

University of Toronto, Time to Tenure and Promotion Report

March 2025

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Contents

1 Executive Summary.....	2
2 Introduction	3
3 Our Population.....	3
4 Project Team	4
5 Time to Tenure.....	5
5.1 Parameters.....	5
5.2 Results.....	6
5.3 Summary	10
6 Time to Promotion	11
6.1 Parameters.....	11
6.2 Results.....	12
6.2.1 Initial Descriptive Statistics	12
6.2.2 Cumulative Probability Analysis	15
6.2.3 Possible explanations for the lag.....	16
7 Conclusion	21

1 Executive Summary

The University of Toronto, as part of its commitment to equity, has undertaken an analysis of the time to tenure and time to promotion of male and female faculty in the tenured/tenure stream based on fall 2023 data. Our goal was to identify whether there are meaningful differences in the time to tenure or time to promotion between the sexes.

Our analysis of time to tenure reveals no difference in time to tenure between males and females for those either on a five year or six year ‘clock’.¹ Males and females receive formal adjustments to their tenure ‘clock’ which accommodate disruptions to their progress at a rate of 15% for males and 20% for females. The raw time to tenure is similar for males and females, and when those adjustments are taken into account the average time to tenure for males and females is virtually the same.

Our analysis did uncover a difference between males and females in time to promotion. Females are promoted, on average, six to seven months behind males. Promotion is an annual process: the lag of six to seven months represents an average. The lag in when females are promoted as compared to males on a year over year basis is small but appears to persist until 13 years since tenure. An estimated 25% of all faculty at the rank of Associate Professor are never promoted to Professor.

¹ The tenure ‘clock’ is the timeline to tenure established in policy. The term ‘clock’ is used in common parlance but is not a term established in policy. At the University of Toronto, that ‘clock’ is, since 2015, a six year ‘clock’: faculty are reviewed in their sixth year following appointment as an Assistant Professor. See the *Policy and Procedures on Academic Appointments* (PPAA).

This lag in time to promotion for female faculty at the University appears to be driven by a number of factors:

- Field of Study norms:
 - Female faculty are disproportionately employed in Divisional Groups (in particular in the Humanities) where the rate of promotion is slower for faculty in general, regardless of sex, than in other Divisional Groups.
- The percentage of faculty promoted:
 - In addition, the percentage of tenured faculty who are promoted at all is lower in those Divisional Groups where females are disproportionately represented (in particular the Humanities).
- There is a sex-based difference:
 - Finally, females lag behind males in time to promotion within the Humanities itself, compounding the lag attributable to field of study norms.

2 Introduction

This is a report based on an analysis of the fall 2023 data for male and female tenured faculty employed at the University. It looks at:

- The time to tenure and promotion from the rank of Assistant Professor to the rank of Associate Professor; and
- The time to promotion from the rank of Associate Professor to the rank of Professor.

Our purpose in looking at the progression of faculty through the professorial ranks is to determine whether there are meaningful differences in the time to tenure or time to promotion between the sexes. Anecdotally, there have been claims made that female faculty lag significantly behind males in how long it takes them to move between ranks, disadvantaging them in their careers. This analysis was undertaken to determine if that is the case.

3 Our Population

This report uses data from the University of Toronto's Human Resources Information System (HRIS) which includes three indicators for sex: "female," "male," and "another." Because of the very small number, faculty identified as "another" are combined in our analysis with those who are entered as "female."²

² This report looks at the 'sex' indicator in HRIS and not how faculty self-identify in respect to gender. Over time at the University our use of this language has solidified. Data concerning how faculty self-identify in respect of gender (i.e., as women or men rather than female or male) forms part of the [University's Employment Equity data analysis](#).

