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The Global Gender Gap in STEM Applications: Pipeline vs. Choice

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Abstract

Women make up only 35% of global STEM graduates, a share unchanged for a decade. Understanding this gap requires distinguishing gender differences in academic preparation (pipeline) from gender differences in application choices (choice gap), a separation that is rarely feasible because preparation, eligibility, and choice are typically intertwined. We exploit a unique setting to unpack these two channels: coordinated college admissions systems where eligibility is fully determined by academic performance and assignment is implemented through a truth-telling mechanism. Focusing on high-achieving students who face no binding access constraints allows us to isolate application choices in the absence of other objective barriers. Pipeline gaps vary widely—tending to track countries' stages of development, as one might expect—ranging from female disadvantage in Uganda to advantage in Sweden. By contrast, the choice gap is large, negative, and remarkably consistent across settings with substantial differences in population size, economic development, and gender norms: even among top scorers, women are about 25 percentage points less likely to apply to STEM. This consistency points to structural forces shaping women's STEM choices across diverse contexts.

Keywords: gender inequality, STEM gender gap, centralized application platforms

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1. Introduction

Despite decades of progress in educational attainment, women remain substantially underrepresented in science, technology, engineering, and mathematics (STEM). In 2024, they accounted for only 35% of STEM graduates worldwide—a share that has barely moved in a decade (UNESCO, 2024). Explanations for this persistence are typically grouped into two channels: a *pipeline* channel—gender differences in academic preparation and access to selective STEM programs (Card and Payne, 2021, Aucejo and James, 2021, Humphries et al., 2023)—and a *choice* channel—gender differences in preferences for program characteristics and the labor-market trajectories they imply (Zafar, 2013).

The choice channel encompasses multiple potential mechanisms. Women may have different access to information about STEM careers, salaries, and job characteristics (Ahn et al., 2019, Exley et al., 2024, Hastings et al., 2016). Gender stereotypes and lack of role models in STEM fields may influence women's self-efficacy and sense of belonging (Carlana, 2019, Reuben et al., 2014). Women may also anticipate discrimination in STEM workplaces (Lepage et al., 2024, Lavy and Megalokonomou, 2024) or have different preferences for job attributes such as flexibility, stability, and work-life balance (Zafar, 2013, Wiswall and Zafar, 2018). Understanding which of these mechanisms drive the choice gap is crucial for designing effective interventions. Distinguishing pipeline from choice is empirically difficult, since it requires observing both program-specific eligibility and students' ranked application decisions. While Delaney and Devereux (2019, 2021) demonstrate the value of using application data to study gender differences in college applications and STEM choices, existing research has largely been confined to single-country settings, limiting our ability to assess the generalizability of these patterns across different institutional and cultural contexts.

This paper meets that challenge by leveraging administrative microdata from centralized admissions systems in ten settings across five continents—Australia, Brazil, Chile, China, Finland, Greece, Spain, Sweden, Taiwan, and Uganda. Despite vast differences in population size, economic development, and gender norms, these systems share a critical institutional feature: universities allocate seats through coordinated platforms (Neilson, 2024), in which students submit ranked preferences over college–major combinations and are assigned to the highest-ranked option for which they are eligible. Eligibility is determined almost exclusively by standardized exams and high school grades, while the deferred-acceptance-style assignment mechanisms ensure that preferences are reported truthfully. This institutional design provides two key advantages: (i) we directly observe students' ordered lists of applications, revealing their field preferences; and (ii) because eligibility is score-based, students with identical academic performance face equal admission probabilities, allowing us to isolate choice behavior holding access constant.

We first document a STEM gender gap across all settings. Among students in the top 10% of the admission exam distribution, women account for an average of only 34% of STEM applicants, mirroring global statistics (UNESCO, 2024). The gap ranges from 19% in Taiwan to 47% in Sweden.

We then ask whether these disparities reflect differences in the pipeline or in choices. We define the *pipeline gap* as the difference in female vs. male representation among top-decile students, and the *choice gap* as the difference in the share of high-achieving women and men who rank a STEM program first. The pipeline gap varies widely: in Uganda, women make up only 40% of top scorers (–20 percentage points gap), while in Sweden they account for 65% (30 percentage points gap).

