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Gendered Impacts of COVID-19 on University Enrollment and Major Choices*

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Abstract

The COVID-19 pandemic affected people's lives in several domains. This study provides evidence of the pandemic's gendered effects on university enrollment and major choices. Using novel administrative records of university students in Uruguay, we conduct a counterfactual exercise that demonstrates a negative correlation between the COVID-19 pandemic and university enrollment. Heterogeneities across fields reveal a positive effect on enrollment in Social Sciences, yet null or even negative effects in Health and Science. These results are driven by male students. For women, we observe an increase in enrollment, particularly in Science. Notably, women are more likely to opt for Science-related majors over Social Sciences. Our results suggest that the recent crisis helped reduce the gender gap in major choices.

JEL Classification: I21, I23, J16.

Key words: COVID-19, University enrollment, Major choices, Educational gender gap.

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Resumen

La pandemia de COVID-19 afectó las vidas de las personas en varios ámbitos. Este estudio proporciona evidencia de los efectos de género de la pandemia en la inscripción universitaria y las elecciones de especialidad. Utilizando registros administrativos novedosos de estudiantes universitarios en Uruguay, llevamos a cabo un ejercicio contrafactual que demuestra una correlación negativa entre la pandemia de COVID-19 y la inscripción universitaria. Las heterogeneidades entre áreas de estudio revelan un efecto positivo en la inscripción en Ciencias Sociales, sin embargo, se observan efectos nulos o incluso negativos en Salud y Ciencias. Estos resultados son impulsados por estudiantes masculinos. Para las mujeres en cambio, observamos un aumento en la inscripción, especialmente en Ciencias. En segundo lugar, nos basamos en un enfoque de doble diferencias para proporcionar evidencia sobre los impactos de género de COVID-19 en las elecciones de carreras. Las mujeres tienen más probabilidad de optar por especialidades relacionadas con las Ciencias sobre las Ciencias Sociales. Nuestros resultados sugieren que la crisis reciente ayudó a reducir la brecha de género en la elección de carreras.

Gendered Human Capital Allocation during the COVID-19 Shock: Evidence on Field of Study Choices in Uruguay

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Abstract

Field-of-study choices shape human capital and subsequent labor-market outcomes. We study whether COVID-19 coincided with gender-differential changes across university fields in Uruguay using administrative records and field-specific difference-in-differences models with pre-pandemic gender trends. Women's relative probability of choosing Psychology increased by 2.3 percentage points in 2021, about 24% of their pre-pandemic probability. Psychology is the only field that survives Benjamini-Hochberg and Bonferroni corrections. Given that Psychology lies in the lower half of the distribution of estimated returns to graduation, this compositional shift may have implications for future gender differences in earnings.

JEL Classification: I21, J24, I23, J16.

Keywords: Pandemic, Field of study, Educational gender gap.

Statements and Declarations

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enseñanza universitaria”. We gratefully acknowledge the central offices at Universidad de la República for providing us with the administrative data.

1 Introduction

Field of study is a central dimension of human capital investment. Beyond the decision of whether to attend university, students choose among fields that differ in expected earnings, occupational opportunities, working conditions, and non-pecuniary attributes. These choices therefore shape both the type of human capital accumulated and subsequent labor market outcomes. They also differ systematically by gender: women remain underrepresented in Science, Technology, Engineering, and Mathematics (STEM), while they are overrepresented in fields such as education, health, and the humanities. Because female- and male-dominated fields differ in their labor market returns, field of study choice is an important component of gender differences in earnings (Bertrand, 2020; Sloane et al., 2019; Blau and Kahn, 2017; Black et al., 2008). This dimension is also particularly relevant in Uruguay, where recent evidence based on linked university and social-security records documents substantial heterogeneity in the earnings return to university graduation across fields. Medicine, Engineering, Agronomy, and Economics are among the fields with the highest estimated returns, while fields such as Psychology, Dentistry, and Fine Arts lie in the lower half of the distribution (Amarante et al., 2025). These differences imply that changes in the composition of field choices may affect not only educational segregation but also the expected labor-market value of the human capital accumulated by women and men.

Large shocks can alter the relative costs and expected returns associated with different forms of human capital investment. The COVID-19 pandemic is a particularly relevant case because it simultaneously changed labor market opportunities, the mode of educational provision, and the salience of health-related occupations. Existing evidence documents effects of the pandemic on educational performance (Meler, 2022; Rodríguez-Planas, 2022a; Aucejo et al., 2020, among others) and gender differences in employment, family responsibilities, and caregiving (Del Boca et al., 2022; Albanesi and Kim, 2021). Much less is known about whether these changes were accompanied by a reallocation of students across fields of study and whether that reallocation differed by gender. The few studies on the pandemic and the choice of major cover only a limited set of fields, such as STEM, medicine, and public health (???). One possibility is that a shock that increased the salience of physical and mental health, care, and social needs changed the relative attractiveness of fields centered on people and social interaction. This perspective is particularly relevant for Psychology and, more broadly, for Social Science.

This paper examines whether the pandemic period coincided with changes in the gender allocation of human capital across university fields in Uruguay. Using novel administrative data from Uruguay’s main public university (*Universidad de la República*), we estimate, separately for each of 23 colleges, the gender-differential change in the probability of choosing that field in 2021. Our preferred specification controls for a college-specific pre-pandemic linear trend in the gender gap, which is important because several fields were already experiencing changes in their gender composition before the pandemic. We also correct for multiple hypothesis testing across

fields and complement the field-level analysis with descriptive evidence on aggregate university enrollment by gender. The setting is particularly useful for our analysis because the health emergency was declared after the main 2020 enrollment period had concluded, whereas students entering in 2021 made their enrollment decisions after almost a year of pandemic-related disruptions and knowing that courses would remain online at least during the first semester. We therefore use 2021 as the pandemic-exposed enrollment cycle. In addition, Udelar is tuition-free and has no admission quotas in most programs, limiting the role of tuition costs and admission barriers in explaining changes across fields.

Our main finding is a sizable change in women’s relative probability of choosing Psychology. The trend-adjusted estimate is 2.3 percentage points, equivalent to approximately 24% of women’s pre-pandemic probability of choosing Psychology (9.8%). Psychology is the only field whose trend-adjusted effect survives both Benjamini-Hochberg and Bonferroni corrections across the 23 colleges. The result is similar when we restrict the sample to entrants who subsequently took at least one course or sat at least one exam. By contrast, Engineering shows a sizable raw increase in women’s relative enrollment, but that increase is explained by a pre-existing narrowing of its gender gap.

A possible interpretation is that the pandemic increased both the salience of mental health and the perceived future demand for psychology-related skills. In Uruguay, anxiety and depressive symptoms were particularly high early in the pandemic and declined as mobility recovered ([Fernández-Theoduloz et al., 2024](#)). More broadly, the pandemic was associated with increased workload and greater pressure on the mental-health workforce ([Crocker et al., 2023](#)). Such changes could alter both the non-pecuniary value and the perceived labor-market relevance of Psychology as a field of study. Our administrative data do not observe students’ expectations or motivations, however, so we treat this mechanism as suggestive rather than identified.

As complementary evidence, we document a negative aggregate deviation of university enrollment from its pre-pandemic trend in 2021, concentrated among men. This aggregate exercise is descriptive rather than causal and is sensitive to whether the sample includes all first-time registrants or only those who became academically active in their first year. We therefore treat it as context for the field-of-study results rather than as the main contribution.

The paper proceeds as follows. Section 2 places the contribution of the study into the literature on higher education. Section 3 describes the setting of the study and Section 4 the data. Section 5 describes the empirical strategy and presents our central results on changes in field of study choices by gender during the pandemic. Section 6 complements this analysis with evidence on aggregate university enrollment patterns. Finally, Section 7 concludes.

2 Literature review and contribution

This study contributes to two related literatures on human capital investment: the response of educational decisions to economic and social shocks, and the determinants and consequences of gender differences in field of study choice.

First, this study builds on previous studies analyzing the impact of economic recessions on college enrollment. There is evidence of a prevailing counter-cyclical behavior of higher education enrollment (i.e., a deterioration in macroeconomic conditions leads to an increase in higher education enrollment) in the Latin American context, with the exceptions of Argentina, Honduras, Mexico and Peru ([Arias Ortiz et al., 2021](#)). In the case of Uruguay, there is evidence of a counter-cyclical behavior in secondary education attendance ([González and Maier, 2011](#)). However, the nature of the COVID-19 crisis may have had qualitatively distinctive effects. This prior literature studies mostly economic crises, operating through labor market and household-income channels; COVID-19, by contrast, was first and foremost a health crisis, and its direct health risks, together with the associated lockdowns and mobility restrictions, could plausibly have shaped enrollment decisions through additional channels that an economic recession does not. Unlike previous crises, the COVID-19 pandemic led to a significant deterioration in labor and social conditions, and also to a drastic reduction in mobility and an increase in online activities. This paper examines whether the impact of the COVID-19 crisis on tertiary education aligns with previous findings or if the unique characteristics of the crisis lead to distinct effects.