In this analysis we look exclusively at current faculty who were originally appointed at the rank of Assistant Professor, and who were subsequently tenured at the University of Toronto.³ In the fall 2023, these tenured faculty were at the rank of either Associate Professor or Professor.⁴ Consequently, this analysis includes faculty who were hired as early as July 1, 1998 and tenured between July 1, 2001 and July 1, 2023⁵, some of whom subsequently were promoted to the rank of Professor.⁶

This report looks both at time to tenure and time to promotion. At the University of Toronto, faculty at the rank of Assistant Professor who are successfully reviewed for tenure are, at the same time, promoted to the rank of Associate Professor. The two processes are connected rather than separate. Consequently, when we report on time to tenure, we are implicitly also talking about time to promotion to the rank of Associate Professor.⁷ Subsequently, tenured faculty may elect to come forward for review for promotion to the rank of Professor. Our analysis of time to promotion focuses exclusively on that promotion from Associate Professor to Professor.

Table 1 provides a breakdown of the population we are focused on in our analysis both of time to tenure and time to promotion.

Table 1. Breakdown of tenured faculty by rank, Fall 2023

Academic Rank	Tenured Faculty, 2023		
	Males	Females	Total
Associate Professor	317 (58%)	226 (42%)	543
Professor	307 (62%)	192 (38%)	499
All faculty with tenure	624 (60%)	418 (40%)	1,042

4 Project Team

This analysis was undertaken and the report prepared by:

- Professor Dwayne Benjamin, Vice-Provost, Strategic Enrolment Management,

³ Faculty hired at the rank of Assistant Professor (Conditional) are included and counted as of the date that they moved to the rank of Assistant Professor (i.e. when the condition on their original appointment was cleared). This is when their tenure 'clock' begins. Our analysis excludes faculty appointed at the rank of Associate Professor, without tenure (and who were subsequently tenured) and faculty appointed with tenure at the rank of Associate Professor from our analysis because their progression may have been influenced by time at rank outside U of T.

⁴ These data are effective September 30, 2023 and include faculty tenured or promoted effective July 1, 2023.

⁵ Implicit in the fact that our faculty were hired as early as 1998 and someone was tenured in 2001, at least one person came forward on a very short timeline. =There was one person tenured in July 2001: they were hired July 1, 1999 (and thus tenured only 2 years after their appointment).

⁶ Faculty employed as of Fall 2023 who were hired *prior to* 1998 (which is when HRIS was implemented) have been excluded from our analysis because their career progression information is only partially recorded in HRIS.

⁷ See footnote 8 for details in policy. Our data excludes faculty appointed at the rank of Associate Professor, without tenure.

- Dr. Jane E. Harrison, Senior Strategist for the Vice-Provost, Faculty & Academic Life,
- Natalia Vigezzi, Doctoral candidate in Economics,
- Taryn Eames, Doctoral candidate in Economics.

The project team worked closely with an advisory group comprised of:

- Professor Kelly Hannah-Moffat, Vice-President, People Strategy, Equity & Culture,
- Professor Heather Boon, Vice-Provost, Faculty & Academic Life,
- Professor Randy Boyagoda, Acting Vice-Provost, Faculty & Academic Life (2023),
- Kate Enros, Executive Director, Academic Life and Faculty Relations,

5 Time to Tenure

5.1 Parameters

Time to tenure was defined as the number of years between when a faculty member is hired to a probationary tenure stream position at the rank of Assistant Professor and when they were awarded tenure and promoted to the rank of Associate Professor.⁸ At the University of Toronto, a change in rank is not linked to an automatic or stepped increase in salary. Our analysis of time to tenure included some faculty members who were on a five year 'clock' and others who were on a six year 'clock'. This was because the time to tenure at the University of Toronto changed through a revision to the *Policy and Procedures on Academic Appointments* in 2015 from the original five year 'clock' to six years.⁹ Our time to tenure analysis was completed using the 1,042 tenured faculty shown in Table 1 which included both those faculty who were currently (as of Fall 2023) at the rank of Associate Professor and also those who, following tenure, were promoted to the rank of Professor. Our data included faculty who received tenure as early as July 1, 2001 and as recently as July 1, 2023.