By contrast, the choice gap is large and negative in every context: high-scoring women are systematically about 25 percentage points less likely than men to apply to STEM. Remarkably, this consistency holds despite large differences in population size, economic development, and gender norms. This stability across contexts is our central empirical finding.

The stability of the choice gap across diverse institutional and cultural settings points to deeper structural forces rather than local conditions. This pattern is consistent with a growing body of research showing that preferences play a central role in major choice: students—and especially women—systematically weigh pecuniary and non-pecuniary attributes differently (Zafar, 2013, Wiswall and Zafar, 2018, Patnaik et al., 2021). Yet the fact that high-achieving women are equally less likely to apply to STEM in Sweden and Spain as in Uganda presents a puzzle: if the choice gap were primarily driven by mechanisms we expect to vary sharply across contexts (such as anticipated discrimination, family formation penalties, or gender norms), then the gap should be wider in Uganda than in Sweden. Its stability therefore highlights the need to identify persistent, globally operating mechanisms shaping women's educational choices.

Our contribution is to provide the first cross-national decomposition of the STEM gender gap into a pipeline gap (access and preparedness) and a choice gap (application decisions). This evidence bridges two strands of research. A first strand disentangles pipeline and choice within single settings (Delaney and Devereux, 2019, Card and Payne, 2021), but their narrow scope limits external validity. A second strand, typically in the form of international reports (OECD, 2017, Encinas-Martín and Cherian, 2023, UNESCO, 2024), documents STEM gender gaps across education systems but cannot separate pipeline from choice due to data limitations. By focusing on enrollment outcomes, these studies mix together pipeline, choices, and admissions. We assemble a novel global dataset that captures students' intended fields of study rather than only their final enrollments. Centralized admissions systems provide ranked application lists, and because they operate variants of the deferred-acceptance algorithm, students have strong incentives to truthfully reveal their preferences. This allows us to observe what students want to study, not merely where they ultimately enroll. Such a cross-country comparison has not been yet possible, as analyzing STEM choices directly requires harmonized application data—which has not been previously available at this scale. By harmonizing centralized admissions data from ten educational systems, we provide the first systematic cross-national decomposition of the STEM gender gap into pipeline and choice components. We show that while pipeline gaps vary considerably, the choice gap is strikingly stable, pointing to structural drivers that transcend local institutions and norms. These findings suggest that closing academic performance gaps, though important, will not by itself eliminate gender disparities in STEM.

2. Data

This section outlines the institutional context and data for the ten settings we study: Australia, Brazil, Chile, China, Finland, Greece, Spain, Sweden, Taiwan, and Uganda. In the Online Appendix we provide details on each admission system and dataset.

Panel A of Table 1 shows sharp contrasts across these countries in size, income, human development, inequality, and gender norms. China is by far the largest country in our sample (1.4 billion people), followed by Brazil (209 million), Spain (47 million), and Uganda (40 million). Sweden (10 million) and Finland (5.5 million) are the smallest.

Australia, Taiwan, Finland, and Sweden are among the wealthiest countries, with GDP per capita between USD 55,000 and 65,000. They also score very high on the United Nations Human Development Index (HDI), which ranges from 0 to 1, with values of 0.8 or above classified as "very high"; all four exceed 0.92. Uganda, by contrast, has a GDP per capita of USD 3,500 and an HDI of 0.53, placing it in the "low development" category. Brazil, Chile, China, and Greece fall in between, with GDP per capita between USD 20,000 and 41,000 and HDI values between 0.75 and 0.88. Inequality also varies widely across the sample: Brazil, Chile, and Uganda have Gini indexes above 0.42, while Australia, Greece, Finland, Spain, and Sweden are below 0.35.

Finally, we characterize gender norms using the World Economic Forum's Gender Parity Index, which covers educational attainment, economic participation, political empowerment, and health. The index ranges from 0 (complete inequality) to 1 (full parity). Finland (0.86) and Sweden (0.82) rank among the five most gender-equal countries worldwide, while China and Greece, both below 0.7, fall in the bottom third.

