STUDENT CENSUS 2022

Student Achievement Disproportionality Analysis

June 2023

Research and Development Services

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Background

HCDSB's Student Census is part of an effort to create and promote a more equitable and inclusive learning environment, where all students can achieve, believe, and belong. As such, it was developed with guidance from the Ministry of Education's Education Equity Secretariat and in line with the Anti-Racism Data Standards (ARDS) established by the Anti-Racism Act, 2017. The Student Census data is intended to enable HCDSB to help every student in our board achieve justice, as noted in our Catholic social teaching, by allowing us to verify, measure, address, and monitor systemic disparities that may be impacting student achievement and well-being.

This report follows the March, 2023 *Student Census 2022: Results Report*, which summarized the demographic breakdown of the HCDSB student population as well as analyzed differences in perception about school experience based on demographic data. In the current report, we used the census data collected to examine disproportionalities of student achievement outcome; this approach is in line with the ARDS and is to be used to better understand system inequities.

Analyses

The student achievement outcome measures used in this report include 1) 2021-22 report card marks, and 2) 2021-22 EQAO assessment results. These measures were chosen after examination of best practices for school boards across Ontario and from consultation with students and staff at HCDSB (see our previous report for more details on these consultations). As well, initial analyses have been presented to relevant community groups. The qualitative data collected in these consultations informed the subsequent final analyses seen here.

Outcome Measures

Report Card Grades. The 2021-2022 final term report card grades were one data set used in this analysis. For the Elementary analysis, the combined marks include those for English (Language, course code LAN) and for Math (course code MAT) for all students in grades 1-8. For the Secondary analysis, the combined marks include those for English (course codes beginning E) and for Math (course codes beginning M) for all students in Grades 9-12. In addition, Math marks were used separately for Grades 3, 6, and 9, and English marks were used separately for Grades 3, 6, and 10. These grades were chosen to align with EQAO/OSSLT testing years.

In the final term report card grades analysis, only marks for the grade-level courses (i.e., Grade 9 Math in Grade 9) were included, and all marks of 0 were removed. The data were then split into two categories: 'Meets Provincial Expectations' and 'Does Not Meet Provincial Expectations' (a student meets provincial expectations if they achieve a Level 3 or 4, which is a mark of least 70% or a B-). This achievement data and analysis was undertaken after consultation with staff and students as part of our initial census results consultations and post-publication discussions with departments across our board.

***EQAO Assessment Results*.** The 2021-22 EQAO assessment results were a second data set used in this analysis, namely the Reading, Writing, and Math assessment results for Grades 3 and 6, Math assessment results for Grade 9, and OSSLT assessment results for Grade 10. These results were then split into two categories: 'Meets Provincial Expectations' (Levels 1 & 2) and 'Does Not Meet Provincial Expectations' (Levels 3 & 4).

Disproportionality Index

As noted in Standard 29 of the ARDS, the disproportionality index (DI) is a measure of a group's overrepresentation or underrepresentation in a program or outcome compared to their share of the overall population.

- A DI less than 1 means that there is *underrepresentation* of students in a given program or outcome.
- A DI greater than 1 means that there is *overrepresentation* of students in a given program or outcome.
- A DI of 1 means that there is *equal* representation of students in a given program or outcome.

The equation for the disproportionality index is as follows:

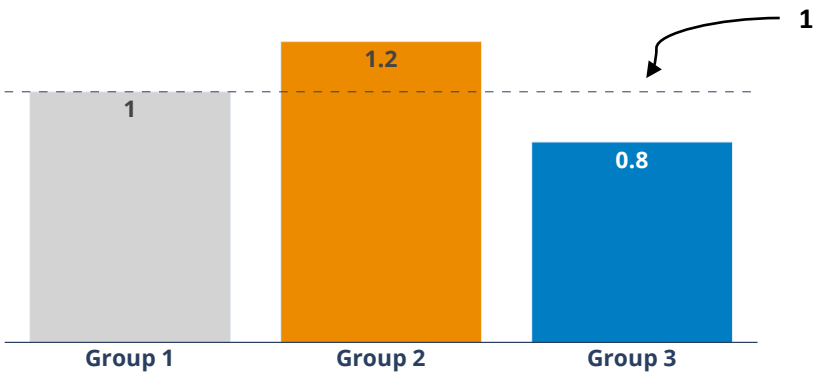
$$\text{Disproportionality Index} = \frac{\%\text{ of students from Group A in a particular program or outcome}}{\%\text{ of students from Group A in the overall population}}$$

Understanding this Report

In this report, bar charts are presented to show the disproportionality index between the percentage of students who responded to the Student Census that are in the given category and the percentage that are achieving provincial standards (i.e., to show disproportionality of achievement in Math and English for our HCDSB students based on Student Census data). Individual groups are shown only when there are counts of above 15. This is in line with data suppression rules set by the ARDS. Counts for each category are presented in Appendix 1.

As noted above, the bar charts demonstrate disproportionality of an outcome of positive achievement (meeting Provincial Standards in report card marks and EQAO/OSSLT results). These charts can be read by looking at the colour of each bar: **orange** representing positive disproportionality, above 1, **blue** representing a negative disproportionality below 1, and **grey** representing perfect proportionality at 1. Note that a dotted line crosses each chart at 1 to show where perfect proportionality should be. Generally, a further distance from that line, the greater the degree of disproportionality (either positive or negative).

Example: Bar Chart Showing Disproportionality Indices



In this sample bar chart, Group 1 shows no disproportionality, Group 2 shows a positive disproportionality, and Group 3 shows a negative disproportionality.

