 54), a low share of native students (13 %) as well as by a comparably high share of French-speaking students (29 %). Although the mean SES of the EPS population is most comparable with their peers in ESC (HISEI mean of 58), the combination of a low share of native students and of students having a French language background cannot be found in any of the three school tracks in schools following the Luxembourgish curriculum.

These observed differences in the student population between EPS and secondary schools following the Luxembourgish curriculum, together with the facts that secondary school students in EPS all attend one common track and that two thirds of EPS students have only transitioned into the EPS system after having pursued primary education in schools following the Luxembourgish curriculum (see section 4.3.3 for details), make it important to underline that the following findings on secondary education should be interpreted with additional caution.

6.3.2 STUDENT PERCEPTIONS OF LEARNING ENVIRONMENTS

COGNITIVE ACTIVATION

Figure V.1 shows how secondary school students in S3/5e perceive their learning environment regarding the domain of cognitive activation for EPS students and their ESC, ESG, and ESG-VP peers following the Luxembourgish curriculum. The exact wording of all items is provided in the table below the figure (see section 6.2 for more details on the assessed constructs).

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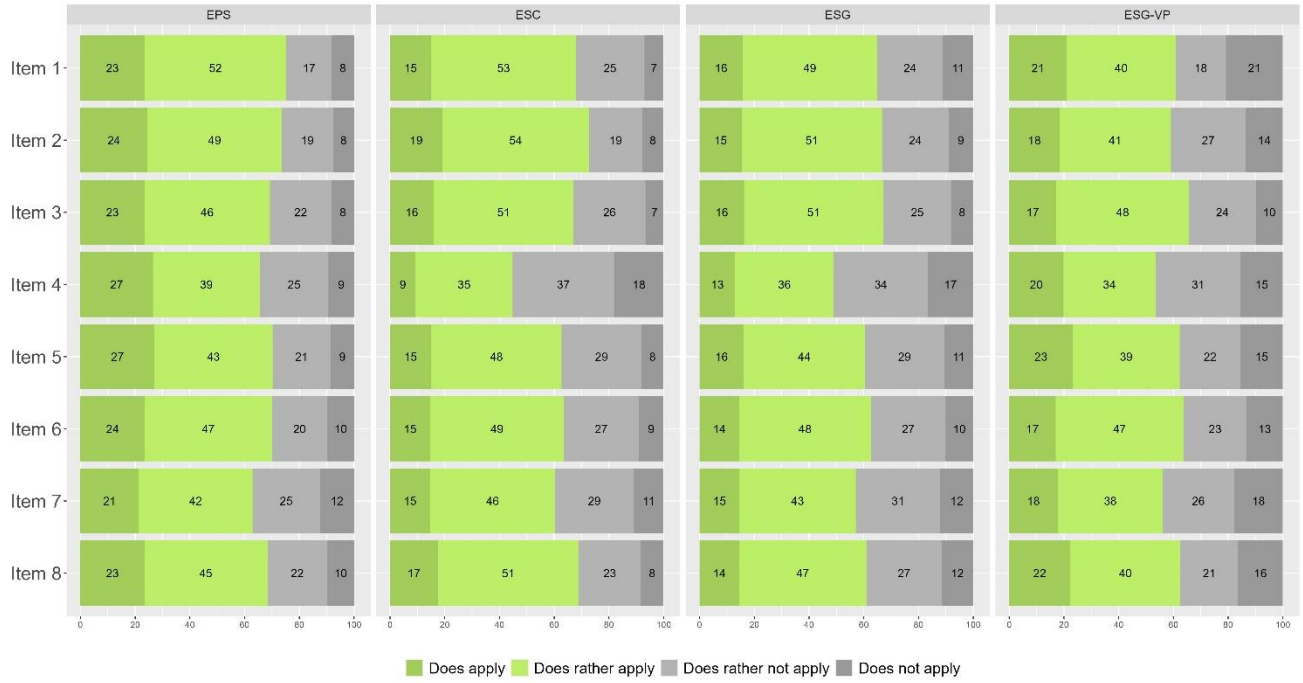
Figure V.1 – S3/5e Students' Perceptions of Cognitive Activation Expressed in Percentages



Item 1	In my classes, teachers ask questions that make me think.
Item 2	In my classes, we have to apply the things we have learned to new situations.
Item 3	In my classes, we get exercises that we can solve in different ways.
Item 4	In my classes, we work on projects or portfolios.
Item 5	In my classes, we work in groups to find solutions together.
Item 6	In my classes, we have to explain our own ideas about an exercise.
Item 7	In my classes, we discuss together and are asked to question each other's opinions.
Item 8	In my classes, I have the opportunity to reflect on texts and to form my own opinions.

As expressed by the dark and light green bars, approximately two thirds of all S3/5e students perceive their learning environment as (rather) cognitively activating. They, for example, consider their teachers to present them with cognitively challenging tasks with agreement rates ranging from 61 % in ESG-VP students to 75 % in EPS students for item 1 ("*In my classes, teachers ask questions that make me think*") as well as from 65 % in ESG-VP students to 69 % in EPS students for item 3 ("*In my classes, we get exercises that we can solve in different ways")*. In addition, S3/5e students (rather) agreed with statements which illustrate that they are encouraged to work together (e.g., with agreement rates ranging from 60 % in ESG students to 70 % in EPS students for the statement "*In my classes, we work in groups to find solutions together*") and to discuss different opinions (e.g., with agreement rates ranging from 56 % for ESG-VP students to 63 % for EPS students for the statement "*In my classes, we discuss together and are asked to question each other's opinions*"). Differences between curricula consequently stayed below 10 % with the exception of item 1, where—compared to EPS students—a higher share of students in ESG-VP did not agree that the teachers ask questions that make them think, and item 4, where both more EPS

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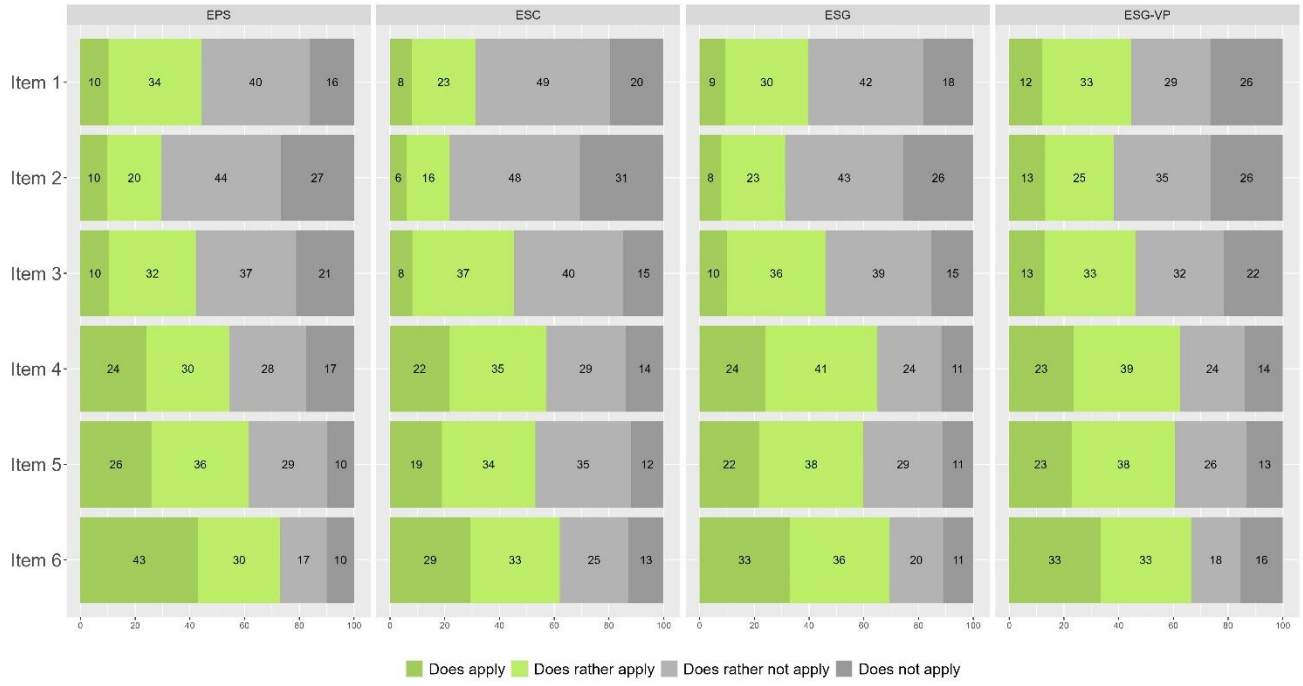
and ESG-VP students reported to be working on projects or portfolios. Considering that no systematic differences could be observed between curricula, cognitive activation seems thus to be perceived as (rather) high in S3/5e students and this irrespective of whether they are attending EPS or a school following the Luxembourgish curriculum.

CLASSROOM MANAGEMENT

Figure V.2 shows how secondary school students in S3/5e perceive their learning environment regarding the domain of classroom management for EPS students and their ESC, ESG, and ESG-VP peers following the Luxembourgish curriculum. The exact wording of all items is provided in the table below the figure (see section 6.2 for more details on the assessed constructs).

Figure V.2 – S3/5e Students' Perceptions of Classroom Management Expressed in Percentages



Item 1	In my classes, the teachers can't get the students to listen.
Item 2	In my classes, the teachers don't know what to do when we disrupt the lessons.
Item 3	In my classes, the teachers let us get away with many things during the lessons.
Item 4	In my classes, we sometimes disrupt the class on purpose.
Item 5	In my classes, it is often not easy for teachers to keep the classroom quiet.
Item 6	In my classes, some student keep disturbing, even though the others want to work.

As expressed by the dark and light green bars, S3/5e students perceived their learning environment to be disrupted at times (see items 4 to 6) with agreement rates ranging, for example, from 54 % expressed by EPS students to 65 % by their ESG peers for the item "I*n my classes, we sometimes disrupt the class on purpose*". As can be seen when looking at the dark and light grey bars for item 1 and 2, the majority of students across curricula does, however, express that they do (rather) not agree with the statements that their teachers don't know how to get their students to listen (disagreement rates ranging from 55

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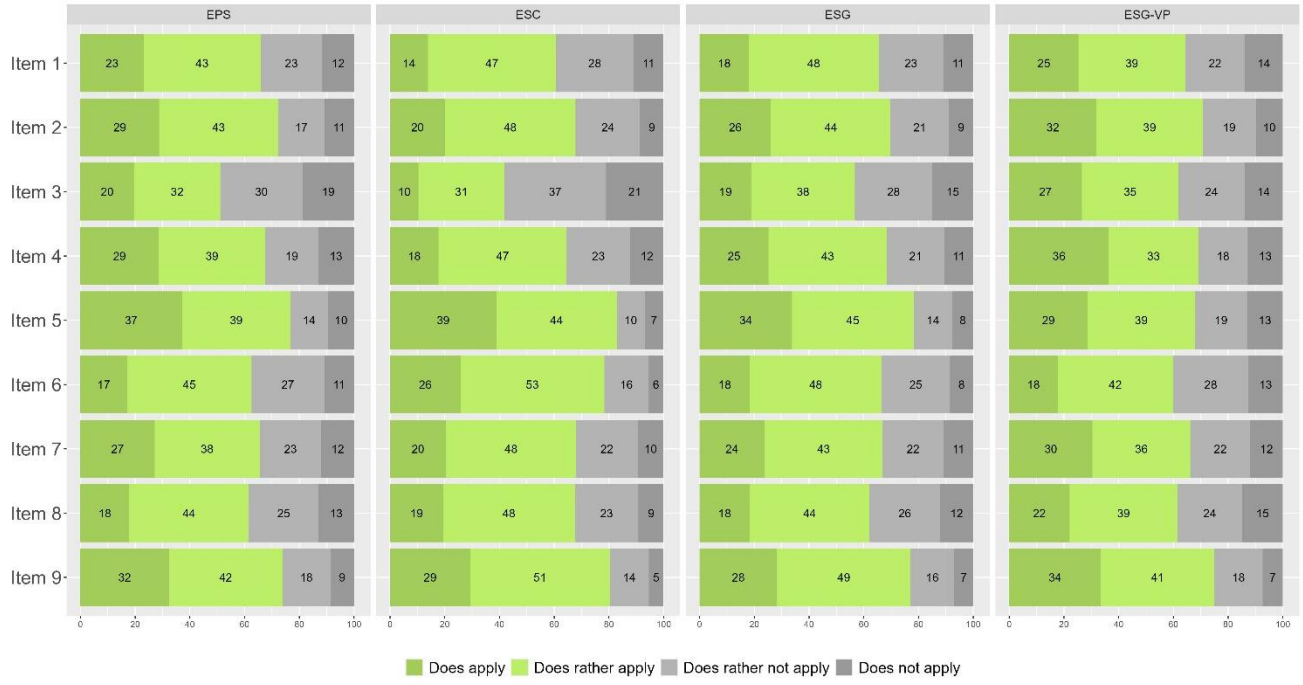
% in ESG-VP students to 69 % in ESC students) or that their teachers don't know what to do when the students disrupt the lessons (disagreement rates ranging from 69 % in ESG students to 79 % in their ESC peers). The findings on classroom management thus seem to indicate that there is a certain tendency for disruption in S3/5e, but that students generally perceive their teachers as (rather) able to manage such disruptions. Differences between curricula thereby consequently stayed below 10 % with the only exception arising for item 6, where a higher share of EPS students fully agrees (43 %) that some students keep disturbing in their classes, even though the others want to work compared to ESC (29 %) students.

TEACHER SUPPORT

Figure V.3 shows how secondary school students in S3/5e perceive their learning environment regarding the domain of teacher support for EPS students and their ESC, ESG, and ESG-VP peers following the Luxembourgish curriculum. The exact wording of all items is provided in the table below the figure (see section 6.2 for more details on the assessed constructs).

Figure V.3 – S3/5e Students' Perceptions of Teacher Support Expressed in Percentages



Item 1	In my classes, the teachers are interested in my learning progress.
Item 2	In my classes, the teachers tell me what I can do to improve myself.
Item 3	In my classes, the teachers talk with me about my strengths and weaknesses.
Item 4	In my classes, the teachers ask me what I understood and what I didn't understand.
Item 5	In my classes, most teachers treat me in a fair manner.
Item 6	In my classes, the students get along well with most teachers.
Item 7	In my classes, it is important to the teachers that the students feel comfortable.
Item 8	In my classes, the teachers are interested in what I have to say.
Item 9	In my classes, I get extra support from my teacher when I need it.

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As expressed by the dark and light green bars, approximately two thirds of all S3/5e students perceived their teachers to be interested in their students' learning progress with agreement rates ranging from 61 % in ESC students to 66 % in their EPS peers for item 1 ("*In my classes, the teachers are interested in my learning progress*"). Whereas most S3/5e students (rather) agreed that their teachers tell them what they can do to improve themselves (see item 2 with agreement rates ranging from 68 % in ESC students to 72 % in EPS students) and that the teachers ask them what they understood and didn't understand in their classes (see item 4 with agreement rates ranging from 65 % in ESC students to 68 % in the three other groups), a slightly lower share of S3/5e students furthermore (rather) agrees with item 3, assessing whether teachers talk with their students about their strengths and weaknesses (with agreement rates ranging from 41 % in ESC students to 62 % in ESG-VP students). When looking at items 5 to 8, which are assessing teacher-student-relationship, the majority of S3/5e students perceived themselves to have a positive relationship with their teachers with agreement rates ranging, for example, from 76 % in ESG-VP to 83 % in ESC for item 5 ("*In my classes, most teachers treat me in a fair manner*"). In addition, S3/5e students stated to get extra support from their teachers if needed with agreement rates ranging from 74 % in EPS to 80 % in ESC (see item 9). Taken together, these results indicate a (rather) positive student perception of their teachers' support; an observation that can be made irrespective of the attended curriculum considering that group differences generally stayed below 10 %.

6.4 INTERMEDIARY SUMMARY

Using the ÉpStan results of the school year 2024/25, students' perceptions of their learning environment (i.e., cognitive activation, classroom management, teacher support) were analysed in grade S3/5e at secondary school level comparing the perceptions of EPS students to their peers in ESC, ESG, and ESG-VP that are following the Luxembourgish curriculum.

The results from the student questionnaire indicate that the majority of S3/5e students generally perceive their learning environment to be cognitively activating with teachers presenting them with cognitively challenging tasks as well as encouraging them to work together and to discuss different opinions (see *Figure V.1*). The findings on classroom management indicate a certain tendency for disruption in S3/5e, but students perceived their teachers as (rather) able to manage such disruptions (see *Figure V.2*). Looking at the students' perception of teacher support, the majority of S3/5e students perceived their teachers to be interested in their learning progress and to provide them with constructive feedback. In addition, the majority of S3/5e students perceived themselves to have a positive relationship with their teachers and to get extra support from them if needed (see *Figure V.3*).

Taken together, these results indicate a rather positive student perception of their learning environment at grade S3/5e; an observation that can be made irrespective of the attended curriculum considering that group differences generally stayed below 10 %. With regard to achievement differences identified

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in the subject of mathematics at secondary school level (e.g., Colling et al., 2023; Colling et al., 2024; as well as *Chapter I* of the present report), it can thus be concluded that no systematic differences in the students' perceptions of their learning environments emerged between EPS and schools following the Luxembourgish curriculum at secondary school level that could contribute to explaining the group differences observed in favour of EPS students compared to their ESG and ESG-VP peers. In this context, the assumed better linguistic fit in EPS remains thus a plausible explanation for the observed achievement differences; particularly in higher educational grades where the subject of mathematics has become increasingly complex and is thereby likely to rely more heavily on the students' language competencies in the language of instruction used for teaching mathematics.

Considering that learning environments have thus far only been assessed at secondary school level in the ÉpStan, it can, however, not be excluded that differences in students' perceptions of the learning environment might be observable at primary school level, where findings on the teacher-student relationship (see *Chapter III*), a construct in which some statements are used that are also part of the teacher support dimension of learning environments (see 6.2), differed between students in EPS and their school peers following the Luxembourgish curriculum (e.g., a more positive teacher-student relationship observed in favour of primary school students following the Luxembourgish curriculum).

Although the present chapter did not yield systematic differences in the S3/5e students' perception of their learning environments, it cannot be excluded that other structural differences between EPS and schools following the Luxembourgish curriculum (e.g., institutionalised quality insurance, greater flexibility in teacher recruitment, primary and secondary school within one institution, common core track until the end of lower secondary school) might contribute to explaining the observed achievement differences besides the identified differences in the student population as well as the assumption of a better linguistic fit between the students' main language of instruction and their home language background.

CONCLUSION AND OUTLOOK

WHAT ARE THE MAIN FINDINGS OF THE PRESENT REPORT AND WHAT IMPLICATIONS DO THEY HAVE FOR FUTURE RESEARCH?

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7. CONCLUSION AND OUTLOOK

7.1 SUMMARY AND DISCUSSION OF THE REPORT'S MAIN FINDINGS

By a stepwise extension of the Luxembourg School Monitoring Programme "*Épreuves Standardisées*" (ÉpStan) aiming at a full integration of EPS in the established school monitoring system, the Luxembourg Centre for Educational Testing (LUCET) offers an encompassing data base, that includes standardised achievement tests scores as well as information from student and parent questionnaires, and thereby allows a comprehensive investigation of potential differences between students in EPS and their peers following the Luxembourgish curriculum. The report's main results are summarised and discussed in the following before pointing out important methodological limitations and providing an outlook for future research.

Based on questionnaire data collected from both students (all grade levels) and their parents (primary school), the present report has analysed the composition of the EPS student population compared to the student population in schools following the Luxembourgish curriculum. The results from all chapters coherently indicate that the **EPS student population differs from the student population in schools following the Luxembourgish curriculum** with EPS students having a higher SES on average and French being the language primarily spoken at home. Students with a low SES and students speaking another language than Luxembourgish and/or German at home (i.e., Portuguese) are, on the other hand, not taking up the offer of EPS as frequently as their high SES peers and students speaking French or English at home (see, for example, *Table III.1*), although those student groups have repeatedly been found to struggle academically in schools following the Luxembourgish curriculum (Boehm et al., 2016; Hornung et al., 2021; Ottenbacher et al., 2024).

The ÉpStan data collected in the school years 2022/23 and 2024/25 allowed for a first time to investigate how the **longitudinal development of mathematics achievement** in EPS students at primary school level compares to the development of mathematics achievement in students following the Luxembourgish curriculum by following two cohorts longitudinally; one from C2.1/P1 to C3.1/P3 and one from C3.1/P3 to C4.1/P5. Findings indicate that EPS students from both cohorts show, on average, a more favorable development in mathematics than their peers following the Luxembourgish curriculum (e.g., a more moderate mean score decline; see *Figure I.4*). In addition, student groups that have repeatedly been found to be at a higher risk of struggling academically in Luxembourg's education system (e.g., low-SES students, students having a non-Luxembourgish/German language background) showed a more positive development in mathematics in both cohorts when attending an EPS compared to their peers with comparable background characteristics in schools following the Luxembourgish curriculum (e.g., a more positive mean score development between time points or a stable mean score development that confirms group differences in favour of EPS students that were already observable at the previous time point; see *Figures I.1* to *I.3*).

