

Supplementary Material to Mapping the gender attrition gap in academic psychology

Table of contents.

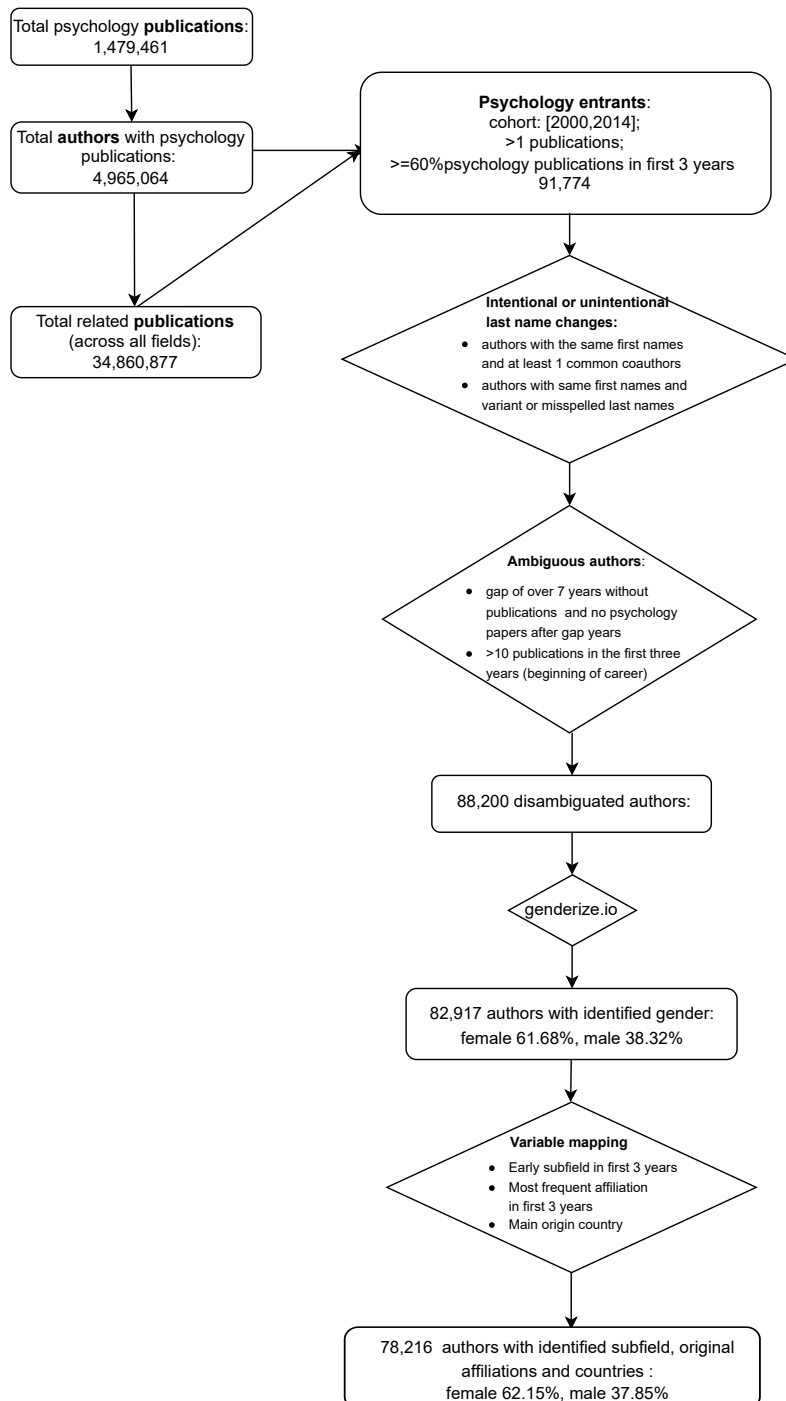
Section	Content	Reference
Data processing	Scopus data processing flowchart	Fig. S1
	Distribution of entrants by cohort and gender	Tab. S1
Statistical methods	Transition rate definition	Sec. Transition rate
	Time-Varying Effect Model (TVEM)	Sec. Time-varying Effect Model (TVEM)
More results	Career profiles by gender and cohort	Fig. S2
	Time-varying effect estimates from TVEM	Tab. S2
	Time-invariant effect estimates from TVEM	Tab. S3
	Robustness analysis in relative importance of attrition predictors	Fig. S3
	Bootstrap contrasts in attrition risk by cohort	Fig. S4
	Predicted attrition risk by gender and region	Fig. S5

Note. Fig. = Figure; Tab. = Table; Sec. = Section.

Data processing

Figure S1

Scopus data processing flowchart



Despite Scopus's advanced author disambiguation process, it was possible that a single author was assigned multiple Scopus IDs due to name changes (e.g., from marriage) or that a single ID was mistakenly assigned to multiple individuals. To detect cases in which an author was assigned multiple Scopus IDs, we flagged pairs of researchers who shared the same first name but had different last names, based on two criteria: (1) same last-name initials or (2) at least one shared co-author. This process yielded 6,755 candidate pairs. We then used the Gemini Flash large language model (<https://deepmind.google/technologies/gemini/flash>) to query web services such as Google and Google Scholar and make identity judgments. This step identified 675 pairs as likely representing the same person. We manually reviewed these cases and excluded those with more than 3 years of overlapping publication activity under different names, as such overlap typically indicated distinct authors through manual check. A total of 554 pairs were confirmed as representing the same individual and were consolidated to ensure accurate reconstruction of career trajectories.

To address cases where a single Scopus ID may conflate multiple individuals, we identified potential misassignments by detecting a publication gap of more than 7 years followed by publications in entirely different disciplines outside of psychology. In such cases, we assumed that the later publications were likely attributable to a different individual with the same name. We therefore retained only the publications prior to the gap to preserve the original researcher's psychology trajectory. Following this reassignment, we excluded profiles that no longer met our entrant criteria, specifically those with only a single publication remaining. We also removed those with more than 10 publications in their first three years. This latter criterion mitigates left truncation, as unusually high early-career productivity may indicate that Scopus coverage begins mid-career rather than at true entry. In total, 2,467 profiles were removed through this step.