In recent years, multiple contributions have been made from diverse disciplines regarding the effects of the COVID-19 pandemic on higher education.¹ There is evidence of the pandemic leading to a decline in enrollment rates in community colleges in California, with students from lower socioeconomic backgrounds, and ethnic and racial minorities being disproportionately affected ([Bulman and Fairlie, 2022](#)). There are strong heterogeneities by fields, with engineering, technology, education, interdisciplinary studies, and arts experiencing the highest drops in enrollment. There is also evidence of a drop in graduation rates, exhibiting the same heterogeneity by socioeconomic level. [Rodríguez-Planas \(2022a\)](#) uses administrative records from a college in New York to analyze differences across socioeconomic background. Lower-income students outperformed higher-income students. [Rodríguez-Planas \(2022b\)](#) uses the same data and additional information from an online survey collected in 2020, showing that the pandemic led to an increase in student drop-out rates and a reduction in freshman retention rates. The same California administrative-data study also documents a decline in student enrollment from 2019 to 2020 and from 2020 to 2021, as well as a decrease in course completion rates ([Bulman and Fairlie, 2022](#)). [Dagorn and Moulin \(2025\)](#) use French data to study university enrollment and find a decline in the probability of re-enrollment in subsequent academic years and lower graduation rates two years after the pandemic. On the other hand, [Bonaccolto-Topfer and Castagnetti \(2024\)](#) use administrative data from an Italian university and find no substan-

¹For a systematic review on primary and secondary outcomes see for example [Cruz et al. \(2025\)](#).

tial effects of COVID-19 on teaching quality and academic performance measured by grades, graduation rates, and exam failure. Regarding gender differences, [Gicheva et al. \(2025\)](#) use administrative records for students from postsecondary institutions in North Carolina to analyze gender gaps in academic recovery from the COVID-19 pandemic. They find negative academic effects for females in terms of pass rates and credit accumulation, but not in the number of attempted credits. Suggestive evidence shows that the results could be associated with larger learning losses for female students in secondary school. Finally, for the developing world, [Balmori de la Miyar et al. \(2023\)](#) analyze the case of undergraduate business programs in Mexico finding a negative effect on intake, enrollment, and graduation outcomes. [Prudencio et al. \(2024\)](#) extend the analysis to more universities in Mexico finding similar results. In relation to gender, the authors find that men and women were equally impacted in terms of graduation, and regarding the academic areas of study they find that education-related majors were more affected in terms of new entries and science-related majors observed the highest decrease in graduation.

A small set of studies looks directly at how the pandemic affected the choice of major, but each covers only a limited set of fields. Using data from a large U.S. public university, ? finds no meaningful change in students’ decisions to remain in or switch into STEM and biology-related majors, for either women or men. In China, ? show that the pandemic reduced the competitiveness of admissions to public health and preventive medicine majors, especially in general undergraduate universities, and ? report, in a survey of medical students, small changes in both directions in their willingness to become doctors (10.6% increased and 6.9% decreased), with women less likely than men to report an increase. None of these studies analyzes Psychology or the full range of fields offered by a university. We do so, and we focus on gender-differential changes in the field chosen at the moment of enrollment.

Turning to field-of-study choices, these decisions determine the type of human capital students accumulate and are an important source of heterogeneity in subsequent labor market outcomes. A large literature studies why these choices differ by gender. Segregation patterns cannot be explained solely by innate characteristics; contextual factors also matter ([Kahn and Ginther, 2017](#)). Comparative advantage, secondary-school performance, and subject choices have all been shown to contribute to gender differences in major choice ([Aucejo and James, 2021](#); [Card and Payne, 2021](#); [Delaney and Devereux, 2019](#); [Loyalka et al., 2017](#); [Speer, 2017, 2023](#)). These differences matter economically because fields of study have different returns and contribute to persistent gender gaps in earnings ([Kahn and Ginther, 2017](#); [Altonji et al., 2016](#); [Bertrand, 2020](#)).

Gender sorting is not confined to STEM. A long-standing finding in vocational psychology is that women are disproportionately drawn to people-oriented occupations, including caring and helping professions such as psychology, nursing, and teaching, while men are disproportionately drawn to thing-oriented occupations such as engineering ([Su et al., 2009](#)). This “people vs. things” dimension of interests provides one potential explanation for the distribution of women

and men across fields and is particularly relevant for interpreting changes in caring- and socially oriented fields such as Psychology and Social Science. We do not interpret these fields as equivalent, but both place greater weight on people, social interaction, and social problems than many technical fields.

Our contribution to the literature is to examine whether a large health and economic shock coincided with a gender-differential reallocation of human capital across fields of study. This reallocation may be economically consequential because the fields involved differ in their subsequent labor-market returns. For Uruguay, recent administrative evidence shows large differences in the earnings return to graduation across university services, with Psychology in the lower half of the distribution and Engineering, Economics, Agronomy, and Medicine among the highest-return fields (Amarante et al., 2025). We therefore interpret field choice as a decision over different types of human capital, rather than only as an outcome of educational segregation.

Although our data do not allow us to distinguish mechanism precisely, it is worth mentioning the multiple possible channels behind gendered effects. First, the shift towards online learning due to school closures could have had an effect on enrollment decision through peer effects. Enjoying coursework has been found a key determinant of field of study enrollment decisions, and also positively associated with beliefs about the proportion of female peers among women (Zafar, 2013). That is particularly true for engineering fields. Hence, online learning could have diminished the negative effect in enrollment associated with male-dominated fields by altering the perceptions of the proportion of female peers.² Second, COVID-19 altered job market conditions, particularly by making working from home a more prevalent alternative. Women commonly enroll in fields that offer greater flexibility to reconcile work and family responsibilities. Assuming that working from home helps balance work and family life, the pandemic could have changed the non-pecuniary aspects of field of study choices and the relative valuation of different educational options. Third, the COVID-19 crisis could have impacted enrollment decision through unemployment. Previous evidence shows that higher unemployment rates are associated with lower gender gaps in field choices (Moorhouse, 2017). That is, unfavorable macroeconomic conditions could result in an opportunity, as long as they encourage women to enter male-dominated fields. Fourth, the pandemic was first and foremost a health crisis, and the associated confinement and uncertainty were accompanied by substantial mental-health concerns, including in Uruguay, where anxiety and depressive symptoms were particularly high early in the pandemic and declined as mobility recovered (Fernández-Theoduloz et al., 2024). At the same time, evidence from several countries points to increased workload and substantial pressure on the mental-health workforce during the pandemic (Crocker et al., 2023). These changes could have affected field choice through two related margins: a greater

²It is worth mentioning that more generally, the literature on online learning shows that online learning can reduce student performance and engagement relative to in-person instruction (Bird et al., 2022; Altindag et al., 2021; De Paola et al., 2023; Kofoed et al., 2024), and there is evidence that this could affect women more than men (Shan et al., 2025). The evidence directly linking online learning to university enrollment by gender is still limited.

salience and social value of mental-health-related work, and a higher perceived future demand for psychology-related skills. Given that household and childcare responsibilities during lockdowns fell disproportionately on women (Del Boca et al., 2022; ?), these channels could have had gender-differential effects. Overall, the potential channels point in different directions, so the implications of the COVID-19 pandemic for gender differences in field-of-study choices remain an empirical question.

3 Setting for the study

The public university in Uruguay (*Universidad de la República*, hereafter Udelar) concentrates 85% of university students. A particular feature of this setting is that the public university has no tuition fee and, in most cases, no quotas or admission tests. This university offers around 100 undergraduate programs, comprising more than 20 colleges. In 2020, there were around 169,000 undergraduate students. The enrollment period starts in February and courses take place from March to December.

In Uruguay, the health emergency in response to the global COVID-19 outbreak was declared on March 13, 2020, i.e., after the enrollment period. Thus, the decision of whether and where to register was not affected by the pandemic. However, the new context forced the shift to online activities, and, as we document in Section 6, the share of registrants who went on to actually take courses or sit exams in their first year did change in 2020, so the pandemic could have affected the enrollment margin we study through this later stage of the process rather than through registration itself. To mitigate potential educational delays, the University implemented specific policies facilitating the transition from face-to-face to virtual programs. The rapid expansion of virtual classrooms and online platforms allowed the University to continue with all its programs as early as May 2020. Moreover, specific policies were implemented to provide technological devices to students from low socioeconomic backgrounds. During the pandemic period, Uruguay’s labor market exhibited gender-asymmetric disruptions: the gender gap in unemployment widened from 1.5 to nearly 5 percentage points between March and December 2020, with women disproportionately affected (Salvador, 2021). This is consistent with a counter-cyclical enrollment response among women, as deteriorating labor market conditions reduce the opportunity cost of university enrollment. Regarding admission procedures, the absence of entry exams or enrollment quotas at Universidad de la República means that no admission-related changes occurred during the pandemic that could have mechanically altered the accessibility of any field of study.

Enrollment for the academic year 2021 was the first to be affected by the COVID-19 pandemic. By February 2021, the University’s authorities had already announced that courses were going to be online, at least during the first semester. For this reason, in this paper we consider 2021’s observed enrollment patterns to assess the potential impact of the COVID-19 pandemic.