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Besides these first insights on the longitudinal development of mathematics at primary school level, the present report is furthermore able to illustrate for a first time how academic achievement in language subjects differs between P1 students attending EPS and their C2.1 peers following the Luxembourgish curriculum cross-sectionally. ÉpStan results of the school year 2024/25 in **Luxembourgish listening comprehension** (main language of instruction in cycle 1) showed that C2.1/P1 students following the Luxembourgish curriculum display more encompassing skills compared to EPS students in the French or English language section. Students from the German language section in EPS (mostly with a Luxembourgish/German language background) are, however, performing better in Luxembourgish listening comprehension compared to their peers following the Luxembourgish curriculum. Looking at **listening comprehension in the students' language of literacy acquisition**, EPS students in the French as well as in the German language sections showed considerably higher skills in listening comprehension of their respective language of literacy acquisition than their peers following the Luxembourgish curriculum. When it comes to **early literacy in the students' language of literacy acquisition**, EPS students from the French language section also showed higher skills compared to their peers following the Luxembourgish curriculum.

In addition to analysing academic achievement in educational key domains, the present report has explored how the academic motivation and wellbeing of EPS students differ from those of students following the Luxembourgish curriculum at both primary and secondary school level. ÉpStan data from the school year 2024/25 indicated that students across all three primary school grades assessed (i.e., C2.1/P1, C3.1/P3, and C4.1/P5) generally reported a high **domain-general academic motivation** (i.e., academic self-concept and interest) and low anxiety; an observation that can be made irrespective of the attended curriculum. A similar pattern could also be observed for **domain-specific academic motivation in mathematics**. When analysing the results split by student background characteristics, no systematic differences across all grades and constructs could be identified between EPS student and their peers following the Luxembourgish curriculum. Nevertheless, some specific differences emerged for certain constructs and student subgroups, particularly in the higher grade levels (i.e., C3.1/P3 and C4.1/P5) such as a slightly lower domain-specific academic self-concept in mathematics observed in certain EPS student groups, that are generally at an academic advantage in Luxembourg's education system, compared to students with the same background characteristics following the Luxembourgish curriculum. More details on these observations and how they could potentially be explained by Marsh's *Big-Fish–Little-Pond Effect* can be found in the intermediary summary of *Chapter III*. When looking at **domain-specific academic motivation in the students' main language of instruction** at primary school level, the majority of students across the three grades assessed express high levels of motivation in their main language of instruction. In contrast to the constructs of general motivation and domain-specific motivation in mathematics, consistent group differences in favour of EPS students were observed, which indicate both a higher enjoyment of as well as a higher motivation to read in their main language of

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instruction. These differences in favour of EPS students were particularly pronounced in students having a low SES (see *Figure III.4*) and in students with a non-Luxembourgish/German language background (see *Figure III.5*). In light of a strong consensus in research that academic motivation and academic achievement are positively related to each other (Niepel et al., 2014; Schiefele et al., 2016; Wolff et al., 2021), this observation seems particularly important. In secondary school, S3/5e students attending EPS and their ESC, ESG, and ESG-VP peers following the Luxembourgish curriculum generally showed a high domain-general academic motivation and low general anxiety. Domain-specific self-concept in mathematics and science was slightly lower than domain-general self-concept, but domain-specific interest and anxiety were comparable to the domain-general observations. No systematic differences were found at secondary school level when comparing students in EPS to their peers following the Luxembourgish curriculum[13].

With regard to **academic wellbeing**, primary school students across all grades generally indicated a high school satisfaction, a positive class climate and teacher-student-relationship as well as a (rather) low tendency for purposeful disruptions in their class. Whereas no group differences between EPS and schools following the Luxembourgish curriculum could be identified in C2.1/P1, students following the Luxembourgish curriculum reported a considerably more positive teacher-student-relationship in both C3.1/P3 and in C4.1/P5, and a more positive class climate in C3.1/P3 compared to their peers in EPS. More details on these observations and how they could potentially be explained by existing structural differences in the organization of teaching (i.e., the generalist teacher setting in schools following the Luxembourgish curriculum compared to the specialist teacher setting in EPS) between curricula can be found in the intermediary summary of *Chapter III*. In contrast, EPS students reported a higher school satisfaction in C4.1/P5, which might be explained by the fact that they can pursue their education in their selected main language of instruction, and this aspect might be particularly beneficial in higher school grades, in which the academic expectations the students are confronted with become higher. In secondary school, approximately half of the student population reported to be satisfied with their school experience in general and a majority of students reported a generally positive class climate and teacher-student-relationship. In contrast to findings in primary school, no systematic differences in class climate and teacher-student-relationship in favour of students following the Luxembourgish curriculum could be identified, which might be rooted in the fact that secondary schools following the Luxembourgish curriculum as well as EPS draw upon a specialist teacher setting, thereby erasing structural differences in the organization of teaching that exist at the primary school level.

[13] Considering that the concept of "main language of instruction" is more difficult to apply to the secondary school setting (e.g., different main languages of instruction based on track allocation in schools following the Luxembourgish curriculum), the related chapter did not report on domain-specific academic motivation in language subjects at secondary school level.

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Besides focusing on achievement in mathematics and language subjects as well as on motivation and wellbeing of students, the parents' general perceptions of multilingualism in Luxembourg's education system as well as their ability to support their child academically based on their own language skills in their child's main language of instruction were investigated at primary school level. Findings from the **parental support** questionnaire indicate that parents generally tend to agree that the multilingualism of Luxembourg's school system offers their child good future opportunities. Despite this perception, one third of the parents expressed their worries that the expectations related to such a multilingual school curriculum may pose a difficulty to their child. Whereas the parents indicated that their own language skills allow them to exchange with their child's teacher (e.g., during *bilan talks* or at parents' evening), a more differentiated picture was observed when it comes to the parents' perceived ability to support their child academically based on their own language skills in the child's main language of instruction, for which considerable group differences were observed. Across all primary school grades assessed, parents of EPS students perceived themselves as more able to support their child academically based on their own language skills compared to parents of students following the Luxembourgish curriculum. This observation was most pronounced for supporting their child when it is learning in its main language of instruction and less coherent for academic support in mathematics and during their homework. The most important differences between EPS parents and parents of students following the Luxembourgish curriculum were found when splitting the students by their language background. Whereas no group differences were found for parents of students with a Luxembourgish/German language background, coherent differences in favour of parents of EPS students when it comes to their perceived ability to support their child academically based on their own language skills could be observed for all the other language groups (see *Figure IV.3* and *Table A.24*). These results are in line with international research, indicating that a higher parental proficiency in their child's main language of instruction relates to a higher parental involvement among parents that are having another home language background, whereas lower language skills tend to hamper the parents' involvement in their child learning and academic progress either directly or moderated via perceived self-efficacy (e.g., Choe, 2022; Ortega & Ludwig, 2023; Smith et al., 2018; Wong & Hughes, 2006).

Taken together, all these findings seem to indicate that the assumed **better linguistic fit in EPS**, which results out of the fact that students have the opportunity to choose a language section and thereby a main language of instruction (German, French, or English) allowing them to pursue their education in a language that is linguistically closer to their home language background contributes to explaining observed differences in favour of EPS students in the longitudinal development of their mathematics achievement (*Chapter I*) as well as their more encompassing skills in their language of literacy acquisition (*Chapter II*) compared to students following the Luxembourgish curriculum. These findings seem to be in line with international research indicating that students might benefit from educational systems in which they can learn in a language that is linguistically related to their home language

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background (e.g., Röthlisberger et al., 2021; for a systematic review see Rogde et al., 2019). In addition, the fact that EPS students have the opportunity to pursue their education in a selected main language of instruction – resulting potentially in a better understanding of their school subjects – might thereby contribute to explaining group differences in favour of EPS students when it comes to academic motivation (e.g., the enjoyment of learning and reading in their main language of instruction) and wellbeing (e.g., school satisfaction; *Chapter III*). Furthermore, EPS students might also benefit from the observation that their parents perceive themselves as more able to support them academically based on their own language skills in the main language of instruction, considering that research has shown that the parents' possibilities to support their child when it comes to learning (e.g., doing homework, preparing for tests) positively relates to student outcomes such as achievement and motivational aspects (e.g., Barger et al., 2019; Boonk et al., 2018; Lee & Mendoza, 2025; Pinquart & Ebeling, 2020, see *Chapter IV*).

The present report does, however, not allow to draw one final conclusion on which specific aspect of EPS decisively contributes in explaining the observed differences in favour of EPS students. Besides the assumed better linguistic fit, the **student population in EPS differs considerably** from the one in schools following the Luxemburgish curriculum, for example, with regard to the share of students with a low SES or with a specific language background (e.g., Portuguese). This different student population could be another explanation for the achievement and motivational differences observed in favour of students attending EPS that would be in line with research findings illustrating that a higher SES at school level relates to a student's individual achievement (Caldas & Bankston, 1997; Opdenakker & Damme, 2001; Sykes & Kuyper, 2013). In a study that investigated the effects of classroom composition on academic achievement, Hornstra et al. (2015) discussed, for example, that teachers might lower the instructional level in classes with a higher share of students with a low SES and that low SES students might generally be more sensitive to contextual classroom effects (e.g., class size, didactical approaches, instruction quality) than their peers with a high SES, which might in turn result in achievement differences.

In addition, important **structural differences** exist between EPS and schools following the Luxembourgish curriculum. The EPS established in Luxembourg are Accredited European Schools (AES) that are linked to the European School system by the means of a so-called Accreditation Agreement. In order to get and maintain the AES status, EPS in Luxembourg have to meet different requirements for accreditation in the domains of curriculum implementation (Article 3), linguistic conditions (e.g., offered language sections, Article 4), pedagogical content (e.g., preparation for taking the European Baccalaureate examination, Article 5), and teacher qualifications (e.g., pedagogical and language qualifications, Article 6, for details see Schola Europea, 2019). With accreditation being granted for a maximum of three years, EPS are subject to regular external evaluations and undergo, in contrast to schools following the Luxembourgish curriculum, an **institutionalized quality assurance**, which might in turn relate to the

observed differences in educational outcomes between EPS students and those in schools following the Luxembourgish curriculum. Another structural difference is that EPS have a greater **flexibility in their teacher recruitment**, which results in more freedom in hiring teacher profiles that fit the school's needs (e.g., teachers that are native speakers of the language they teach or must have a command of the language at the highest level of the *Common European Framework of Reference for Languages*; see Schola Europea, 2018). In the scope of the previously described institutionalized quality assurance, EPS teachers are furthermore undergoing a **statutory evaluation** every fourth year, which is conducted in line with three defined categories of the AES Teaching Standards (e.g., Teaching and learning, Wider professional responsibilities, Professional conduct and qualities; see Schola Europea, 2023). This greater flexibility in teacher recruitment and the statutory evaluation could potentially be further structural differences, which might relate to the observed educational differences between EPS students and their peers in schools following the Luxembourgish curriculum.

As a response to the findings of the first European Public School Report (LUCET & SCRIPT, 2023) and in order to gain a deeper understanding of whether the **learning environment** in EPS differs from the one in schools following the Luxembourgish curriculum along the three established dimensions of teaching quality (i.e., cognitive activation, classroom management, and teacher support, Praetorius et al., 2018), the student questionnaire at secondary school level was extended respectively. Results indicate that the majority of S3/5^{e} students generally perceive their learning environment to be cognitively activating (e.g., with teachers presenting them with cognitively challenging tasks) and although the findings on classroom management indicate a certain tendency for disruption in S3/5^{e}, students perceived their teachers as (rather) able to manage such disruptions. Looking at their perception of teacher support, the majority of S3/5^{e} students perceived their teachers to be interested in their learning progress and to provide them with constructive feedback. In addition, most S3/5^{e} students reported a positive relationship with their teachers and to get extra support from them if needed. Taken together, these results indicate a rather positive student perception of their learning environment in grade S3/5^{e}; an observation that can be made irrespective of the attended curriculum. It can thus be concluded that no systematic differences emerged between EPS and schools following the Luxembourgish curriculum at secondary school level that could contribute to explaining the group differences observed in favour of EPS students compared to their ESG and ESG-VP peers. Considering that learning environments have thus far only been assessed in secondary school, it cannot be excluded that differences in the learning environment might be observable at primary school level, where findings on teacher-student-relationship (see *Chapter III*); a construct in which some statements are used that are also part of teacher support, differed between EPS and schools following the Luxembourgish curriculum.

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7.2 STATISTICAL AND METHODOLOGICAL LIMITATIONS

Although the present report allows an encompassing evaluation of how EPS differ from schools following the Luxembourgish curriculum, they should be interpreted with caution due to a number of **important statistical and methodological limitations**, that are described in more detail in the following.

(1) Small student groups in EPS: The current analyses are based on small student numbers due to the fact that only about 6 % and 11 % of the full ÉpStan cohort are attending EPS at primary and secondary school level, respectively. Small student groups are increasing the risk that outliers (i.e., students with a very high or low achievement scores) impact, for example, achievement scores considerably stronger than in bigger groups. In addition, the EPS student population differs considerably from the student population in schools following the Luxembourgish curriculum, which translates into very small groups of students characterized, for example, by a low SES or a specific language background. Analyses can therefore currently only be split by either student background characteristics (as for the development of academic achievement illustrated in *Chapter I*) or by language section attended (as for academic achievement in language subjects illustrated in *Chapter II*). In addition, the small *N*s in EPS do not allow to investigate students based on a combination of background variables that are disadvantageous in the context of schooling, although such students (e.g., students with a low SES speaking no language of instruction at home) have repeatedly been found to be particularly at risk of struggling academically when following the Luxembourgish curriculum (Boehm et al., 2016; Hornung et al., 2021; Ottenbacher et al., 2024).

(2) Limited comparability of the C2.1/P1 tests assessing the students' language of literacy acquisition: As discussed in more detail in section 3.2, a certain sample size is required in order to validly scale the results of an academic achievement test using advanced Item Response Theory (IRT) models. Due to the small student numbers attending the French language section in EPS (*N* = 180), which completed the two French achievement tests in listening comprehension and early literacy, it was not possible to scale these tests in the same way as the other ÉpStan achievement tests (i.e., on the ÉpStan scale that is normed in such a way that the mean value for all students of a certain grade in Luxembourg lies at 500 points with a standard deviation of 100 points in a reference school year; Fischbach et al., 2014). The results for the students' achievement in their language of literacy acquisition are therefore shown by the items' level of theoretical difficulty (i.e., level 1 corresponding to the *Niveau Socle* and level 2 to the *Niveau Avancé* as defined in the national education standards; MENFP, 2011). When interpreting the results on the students' academic achievement in their language of literacy acquisition, it thus has to be kept in mind that the results of EPS students attending a French language section in the French tests (i.e., listening comprehension in French, *Premiers Pas vers l'Écrit*) are not directly comparable to the results of their peers attending a German language section or following the Luxembourgish curriculum. However, conceptual equating between the academic achievement tests across the two languages

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of literacy acquisition can be guaranteed as that the same reference documents were used for the development of the two tests *(i.e., Plan d'Études*; MENFP, 2011) and they were furthermore developed based on the same procedures (e.g., in teams of interdisciplinary experts).

(3) ÉpStan achievement tasks were developed based on education standards of schools following the Luxembourgish curriculum: In light of the fact that all tasks presented in the ÉpStan were developed based on education standards defined by the Ministry of Education, Children and Youth for primary and secondary schools following the Luxembourgish curriculum, it cannot be excluded that a certain construct or skill (e.g., in mathematics) is introduced at an earlier or later stage in EPS compared to its foreseen introduction in the Luxembourgish curriculum resulting in a potential over- or underestimation of skills. In addition, the introduction of languages of instruction in schools following the Luxembourgish curriculum differs as French is introduced as an additional language early on, whereas students in EPS select their second language which is clearly defined and taught as a foreign language. Therefore, a more in-depth analysis of the respective curricula and their teaching approaches would have to be foreseen for future studies to allow for a more reliable conclusion about which factors might contribute to explaining the observed achievement differences in mathematics and language achievement between students in EPS and their peers in schools following the Luxembourgish curriculum.

(4) Limited comparability between EPS students and students following the Luxembourgish curriculum at secondary school level: As discussed in more detail in section *4.3.4*, secondary school students in schools following the Luxembourgish curriculum are allocated to three different school tracks based on their academic abilities. In contrast, EPS follow the principle of allocating all their students to a single common track until the end of lower secondary education. These two different approaches need to be taken into consideration when interpreting the present report's findings at secondary school level (i.e., comparison of three ability-based school tracks to one common school track in EPS). In addition, primary education in EPS spans from P1 to P5 and after these five years of primary school, students transition into S1, which marks the first year of lower secondary education in EPS. Students with regular educational pathways (i.e., no grade repetition) are generally 11 years of age at that time. In schools following the Luxembourgish curriculum, primary education spans over a duration of six years (instead of five), so that students with regular educational pathways are generally 12 years old when transitioning into 7e (first year of secondary education). Previous analyses showed that approximately two thirds of the EPS student population are of a comparable age (i.e., 12 years and older) to students in schools following the Luxembourgish curriculum (Colling et al., 2023), indicating that the majority of EPS students in secondary school have transitioned to the EPS system from primary schools following the Luxembourgish curriculum; a factor which also impacts the comparability of results at secondary school level. To draw methodologically sound conclusions, students at secondary school level should ideally be split based on trajectories with students having pursued their whole education in EPS being

of special interest. Regarding the small number of EPS students at this moment in time, such an analysis is, however, not yet feasible. Given these important restrictions, results at secondary school level should be interpreted with high caution and considered as tentative upon which no implications should be deduced.

7.3 IMPLICATIONS AND OUTLOOK

Despite the described statistical and methodological limitations (e.g., small sample sizes in EPS, limited comparability of tests; see *section 7.2* for details), the findings described in the present report offer an important indication that EPS students perform on average better in different educational key domains such as mathematics (at primary and secondary school level when compared to their ESG and ESG-VP peers) and in their language of literacy acquisition at the start of their education in C2.1/P1. Further, primary school students in EPS reported a higher motivation to learn and read in their main instruction language and their parents expressed a higher perceived ability to support their child academically based on their own language skills in their child's main instruction language.

In light of the findings that student groups that have repeatedly been found to be at a particular risk of struggling academically in schools following the Luxembourgish curriculum (e.g., students with a low SES, students speaking another language than Luxembourgish and/or German at home) display better achievement scores and are more motivated to learn in their main language of instruction when they are attending EPS compared to their respective peers following the Luxembourgish curriculum, it seems that the establishment of EPS might contribute to encountering and reducing the existing educational inequalities in Luxembourg's education system.

By continuously integrating the EPS classes into its well-established school monitoring programme, the ÉpStan will allow a more in-depth analysis of potential educational outcome differences between EPS students and their peers following the Luxembourgish curriculum in the future (e.g., assessment of the students' language skills in C3.1/P3 as well as in C4.1/P5). Should future studies prove that the assumed better linguistic fit contributes to reducing the existing educational inequalities, it would be advisable to encourage EPS to target disadvantaged student groups more directly to increase the visibility of their school offer among students who could benefit considerably from attending EPS. Currently they account for only a very small share of the EPS student population (e.g., between 12 and 29 students with a low SES only). Besides raising the target population's awareness towards EPS, increasing the linguistic offer within schools following the Luxembourgish curriculum could also contribute to reducing existing inequalities, especially when taking into consideration that the six established EPS can only accept a limited number of students (e.g., availability of places) and that they are further away for many students than schools following the Luxembourgish curriculum (e.g., higher travel distances, see Gezer et al., 2023). In this context, the recent pilot project that was introduced in four primary schools

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to give C2.1 students the possibility of learning to read and write in French (SCRIPT & MENJE, 2023) is of particular interest and its continuous scientific evaluation will allow for a understanding of whether broadening the linguistic offer in schools following the Luxembourgish curriculum can help in encountering the existing educational inequalities in Luxembourg that are assumed to result at least partially out of a curriculum, in which high language expectations present an important challenge for a growing number of students.