Overall, these cleaning procedures resulted in a final dataset of 88,200 disambiguated psychology researchers.

Table S1

Distribution of psychology entrants by cohort group and gender

Subfield	2000-2004		2005-2009		2010-2014	
	female	male	female	male	female	male
	Prop.fe		Prop.fe		Prop.fe	
Overall	11,472	8528	15,837	9312	21,302	11765
	(57.36%)		(62.97%)		(64.42%)	
Clinical psychology	2,636	1,917	3,663	2,029	4,792	2,346
	(57.90%)		(64.35%)		(67.13%)	
General psychology	1,897	1,567	3,326	2,107	5,224	3,241
	(54.76%)		(61.22%)		(67.71%)	
Developmental and educational psychology	2,014	1,044	2,586	950	3,377	1,134
	(65.86%)		(73.13%)		(74.86%)	
Social psychology	1,579	1,205	2,125	1,396	2,736	1,674
	(56.72%)		(60.35%)		(62.04%)	
Applied psychology	1,410	1,117	1,664	1,188	2,088	1,386
	(55.80%)		(58.35%)		(60.10%)	
Experimental and cognitive psychology	1,257	1,145	1,659	1,171	1,903	1,303
	(52.33%)		(58.62%)		(59.36%)	
Neuropsychology and physiological psychology	438	368	580	322	893	493
	(54.34%)		(64.30%)		(64.43%)	
Psychology (miscellaneous)	241	165	234	149	289	188
	(59.36%)		(61.10%)		(60.59%)	

¹ Prop.fe means the proportion of female researchers in each category.

Statistical methods

Transition rate

To evaluate year-over-year academic retention, we calculated the transition rate—the probability that a researcher remains active in academia in year t having been active in the previous year $t - 1$. This metric is useful to track short-term survival and pinpoint when attrition is most likely to occur.

For a given academic age t , the transition rate $P(t - 1 \rightarrow t)$ was defined as

$$P(t - 1 \rightarrow t) = \frac{N_t}{N_{t-1}}, \quad (1)$$

where N_{t-1} is the number of researchers who are active at academic age $t - 1$, defined as those who have publications in that year or in any subsequent year. N_t is the number of those researchers who are still active at academic age t or later. In other words, these are researchers whose last publication did not occur at academic age $t - 1$. We estimated these transition rates separately by gender and for each cohort group (2000–2004, 2005–2009, and 2010–2014) to analyze how retention patterns differed.

Time-varying Effect Model (TVEM)

To investigate the dynamic factors influencing researchers’ career persistence over time, we employed TVEM (Stull et al., 2023; Tan et al., 2012), a flexible regression framework that allows a variable’s influence to change at different points in a career:

$$\text{logit}(P(Y_t = 1|X_t)) = \beta_0(t) + \sum_k \beta_k(t)X_{kt} + \sum_m \gamma_m Z_m. \quad (2)$$

In our TVEM, the outcome variable Y_t is the probability that a researcher leaves academia at academic age t .

The model includes two types of predictors. First, the time-varying predictors ($X_k t$) are variables whose effects ($\beta_k(t)$) are modeled as smooth, non-linear functions of time using P-splines. These indicators were updated for each researcher every year until they exited academia or were censored. They included metrics of academic performance

(citation scores, number of first- and last-authored papers), collaboration networks (number of co-authors, proportion of female co-authors, co-authors' mean impact), and institutional environment (number of affiliations, affiliation citation scores). We also treated gender as a time-varying variable to see whether its association with attrition changed across academic ages. Second, the time-invariant predictors (Z_m) are variables whose influence is assumed to be constant throughout a career. Their effects are captured by fixed coefficients (γ_m): the researcher's initial psychology subfield and the geographic origin of their first affiliation. Finally, the term $\beta_0(t)$ represents the baseline hazard, which is the underlying time-dependent probability of attrition.

Estimating separate TVEMs for each cohort group allowed us to distinguish between factors with a constant impact and those whose influence evolves. Based on the model estimates, we then predicted the risk of attrition by gender at each academic age, holding all other covariates constant, to isolate the specific effect of gender on career persistence.

More results

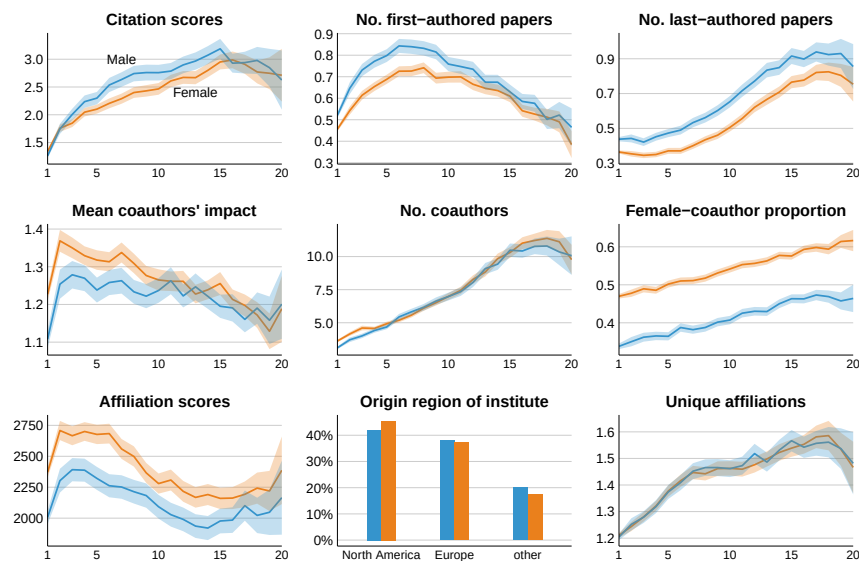
Figure S2

Statistical description of factors associated with academic performance, collaboration, and institutional affiliations across career stages, disaggregated by gender and cohort groups.