Despite cross-country differences, the admission systems we study share two features. First, they allocate most university seats through centralized platforms using variants of the deferred acceptance algorithm: students submit ranked lists of preferred programs and are placed in the highest option for which they qualify. Second, eligibility is based on academic performance, typically high school grades and admission exam scores. Our data, drawn from the admissions agencies, include both students' ranked applications and their performance records.

Panel B of Table 1 summarizes the admissions systems. All universities in Australia, Finland, Greece, Sweden, Taiwan, and Uganda use centralized admissions. In Chile, China, and Spain, at least half of universities—including all public institutions—do so. In Brazil, most public universities participate.[1] Financial barriers are relatively low in most settings. Public universities in China, Greece, Finland, Sweden, and Brazil charge no tuition. In Spain, as in France, Italy, and Belgium, fees are modest and supported by generous public funding. Australia and Chile charge high tuition, but both offer income-contingent loans and scholarships that ease access.

Finally, Panel C of Table 1 describes the centralized application systems. In all settings, students apply to specific college–major combinations, typically from hundreds of options—ranging from 609 in Greece to more than 18,000 in China. The number of programs students may rank also varies: in Brazil they can list only two, while in Greece there is no limit. All of these systems are based on deferred acceptance (DA) mechanisms, which provide students with incentives to report their preferences truthfully, allowing us to recover their underlying rankings of programs.[2]

Applicant numbers scale with population. In China, over 10 million students apply annually through the centralized system, though our data cover only Ningxia Province, where about 60,000 apply each year. Brazil records the largest sample in our data, with 2.7 million applicants annually. At the other extreme, Australia and Uganda each have about 40,000. In every setting, far fewer students are admitted than apply.

Women are generally more likely than men to apply. Except for Taiwan

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[1] None of Brazil's 2,152 private higher education institutions use centralized admissions.

[2] While DA is strategy-proof when students can rank all programs, this property breaks down if the preference list is restricted (Fack et al., 2019). In practice, these constraints are rarely binding: in all systems except Brazil, fewer than 5% of students exhaust their lists. Brazil is the main exception, as the SISU system allows only two programs per round. However, SISU operates through an iterative version of DA, in which applicants may resubmit choices over multiple rounds. Both theoretical and experimental evidence show that this iterative structure sustains truthful reporting among feasible options and delivers stable outcomes (Bó and Hakimov, 2019, 2022). Thus, reported choices can be interpreted as students' preferred options among the set of programs they could plausibly attend. For further discussion, see Barahona et al. (2023).

(48%) and Uganda (43%), female applicants outnumber males, reaching roughly 60% in Finland and Sweden. These patterns mirror findings for the United States (Goldin and Katz, 2008).

Table 1: Institutional Characteristics

	Australia (1)	Brazil (2)	Chile (3)	China (4)	Finland (5)	Greece (6)	Spain (7)	Sweden (8)	Taiwan (9)	Uganda (10)
Panel A										
Setting Characteristics										
Population (millions)	24.6	209.5	18.7	1,402.8	5.5	10.7	46.8	10.2	24.0	40.1
GDP per capita (thousands)	56	21	31	24	56	41	50	62	66	4
Human Development Index	0.937	0.764	0.849	0.755	0.937	0.881	0.905	0.943	0.925	0.534
Gini index	33.7	53.9	44.4	38.5	27.3	32.9	34.7	30.0	34.2	42.8
Gender parity index	0.8	0.7	0.8	0.7	0.9	0.7	0.8	0.8	0.8	0.7
Panel B										
University System										
N of Institutions	21/21	132/2448	34/60	1,252/2,663	36/38	41/41	50/86	41/41	67/67	8/8
Tuition fees	Yes	No	Yes	Yes	No	No	Yes	No	Yes	Yes
Financial aid	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Panel C										
Admission System										
Options available (yearly avg.)	1,078	6,310	1,423	18,671	1,458	609	2,169	15,374	1330	149
Max. apps	12	2	10	90	6	No limit	12	20	100	6
N of applicants	42	2,713	85	61	70	68	380	76	101	41
N of admitted students		237.5	59.6	44.4	24.4	54.0	221.1	43.0		
Female share (apps)	56%	57%	56%	56%	60%	56%	55%	59%	49%	44%
Data coverage	2009/10	2016	2004/18	2018	2016/20	2003/12	2018/20	2008/17	1996/03	2011/18