⁸ At the University of Toronto these events normally occur together for faculty coming forward for tenure. *The Policy and Procedures Governing Promotions (PPP) (1980)* says: "Because the criteria for the granting of tenure and the promotion to Associate Professor are so similar, and because the two decisions are usually made so closely in time, the granting of tenure should be accompanied by promotion to Associate Professor", PPP, section 8.

⁹ The changes to the PPAA were the result of the work of the Special Joint Advisory Committee (SJAC) process between the University and the University of Toronto Faculty Association. At the time, tenure stream faculty who had not yet begun their tenure review process were given the opportunity to 'opt in' to the new 'clock' (and effectively receive a year extension to their timeline to tenure review). All new faculty hired beginning July 1, 2015 were subject to the new provisions. Faculty hired in the 2014-2015 academic year as these changes were being finalized and approved were given different options depending upon where they were in the hiring process.

5.2 Results

Tables 2a and 2b show the raw time to tenure for faculty on the five year and six year ‘clock’. This raw count measures time elapsed between a faculty member’s first appointment to a tenure stream position and when they received tenure.¹⁰

In addition, Tables 2a and 2b also shows an ‘adjusted time to tenure’. The University has a formal provision in the *Policy and Procedures on Academic Appointments* that allows tenure stream (i.e., pre tenure) faculty to apply for an adjustment (referred to in policy as a ‘delay’) in their tenure ‘clock’.¹¹ These adjustments are granted in one-year, or in exceptional cases two-year, increments; a faculty member may request and receive more than one adjustment depending upon their circumstances. The provision is made to accommodate life and professional events (parental and/or adoption leave, serious personal circumstances beyond one’s control e.g., illness, injury, damage to research facilities) that have significantly interrupted or disrupted a faculty member’s ability to make progress toward tenure. In providing for this adjustment, the University effectively does not ‘count’ the year for which the ‘delay’ is approved toward the faculty member’s timeline for tenure review. The approval of the ‘delay’ pushes out the tenure review timeline by a calendar year without lengthening the ‘clock’.

¹⁰ At the University of Toronto, tenure is effective July 1 of the year in which the faculty member is reviewed. Hence if a person is reviewed for tenure in the 2022-23 year, presuming the outcome is positive, tenure is effective July 1, 2023. Note that our data includes faculty hired at the rank of Assistant Professor who came forward for tenure review in less than the ‘normal’ time.

¹¹ Under the *Policy and Procedures Governing Academic Appointments* (PPAA), “Candidates may make a written request for a delay in the interim review or consideration for tenure based on pregnancy and/or parental or adoption leave or serious personal circumstances beyond their control such as illness or injury or damage to their research facilities. Delays may be granted for one year but not more than 2 years with the approval in writing of the Vice-President and Provost.

Written requests by a candidate for further delays based on the provisions of Ontario Human Rights Code as amended from time to time (the “Code”) will be considered by the Vice-President and Provost on a case-by-case basis, it being understood and agreed that such requests must be made by the candidate in writing at the earliest opportunity in the interim review or consideration for tenure process (i.e. as soon as a candidate knows or reasonably ought to know that their interim year review or consideration for tenure may warrant a delay based on the provisions of the Code).” (PPAA, 2021, Part II, 10)

Table 2a. Time to Tenure (in years), Fall 2023: Five year 'clock'

	# Faculty Members	5 Year 'clock'	
		Raw Time to Tenure ¹²	Adjusted Time to Tenure ¹³
		Average	Average
Total	705	5.3	5.1
<i>By Sex</i>			
Female	278	5.4	5.3
Male	427	5.2	5.1
<i>By Divisional Group</i>			
Health Sciences ¹⁴	94	5.4	5.3
Humanities ¹⁵	145	5.2	5.0
Life Sciences ¹⁶	72	5.4	5.2
Physical Sci - Engineering & Computer Sci	102	5.3	5.2
Physical Sci - All Other ¹⁷	70	5.0	5.0
Social Sciences - Economics	10	5.1	5.0
Social Sciences - Education	30	5.1	4.9
Social Sciences - Law	19	5.3	5.2
Social Sciences - Management	48	5.8	5.4
Social Sciences - All Other ¹⁸	115	5.2	5.1