4 Data

We use administrative records from students enrolled at Uruguay’s main public University from 2015 to 2021. The information comes from the admission form, which is completed by students upon enrolling in each field. This includes information on year of enrollment, field of enrollment, gender, city of origin, date of birth, and whether the high school the student attended was public or private (proxy for socioeconomic level). We combined this data with the university census providing information on other students’ socioeconomic and demographic characteristics (e.g., working status and having kids). Despite being mandatory, the census’ completion requirements were relaxed in 2020 due to the pandemic. Consequently, our baseline estimates only consider information from the university admission form.

Field of study. The University has its own definition and classification of colleges into three main areas. The Technologies and Sciences of Nature and Habitat Area (hereafter referred to as *Sciences*) encompasses Agronomy, Architecture, Sciences, Engineering, Chemistry, and the Veterinary College. The Health Sciences Area (*Health*) comprises the Higher Institute of Physical Education, the School of Nutrition, and the schools of Nursing, Medicine, Odontology, and Psychology. Lastly, the Social and Artistic Area (*Social*) includes the Music School, the National School Institute of Fine Arts, the Schools of Economics and Administration, Social Sciences, Law, Information and Communication, and Humanities and Educational Sciences. Following these definitions, we categorize individuals into these three fields according to the college they enrolled in. Because the Music School and the National School Institute of Fine Arts are each very small on their own, we merge them into a single “Arts & Music” college throughout the analysis, so that our 24 colleges become 23.

Estimation sample. We restrict the sample to first-time registrants, that is, to individuals who registered at the University for the first time.³ As individuals have no restrictions on the number of programs they can enroll in each academic year, an individual may be enrolled in more than one college in the same year: for instance, if an individual registers in Social Sciences and Chemistry colleges in the same academic year, they count as an enrollment in both colleges. In the aggregate enrollment counts of Section 6, each first-time registrant is counted once in the total enrollment measure; for area-specific enrollment, a registrant enrolled in colleges belonging to more than one area may contribute to each corresponding area, but only once within each area. In the field-of-study-choice regressions of Section 5, similarly, each individual contributes a single individual-year observation, with a separate 0/1 indicator for every college (Section 5.1 describes this in detail), so that a registrant enrolled in more than one college is not given extra weight in any college’s regression. If the same individual registers in more than one program in the same college in the same year, we prioritize the one in which the student had taken more courses. We also exclude any registration that occurred in the second semester of any

³It could be the case that someone registers in one field of study in 2018 and another in 2019. For the purpose of this study, we will only consider the first entry.

year, restricting the sample to the main (first-semester) admission cycle every year (Section 5.1 discusses this exclusion in detail).⁴ Our main specification includes *all* remaining first-time registrants, regardless of whether they went on to take any courses. As a robustness check, reported in the Appendix, we also restrict the sample to *effective entrants*, that is, registrants who took at least one course or sat at least one exam in their first calendar year. We do not use this stricter sample as our main specification because the share of registrants who become effective entrants itself moved in 2020, so conditioning on it risks selecting the sample on a pandemic-affected outcome.

Descriptive statistics. Appendix Table A.1 shows descriptive statistics of students’ demographic characteristics in our estimation sample by enrollment year.

5 Changes in field of study choices

5.1 Method

In this section we document changes in field of study choices and gender gaps, our central outcome of interest. We examine all 23 colleges and evaluate which gender gaps show a 2021 deviation once we account for pre-existing trends.

We use the timing of the pandemic and gender differences in field choice to estimate changes in the gender composition of enrollment across colleges. We estimate the following difference-in-differences specification separately for each college c :

$$Enroll_{i,c,t} = \alpha + \beta Female_i + \gamma Pandemic_t \times Female_i + \delta Female_i \times Trend_t + \mu_t + X_i + \varepsilon_{i,c,t} \quad (1)$$

where $Trend_t$ equals the enrollment year minus 2015 (0 to 6). We include the $Female_i \times Trend_t$ term, with coefficient δ , in our main specification because several colleges’ gender gaps were already moving before the pandemic, so a specification without this term can attribute a pre-existing trend to the pandemic.⁵

The unit of observation is the individual–year: each first-time registrant contributes exactly one record for their year of entry, regardless of how many colleges they register in that year. Because Udelar has no quotas, admission tests, or tuition fees, a first-time registrant may register in more than one college in the same year; to accommodate this, for each college c the dependent variable $Enroll_{i,c,t}$ is a separate 0/1 indicator equal to 1 if individual i registered in college c in year t , and 0 otherwise, so that an individual registering in two colleges the same year has $Enroll_{i,c,t} = 1$ for both of the corresponding indicators. The model is estimated

⁴Second-semester registrations are a small share of registrations in any given year, so this exclusion has a negligible effect on sample size.

⁵We also estimate the model without the δ term as a robustness check and report it in Appendix Table A.7 and Figure A.3.

separately for each college c 's indicator on the same pooled individual-level sample of first-time registrants (2015–2021), so that every one of the 23 college-level regressions is run on the same 115,561 individual-year observations. This is the number of first-time registrants with non-missing controls: Appendix Table A.1 counts 117,965 first-time registrants, and the 2,404 difference corresponds to registrants with missing control variables, mostly the type of high school. *Female* equals 1 when the individual is female and 0 otherwise. *Pandemic_t* is a dummy variable that takes the value 1 if student i registers in 2021, and 0 if earlier (2015–2020). We exclude all registrations that occurred in the second semester, in every year, and keep only the main (first-semester) admission cycle. The exclusion matters most for 2020. The health emergency was declared in March 2020, after the main registration period, so first-semester 2020 registrations are unambiguously pre-pandemic. Second-semester 2020 registrations, in contrast, took place after the emergency had been in place for several months and the University had already moved to virtual instruction. They are therefore neither a clean pre-pandemic comparison nor registrations made with the full exposure of the 2021 cycle. To treat all years alike, we apply the same exclusion to every year. We therefore set *Pandemic_t* = 1 only for 2021, the first enrollment cycle fully exposed to the pandemic. μ_t represents calendar year fixed effects, with 2020 as the omitted base year; the main effect of *Pandemic_t* is therefore absorbed by the 2021 year dummy and reported as such in our results.

Finally, X_i is a set of control variables that includes the student's locality of origin, age at first enrollment year, and a binary variable that takes the value 1 if the student attended a public high school and 0 otherwise. These covariates are time-invariant since they are observed when the individual registers at the university for the first time. Standard errors are robust. Our parameter of interest, γ , captures the gender-differential change in the probability of choosing college c in 2021 relative to the pre-pandemic period, net of the college-specific linear trend δ . It measures the change in the differential probability between women and men of choosing a college, conditional on registration and on the pre-existing trend in that probability. This allows us to quantify the variation in the gender composition across colleges in the pandemic-exposed 2021 enrollment cycle that is not already explained by a trend under way before the pandemic.

5.2 Main findings

Figure 1 shows, for each of the 23 colleges, the estimated interaction term γ from our main specification, Equation 1, which controls for a college-specific linear pre-pandemic trend in the gender gap (Table A.5 presents the coefficients for the interaction, trend, female and pandemic).⁶

For Science-related fields, no college shows a statistically significant trend-adjusted 2021 de-

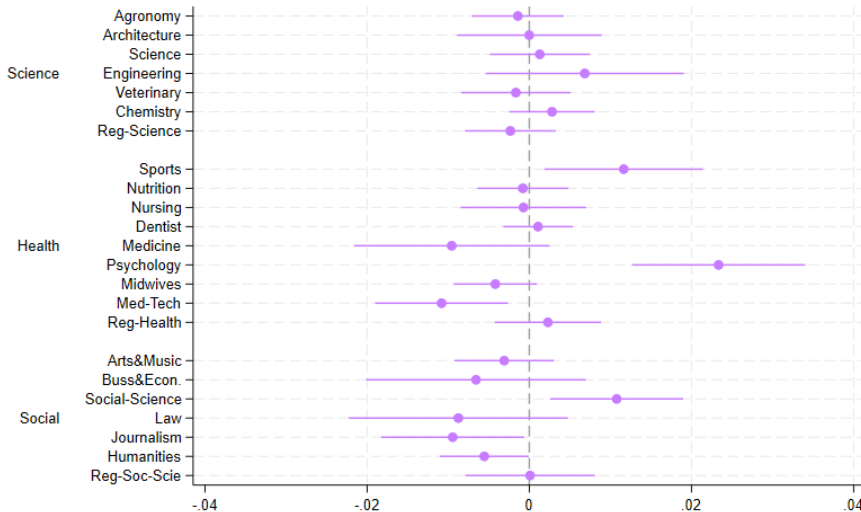
⁶In Appendix Table A.7 and Figure A.3 we report the corresponding estimates without the trend control, as a secondary comparison.

viation. This includes Engineering, a persistently male-dominated STEM field whose gender gap had already been narrowing before the pandemic. Its trend-adjusted estimate is statistically indistinguishable from zero ($\gamma = 0.0068$, $p = 0.27$), whereas the specification without the trend control produces a sizable and statistically significant coefficient ($\gamma = 0.0257$, $p < 0.001$; Appendix Table A.7). We therefore find no evidence that gender differences in enrollment in Science-related fields deviated from their pre-existing trends in 2021. This is consistent with evidence from a U.S. university that students' STEM major choices were resilient to the pandemic (?).