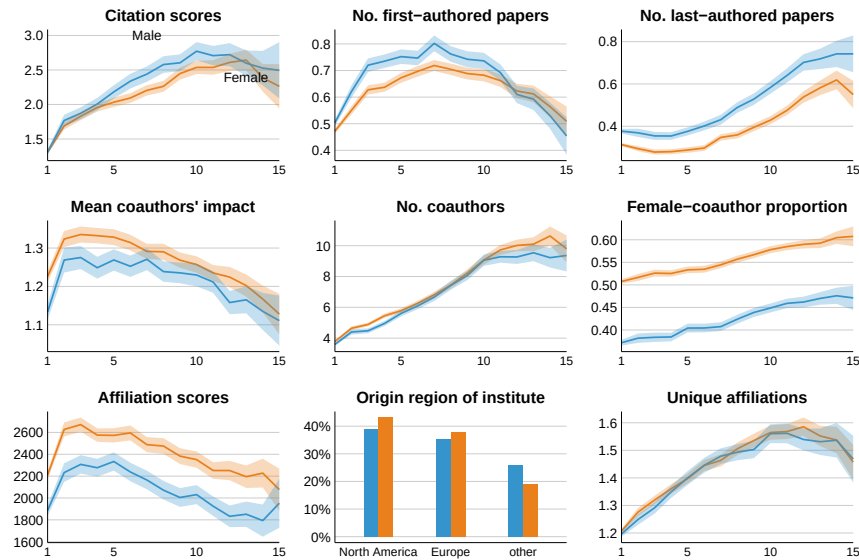
(a) Cohort group: 2000–2004



(b) Cohort group: 2005–2009



(c) *Cohort group: 2010–2014*



Note. Academic performance includes 5-year normalized citation scores and numbers of first- and last-authored publications. Collaboration networks include co-author impact, number of co-authors, and proportion of women co-authors. Institutional background includes affiliation impact, region of first affiliation, and number of unique affiliations. Shaded areas represent 95% confidence intervals.

Table S2

Estimates of Time-Varying Effects Across Cohorts (Exponentiated)

cohort	age	variable	estimate	upper	lower
2000	1	Gender_female	1.45	1.62	1.30
2000	2	Gender_female	1.44	1.59	1.31
2000	3	Gender_female	1.43	1.56	1.32
2000	4	Gender_female	1.42	1.53	1.31
2000	5	Gender_female	1.40	1.50	1.30
2000	6	Gender_female	1.37	1.47	1.28
2000	7	Gender_female	1.34	1.44	1.24
2000	8	Gender_female	1.30	1.41	1.21
2000	9	Gender_female	1.27	1.37	1.18
2000	10	Gender_female	1.23	1.33	1.14
2000	11	Gender_female	1.19	1.29	1.10
2000	12	Gender_female	1.15	1.25	1.06
2000	13	Gender_female	1.11	1.21	1.02
2000	14	Gender_female	1.07	1.17	0.97
2000	15	Gender_female	1.03	1.15	0.92
2000	16	Gender_female	1.00	1.13	0.88
2000	17	Gender_female	0.98	1.13	0.84
2000	18	Gender_female	0.96	1.13	0.82
2000	19	Gender_female	0.95	1.13	0.80
2000	1	Citation_scores	1.00	1.09	0.91
2000	2	Citation_scores	0.96	1.01	0.91
2000	3	Citation_scores	0.92	0.94	0.89
2000	4	Citation_scores	0.88	0.91	0.85

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Table S2 – continued from previous page

cohort	age	variable	estimate	upper	lower
2000	5	Citation_scores	0.86	0.90	0.83
2000	6	Citation_scores	0.86	0.89	0.83
2000	7	Citation_scores	0.85	0.89	0.82
2000	8	Citation_scores	0.85	0.90	0.82
2000	9	Citation_scores	0.85	0.89	0.81
2000	10	Citation_scores	0.84	0.88	0.81
2000	11	Citation_scores	0.84	0.89	0.80
2000	12	Citation_scores	0.84	0.89	0.80
2000	13	Citation_scores	0.85	0.90	0.81
2000	14	Citation_scores	0.87	0.92	0.82
2000	15	Citation_scores	0.87	0.94	0.81
2000	16	Citation_scores	0.86	0.93	0.80
2000	17	Citation_scores	0.84	0.91	0.78
2000	18	Citation_scores	0.81	0.92	0.72
2000	19	Citation_scores	0.79	0.95	0.66
2000	1	Mean_coauthors_impact	0.89	0.96	0.83
2000	2	Mean_coauthors_impact	0.89	0.94	0.84
2000	3	Mean_coauthors_impact	0.89	0.93	0.85
2000	4	Mean_coauthors_impact	0.90	0.94	0.86
2000	5	Mean_coauthors_impact	0.91	0.95	0.87
2000	6	Mean_coauthors_impact	0.93	0.97	0.89
2000	7	Mean_coauthors_impact	0.95	0.99	0.91
2000	8	Mean_coauthors_impact	0.97	1.02	0.93
2000	9	Mean_coauthors_impact	1.00	1.05	0.95