¹² The standard deviation of total raw time to tenure is 1.0 years. This is consistent across all groups: the range is 0.8 to 1.2 years. Standard deviation is a measure of variation: if the average time to tenure is 5.3 years, a standard deviation of 1.0 years means that, on average, the faculty in the sample received tenure one year sooner or later than the average.

¹³ The standard deviation of total adjusted time to tenure is 0.9 years. This is consistent across most groups: for all groups but "Social Sciences – Law" where standard deviation is 0.2 years, the range is 0.7 to 1.0 years. This means that overall if the average time to tenure is 5.1 years, on average faculty received tenure just under one year sooner or later. In Law the average variation is much less.

¹⁴ "Health Sciences" includes all Medicine; Nursing; Pharmacy, Dentistry, and Dalla Lana School of Public Health etc.

¹⁵ "Humanities" includes English, History, Classics, Philosophy, language units etc.

¹⁶ "Life Sciences" includes Cell and Systems Biology, Ecology and Evolutionary Biology, forestry faculty, Psychology, Kinesiology and Physical Education etc.

¹⁷ "Physical Sciences – all other" includes Astronomy, Chemistry, Physics, Mathematics and Statistics, Environmental Studies, etc.

¹⁸ "Social Sciences – All Others" includes Information, Communications, Geography, Architecture, Sociology, Anthropology, Industrial Relations, etc.

Table 2a. Time to Tenure (in years), Fall 2023: Six year 'clock'

	# Faculty Members	6 Year 'clock'	
		Raw Time to Tenure ¹⁹	Adjusted Time to Tenure ²⁰
		Average	Average
Total	337	6.1	5.7
<i>By Sex</i>			
Female	140	6.1	5.7
Male	197	6.0	5.7
<i>By Divisional Group</i>			
Health Sciences	28	6.2	5.7
Humanities	78	5.8	5.5
Life Sciences	47	6.4	5.9
Physical Sci - Engineering & Computer Sci	32	5.8	5.6
Physical Sci - All Other	28	6.1	5.9
Social Sciences - Economics	10	6.9	6.1
Social Sciences - Education	12	5.3	5.2
Social Sciences - Law	0	-	-
Social Sciences - Management	26	6.3	5.8
Social Sciences - All Other	76	6.0	5.6

Tables 2a and 2b show:

- Most faculty receive tenure, based on raw counts (i.e., without considering any formal adjustment to their tenure 'clock'), on the timeline of their expected tenure 'clock'.
- There is little difference between males and females in time to tenure, particularly when 'clock' adjustments are taken into account.
- There is even less difference in time to tenure for faculty on the six year 'clock' (n= 337) when compared to faculty on the five year 'clock' (n= 705).
 - Of the 705 faculty members who were tenured on the five year 'clock', 76% received tenure more than 10 years ago.
 - This reinforces the conclusion that results for the six year 'clock' are more indicative of current experience because those faculty were hired and tenured much more recently.

¹⁹ The standard deviation of total raw time to tenure is 1.3 years. This is consistent across groups: in general, the range is 0.8 to 1.3 years. Standard deviation is higher for "Humanities" (1.5 years) and smaller for "Social Sciences – Economics" (0.7 years). See footnote 13 for an explanation of the meaning.

²⁰ The standard deviation of total adjusted time to tenure is 0.9 years. This is consistent across groups: in general, the range is 0.7 to 1.2 years. Standard deviation is smaller for "Social Sciences – Economics" (0.4 years) and "Physical Sci – All Others" (0.6 years). See footnote 13 for more information on the standard deviation.