For Health-related fields, Psychology shows the largest and most robust trend-adjusted estimate. Women's relative probability of enrolling in Psychology increased by 2.33 percentage points in 2021 beyond what its pre-existing linear trend would predict. This is economically meaningful: before the pandemic, 9.78% of female entrants chose Psychology, so the estimated change corresponds to approximately 24% of that baseline probability. Sports shows a positive trend-adjusted coefficient ($\gamma = 0.012$) and Medical Technology a negative one ($\gamma = -0.011$); both are statistically significant at conventional levels, but neither survives the multiple-testing correction discussed below. Medicine's estimate is also negative ($\gamma = -0.010$) but not statistically significant at the 5% level, in line with the small and mixed changes in medical students' willingness to become doctors reported by ?. Because the corresponding event-study evidence is also imprecise, we do not interpret the Medicine estimate further (Figure A.6).

For Social-related fields, Social Science shows a positive trend-adjusted coefficient ($\gamma = 0.011$), while Journalism ($\gamma = -0.009$) and Humanities ($\gamma = -0.006$) have negative coefficients. The positive Social Science estimate is directionally consistent with the idea of a shift toward more socially oriented fields, although it does not survive correction for multiple hypothesis testing and we therefore treat it as suggestive. We find no statistically significant trend-adjusted effect for the regional Social Science campuses, Law, or Business and Economics.

Figure 1: Gender-Differential Changes in Field of Study Choices in 2021 (Main Specification)



Notes: Each dot represents the coefficient γ on $Pandemic_t \times Female_i$ from our main specification, Equation 1, which controls for a college-specific linear trend in the gender gap, $Female_i \times Trend_t$ (see Table A.5), and the lines represent the respective 95% confidence intervals. Each estimate comes from a separate individual-level regression run for each college on the pooled sample of first-time registrants (2015–2021). All regressions include calendar year fixed effects with 2020 as the omitted base year and the full set of individual controls (locality of origin, age at first enrollment, and public high school). Robust standard errors. Own elaboration based on data obtained from DGPLAN, Udelar.

As mentioned, given the number of estimated coefficients, we correct for multiple hypothesis testing across the 23 trend-adjusted regressions using both Bonferroni and Benjamini-Hochberg (FDR) corrections (Appendix Table A.8). Six fields have raw trend-adjusted p -values below 0.05, but only Psychology remains statistically significant under either correction. The result is also robust to restricting the sample to effective entrants: the Psychology coefficient is 0.025 in that sample (Appendix Table A.9 and Figure A.4).

We conduct two additional checks of the time-series pattern. First, the college-level event study for Psychology shows a positive 2021 coefficient of 0.0268 ($p < 0.001$), while the joint test of the pre-period coefficients does not reject the null ($p = 0.10$; Figure A.5). By contrast, Engineering displays a clear pre-trend and no statistically significant 2021 deviation (Figure A.7). Second, we assign pseudo-treatment years to 2018, 2019, and 2020 while retaining the same female-specific linear trend. For Psychology, the 2018 and 2019 placebo coefficients are small and statistically insignificant (-0.0028 , $p = 0.71$; and -0.0067 , $p = 0.30$). The 2020 placebo is negative and statistically significant (-0.0115 , $p = 0.043$), whereas the 2021 estimate is positive, approximately twice as large in absolute magnitude, and highly significant. Appendix Table A.6 reports these estimates for Psychology, and Appendix Figure A.2 shows the 2020 placebo for all 23 colleges.

Taken together, Psychology is the only field whose 2021 trend-adjusted change survives correction for multiple testing. The additional time-series exercises show that the positive 2021 shift is not part of a sequence of similar positive pre-pandemic deviations. At the same time, the significant negative placebo in 2020 cautions against interpreting the estimate as a clean causal effect of the pandemic.

One possible interpretation of the Psychology result is a mental-health-related channel. In Uruguay, anxiety and depressive symptoms were particularly high early in the pandemic and subsequently declined as mobility recovered (Fernández-Theoduloz et al., 2024). Evidence from other settings also suggests that the pandemic increased attention to mental health, while the mental-health workforce faced a heavier workload and substantial pressure (Winkler et al., 2024; Crocker et al., 2023). At the same time, household and childcare responsibilities during lockdowns fell disproportionately on women (Del Boca et al., 2022; ?). These facts are consistent with the possibility that the pandemic increased the salience, perceived social value, or expected labor-market relevance of psychology-related human capital particularly for women.

The economic relevance of this compositional change is reinforced by the fact that Psychology differs from other university fields in its observed labor-market returns in Uruguay. Recent

evidence places Psychology in the lower half of the distribution of earnings returns to university graduation, while fields such as Engineering, Economics, Agronomy, and Medicine show substantially higher returns (Amarante et al., 2025). This does not imply that the 2021 reallocation reduced women’s future earnings: we do not observe the counterfactual fields these students would otherwise have chosen, and the return estimates are not causal comparisons across fields. It does imply, however, that gender-specific changes in field composition may have economically relevant consequences beyond enrollment itself.

6 Aggregate enrollment patterns

This section summarizes aggregate patterns in university enrollment by gender before and after the pandemic, as complementary context to our main field-of-study results. The full descriptive evidence, counterfactual exercise, and additional robustness checks are reported in the Appendix.

As presented before, Appendix Figure A.1 shows the evolution of total enrollment and the share of women by field area, 2015–2021. Women represent around 60% of total registrations, rising to nearly 65% by 2021, though with substantial heterogeneity by field: women remain a minority of registrants in Engineering (below 30% throughout the period), Agronomy, Science, and Sports (Appendix Table A.2); the merged Arts & Music college, by contrast, is majority female throughout (64%–70%).

To gauge whether aggregate enrollment deviated from its pre-pandemic trend, we estimate a log-linear regression of enrollment on a deterministic time trend using pre-pandemic data (2015–2020) and compute the counterfactual level of 2021 enrollment implied by that trend (see Appendix for the full specification and Table A.10). Observed enrollment in 2021 was approximately 3% below this counterfactual, with the shortfall concentrated among men (–13%), while women’s observed enrollment was above its predicted level (+3%). Throughout this section, deviations are expressed as a percentage of predicted 2021 enrollment (column 7 of Appendix Table A.10). This exercise is descriptive rather than causal, since we do not observe potential registrants who chose not to register.

Importantly, this gender gap in the aggregate deviation is sensitive to the definition of the estimation sample. If we instead restrict the counterfactual exercise to *effective entrants* the aggregate deviation is essentially flat overall (+0.9% total) and more favorable for both genders (–7.7% for men, +6.4% for women). The reason is that a larger share of 2020 registrants did not go on to take any courses or exams than in surrounding years (Appendix Table A.4); restricting the trend estimation to effective entrants therefore lowers the 2020 baseline used to project the 2021 counterfactual, mechanically shrinking the estimated shortfall. Because this margin is itself a plausible outcome of the pandemic, we do not treat either sample as the definitive benchmark for the aggregate exercise, and we report both. The Appendix also

reports leave-one-year-out and placebo checks on the counterfactual methodology.

We also analyse the descriptive evidence on heterogeneous effects by gender and field of study. In Science-related fields (excluding regional campuses), observed enrollment was 8% below its counterfactual overall, with a similar shortfall for men (-15%) and an approximately flat deviation for women (-1%). In Health-related fields, observed enrollment was 7% below its counterfactual, more pronounced for men (-22%) than for women (essentially flat, 0%). In Social-related fields, the aggregate deviation was essentially flat overall (+1%), reflecting a positive deviation for women (+5%) and a negative one for men (-5%). Because these area-level figures pool colleges of very different size, Appendix Table A.3 reports the weight of each college within its area.

Overall, the aggregate evidence points to a gender-asymmetric enrollment pattern in 2021, but its magnitude is sensitive to the definition of the entrant sample. Relative to the counter-cyclical enrollment response often documented for economic downturns, the pattern is mixed: women's enrollment is above the level predicted by the pre-pandemic trend, consistent with a lower opportunity cost of study when labor-market conditions deteriorate, while men's enrollment is substantially below its predicted level. This asymmetry is consistent with the idea discussed in Section 2 that the COVID-19 crisis combined the usual labor-market channel of a recession with distinctive health, mobility, and educational disruptions. We therefore use these estimates as descriptive context rather than causal evidence. The more stable result is the change in the composition of field choices conditional on university registration, particularly the relative increase in women's choice of Psychology.

7 Conclusions

Field of study choices are an important component of human capital investment because they shape occupational opportunities, expected earnings, and non-pecuniary returns to education. This paper examines whether a large health and economic shock coincided with changes in the gender allocation of students across university fields in a tuition-free, largely open-admission system.