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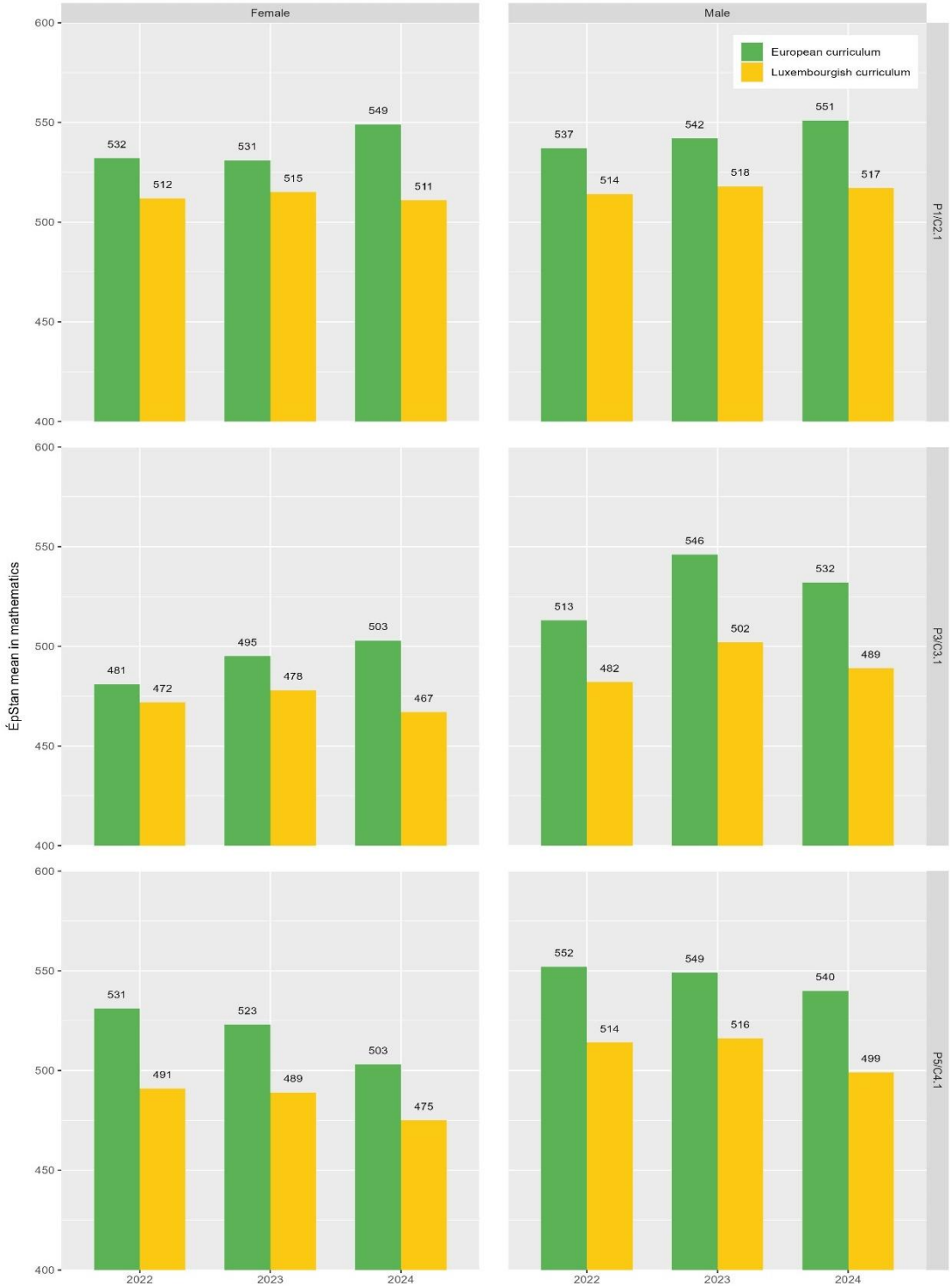
ANNEX

SUPPLEMENT MATERIAL ON ACADEMIC ACHIEVEMENT (CHAPTER I), ACADEMIC MOTIVATION AND WELLBEING (CHAPTER III) AND ON PARENTAL SUPPORT (CHAPTER IV)

ANNEX

A.1 CROSS-SECTIONAL ACADEMIC ACHIEVEMENT IN MATHEMATICS

Figure A.1 – Mean Academic Achievement in Mathematics (2022-2024) at Primary School Level Split by Gender



Note. The data displayed in this figure is **cross-sectional**; it is therefore important to note that they do not track the same students over time but rather represent the academic achievement in mathematics of different cohorts who were in a specific learning cycle at a given point in time (e.g., autumn 2022).

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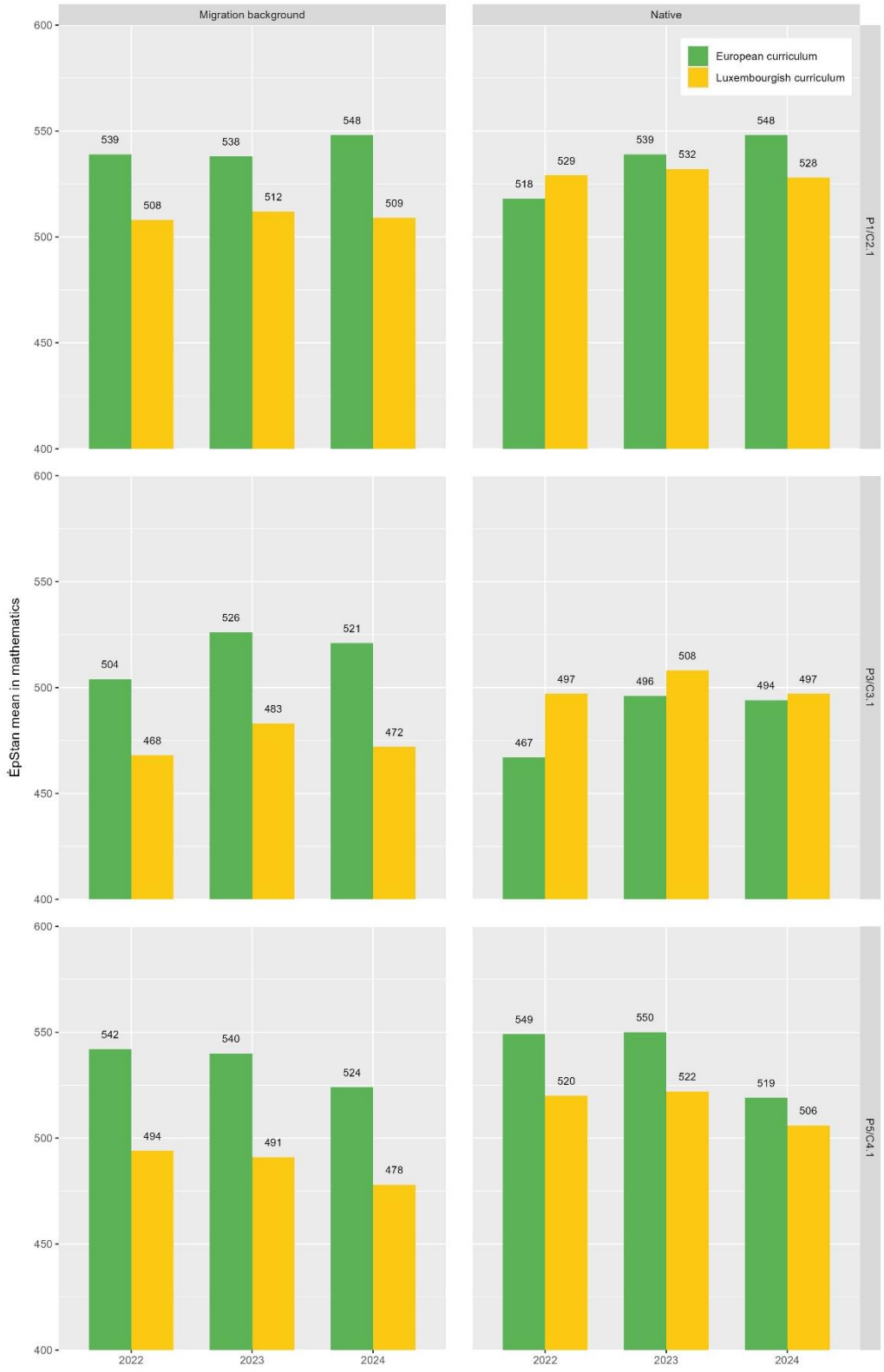
Figure A.2 – Mean Academic Achievement in Mathematics (2022-2024) at Primary School Level Split by Migration Background



Note. The data displayed in this figure is **cross-sectional**; it is therefore important to note that they do not track the same students over time but rather represent the academic achievement in mathematics of different cohorts who were in a specific learning cycle at a given point in time (e.g., autumn 2022).

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A.2 ACADEMIC MOTIVATION AND WELLBEING IN PRIMARY AND SECONDARY SCHOOL

Table A.1 – General Academic Motivation at Primary School Level Expressed in Percentages - Split by Gender

		European curriculum				Luxembourgish curriculum			
		Does apply	*Does rather apply*	*Does rather not apply*	*Does not apply*	*Does apply*	*Does rather apply*	*Does rather not apply*	*Does not apply*
C2.1/P1									
Item 1	Male	90 %	-	-	10 %	88 %	-	-	12 %
	Female	90 %	-	-	10 %	90 %	-	-	10 %
Item 2	Male	80 %	-	-	20 %	78 %	-	-	22 %
	Female	85 %	-	-	15 %	76 %	-	-	24 %
Item 3	Male	86 %	-	-	14 %	85 %	-	-	15 %
	Female	91 %	-	-	9 %	89 %	-	-	11 %
Item 4	Male	Not administered in C2.1/P1							
	Female								
Item 5	Male	15 %	-	-	85 %	22 %	-	-	78 %
	Female	21 %	-	-	79 %	22 %	-	-	78 %
C3.1/P3									
Item 1	Male	52 %	44 %	4 %	1 %	55 %	37 %	6 %	2 %
	Female	43 %	47 %	7 %	2 %	49 %	42 %	7 %	2 %
Item 2	Male	49 %	38 %	11%	2 %	51 %	34 %	10 %	5 %
	Female	47 %	35 %	13 %	5 %	44 %	39 %	12 %	5 %
Item 3	Male	63 %	31 %	3 %	3 %	61 %	26 %	7 %	5 %
	Female	59 %	34 %	7 %	1 %	64 %	27 %	5 %	3 %
Item 4	Male	60 %	31 %	7 %	2 %	58 %	29 %	8 %	5 %
	Female	58 %	35 %	7 %	1 %	61 %	29 %	7 %	3 %
Item 5	Male	4 %	5 %	16 %	76 %	6 %	7 %	11 %	76 %
	Female	6 %	9 %	14 %	71 %	7 %	9 %	15 %	70 %
C4.1/P5									
Item 1	Male	44 %	51 %	5 %	0 %	46 %	47 %	6 %	1 %
	Female	36 %	53 %	11 %	0 %	42 %	49 %	8 %	1 %
Item 2	Male	36 %	50 %	12 %	2 %	41 %	46 %	10 %	2 %
	Female	32 %	52 %	14 %	2 %	37 %	46 %	15 %	2 %
Item 3	Male	49 %	41 %	8 %	2 %	49 %	38 %	10 %	3 %
	Female	43 %	47 %	9 %	1 %	50 %	38 %	10 %	2 %
Item 4	Male	46 %	46 %	7 %	1 %	47 %	41 %	9 %	3 %
	Female	45 %	42%	13 %	0 %	47 %	43 %	9 %	1 %
Item 5	Male	1 %	4 %	17 %	77 %	3 %	7 %	20 %	70 %
	Female	2 %	9 %	28 %	61 %	3 %	8 %	20 %	69 %

Note. In primary education, the students express their level of agreement with the different items using age-appropriate shaking heads as symbols to represent their agreement or disagreement on a two-point (C2.1/P1) or a four-point Likert scale (C3.1/ P3 and C4.1/P5). The number of items used to assess a specific construct is increasing over time with the fewest items in C2.1/P1. For more details on the assessment of the constructs, see section *4.2.1*. If the sum of a group's percentages for an item does not add up to 100 %, this is due to rounding up or down.

Item 1	I am good at most school subjects.
Item 2	I learn things quickly in most school subjects.
Item 3	I enjoy most school subjects.
Item 4	I am interested in most school subjects.
Item 5	I am afraid of most school subjects.

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Table A.2 – General Academic Motivation at Primary School Level Expressed in Percentages - Split by SES

		European curriculum				Luxembourgish curriculum			
		Does apply	*Does rather apply*	*Does rather not apply*	*Does not apply*	*Does apply*	*Does rather apply*	*Does rather not apply*	*Does not apply*
C2.1/P1									
Item 1	High SES	92 %	-	-	8 %	92 %	-	-	8 %
	Low SES	83 %	-	-	17 %	86 %	-	-	14 %
Item 2	High SES	87 %	-	-	13 %	81 %	-	-	19 %
	Low SES	**91 %**	-	-	**9 %**	**74 %**	-	-	**26 %**
Item 3	High SES	87 %	-	-	13 %	90 %	-	-	10 %
	Low SES	87 %	-	-	13 %	84 %	-	-	16 %
Item 4	High SES	Not administered in C2.1/P1							
	Low SES								
Item 5	High SES	13 %	-	-	87 %	17 %	-	-	83 %
	Low SES	22 %	-	-	78 %	28 %	-	-	72 %
C3.1/P3									
Item 1	High SES	52 %	42 %	5 %	1 %	58 %	36 %	4 %	1 %
	Low SES	44 %	52 %	4 %	0 %	46 %	42 %	9 %	3 %
Item 2	High SES	48 %	34 %	15 %	3 %	52 %	36 %	8 %	4 %
	Low SES	**56 %**	28 %	12 %	4 %	**41 %**	38 %	14 %	7 %
Item 3	High SES	58 %	34 %	5 %	3 %	65 %	27 %	5 %	3 %
	Low SES	64 %	28 %	4 %	4 %	60 %	28 %	8 %	4 %
Item 4	High SES	59 %	29 %	11 %	1 %	60 %	30 %	7 %	3 %
	Low SES	58 %	29 %	8 %	4 %	60 %	28 %	8 %	4 %
Item 5	High SES	5 %	3 %	17 %	75 %	3 %	5 %	11 %	81 %
	Low SES	4 %	20 %	15 %	68 %	9 %	10 %	15 %	66 %
C4.1/P5									
Item 1	High SES	**46 %**	**47 %**	8 %	0 %	**59 %**	**38 %**	3 %	1 %
	Low SES	**17 %**	57 %	**26 %**	0 %	**34 %**	56 %	**10 %**	1 %
Item 2	High SES	**37 %**	52 %	11 %	0 %	**48 %**	45 %	6 %	1 %
	Low SES	22 %	52 %	**26 %**	0 %	31 %	50 %	**10 %**	1 %
Item 3	High SES	45 %	**50 %**	5 %	1 %	54 %	**37 %**	7 %	2 %
	Low SES	**36 %**	41 %	18 %	5 %	**47 %**	40 %	10 %	3 %
Item 4	High SES	49 %	41 %	10 %	1 %	51 %	40 %	8 %	1 %
	Low SES	35 %	52 %	13 %	0 %	44 %	45 %	9 %	2 %
Item 5	High SES	3 %	4 %	**26 %**	**67 %**	2 %	3 %	**15 %**	**80 %**
	Low SES	0 %	18 %	18 %	64 %	2 %	12 %	25 %	60 %

Note. In primary education, the students express their level of agreement with the different items using age-appropriate shaking heads as symbols to represent their agreement or disagreement on a two-point (C2.1/P1) or a four-point Likert scale (C3.1/ P3 and C4.1/P5). The number of items used to assess a specific construct is increasing over time with the fewest items in C2.1/P1. For more details on the assessment of the constructs, see section *4.2.1*. If the sum of a group's percentages for an item does not add up to 100 %, this is due to rounding up or down. Group differences between curricula that are going beyond 10 % are highlighted in bold. Due to the small number of EPS students with a low SES, the results from the present table have to be interpreted with caution.

Item 1	I am good at most school subjects.
Item 2	I learn things quickly in most school subjects.
Item 3	I enjoy most school subjects.
Item 4	I am interested in most school subjects.
Item 5	I am afraid of most school subjects.

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Table A.3 – General Academic Motivation at Primary School Level Expressed in Percentages - Split by Migration background

		European curriculum				Luxembourgish curriculum			
		Does apply	*Does rather apply*	*Does rather not apply*	*Does not apply*	*Does apply*	*Does rather apply*	*Does rather not apply*	*Does not apply*
C2.1/P1									
Item 1	Native	89 %	-	-	11 %	91 %	-	-	9 %
	Migration background	91 %	-	-	9 %	88 %	-	-	12 %
Item 2	Native	76 %	-	-	24 %	78 %	-	-	22 %
	Migration background	**85 %**	-	-	15 %	**76 %**	-	-	24 %
Item 3	Native	94 %	-	-	6 %	89 %	-	-	11 %
	Migration background	88 %	-	-	12 %	86 %	-	-	14 %
Item 4	Native	Not administered in C2.1/P1							
	Migration background								
Item 5	Native	11 %	-	-	89 %	19 %	-	-	81 %
	Migration background	19 %	-	-	81 %	24 %	-	-	76 %
C3.1/P3									
Item 1	Native	59 %	34 %	5 %	2 %	57 %	37 %	5 %	2 %
	Migration background	48 %	46 %	5 %	1 %	50 %	41 %	7 %	2 %
Item 2	Native	49 %	32 %	12 %	7 %	52 %	35 %	9 %	4 %
	Migration background	47 %	40 %	11 %	2 %	44 %	38 %	12 %	5 %
Item 3	Native	70 %	25 %	2 %	2 %	67 %	25 %	5 %	3 %
	Migration background	60 %	30 %	8 %	1 %	62 %	28 %	7 %	4 %
Item 4	Native	57 %	**40 %**	0 %	2 %	61 %	**29 %**	6 %	4 %
	Migration background	60 %	30 %	8 %	1 %	60 %	29 %	8 %	4 %
Item 5	Native	5 %	5 %	12 %	79 %	6 %	5 %	10 %	79 %
	Migration background	5 %	6 %	16 %	74 %	7 %	9 %	15 %	69 %
C4.1/P5									
Item 1	Native	46 %	46 %	7 %	0 %	53 %	42 %	4 %	1 %
	Migration background	39 %	53 %	8 %	0 %	39 %	51 %	8 %	1 %
Item 2	Native	**28 %**	**66 %**	7 %	0 %	**45 %**	**43 %**	10 %	2 %
	Migration background	34 %	50 %	14 %	2 %	35 %	48 %	14 %	3 %
Item 3	Native	**42 %**	**58 %**	0 %	0 %	**54 %**	**36 %**	8 %	2 %
	Migration background	45 %	44 %	9 %	2 %	46 %	40 %	11 %	3 %
Item 4	Native	**34 %**	**62 %**	3 %	0 %	**50 %**	**40 %**	9 %	2 %
	Migration background	47 %	42 %	10 %	1 %	45 %	44 %	9 %	2 %
Item 5	Native	0 %	7 %	**24 %**	**69 %**	2 %	6 %	24 %	69 %
	Migration background	2 %	8 %	21 %	70 %	3 %	9 %	23 %	65 %

Note. In primary education, the students express their level of agreement with the different items using age-appropriate shaking heads as symbols to represent their agreement or disagreement on a two-point (C2.1/P1) or a four-point Likert scale (C3.1/ P3 and C4.1/P5). The number of items used to assess a specific construct is increasing over time with the fewest items in C2.1/P1. For more details on the assessment of the constructs, see section *4.2.1*. If the sum of a group's percentages for an item does not add up to 100 %, this is due to rounding up or down. Group differences between curricula that are going beyond 10 % are highlighted in bold. Due to the small number of native EPS students and the different countries of origin, the results from the present table have to be interpreted with caution.

Item 1	I am good at most school subjects.
Item 2	I learn things quickly in most school subjects.
Item 3	I enjoy most school subjects.
Item 4	I am interested in most school subjects.
Item 5	I am afraid of most school subjects.

