

Supplementary Table 1

Logistic Regression Odds Ratios (OR) for Predicting a Publication in 2020 based on 10 Years of Grant and Publication History

AIC	P	H	S	I	10-year model	All faculty excluding missing/undefined gender and missing degree year (n=271,146)					All faculty excluding missing/undefined gender, missing degree year, and those inactive in 2020 (n=181,257)														
A.	232939	232420	232742	232096		A. Ridge Penalized					B. Logistic Fixed Effects					C. Ridge Penalized					D. Logistic Fixed Effects				
B	227168	226705	226948	226241																					
C.	157693	157161	157580	157210																					
D	155747	155249	155635	155240																					
ORP = Individual Level ORH = Institute Avg. Horribilis θ= OR of Institute Horribilis ORI= Institute Categorical ORS= State Categorical					% or average	ORP	ORH Θ=0.87	ORS	ORI	ORP	ORH Θ=0.88	ORS	ORI	% or average	ORP	ORH Θ=0.87	ORS	ORI	ORP	ORH Θ=0.86	ORS	ORI			
Discipline		Business	6.1%	1.17	1.17	1.17	1.16	1.34	1.35	1.35	1.35	6.3%	1.20	1.20	1.20	1.19	1.41	1.43	1.41	1.43					
		Education	5.1%	1.14	1.19	1.15	1.19	1.37	1.44	1.40	1.47	4.6%	1.39	1.47	1.40	1.46	1.70	1.82	1.71	1.83					
		Engineering	6.2%	1.39	1.40	1.40	1.40	1.63	1.66	1.65	1.69	6.7%	1.61	1.64	1.62	1.63	1.96	2.04	1.99	2.05					
		Health	7.1%	1.22	1.25	1.22	1.25	1.41	1.46	1.43	1.48	6.2%	1.53	1.60	1.55	1.63	1.86	1.98	1.89	2.07					
		MathComp	8.1%	1.13	1.14	1.13	1.14	1.32	1.35	1.34	1.37	8.8%	1.16	1.18	1.16	1.17	1.37	1.41	1.38	1.43					
		Medicine	6.3%	1.46	1.42	1.46	1.44	1.75	1.72	1.78	1.81	5.8%	1.72	1.69	1.72	1.73	2.05	2.04	2.07	2.16					
		SocialScience	16.8%	1.26	1.28	1.27	1.28	1.45	1.49	1.47	1.50	16.9%	1.40	1.42	1.40	1.42	1.64	1.69	1.65	1.71					
		STEM	25.7%	1.45	1.44	1.46	1.46	1.70	1.71	1.73	1.78	25.8%	1.68	1.69	1.69	1.72	1.96	2.02	2.00	2.09					
Gender	Female	36.2%	1.00	1.00	1.00	1.00	1.02	1.01	1.02	1.01	36.8%	1.00	0.99	1.00	1.00	1.02	1.02	1.02	1.02						
Max Rank	FullProf	33.7%	0.99	0.99	0.99	0.98	1.59	1.60	1.60	1.60	27.9%	1.02	1.01	1.02	1.01	1.18	1.18	1.18	1.17						
	AssociateProf	24.2%	0.81	0.82	0.81	0.81	0.99	1.01	0.99	1.00	24.9%	0.77	0.78	0.77	0.78	0.83	0.84	0.83	0.85						
Age	AcademicAge	23.9	0.59	0.58	0.59	0.58	0.40	0.40	0.40	0.39	20.7	0.76	0.76	0.76	0.76	0.67	0.66	0.67	0.67						
Activity	ActiveYears 2011To2019	66.1% (5.9/9)	1.22	1.22	1.22	1.23	1.26	1.26	1.27	1.29	86.7% (7.8/9)	0.88	0.88	0.88	0.88	0.83	0.84	0.83	0.82						
Productivity	AnniHorribilis 2011To2019	43.3% 3.90/9	0.30	0.31	0.30	0.31	0.20	0.20	0.20	0.20	34.6% (3.11/9)	0.32	0.33	0.32	0.33	0.24	0.25	0.24	0.25						
Funding	AnyGrants 2011To2019	26.6%	1.79	1.75	1.78	1.76	1.58	1.53	1.57	1.54	31.4%	1.68	1.63	1.67	1.64	1.55	1.48	1.53	1.50						