Our main result is a sizable positive 2021 shift in women's relative probability of choosing Psychology. The trend-adjusted estimate is 2.33 percentage points, equivalent to approximately 24% of women's pre-pandemic probability of choosing that field. Psychology is the only one of the 23 colleges whose estimate survives both Benjamini-Hochberg and Bonferroni corrections for multiple testing, and the estimate remains similar when the sample is restricted to academically active entrants. By contrast, the raw increase in women's relative enrollment in Engineering is largely accounted for by a pre-existing narrowing of its gender gap.

A mental-health-related mechanism is consistent with the timing and field involved: the pan-

demographic increased psychological distress and the visibility of mental-health concerns, potentially changing both the perceived social value and expected future demand for psychology-related human capital. The gender dimension could also be related to women’s greater exposure to household and childcare responsibilities during the crisis. These mechanisms remain hypotheses rather than identified channels because our data do not measure students’ motivations, expectations, or mental health. The composition change may nevertheless have labor-market implications: recent Uruguayan evidence documents substantial differences in returns across fields and places Psychology below several high-return fields such as Engineering, Economics, Agronomy, and Medicine ([Amarante et al., 2025](#)). We therefore view the 2021 shift as potentially relevant not only for gender sorting in education but also for the type and expected economic value of human capital accumulated.

More broadly, the results highlight why the composition of higher education matters when evaluating the consequences of large shocks. A crisis can alter not only how many individuals invest in university education but also the type of human capital they choose to accumulate. Because fields differ in their labor-market returns and remain strongly gender-segregated, even temporary changes in field choice may have persistent implications for occupational sorting and gender differences in subsequent labor-market outcomes. Establishing whether the 2021 shift persists in later cohorts and translates into differences in graduation and employment is therefore an important direction for future research.

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8 Appendix

A Descriptive statistics

Table A.1: Descriptive statistics, by year

	2015		2016		2017		2018	
	Mean	Obs.	Mean	Obs.	Mean	Obs.	Mean	Obs.
Women	0.62	14,961	0.61	15,903	0.61	16,258	0.61	16,777
Age	21.03	14,961	21.23	15,903	21.13	16,258	21.25	16,777
Public high school	0.78	14,792	0.78	15,618	0.79	15,952	0.80	16,374
Single	0.96	14,183	0.96	15,123	0.96	13,989	0.96	15,734
Has children	0.07	14,181	0.07	15,119	0.06	13,987	0.08	15,734
Num. household members	4.33	14,183	4.30	15,123	4.29	13,989	3.94	15,734
Work	0.27	14,183	0.28	15,123	0.23	13,989	0.26	15,734
Father/Mother graduate	0.46	14,133	0.45	15,021	0.47	13,745	0.45	15,427
Observations	14961		15903		16258		16777	

	2019		2020		2021	
	Mean	Obs.	Mean	Obs.	Mean	Obs.
Women	0.61	17,466	0.61	18,297	0.64	18,303
Age	21.23	17,466	21.37	18,297	21.52	18,303
Public high school	0.80	16,980	0.82	17,549	0.84	18,301
Single	0.96	16,349	0.96	15,856	0.98	16,041
Has children	0.08	16,348	0.08	15,854	0.09	16,568
Num. household members	3.96	16,349	3.89	15,856	3.64	16,569
Work	0.24	16,349	0.23	15,856	0.22	16,569
Father/Mother graduate	0.45	15,867	0.44	15,584	0.44	16,215
Observations	17466		18297		18303	

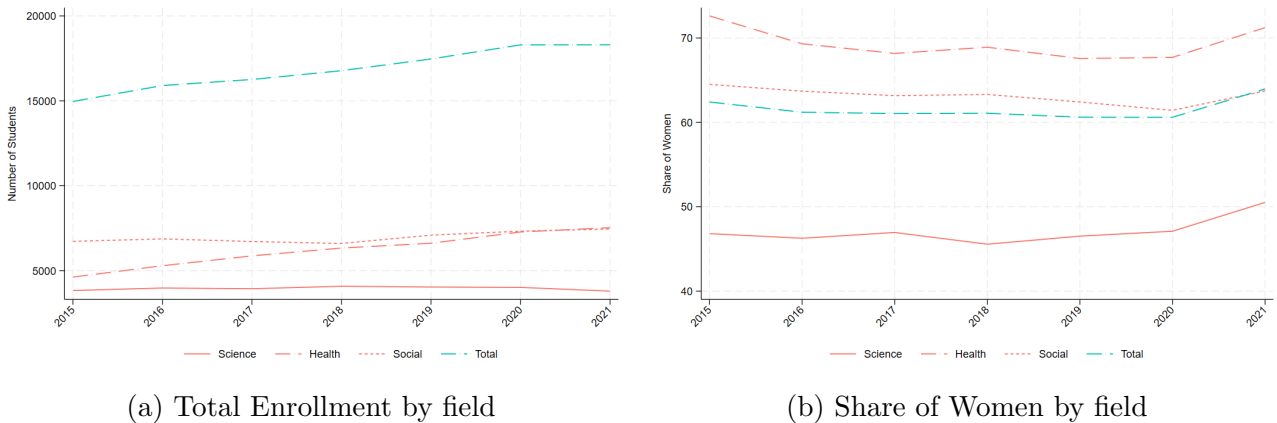
Notes: The Table shows the mean and number of observations for the relevant variables of the students registered at Udelar, according to year of registration. Data on gender, age, and public high school come from administrative records. Data on marital status, children, number of people in the household, own employment status, and education of mother and father come from the University Census. In 2017 and 2020, a lower proportion of students answered the Census. The number of observations per year is the number of first-time registrants; the regressions of Section 5 use the 115,561 of them with non-missing controls.

Table A.2: Share of Women by College and Year

	2015	2016	2017	2018	2019	2020	2021
Agron.	37.1	37.4	35.6	32.2	37.8	23.2	30.9
Arch.	62.0	63.7	61.1	62.6	63.4	63.8	67.3
Science	47.1	52.1	52.7	43.9	47.4	48.8	52.7
Engineering	23.7	23.4	24.1	25.7	25.5	26.3	28.5
Vet.	64.5	63.4	68.7	62.2	62.3	65.4	66.0
Chem.	74.5	69.8	71.8	67.4	73.9	68.0	76.8
Reg-Science	54.1	49.0	50.2	51.5	50.7	54.7	55.0
Sports	43.2	41.2	30.2	32.6	31.9	33.6	35.0
Nutrition	77.1	78.0	78.7	73.5	71.8	67.4	70.8
Nursing	78.6	71.8	77.1	75.0	76.9	76.0	79.6
Dentist	83.3	79.9	81.7	83.1	75.3	78.1	81.3
Med.	70.3	69.9	68.2	71.3	68.8	69.8	71.6
Psycho.	76.0	72.8	75.2	74.5	74.1	71.5	79.3
Med-Tech	76.9	75.6	76.1	74.2	73.5	74.4	75.7
Midwives	86.8	87.7	88.4	86.2	85.7	87.1	89.3
Reg-Health	80.1	64.3	65.7	65.1	66.9	63.9	67.9
Arts&Music	63.6	67.3	68.1	69.7	67.7	67.5	70.2
Buss&Econ.	56.2	55.0	56.0	53.1	52.5	48.8	51.9
Soc-Science	76.7	79.2	74.3	77.3	76.9	76.0	80.2
Law	67.8	66.5	66.2	66.8	67.1	65.9	67.9
Journalism	61.1	56.9	61.3	58.7	59.4	52.4	53.4
Human.	69.5	69.8	68.6	69.0	62.6	69.9	69.8
Reg-Social-Science	69.7	67.6	61.9	67.1	62.0	67.2	66.5

Notes: Own elaboration based on administrative records from Udelar.

Figure A.1: Total Enrollment and Share of Women by Field of Study, 2015-2021



(a) Total Enrollment by field

(b) Share of Women by field

Notes: Own elaboration based on Udelar administrative records.

Table A.3: Composition of Area Enrollment by College, Pooled 2015–2021

	Enrollment	ShareOfArea
Agron.	2,011	7.3
Arch.	6,008	21.7
Science	2,278	8.2
Engineering	9,463	34.2
Vet.	3,689	13.3
Chem.	2,376	8.6
Reg-Science	2,217	8.0
Sports	5,103	11.7
Nutrition	2,390	5.5
Nursing	4,587	10.5
Dentist	1,754	4.0
Med.	12,355	28.4
Psycho.	9,784	22.5
Med-Tech	4,428	10.2
Midwives	2,456	5.6
Reg-Health	2,896	6.7
Arts&Music	2,631	5.4
Buss&Econ.	14,364	29.4
Soc-Science	5,346	11.0
Law	14,536	29.8
Journalism	4,444	9.1
Human.	2,642	5.4
Reg-Social-Science	5,675	11.6

Notes: “Enrollment” is the pooled count of first-time registrants enrolled in that college, 2015–2021 (individual-year unit, Section 5.1). “Share of Area” is that count as a percentage of the pooled enrollment of all colleges in the same area (a registrant enrolled in two colleges of the same area counts once toward the area total but once for each college). It shows the weight of each college in its area’s pooled enrollment. Area totals here include the regional campuses, which are excluded from the area rows of Appendix Table A.10. Own elaboration based on administrative records from Udelar.