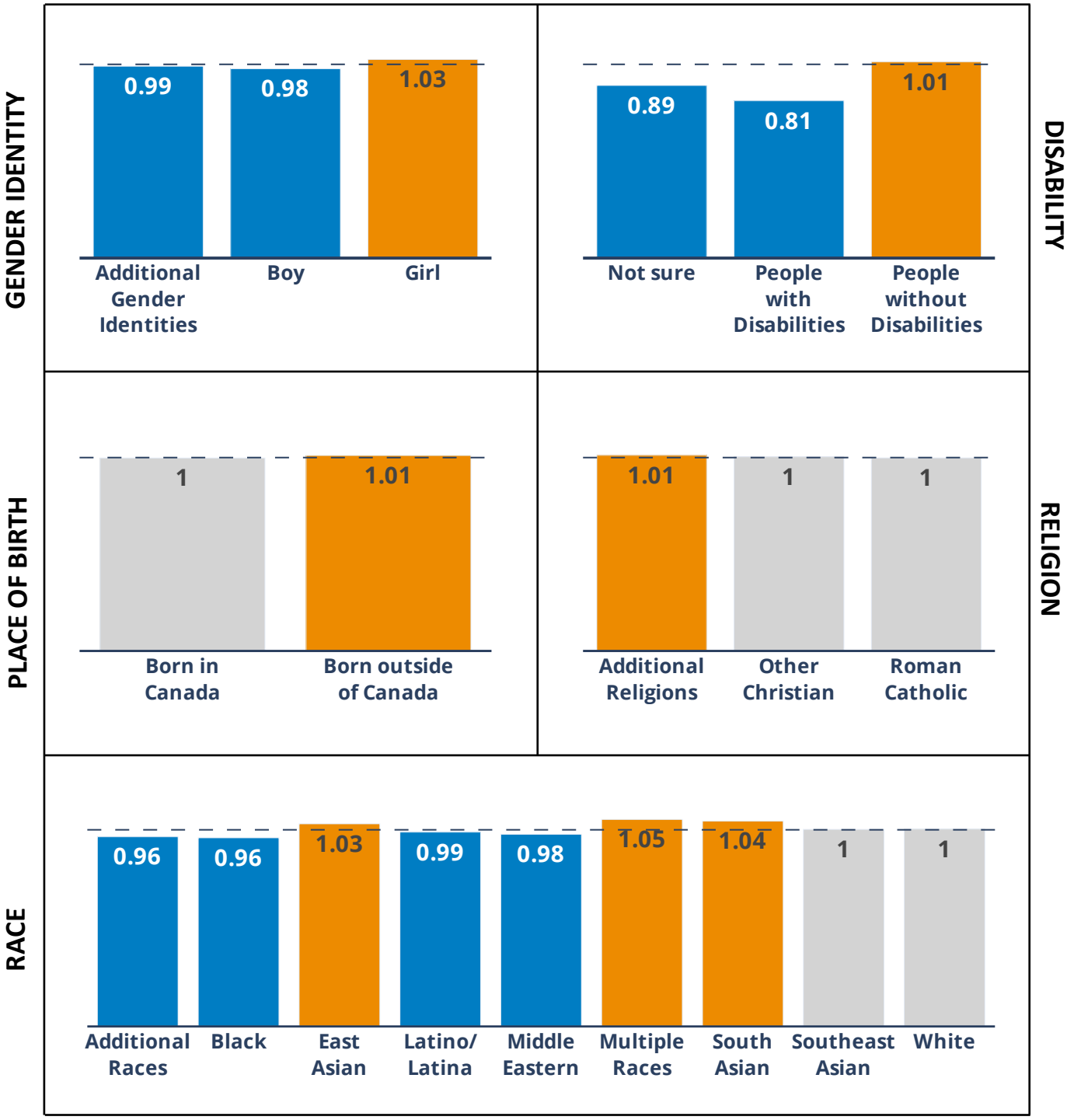
Important Note to the Reader about Interpretation

The data presented in this report are a descriptive analysis only. Additional context is required in order to be interpreted and applied to HCDSB programs and services. The data within this report seem to suggest that disproportionalities of outcome exist at Halton Catholic District School Board. Initial consultation with relevant groups points to a number of factors that require additional analysis, including issues around school climate. We intend to further examine these descriptive results, by using other Student Census and Statistics Canada data (i.e., income and parental education) shown to be confounding factors to student achievement.

English Marks (Grade 1-8 combined)

The following charts show the disproportionality of meeting or exceeding provincial standards for combined report card marks for Elementary English courses during the 2021-2022 school year.

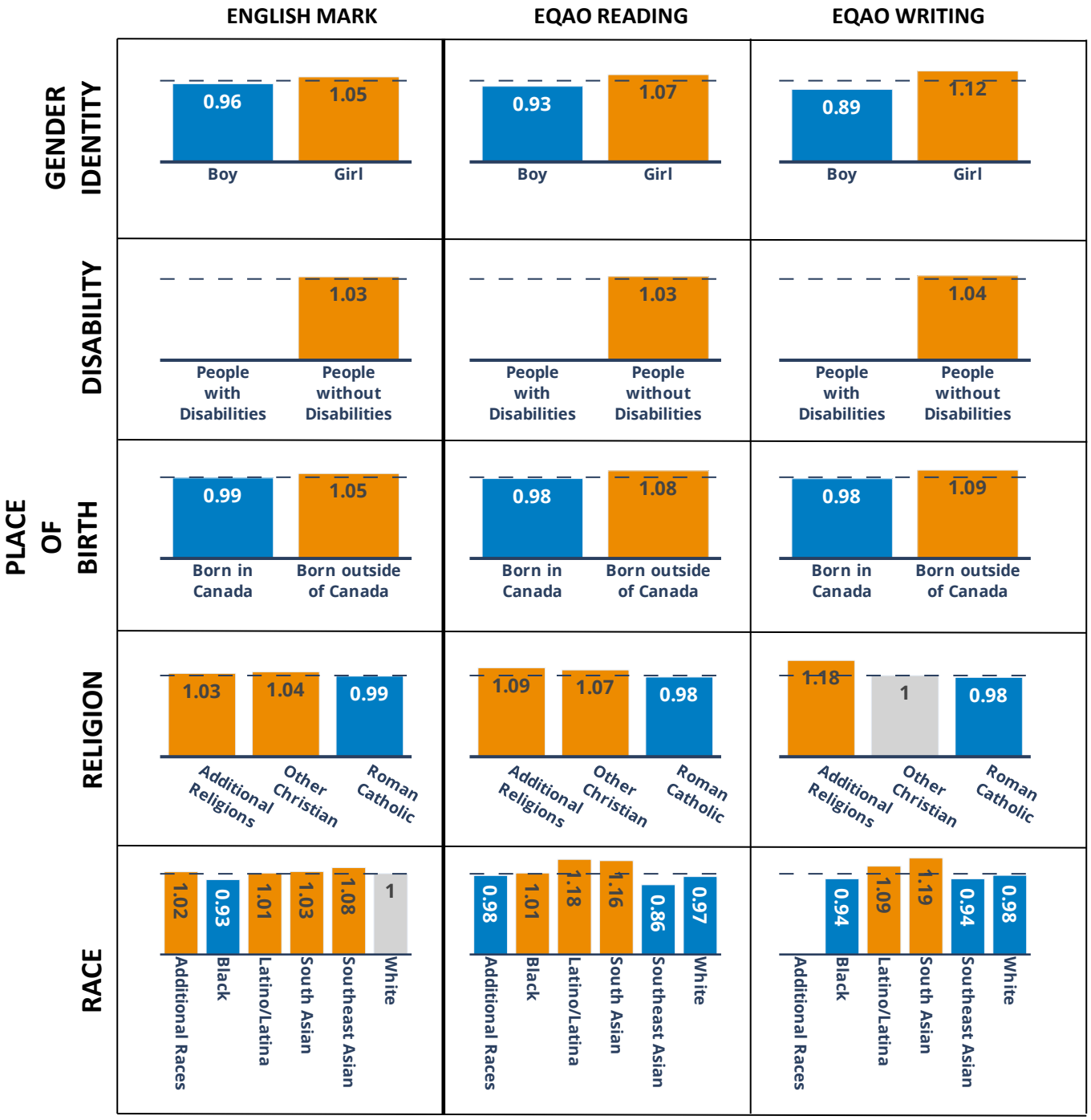
- There is little to no disproportionality for elementary English marks amongst the **Gender Identity, Place of Birth,** and **Religion** categories, which show indices that cluster around 1.
- **Race** shows a greater variation of disproportionality, ranging from a negative index of .96 for Black students to students of Multiple Racial backgrounds with a positive index of 1.05.
- **Disability** shows the most notable disproportionality, with students with disabilities less likely to perform at or above standard compared to their proportion in the overall population (DI = .81). For those students without disabilities, the index shows only a slight disproportionality.