Notes: The table provides summary statistics characterizing the settings in our sample and their university admission systems. Panel A provides general information on each setting, panel B characterizes their university systems, and panel C describes their university admission systems. The statistics presented in Panel A come from World Economics (https://www.worldeconomics.com/GDP-Per-Capita), United Nations Development Programme (https://hdr.undp.org/data-center), and the World Economic Forum (https://www3.weforum.org/docs/WEF_GGGR_2023.pdf). The Gender Parity Index of Taiwan come from Gender at a Glance in R.O.C. (Taiwan) report (https://gec.ey.gov.tw/en/44A64D84C166AE4A), since the World Economic Forum does not have that index for Taiwan. However, the government of Taiwan uses the same methodology to calculate the index. Numbers of applicants and admitted students are in thousands and represent yearly averages.

3. Empirical strategy

This paper examines gender differences in representation among STEM applicants across ten settings that considerably differ in population size, economic development, inequality, and gender norms. A key feature that all these settings share is the use of centralized university admission systems, where admissions depend on the ranked list of preferences that students submit and on their academic performance. This institutional structure means that students with similar scores in admission exams face similar admission probabilities.

Leveraging these features, we focus on high-achieving students, defined as those scoring in the top 10% of their cohort on the mandatory sections of college admission exams. These students are most likely to gain admission to and succeed in selective STEM programs, which are associated with large economic and social returns.

We define programs as STEM based on the 2013 two-digit ISCED code, grouping programs in Engineering and Manufacturing, Information and Communication Technologies, and Natural Sciences and Mathematics under this category. Since the maximum number of programs that applicants can include in their preference lists varies across settings, we concentrate on each student's top-ranked choice.

Our analysis begins by characterizing the gender composition of high-achieving STEM applicants. We then decompose these gender differences by examining two gaps:

1. The pipeline gap: difference between women's and men's representation among students scoring in the top 10% of the admission exam distribution.
2. The choice gap: difference in the share of high-achieving women and men who rank a STEM program as their top choice.

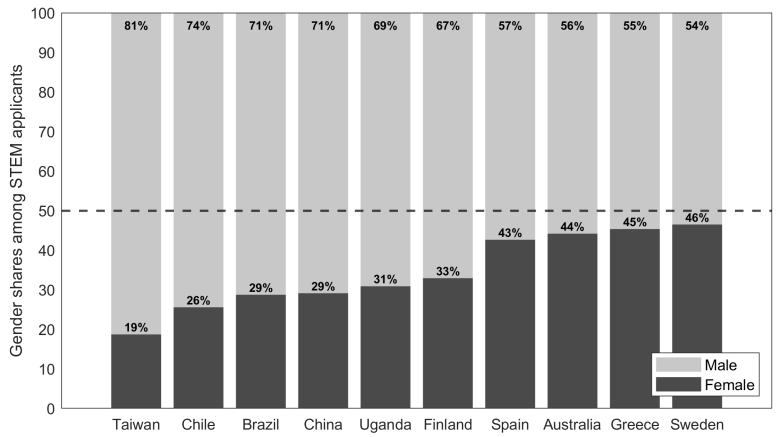
We conclude by examining whether these gaps correlate with gender norms as measured by the World Economic Forum Gender Parity Index (GPI).

4. Results

4.1. Female representation in top STEM applicants

Figure 1 illustrates the share of female and male students among high-achieving STEM applicants. In all settings, the female share is lower than the male share. However, there are large differences across the educational systems we study. In six out of the ten settings in our sample, female students represent 35% or less of high-achieving STEM applicants. Taiwan, with a female share of 18.7%, has the lowest female representation among high-achieving STEM applicants. In contrast, Spain, Australia, Greece, and Sweden—with STEM female shares ranging between 42.6% and 46.4%—are the settings with the highest female representation among high-achieving STEM applicants.