- The raw time to tenure for faculty with a 5 year 'clock' ranges from 4 to 7 years (this range represents the 5th to 95th percentile, omitting any extreme outliers) with a median of 5 years; the median is 5 years for both males and females. The raw time to tenure for faculty with a 6 year 'clock' ranges from 3 to 8 years (this range similarly represents the 5th to 95th percentile) with a median of 6 years; the median is 6 years for both males and females.

The provision in policy for adjustments to a faculty member's tenure 'clock' is an important mechanism for treating faculty members fairly. It ensures that faculty members who experience life events (of whatever impactful nature) that are highly disruptive to their academic progress, are accommodated. Table 3 looks at the pattern in adjustments to the tenure 'clock' between males and females.

Table 3. Analysis of Tenure 'Clock' Adjustments Approved by Sex (in years), Fall 2023 data

	# Faculty Members	Share with at least one adjustment to tenure 'clock' before tenure	Number of adjustments if more than zero
			Average
<i>Total</i>	1,042	17%	1.29
<i>By Sex</i>			
Female	418	20%	1.32
Male	624	15%	1.27
<i>By Divisional Group</i>			
Health Sciences	122	18%	1.23
Humanities	223	16%	1.34
Life Sciences	119	24%	1.32
Physical Sci - Engineering & Computer Sci	134	7%	1.40
Physical Sci - All Others	98	10%	1.10
Social Sciences - Economics	20	35%	1.29
Social Sciences - Education	42	14%	1.00
Social Sciences - Law	19	5%	2.00
Social Sciences - Management	74	34%	1.24
Social Sciences - All Others	191	17%	1.36

Table 3 shows:

- Females are more likely to request and receive an adjustment to their tenure 'clock' than males.
- There is variation in the proportion of faculty who request and receive an adjustment to their tenure 'clock' across Divisional Groups.

5.3 Summary

Our analysis shows that there is no difference between males and females in time to tenure, particularly when we consider adjustments to the tenure 'clock' of specific faculty members.

6 Time to Promotion

6.1 Parameters

This section looks at the time to promotion from the rank of Associate Professor to Professor for females as compared to males at the University of Toronto. It looks specifically at those faculty members still employed at the University in fall 2023 who were initially appointed at the rank of Assistant Professor and were subsequently tenured and promoted to the rank of Associate Professor and measures their time to promotion to the more senior rank of Professor.²¹ Table 1 provides details about the population in our analysis (n= 499). The data encompasses faculty first hired as early as July 1, 1998 and who were promoted to the rank of Professor between July 1, 2006 and July 1, 2023.

At the University of Toronto there is no promotion ‘clock’ established in policy similar to the tenure ‘clock’. Instead, policy allows for some variation in timing: the *Policy and Procedures Governing Promotion* (PPP) says that “it is not necessary that all disciplines be forced into an absolute lockstep in their promotion policies. The policy herein allows for some degree of leeway in determining the point in a career when promotion is appropriate to permit flexibility in responding to competitive pressures for outstanding staff.”²² At the same time, it is expected that most faculty members will eventually be promoted: “Promotion to Professor is not automatic, but it is expected that the majority of full-time tenured faculty at this University will continue to attain this rank.”²³

It is important to note that at the University of Toronto there is no step progression in salary linked to a change in rank.

²¹ Faculty who were appointed at the rank of Associate Professor with tenure are not included in our data because we cannot take into account post tenure experience at another institution prior to joining the U of T which could have an impact on their time to promotion. Our analysis also excludes faculty appointed at the rank of Associate Professor, without tenure (and who were subsequently tenured) because their progression may have been influenced by time at rank outside U of T.

²² PPP, section 2.

²³ PPP, section 7.