Grade 3 English

The following charts show the disproportionality of meeting or exceeding provincial standards for Grade 3 English report card marks and the EQAO assessment results for Grade 3 Reading and Writing during the 2021-22 school year.

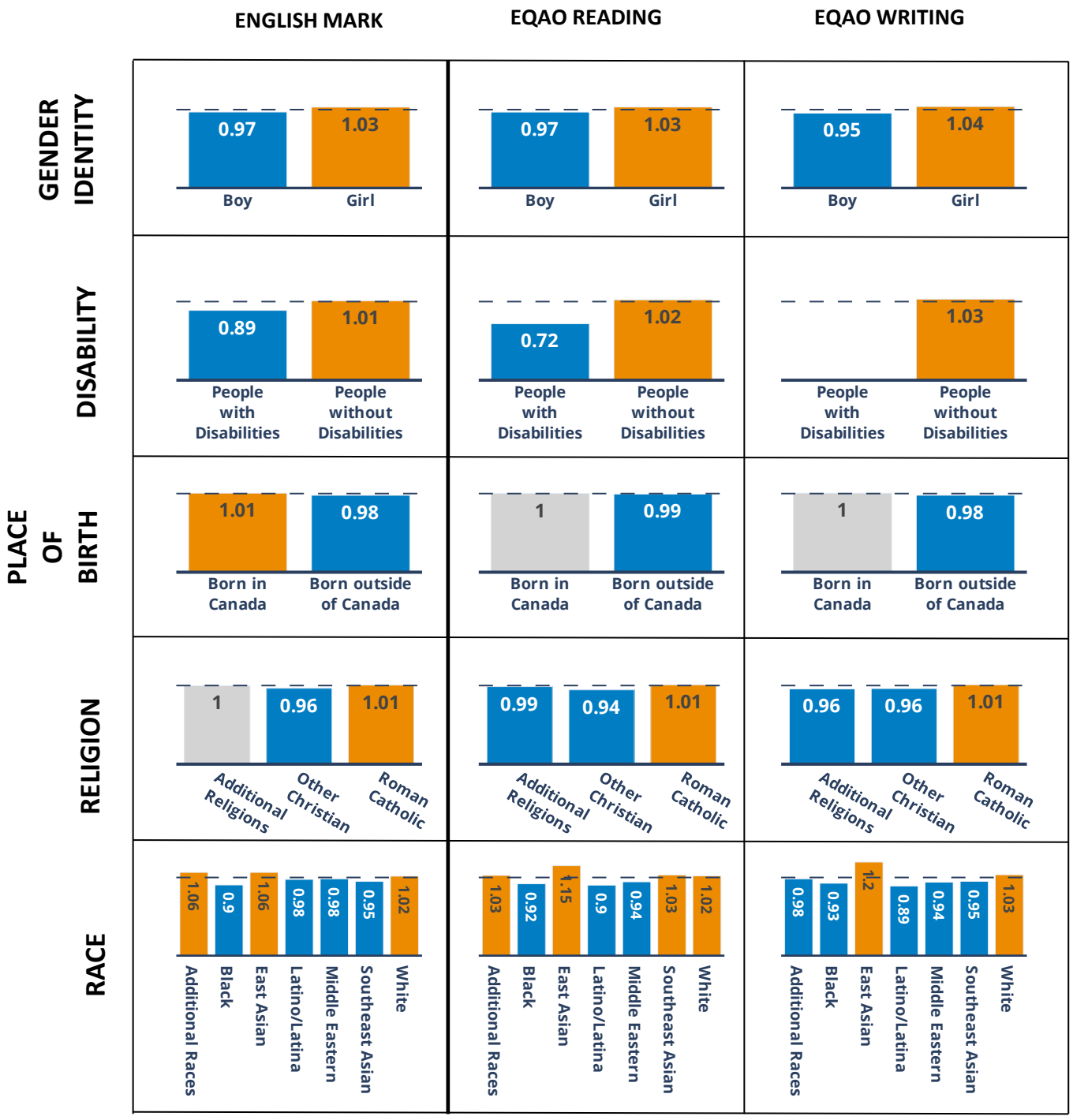
- Patterns of disproportionalities are mirrored across all three measures of student achievement. However, there are greater degrees of disproportionality in EQAO scores.
- Disproportionalities within groups are clearest in EQAO Writing, especially within **Gender Identity** between Boys and Girls (1.12 times less and more likely to meet standards, (DI = .89 and 1.12) respectively).
- There is a positive disproportionality within the **Place of Birth** category for our students born outside of Canada.
- Within **Race,** there is negative disproportionality for Black students in their marks and EQAO reading, while we see strong positive disproportionality for our South Asian students in EQAO marks. Southeast Asian students appear to have a greater degree of negative disproportionality in EQAO than report card grades.



Grade 6 English

The following charts show the disproportionality of meeting or exceeding provincial for Grade 6 English marks and Grade 6 EQAO reading and writing results during the 2021-22 school year.

