

Supplementary Information

Gender Disparities in Research Fields in Russia: Dissertation Authors and Their Mentors

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Table S1 General Population & Sample

<i>Field</i>	General Population (RBC data)				Sample (HAC data)				
	<i>PhD</i>	<i>DS</i>	<i>Overall</i>		<i>PhD</i>	<i>DS</i>	<i>Overall</i>		<i>Count of subfields</i>
	N = 233 739	N = 31 396	N = 265 135	<i>Share of total (%)</i>	N = 32 972	N = 12 636	N = 45 608	<i>Share of total (%)</i>	N = 308
1 Technical science	38 822	4972	43 794	16.5	7608	1877	9485	20.8	99
2 Economics	37 057	3963	41 020	15.5	4078	1945	6023	13.2	5
3 Medical Sciences	33 717	5762	39 479	14.9	3613	2242	5855	12.8	37
4 Physics & Math.	12 047	2539	14 586	5.5	2909	614	3523	7.7	28
5 Biology	14 442	2285	16 727	6.3	2139	915	3054	6.7	21
6 Education	18 435	1735	20 170	7.6	1861	740	2601	5.7	5
7 Philology	13 151	1502	14 653	5.5	1816	739	2555	5.6	11
8 Law	14 474	1136	15 610	5.9	1387	553	1940	4.3	12
9 Chemistry	6990	967	7957	3.0	1599	314	1913	4.2	13
10 Earth Sciences	7320	1223	8543	3.2	1430	335	1765	3.9	28
11 Agriculture	8443	1281	9724	3.7	1030	604	1634	3.6	15
12 History	7306	1214	8520	3.2	947	540	1487	3.3	6
13 Philosophy	4588	876	5464	2.1	515	366	881	1.9	7
14 Psychology	5365	454	5819	2.2	634	181	815	1.8	8
15 Sociology	3920	440	4360	1.6	468	220	688	1.5	5
16 Political Science	3625	424	4049	1.5	413	183	596	1.3	3
17 Culturology	2112	365	2477	0.9	233	174	407	0.9	1
18 Art Studies	1925	258	2183	0.8	292	94	386	0.8	4

Table S2 Sample of gender assignment by gender-specific suffixes of patronymic

<i>Full personal name [rus]</i>	<i>Slavic patronymic [rus]</i>	<i>Gender-specific suffixes [rus]</i>	<i>Gender</i>
Змеева Екатерина Олеговна	Олеговна	-на	female
Тимофеева Влада Владиславовна	Владиславовна	-на	female
Ничков Борис Владимирович	Владимирович	-ич	male
Сладков Павел Порфирьевич	Порфирьевич	-ич	male
Кук Ин Сун	NA	NA	undefined
Ямакава Сихоко	NA	NA	undefined

Table S3 Distribution of collaboration types in PhD and DS dissertations by field

<i>Field</i>	PhD				DS			
	<i>Both female</i>	<i>Female author & male mentor</i>	<i>Male author & female mentor</i>	<i>Both male</i>	<i>Both female</i>	<i>Female author & male mentor</i>	<i>Male author & female mentor</i>	<i>Both male</i>
	N = 7510	N = 8702	N = 3302	N = 13 458	N = 1957	N = 3948	N = 927	N = 5804
1 Agriculture	187	338	103	402	52	183	42	327
2 Art Studies	160	60	47	25	42	20	18	14
3 Biology	599	745	235	560	134	328	81	372
4 Chemistry	283	510	191	615	21	107	18	168
5 Culturology	105	71	30	27	51	65	23	35
6 Earth Sciences	144	403	99	784	14	81	13	227
7 Economics	1242	1041	716	1079	391	687	203	664
8 Education	974	413	205	269	278	250	77	135
9 History	179	286	109	373	46	168	42	284
10 Law	258	413	200	516	65	163	41	284
11 Medical Sciences	1006	1132	304	1171	336	741	158	1007
12 Philology	1094	440	144	138	274	307	55	103
13 Philosophy	140	152	61	162	36	149	26	155
14 Physics & Math,	126	705	140	1938	2	104	14	494
15 Political Science	52	127	54	180	12	54	14	103
16 Psychology	292	179	80	83	63	80	11	27
17 Sociology	141	146	67	114	53	93	20	54
18 Technical science	528	1541	517	5022	87	368	71	1351

Table S3a Over-selection of female authors by female mentors. Calculated by assuming no gender preferences among mentors and authors

<i>Field</i>	<i>Share of female authors (%)</i>	<i>Count of female mentors</i>	<i>Count of «both female» dissertations (actual)</i>	<i>Calculated by assuming no gender preferences among mentors and authors</i>	
				<i>Count of «both female» dissertations (calculated)</i>	<i>Over-selection of female authors by female mentors (%)</i>
<i>1</i>	<i>2</i>	<i>3</i>	<i>4</i>	<i>5</i>	<i>6</i>
PhD					
1 Agriculture	50,97	290	187	147,82	26,51
2 Art Studies	75,34	207	160	155,96	2,59
3 Biology	62,83	834	599	524,03	14,31
4 Chemistry	49,59	474	283	235,07	20,39
5 Culturology	75,54	135	105	101,97	2,97
6 Earth Sciences	38,25	243	144	92,95	54,92
7 Economics	55,98	1958	1242	1096,15	13,31
8 Education	74,53	1179	974	878,71	10,84
9 History	49,10	288	179	141,41	26,58