Figure 1: Gender Shares among STEM applicants (top 10% students)



Notes: The figure reports the share of female and male students among applicants in the top 10% of the admission exam distribution that apply to STEM programs. Data cover ten centralized admissions systems: Taiwan, Chile, Brazil, China (Ningxia), Uganda, Finland, Spain, Australia, Greece, and Sweden. STEM programs are defined following the 2013 two-digit ISCED classification, including Engineering and Manufacturing, Information and Communication Technologies, and Natural Sciences and Mathematics. Sources: authors' calculations based on administrative admissions data from the respective agencies (see Online Appendix for details).

What drives these gender disparities and their variation across settings? Female underrepresentation among high-achieving STEM applicants could stem from two distinct sources: the *pipeline gap*—women being underrepresented among the high-scoring students who qualify for selective programs—or the *choice gap*—high-achieving women being less likely than their male counterparts to select STEM fields when applying to university. To disentangle these mechanisms, we next analyze each gap separately across our diverse settings.

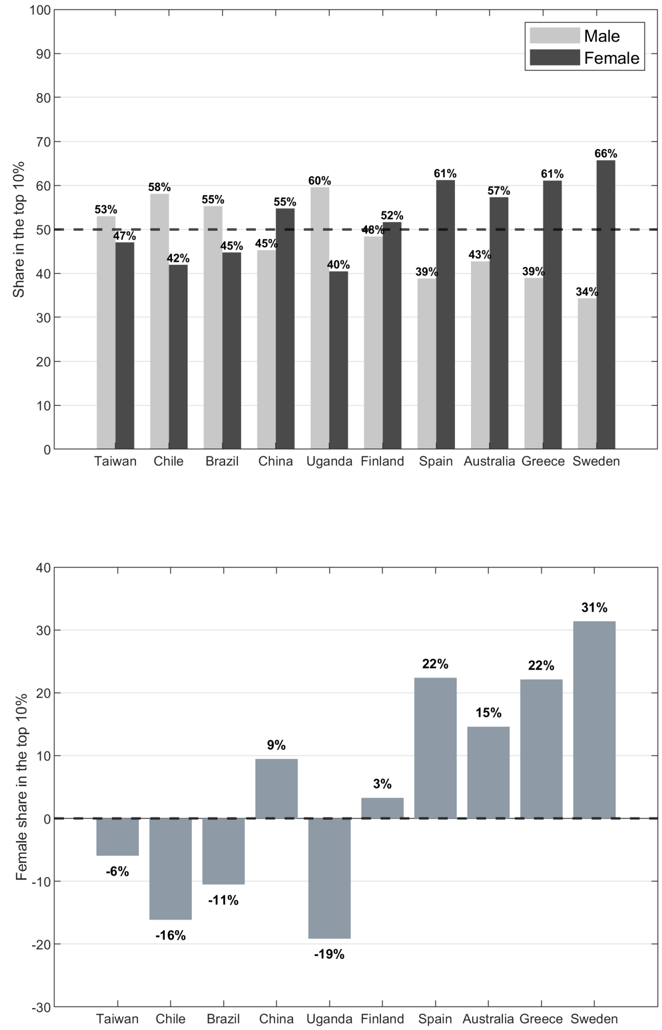
4.2. The pipeline gap

Figure 2 illustrates the *pipeline gap.* Panel A shows the share of female and male students in the top 10% of the academic performance distribution. As women represent roughly 50% of the population, bars under 50% indicate that women are under-represented among high-achieving students. Panel B shows the pipeline gap—i.e., the difference between female and male shares in the top 10%.

In four out of the ten settings we study—Brazil, Chile, Taiwan, and Uganda—female students are under-represented in the top 10% of the academic performance distribution. Uganda—with a female share of 40.4%—has the largest negative pipeline gap (19 percentage points). In the other six settings—Australia, China, Finland, Greece, Spain, and Sweden—the pipeline gap is positive. This means that there are more female than male students in the top 10% of the academic performance distribution. Sweden—with a female share of almost 66%—is the setting with the highest proportion of women among high-achieving students and the largest positive pipeline gap (31 percentage points).