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Table A.4 – General Academic Motivation at Primary School Level Expressed in Percentages - Split by Language background

		European curriculum				Luxembourgish curriculum			
		Does apply	*Does rather apply*	*Does rather not apply*	*Does not apply*	*Does apply*	*Does rather apply*	*Does rather not apply*	*Does not apply*
C2.1/P1									
Item 1	Luxembourgish/German	86 %	-	-	14 %	91 %	-	-	9 %
	French	85 %	-	-	15 %	89 %	-	-	11 %
	Portuguese	**97 %**	-	-	**3 %**	**86 %**	-	-	**14 %**
	English	**96 %**	-	-	**4 %**	**85 %**	-	-	**15 %**
Item 2	Luxembourgish/German	88 %	-	-	12 %	79 %	-	-	21 %
	French	79 %	-	-	21 %	77 %	-	-	21 %
	Portuguese	83 %	-	-	17 %	74 %	-	-	26 %
	English	80 %	-	-	20 %	79 %	-	-	21 %
Item 3	Luxembourgish/German	94 %	-	-	6 %	89 %	-	-	11 %
	French	90 %	-	-	10 %	87 %	-	-	13 %
	Portuguese	**97 %**	-	-	**3 %**	**85 %**	-	-	**15 %**
	English	88 %	-	-	12 %	85 %	-	-	15 %
Item 4	Luxembourgish/German French Portuguese English	Not administered in C2.1/P1							
Item 5	Luxembourgish/German	10 %	-	-	90 %	19 %	-	-	81 %
	French	21 %	-	-	79 %	22 %	-	-	78 %
	Portuguese	20 %	-	-	80 %	29 %	-	-	71 %
	English	21 %	-	-	79 %	23 %	-	-	77 %
C3.1/P3									
Item 1	Luxembourgish/German	63 %	29 %	6 %	3 %	57 %	37 %	5 %	2 %
	French	47 %	47 %	6 %	1 %	51 %	41 %	6 %	2 %
	Portuguese	39 %	**55 %**	6 %	0 %	46 %	**41 %**	9 %	3 %
	English	48 %	43 %	7 %	2 %	47 %	41 %	8 %	4 %
Item 2	Luxembourgish/German	54 %	34 %	9 %	3 %	53 %	35 %	9 %	3 %
	French	51 %	35 %	10 %	4 %	49 %	35 %	12 %	4 %
	Portuguese	38 %	**50 %**	6 %	6 %	40 %	**38 %**	14 %	7 %
	English	40 %	41 %	16 %	3 %	43 %	38 %	13 %	6 %
Item 3	Luxembourgish/German	73 %	27 %	0 %	0 %	66 %	26 %	5 %	4 %
	French	57 %	32 %	8 %	3 %	63 %	26 %	7 %	4 %
	Portuguese	59 %	32 %	6 %	3 %	60 %	29 %	7 %	5 %
	English	60 %	37 %	2 %	1 %	57 %	28 %	9 %	5 %
Item 4	Luxembourgish/German	60 %	34 %	3 %	3 %	60 %	30 %	7 %	3 %
	French	53 %	38 %	6 %	3 %	59 %	29 %	8 %	4 %
	Portuguese	67 %	21 %	12 %	0 %	60 %	28 %	8 %	3 %
	English	51 %	41 %	8 %	0 %	55 %	32 %	7 %	6 %
Item 5	Luxembourgish/German	11 %	3 %	6 %	80 %	5 %	6 %	10 %	79 %
	French	5 %	5 %	17 %	73 %	6 %	7 %	14 %	72 %
	Portuguese	3 %	18 %	24 %	55 %	9 %	11 %	15 %	65 %
	English	8 %	5 %	11 %	76 %	9 %	6 %	14 %	71 %

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		European curriculum				Luxembourgish curriculum			
		Does apply	*Does rather apply*	*Does rather not apply*	*Does not apply*	*Does apply*	*Does rather apply*	*Does rather not apply*	*Does not apply*
C4.1/P5									
Item 1	Luxembourgish/German	48 %	48 %	3 %	0 %	54 %	41 %	4 %	1 %
	French	38 %	56 %	5 %	0 %	42 %	51 %	6 %	1 %
	Portuguese	32 %	55 %	13 %	0 %	31 %	55 %	13 %	2 %
	English	47 %	43 %	11 %	0 %	44 %	48 %	6 %	2 %
Item 2	Luxembourgish/German	**21 %**	**62 %**	18 %	0 %	**47 %**	**43 %**	9 %	2 %
	French	38 %	50 %	9 %	2 %	38 %	48 %	13 %	2 %
	Portuguese	33 %	47 %	17 %	3 %	27 %	50 %	20 %	4 %
	English	34 %	53 %	9 %	4 %	36 %	47 %	14 %	3 %
Item 3	Luxembourgish/German	48 %	**48 %**	0 %	3 %	54 %	**35 %**	9 %	2 %
	French	43 %	46 %	10 %	2 %	48 %	40 %	9 %	3 %
	Portuguese	48 %	34 %	17 %	0 %	42 %	43 %	12 %	3 %
	English	38 %	**47 %**	11 %	4 %	42 %	**38 %**	10 %	4 %
Item 4	Luxembourgish/German	**35 %**	**59 %**	6 %	0 %	**51 %**	**38 %**	9 %	2 %
	French	42 %	46 %	11 %	2 %	46 %	42 %	10 %	2 %
	Portuguese	39 %	58 %	3 %	0 %	40 %	48 %	9 %	2 %
	English	45 %	38 %	17 %	0 %	39 %	47 %	10 %	4 %
Item 5	Luxembourgish/German	0 %	3 %	21 %	76 %	2 %	5 %	15 %	78 %
	French	4 %	5 %	22 %	69 %	4 %	7 %	21 %	59 %
	Portuguese	0 %	17 %	27 %	57 %	4 %	11 %	27 %	59 %
	English	0 %	7 %	22 %	71 %	5 %	7 %	22 %	67 %

Note. In primary education, the students express their level of agreement with the different items using age-appropriate shaking heads as symbols to represent their agreement or disagreement on a two-point (C2.1/P1) or a four-point Likert scale (C3.1/ P3 and C4.1/P5). The number of items used to assess a specific construct is increasing over time with the fewest items in C2.1/P1. For more details on the assessment of the constructs, see section *4.2.1*. If the sum of a group's percentages for an item does not add up to 100 %, this is due to rounding up or down. Group differences between curricula that are going beyond 10 % are highlighted in bold. Due to the small number of Portuguese speaking students in EPS and of English speaking students in schools following the Luxembourgish curriculum, the results from the present table have to be interpreted with caution.

Item 1	I am good at most school subjects.
Item 2	I learn things quickly in most school subjects.
Item 3	I enjoy most school subjects.
Item 4	I am interested in most school subjects.
Item 5	I am afraid of most school subjects.

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Table A.5 – Domain-Specific Academic Motivation in Mathematics at Primary School Level Expressed in Percentages - Split by Gender

		European curriculum				Luxembourgish curriculum			
		Does apply	*Does rather apply*	*Does rather not apply*	*Does not apply*	*Does apply*	*Does rather apply*	*Does rather not apply*	*Does not apply*
C2.1/P1									
Item 1	Male	92 %	-	-	8 %	87 %	-	-	13 %
	Female	90 %	-	-	10 %	86 %	-	-	14 %
Item 2	Male	75 %	-	-	25 %	76 %	-	-	24 %
	Female	80 %	-	-	20 %	72 %	-	-	28 %
Item 3	Male	81 %	-	-	19 %	76 %	-	-	24 %
	Female	88 %	-	-	12 %	80 %	-	-	20 %
Item 4	Male	Not administered in C2.1/P1							
	Female								
Item 5	Male	19 %	-	-	81 %	21 %	-	-	79 %
	Female	20 %	-	-	80 %	22 %	-	-	78 %
C3.1/P3									
Item 1	Male	58 %	38 %	4 %	1 %	61 %	31 %	5 %	3 %
	Female	38 %	49 %	10 %	2 %	37 %	47 %	13 %	4 %
Item 2	Male	52 %	38 %	4 %	1 %	55 %	30 %	9 %	5 %
	Female	38 %	44 %	13 %	5 %	35 %	40 %	17 %	8 %
Item 3	Male	**69 %**	23 %	5 %	3 %	**58 %**	24 %	9 %	9 %
	Female	56 %	26 %	10 %	8 %	47 %	30 %	14 %	10 %
Item 4	Male	56 %	31 %	10 %	3 %	59 %	24 %	19 %	7 %
	Female	54 %	28 %	15 %	3 %	50 %	29 %	14 %	3 %
Item 5	Male	3 %	6 %	6 %	86 %	5 %	5 %	7 %	83 %
	Female	4 %	7 %	13 %	75 %	7 %	8 %	14 %	71 %
C4.1/P5									
Item 1	Male	55 %	41 %	3 %	1 %	53 %	40 %	5 %	2 %
	Female	28 %	55 %	12 %	4 %	29 %	55 %	14 %	3 %
Item 2	Male	42 %	47 %	9 %	1 %	47 %	41 %	10 %	3 %
	Female	21 %	49 %	21 %	9 %	27 %	47 %	20 %	6 %
Item 3	Male	**61 %**	**22 %**	12 %	4 %	**47 %**	**34 %**	12 %	7 %
	Female	**43 %**	31 %	17 %	9 %	**29 %**	38 %	22 %	11 %
Item 4	Male	57 %	32 %	8 %	3 %	51 %	33 %	10 %	5 %
	Female	43 %	35 %	15 %	8 %	34 %	40 %	19 %	7 %
Item 5	Male	1 %	2 %	13 %	83 %	2 %	4 %	10 %	83 %
	Female	5 %	7 %	26 %	63 %	3 %	7 %	17 %	72%

Note. In primary education, the students express their level of agreement with the different items using age-appropriate shaking heads as symbols to represent their agreement or disagreement on a two-point (C2.1/P1) or a four-point Likert scale (C3.1/ P3 and C4.1/P5). The number of items used to assess a specific construct is increasing over time with the fewest items in C2.1/P1. For more details on the assessment of the constructs, see section *4.2.1*. If the sum of a group's percentages for an item does not add up to 100 %, this is due to rounding up or down. Group differences between curricula that are going beyond 10 % are highlighted in bold.

Item 1	I am good at maths.
Item 2	I learn things quickly in maths.
Item 3	I enjoy maths.
Item 4	I am interested in maths.
Item 5	I am afraid of maths.

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Table A.6 – Domain-Specific Academic Motivation in Mathematics at Primary School Level Expressed in Percentages - Split by SES

		European curriculum				Luxembourgish curriculum			
		Does apply	*Does rather apply*	*Does rather not apply*	*Does not apply*	*Does apply*	*Does rather apply*	*Does rather not apply*	*Does not apply*
C2.1/P1									
Item 1	High SES	91 %	-	-	9 %	90 %	-	-	10 %
	Low SES	**96 %**	-	-	**4 %**	**83 %**	-	-	**17 %**
Item 2	High SES	79 %	-	-	21 %	80 %	-	-	20 %
	Low SES	**82 %**	-	-	**18 %**	**70 %**	-	-	**30 %**
Item 3	High SES	82 %	-	-	18 %	81 %	-	-	19 %
	Low SES	77 %	-	-	23 %	77 %	-	-	23 %
Item 4	High SES	Not administered in C2.1/P1							
	Low SES								
Item 5	High SES	18 %	-	-	82 %	18 %	-	-	82 %
	Low SES	**13 %**	-	-	**87 %**	**26 %**	-	-	**74 %**
C3.1/P3									
Item 1	High SES	46 %	45 %	8 %	1 %	52 %	38 %	8 %	2 %
	Low SES	**64 %**	32 %	4 %	0 %	**46 %**	41 %	10 %	3 %
Item 2	High SES	45 %	38 %	12 %	5 %	48 %	36 %	12 %	4 %
	Low SES	44 %	**48 %**	**0 %**	8 %	43 %	**36 %**	**14 %**	7 %
Item 3	High SES	60 %	27 %	10 %	4 %	53 %	26 %	12 %	9 %
	Low SES	**72 %**	20 %	4 %	4 %	**54 %**	28 %	10 %	8 %
Item 4	High SES	57 %	23 %	19 %	1 %	53 %	26 %	13 %	8 %
	Low SES	58 %	**38 %**	4 %	0 %	57 %	**26 %**	10 %	7 %
Item 5	High SES	2 %	8 %	8 %	81 %	3 %	5 %	10 %	82 %
	Low SES	0 %	0 %	16 %	**84 %**	8 %	7 %	11 %	**73 %**
C4.1/P5									
Item 1	High SES	**39 %**	49 %	12 %	1 %	**51 %**	43 %	6 %	1 %
	Low SES	30 %	52 %	13 %	4 %	35 %	48 %	14 %	3 %
Item 2	High SES	**33 %**	49 %	16 %	3 %	**47 %**	41 %	10 %	3 %
	Low SES	**17 %**	52 %	26 %	4 %	**32 %**	43 %	18 %	7 %
Item 3	High SES	49 %	27 %	16 %	8 %	40 %	36 %	15 %	8 %
	Low SES	**52 %**	35 %	9 %	4 %	**35 %**	38 %	17 %	9 %
Item 4	High SES	49 %	34 %	12 %	6 %	44 %	38 %	13 %	6 %
	Low SES	35 %	**57 %**	**4 %**	4 %	43 %	**38 %**	**14 %**	5 %
Item 5	High SES	5 %	10 %	15 %	**70 %**	2 %	4 %	11 %	**83 %**
	Low SES	0 %	0 %	22 %	78 %	4 %	7 %	18 %	71 %

Note. In primary education, the students express their level of agreement with the different items using age-appropriate shaking heads as symbols to represent their agreement or disagreement on a two-point (C2.1/P1) or a four-point Likert scale (C3.1/ P3 and C4.1/P5). The number of items used to assess a specific construct is increasing over time with the fewest items in C2.1/P1. For more details on the assessment of the constructs, see section *4.2.1*. If the sum of a group's percentages for an item does not add up to 100 %, this is due to rounding up or down. Group differences between curricula that are going beyond 10 % are highlighted in bold. Due to the small number of EPS students with a low SES, the results from the present table have to be interpreted with caution.

Item 1	I am good at maths.
Item 2	I learn things quickly in maths.
Item 3	I enjoy maths.
Item 4	I am interested in maths.
Item 5	I am afraid of maths.

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Table A.7 – Domain-Specific Academic Motivation in Mathematics at Primary School Level Expressed in Percentages - Split by Migration background

		European curriculum				Luxembourgish curriculum			
		Does apply	*Does rather apply*	*Does rather not apply*	*Does not apply*	*Does apply*	*Does rather apply*	*Does rather not apply*	*Does not apply*
C2.1/P1									
Item 1	Native	94 %	-	-	6 %	86 %	-	-	14 %
	Migration background	90 %	-	-	10 %	87 %	-	-	13 %
Item 2	Native	**88 %**	-	-	**12 %**	**74 %**	-	-	**26 %**
	Migration background	78 %	-	-	22 %	74 %	-	-	26 %
Item 3	Native	76 %	-	-	24 %	78 %	-	-	22 %
	Migration background	84 %	-	-	16 %	79 %	-	-	21 %
Item 4	Native	Not administered in C2.1/P1							
	Migration background								
Item 5	Native	12 %	-	-	88 %	19 %	-	-	81 %
	Migration background	21 %	-	-	79 %	23 %	-	-	77 %
C3.1/P3									
Item 1	Native	**38 %**	**55 %**	7 %	0 %	**49 %**	**39 %**	9 %	3 %
	Migration background	49 %	42 %	7 %	1 %	49 %	40 %	9 %	3 %
Item 2	Native	45 %	29 %	21 %	5 %	46 %	35 %	13 %	6 %
	Migration background	44 %	42 %	10 %	4 %	45 %	35 %	13 %	7 %
Item 3	Native	**63 %**	24 %	10 %	2 %	**51 %**	27 %	12 %	10 %
	Migration background	62 %	26 %	7 %	5 %	54 %	27 %	11 %	8 %
Item 4	Native	49 %	**37 %**	15 %	0 %	52 %	**26 %**	13 %	9 %
	Migration background	56 %	28 %	14 %	2 %	57 %	26 %	11 %	6 %
Item 5	Native	0 %	7 %	7 %	85 %	5 %	6 %	9 %	80 %
	Migration background	3 %	6 %	9 %	82 %	7 %	7 %	11 %	76 %
C4.1/P5									
Item 1	Native	48 %	41 %	7 %	3 %	45 %	46 %	8 %	2 %
	Migration background	41 %	47 %	9 %	3 %	40 %	48 %	10 %	2 %
Item 2	Native	**29 %**	**54 %**	14 %	4 %	**40 %**	**43 %**	13 %	4 %
	Migration background	32 %	47 %	15 %	6 %	35 %	44 %	16 %	5 %
Item 3	Native	**52 %**	38 %	10 %	0 %	**40 %**	35 %	15 %	10 %
	Migration background	**53 %**	**25 %**	14 %	7 %	**37 %**	**36 %**	18 %	8 %
Item 4	Native	45 %	45 %	10 %	0 %	42 %	35 %	15 %	7 %
	Migration background	52 %	32 %	10 %	7 %	43 %	38 %	14 %	5 %
Item 5	Native	0 %	3 %	**21 %**	76 %	2 %	4 %	**12 %**	81 %
	Migration background	4 %	5 %	18 %	72 %	3 %	6 %	15 %	76 %

Note. In primary education, the students express their level of agreement with the different items using age-appropriate shaking heads as symbols to represent their agreement or disagreement on a two-point (C2.1/P1) or a four-point Likert scale (C3.1/ P3 and C4.1/P5). The number of items used to assess a specific construct is increasing over time with the fewest items in C2.1/P1. For more details on the assessment of the constructs, see section *4.2.1*. If the sum of a group's percentages for an item does not add up to 100 %, this is due to rounding up or down. Group differences between curricula that are going beyond 10 % are highlighted in bold. Due to the small number of native EPS students and the different countries of origin, the results from the present table have to be interpreted with caution.

Item 1	I am good at maths.
Item 2	I learn things quickly in maths.
Item 3	I enjoy maths.
Item 4	I am interested in maths.
Item 5	I am afraid of maths.

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Table A.8 – Domain-Specific Academic Motivation in Mathematics at Primary School Level Expressed in Percentages - Split by Language background

		European curriculum				Luxembourgish curriculum			
		Does apply	*Does rather apply*	*Does rather not apply*	*Does not apply*	*Does apply*	*Does rather apply*	*Does rather not apply*	*Does not apply*
C2.1/P1									
Item 1	Luxembourgish/German	**98 %**	-	-	**2 %**	**87 %**	-	-	**13 %**
	French	91 %	-	-	9 %	88 %	-	-	12 %
	Portuguese	93 %	-	-	7 %	84 %	-	-	16 %
	English	89 %	-	-	11 %	88 %	-	-	12 %
Item 2	Luxembourgish/German	**85 %**	-	-	**15 %**	**74 %**	-	-	**26 %**
	French	75 %	-	-	25 %	76 %	-	-	24 %
	Portuguese	**85 %**	-	-	**15 %**	**71 %**	-	-	**29 %**
	English	72 %	-	-	28 %	78 %	-	-	22 %
Item 3	Luxembourgish/German	84 %	-	-	16 %	78 %	-	-	22 %
	French	81 %	-	-	19 %	78 %	-	-	22 %
	Portuguese	82 %	-	-	18 %	78 %	-	-	22 %
	English	**89 %**	-	-	**11 %**	**78 %**	-	-	**22 %**
Item 4	Luxembourgish/German French Portuguese English	Not administered in C2.1/P1							
Item 5	Luxembourgish/German	21 %	-	-	79 %	21 %	-	-	79 %
	French	25 %	-	-	75 %	23 %	-	-	77 %
	Portuguese	19 %	-	-	81 %	26 %	-	-	74 %
	English	17 %	-	-	83 %	25 %	-	-	75 %
C3.1/P3									
Item 1	Luxembourgish/German	**32 %**	**57 %**	11 %	0 %	**48 %**	**38 %**	10 %	3 %
	French	50 %	43 %	7 %	0 %	48 %	40 %	9 %	3 %
	Portuguese	38 %	**59 %**	3 %	0 %	45 %	**42 %**	9 %	4 %
	English	51 %	39 %	9 %	2 %	46 %	38 %	12 %	4 %
Item 2	Luxembourgish/German	46 %	**22 %**	**27 %**	5 %	46 %	**34 %**	**13 %**	6 %
	French	46 %	41 %	10 %	3 %	47 %	34 %	11 %	8 %
	Portuguese	**53 %**	38 %	6 %	3 %	**42 %**	36 %	14 %	8 %
	English	40 %	**44 %**	11 %	5 %	45 %	**31 %**	12 %	12 %
Item 3	Luxembourgish/German	51 %	32 %	14 %	3 %	50 %	27 %	12 %	11 %
	French	56 %	34 %	6 %	4 %	50 %	28 %	13 %	11 %
	Portuguese	62 %	24 %	3 %	12 %	56 %	25 %	11 %	8 %
	English	**71 %**	17 %	9 %	3 %	**53 %**	24 %	9 %	13 %
Item 4	Luxembourgish/German	44 %	33 %	19 %	3 %	51 %	26 %	14 %	9 %
	French	56 %	30 %	10 %	4 %	52 %	27 %	13 %	8 %
	Portuguese	53 %	29 %	18 %	0 %	59 %	25 %	10 %	6 %
	English	57 %	27 %	12 %	4 %	54 %	25 %	12 %	8 %
Item 5	Luxembourgish/German	3 %	3 %	8 %	86 %	5 %	6 %	9 %	80 %
	French	3 %	5 %	7 %	85 %	6 %	7 %	10 %	76 %
	Portuguese	0 %	6 %	18 %	76 %	8 %	7 %	12 %	72 %
	English	6 %	8 %	5 %	81 %	5 %	8 %	10 %	76 %

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		European curriculum				Luxembourgish curriculum			
		Does apply	*Does rather apply*	*Does rather not apply*	*Does not apply*	*Does apply*	*Does rather apply*	*Does rather not apply*	*Does not apply*
C4.1/P5									
Item 1	Luxembourgish/German	44 %	50 %	3 %	3 %	43 %	47 %	8 %	2 %
	French	42 %	45 %	11 %	2 %	40 %	49 %	9 %	2 %
	Portuguese	42 %	48 %	10 %	0 %	36 %	48 %	13 %	3 %
	English	**36 %**	**55 %**	6 %	2 %	**47 %**	**46 %**	6 %	2 %
Item 2	Luxembourgish/German	30 %	52 %	15 %	3 %	39 %	43 %	13 %	4 %
	French	35 %	44 %	16 %	5 %	36 %	44 %	15 %	5 %
	Portuguese	**13 %**	**61 %**	23 %	3 %	**29 %**	**46 %**	18 %	7 %
	English	35 %	48 %	11 %	7 %	37 %	45 %	14 %	3 %
Item 3	Luxembourgish/German	**56 %**	**18 %**	21 %	6 %	**39 %**	**35 %**	16 %	11 %
	French	**52 %**	**22 %**	15 %	12 %	**35 %**	**36 %**	17 %	11 %
	Portuguese	**61 %**	**29 %**	10 %	0 %	**35 %**	**36 %**	20 %	8 %
	English	**49 %**	32 %	13 %	6 %	**37 %**	36 %	18 %	9 %
Item 4	Luxembourgish/German	50 %	29 %	18 %	3 %	41 %	35 %	16 %	8 %
	French	48 %	30 %	12 %	10 %	41 %	38 %	14 %	7 %
	Portuguese	**55 %**	35 %	6 %	3 %	**42 %**	38 %	14 %	5 %
	English	0 %	3 %	19 %	77 %	4 %	8 %	16 %	73 %
Item 5	Luxembourgish/German	0 %	6 %	18 %	76 %	3 %	4 %	12 %	81 %
	French	4 %	6 %	16 %	74 %	3 %	6 %	15 %	76 %
	Portuguese	0 %	3 %	19 %	77 %	4 %	8 %	16 %	73 %
	English	2 %	7 %	20 %	72 %	4 %	3 %	15 %	78 %

Note. In primary education, the students express their level of agreement with the different items using age-appropriate shaking heads as symbols to represent their agreement or disagreement on a two-point (C2.1/P1) or a four-point Likert scale (C3.1/ P3 and C4.1/P5). The number of items used to assess a specific construct is increasing over time with the fewest items in C2.1/P1. For more details on the assessment of the constructs, see section *4.2.1*. If the sum of a group's percentages for an item does not add up to 100 %, this is due to rounding up or down. Group differences between curricula that are going beyond 10 % are highlighted in bold. Due to the small number of Portuguese speaking students in EPS and of English speaking students in schools following the Luxembourgish curriculum, the results from the present table have to be interpreted with caution.