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Table S2 – continued from previous page

cohort	age	variable	estimate	upper	lower
2000	10	Mean_coauthors_impact	1.02	1.08	0.96
2000	11	Mean_coauthors_impact	1.03	1.11	0.96
2000	12	Mean_coauthors_impact	1.03	1.11	0.96
2000	13	Mean_coauthors_impact	1.02	1.09	0.95
2000	14	Mean_coauthors_impact	0.99	1.05	0.94
2000	15	Mean_coauthors_impact	0.96	1.03	0.90
2000	16	Mean_coauthors_impact	0.93	1.02	0.86
2000	17	Mean_coauthors_impact	0.91	1.02	0.81
2000	18	Mean_coauthors_impact	0.88	1.02	0.76
2000	19	Mean_coauthors_impact	0.86	1.03	0.72
2000	1	Affiliation_scores	1.00	1.00	1.00
2000	2	Affiliation_scores	1.00	1.00	1.00
2000	3	Affiliation_scores	1.00	1.00	1.00
2000	4	Affiliation_scores	1.00	1.00	1.00
2000	5	Affiliation_scores	1.00	1.00	1.00
2000	6	Affiliation_scores	1.00	1.00	1.00
2000	7	Affiliation_scores	1.00	1.00	1.00
2000	8	Affiliation_scores	1.00	1.00	1.00
2000	9	Affiliation_scores	1.00	1.00	1.00
2000	10	Affiliation_scores	1.00	1.00	1.00
2000	11	Affiliation_scores	1.00	1.00	1.00
2000	12	Affiliation_scores	1.00	1.00	1.00
2000	13	Affiliation_scores	1.00	1.00	1.00
2000	14	Affiliation_scores	1.00	1.00	1.00

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Table S2 – continued from previous page

cohort	age	variable	estimate	upper	lower
2000	15	Affiliation_scores	1.00	1.00	1.00
2000	16	Affiliation_scores	1.00	1.00	1.00
2000	17	Affiliation_scores	1.00	1.00	1.00
2000	18	Affiliation_scores	1.00	1.00	1.00
2000	19	Affiliation_scores	1.00	1.00	1.00
2000	1	No_coauthors	0.98	1.00	0.96
2000	2	No_coauthors	0.98	1.00	0.97
2000	3	No_coauthors	0.98	1.00	0.97
2000	4	No_coauthors	0.98	1.00	0.97
2000	5	No_coauthors	0.98	0.99	0.96
2000	6	No_coauthors	0.98	0.99	0.96
2000	7	No_coauthors	0.97	0.98	0.96
2000	8	No_coauthors	0.97	0.98	0.96
2000	9	No_coauthors	0.97	0.98	0.95
2000	10	No_coauthors	0.96	0.98	0.95
2000	11	No_coauthors	0.96	0.97	0.94
2000	12	No_coauthors	0.96	0.97	0.94
2000	13	No_coauthors	0.95	0.97	0.94
2000	14	No_coauthors	0.95	0.97	0.93
2000	15	No_coauthors	0.95	0.97	0.93
2000	16	No_coauthors	0.94	0.97	0.92
2000	17	No_coauthors	0.94	0.97	0.92
2000	18	No_coauthors	0.94	0.97	0.91
2000	19	No_coauthors	0.94	0.97	0.90

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Table S2 – continued from previous page

cohort	age	variable	estimate	upper	lower
2000	1	No.first_authored_papers	0.44	0.52	0.38
2000	2	No.first_authored_papers	0.43	0.48	0.38
2000	3	No.first_authored_papers	0.42	0.45	0.39
2000	4	No.first_authored_papers	0.41	0.44	0.38
2000	5	No.first_authored_papers	0.40	0.43	0.38
2000	6	No.first_authored_papers	0.40	0.43	0.38
2000	7	No.first_authored_papers	0.41	0.44	0.38
2000	8	No.first_authored_papers	0.42	0.45	0.39
2000	9	No.first_authored_papers	0.43	0.46	0.39
2000	10	No.first_authored_papers	0.44	0.47	0.40
2000	11	No.first_authored_papers	0.45	0.49	0.41
2000	12	No.first_authored_papers	0.47	0.51	0.43
2000	13	No.first_authored_papers	0.50	0.54	0.46
2000	14	No.first_authored_papers	0.53	0.58	0.48
2000	15	No.first_authored_papers	0.56	0.63	0.50
2000	16	No.first_authored_papers	0.59	0.68	0.52
2000	17	No.first_authored_papers	0.62	0.73	0.52
2000	18	No.first_authored_papers	0.64	0.78	0.52
2000	19	No.first_authored_papers	0.65	0.82	0.52
2000	1	No.last_authored_papers	0.88	1.01	0.77
2000	2	No.last_authored_papers	0.85	0.95	0.76
2000	3	No.last_authored_papers	0.82	0.89	0.75
2000	4	No.last_authored_papers	0.78	0.83	0.73
2000	5	No.last_authored_papers	0.75	0.80	0.71

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Table S2 – continued from previous page

cohort	age	variable	estimate	upper	lower
2000	6	No.last_authored_papers	0.72	0.77	0.68
2000	7	No.last_authored_papers	0.70	0.75	0.65
2000	8	No.last_authored_papers	0.68	0.73	0.64
2000	9	No.last_authored_papers	0.67	0.72	0.63
2000	10	No.last_authored_papers	0.66	0.70	0.62
2000	11	No.last_authored_papers	0.65	0.70	0.61
2000	12	No.last_authored_papers	0.64	0.68	0.59
2000	13	No.last_authored_papers	0.62	0.66	0.58
2000	14	No.last_authored_papers	0.60	0.65	0.56
2000	15	No.last_authored_papers	0.58	0.63	0.54
2000	16	No.last_authored_papers	0.57	0.62	0.52
2000	17	No.last_authored_papers	0.56	0.62	0.50
2000	18	No.last_authored_papers	0.55	0.63	0.49
2000	19	No.last_authored_papers	0.55	0.63	0.48
2000	1	Female_coauthor_proportion	1.02	1.18	0.88
2000	2	Female_coauthor_proportion	1.01	1.16	0.88
2000	3	Female_coauthor_proportion	0.99	1.12	0.88
2000	4	Female_coauthor_proportion	0.98	1.09	0.88
2000	5	Female_coauthor_proportion	0.95	1.05	0.86
2000	6	Female_coauthor_proportion	0.93	1.02	0.85
2000	7	Female_coauthor_proportion	0.90	0.99	0.82
2000	8	Female_coauthor_proportion	0.87	0.96	0.80
2000	9	Female_coauthor_proportion	0.84	0.93	0.76
2000	10	Female_coauthor_proportion	0.81	0.91	0.73