When comparing Figures 1 and 2, it becomes clear that the *pipeline gap* cannot fully explain differences in gender representation among STEM applicants. Even in settings where women outnumber men among high-achieving students, female representation among STEM applicants remains lower than male representation. This indicates that factors beyond academic performance are influencing gender disparities in STEM applications.

Figure 2: Share of Female Students in Top 10% and the Pipeline Gap



Notes: Panel A shows the share of female and male students among the top 10% of admission exam scores in each setting. Panel B shows the pipeline gap, defined as the difference between the female and male shares in the top 10% of the distribution. Negative values indicate that women are underrepresented among high-achieving students. Data cover ten centralized admissions systems: Taiwan, Chile, Brazil, China (Ningxia), Uganda, Finland, Spain, Australia, Greece, and Sweden. Sources: authors' calculations based on administrative admissions data from the respective agencies (see Online Appendix for details).

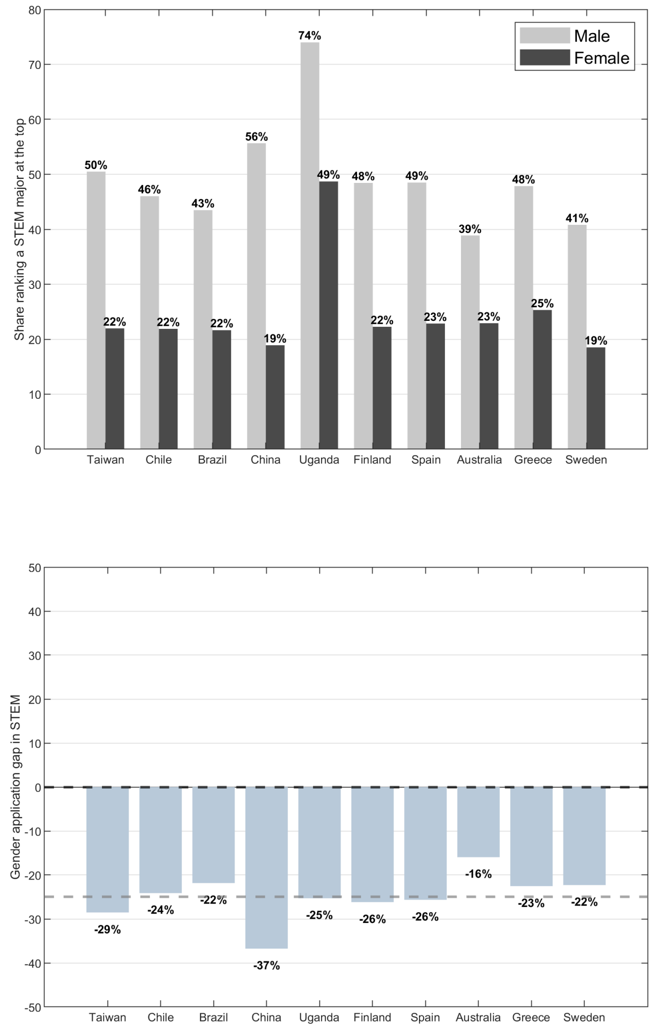
4.3. The choice gap

Following the analytical framework established by Delaney and Devereux (2019), we examine the *choice gap*—the extent to which high-achieving women and men differ in their likelihood of ranking STEM programs at the top of their application lists. Figure 3 illustrates the *choice gap*. Panel A shows the share of high-achieving female and male students who rank a STEM program at the top of their application list. Panel B shows the *choice gap*—i.e., the difference between female and male shares.

In contrast to the significant cross-setting differences observed when studying the *pipeline gap*, the *choice gap* is remarkably similar across the settings in our sample. In all of them, high-achieving female students are considerably less likely to rank a STEM program at the top of their list than high-achieving male students. In eight of the ten educational systems that we study, female students in the top 10% of the academic performance distribution are between 22 and 28 percentage points less likely than their male counterparts to rank a STEM degree at the top of their list. On the extremes, we find that Australia has the smallest (16 percentage points) and China has the largest (36.7 percentage points) *choice gap*.

