## **Supplementary Materials**

Table S1a. Sample characteristics, SSM 2019.

	Test Score	Curriculum Score	Days Passed Since Graduation
Valid	17595	17595	17375
Missing	1	1	221
Mean	83.85	2.59	793.10
Median	84.75	2.50	354.00
Mode	80.00	0.50	344.00
Variance	355.10	2.69	1398674.00
Minimum	-6.00	0.00	8.00
Maximum	133.5	7.00	18235.00
25th percentile	71.25	1.00	258.00
75th percentile	97.50	4.00	830.00
			3

Table S1b. Sample characteristics, SSM 2019.

University of graduation	Number of candidates
Ancona -Politecnica Delle Marche	233
Bari	713
Bologna	722
Brescia	376
Cagliari	340
Catania	626
Catanzaro	281
Chieti Gabriele D'Annunzio	381
Ferrara	400
Firenze	543
Foggia	176
Genova	443
Humanitas University	6
L'Aquila	259
Messina	471
Milano Statale	601
Milano-Bicocca	184
Milano Vita-Salute San Raffaele	171
Modena e Reggio Emilia	255
Napoli Federico II	785
Padova	637
Palermo	839
Parma	415
Pavia	442
Perugia	449
Pisa	499

Roma Campus Bio-Medico	144
Roma La Sapienza	1710
Roma Tor Vergata	449
Roma Università Cattolica Sacro Cuore	458
Roma Università Pontificia Salesiana	1
Salerno	221
Sassari	276
Siena	276
Torino	744
Trieste	224
Udine	129
Università Degli Studi Del Molise	82
Università Degli Studi Del Piemonte Orientale Amedeo Avogadro	132
Università Degli Studi Della Campania Luigi Vanvitelli	559
Varese Università Dell'Insubria	248
Verona	262
Graduated Abroad	213
NA	220

Table S2. Control Analysis, Days passed between graduation and SSM2019.

Time cut-off	All included	365d	730d
estimated beta	-0.004	0.083	0.002
p-value	<2e-16	<2e-16	0.06

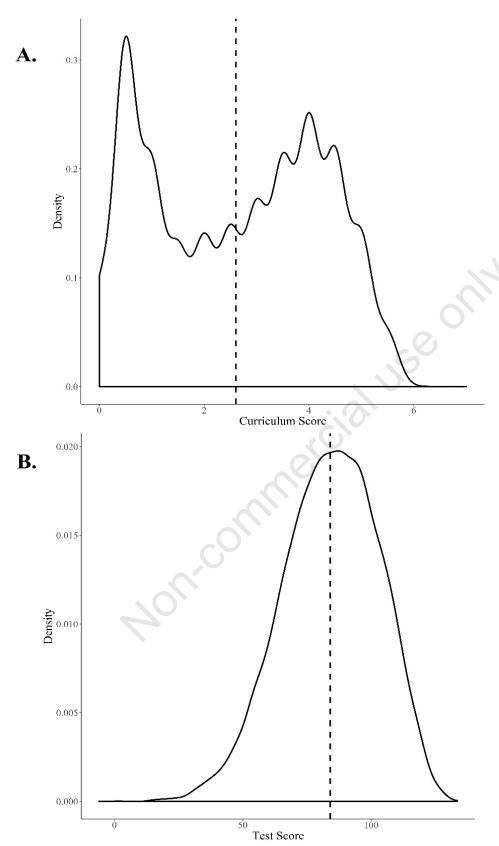


Figure S1. Density Plots. A. represents the density curve, at the national level, for Curriculum scores. B. represents the density curve, at the national level, for Test scores.

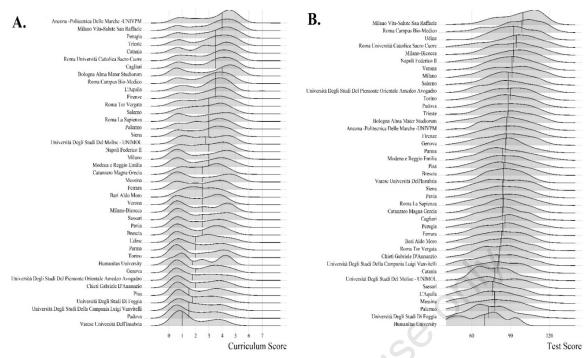


Figure S2. Density Plots – by University. A. represents the density curve, calculated for each University, for Curriculum scores, in in descending order of mean values. B. represents the density curve, calculated for each University, for Test scores, in descending order of mean values.

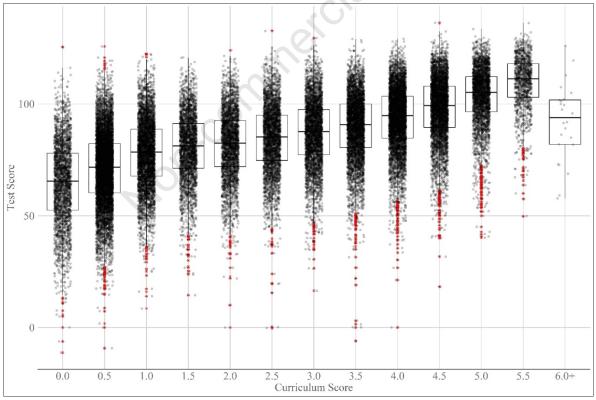


Figure S3. Correlations between Curriculum and Test scores. Boxplots represent the overall distribution for each Curriculum score class (from 0 to  $\geq$ 6, by 0.5). Individual variables were plotted as a jitter plot and outliers marked by the red color and a star shape.