Table A.4: Share of First-Time Registrants With No Course or Exam in Their First Calendar Year, by Year

	2015	2016	2017	2018	2019	2020	2021
Share (%)	10.3	9.6	10.0	8.8	9.4	14.0	8.3

Notes: Own elaboration based on administrative records from Udelar. Sample: first-time registrants (*gen.entrante*=1), excluding second-semester registrants of any year (Section 5.1).

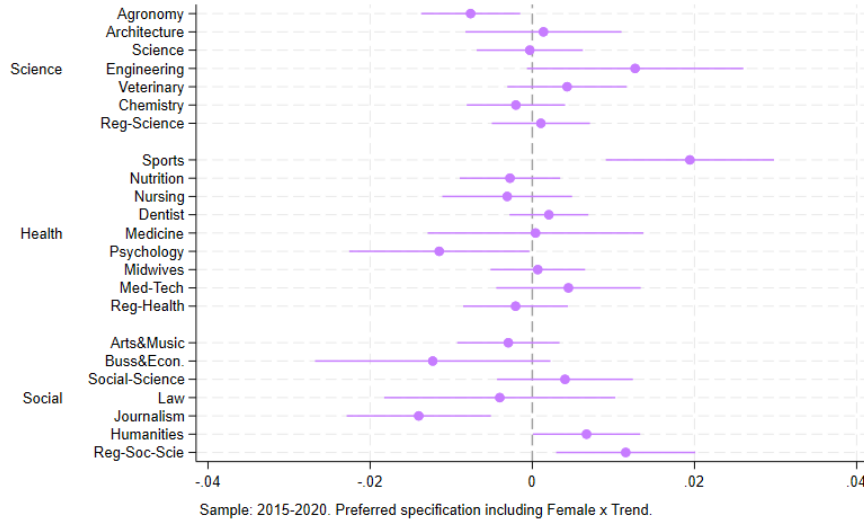
B Results

Table A.5: Gender-Differential Changes in Field of Study Choices in 2021

College	Interaction	Trend	Female	Pandemic	N	R^2
Agronomy	-0.001	0.001*	-0.023***	0.000	115,561	0.015
Architecture	-0.000	0.002*	0.001	0.000	115,561	0.010
Science	0.001	-0.000	-0.009***	-0.001	115,561	0.004
Engineering	0.007	0.006***	-0.138***	-0.010*	115,561	0.068
Veterinary	-0.002	-0.000	0.004**	0.001	115,561	0.009
Chemistry	0.003	-0.000	0.010***	-0.006***	115,561	0.004
Reg-Science	-0.002	0.001	-0.010***	0.000	115,561	0.047
Sports	0.012**	-0.006***	-0.034***	-0.005	115,561	0.024
Nutrition	-0.001	-0.001**	0.015***	-0.004**	115,561	0.004
Nursing	-0.001	0.003***	0.014***	0.003	115,561	0.023
Dentist	0.001	-0.001***	0.016***	-0.003*	115,561	0.004
Medicine	-0.010	0.003**	0.035***	-0.005	115,561	0.027
Psychology	0.023***	-0.002*	0.047***	0.004	115,561	0.025
Med-Tech	-0.011***	0.004***	0.010***	-0.005*	115,561	0.026
Midwives	-0.004	0.001**	0.020***	-0.002	115,561	0.010
Reg-Health	0.002	-0.001*	0.007***	0.004*	115,561	0.145
Arts&Music	-0.003	0.001**	0.003	0.005**	115,561	0.006
Buss&Econ.	-0.007	-0.002*	-0.032***	0.007	115,561	0.023
Social-Science	0.011***	-0.001	0.030***	0.001	115,561	0.012
Law	-0.009	0.000	0.028***	0.011**	115,561	0.006
Journalism	-0.009**	-0.002**	-0.001	0.010***	115,561	0.007
Humanities	-0.006**	-0.000	0.007***	-0.009***	115,561	0.028
Reg-Soc-Scie	0.000	-0.003***	0.015***	0.004	115,561	0.114

Notes: The table shows the results of estimating our main specification, the difference-in-differences model in Equation 1, on our main sample of all first-time registrants. Each row corresponds to a separate individual-level regression run for the corresponding college on the pooled sample of first-time registrants (2015–2021). The *Interaction* column reports γ (the coefficient on $Pandemic_t \times Female_i$); the *Trend* column reports δ (the coefficient on $Female_i \times Trend_t$, the college-specific linear pre-pandemic trend in the gender gap); the *Female* column reports β ; and the *Pandemic* column reports the coefficient on the 2021 year dummy, which captures the main effect of the pandemic given that calendar year fixed effects are included with 2020 as the omitted base year. All specifications include the full set of individual controls (locality of origin, age at first enrollment, and public high school). Robust standard errors. The last two columns report the number of observations (N) and the R^2 of each regression. *** significant at the 1% level, ** 5% level, and * 10% level. Appendix Table A.7 reports the corresponding estimates without the *Trend* control. Own elaboration based on administrative records from Udelar.

Figure A.2: Robustness Check: Placebo Test, 2020 as Pseudo-Treatment Year



Notes: Sample: 2015–2020, with 2020 as the pseudo-treatment year. The specification includes the same female-specific linear trend as the main model. Several fields have statistically significant placebo coefficients; Section 5.2 therefore interprets this exercise cautiously.

Table A.6: Psychology: Multiple Placebo Years and Main 2021 Estimate

Year	Psychology coefficient	p -value	Significant colleges (5%)
2018 placebo	-0.0028	0.7105	6/23
2019 placebo	-0.0067	0.2954	2/23
2020 placebo	-0.0115	0.0428	6/23
2021 main	0.0233	< 0.001	6/23

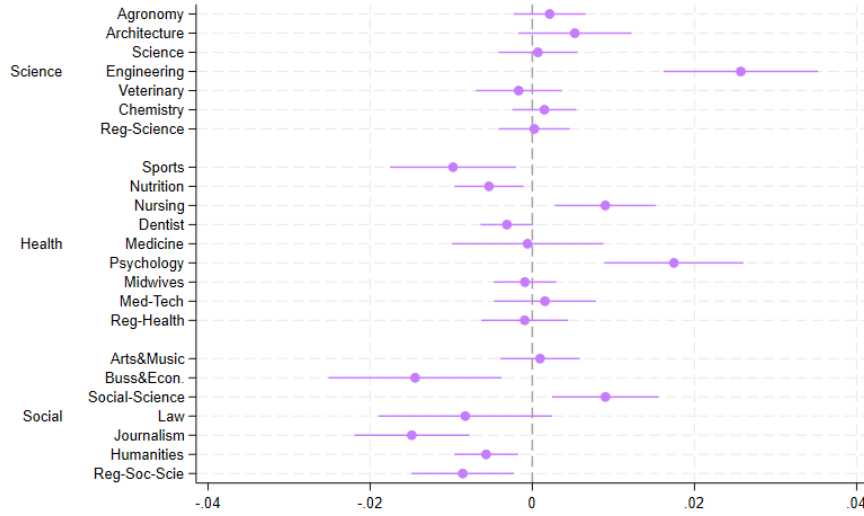
Notes: Each placebo treats the indicated year as the pseudo-treatment year and uses only observations through that year. All specifications include the same female-specific linear trend as the main specification. The final row reports the preferred 2021 estimate. “Significant colleges” reports the number of the 23 field-specific interaction coefficients with raw $p < 0.05$; it is not adjusted for multiple testing.

Table A.7: Robustness: Estimates Without the Pre-Existing Trend Control

College	γ without trend	γ with female trend (main spec.)	Female $\times$ trend
Agronomy	0.002	-0.001	0.001*
Architecture	0.005	-0.000	0.002*
Science	0.001	0.001	-0.000
Engineering	0.026***	0.007	0.006***
Veterinary	-0.002	-0.002	-0.000
Chemistry	0.001	0.003	-0.000
Reg-Science	0.000	-0.002	0.001
Sports	-0.010**	0.012**	-0.006***
Nutrition	-0.005**	-0.001	-0.001**
Nursing	0.009***	-0.001	0.003***
Dentist	-0.003*	0.001	-0.001***
Medicine	-0.001	-0.010	0.003**
Psychology	0.017***	0.023***	-0.002*
Med-Tech	0.002	-0.011***	0.004***
Midwives	-0.001	-0.004	0.001**
Reg-Health	-0.001	0.002	-0.001*
Arts&Music	0.001	-0.003	0.001**
Buss&Econ.	-0.014***	-0.007	-0.002*
Social-Science	0.009***	0.011***	-0.001
Law	-0.008	-0.009	0.000
Journalism	-0.015***	-0.009**	-0.002**
Humanities	-0.006***	-0.006**	-0.000
Reg-Soc-Scie	-0.009***	0.000	-0.003***

Notes: Each row corresponds to a separate individual-level regression run for the corresponding college on the pooled sample of first-time registrants (2015–2021), main sample. The first column reports γ on $Pandemic_t \times Female_i$ from Equation 1 *without* the $Female_i \times Trend_t$ term – a secondary comparison to our main specification. The second and third columns reproduce, for comparison, the corresponding coefficients from our main specification (Table A.5): the second column reports γ and the third column reports δ , the coefficient on $Female_i \times Trend_t$, where $Trend_t$ equals the enrollment year minus 2015 (0 to 6). All specifications include calendar year fixed effects (2020 omitted) and the full set of individual controls (locality of origin, age at first enrollment, and public high school). Robust standard errors. *** significant at the 1% level, ** 5% level, and * 10% level. Own elaboration based on administrative records from Udelar.