Item 1	I am good at maths.
Item 2	I learn things quickly in maths.
Item 3	I enjoy maths.
Item 4	I am interested in maths.
Item 5	I am afraid of maths.

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Table A.9 – Domain-Specific Academic Motivation in the Students' Main Language of Instruction at Primary School Level Expressed in Percentages - Split by Gender

		European curriculum				Luxembourgish curriculum			
		Does apply	*Does rather apply*	*Does rather not apply*	*Does not apply*	*Does apply*	*Does rather apply*	*Does rather not apply*	*Does not apply*
C2.1/P1									
Item 1	Male	**95 %**	-	-	**5 %**	**78 %**	-	-	**22 %**
	Female	**94 %**	-	-	**6 %**	**81 %**	-	-	**19 %**
Item 2	Male	82 %	-	-	18 %	73 %	-	-	27 %
	Female	**85 %**	-	-	**15 %**	**71 %**	-	-	**29 %**
Item 3	Male	**89 %**	-	-	**11 %**	**75 %**	-	-	**25 %**
	Female	**92 %**	-	-	**8 %**	**81 %**	-	-	**19 %**
Item 4	Male	Not administered in C2.1/P1							
	Female								
Item 5	Male	81 %	-	-	19 %	71 %	-	-	29 %
	Female	**89 %**	-	-	**11 %**	**78 %**	-	-	22 %
Item 6	Male	16 %	-	-	84 %	24 %	-	-	**76 %**
	Female	16 %	-	-	84 %	23 %	-	-	77 %
C3.1/P3									
Item 1	Male	47 %	41 %	10 %	2 %	43 %	38 %	12 %	6 %
	Female	54 %	36 %	10 %	1 %	48 %	38 %	10 %	4 %
Item 2	Male	43 %	35 %	15 %	7 %	42 %	34 %	15 %	10 %
	Female	48 %	35 %	13 %	4 %	43 %	34 %	14 %	9 %
Item 3	Male	**55 %**	28 %	11 %	7 %	**41 %**	27 %	15 %	17 %
	Female	59 %	28 %	10 %	3 %	49 %	29 %	13 %	9 %
Item 4	Male	54 %	30 %	10 %	7 %	44 %	29 %	13 %	14 %
	Female	54 %	32 %	11 %	3 %	52 %	29 %	12 %	7 %
Item 5	Male	**76 %**	16 %	6 %	3 %	**62 %**	20 %	9 %	9 %
	Female	77 %	14 %	4 %	4 %	67 %	19 %	7 %	7 %
Item 6	Male	5 %	5 %	13 %	77 %	8 %	8 %	11 %	73 %
	Female	6 %	7 %	10 %	77 %	8 %	7 %	11 %	73 %
C4.1/P5									
Item 1	Male	36 %	50 %	13 %	1 %	30 %	44 %	20 %	7 %
	Female	40 %	48 %	10 %	2 %	35 %	40 %	19 %	6 %
Item 2	Male	39 %	41 %	17 %	4 %	31 %	37 %	21 %	11 %
	Female	33 %	47 %	17 %	3 %	34 %	37 %	21 %	9 %
Item 3	Male	36 %	38 %	17 %	9 %	26 %	31 %	24 %	19 %
	Female	**45 %**	32 %	17 %	6 %	**32 %**	33 %	22 %	13 %
Item 4	Male	31 %	**49 %**	15 %	**5 %**	27 %	**35 %**	23 %	**16 %**
	Female	43 %	37 %	16 %	3 %	35 %	37 %	20 %	8 %
Item 5	Male	**65 %**	25 %	6 %	4 %	**48 %**	26 %	13 %	13 %
	Female	**72 %**	19 %	5 %	4 %	**52 %**	27 %	12 %	9 %
Item 6	Male	1 %	7 %	20 %	72 %	6 %	9 %	17 %	68 %
	Female	1 %	3 %	19 %	77 %	5 %	7 %	16 %	72 %

Note. In primary education, the students express their level of agreement with the different items using age-appropriate shaking heads as symbols to represent their agreement or disagreement on a two-point (C2.1/P1) or a four-point Likert scale (C3.1/ P3 and C4.1/P5). The number of items used to assess a specific construct is increasing over time with the fewest items in C2.1/P1. For more details on the assessment of the constructs, see section *4.2.1*. If the sum of a group's percentages for an item does not add up to 100 %, this is due to rounding up or down. Group differences between curricula that are going beyond 10 % are highlighted in bold.

Item 1	I am good in my main language of instruction.
Item 2	I learn things quickly in my main language of instruction.
Item 3	I enjoy my main language of instruction.
Item 4	I am interested in my main language of instruction.
Item 5	I like to read in my main language of instruction.
Item 6	I am afraid of my main language of instruction.

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Table A.10 – Domain-Specific Academic Motivation in the Students' Main Language of Instruction at Primary School Level Expressed in Percentages - Split by SES

		European curriculum				Luxembourgish curriculum			
		Does apply	*Does rather apply*	*Does rather not apply*	*Does not apply*	*Does apply*	*Does rather apply*	*Does rather not apply*	*Does not apply*
C2.1/P1									
Item 1	High SES	92 %	-	-	8 %	83 %	-	-	17 %
	Low SES	**96 %**	-	-	**4 %**	**75 %**	-	-	**25 %**
Item 2	High SES	84 %	-	-	16 %	78 %	-	-	22 %
	Low SES	**91 %**	-	-	**9 %**	**68 %**	-	-	**32 %**
Item 3	High SES	**90 %**	-	-	**10 %**	**79 %**	-	-	**21 %**
	Low SES	77 %	-	-	23 %	77 %	-	-	23 %
Item 4	High SES	Not administered in C2.1/P1							
	Low SES								
Item 5	High SES	87 %	-	-	13 %	78 %	-	-	22 %
	Low SES	**86 %**	-	-	**14 %**	**70 %**	-	-	**30 %**
Item 6	High SES	16 %	-	-	84 %	19 %	-	-	81 %
	Low SES	**17 %**	-	-	**83 %**	**28 %**	-	-	**72 %**
C3.1/P3									
Item 1	High SES	52 %	38 %	10 %	0 %	53 %	37 %	7 %	3 %
	Low SES	**60 %**	**28 %**	8 %	4 %	**38 %**	**40 %**	15 %	7 %
Item 2	High SES	47 %	33 %	14 %	6 %	51 %	31 %	11 %	7 %
	Low SES	44 %	40 %	4 %	12 %	34 %	37 %	16 %	13 %
Item 3	High SES	51 %	32 %	13 %	4 %	47 %	29 %	14 %	11 %
	Low SES	**72 %**	**12 %**	8 %	8 %	**44 %**	**26 %**	15 %	15 %
Item 4	High SES	50 %	32 %	12 %	6 %	47 %	29 %	14 %	11 %
	Low SES	**71 %**	**17 %**	4 %	8 %	48 %	29 %	11 %	12 %
Item 5	High SES	75 %	17 %	6 %	2 %	68 %	20 %	6 %	6 %
	Low SES	**80 %**	12 %	4 %	4 %	**61 %**	21 %	8 %	10 %
Item 6	High SES	5 %	4 %	12 %	79 %	4 %	6 %	9 %	81 %
	Low SES	4 %	4 %	12 %	**80 %**	11 %	9 %	14 %	**66 %**
C4.1/P5									
Item 1	High SES	48 %	43 %	8 %	1 %	46 %	40 %	11 %	3 %
	Low SES	17 %	43 %	**39 %**	0 %	23 %	43 %	**25 %**	9 %
Item 2	High SES	38 %	44 %	17 %	2 %	46 %	37 %	12 %	5 %
	Low SES	26 %	**65 %**	**9 %**	**0 %**	24 %	**35 %**	**28 %**	**13 %**
Item 3	High SES	**46 %**	35 %	14 %	6 %	**34 %**	35 %	19 %	11 %
	Low SES	**43 %**	30 %	**13 %**	13 %	**25 %**	34 %	**24 %**	17 %
Item 4	High SES	39 %	46 %	12 %	4 %	36 %	37 %	19 %	8 %
	Low SES	39 %	43 %	13 %	4 %	29 %	36 %	22 %	13 %
Item 5	High SES	**79 %**	17 %	4 %	1 %	**64 %**	21 %	8 %	6 %
	Low SES	**57 %**	39 %	**4 %**	**0 %**	42 %	30 %	**15 %**	**12 %**
Item 6	High SES	2 %	6 %	16 %	76 %	2 %	5 %	12 %	80 %
	Low SES	0 %	4 %	13 %	**83 %**	8 %	11 %	20 %	**62 %**

Note. In primary education, the students express their level of agreement with the different items using age-appropriate shaking heads as symbols to represent their agreement or disagreement on a two-point (C2.1/P1) or a four-point Likert scale (C3.1/ P3 and C4.1/P5). The number of items used to assess a specific construct is increasing over time with the fewest items in C2.1/P1. For more details on the assessment of the constructs, see section 4.2.1. If the sum of a group's percentages for an item does not add up to 100 %, this is due to rounding up or down. Group differences between curricula that are going beyond 10 % are highlighted in bold. Due to the small number of EPS students with a low SES, the results from the present table have to be interpreted with caution.

Item 1	I am good in my main language of instruction.
Item 2	I learn things quickly in my main language of instruction.
Item 3	I enjoy my main language of instruction.
Item 4	I am interested in my main language of instruction.
Item 5	I like to read in my main language of instruction.
Item 6	I am afraid of my main language of instruction.

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Table A.11 – Domain-Specific Academic Motivation in the Students' Main Language of Instruction at Primary School Level Expressed in Percentages - Split by Migration Background

		European curriculum				Luxembourgish curriculum			
		Does apply	*Does rather apply*	*Does rather not apply*	*Does not apply*	*Does apply*	*Does rather apply*	*Does rather not apply*	*Does not apply*
C2.1/P1									
Item 1	Native	94 %	-	-	6 %	86 %	-	-	14 %
	Migration background	**94 %**	-	-	**6 %**	**75 %**	-	-	**25 %**
Item 2	Native	86 %	-	-	14 %	76 %	-	-	24 %
	Migration background	**84 %**	-	-	**16 %**	**69 %**	-	-	**31 %**
Item 3	Native	91 %	-	-	9 %	82 %	-	-	18 %
	Migration background	**90 %**	-	-	**10 %**	**76 %**	-	-	**24 %**
Item 4	Native	Not administered in C2.1/P1							
	Migration background								
Item 5	Native	**91 %**	-	-	**9 %**	**77 %**	-	-	**23 %**
	Migration background	**85 %**	-	-	**15 %**	**73 %**	-	-	**27 %**
Item 6	Native	11 %	-	-	89 %	21 %	-	-	79 %
	Migration background	17 %	-	-	83 %	25 %	-	-	75 %
C3.1/P3									
Item 1	Native	50 %	38 %	12 %	0 %	59 %	32 %	7 %	3 %
	Migration background	52 %	38 %	9 %	1 %	37 %	42 %	14 %	7 %
Item 2	Native	51 %	29 %	17 %	2 %	53 %	30 %	11 %	6 %
	Migration background	44 %	37 %	13 %	6 %	35 %	37 %	17 %	11 %
Item 3	Native	52 %	**38 %**	10 %	0 %	52 %	**27 %**	11 %	10 %
	Migration background	**59 %**	26 %	10 %	5 %	**40 %**	29 %	15 %	15 %
Item 4	Native	61 %	27 %	10 %	2 %	52 %	30 %	11 %	7 %
	Migration background	53 %	31 %	11 %	5 %	45 %	29 %	14 %	12 %
Item 5	Native	**85 %**	7 %	7 %	0 %	**71 %**	18 %	5 %	6 %
	Migration background	**77 %**	14 %	5 %	4 %	**61 %**	20 %	9 %	9 %
Item 6	Native	0 %	7 %	12 %	80 %	6 %	5 %	9 %	81 %
	Migration background	5 %	5 %	11 %	79 %	9 %	10 %	13 %	68 %
C4.1/P5									
Item 1	Native	**29 %**	**57 %**	14 %	0 %	**52 %**	**36 %**	10 %	2 %
	Migration background	**38 %**	48 %	**12 %**	2 %	**19 %**	47 %	**25 %**	9 %
Item 2	Native	**31 %**	41 %	**28 %**	0 %	**49 %**	35 %	**11 %**	5 %
	Migration background	**36 %**	45 %	**16 %**	3 %	**21 %**	38 %	**28 %**	13 %
Item 3	Native	31 %	**48 %**	17 %	3 %	40 %	**33 %**	17 %	10 %
	Migration background	**41 %**	33 %	**17 %**	**8 %**	**21 %**	32 %	**28 %**	**19 %**
Item 4	Native	38 %	**55 %**	**3 %**	3 %	40 %	**35 %**	**17 %**	8 %
	Migration background	**36 %**	41 %	18 %	5 %	**25 %**	36 %	24 %	15 %
Item 5	Native	72 %	28 %	0 %	0 %	64 %	21 %	9 %	7 %
	Migration background	**71 %**	**19 %**	6 %	5 %	**40 %**	**31 %**	15 %	13 %
Item 6	Native	0 %	7 %	21 %	72 %	3 %	5 %	11 %	81 %
	Migration background	2 %	5 %	19 %	**74 %**	7 %	10 %	20 %	**63 %**

Note. In primary education, the students express their level of agreement with the different items using age-appropriate shaking heads as symbols to represent their agreement or disagreement on a two-point (C2.1/P1) or a four-point Likert scale (C3.1/ P3 and C4.1/P5). The number of items used to assess a specific construct is increasing over time with the fewest items in C2.1/P1. For more details on the assessment of the constructs, see section *4.2.1*. If the sum of a group's percentages for an item does not add up to 100 %, this is due to rounding up or down. Group differences between curricula that are going beyond 10 % are highlighted in bold. Due to the small number of native EPS students and the different countries of origin, the results from the present table have to be interpreted with caution.

Item 1	I am good in my main language of instruction.
Item 2	I learn things quickly in my main language of instruction.
Item 3	I enjoy my main language of instruction.
Item 4	I am interested in my main language of instruction.
Item 5	I like to read in my main language of instruction.
Item 6	I am afraid of my main language of instruction.

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Table A.12 – Domain-Specific Academic Motivation in the Students' Main Language of Instruction at Primary School Level Expressed in Percentages - Split by Language background

		European curriculum				Luxembourgish curriculum			
		Does apply	*Does rather apply*	*Does rather not apply*	*Does not apply*	*Does apply*	*Does rather apply*	*Does rather not apply*	*Does not apply*
C2.1/P1									
Item 1	Luxembourgish/German	**98 %**	-	-	**2 %**	**87 %**	-	-	**13 %**
	French	**95 %**	-	-	**5 %**	**75 %**	-	-	**23 %**
	Portuguese	**93 %**	-	-	**7 %**	**73 %**	-	-	**27 %**
	English	**94 %**	-	-	**6 %**	**76 %**	-	-	**24 %**
Item 2	Luxembourgish/German	**88 %**	-	-	**12 %**	**77 %**	-	-	**23 %**
	French	**83 %**	-	-	**17 %**	**71 %**	-	-	**29 %**
	Portuguese	**83 %**	-	-	**17 %**	**67 %**	-	-	**33 %**
	English	79 %	-	-	21 %	75 %	-	-	25 %
Item 3	Luxembourgish/German	**96 %**	-	-	**4 %**	**83 %**	-	-	**17 %**
	French	**87 %**	-	-	**13 %**	**76 %**	-	-	**24 %**
	Portuguese	**87 %**	-	-	**13 %**	**76 %**	-	-	**24 %**
	English	**94 %**	-	-	**6 %**	**74 %**	-	-	**26 %**
Item 4	Luxembourgish/German French Portuguese English	Not administered in C2.1/P1							
Item 5	Luxembourgish/German	79 %	-	-	21 %	76 %	-	-	24 %
	French	82 %	-	-	18 %	73 %	-	-	27 %
	Portuguese	**86 %**	-	-	**14 %**	**73 %**	-	-	**27 %**
	English	**88 %**	-	-	**12 %**	**73 %**	-	-	**27 %**
Item 6	Luxembourgish/German	16 %	-	-	84 %	21 %	-	-	79 %
	French	22 %	-	-	78 %	25 %	-	-	75 %
	Portuguese	28 %	-	-	72 %	29 %	-	-	71 %
	English	**12 %**	-	-	**88 %**	**26 %**	-	-	**74 %**
C3.1/P3									
Item 1	Luxembourgish/German	**54 %**	38 %	15 %	1 %	**63 %**	29 %	6 %	2 %
	French	**46 %**	39 %	15 %	1 %	**35 %**	42 %	17 %	7 %
	Portuguese	41 %	44 %	12 %	3 %	31 %	43 %	16 %	9 %
	English	**55 %**	37 %	7 %	1 %	**41 %**	42 %	12 %	5 %
Item 2	Luxembourgish/German	59 %	22 %	14 %	5 %	55 %	30 %	10 %	6 %
	French	46 %	31 %	16 %	7 %	36 %	33 %	18 %	12 %
	Portuguese	**44 %**	35 %	12 %	9 %	**30 %**	37 %	19 %	15 %
	English	43 %	36 %	17 %	3 %	36 %	37 %	15 %	12 %
Item 3	Luxembourgish/German	59 %	27 %	14 %	0 %	55 %	27 %	10 %	8 %
	French	**47 %**	33 %	13 %	7 %	**35 %**	30 %	16 %	18 %
	Portuguese	**58 %**	30 %	6 %	6 %	**40 %**	29 %	15 %	16 %
	English	**59 %**	26 %	11 %	5 %	**39 %**	29 %	17 %	15 %
Item 4	Luxembourgish/German	**67 %**	22 %	8 %	3 %	**54 %**	29 %	10 %	7 %
	French	46 %	34 %	12 %	8 %	40 %	29 %	16 %	15 %
	Portuguese	**59 %**	29 %	6 %	6 %	**46 %**	28 %	14 %	12 %
	English	49 %	34 %	13 %	3 %	43 %	29 %	15 %	13 %
Item 5	Luxembourgish/German	**86 %**	**6 %**	8 %	0 %	**74 %**	**17 %**	5 %	5 %
	French	**78 %**	14 %	5 %	3 %	**57 %**	20 %	10 %	12 %
	Portuguese	**71 %**	15 %	6 %	9 %	**58 %**	21 %	10 %	12 %
	English	**75 %**	16 %	4 %	4 %	**61 %**	22 %	7 %	10 %
Item 6	Luxembourgish/German	3 %	3 %	5 %	89 %	5 %	4 %	8 %	83 %
	French	5 %	7 %	14 %	74 %	8 %	10 %	13 %	69 %
	Portuguese	3 %	3 %	12 %	**82 %**	12 %	11 %	14 %	**64 %**
	English	9 %	7 %	8 %	77 %	8 %	7 %	12 %	72 %

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		European curriculum				Luxembourgish curriculum			
		Does apply	*Does rather apply*	*Does rather not apply*	*Does not apply*	*Does apply*	*Does rather apply*	*Does rather not apply*	*Does not apply*
C4.1/P5									
Item 1	Luxembourgish/German	**35 %**	**59 %**	6 %	0 %	**56 %**	**35 %**	8 %	1 %
	French	**33 %**	54 %	**12 %**	1 %	**14 %**	47 %	**30 %**	10 %
	Portuguese	**35 %**	35 %	29 %	**0 %**	**11 %**	43 %	32 %	**13 %**
	English	**52 %**	41 %	**2 %**	4 %	**25 %**	48 %	**22 %**	5 %
Item 2	Luxembourgish/German	**32 %**	**47 %**	**21 %**	0 %	**53 %**	**34 %**	**9 %**	4 %
	French	**37 %**	45 %	**15 %**	**3 %**	**16 %**	40 %	**29 %**	**15 %**
	Portuguese	**32 %**	39 %	26 %	**3 %**	**12 %**	36 %	33 %	**20 %**
	English	**49 %**	40 %	**6 %**	4 %	**26 %**	42 %	**24 %**	7 %
Item 3	Luxembourgish/German	35 %	35 %	18 %	12 %	43 %	34 %	15 %	7 %
	French	**35 %**	33 %	23 %	**9 %**	**15 %**	30 %	30 %	**25 %**
	Portuguese	**42 %**	29 %	26 %	**3 %**	**16 %**	29 %	29 %	**26 %**
	English	**53 %**	28 %	**13 %**	6 %	**22 %**	33 %	**30 %**	15 %
Item 4	Luxembourgish/German	**29 %**	**50 %**	12 %	9 %	**43 %**	**36 %**	15 %	6 %
	French	30 %	44 %	21 %	5 %	20 %	33 %	26 %	20 %
	Portuguese	**42 %**	45 %	**10 %**	**3 %**	**19 %**	36 %	**27 %**	**19 %**
	English	**47 %**	**26 %**	28 %	**0 %**	**26 %**	**37 %**	25 %	**12 %**
Item 5	Luxembourgish/German	73 %	21 %	6 %	0 %	68 %	20 %	7 %	5 %
	French	**71 %**	**20 %**	**3 %**	**6 %**	**33 %**	**31 %**	**16 %**	**20 %**
	Portuguese	**58 %**	26 %	16 %	**0 %**	**30 %**	33 %	18 %	**20 %**
	English	**72 %**	21 %	**4 %**	**2 %**	**43 %**	27 %	**17 %**	**13 %**
Item 6	Luxembourgish/German	0 %	6 %	**21 %**	**74 %**	3 %	4 %	**9 %**	**85 %**
	French	2 %	5 %	15 %	**77 %**	8 %	12 %	20 %	**60 %**
	Portuguese	0 %	**0 %**	35 %	65 %	9 %	**13 %**	23 %	55 %
	English	0 %	2 %	13 %	**85 %**	6 %	6 %	21 %	**67 %**

Note. In primary education, the students express their level of agreement with the different items using age-appropriate shaking heads as symbols to represent their agreement or disagreement on a two-point (C2.1/P1) or a four-point Likert scale (C3.1/ P3 and C4.1/P5). The number of items used to assess a specific construct is increasing over time with the fewest items in C2.1/P1. For more details on the assessment of the constructs, see section *4.2.1*. If the sum of a group's percentages for an item does not add up to 100 %, this is due to rounding up or down. Group differences between curricula that are going beyond 10 % are highlighted in bold. Due to the small number of Portuguese speaking students in EPS and of English speaking students in schools following the Luxembourgish curriculum, the results from the present table have to be interpreted with caution.