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Table S2 – continued from previous page

cohort	age	variable	estimate	upper	lower
2000	11	Female_coauthor_proportion	0.79	0.89	0.69
2000	12	Female_coauthor_proportion	0.77	0.88	0.66
2000	13	Female_coauthor_proportion	0.75	0.88	0.65
2000	14	Female_coauthor_proportion	0.75	0.87	0.64
2000	15	Female_coauthor_proportion	0.75	0.87	0.64
2000	16	Female_coauthor_proportion	0.75	0.88	0.64
2000	17	Female_coauthor_proportion	0.76	0.89	0.64
2000	18	Female_coauthor_proportion	0.77	0.91	0.65
2000	19	Female_coauthor_proportion	0.77	0.92	0.65
2000	1	Unique_affiliations	1.02	1.19	0.87
2000	2	Unique_affiliations	1.00	1.13	0.88
2000	3	Unique_affiliations	0.97	1.06	0.89
2000	4	Unique_affiliations	0.95	1.01	0.90
2000	5	Unique_affiliations	0.93	0.98	0.88
2000	6	Unique_affiliations	0.91	0.98	0.84
2000	7	Unique_affiliations	0.89	0.98	0.81
2000	8	Unique_affiliations	0.88	0.97	0.80
2000	9	Unique_affiliations	0.88	0.96	0.80
2000	10	Unique_affiliations	0.88	0.95	0.82
2000	11	Unique_affiliations	0.89	0.94	0.83
2000	12	Unique_affiliations	0.89	0.95	0.84
2000	13	Unique_affiliations	0.90	0.96	0.84
2000	14	Unique_affiliations	0.90	0.97	0.83
2000	15	Unique_affiliations	0.90	0.98	0.83

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Table S2 – continued from previous page

cohort	age	variable	estimate	upper	lower
2000	16	Unique_affiliations	0.90	0.98	0.82
2000	17	Unique_affiliations	0.90	0.98	0.82
2000	18	Unique_affiliations	0.89	0.99	0.81
2000	19	Unique_affiliations	0.89	0.99	0.80
2005	1	Gender_female	1.37	1.53	1.23
2005	2	Gender_female	1.36	1.51	1.23
2005	3	Gender_female	1.35	1.47	1.24
2005	4	Gender_female	1.34	1.44	1.25
2005	5	Gender_female	1.33	1.41	1.25
2005	6	Gender_female	1.31	1.38	1.25
2005	7	Gender_female	1.30	1.38	1.23
2005	8	Gender_female	1.29	1.38	1.21
2005	9	Gender_female	1.28	1.38	1.18
2005	10	Gender_female	1.27	1.39	1.16
2005	11	Gender_female	1.26	1.40	1.13
2005	12	Gender_female	1.25	1.40	1.12
2005	13	Gender_female	1.25	1.40	1.12
2005	14	Gender_female	1.25	1.40	1.12
2005	1	Citation_scores	0.89	0.93	0.85
2005	2	Citation_scores	0.89	0.92	0.85
2005	3	Citation_scores	0.88	0.91	0.86
2005	4	Citation_scores	0.88	0.90	0.85
2005	5	Citation_scores	0.87	0.89	0.85
2005	6	Citation_scores	0.86	0.89	0.84

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Table S2 – continued from previous page

cohort	age	variable	estimate	upper	lower
2005	7	Citation_scores	0.85	0.88	0.83
2005	8	Citation_scores	0.84	0.87	0.81
2005	9	Citation_scores	0.83	0.87	0.80
2005	10	Citation_scores	0.83	0.87	0.80
2005	11	Citation_scores	0.83	0.87	0.79
2005	12	Citation_scores	0.83	0.88	0.79
2005	13	Citation_scores	0.84	0.88	0.79
2005	14	Citation_scores	0.84	0.89	0.79
2005	1	Mean_coauthors_impact	0.95	0.98	0.93
2005	2	Mean_coauthors_impact	0.95	0.98	0.93
2005	3	Mean_coauthors_impact	0.95	0.98	0.93
2005	4	Mean_coauthors_impact	0.95	0.98	0.93
2005	5	Mean_coauthors_impact	0.95	0.98	0.93
2005	6	Mean_coauthors_impact	0.95	0.98	0.93
2005	7	Mean_coauthors_impact	0.95	0.98	0.93
2005	8	Mean_coauthors_impact	0.95	0.98	0.93
2005	9	Mean_coauthors_impact	0.95	0.98	0.93
2005	10	Mean_coauthors_impact	0.95	0.98	0.93
2005	11	Mean_coauthors_impact	0.95	0.98	0.93
2005	12	Mean_coauthors_impact	0.95	0.98	0.93
2005	13	Mean_coauthors_impact	0.95	0.98	0.93
2005	14	Mean_coauthors_impact	0.95	0.98	0.93
2005	1	Affiliation_scores	1.00	1.00	1.00
2005	2	Affiliation_scores	1.00	1.00	1.00

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Table S2 – continued from previous page

cohort	age	variable	estimate	upper	lower
2005	3	Affiliation_scores	1.00	1.00	1.00
2005	4	Affiliation_scores	1.00	1.00	1.00
2005	5	Affiliation_scores	1.00	1.00	1.00
2005	6	Affiliation_scores	1.00	1.00	1.00
2005	7	Affiliation_scores	1.00	1.00	1.00
2005	8	Affiliation_scores	1.00	1.00	1.00
2005	9	Affiliation_scores	1.00	1.00	1.00
2005	10	Affiliation_scores	1.00	1.00	1.00
2005	11	Affiliation_scores	1.00	1.00	1.00
2005	12	Affiliation_scores	1.00	1.00	1.00
2005	13	Affiliation_scores	1.00	1.00	1.00
2005	14	Affiliation_scores	1.00	1.00	1.00
2005	1	No_coauthors	1.02	1.03	1.00
2005	2	No_coauthors	1.01	1.02	1.00
2005	3	No_coauthors	1.00	1.01	0.99
2005	4	No_coauthors	0.99	1.00	0.98
2005	5	No_coauthors	0.98	0.99	0.97
2005	6	No_coauthors	0.97	0.98	0.95
2005	7	No_coauthors	0.96	0.97	0.95
2005	8	No_coauthors	0.96	0.97	0.95
2005	9	No_coauthors	0.96	0.97	0.94
2005	10	No_coauthors	0.95	0.96	0.94
2005	11	No_coauthors	0.95	0.96	0.93
2005	12	No_coauthors	0.94	0.96	0.92