Figure A.3: Robustness: Without the Pre-Existing Trend Control



Notes: Each dot represents the coefficient γ of the interaction $Pandemic_t \times Female_i$ from Equation 1, without the additional college-specific linear trend control shown in Figure 1 (compare with Table A.7, first column). Each estimate comes from a separate individual-level regression run for each college on the pooled sample of first-time registrants (2015–2021), main sample. Robust standard errors. Own elaboration based on data obtained from DGPLAN, Udelar.

Table A.8: Multiple Hypothesis Testing Correction (Trend-Adjusted Specification)

Area	College	Trend-adj. p-value	BH (5%)	Bonferroni
Science	Engineering	0.272		
	Chemistry	0.297		
	Reg-Science	0.412		
	Agronomy	0.624		
	Veterinary	0.631		
	Science	0.683		
	Architecture	0.998		
Health	Psychology	0.000	✓	✓
	Med-Tech	0.010		
	Sports	0.020		
	Midwives	0.109		
	Medicine	0.120		
	Reg-Health	0.492		
	Dentist	0.624		
	Nutrition	0.780		
	Nursing	0.854		
Social	Social-Science	0.010		
	Journalism	0.036		
	Humanities	0.048		
	Law	0.204		
	Arts&Music	0.322		
	Buss&Econ.	0.342		
	Reg-Soc-Scie	0.983		

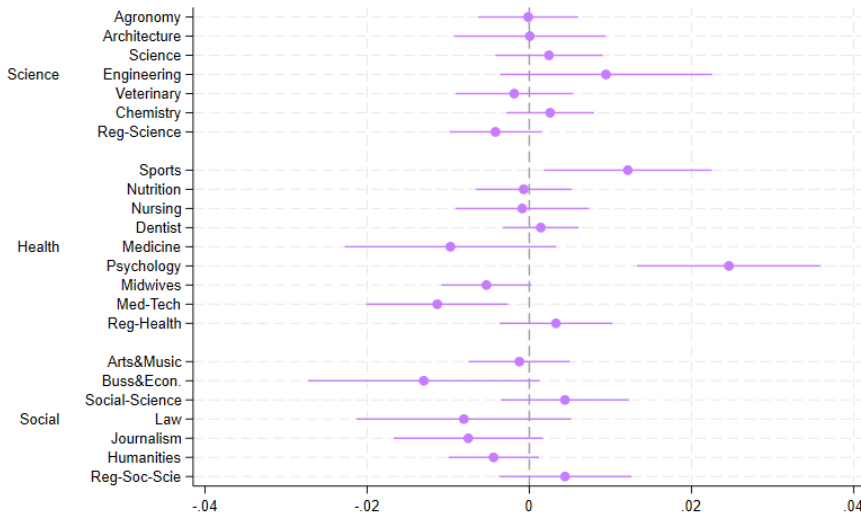
Notes: Trend-adjusted p-values of the interaction term ($Pandemic \times Female$) from Equation 1, estimated separately for each college and controlling for a college-specific linear pre-pandemic trend. ✓ indicates significance after correction. Bonferroni adjusted threshold = $0.05/23 = 0.002$. Benjamini-Hochberg uses the step-up procedure at the 5% level. Colleges are sorted by p-value within each area.

Table A.9: Gender-Differential Changes in Field of Study Choices in 2021: Effective-Entrants Sample

College	Interaction	Trend	Female	Pandemic	N	R ²
Agronomy	-0.000	0.001	-0.024***	-0.001	105,771	0.015
Architecture	0.000	0.002**	0.001	0.001	105,771	0.010
Science	0.002	-0.001	-0.008***	-0.002	105,771	0.004
Engineering	0.009	0.006***	-0.145***	-0.013**	105,771	0.071
Veterinary	-0.002	-0.000	0.005**	0.001	105,771	0.009
Chemistry	0.003	-0.000	0.011***	0.000	105,771	0.004
Reg-Science	-0.004	0.001**	-0.011***	0.002	105,771	0.043
Sports	0.012**	-0.007***	-0.033***	-0.006	105,771	0.025
Nutrition	-0.001	-0.001**	0.015***	-0.004*	105,771	0.004
Nursing	-0.001	0.003***	0.014***	0.001	105,771	0.026
Dentist	0.001	-0.001***	0.016***	-0.004**	105,771	0.004
Medicine	-0.010	0.002*	0.040***	-0.010**	105,771	0.028
Psychology	0.025***	-0.002**	0.050***	-0.002	105,771	0.030
Med-Tech	-0.011**	0.004***	0.011***	-0.009***	105,771	0.026
Midwives	-0.005*	0.001**	0.021***	-0.003*	105,771	0.010
Reg-Health	0.003	-0.001**	0.007***	0.003	105,771	0.148
Arts&Music	-0.001	0.001	0.004**	0.006***	105,771	0.006
Buss&Econ.	-0.013*	-0.002	-0.035***	0.026***	105,771	0.026
Social-Science	0.004	0.000	0.026***	0.001	105,771	0.011
Law	-0.008	0.000	0.031***	0.018***	105,771	0.005
Journalism	-0.008	-0.002***	0.001	0.005	105,771	0.008
Humanities	-0.004	0.000	0.005***	-0.011***	105,771	0.024
Reg-Soc-Scie	0.004	-0.003***	0.014***	0.000	105,771	0.113

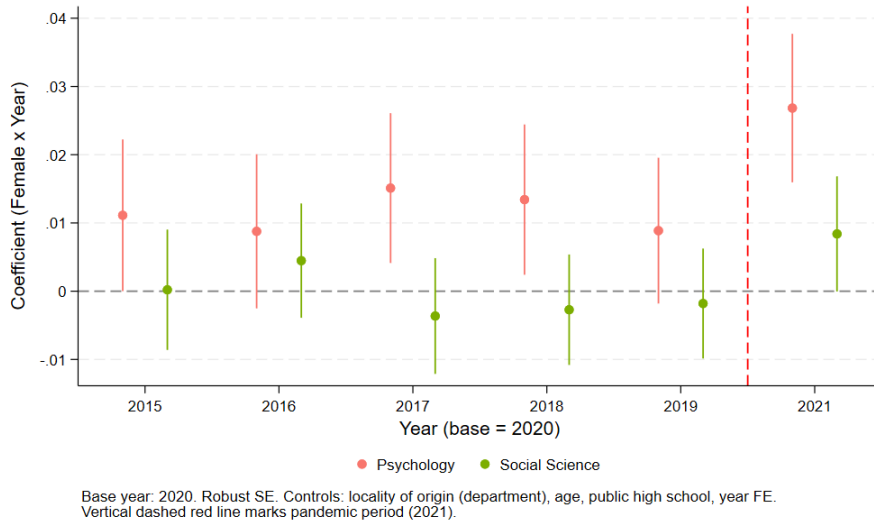
Notes: Same specification as Table A.5, restricting the sample to effective entrants (registrants who took at least one course or sat at least one exam in their first calendar year). *** significant at the 1% level, ** 5% level, and * 10% level. Own elaboration based on administrative records from Udelar.

Figure A.4: Gender-Differential Changes in Field of Study Choices in 2021: Effective-Entrants Sample



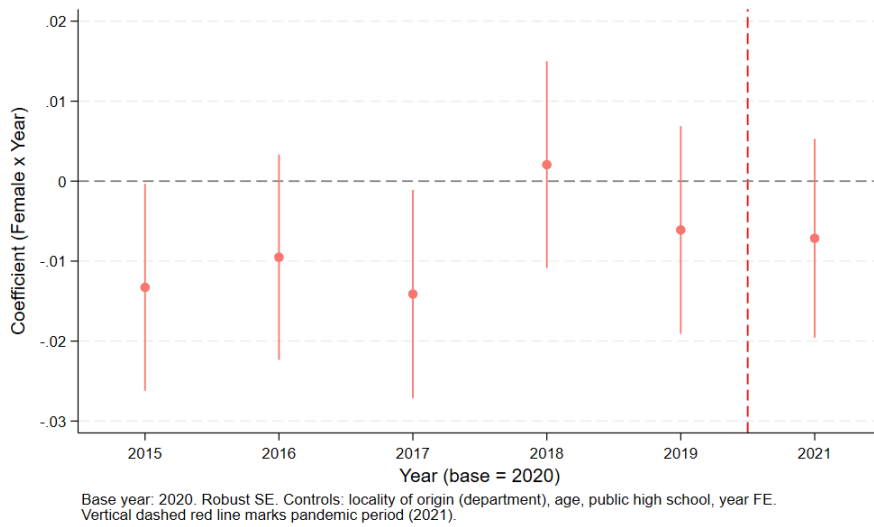
Notes: Same specification as Figure 1, restricting the sample to effective entrants. Own elaboration based on administrative records from Udelar.