Item 1	I am good in my main language of instruction.
Item 2	I learn things quickly in my main language of instruction.
Item 3	I enjoy my main language of instruction.
Item 4	I am interested in my main language of instruction.
Item 5	I like to read in my main language of instruction.
Item 6	I am afraid of my main language of instruction.

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Table A.13 –Academic Wellbeing at Primary School Level Expressed in Percentages - Split by Gender

		European curriculum				Luxembourgish curriculum			
		Does apply	*Does rather apply*	*Does rather not apply*	*Does not apply*	*Does apply*	*Does rather apply*	*Does rather not apply*	*Does not apply*
C2.1/P1									
Item 1	Male	78 %	-	-	22 %	76 %	-	-	24 %
	Female	88 %	-	-	12 %	85 %	-	-	15 %
Item 2	Male	84 %	-	-	16 %	78 %	-	-	22 %
	Female	93 %	-	-	7 %	87 %	-	-	13 %
Item 3	Male	79 %	-	-	21 %	79 %	-	-	21 %
	Female	88 %	-	-	12 %	87 %	-	-	13 %
Item 4	Male	91 %	-	-	9 %	85 %	-	-	15 %
	Female	94 %	-	-	6 %	91 %	-	-	9 %
Item 5	Male	78 %	-	-	22 %	85 %	-	-	15 %
	Female	88 %	-	-	12 %	90 %	-	-	10 %
Item 6	Male	Not administered in C2.1/P1							
	Female								
Item 7	Male	90 %	-	-	10 %	88 %	-	-	12 %
	Female	94 %	-	-	6 %	92 %	-	-	8%
Item 8	Male	28 %	-	-	72 %	29 %	-	-	71 %
	Female	29 %	-	-	71 %	24 %	-	-	76 %
C3.1/P3									
Item 1	Male	44 %	33 %	13 %	9 %	48 %	27 %	10 %	15 %
	Female	60 %	26 %	10 %	4 %	63 %	25 %	7 %	6 %
Item 2	Male	50 %	35 %	11 %	5 %	51 %	28 %	11 %	10 %
	Female	57 %	29 %	14 %	0 %	63 %	26 %	7 %	4 %
Item 3	Male	43 %	39 %	13 %	6 %	48 %	30 %	12 %	10 %
	Female	58 %	30 %	10 %	2 %	59 %	29 %	8 %	4 %
Item 4	Male	46 %	**40 %**	10 %	4 %	53 %	**29 %**	11 %	8 %
	Female	58 %	31 %	7 %	4 %	58 %	30 %	8 %	4 %
Item 5	Male	**28 %**	37 %	**23 %**	12 %	**50 %**	32 %	**11 %**	7 %
	Female	**28 %**	41 %	22 %	9 %	**48 %**	36 %	11 %	5 %
Item 6	Male	**38 %**	37 %	15 %	9 %	**54 %**	28 %	9 %	8 %
	Female	**45 %**	32 %	17 %	6 %	**56 %**	29 %	10 %	5 %
Item 7	Male	**43 %**	**36 %**	13 %	7 %	**69 %**	**20 %**	6 %	5 %
	Female	**57 %**	26 %	10 %	6 %	**77 %**	16 %	3 %	3 %
Item 8	Male	19 %	23 %	22 %	35 %	19 %	21 %	19 %	40 %
	Female	12 %	30 %	17 %	41 %	16 %	18 %	16 %	50 %
C4.1/P5									
Item 1	Male	**47 %**	37 %	8 %	9 %	**30 %**	40 %	17 %	13 %
	Female	48 %	42 %	8 %	2 %	41 %	41 %	13 %	5 %
Item 2	Male	**42 %**	42 %	9 %	7 %	**31 %**	42 %	17 %	10 %
	Female	46 %	37 %	15 %	2 %	38 %	41 %	17 %	3 %
Item 3	Male	**41 %**	44 %	**9 %**	6 %	**28 %**	42 %	**20 %**	10 %
	Female	43 %	39 %	15 %	3 %	35 %	45 %	16 %	4 %
Item 4	Male	47 %	42 %	9 %	3 %	38 %	41 %	14 %	7 %
	Female	37 %	46 %	14 %	3 %	38 %	41 %	17 %	4 %
Item 5	Male	31 %	42 %	18 %	9 %	38 %	42 %	15 %	5 %
	Female	28 %	**31 %**	29 %	12 %	34 %	**42 %**	19 %	5 %
Item 6	Male	35 %	37 %	18 %	9 %	37 %	39 %	17 %	8 %
	Female	28 %	43 %	22 %	6 %	35 %	41 %	18 %	6 %
Item 7	Male	57 %	25 %	11 %	7 %	66 %	24 %	6 %	3 %
	Female	**58 %**	23 %	12 %	6 %	**70 %**	23 %	5 %	2 %
Item 8	Male	14 %	19 %	24 %	42 %	19 %	30 %	26 %	26 %
	Female	8 %	21 %	27 %	44 %	16 %	28 %	24 %	33 %

Note. In primary education, the students express their level of agreement with the different items using age-appropriate shaking heads as symbols to represent their agreement or disagreement on a two-point (C2.1/P1) or a four-point Likert scale (C3.1/ P3 and C4.1/P5). The number of items used to assess a specific construct is increasing over time with the fewest items in C2.1/P1. For more details on the assessment of the constructs, see section 4.2.1. If the sum of a group's percentages for an item does not add up to 100 %, this is due to rounding up or down. Group differences between curricula that are going beyond 10 % are highlighted in bold.

Item 1	I like going to school.	Item 5	In my class, we get along well.
Item 2	School is fun.	Item 6	In my class, we all stick together.
Item 3	I am happy when I am at school.	Item 7	In my class, we get extra support from my teacher if we need it.
Item 4	In my class, we help each other.	Item 8	In my class, we sometimes disrupt the class on purpose.

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Table A.14 –Academic Wellbeing at Primary School Level Expressed in Percentages - Split by SES

		European curriculum				Luxembourgish curriculum			
		Does apply	*Does rather apply*	*Does rather not apply*	*Does not apply*	*Does apply*	*Does rather apply*	*Does rather not apply*	*Does not apply*
C2.1/P1									
Item 1	High SES	82 %	-	-	18 %	82 %	-	-	18 %
	Low SES	83 %	-	-	17 %	81 %	-	-	19 %
Item 2	High SES	89 %	-	-	11 %	85 %	-	-	15 %
	Low SES	**96 %**	-	-	**4 %**	**83 %**	-	-	**17 %**
Item 3	High SES	85 %	-	-	15 %	86 %	-	-	14 %
	Low SES	78 %	-	-	22 %	82 %	-	-	18 %
Item 4	High SES	94 %	-	-	6 %	89 %	-	-	11 %
	Low SES	96 %	-	-	4 %	87 %	-	-	13 %
Item 5	High SES	85 %	-	-	15 %	89 %	-	-	11 %
	Low SES	83 %	-	-	17 %	86 %	-	-	14 %
Item 6	High SES	Not administered in C2.1/P1							
	Low SES								
Item 7	High SES	93 %	-	-	7 %	92 %	-	-	8 %
	Low SES	91 %	-	-	9 %	89 %	-	-	11 %
Item 8	High SES	23 %	-	-	77 %	23 %	-	-	77 %
	Low SES	39 %	-	-	61 %	31 %	-	-	69 %
C3.1/P3									
Item 1	High SES	54 %	29 %	12 %	5 %	55 %	27 %	9 %	8 %
	Low SES	61 %	17 %	17 %	6 %	57 %	23 %	8 %	12 %
Item 2	High SES	60 %	31 %	6 %	3 %	58 %	28 %	8 %	6 %
	Low SES	56 %	33 %	6 %	6 %	59 %	25 %	9 %	7 %
Item 3	High SES	54 %	32 %	12 %	3 %	52 %	33 %	10 %	6 %
	Low SES	56 %	28 %	6 %	11 %	56 %	26 %	10 %	8 %
Item 4	High SES	47 %	37 %	14 %	1 %	54 %	32 %	10 %	5 %
	Low SES	61 %	22 %	11 %	6 %	56 %	30 %	7 %	8 %
Item 5	High SES	**30 %**	38 %	**20 %**	12 %	**50 %**	36 %	**9 %**	5 %
	Low SES	**17 %**	**61 %**	17 %	6 %	**47 %**	**33 %**	12 %	8 %
Item 6	High SES	**42 %**	35 %	16 %	8 %	**54 %**	33 %	9 %	4 %
	Low SES	**33 %**	**50 %**	17 %	0 %	**47 %**	**33 %**	12 %	8 %
Item 7	High SES	**58 %**	24 %	13 %	5 %	**74 %**	18 %	5 %	4 %
	Low SES	**50 %**	**33 %**	11 %	6 %	**74 %**	**18 %**	4 %	4 %
Item 8	High SES	21 %	29 %	19 %	31 %	14 %	20 %	18 %	49 %
	Low SES	17 %	28 %	28 %	**28 %**	19 %	21 %	17 %	**43 %**
C4.1/P5									
Item 1	High SES	42 %	47 %	8 %	4 %	37 %	43 %	12 %	8 %
	Low SES	**52 %**	**26 %**	13 %	9 %	**34 %**	**38 %**	17 %	10 %
Item 2	High SES	39 %	44 %	14 %	4 %	37 %	44 %	13 %	6 %
	Low SES	**52 %**	39 %	9 %	0 %	**32 %**	42 %	19 %	7 %
Item 3	High SES	42 %	44 %	13 %	2 %	32 %	48 %	13 %	6 %
	Low SES	35 %	43 %	17 %	4 %	28 %	43 %	21 %	8 %
Item 4	High SES	**49 %**	36 %	13 %	3 %	**38 %**	43 %	15 %	4 %
	Low SES	35 %	48 %	9 %	9 %	38 %	39 %	17 %	6 %
Item 5	High SES	**21 %**	40 %	**28 %**	11 %	**39 %**	42 %	**17 %**	3 %
	Low SES	30 %	**22 %**	**30 %**	17 %	35 %	**40 %**	**19 %**	6 %
Item 6	High SES	30 %	43 %	21 %	6 %	37 %	41 %	16 %	6 %
	Low SES	30 %	**52 %**	13 %	4 %	36 %	**39 %**	19 %	6 %
Item 7	High SES	**51 %**	27 %	13 %	9 %	**68 %**	23 %	5 %	4 %
	Low SES	61 %	22 %	0 %	**17 %**	68 %	25 %	5 %	**2 %**
Item 8	High SES	11 %	18 %	27 %	44 %	14 %	24 %	28 %	33 %
	Low SES	17 %	**9 %**	35 %	**39 %**	18 %	**29 %**	25 %	**28 %**

Note. In primary education, the students express their level of agreement with the different items using age-appropriate shaking heads as symbols to represent their agreement or disagreement on a two-point (C2.1/P1) or a four-point Likert scale (C3.1/ P3 and C4.1/P5). The number of items used to assess a specific construct is increasing over time with the fewest items in C2.1/P1. For more details on the assessment of the constructs, see section *4.2.1*. If the sum of a group's percentages for an item does not add up to 100 %, this is due to rounding up or down. Group differences between curricula that are going beyond 10 % are highlighted in bold. Due to the small number of EPS students with a low SES, the results from the present table have to be interpreted with caution.

Item 1	I like going to school.	Item 5	In my class, we get along well.
Item 2	School is fun.	Item 6	In my class, we all stick together.
Item 3	I am happy when I am at school.	Item 7	In my class, we get extra support from my teacher if we need it.
Item 4	In my class, we help each other.	Item 8	In my class, we sometimes disrupt the class on purpose.

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Table A.15 –Academic Wellbeing at Primary School Level Expressed in Percentages - Split by Migration Background

		European curriculum				Luxembourgish curriculum			
		Does apply	*Does rather apply*	*Does rather not apply*	*Does not apply*	*Does apply*	*Does rather apply*	*Does rather not apply*	*Does not apply*
C2.1/P1									
Item 1	Native	75 %	-	-	25 %	80 %	-	-	20 %
	Migration background	84 %	-	-	16 %	81 %	-	-	19 %
Item 2	Native	92 %	-	-	8 %	83 %	-	-	17 %
	Migration background	88 %	-	-	12 %	83 %	-	-	17 %
Item 3	Native	78 %	-	-	22 %	83 %	-	-	17 %
	Migration background	85 %	-	-	15 %	83 %	-	-	17 %
Item 4	Native	97 %	-	-	3 %	90 %	-	-	10 %
	Migration background	92 %	-	-	8 %	87 %	-	-	13 %
Item 5	Native	83 %	-	-	17 %	89 %	-	-	11 %
	Migration background	83 %	-	-	17 %	87 %	-	-	13 %
Item 6	Native	Not administered in C2.1/P1							
	Migration background								
Item 7	Native	94 %	-	-	6 %	92 %	-	-	8 %
	Migration background	92 %	-	-	8 %	89 %	-	-	11 %
Item 8	Native	17 %	-	-	83 %	24 %	-	-	76 %
	Migration background	30 %	-	-	70 %	28 %	-	-	72 %
C3.1/P3									
Item 1	Native	54 %	26 %	11 %	9 %	54 %	28 %	8 %	10 %
	Migration background	54 %	29 %	11 %	6 %	58 %	24 %	9 %	10 %
Item 2	Native	54 %	29 %	14 %	3 %	55 %	29 %	9 %	7 %
	Migration background	56 %	32 %	11 %	2 %	59 %	26 %	9 %	6 %
Item 3	Native	51 %	31 %	9 %	9 %	54 %	30 %	9 %	7 %
	Migration background	53 %	34 %	11 %	3 %	54 %	29 %	10 %	7 %
Item 4	Native	52 %	**42 %**	6 %	0 %	57 %	**30 %**	8 %	5 %
	Migration background	54 %	33 %	9 %	4 %	54 %	30 %	10 %	6 %
Item 5	Native	**32 %**	38 %	12 %	**18 %**	**53 %**	34 %	9 %	**5 %**
	Migration background	**27 %**	39 %	**25 %**	9 %	**48 %**	34 %	**12 %**	6 %
Item 6	Native	**46 %**	29 %	**26 %**	0 %	**58 %**	28 %	**8 %**	6 %
	Migration background	**42 %**	37 %	13 %	9 %	**54 %**	29 %	10 %	7 %
Item 7	Native	**40 %**	**37 %**	11 %	11 %	**75 %**	**16 %**	4 %	4 %
	Migration background	**52 %**	**30 %**	11 %	7 %	**72 %**	**19 %**	5 %	4 %
Item 8	Native	20 %	26 %	11 %	43 %	17 %	19 %	18 %	46 %
	Migration background	15 %	26 %	22 %	37 %	18 %	20 %	18 %	44 %
C4.1/P5									
Item 1	Native	45 %	**55 %**	**0 %**	0 %	36 %	**41 %**	**14 %**	9 %
	Migration background	**50 %**	37 %	8 %	5 %	**36 %**	40 %	15 %	8 %
Item 2	Native	**48 %**	41 %	10 %	0 %	**35 %**	42 %	17 %	6 %
	Migration background	**45 %**	39 %	12 %	5 %	**34 %**	42 %	17 %	7 %
Item 3	Native	38 %	52 %	10 %	0 %	31 %	44 %	18 %	7 %
	Migration background	**45 %**	40 %	12 %	4 %	**31 %**	44 %	18 %	7 %
Item 4	Native	**28 %**	**62 %**	7 %	3 %	**40 %**	**42 %**	13 %	5 %
	Migration background	43 %	42 %	11 %	4 %	37 %	41 %	17 %	5 %
Item 5	Native	**17 %**	38 %	**41 %**	3 %	**40 %**	42 %	**14 %**	4 %
	Migration background	27 %	39 %	21 %	13 %	33 %	42 %	19 %	6 %
Item 6	Native	**14 %**	**55 %**	17 %	14 %	**38 %**	**40 %**	15 %	6 %
	Migration background	33 %	40 %	20 %	7 %	35 %	40 %	19 %	7 %
Item 7	Native	**45 %**	**38 %**	14 %	3 %	**69 %**	**23 %**	5 %	3 %
	Migration background	60 %	21 %	12 %	7 %	68 %	24 %	5 %	2 %
Item 8	Native	10 %	21 %	31 %	38 %	16 %	26 %	26 %	32 %
	Migration background	11 %	21 %	24 %	**44 %**	17 %	31 %	24 %	**28 %**

Note. In primary education, the students express their level of agreement with the different items using age-appropriate shaking heads as symbols to represent their agreement or disagreement on a two-point (C2.1/P1) or a four-point Likert scale (C3.1/ P3 and C4.1/P5). The number of items used to assess a specific construct is increasing over time with the fewest items in C2.1/P1. For more details on the assessment of the constructs, see section *4.2.1*. If the sum of a group's percentages for an item does not add up to 100 %, this is due to rounding up or down. Group differences between curricula that are going beyond 10 % are highlighted in bold. Due to the small number of native EPS students and the different countries of origin, the results from the present table have to be interpreted with caution.

Item 1	I like going to school.	Item 5	In my class, we get along well.
Item 2	School is fun.	Item 6	In my class, we all stick together.
Item 3	I am happy when I am at school.	Item 7	In my class, we get extra support from my teacher if we need it.
Item 4	In my class, we help each other.	Item 8	In my class, we sometimes disrupt the class on purpose.