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Table S2 – continued from previous page

cohort	age	variable	estimate	upper	lower
2005	13	No_coauthors	0.94	0.96	0.92
2005	14	No_coauthors	0.94	0.96	0.91
2005	1	No.first_authored_papers	0.48	0.77	0.30
2005	2	No.first_authored_papers	0.48	0.66	0.34
2005	3	No.first_authored_papers	0.47	0.55	0.40
2005	4	No.first_authored_papers	0.46	0.50	0.43
2005	5	No.first_authored_papers	0.46	0.57	0.37
2005	6	No.first_authored_papers	0.45	0.61	0.34
2005	7	No.first_authored_papers	0.46	0.58	0.36
2005	8	No.first_authored_papers	0.46	0.51	0.42
2005	9	No.first_authored_papers	0.47	0.51	0.43
2005	10	No.first_authored_papers	0.47	0.55	0.40
2005	11	No.first_authored_papers	0.48	0.59	0.38
2005	12	No.first_authored_papers	0.48	0.64	0.36
2005	13	No.first_authored_papers	0.48	0.69	0.34
2005	14	No.first_authored_papers	0.48	0.74	0.32
2005	1	No.last_authored_papers	0.93	1.05	0.82
2005	2	No.last_authored_papers	0.91	1.00	0.82
2005	3	No.last_authored_papers	0.88	0.94	0.82
2005	4	No.last_authored_papers	0.84	0.89	0.79
2005	5	No.last_authored_papers	0.80	0.85	0.76
2005	6	No.last_authored_papers	0.76	0.81	0.72
2005	7	No.last_authored_papers	0.73	0.78	0.68
2005	8	No.last_authored_papers	0.70	0.75	0.65

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Table S2 – continued from previous page

cohort	age	variable	estimate	upper	lower
2005	9	No.last_authored_papers	0.68	0.73	0.63
2005	10	No.last_authored_papers	0.67	0.72	0.62
2005	11	No.last_authored_papers	0.67	0.72	0.62
2005	12	No.last_authored_papers	0.68	0.74	0.62
2005	13	No.last_authored_papers	0.69	0.77	0.61
2005	14	No.last_authored_papers	0.70	0.80	0.61
2005	1	Female_coauthor_proportion	0.87	0.93	0.81
2005	2	Female_coauthor_proportion	0.87	0.93	0.81
2005	3	Female_coauthor_proportion	0.87	0.93	0.81
2005	4	Female_coauthor_proportion	0.87	0.93	0.81
2005	5	Female_coauthor_proportion	0.87	0.93	0.81
2005	6	Female_coauthor_proportion	0.87	0.93	0.81
2005	7	Female_coauthor_proportion	0.87	0.93	0.81
2005	8	Female_coauthor_proportion	0.87	0.93	0.81
2005	9	Female_coauthor_proportion	0.87	0.93	0.81
2005	10	Female_coauthor_proportion	0.87	0.93	0.81
2005	11	Female_coauthor_proportion	0.87	0.93	0.81
2005	12	Female_coauthor_proportion	0.87	0.93	0.81
2005	13	Female_coauthor_proportion	0.87	0.93	0.81
2005	14	Female_coauthor_proportion	0.87	0.93	0.81
2005	1	Unique_affiliations	1.06	1.25	0.89
2005	2	Unique_affiliations	1.00	1.13	0.89
2005	3	Unique_affiliations	0.94	1.01	0.88
2005	4	Unique_affiliations	0.88	0.94	0.84

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Table S2 – continued from previous page

cohort	age	variable	estimate	upper	lower
2005	5	Unique_affiliations	0.84	0.91	0.78
2005	6	Unique_affiliations	0.82	0.89	0.76
2005	7	Unique_affiliations	0.82	0.87	0.76
2005	8	Unique_affiliations	0.83	0.88	0.78
2005	9	Unique_affiliations	0.85	0.90	0.80
2005	10	Unique_affiliations	0.86	0.92	0.81
2005	11	Unique_affiliations	0.87	0.94	0.81
2005	12	Unique_affiliations	0.89	0.98	0.81
2005	13	Unique_affiliations	0.91	1.03	0.80
2005	14	Unique_affiliations	0.92	1.08	0.79
2010	1	Gender_female	1.21	1.26	1.16
2010	2	Gender_female	1.22	1.26	1.18
2010	3	Gender_female	1.24	1.28	1.19
2010	4	Gender_female	1.25	1.33	1.18
2010	5	Gender_female	1.26	1.36	1.17
2010	6	Gender_female	1.27	1.38	1.17
2010	7	Gender_female	1.26	1.36	1.17
2010	8	Gender_female	1.26	1.35	1.18
2010	9	Gender_female	1.26	1.34	1.18
2010	1	Citation_scores	0.89	0.90	0.88
2010	2	Citation_scores	0.88	0.89	0.86
2010	3	Citation_scores	0.86	0.88	0.84
2010	4	Citation_scores	0.85	0.87	0.82
2010	5	Citation_scores	0.84	0.86	0.81