Figure A.5: Gender Gap in Field Choice: Psychology and Social Science



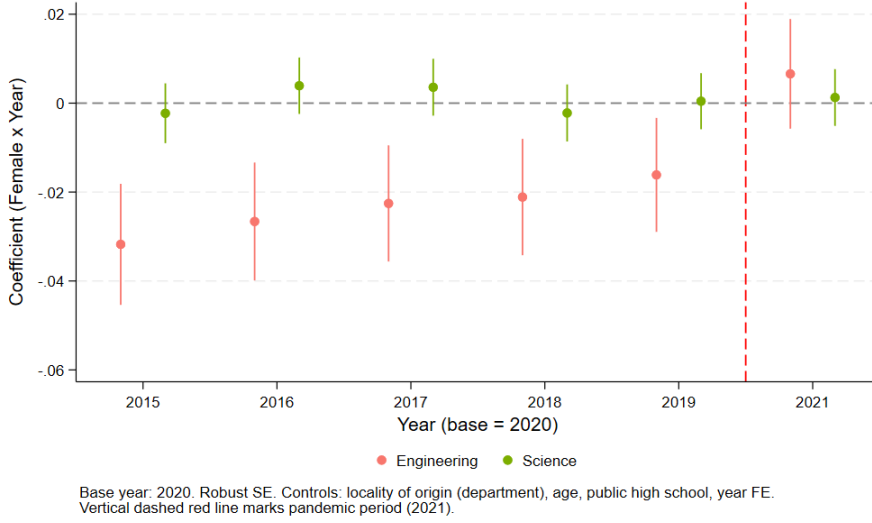
Notes: Base year: 2020. Robust SE. Controls: locality of origin (department), age, public high school and year FE

Figure A.6: Gender Gap in Field Choice: Medicine



Notes: Base year: 2020. Robust SE. Controls: locality of origin (department), age, public high school and year FE.

Figure A.7: Gender Gap in Field Choice: Engineering and Science



Notes: Base year: 2020. Robust SE. Controls: locality of origin (department), age, public high school and year FE

C Aggregate enrollment: counterfactual analysis

To analyze potential changes in university enrollment related to the pandemic, and given that we do not have information on the number of potential registrants who decided not to register, we estimate a log-linear regression of enrollment on a deterministic time trend using only pre-pandemic data. Based on this model, we compute counterfactual enrollment in 2021 under the assumption that the pre-pandemic trend would have continued in the absence of the pandemic. The model is estimated separately at the aggregate Udelar level (used in the first row of Table A.10) and at the area level (used for the by-field rows), and is run independently for total, women's, and men's enrollment. Specifically, we estimate $\log(Enroll_t) = \alpha + \theta Trend_t + \varepsilon_t$ on pre-pandemic observations (2015–2020), where $Trend$ is a deterministic time trend taking values 1 to 6 for the years 2015 to 2020 respectively. The coefficient θ thus captures the annual enrollment growth rate before the pandemic. The counterfactual predicted enrollment for 2021 is obtained by exponentiating the fitted value, $\widehat{Enroll}_{2021} = \exp(\hat{\alpha} + \hat{\theta} \cdot 7)$. Table A.10 shows observed enrollment for 2020 (column 1) and 2021 (2), and 2021 predicted enrollment (3) based on the estimated model. The difference between observed and predicted enrollment measures the deviation of 2021 enrollment from the level implied by the continuation of the pre-pandemic trend. We report this deviation both relative to 2020 enrollment (column 6) and as a percentage of predicted 2021 enrollment (column 7); the percentages quoted in the text refer to column 7.

Observed enrollment in 2021 was approximately 3% below the level predicted by the continuation of the pre-pandemic trend. This aggregate difference masks substantial gender heterogeneity: observed women's enrollment was 3% above its predicted level, while observed men's enrollment was 13% below it. Because this exercise extrapolates the pre-pandemic trend in

the absence of an untreated comparison group, we interpret these differences as descriptive deviations from the predicted counterfactual rather than as causal estimates of the effect of the pandemic.

A leave-one-year-out analysis confirms that the results are not driven by any single pre-pandemic year: the aggregate deviation for total enrollment ranges between -3.5% and -2.6% depending on which pre-pandemic year is excluded from the trend estimation (Figure A.8). A placebo test using 2019 as a pseudo-treatment year (trend estimated on 2015–2018) yields effects that are modest relative to the pandemic-period deviation (-0.1% total, $+0.2\%$ women, -0.7% men), consistent with the methodology not generating spurious effects of a comparable magnitude on its own (Figure A.9).

Heterogeneous effects by gender and field of study are also evident. In Science-related fields (excluding regional campuses), observed enrollment was 8% below its counterfactual overall, with a similar shortfall for men (-15%) and an approximately flat deviation for women (-1%). In Health-related fields, observed enrollment was 7% below its counterfactual, more pronounced for men (-22%) than for women (essentially flat, 0%). In Social-related fields, the aggregate deviation was essentially flat overall ($+1\%$), reflecting a positive deviation for women ($+5\%$) and a negative one for men (-5%).

Table A.10: Observed and Predicted Enrollment by Gender and Field of Study

	2020	2021 Obs.	2021 Predicted	Δ 2021 Observed	Δ 2021 Predicted without Pand.	Deviation from Predicted Trend (Observed–Predicted)	Deviation from Predicted Trend (% of Predicted)
	(1)	(2)	(3)	(4): ((2)-(1))/(1)	(5): ((3)-(1))/(1)	(6): (4)-(5)	(7): ((2)-(3))/(3)
<i>All fields</i>							
Total	18297	18303	18913	0	.03	-.03	-.03
Women	11088	11707	11365	.06	.02	.03	.03
Men	7209	6596	7553	-.09	.05	-.13	-.13
<i>Science</i>							
Total	3682	3470	3790	-.06	.03	-.09	-.08
Women	1707	1735	1745	.02	.02	-.01	-.01
Men	1975	1735	2045	-.12	.04	-.16	-.15
<i>Health</i>							
Total	6698	6817	7356	.02	.1	-.08	-.07
Women	4557	4883	4894	.07	.07	0	0
Men	2141	1934	2479	-.1	.16	-.25	-.22
<i>Social</i>							
Total	6589	6643	6555	.01	-.01	.01	.01
Women	4006	4210	4001	.05	0	.05	.05
Men	2583	2433	2555	-.06	-.01	-.05	-.05

Notes: The table shows the observed and predicted values of total enrollment, women’s enrollment, and men’s enrollment, for the main sample of all first-time registrants. Predicted values are derived from the equation described above. Columns (4) to (6) are expressed relative to 2020 enrollment; column (7) expresses the deviation as a percentage of predicted 2021 enrollment, which is the measure quoted in the text. Science, Health, and Social refer to the three Udelar areas (Section 4); the area rows exclude registrants enrolled in the regional campuses, whose programs span more than one area, while the “All fields” rows include them. The area rows therefore do not add up to the total.

Figure A.8: Robustness Check: Leave One Year Out Analysis

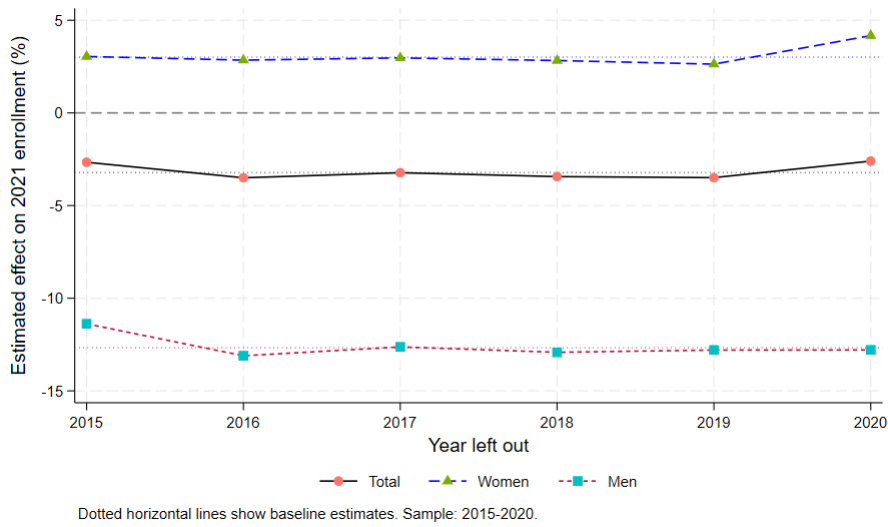


Figure A.9: Robustness Check: Placebo Test