The striking consistency of the *choice gap* across settings that differ substantially in size, economic development, and cultural context raises an important question: to what extent do broader societal factors, such as gender norms, explain the variations we observe in both the pipeline and choice gaps? We explore this question next by examining the relationship between these gaps and a standardized measure of gender parity.

Figure 3: The Gender Choice Gap in STEM (Top 10% Students)



Notes: Panel A shows the share of high-achieving male and female students (top 10% of admission exam scores) who rank a STEM program first in their application list. Panel B shows the gender choice gap, defined as the difference between the female and male shares ranking a STEM program first. Negative values indicate that women are less likely than men to prioritize STEM. Across all ten admissions systems studied—Taiwan, Chile, Brazil, China (Ningxia), Uganda, Finland, Spain, Australia, Greece, and Sweden. Sources: authors' calculations based on administrative admissions data from the respective agencies (see Online Appendix for details).

4.4. The pipeline gap, the choice gap, and economic development

Gender norms and economic development are often cited as potential drivers of differences in educational outcomes of female and male students (Akerlof and

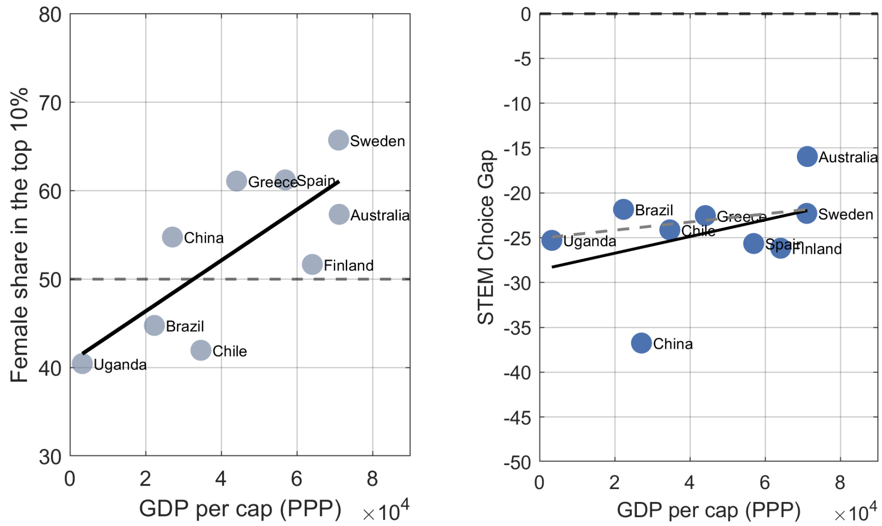
Kranton, 2000, Guiso et al., 2008, Bertrand, 2020). To explore these relationships in our data, we study correlations between the *pipeline* and *choice gaps* and economic development measured by GDP per capita (PPP). Figure 4 plots these relationships.

We find that in contexts with higher economic development, female representation among high-achieving students tends to be higher. In settings with higher GDP per capita such as Sweden, Finland, Spain, and Australia, women significantly outnumber men among top-performing students. This positive association between the pipeline gap and economic development suggests that higher levels of economic development may be associated with more equitable academic performance outcomes. However, substantial unexplained variation indicates that other factors are also at play.

The correlation between the *choice gap* and economic development is much weaker. Moreover, this modest association is strongly driven by one data point—China. Indeed, if we remove China from the analysis, the association becomes much weaker—less than a third of the original size.

This weak relationship is unsurprising, given that the gender choice gap remains remarkably consistent at approximately 25 percentage points across most settings, regardless of their economic development levels. Our findings thus suggest the existence of persistent factors beyond economic development that influence female underrepresentation in STEM fields, highlighting the need to identify these underlying mechanisms to effectively address gender imbalances in educational trajectories.

Figure 4: Pipeline/Choice Gaps vs GDP per Capita (PPP)



Notes: The left panel plots the share of female students among the top 10% of admission exam scores against GDP per capita (PPP). The right panel plots the STEM choice gap—defined as the difference between the share of high-achieving female and male students ranking a STEM program first—against GDP per capita (PPP). The fitted lines show the cross-sectional association between economic development and each outcome. The gray dotted line in the right panel shows the association when excluding the outlier data point from China. Sources: authors' calculations based on administrative admissions data from the respective agencies (see Online Appendix for details).