6.2 Results

6.2.1 Initial Descriptive Statistics

Table 4 presents a simple breakdown of the time to promotion for faculty members currently employed at the University of Toronto who hold the rank of Professor. This includes only those faculty members initially appointed at the rank of Assistant Professor and counts their time to promotion to Professor from the year they received tenure and the rank of Associate Professor.²⁴ The descriptive statistics include a breakdown by Divisional Group.

Table 4. Time to Promotion to the Rank of Professor (in years), Fall 2023 data

	# Faculty Members	Raw Time to Promotion ²⁵			Adjusted Time to Promotion ²⁶
		Average	Median	5 th to 95 th Percentile Range	Average
<i>Total</i>	499	6.7	7.0	3.0 to 13.0	6.6
<i>By Sex</i>					
Female	192	7.4	7.0	4.0 to 13.0	7.3
Male	307	6.8	6.0	3.0 to 13.0	6.7
<i>By Divisional Group</i>					
Health Sciences	64	6.8	6.0	5.0 to 10.9	6.7
Humanities	68	8.6	8.0	3.4 to 14.0	8.4
Life Sciences	61	6.9	6.0	4.0 to 13.0	6.7
Physical Sci - Engineering & Computer Sci	93	5.9	5.0	3.0 to 10.8	5.9
Physical Sci - All Others	58	6.3	6.0	3.0 to 10.2	6.3
Social Sciences - Economics	12	6.7	6.0	3.7 to 10.8	6.3
Social Sciences - Education	18	7.4	7.0	4.9 to 10.5	7.3
Social Sciences - Law	14	8.1	8.0	4.3 to 11.4	7.8
Social Sciences - Management	39	6.9	6.0	3.8 to 11.5	6.8
Social Sciences - All Others	72	7.9	7.0	4.0 to 13.5	7.8

Table 4 shows:

- It takes longer for females to be promoted on average than males:
 - Unadjusted for leaves, there is a 0.59 year (7 month) lag
 - Adjusted for leaves, there is a 0.51 year (6 month) lag

²⁴ Faculty hired at the rank of Assistant Professor (Conditional) are included and counted as of the date that they moved to the rank of Assistant Professor (i.e. when the condition on their original appointment was cleared).

²⁵ The standard deviation of total raw time to promotion is 3.1 years. This is consistent across all groups: the range is 2.0 to 3.5 years. See footnote 13 for more information.

²⁶ The “Adjusted Time to Promotion” excludes any time spent on parental leave, sick leave, or long term disability. It includes time on Research and Study Leave. The standard deviation of total adjusted time to promotion is 3.0 years. This is consistent across all groups: the range is 2.0 to 3.4 years.

- At the University of Toronto, promotion is an annual cycle. Consequently, an average lag of 6 months does not represent every female being promoted 6 months later than males. Instead, it represents (for example) 50% of females being promoted 1 year later (or a composite of various delays).
- The second half of the table shows that there is a lot of variation across Divisional Groups in time to promotion.
- The raw time to promotion ranges overall from 3 to 13 years (this range represents the 5th to 95th percentile, omitting any extreme outliers) with a median of 7 years for the sexes combined; the median is 7 years for females and 6 years for males.
- The adjusted time to promotion ranges from 3 to 12.8 years overall and is very similar across the board to the breakdown of the raw time to promotion.

The breakdown by Divisional Group in Table 4 above shows totals for all faculty (male and female). Figure 1 provides a breakdown by Divisional Group, by sex. This shows the simple average time to promotion by Divisional Group. Note that some groups have very small sample sizes which affects how much we can rely on the results. These figures are, reported after each Divisional Group name (N of male faculty members | N of female faculty members).