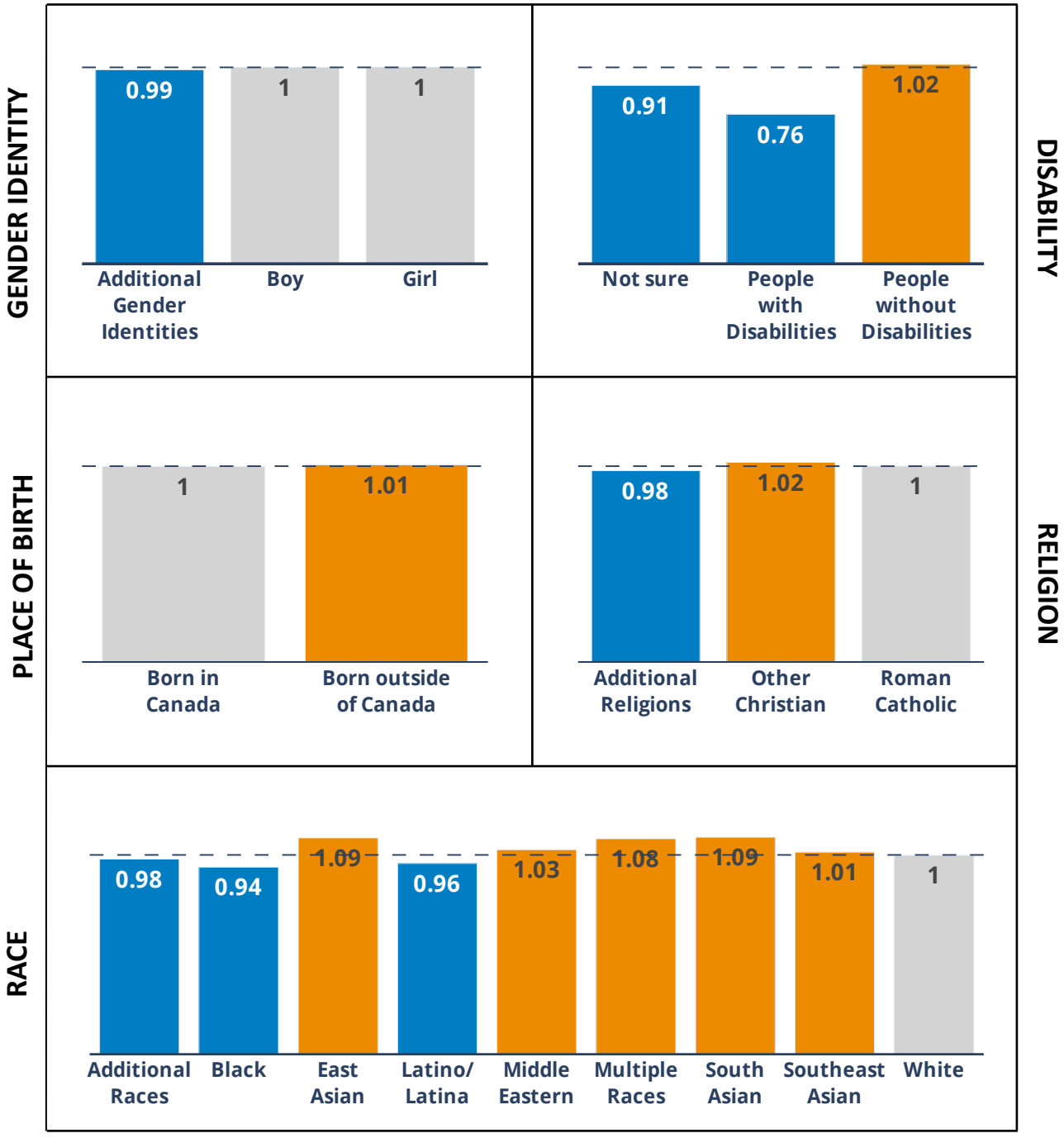
- **Disability** shows negative disproportionalities, with students with disabilities less likely to meet provincial standards in EQAO reading than their share of the population would suggest (DI = .72).
- Within **Race**, there is a clear pattern of negative disproportionalities for Black, Latino, and Middle Eastern students across measures. There is a very strong pattern of positive disproportionalities for East Asian students, particularly in EQAO results, where they are 1.2 times more likely to meet standards than their proportion in the population would suggest.



Math Marks (Grade 1-8)

The following charts show the disproportionality of meeting or exceeding provincial standards for report card math marks for all elementary grades combined during the 2021-2022 school year.