4.5. Potential mechanisms behind the choice gap

The remarkable stability of the choice gap across diverse contexts suggests that the underlying mechanisms are not context-specific. While our data cannot directly test which mechanisms drive this pattern, several factors could contribute to this persistent gap. First, information asymmetries may play a role: women may have less access to information about STEM careers, salaries, and job characteristics, or may receive different career guidance (Ahn et al., 2019, Exley et al., 2024, Hastings et al., 2016). Second, gender stereotypes and lack of female role models in STEM fields may affect women's self-efficacy and sense of belonging, even among high-achieving students (Carlana, 2019, Reuben et al., 2014). Third, women may anticipate discrimination in STEM workplaces or expect different treatment than men (Lepage et al., 2024, Lavy and Megalokonomou, 2024). Finally, women may systematically value different job attributes—such as flexibility, stability, and work-life balance—than men

(Zafar, 2013, Wiswall and Zafar, 2018).

Distinguishing between these mechanisms is an important area for future research. Our centralized admissions data could potentially be enriched with survey information on students' career expectations, self-efficacy beliefs, and preferences for job attributes, following the approach of (Zafar, 2013). Such data would allow researchers to test whether the choice gap reflects differences in information, expectations, or fundamental preferences. Understanding which of these mechanisms drive the choice gap is crucial for designing effective interventions.

5. Discussion and conclusion

The gender disparities we document in university applications matter for both equity and efficiency. Because returns to higher education vary by field, women's underrepresentation in STEM—where returns are especially high—likely sustains labor market gaps. From an efficiency perspective, improving the gender balance in applications across fields could lead to a better allocation of talent and ultimately boost economic growth. Attracting more women into high-skill fields where they have been historically underrepresented could therefore yield substantial gains in productivity and aggregate output (Hsieh et al., 2019, National Science Foundation, 2017, Weinberger, 1999, Hoogendoorn et al., 2013).

Our main contribution is to decompose women's underrepresentation into a pipeline gap and a choice gap. The pipeline gap varies across settings—from a 20-point deficit in Uganda to a 30-point advantage in Sweden. The choice gap, however, is strikingly consistent: in every country, high-achieving women are about 25 percentage points less likely than men to rank a STEM program first. Closing performance gaps is therefore insufficient without addressing systematic differences in choice.

The stability of the choice gap across contexts as different as Sweden and Uganda points to deeper structural forces. Prior research highlights gendered preferences: women place greater weight on non-pecuniary attributes such as stability and flexibility (Wiswall and Zafar, 2018), and differences in program tastes explain much of the field gap (Zafar, 2013). Pipeline factors alone cannot account for persistent underrepresentation (Patnaik et al., 2021). Our findings extend this literature by showing that these preference gaps are not context-specific but persist across societies with widely varying levels of development and cultural norms.

Understanding the mechanisms behind the stable choice gap remains a key challenge. It may reflect differences in how men and women value job attributes, expectations of discrimination, family considerations, identity and belonging, or self-efficacy. Our results suggest that these forces operate globally rather than being tied to specific contexts. Policies that address them directly could play an important role in advancing gender parity in STEM—an objective with implications not only for equity but also for realizing the efficiency gains from a more inclusive allocation of talent.

Finally, a further contribution of this paper is to adopt a *market design perspective*, using administrative microdata from centralized admissions systems based on deferred acceptance (DA). These systems collect applicants' full rank-ordered lists, and since truthful reporting is a dominant strategy under DA, they provide a credible measure of genuine preferences. Restricting attention to the top 10% of exam scorers proxies access to competitive STEM programs and isolates choice differences conditional on eligibility. This design cleanly separates pipeline and choice effects, unlike settings where only final enrollments are observed. As digital application platforms expand, the same approach can be used not only to study gender disparities, but also racial, socioeconomic, and other inequalities in higher education at scale.

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