Supplementary Table 2

Logistic Regression Odds Ratios (OR) for Predicting a Publication in 2020, Based on 15 Years of Grant and Publication History

AIC	P	H	S	I	15-year model	All faculty excluding missing/undefined gender and missing degree year (n=271,146)					All faculty excluding missing/undefined gender, missing degree year, and those inactive in 2020 (n=181,257)													
E.	244289	243574	244032	243089																				
F.	238600	237955	238325	237338																				
G.	161004	160409	160365	160874		E. Ridge Penalized					F. Logistic Fixed Effects						G. Ridge Penalized				H. Logistic Fixed Effects			
H	158803	158266	158679	158165																				
ORP = Individual Level ORH = Institute Avg. Horribilis θ= OR of Institute Horribilis ORI= Institute Categorical ORS= State Categorical					% or average	ORP	ORH θ=0.86	ORS	ORI	ORP	ORH θ=0.87	ORS	ORI	% or average	ORP	ORH θ=0.85	ORS	ORI	ORP	ORH θ=0.86	ORS	ORI		
Discipline		Business	6.1%	1.15	1.16	1.16	1.15	1.29	1.30	1.30	1.30	6.3%	1.19	1.20	1.19	1.19	1.34	1.36	1.34	1.36				
		Education	5.1%	1.19	1.24	1.20	1.24	1.43	1.51	1.46	1.54	4.6%	1.46	1.55	1.47	1.53	1.75	1.89	1.77	1.90				
		Engineering	6.2%	1.47	1.49	1.48	1.49	1.76	1.81	1.79	1.85	6.7%	1.68	1.72	1.69	1.71	2.02	2.11	2.04	2.12				
		Health	7.1%	1.24	1.27	1.24	1.28	1.43	1.50	1.45	1.53	6.2%	1.56	1.63	1.58	1.68	1.83	1.95	1.86	2.07				
		MathComp	8.1%	1.14	1.17	1.16	1.17	1.37	1.40	1.39	1.43	8.8%	1.17	1.19	1.17	1.19	1.36	1.41	1.37	1.43				
		Medicine	6.3%	1.49	1.45	1.50	1.48	1.79	1.77	1.82	1.87	5.8%	1.72	1.69	1.73	1.74	1.93	1.94	1.95	2.05				
		SocialScience	16.8%	1.30	1.31	1.30	1.31	1.48	1.52	1.50	1.54	16.9%	1.43	1.45	1.43	1.46	1.61	1.67	1.63	1.69				
		STEM	25.7%	1.49	1.49	1.51	1.52	1.77	1.80	1.81	1.88	25.8%	1.69	1.71	1.71	1.74	1.89	1.95	1.92	2.03				
Gender	Female	36.2%	1.01	1.01	1.01	1.01	1.03	1.02	1.02	1.02	36.8%	1.01	1.00	1.01	1.01	1.04	1.03	1.03	1.04					
Max Rank	FullProf	33.7%	0.88	0.88	0.88	0.87	1.30	1.33	1.31	1.32	27.9%	0.86	0.86	0.86	0.86	0.85	0.86	0.85	0.85					
	AssociateProf	24.2%	0.69	0.70	0.69	0.70	0.75	0.77	0.76	0.76	24.9%	0.64	0.65	0.64	0.65	0.60	0.61	0.60	0.62					
Age	AcademicAge	23.9	0.51	0.50	0.51	0.51	0.33	0.33	0.33	0.32	20.7	0.69	0.68	0.69	0.69	0.60	0.60	0.60	0.61					
Activity	ActiveYears 2011To2019	66.1% (5.9/9)	1.25	1.24	1.24	1.25	1.29	1.30	1.30	1.33	86.7% (7.8/9)	0.85	0.85	0.85	0.84	0.78	0.79	0.78	0.77					
Productivity	AnniHorribilis 2006To2019	45.6% (6.4/14)	0.31	0.32	0.31	0.32	0.20	0.21	0.21	0.21	41.4% (5.8/14)	0.31	0.32	0.31	0.32	0.22	0.22	0.22	0.22					
Funding	AnyGrants 2006To2019	34.4%	1.52	1.46	1.50	1.48	1.26	1.22	1.25	1.23	38.5%	1.51	1.46	1.50	1.47	1.30	1.25	1.30	1.27					