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Table S2 – continued from previous page

cohort	age	variable	estimate	upper	lower
2010	6	Citation_scores	0.83	0.86	0.80
2010	7	Citation_scores	0.83	0.86	0.79
2010	8	Citation_scores	0.83	0.87	0.79
2010	9	Citation_scores	0.83	0.87	0.78
2010	1	Mean_coauthors_impact	0.94	0.95	0.93
2010	2	Mean_coauthors_impact	0.94	0.96	0.91
2010	3	Mean_coauthors_impact	0.94	0.98	0.91
2010	4	Mean_coauthors_impact	0.96	0.99	0.93
2010	5	Mean_coauthors_impact	0.98	1.01	0.95
2010	6	Mean_coauthors_impact	1.00	1.04	0.96
2010	7	Mean_coauthors_impact	1.02	1.08	0.96
2010	8	Mean_coauthors_impact	1.04	1.12	0.95
2010	9	Mean_coauthors_impact	1.05	1.15	0.95
2010	1	Affiliation_scores	1.00	1.00	1.00
2010	2	Affiliation_scores	1.00	1.00	1.00
2010	3	Affiliation_scores	1.00	1.00	1.00
2010	4	Affiliation_scores	1.00	1.00	1.00
2010	5	Affiliation_scores	1.00	1.00	1.00
2010	6	Affiliation_scores	1.00	1.00	1.00
2010	7	Affiliation_scores	1.00	1.00	1.00
2010	8	Affiliation_scores	1.00	1.00	1.00
2010	9	Affiliation_scores	1.00	1.00	1.00
2010	1	No_coauthors	1.00	1.00	0.99
2010	2	No_coauthors	0.99	1.00	0.99

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Table S2 – continued from previous page

cohort	age	variable	estimate	upper	lower
2010	3	No_coauthors	0.98	0.99	0.98
2010	4	No_coauthors	0.98	0.99	0.96
2010	5	No_coauthors	0.97	0.98	0.96
2010	6	No_coauthors	0.97	0.99	0.96
2010	7	No_coauthors	0.97	0.99	0.95
2010	8	No_coauthors	0.96	0.98	0.94
2010	9	No_coauthors	0.95	0.99	0.91
2010	1	No.first_authored_papers	0.65	0.66	0.64
2010	2	No.first_authored_papers	0.58	0.61	0.55
2010	3	No.first_authored_papers	0.51	0.54	0.48
2010	4	No.first_authored_papers	0.47	0.50	0.44
2010	5	No.first_authored_papers	0.47	0.50	0.44
2010	6	No.first_authored_papers	0.50	0.53	0.46
2010	7	No.first_authored_papers	0.53	0.57	0.49
2010	8	No.first_authored_papers	0.56	0.62	0.50
2010	9	No.first_authored_papers	0.59	0.70	0.50
2010	1	No.last_authored_papers	1.03	1.05	1.01
2010	2	No.last_authored_papers	0.98	1.04	0.93
2010	3	No.last_authored_papers	0.89	0.95	0.83
2010	4	No.last_authored_papers	0.78	0.84	0.73
2010	5	No.last_authored_papers	0.71	0.77	0.66
2010	6	No.last_authored_papers	0.68	0.74	0.63
2010	7	No.last_authored_papers	0.68	0.74	0.62
2010	8	No.last_authored_papers	0.70	0.79	0.62

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Table S2 – continued from previous page

cohort	age	variable	estimate	upper	lower
2010	9	No.last_authored_papers	0.73	0.88	0.61
2010	1	Female_coauthor_proportion	0.91	0.96	0.87
2010	2	Female_coauthor_proportion	0.91	0.96	0.87
2010	3	Female_coauthor_proportion	0.91	0.96	0.87
2010	4	Female_coauthor_proportion	0.91	0.96	0.87
2010	5	Female_coauthor_proportion	0.91	0.96	0.87
2010	6	Female_coauthor_proportion	0.91	0.96	0.87
2010	7	Female_coauthor_proportion	0.91	0.96	0.87
2010	8	Female_coauthor_proportion	0.91	0.96	0.87
2010	9	Female_coauthor_proportion	0.91	0.96	0.87
2010	1	Unique_affiliations	0.87	0.90	0.84
2010	2	Unique_affiliations	0.87	0.90	0.84
2010	3	Unique_affiliations	0.86	0.89	0.83
2010	4	Unique_affiliations	0.84	0.88	0.81
2010	5	Unique_affiliations	0.83	0.87	0.80
2010	6	Unique_affiliations	0.82	0.87	0.78
2010	7	Unique_affiliations	0.81	0.87	0.75
2010	8	Unique_affiliations	0.80	0.87	0.73
2010	9	Unique_affiliations	0.80	0.88	0.72

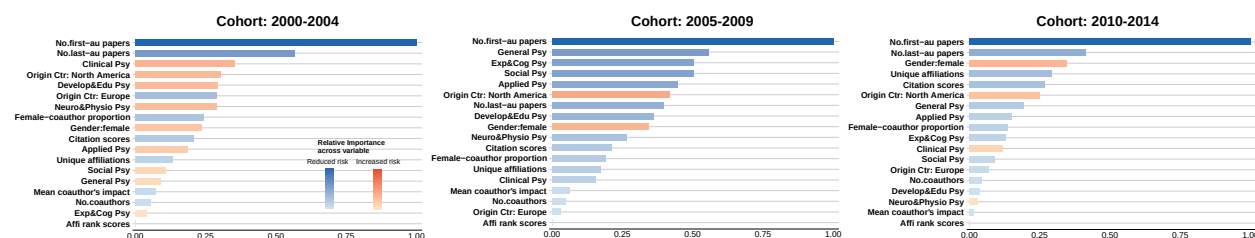
Table S3

Estimates of Time-invariant Effects Across Cohorts (Exponentiated)