10	Law	48,38	458	258	221,57	16,44
11	Medical Sciences	59,18	1310	1006	775,20	29,77
12	Philology	84,47	1238	1094	1045,76	4,61
13	Philosophy	56,70	201	140	113,97	22,84
14	Physics & Math,	28,57	266	126	75,99	65,82
15	Political Science	43,34	106	52	45,94	13,19
16	Psychology	74,29	372	292	276,36	5,66
17	Sociology	61,32	208	141	127,56	10,54
18	Technical science	27,20	1045	528	284,19	85,79
DS						
1	Agriculture	38,91	94	52	36,57	42,18
2	Art Studies	65,96	60	42	39,57	6,13
3	Biology	50,49	215	134	108,56	23,44
4	Chemistry	40,76	39	21	15,90	32,09
5	Culturology	66,67	74	51	49,33	3,38
6	Earth Sciences	28,36	27	14	7,66	82,85
7	Economics	55,42	594	391	329,22	18,77
8	Education	71,35	355	278	253,30	9,75
9	History	39,63	88	46	34,87	31,90
10	Law	41,23	106	65	43,70	48,73
11	Medical Sciences	48,04	494	336	237,31	41,59
12	Philology	78,62	329	274	258,66	5,93
13	Philosophy	50,55	62	36	31,34	14,87
14	Physics & Math,	17,26	16	2	2,76	-27,59
15	Political Science	36,07	26	12	9,38	27,97
16	Psychology	79,01	74	63	58,46	7,76
17	Sociology	66,36	73	53	48,45	9,40
18	Technical science	24,24	158	87	38,30	127,15

Table S3b Over-selection of male authors by male mentors. Calculated by assuming no gender preferences among mentors and authors

<i>Field</i>	<i>Share of male authors (%)</i>	<i>Count of male mentors</i>	<i>Count of «both male» dissertations (actual)</i>	<i>Calculated indicators coming from the basic hypothesis that there are no gender preferences among mentors and authors</i>	
				<i>Count of «both male» dissertations (calculated)</i>	<i>Over-selection of male authors by male mentors (%)</i>
<i>1</i>	<i>2</i>	<i>3</i>	<i>4</i>	<i>5</i>	<i>6</i>
PhD					
1	49,03	740	402	362,82	10,80
2	24,66	85	25	20,96	19,28
3	37,17	1305	560	485,03	15,46

4	Chemistry	50,41	1125	615	567,07	8,45
5	Culturology	24,46	98	27	23,97	12,62
6	Earth Sciences	61,75	1187	784	732,95	6,96
7	Economics	44,02	2120	1079	933,15	15,63
8	Education	25,47	682	269	173,71	54,86
9	History	50,90	659	373	335,41	11,21
10	Law	51,62	929	516	479,57	7,60
11	Medical Sciences	40,82	2303	1171	940,20	24,55
12	Philology	15,53	578	138	89,76	53,75
13	Philosophy	43,30	314	162	135,97	19,15
14	Physics & Math,	71,43	2643	1938	1887,99	2,65
15	Political Science	56,66	307	180	173,94	3,48
16	Psychology	25,71	262	83	67,36	23,22
17	Sociology	38,68	260	114	100,56	13,37
18	Technical science	72,80	6563	5022	4778,19	5,10
DS						
1	Agriculture	61,09	510	327	311,57	4,95
2	Art Studies	34,04	34	14	11,57	20,96
3	Biology	49,51	700	372	346,56	7,34
4	Chemistry	59,24	275	168	162,90	3,13
5	Culturology	33,33	100	35	33,33	5,00
6	Earth Sciences	71,64	308	227	220,66	2,87
7	Economics	44,58	1351	664	602,22	10,26
8	Education	28,65	385	135	110,30	22,40
9	History	60,37	452	284	272,87	4,08
10	Law	58,77	447	284	262,70	8,11
11	Medical Sciences	51,96	1748	1007	908,31	10,87
12	Philology	21,38	410	103	87,66	17,50
13	Philosophy	49,45	304	155	150,34	3,10
14	Physics & Math,	82,74	598	494	494,76	-0,15
15	Political Science	63,93	157	103	100,38	2,61
16	Psychology	20,99	107	27	22,46	20,19
17	Sociology	33,64	147	54	49,45	9,21
18	Technical science	75,76	1719	1351	1302,30	3,74

Table S4 Pilkina and Lovakov (2022): Research fields with numbers of papers with at least one Russian-affiliated author in 2017–2019 (WoS)

	<i>Field</i>	<i>Number of papers in WoS</i>	<i>Share of total (%)</i>
1	Physics	28.277	23.2
2	Chemistry	25.187	20.7
3	Materials science	10.026	8.2
4	Geoscience	8357	6.9
5	Engineering	7969	6.5
6	Mathematics	6563	5.4
7	Clinical medicine	5783	4.7
8	Biology & biochemistry	4823	4.0
9	Plant & animal science	4465	3.7
10	Space science	3499	2.9
11	Molecular biology & genetics	2887	2.4
12	Environment/Ecology	2716	2.2
13	Social science	2153	1.8
14	Computer science	1894	1.6
15	Pharmacology & toxicology	1518	1.2
16	Neuroscience & behavior	1481	1.2
17	Microbiology	1165	1.0
18	Agricultural science	1036	0.8
19	Psychiatry/Psychology	930	0.8
20	Immunology	571	0.5
21	Economics & business	568	0.5
22	Multidisciplinary	85	0.1