Figure 1a: Average Time to Promotion: Breakdown by Divisional Group by Sex, Fall 2023 data

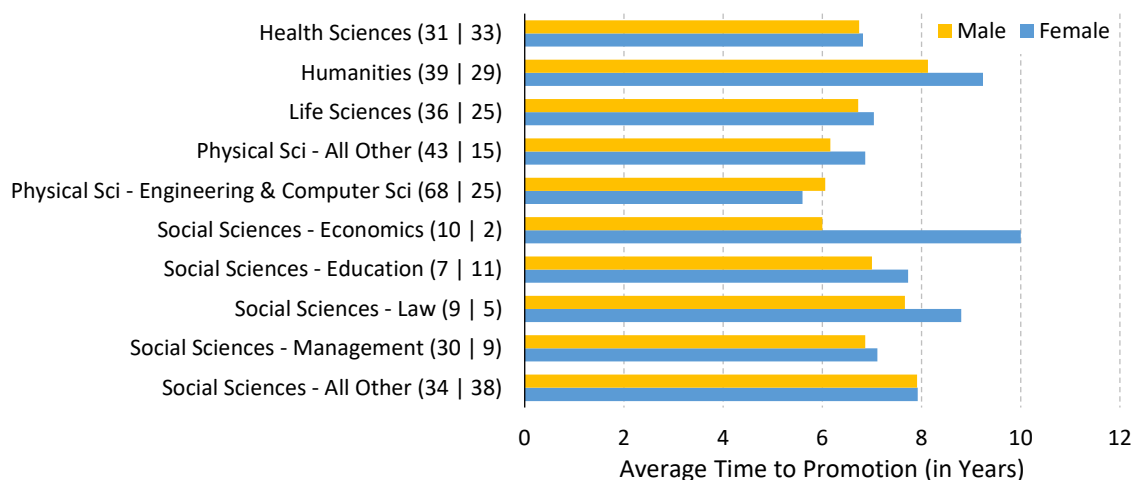
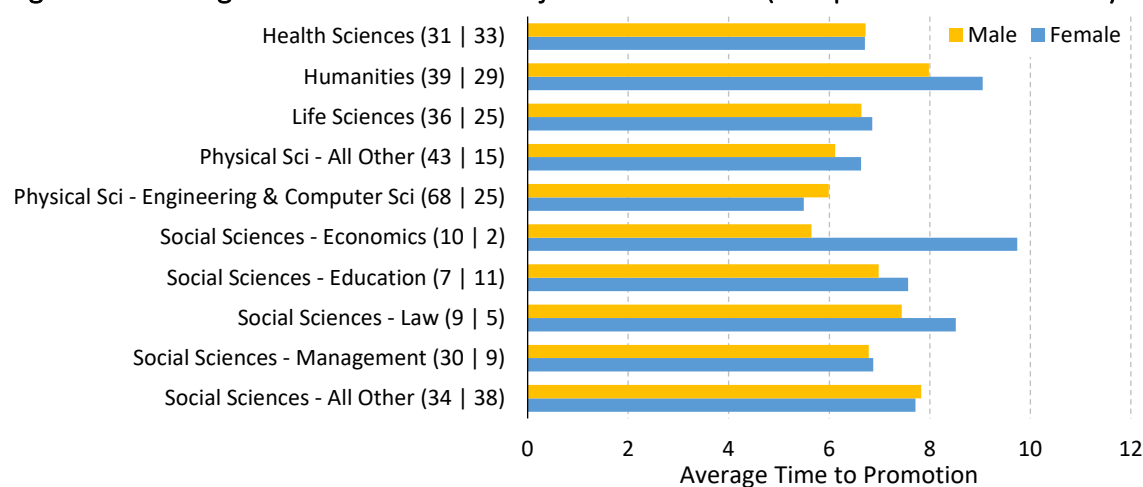


Figure 1b: Average Time to Promotion Adjusted for Leaves (except Research and Study Leave)



Figures 1a and 1b show:

- That the overarching finding (from Table 4) that females take longer to be promoted than males holds across all but two Divisional Groups (“Physical Sciences – Engineering and Computer Science” and “Social Sciences – All Other” are the exceptions).
- However, the lag between males and females is larger in some Divisional Groups, particularly in the Humanities (the small number of females in “Social Sciences – Economics” makes any conclusion from these data unreliable).