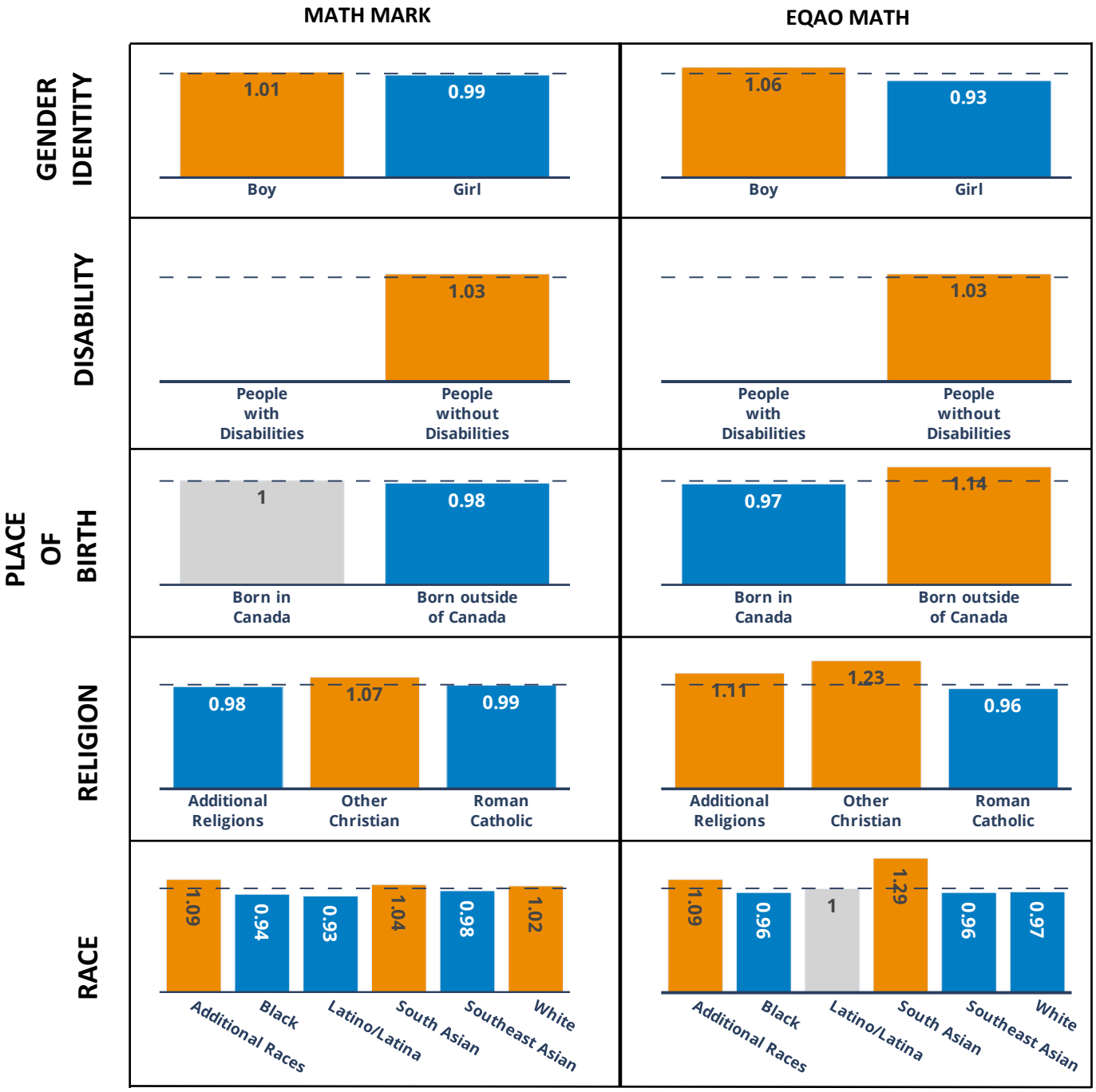
- For **Gender Identity, Place of Birth, and Religion** we see very little variation, with most groups at or within .02 points of perfect proportionality.
- **Disability** shows the strongest disproportionality, with students with disabilities less likely to meet provincial standards in math compared to their share of the population (DI = .76).
- Within **Race**, we see slight negative disproportionalities for Additional Races, Black, and Latino/a students. There are stronger positive disproportionalities for South Asian and East Asian students, who are both 1.09 times more likely to meet provincial standards in math than their proportion of the population would suggest.



Grade 3 Math

The following charts show the disproportionality of meeting or exceeding provincial standards for Grade 3 math marks and are greater in EQAO results, where Other Christians have a positive disproportionality of 1.23. Grade 3 EQAO math results during the 2021-22 school year.

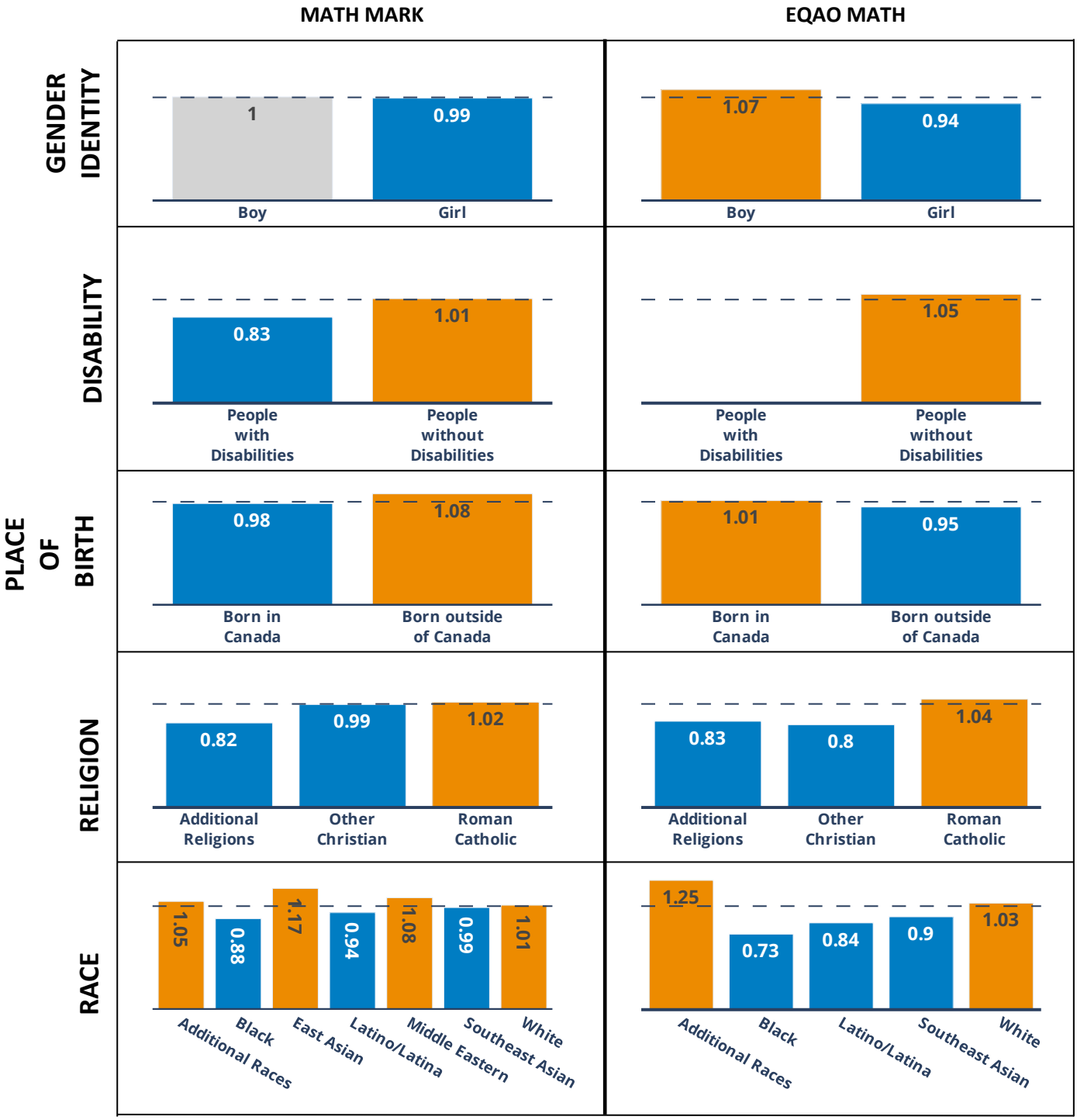
- There are similar patterns of disproportionalities across math achievement measurements for **Gender Identity** (where Girls have a slight negative disproportionality) and **Disability.**
- For **Place of Birth,** students born outside of Canada are have a positive disproportionality of 1.14.
- Within **Religion**, differences in disproportionalities
- For **Race,** we see a pattern of slight negative disproportionalities for our Latino/a, Black, and Southeast Asian students across math achievement categories, and positive disproportionalities for South Asian students, who in Math EQAO results are 1.29 times more likely to succeed than their proportion of the population would suggest.