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Table A.16 –Academic Wellbeing at Primary School Level Expressed in Percentages - Split by Language Background

		European curriculum				Luxembourgish curriculum			
		Does apply	*Does rather apply*	*Does rather not apply*	*Does not apply*	*Does apply*	*Does rather apply*	*Does rather not apply*	*Does not apply*
C2.1/P1									
Item 1	Luxembourgish/German	79 %	-	-	21 %	80 %	-	-	20 %
	French	80 %	-	-	20 %	80 %	-	-	20 %
	Portuguese	87 %	-	-	13 %	83 %	-	-	17 %
	English	86 %	-	-	14 %	81 %	-	-	19 %
Item 2	Luxembourgish/German	87 %	-	-	13 %	82 %	-	-	18 %
	French	85 %	-	-	15 %	81 %	-	-	19 %
	Portuguese	**100 %**	-	-	**0 %**	**84 %**	-	-	**16 %**
	English	**92 %**	-	-	**8 %**	**80 %**	-	-	**20 %**
Item 3	Luxembourgish/German	79 %	-	-	21 %	83 %	-	-	17 %
	French	79 %	-	-	21 %	83 %	-	-	17 %
	Portuguese	80 %	-	-	20 %	84 %	-	-	16 %
	English	88 %	-	-	12 %	82 %	-	-	18 %
Item 4	Luxembourgish/German	96 %	-	-	4 %	89 %	-	-	11 %
	French	89 %	-	-	11 %	86 %	-	-	14 %
	Portuguese	93 %	-	-	7 %	88 %	-	-	12 %
	English	95 %	-	-	5 %	85 %	-	-	15 %
Item 5	Luxembourgish/German	**78 %**	-	-	**22 %**	**89 %**	-	-	**11 %**
	French	**71 %**	-	-	**29 %**	**85 %**	-	-	**15 %**
	Portuguese	**100 %**	-	-	**0 %**	**85 %**	-	-	**15 %**
	English	93 %	-	-	7 %	86 %	-	-	14 %
Item 6	Luxembourgish/German French Portuguese English	Not administered in C2.1/P1							
Item 7	Luxembourgish/German	92 %	-	-	8 %	91 %	-	-	9 %
	French	88 %	-	-	12 %	89 %	-	-	11 %
	Portuguese	97 %	-	-	3 %	90 %	-	-	10 %
	English	95 %	-	-	5 %	88 %	-	-	12 %
Item 8	Luxembourgish/German	29 %	-	-	71 %	24 %	-	-	76 %
	French	30 %	-	-	70 %	26 %	-	-	74 %
	Portuguese	30 %	-	-	70 %	30 %	-	-	70 %
	English	28 %	-	-	72 %	28 %	-	-	72 %
C3.1/P3									
Item 1	Luxembourgish/German	57 %	30 %	3 %	10 %	54 %	28 %	8 %	10 %
	French	50 %	30 %	11 %	8 %	55 %	25 %	10 %	11 %
	Portuguese	52 %	33 %	11 %	4 %	58 %	24 %	9 %	10 %
	English	73 %	27 %	0 %	0 %	52 %	27 %	7 %	13 %
Item 2	Luxembourgish/German	57 %	30 %	10 %	3 %	56 %	29 %	8 %	7 %
	French	52 %	31 %	13 %	4 %	56 %	27 %	9 %	8 %
	Portuguese	59 %	**37 %**	4 %	0 %	60 %	**24 %**	9 %	7 %
	English	**82 %**	**9 %**	9 %	0 %	**53 %**	**28 %**	10 %	9 %
Item 3	Luxembourgish/German	63 %	23 %	7 %	7 %	53 %	30 %	10 %	7 %
	French	47 %	35 %	12 %	6 %	52 %	29 %	12 %	8 %
	Portuguese	48 %	**41 %**	7 %	4 %	56 %	**28 %**	10 %	7 %
	English	**82 %**	**9 %**	9 %	0 %	**48 %**	**32 %**	10 %	9 %
Item 4	Luxembourgish/German	**46 %**	**43 %**	11 %	0 %	**57 %**	**29 %**	9 %	5 %
	French	52 %	34 %	9 %	5 %	53 %	30 %	10 %	6 %
	Portuguese	59 %	30 %	11 %	0 %	56 %	29 %	9 %	6 %
	English	**73 %**	**9 %**	9 %	9 %	**58 %**	**23 %**	11 %	8 %
Item 5	Luxembourgish/German	**40 %**	40 %	3 %	**17 %**	**52 %**	34 %	9 %	**5 %**
	French	**25 %**	38 %	**24 %**	13 %	**47 %**	36 %	**11 %**	7 %
	Portuguese	**31 %**	38 %	**31 %**	0 %	**47 %**	33 %	**13 %**	7 %
	English	**55 %**	**18 %**	18 %	9 %	**44 %**	**38 %**	11 %	7 %
Item 6	Luxembourgish/German	**40 %**	37 %	**23 %**	0 %	**52 %**	34 %	**9 %**	5 %
	French	44 %	35 %	13 %	9 %	51 %	30 %	11 %	9 %
	Portuguese	**41 %**	**37 %**	15 %	7 %	**59 %**	**25 %**	9 %	7 %
	English	**73 %**	**18 %**	9 %	0 %	**48 %**	**31 %**	10 %	10 %
Item 7	Luxembourgish/German	**57 %**	23 %	10 %	10 %	**74 %**	17 %	5 %	5 %
	French	**53 %**	**32 %**	9 %	7 %	**72 %**	**18 %**	5 %	5 %
	Portuguese	**33 %**	**44 %**	**22 %**	0 %	**74 %**	**18 %**	**4 %**	4 %
	English	73 %	9 %	9 %	9 %	69 %	18 %	7 %	6 %
Item 8	Luxembourgish/German	20 %	17 %	20 %	43 %	17 %	20 %	18 %	46 %
	French	15 %	29 %	19 %	37 %	16 %	21 %	18 %	46 %
	Portuguese	15 %	30 %	19 %	37 %	19 %	21 %	17 %	37 %
	English	18 %	9 %	18 %	55 %	19 %	23 %	17 %	41 %

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		European curriculum				Luxembourgish curriculum			
		Does apply	*Does rather apply*	*Does rather not apply*	*Does not apply*	*Does apply*	*Does rather apply*	*Does rather not apply*	*Does not apply*
C4.1/P5									
Item 1	Luxembourgish/German	**50 %**	44 %	**3 %**	3 %	**36 %**	41 %	**14 %**	9 %
	French	43 %	44 %	6 %	7 %	36 %	42 %	14 %	8 %
	Portuguese	**65 %**	**26 %**	**3 %**	6 %	**33 %**	**40 %**	**17 %**	10 %
	English	**51 %**	36 %	6 %	6 %	**32 %**	44 %	16 %	9 %
Item 2	Luxembourgish/German	**47 %**	41 %	9 %	3 %	**34 %**	43 %	17 %	7 %
	French	37 %	41 %	15 %	6 %	36 %	42 %	16 %	7 %
	Portuguese	**71 %**	**23 %**	**3 %**	3 %	**32 %**	**42 %**	**17 %**	8 %
	English	**43 %**	**36 %**	17 %	4 %	**28 %**	**49 %**	15 %	8 %
Item 3	Luxembourgish/German	**47 %**	**29 %**	21 %	3 %	**32 %**	**43 %**	18 %	7 %
	French	38 %	45 %	11 %	5 %	33 %	42 %	16 %	7 %
	Portuguese	**45 %**	42 %	**10 %**	3 %	**28 %**	44 %	**21 %**	7 %
	English	**51 %**	32 %	11 %	6 %	**29 %**	46 %	16 %	8 %
Item 4	Luxembourgish/German	35 %	44 %	15 %	6 %	40 %	41 %	14 %	5 %
	French	32 %	46 %	17 %	5 %	36 %	39 %	18 %	7 %
	Portuguese	**60 %**	**30 %**	10 %	0 %	**39 %**	**41 %**	16 %	5 %
	English	40 %	47 %	6 %	6 %	36 %	41 %	16 %	7 %
Item 5	Luxembourgish/German	**26 %**	50 %	21 %	3 %	**40 %**	42 %	15 %	4 %
	French	**15 %**	34 %	**35 %**	16 %	**34 %**	41 %	**19 %**	6 %
	Portuguese	42 %	**23 %**	23 %	13 %	33 %	**43 %**	19 %	6 %
	English	34 %	45 %	15 %	6 %	32 %	42 %	18 %	8 %
Item 6	Luxembourgish/German	29 %	35 %	29 %	6 %	38 %	40 %	16 %	6 %
	French	**23 %**	40 %	26 %	11 %	**35 %**	38 %	19 %	8 %
	Portuguese	39 %	42 %	13 %	6 %	34 %	42 %	18 %	6 %
	English	28 %	51 %	17 %	4 %	27 %	44 %	21 %	7 %
Item 7	Luxembourgish/German	**53 %**	26 %	15 %	6 %	**68 %**	24 %	5 %	3 %
	French	**56 %**	22 %	14 %	8 %	**67 %**	24 %	6 %	3 %
	Portuguese	68 %	26 %	0 %	6 %	69 %	24 %	5 %	2 %
	English	55 %	26 %	13 %	6 %	64 %	26 %	6 %	3 %
Item 8	Luxembourgish/German	12 %	21 %	38 %	29 %	17 %	26 %	25 %	32 %
	French	15 %	26 %	24 %	35 %	18 %	31 %	25 %	26 %
	Portuguese	10 %	**16 %**	29 %	**45 %**	17 %	**31 %**	26 %	**26 %**
	English	9 %	**11 %**	26 %	**55 %**	18 %	**33 %**	23 %	**26 %**

Note. In primary education, the students express their level of agreement with the different items using age-appropriate shaking heads as symbols to represent their agreement or disagreement on a two-point (C2.1/P1) or a four-point Likert scale (C3.1/ P3 and C4.1/P5). The number of items used to assess a specific construct is increasing over time with the fewest items in C2.1/P1. For more details on the assessment of the constructs, see section *4.2.1*. If the sum of a group's percentages for an item does not add up to 100 %, this is due to rounding up or down. Group differences between curricula that are going beyond 10 % are highlighted in bold. Due to the small number of Portuguese speaking students in EPS and of English speaking students in schools following the Luxembourgish curriculum, the results from the present table have to be interpreted with caution.

Item 1	I like going to school.	Item 5	In my class, we get along well.
Item 2	School is fun.	Item 6	In my class, we all stick together.
Item 3	I am happy when I am at school.	Item 7	In my class, we get extra support from my teacher if we need it.
Item 4	In my class, we help each other.	Item 8	In my class, we sometimes disrupt the class on purpose.

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A.3 PARENTAL PERCEPTIONS OF MULTILINGUALISM AND PARENTAL SUPPORT

Table A.17 – General Perceptions of Multilingualism and Roles in Education at Primary School Level Expressed in Percentages - Split by the Child's Gender

		European curriculum				Luxembourgish curriculum			
		Does apply	*Does rather apply*	*Does rather not apply*	*Does not apply*	*Does apply*	*Does rather apply*	*Does rather not apply*	*Does not apply*
C2.1/P1									
Item 1	Male	69 %	26 %	3 %	1 %	79 %	18 %	2 %	1 %
	Female	75 %	23 %	1 %	1 %	80 %	17 %	2 %	1 %
Item 2	Male	6 %	20 %	25 %	49 %	9 %	20 %	28 %	42 %
	Female	7 %	13 %	31 %	49 %	8 %	21 %	27 %	44 %
Item 3	Male	60 %	35 %	3 %	1 %	63 %	30 %	5 %	2 %
	Female	69 %	25 %	4 %	1 %	64 %	30 %	5 %	1 %
Item 4	Male	79 %	17 %	3 %	1 %	75 %	21 %	2 %	1 %
	Female	69 %	27 %	3 %	1 %	76 %	21 %	2 %	1 %
Item 1	Male	70 %	25 %	5 %	0 %	78 %	18 %	3 %	1 %
	Female	74 %	20 %	3 %	2 %	77 %	20 %	3 %	1 %
Item 2	Male	11 %	23 %	26 %	39 %	12 %	24 %	26 %	38 %
	Female	6 %	18 %	28 %	49 %	11 %	24 %	26 %	39 %
Item 3	Male	70 %	26 %	4 %	0 %	65 %	30 %	4 %	1 %
	Female	66 %	29 %	4 %	1 %	64 %	31 %	4 %	1 %
Item 4	Male	73 %	25 %	1 %	0 %	74 %	22 %	3 %	1 %
	Female	70 %	24 %	5 %	1 %	72 %	24 %	3 %	1 %
Item 1	Male	71 %	24 %	0 %	4 %	76 %	19 %	4 %	1 %
	Female	70 %	25 %	4 %	2 %	77 %	20 %	3 %	1 %
Item 2	Male	17 %	19 %	24 %	40 %	12 %	28 %	25 %	35 %
	Female	8 %	24 %	31 %	38 %	11 %	25 %	24 %	40 %
Item 3	Male	61 %	39 %	1 %	0 %	65 %	29 %	4 %	2 %
	Female	60 %	38 %	2 %	1 %	63 %	31 %	4 %	1 %
Item 4	Male	69 %	29 %	2 %	1 %	73 %	23 %	3 %	2 %
	Female	68 %	28 %	4 %	0 %	72 %	23 %	4 %	1 %

Note. If the sum of a group's percentages for an item does not add up to 100 %, this is due to rounding up or down. Group differences between curricula that are going beyond 10 % are highlighted in bold. For more details on the assessment of the constructs, see section *5.2.1*.

Item 1	The multilingualism of the schools in Luxembourg offers our child good future opportunities.
Item 2	The multilingualism of the schools in Luxembourg poses a difficulty to our child.
Item 3	It is the task of the teacher to support our child in their school learning.
Item 4	It is our task as parents/legal guardians to support our child in their school learning.

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Table A.18 – General Perceptions of Multilingualism and Roles in Education at Primary School Level Expressed in Percentages - Split by SES

		European curriculum				Luxembourgish curriculum			
		Does apply	*Does rather apply*	*Does rather not apply*	*Does not apply*	*Does apply*	*Does rather apply*	*Does rather not apply*	*Does not apply*
C2.1/P1									
Item 1	High SES	**68 %**	**29 %**	2 %	0 %	**80 %**	**17 %**	2 %	1 %
	Low SES	**57 %**	**38 %**	5 %	0 %	**80 %**	**17 %**	2 %	1 %
Item 2	High SES	8 %	17 %	27 %	49 %	7 %	18 %	29 %	46 %
	Low SES	9 %	14 %	18 %	**59 %**	12 %	23 %	26 %	**38 %**
Item 3	High SES	66 %	28 %	6 %	0 %	68 %	26 %	4 %	1 %
	Low SES	**52 %**	**39 %**	4 %	4 %	**64 %**	**28 %**	5 %	2 %
Item 4	High SES	71 %	26 %	2 %	1 %	68 %	26 %	4 %	1 %
	Low SES	**67 %**	**29 %**	0 %	5 %	**78 %**	**18 %**	3 %	1 %
Item 1	High SES	75 %	22 %	4 %	0 %	81 %	17 %	2 %	0 %
	Low SES	71 %	14 %	11 %	4 %	78 %	18 %	3 %	2 %
Item 2	High SES	8 %	18 %	29 %	44 %	8 %	19 %	28 %	44 %
	Low SES	**4 %**	**15 %**	27 %	54 %	**15 %**	**32 %**	22 %	**32 %**
Item 3	High SES	68 %	28 %	4 %	0 %	70 %	27 %	3 %	1 %
	Low SES	65 %	31 %	4 %	0 %	65 %	29 %	5 %	2 %
Item 4	High SES	68 %	27 %	4 %	1 %	75 %	21 %	3 %	1 %
	Low SES	84 %	16 %	0 %	0 %	74 %	22 %	3 %	2 %
Item 1	High SES	70 %	23 %	3 %	3 %	79 %	17 %	3 %	1 %
	Low SES	72 %	28 %	0 %	0 %	76 %	20 %	3 %	1 %
Item 2	High SES	10 %	20 %	27 %	43 %	8 %	22 %	25 %	45 %
	Low SES	18 %	24 %	18 %	41 %	13 %	31 %	21 %	34 %
Item 3	High SES	**56 %**	**42 %**	1 %	1 %	**69 %**	**27 %**	3 %	1 %
	Low SES	**50 %**	**45 %**	5 %	0 %	**64 %**	**29 %**	5 %	2 %
Item 4	High SES	68 %	29 %	2 %	0 %	73 %	23 %	3 %	1 %
	Low SES	63 %	**37 %**	0 %	0 %	73 %	**22 %**	3 %	2 %

Note. If the sum of a group's percentages for an item does not add up to 100 %, this is due to rounding up or down. Group differences between curricula that are going beyond 10 % are highlighted in bold. For more details on the assessment of the constructs, see section *5.2.1*. Due to the small number of EPS students with a low SES, the results from the present table have to be interpreted with caution.

Item 1	The multilingualism of the schools in Luxembourg offers our child good future opportunities.
Item 2	The multilingualism of the schools in Luxembourg poses a difficulty to our child.
Item 3	It is the task of the teacher to support our child in their school learning.
Item 4	It is our task as parents/legal guardians to support our child in their school learning.

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Table A.19 – General Perceptions of Multilingualism and Roles in Education at Primary School Level Expressed in Percentages - Split by the Child's Migration Background

		European curriculum				Luxembourgish curriculum			
		Does apply	*Does rather apply*	*Does rather not apply*	*Does not apply*	*Does apply*	*Does rather apply*	*Does rather not apply*	*Does not apply*
C2.1/P1									
Item 1	Native	71 %	29 %	0 %	0 %	78 %	18 %	3 %	1 %
	Migration background	72 %	24 %	3 %	1 %	81 %	17 %	2 %	1 %
Item 2	Native	3 %	11 %	29 %	57 %	6 %	16 %	31 %	47 %
	Migration background	7 %	17 %	29 %	47 %	11 %	24 %	25 %	40 %
Item 3	Native	**53 %**	**44 %**	3 %	0 %	**65 %**	**29 %**	5 %	1 %
	Migration background	66 %	28 %	4 %	2 %	62 %	32 %	5 %	2 %
Item 4	Native	83 %	14 %	3 %	0 %	80 %	18 %	2 %	1 %
	Migration background	73 %	23 %	3 %	1 %	73 %	23 %	2 %	1 %
Item 1	Native	**64 %**	29 %	7 %	0 %	**75 %**	21 %	3 %	1 %
	Migration background	73 %	22 %	3 %	1 %	79 %	17 %	2 %	1 %
Item 2	Native	9 %	9 %	40 %	42 %	8 %	19 %	31 %	41 %
	Migration background	8 %	22 %	25 %	45 %	13 %	28 %	23 %	36 %
Item 3	Native	**55 %**	**39 %**	7 %	0 %	**66 %**	**28 %**	4 %	1 %
	Migration background	71 %	24 %	4 %	0 %	63 %	31 %	4 %	1 %
Item 4	Native	75 %	25 %	0 %	0 %	77 %	20 %	2 %	1 %
	Migration background	73 %	22 %	4 %	1 %	70 %	25 %	4 %	2 %
Item 1	Native	71 %	21 %	0 %	7 %	73 %	22 %	3 %	1 %
	Migration background	69 %	27 %	2 %	2 %	79 %	17 %	3 %	1 %
Item 2	Native	12 %	15 %	31 %	42 %	10 %	22 %	29 %	39 %
	Migration background	12 %	21 %	28 %	39 %	13 %	29 %	21 %	37 %
Item 3	Native	71 %	25 %	4 %	0 %	65 %	30 %	4 %	1 %
	Migration background	58 %	40 %	1 %	0 %	64 %	30 %	5 %	2 %
Item 4	Native	73 %	23 %	0 %	4 %	75 %	21 %	3 %	1 %
	Migration background	69 %	27 %	3 %	0 %	70 %	24 %	4 %	2 %

Note. If the sum of a group's percentages for an item does not add up to 100 %, this is due to rounding up or down. Group differences between curricula that are going beyond 10 % are highlighted in bold. For more details on the assessment of the constructs, see section *5.2.1*. Due to the small number of native EPS students and the different countries of origin, the results from the present table have to be interpreted with caution.

Item 1	The multilingualism of the schools in Luxembourg offers our child good future opportunities.
Item 2	The multilingualism of the schools in Luxembourg poses a difficulty to our child.
Item 3	It is the task of the teacher to support our child in their school learning.
Item 4	It is our task as parents/legal guardians to support our child in their school learning.