Supplementary Table 3

Logistic Regression Odds Ratios (OR) for Predicting a Publication in 2020 by Discipline

All faculty excluding missing/undefined gender, missing degree year, and those inactive in 2020 (n=181,257)			Discipline								
			Education	Health	SocialScience	Business	Engineering	Humanities	MathComp	Medicine	STEM
10-year model	Gender	Female	1.03	0.96	1.05	0.91	1.09	1.13	0.94	1.05	0.97
	Max Rank	FullProf	0.83	1.17	1.22	1.12	1.04	1.21	1.12	1.22	1.18
		AssociateProf	0.65	0.79	0.80	0.81	0.75	0.91	0.80	0.88	0.83
	Age	AcademicAge	0.62	0.60	0.65	0.65	0.64	0.74	0.75	0.61	0.64
	Activity	ActiveYears2011To2019	0.83	0.83	0.78	0.94	0.86	0.78	0.76	0.95	0.94
	Productivity	AnniHorribilis2011To2019	0.27	0.19	0.24	0.28	0.20	0.25	0.24	0.20	0.19
	Funding	AnyGrants2011To2019	1.79	1.65	1.58	1.47	1.42	1.30	1.28	1.28	1.16
	Model Fit	AIC	8336	9079	28646	12687	8543	35097	15476	6749	30786
		McFadden_R2	0.23	0.34	0.25	0.19	0.33	0.23	0.24	0.28	0.28
N		8250	11283	30701	11440	12209	34216	15914	10523	46721	
15-year model	Gender	Female	1.03	0.96	1.06	0.90	1.08	1.15	0.96	1.07	0.99
	Max Rank	FullProf	0.58	0.83	0.82	0.72	0.72	0.90	0.76	1.00	0.97
		AssociateProf	0.47	0.58	0.54	0.52	0.52	0.69	0.56	0.71	0.65
	Age	AcademicAge	0.56	0.50	0.60	0.61	0.57	0.68	0.71	0.53	0.56
	Activity	ActiveYears2011To2019	0.80	0.79	0.73	0.91	0.78	0.75	0.68	0.87	0.84
	Productivity	AnniHorribilis2006To2019	0.23	0.17	0.22	0.26	0.19	0.23	0.22	0.19	0.18
	Funding	AnyGrants2006To2019	1.67	1.54	1.47	1.46	1.42	1.24	1.23	1.23	1.08
	Model Fit	AIC	8438	9357	29096	12822	8814	35293	15761	6954	31788
		McFadden_R2	0.22	0.32	0.24	0.18	0.31	0.23	0.23	0.25	0.26
N		8250	11283	30701	11440	12209	34216	15914	10523	46721	

Reference categories are Humanities, Male, Assistant Professor, and No Grants. Institute Horribilis is based on the percentage of Horribilis in 2020 among active professors that year. Multilevel models were analyzed with the lme4 R package. Ridge penalized logistic regressions were estimated with the glmnet R package. The minimal lambda was used to avoid over-penalizing coefficients while still addressing multicollinearity. We show the Akaike Information Criterion (AIC) and McFadden Pseudo R squared to compare model fits. Continuous scaled variables were standardized prior to conducting regressions. Additional statistics, including models with interactions, are available on request.