Grade 6 Math

The following charts show the disproportionality of meeting or exceeding provincial standards for Grade 6 math marks and Grade 6 EQAO math results during the 2021-22 school year.

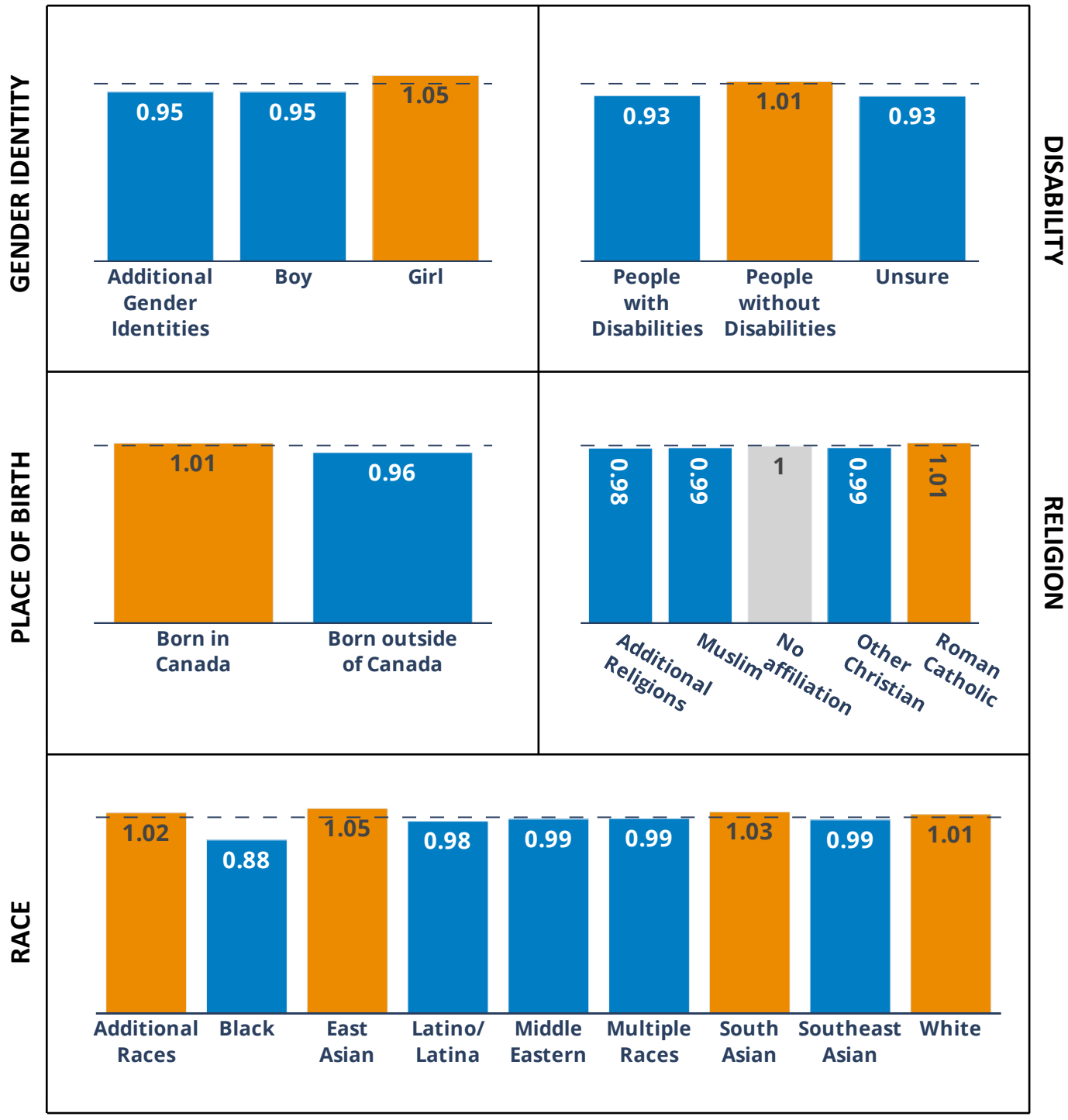
- **Gender Identity** differences are more pronounced in EQAO results, where Girls under-represented and Boys are over-represented amongst successful outcomes.
- **Religion** shows a distinct negative disproportionality for non-Roman Catholics in both marks and EQAO results.
- **Race** also shows similar patterns between marks and EQAO results. While there is substantial differences in marks, particularly for Black students who have the lowest negative disproportionality (.88) and East Asian students who have the highest positive disproportionality (1.17), this pattern of disproportionalities is more pronounced in EQAO results where Black students have a negative disproportionality, and those who are identity as races other than White, Latino, Black, or Southeast Asian are 1.25 times more likely to meet standards.



Secondary English Marks (Grade 9-12)

The following charts show disproportionality of meeting or exceeding provincial standards for combined English report card marks for all secondary grades during the 2021-22 school year.