cohort	variable	estimate	upper	lower
2000	continent_new_North_America	1.25	1.36	1.15
2000	continent_new_Europe	0.81	0.88	0.74
2000	early_field_1_Applied_Psychology	1.15	1.42	0.93
2000	early_field_1_Clinical_Psychology	1.30	1.59	1.06
2000	early_field_1_Developmental_and_Educational_Psychology	1.24	1.53	1.01
2000	early_field_1_Experimental_and_Cognitive_Psychology	1.03	1.27	0.84
2000	early_field_1_Neuropsychology_and_Physiological_Psychology	1.24	1.56	0.98
2000	early_field_1_Social_Psychology	1.08	1.34	0.88
2000	early_field_1_Psychology_all	1.07	1.31	0.87
2005	continent_new_North_America	1.37	1.48	1.28
2005	continent_new_Europe	0.98	1.05	0.91
2005	early_field_1_Applied_Psychology	0.71	0.88	0.58
2005	early_field_1_Clinical_Psychology	0.89	1.09	0.73
2005	early_field_1_Developmental_and_Educational_Psychology	0.76	0.93	0.62
2005	early_field_1_Experimental_and_Cognitive_Psychology	0.68	0.84	0.56
2005	early_field_1_Neuropsychology_and_Physiological_Psychology	0.82	1.03	0.65
2005	early_field_1_Social_Psychology	0.68	0.84	0.56
2005	early_field_1_Psychology_all	0.66	0.80	0.54
2010	continent_new_North_America	1.18	1.23	1.12
2010	continent_new_Europe	0.96	1.00	0.91
2010	early_field_1_Applied_Psychology	0.91	1.04	0.79
2010	early_field_1_Clinical_Psychology	1.08	1.24	0.95
2010	early_field_1_Developmental_and_Educational_Psychology	0.98	1.12	0.85
2010	early_field_1_Experimental_and_Cognitive_Psychology	0.92	1.06	0.80
2010	early_field_1_Neuropsychology_and_Physiological_Psychology	1.02	1.18	0.88
2010	early_field_1_Social_Psychology	0.94	1.08	0.82
2010	early_field_1_Psychology_all	0.88	1.01	0.77

Figure S3

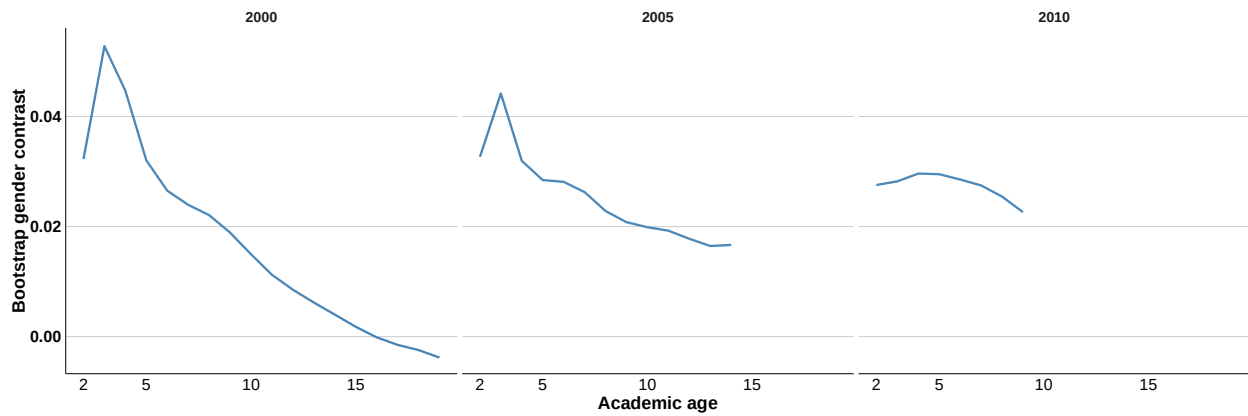
Relative importance of predictors for academic attrition



Note. The relative importance of time-invariant and lagged time-varying predictors of attrition among psychology researchers from the 2000–2004, 2005–2009, and 2010–2014 cohort groups. Time-varying predictors are lagged by one year to reflect their temporal relationship with subsequent attrition. Predictor importance is calculated by scaling absolute model coefficients to a 0–1 range, where higher values indicate greater influence on attrition risk. Bar colors denote the direction of effect: blue tones indicate reduced attrition risk, while red tones indicate increased risk.

Figure S4

Bootstrap contrasts in attrition risk between women and men by cohort

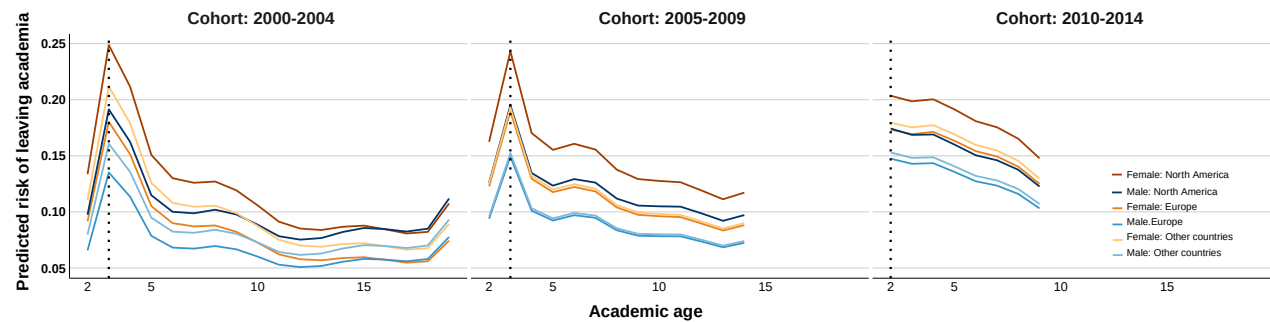


Note. Contrasts are estimated from model-based bootstraps and plotted across academic age.

Shaded ribbons represent 95% bootstrap confidence intervals around the estimated gender differences in solid lines. Positive values indicate a higher attrition risk for women relative to men with comparable academic profiles.

Figure S5

Predicted risk of leaving academia by gender and origin region across academic age and cohort



Note. The predictions average marginal contrasts derived from the time-varying effects model, holding all other covariates constant while varying only gender and region of original affiliation. Shaded bands indicate the interquartile range (25th to 75th percentile) of the predicted values. Results are shown separately for researchers entering academia in the 2000–2004, 2005–2009, and 2010–2014 cohort groups