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Table A.20 – General Perceptions of Multilingualism and Roles in Education at Primary School Level Expressed in Percentages - Split by the Child's Language Background

		European curriculum				Luxembourgish curriculum			
		Does apply	*Does rather apply*	*Does rather not apply*	*Does not apply*	*Does apply*	*Does rather apply*	*Does rather not apply*	*Does not apply*
C2.1/P1									
Item 1	Luxembourgish/German	83 %	17 %	0 %	0 %	79 %Ç	18 %	2 %	1 %
	French	67 %	**32 %**	0 %	1 %	77 %	**20 %**	2 %	1 %
	Portuguese	**68 %**	25 %	7 %	0 %	**79 %**	18 %	2 %	1 %
	English	77 %	21 %	1 %	0 %	80 %	16 %	2 %	2 %
Item 2	Luxembourgish/German	5 %	9 %	30 %	56 %	6 %	15 %	31 %	49 %
	French	2 %	18 %	27 %	54 %	8 %	20 %	27 %	45 %
	Portuguese	11 %	21 %	29 %	39 %	11 %	30 %	24 %	35 %
	English	11 %	**15 %**	27 %	46 %	8 %	**26 %**	25 %	40 %
Item 3	Luxembourgish/German	**55 %**	**43 %**	0 %	2 %	**67 %**	**27 %**	4 %	1 %
	French	59 %	34 %	4 %	3 %	57 %	37 %	5 %	1 %
	Portuguese	66 %	31 %	3 %	0 %	59 %	34 %	5 %	2 %
	English	68 %	29 %	2 %	2 %	67 %	29 %	3 %	1 %
Item 4	Luxembourgish/German	84 %	16 %	0 %	0 %	80 %	18 %	2 %	0 %
	French	74 %	25 %	1 %	0 %	72 %	25 %	2 %	1 %
	Portuguese	75 %	25 %	0 %	0 %	77 %	20 %	3 %	1 %
	English	78 %	19 %	3 %	0 %	71 %	26 %	3 %	0 %
Item 1	Luxembourgish/German	74 %	26 %	0 %	0 %	76 %	20 %	3 %	1 %
	French	65 %	27 %	7 %	1 %	74 %	23 %	2 %	1 %
	Portuguese	67 %	27 %	7 %	0 %	76 %	20 %	3 %	1 %
	English	69 %	26 %	1 %	3 %	79 %	16 %	3 %	2 %
Item 2	Luxembourgish/German	6 %	**3 %**	30 %	**61 %**	8 %	**19 %**	31 %	**43 %**
	French	6 %	18 %	32 %	44 %	11 %	22 %	25 %	42 %
	Portuguese	13 %	30 %	17 %	40 %	14 %	37 %	20 %	30 %
	English	10 %	24 %	24 %	41 %	10 %	25 %	26 %	39 %
Item 3	Luxembourgish/German	**53 %**	37 %	10 %	0 %	**67 %**	27 %	4 %	1 %
	French	67 %	29 %	4 %	0 %	57 %	37 %	5 %	2 %
	Portuguese	56 %	38 %	6 %	0 %	61 %	34 %	4 %	1 %
	English	79 %	15 %	6 %	0 %	70 %	21 %	6 %	3 %
Item 4	Luxembourgish/German	74 %	26 %	0 %	0 %	77 %	20 %	3 %	1 %
	French	75 %	21 %	4 %	1 %	71 %	27 %	2 %	1 %
	Portuguese	75 %	22 %	0 %	3 %	74 %	22 %	2 %	2 %
	English	65 %	27 %	7 %	1 %	74 %	22 %	2 %	2 %
Item 1	Luxembourgish/German	80 %	17 %	0 %	3 %	75 %	20 %	3 %	1 %
	French	67 %	28 %	2 %	4 %	76 %	21 %	3 %	0 %
	Portuguese	71 %	29 %	0 %	0 %	75 %	21 %	3 %	1 %
	English	72 %	21 %	3 %	5 %	77 %	18 %	5 %	0 %
Item 2	Luxembourgish/German	3 %	**10 %**	34 %	**52 %**	9 %	**21 %**	29 %	**41 %**
	French	7 %	**16 %**	**37 %**	40 %	11 %	**28 %**	**23 %**	38 %
	Portuguese	11 %	44 %	15 %	30 %	15 %	38 %	18 %	29 %
	English	**24 %**	24 %	21 %	32 %	**13 %**	28 %	22 %	37 %
Item 3	Luxembourgish/German	**83 %**	**17 %**	0 %	0 %	**66 %**	**29 %**	3 %	2 %
	French	54 %	43 %	2 %	1 %	59 %	35 %	5 %	1 %
	Portuguese	59 %	37 %	4 %	0 %	63 %	30 %	6 %	1 %
	English	59 %	**41 %**	0 %	0 %	67 %	**29 %**	3 %	1 %
Item 4	Luxembourgish/German	70 %	20 %	7 %	3 %	75 %	21 %	3 %	1 %
	French	69 %	30 %	1 %	0 %	59 %	35 %	5 %	1 %
	Portuguese	72 %	24 %	3 %	0 %	73 %	22 %	3 %	1 %
	English	72 %	25 %	3 %	0 %	75 %	29 %	4 %	2 %

Note. If the sum of a group's percentages for an item does not add up to 100 %, this is due to rounding up or down. Group differences between curricula that are going beyond 10 % are highlighted in bold. For more details on the assessment of the constructs, see section *5.2.1*. Due to the small number of native EPS students and the different countries of origin, the results from the present table have to be interpreted with caution. Due to the small number of Portuguese speaking students in EPS and of English speaking students in schools following the Luxembourgish curriculum, the results from the present table have to be interpreted with caution.

Item 1	The multilingualism of the schools in Luxembourg offers our child good future opportunities.
Item 2	The multilingualism of the schools in Luxembourg poses a difficulty to our child.
Item 3	It is the task of the teacher to support our child in their school learning.
Item 4	It is our task as parents/legal guardians to support our child in their school learning.

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Table A.21 – Communication with Teachers and Academic Support at Primary School Level Expressed in Percentages - Split by the Child's Gender

		European curriculum				Luxembourgish curriculum			
		Does apply	*Does rather apply*	*Does rather not apply*	*Does not apply*	*Does apply*	*Does rather apply*	*Does rather not apply*	*Does not apply*
C2.1/P1									
Item 1	Male	89 %	7 %	2 %	2 %	84 %	12 %	2 %	2 %
	Female	86 %	10 %	3 %	1 %	83 %	13 %	3 %	2 %
Item 2	Male	52 %	25 %	10 %	13 %	58 %	23 %	8 %	11 %
	Female	52 %	26 %	6 %	15 %	57 %	24 %	9 %	10 %
Item 3	Male	**94 %**	**5 %**	1 %	0 %	**64 %**	**16 %**	10 %	10 %
	Female	**86 %**	11 %	2 %	1 %	**65 %**	16 %	10 %	10 %
Item 4	Male	**94 %**	4 %	1 %	1 %	**69 %**	19 %	7 %	5 %
	Female	88 %	10 %	1 %	1 %	70 %	19 %	6 %	5 %
Item 5	Male	**93 %**	**6 %**	1 %	0 %	**66 %**	**19 %**	10 %	5 %
	Female	**88 %**	11 %	1 %	0 %	**66 %**	19 %	9 %	6 %
Item 1	Male	75 %	18 %	5 %	1 %	83 %	13 %	2 %	2 %
	Female	86 %	11 %	2 %	1 %	82 %	14 %	2 %	2 %
Item 2	Male	**42 %**	37 %	7 %	14 %	**55 %**	25 %	9 %	11 %
	Female	**34 %**	32 %	14 %	21 %	**54 %**	25 %	9 %	12 %
Item 3	Male	**89 %**	10 %	1 %	**1 %**	**58 %**	13 %	11 %	**19 %**
	Female	**88 %**	8 %	**1 %**	**2 %**	**57 %**	15 %	**12 %**	**17 %**
Item 4	Male	86 %	11 %	2 %	0 %	78 %	14 %	5 %	3 %
	Female	81 %	14 %	1 %	4 %	75 %	16 %	5 %	3 %
Item 5	Male	**82 %**	17 %	0 %	1 %	**67 %**	23 %	7 %	3 %
	Female	76 %	21 %	2 %	1 %	67 %	22 %	7 %	3 %
Item 1	Male	75 %	21 %	1 %	3 %	82 %	13 %	3 %	2 %
	Female	83 %	14 %	1 %	2 %	81 %	15 %	3 %	1 %
Item 2	Male	56 %	19 %	17 %	8 %	55 %	26 %	8 %	11 %
	Female	60 %	23 %	5 %	13 %	56 %	26 %	7 %	11 %
Item 3	Male	**80 %**	14 %	3 %	**4 %**	**56 %**	15 %	11 %	**18 %**
	Female	**86 %**	9 %	3 %	**2 %**	**55 %**	15 %	11 %	**19 %**
Item 4	Male	78 %	18 %	3 %	1 %	72 %	17 %	7 %	4 %
	Female	78 %	14 %	5 %	3 %	72 %	18 %	6 %	4 %
Item 5	Male	71 %	24 %	3 %	3 %	66 %	23 %	8 %	3 %
	Female	74 %	25 %	1 %	1 %	66 %	25 %	7 %	3 %

Note. If the sum of a group's percentages for an item does not add up to 100 %, this is due to rounding up or down. Group differences between curricula that are going beyond 10 % are highlighted in bold. For more details on the assessment of the constructs, see section *5.2.1*.

Item 1	Our language skills allow us to have an exchange with our child's teacher (e.g., *Bilan* talks, parents' evening).
Item 2	If there are difficulties in exchanging with our child's teacher, we can rely on help from the school and/or on school external help.
Item 3	Our language skills in our child's main language of instruction allow us to support our child in learning in German OR French OR English.
Item 4	Our language skills in our child's main language of instruction allow us to support our child in the subject of mathematics.
Item 5	Our language skills in our child's main language of instruction allow us to support our child with their homework.

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Table A.22 – Communication with Teachers and Academic Support at Primary School Level Expressed in Percentages - Split by SES

		European curriculum				Luxembourgish curriculum			
		Does apply	*Does rather apply*	*Does rather not apply*	*Does not apply*	*Does apply*	*Does rather apply*	*Does rather not apply*	*Does not apply*
C2.1/P1									
Item 1	High SES	88 %	9 %	1 %	2 %	89 %	9 %	1 %	0 %
	Low SES	82 %	14 %	0 %	5 %	77 %	16 %	4 %	3 %
Item 2	High SES	51 %	25 %	9 %	16 %	58 %	23 %	7 %	12 %
	Low SES	56 %	**39 %**	6 %	0 %	62 %	**23 %**	8 %	8 %
Item 3	High SES	**89 %**	10 %	1 %	0 %	**67 %**	13 %	10 %	10 %
	Low SES	**83 %**	13 %	0 %	4 %	**59 %**	19 %	10 %	12 %
Item 4	High SES	**92 %**	6 %	2 %	0 %	**73 %**	16 %	7 %	4 %
	Low SES	**80 %**	20 %	0 %	0 %	**65 %**	22 %	7 %	6 %
Item 5	High SES	**91 %**	8 %	1 %	0 %	**69 %**	16 %	11 %	5 %
	Low SES	**74 %**	26 %	0 %	0 %	**60 %**	23 %	10 %	6 %
Item 1	High SES	84 %	11 %	5 %	0 %	89 %	9 %	2 %	1 %
	Low SES	**50 %**	**35 %**	**15 %**	0 %	**74 %**	**20 %**	**4 %**	3 %
Item 2	High SES	**39 %**	28 %	12 %	21 %	**56 %**	21 %	9 %	13 %
	Low SES	**25 %**	**58 %**	12 %	4 %	**56 %**	**25 %**	10 %	10 %
Item 3	High SES	**87 %**	11 %	1 %	2 %	**68 %**	11 %	10 %	11 %
	Low SES	**81 %**	11 %	4 %	**4 %**	**42 %**	16 %	14 %	**28 %**
Item 4	High SES	83 %	14 %	1 %	1 %	87 %	9 %	3 %	1 %
	Low SES	62 %	**35 %**	4 %	0 %	64 %	**23 %**	7 %	5 %
Item 5	High SES	81 %	16 %	2 %	1 %	78 %	16 %	4 %	2 %
	Low SES	52 %	48 %	**0 %**	0 %	52 %	31 %	**11 %**	6 %
Item 1	High SES	84 %	15 %	0 %	1 %	87 %	11 %	2 %	0 %
	Low SES	65 %	25 %	0 %	10 %	75 %	18 %	3 %	3 %
Item 2	High SES	52 %	15 %	**20 %**	13 %	58 %	22 %	**6 %**	14 %
	Low SES	**71 %**	24 %	6 %	0 %	**58 %**	26 %	8 %	8 %
Item 3	High SES	**93 %**	5 %	1 %	1 %	**69 %**	10 %	9 %	13 %
	Low SES	**57 %**	19 %	10 %	**14 %**	**43 %**	15 %	14 %	**28 %**
Item 4	High SES	86 %	11 %	2 %	1 %	85 %	9 %	4 %	1 %
	Low SES	59 %	24 %	12 %	6 %	62 %	22 %	10 %	7 %
Item 5	High SES	82 %	18 %	0 %	0 %	79 %	16 %	5 %	0 %
	Low SES	50 %	39 %	6 %	6 %	54 %	30 %	10 %	6 %

Note. If the sum of a group's percentages for an item does not add up to 100 %, this is due to rounding up or down. Group differences between curricula that are going beyond 10 % are highlighted in bold. For more details on the assessment of the constructs, see section *5.2.1*. Due to the small number of EPS students with a low SES, the results from the present table have to be interpreted with caution.

Item 1	Our language skills allow us to have an exchange with our child's teacher (e.g., *Bilan* talks, parents' evening).
Item 2	If there are difficulties in exchanging with our child's teacher, we can rely on help from the school and/or on school external help.
Item 3	Our language skills in our child's main language of instruction allow us to support our child in learning in German OR French OR English.
Item 4	Our language skills in our child's main language of instruction allow us to support our child in the subject of mathematics.
Item 5	Our language skills in our child's main language of instruction allow us to support our child with their homework.

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Table A.23 – Communication with Teachers and Academic Support at Primary School Level Expressed in Percentages - Split by the Child's Migration Background

		European curriculum				Luxembourgish curriculum			
		Does apply	*Does rather apply*	*Does rather not apply*	*Does not apply*	*Does apply*	*Does rather apply*	*Does rather not apply*	*Does not apply*
C2.1/P1									
Item 1	Native	91 %	9 %	0 %	0 %	95 %	4 %	0 %	1 %
	Migration Background	**87 %**	8 %	3 %	2 %	**76 %**	18 %	4 %	2 %
Item 2	Native	**53 %**	**40 %**	0 %	7 %	**64 %**	**21 %**	6 %	10 %
	Migration Background	51 %	24 %	9 %	15 %	55 %	25 %	10 %	11 %
Item 3	Native	97 %	3 %	0 %	0 %	90 %	8 %	1 %	1 %
	Migration Background	**88 %**	**9 %**	**2 %**	**0 %**	**45 %**	**22 %**	**16 %**	**17 %**
Item 4	Native	97 %	3 %	0 %	0 %	87 %	9 %	3 %	1 %
	Migration Background	**91 %**	**7 %**	1 %	1 %	**56 %**	**26 %**	10 %	8 %
Item 5	Native	97 %	3 %	0 %	0 %	89 %	9 %	1 %	0 %
	Migration Background	**89 %**	**10 %**	**1 %**	0 %	**48 %**	**27 %**	**16 %**	9 %
Item 1	Native	**82 %**	16 %	2 %	0 %	**93 %**	6 %	0 %	1 %
	Migration Background	81 %	14 %	4 %	1 %	75 %	19 %	4 %	2 %
Item 2	Native	**39 %**	30 %	13 %	17 %	**59 %**	21 %	8 %	12 %
	Migration Background	**36 %**	36 %	9 %	18 %	**52 %**	27 %	10 %	12 %
Item 3	Native	88 %	12 %	0 %	0 %	88 %	9 %	2 %	1 %
	Migration Background	**90 %**	8 %	1 %	**1 %**	**22 %**	18 %	18 %	**30 %**
Item 4	Native	80 %	16 %	0 %	5 %	88 %	9 %	2 %	1 %
	Migration Background	**85 %**	12 %	2 %	2 %	**68 %**	20 %	8 %	4 %
Item 5	Native	80 %	20 %	0 %	0 %	89 %	10 %	1 %	0 %
	Migration Background	**79 %**	**19 %**	2 %	1 %	**51 %**	**33 %**	12 %	4 %
Item 1	Native	93 %	7 %	0 %	0 %	93 %	6 %	1 %	1 %
	Migration Background	79 %	17 %	1 %	2 %	73 %	20 %	4 %	3 %
Item 2	Native	54 %	23 %	15 %	8 %	60 %	23 %	7 %	10 %
	Migration Background	57 %	21 %	10 %	12 %	54 %	27 %	8 %	11 %
Item 3	Native	89 %	11 %	0 %	0 %	85 %	11 %	2 %	1 %
	Migration Background	**84 %**	11 %	**2 %**	**2 %**	**33 %**	**17 %**	**18 %**	**32 %**
Item 4	Native	81 %	11 %	7 %	0 %	85 %	11 %	2 %	1 %
	Migration Background	**79 %**	16 %	3 %	1 %	**63 %**	22 %	9 %	6 %
Item 5	Native	80 %	16 %	4 %	0 %	87 %	12 %	1 %	0 %
	Migration Background	**73 %**	25 %	**1 %**	0 %	**51 %**	33 %	**12 %**	5 %

Note. If the sum of a group's percentages for an item does not add up to 100 %, this is due to rounding up or down. Group differences between curricula that are going beyond 10 % are highlighted in bold. For more details on the assessment of the constructs, see section *5.2.1*. Due to the small number of native EPS students and the different countries of origin, the results from the present table have to be interpreted with caution.

Item 1	Our language skills allow us to have an exchange with our child's teacher (e.g., *Bilan* talks, parents' evening).
Item 2	If there are difficulties in exchanging with our child's teacher, we can rely on help from the school and/or on school external help.
Item 3	Our language skills in our child's main language of instruction allow us to support our child in learning in German OR French OR English.
Item 4	Our language skills in our child's main language of instruction allow us to support our child in the subject of mathematics.
Item 5	Our language skills in our child's main language of instruction allow us to support our child with their homework.

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Table A.24 – Communication with Teachers and Academic Support at Primary School Level Expressed in Percentages - Split by the Child's Language Background

		European curriculum				Luxembourgish curriculum			
		Does apply	*Does rather apply*	*Does rather not apply*	*Does not apply*	*Does apply*	*Does rather apply*	*Does rather not apply*	*Does not apply*
C2.1/P1									
Item 1	Luxembourgish/German	91 %	7 %	0 %	2 %	94 %	5 %	1 %	1 %
	French	91 %	7 %	1 %	1 %	83 %	15 %	1 %	1 %
	Portuguese	85 %	15 %	0 %	0 %	78 %	17 %	3 %	2 %
	English	**84 %**	**9 %**	4 %	3 %	**71 %**	**22 %**	5 %	2 %
Item 2	Luxembourgish/German	67 %	**33 %**	0 %	0 %	63 %	19 %	7 %	**11 %**
	French	43 %	39 %	8 %	10 %	47 %	30 %	10 %	14 %
	Portuguese	**81 %**	**12 %**	0 %	6 %	**57 %**	**24 %**	10 %	9 %
	English	**60 %**	15 %	10 %	15 %	**51 %**	20 %	12 %	16 %
Item 3	Luxembourgish/German	96 %	4 %	0 %	0 %	89 %	8 %	1 %	2 %
	French	**94 %**	**6 %**	**0 %**	0 %	**51 %**	**22 %**	**13 %**	14 %
	Portuguese	**77 %**	19 %	**0 %**	**4 %**	**51 %**	22 %	**13 %**	**15 %**
	English	**93 %**	**6 %**	**1 %**	**0 %**	**46 %**	**17 %**	**14 %**	**23 %**
Item 4	Luxembourgish/German	93 %	5 %	0 %	2 %	87 %	9 %	2 %	2 %
	French	**95 %**	**4 %**	2 %	0 %	**57 %**	**25 %**	11 %	7 %
	Portuguese	**81 %**	19 %	0 %	0 %	**59 %**	26 %	9 %	6 %
	English	**94 %**	**6 %**	**0 %**	0 %	**57 %**	**22 %**	**12 %**	9 %
Item 5	Luxembourgish/German	93 %	7 %	0 %	0 %	89 %	9 %	2 %	1 %
	French	**96 %**	**4 %**	**0 %**	0 %	**54 %**	**25 %**	**14 %**	7 %
	Portuguese	**75 %**	25 %	**0 %**	0 %	**53 %**	28 %	**12 %**	7 %
	English	**94 %**	**6 %**	**0 %**	**0 %**	**49 %**	**20 %**	**17 %**	**14 %**
Item 1	Luxembourgish/German	90 %	10 %	0 %	0 %	93 %	6 %	0 %	1 %
	French	86 %	11 %	2 %	1 %	83 %	15 %	1 %	1 %
	Portuguese	71 %	19 %	10 %	0 %	75 %	20 %	3 %	2 %
	English	80 %	15 %	5 %	0 %	72 %	20 %	6 %	2 %
Item 2	Luxembourgish/German	50 %	**31 %**	0 %	19 %	60 %	**20 %**	8 %	12 %
	French	43 %	41 %	4 %	12 %	46 %	33 %	10 %	11 %
	Portuguese	**30 %**	**40 %**	10 %	20 %	**52 %**	**27 %**	10 %	11 %
	English	**31 %**	**40 %**	12 %	17 %	**43 %**	**22 %**	12 %	23 %
Item 3	Luxembourgish/German	97 %	3 %	0 %	0 %	91 %	6 %	2 %	1 %
	French	**94 %**	**6 %**	**0 %**	**1 %**	**44 %**	**19 %**	**18 %**	**19 %**
	Portuguese	**74 %**	26 %	**0 %**	**0 %**	**35 %**	20 %	**15 %**	**29 %**
	English	**95 %**	5 %	**0 %**	**0 %**	**42 %**	13 %	**14 %**	**31 %**
Item 4	Luxembourgish/German	91 %	3 %	0 %	6 %	90 %	7 %	2 %	1 %
	French	**86 %**	11 %	2 %	1 %	**73 %**	18 %	6 %	3 %
	Portuguese	73 %	27 %	0 %	0 %	63 %	25 %	8 %	4 %
	English	**90 %**	9 %	0 %	1 %	**73 %**	13 %	8 %	6 %
Item 5	Luxembourgish/German	91 %	9 %	0 %	0 %	90 %	8 %	2 %	0 %
	French	82 %	16 %	1 %	1 %	62 %	29 %	7 %	2 %
	Portuguese	**78 %**	**22 %**	**0 %**	0 %	**51 %**	**35 %**	**11 %**	4 %
	English	**80 %**	18 %	3 %	0 %	**59 %**	25 %	10 %	5 %

Note. If the sum of a group's percentages for an item does not add up to 100 %, this is due to rounding up or down. Group differences between curricula that are going beyond 10 % are highlighted in bold. For more details on the assessment of the constructs, see section *5.2.1*. Due to the small number of Portuguese speaking students in EPS and of English speaking students in schools following the Luxembourgish curriculum, the results from the present table have to be interpreted with caution.

Item 1	Our language skills allow us to have an exchange with our child's teacher (e.g., *Bilan* talks, parents' evening).
Item 2	If there are difficulties in exchanging with our child's teacher, we can rely on help from the school and/or on school external help.
Item 3	Our language skills in our child's main language of instruction allow us to support our child in learning in German OR French OR English.
Item 4	Our language skills in our child's main language of instruction allow us to support our child in the subject of mathematics.
Item 5	Our language skills in our child's main language of instruction allow us to support our child with their homework.

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