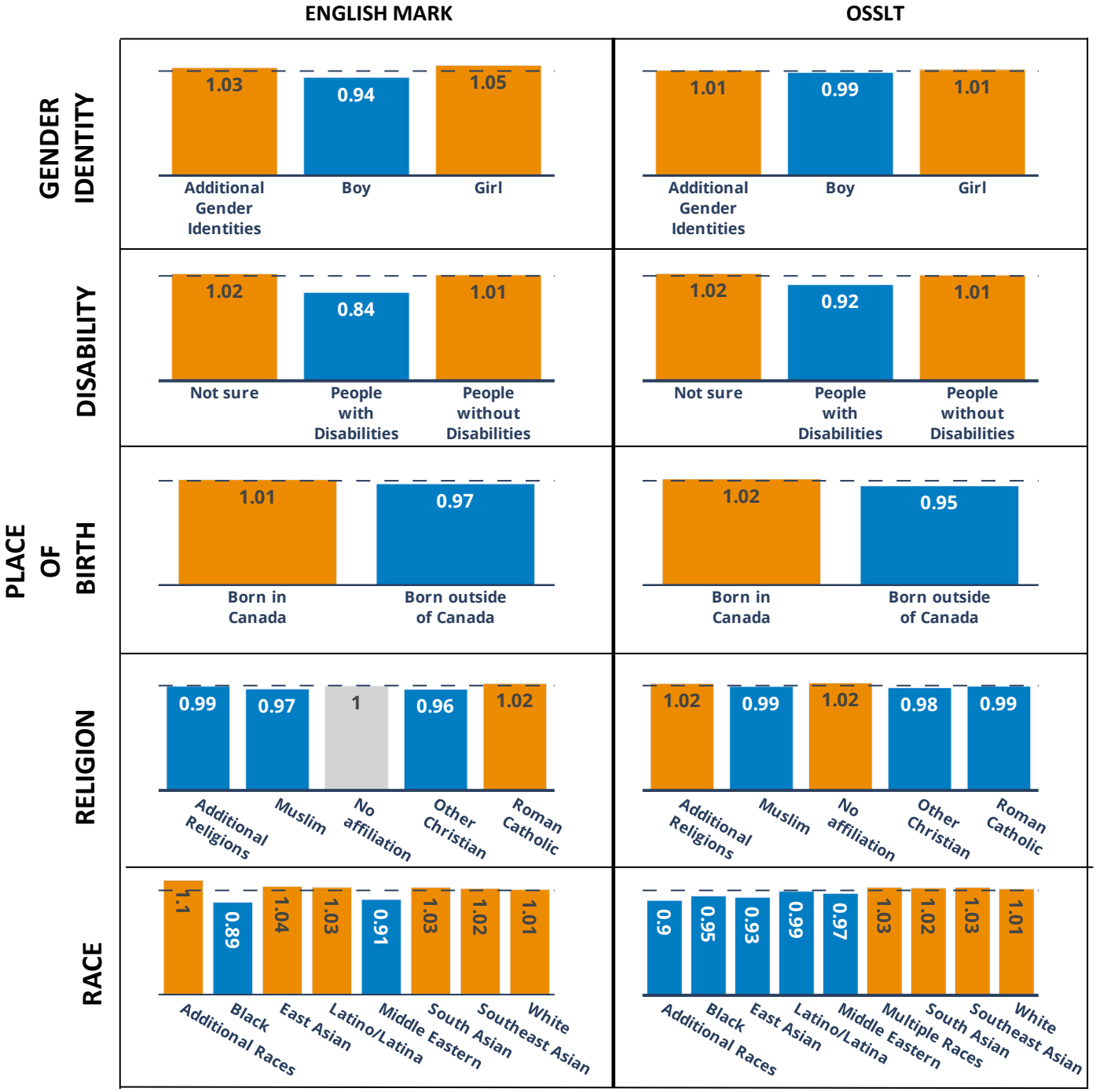
- There is a relatively low amount of disproportionalities amongst **Gender Identity, Disability, Place of Birth,** and **Religion**.
- Within **Race,** Black students have a negative disproportionality (DI = .88) in successful outcomes based on their share of the population. In consultations, students linked this disproportionality to concerns over a relative dearth of curriculum including non Euro-Canadian perspectives.



Grade 10 English and Literacy Results

The following charts show disproportionality of meeting or exceeding provincial standards for Grade 10 English report card marks and OSSLT results during the 2021-22 school year.

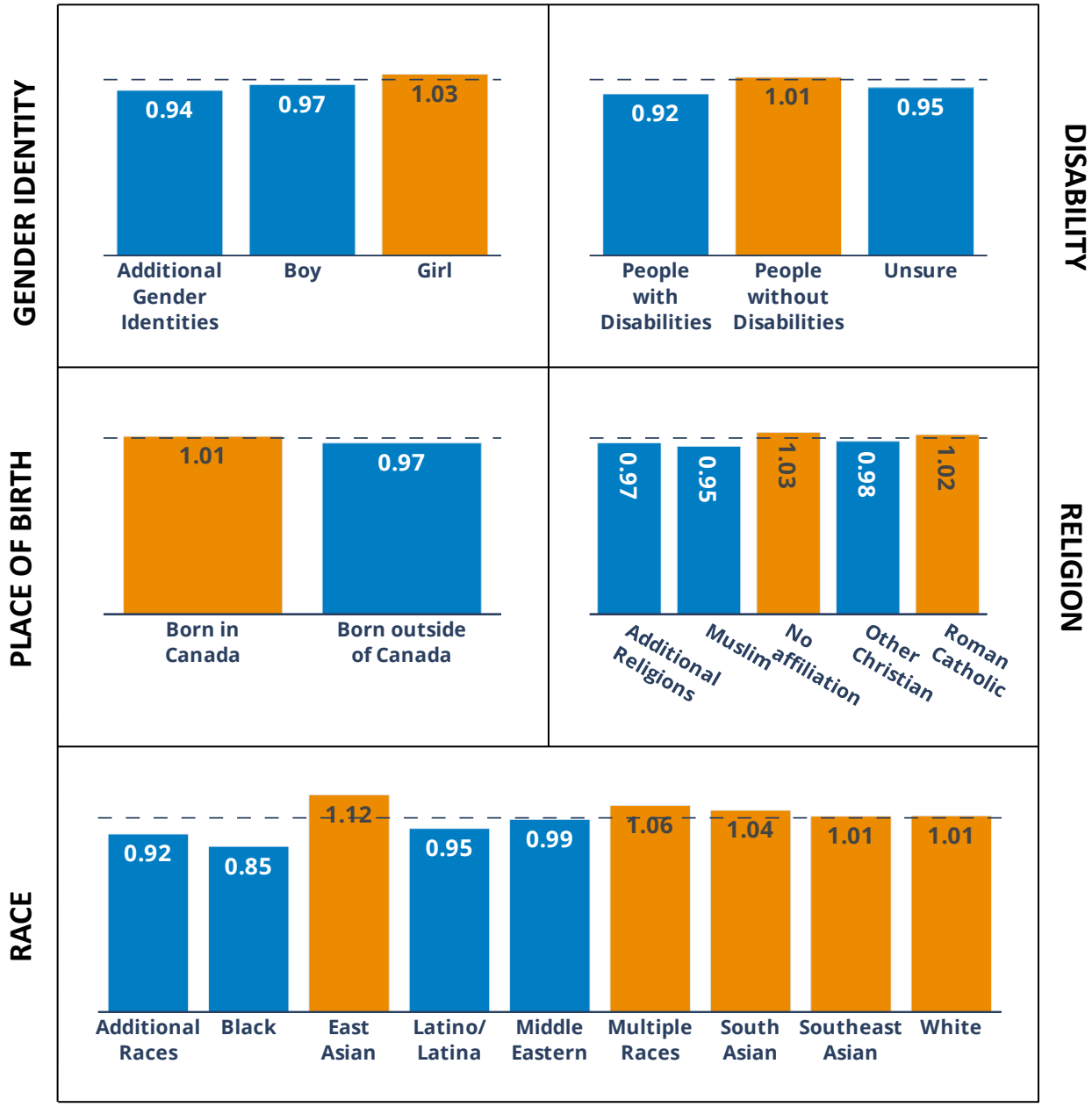
- Across all groups we see more disproportionalities of outcomes for English report card marks.
- **Gender Identity**, **Place of Birth,** and **Religion** show very small differences in disproportionalities amongst groups and across achievement measures.
- **Disability** shows the greatest disproportionalities of outcomes, with students with disabilities having negative disproportionalities in marks and OSSLT outcomes (DI = .84 and .92) respectively.
- Within **Race,** we see relatively small differences in disproportionality indices both between and amongst groups in English report card marks. At the same time, we see some groups have slight negative disproportionalities for the OSSLT. In consultation, students expressed a comfortable level with the knowledge tested in the OSSLT, compared to classroom situations which can be difficult in settings which have little racial diversity.