Humanitas University	0.899	0.22	0.507	
Roma Università Cartolica Sacro Cuore	0.788	0.72	0.641	•
Milano-Bicocca			0.648	•
Università Degli Studi Del Piemonte Orientale Amedeo Avogadro		0.796	0.674	•
Verona		0.654	0.561	•
Milano		0.711	0.608	
Roma Campus Bio-Medico		0.683	0.705	0.8
Sassari	0.721	0.695	0.55	•
Ancona -Politecnica Delle Marche -UNIVPM	0.707	0.699	0.685	
Trieste	0.705	0.706	0.648	
Genova	0.697	0.735	0.606	
Firenze	0.696		0.677	
Siena	0.692	0,68	0.647	0.7
Milano Vita-Salute San Raffaele	0.69	0.688	0.67	
Palermo	0.673	0.63	0.63	
Bologna Alma Mater Studiorum	0.672	0.708	0.662	
Udine	0.668	0.636	0.578	
Torine	0.661	0.711	0.671	
Modena e Reggio Emilia	0.659	0.68	0.7	0.6
Padova	0.659	0.695	0.622	
Cagliari	0.657	0.607	0.608	
Pisa	0.654	0.599	0.557	
Roma La Sapienza	0.654	0.677	0.628	
Parma	0.646	0.659	0.641	
Roma Tor Vergaia	0.644	0.642	0.596	- 0.5
Catania	0.638	0.683	0.617	
Pavia	0.637	0.669	0.628	
Università Degli Studi Del Molise - UNIMOL	0.629	0.519	0.596	
Feitara	0.624	0.624	0.662	
Breseia	0.622	0.693	0.657	
Perugia	0.62	0.689	0.704	- 0.4
Varese Università Dell'Insubria	0.593	0.641	0.575	
Napoli Federico II	0.59	0.627	0.569	
Messina	0.553	0.601	0.554	
Bari Aldo Moro	0.55	0.603	0.569	
Salerno	0.549	0.611	0.576	
Catanzaro Magna Grecia	0.546	0.453	0.603	- 0.3
Chieti Gabriele D'Annunzio	0.544	0.619	0.652	
Universită Degli Studi Della Campania Luigi Vanvitelli	0.541	0.594	0.569	
L'Aquila	0.478	0.518	0.522	
Università Degli Studi Di Foggia	0.447	0.57	0.529	
	SSM2019	SSM2018	SSM2017	

Figure S4. Heatmap of Spearman's rho coefficients, calculated between each University and scaled for each year (2019,2018,2017). On the left, a dendrogram by average linkage clustering and a color bar legend. On the right, the name of the individual University.

Humanitas University		
Roma Università Cattolica Sacro Cuore		
Milano-Bicocca		
Università Degli Studi Del Piemonte Orientale Amedeo Avogadro		
Verona	0.085	_
Milano	0.066	
Roma Campus Bio-Medico	0.02	
Sassari	0.092	
Ancona -Politecnica Delle Marche -UNIVPM	0.011	
Trieste	0.033	
Genova	0.066	
Firenze	0.027	
Siena	0.024	
Milano Vita-Salute San Raffaele	0.011	
Palermo	0.025	
Bologna Alma Mater Studiorum		
Udine	0.045	
Torino	0.027	-
Modena e Reggio Emilia	0.02	
Padova	0.037	
Cagliari	0.029	
Pisa		
Roma La Sapienza	0.025	
Parma	0,009	<u></u>
Roma Tor Vergata		
Catania	0.034	
Pavia	0.022	
Università Degli Studi Del Molise - UNIMOL	0.056	
Ferrara	0.022	
Brescia		
Perugia		=
Varese Università Dell'Insubria	0.034	
Napoli Federico II		
Messina Messina	0.027	
Bari Aldo Moro	0.027	
	0.027	
Salerno Catanzaro Magna Grecia		-
Chieti Gabriele D'Annunzio		
Università Degli Studi Della Campania Luigi Vanvitelli		
L'Aquila		
Università Degli Studi Di Foggia	0.062	

Figure S5. Heatmap of standard deviations of rho coefficients between SSM 2019, 2018 and 2017. On the right, a legend color bar. On the left, the name of the individual University.

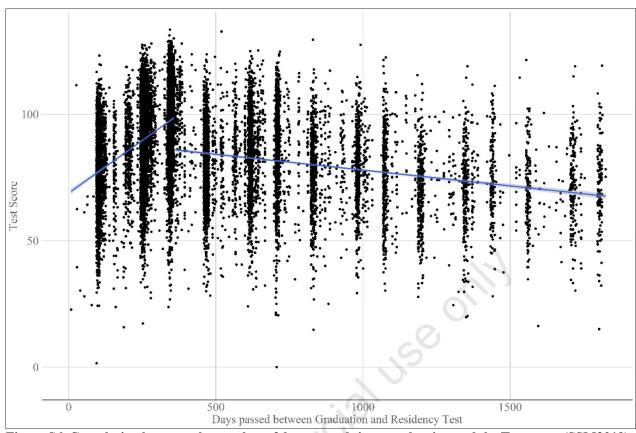


Figure S6. Correlation between the number of days passed since graduation and the Test score (SSM2019). Sample of graduated students from less than 5 years before the Residency Test. Two separate linear regressions were applied, one for students graduated from less than a year before the test and one for the rest.