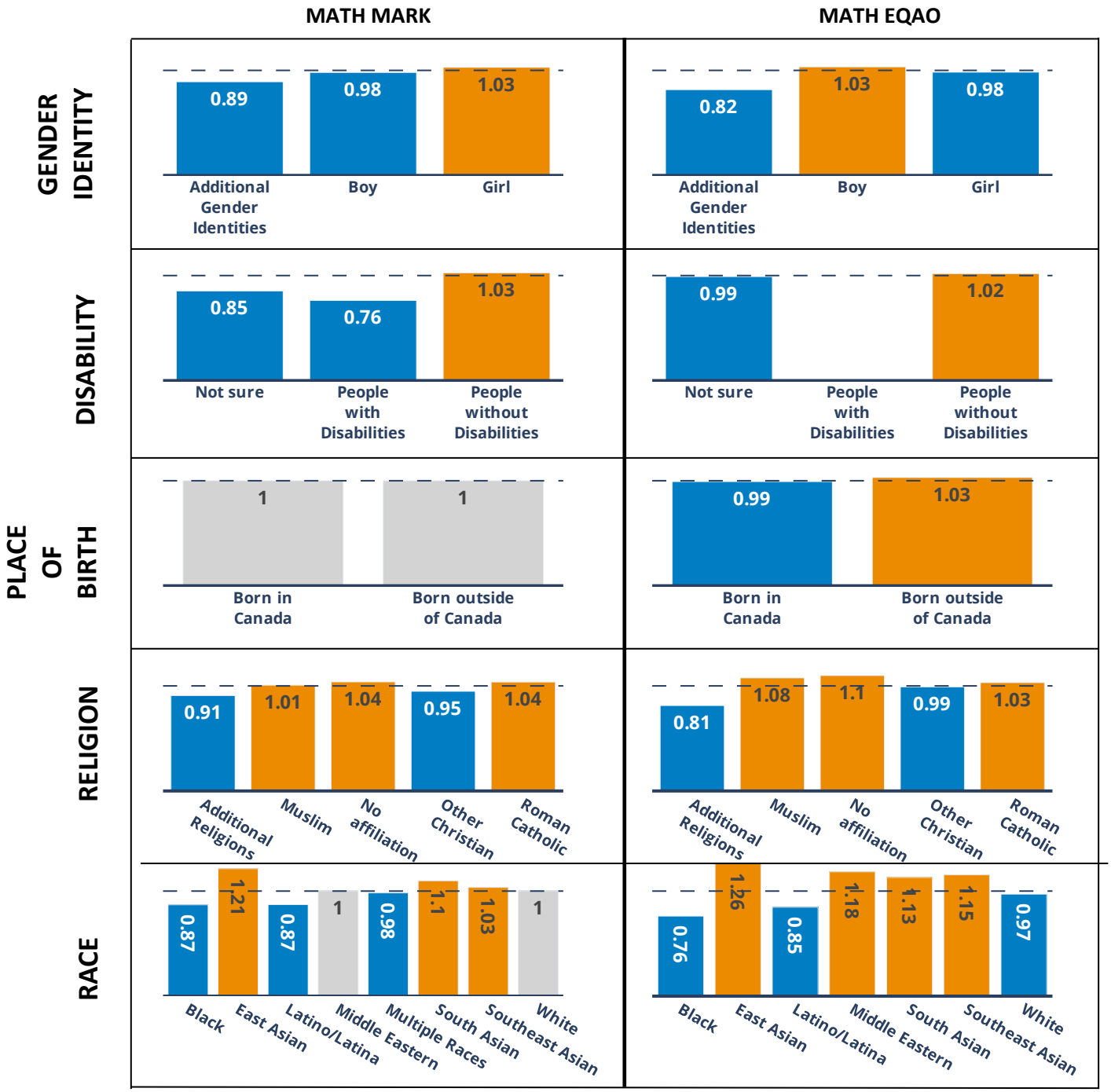
Secondary Math Marks (Grades 9-12)

The following charts show disproportionality of meeting or exceeding provincial standards for all Secondary math marks combined during the 2021-22 school year.

- There are relatively small differences in disproportionality indices amongst **Gender Identity, Disability, Place of Birth,** and **Religion.**
- We see the most notable differences amongst groups when we look at **Race,** where East Asian students have a positive disproportionality of 1.12, and Black students have a negative disproportionality of .85. In consultations, students linked this disproportionality to concerns over comfort in the classroom setting and reduced expectations for Black students.



Grade 9 Math

The following charts show disproportionality of meeting or exceeding provincial standards for Grade 9 math marks and Grade 9 EQAO results. during the 2021-22 school year.

- There are slight differences amongst EQAO results, particularly for **Gender Identity** and **Place of Birth.**
- **Disability** shows pronounced differences in disproportionalities in Grade 9 math marks, with students with disabilities 1.03 times less likely to meet provincial standards than their share of the population would suggest.
- Within **Religion,** we see a negative disproportionality for the Additional Religions identity group in both marks and EQAO results (.91 and .81 respectively).
- Within **Race,** we see a negative disproportionality of Black and Latino/a students in both marks and EQAO results (DI = .87 for both), and a positive disproportionality for East Asian students in math marks and EQAO results (DI = 1.21 and DI = 1.26 respectively).