6.2.2 Cumulative Probability Analysis

In an effort to understand more about the lag between males and females in time to promotion, we looked at differences in cumulative probability of promotion for males and females over time. This allowed us to move beyond average time to promotion and consider time to promotion as a phenomenon spread out over time and through the careers of faculty members.

Figure 2 presents the results of our cumulative probability analysis. Our analysis started with the point at which each faculty member achieved tenure at U of T (year zero) and presents, for each year thereafter, the probability of faculty achieving promotion in that year or in any year prior.²⁷ Thus, for example, in 2023 if we look at all faculty who have received tenure in our sample we can estimate that 26.9% of male and 18.6% of female faculty will have been promoted within five years from tenure. Similarly, we can estimate that 63.4% of male and 62.9% of female faculty will have been promoted within ten years from tenure.

Figure 2: Cumulative Probability of Promotion, 2023 data

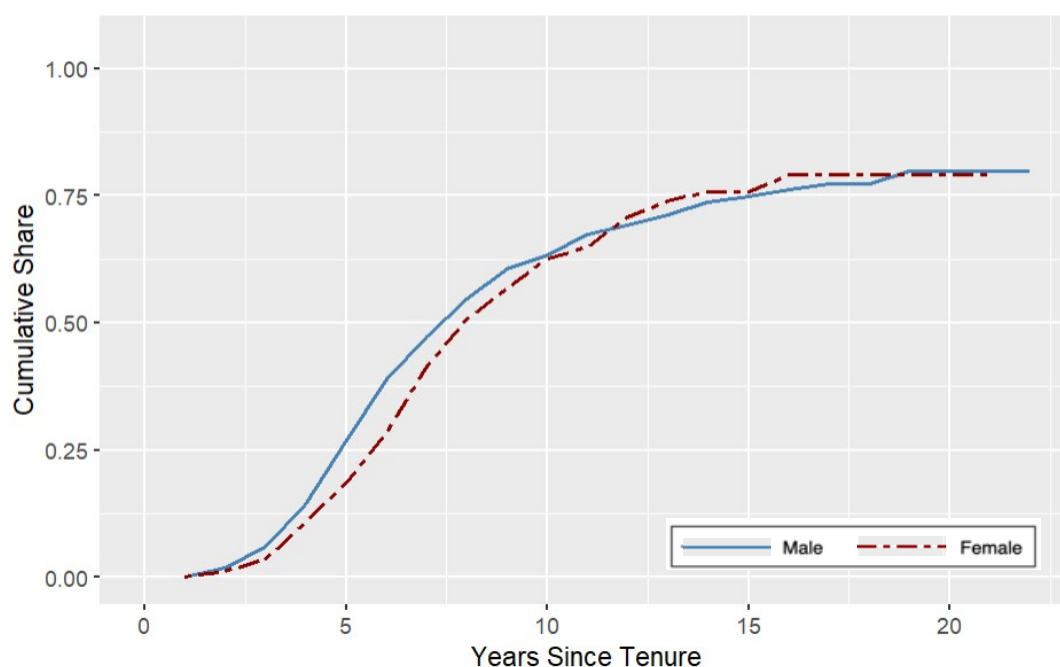


Figure 2 shows:

- An estimated 25% of male and female faculty are never promoted.
- Females lag slightly behind males in the cumulative probability analysis.

²⁷ Cumulative probability is calculated as follows: for each year (denoted X), we calculate the percent of remaining faculty members (i.e. faculty who were promoted at least X years after tenure) promoted in that year. The numerator is the number of professors promoted exactly X years after tenure. The denominator is the number of professors with at least X years since tenure. The cumulative share is the cumulative sum of the above from zero to X since tenure.

- This difference appears to disappear 13 years after tenure at which point we estimate that 71.3% of males and 74.1% of females will have been promoted.

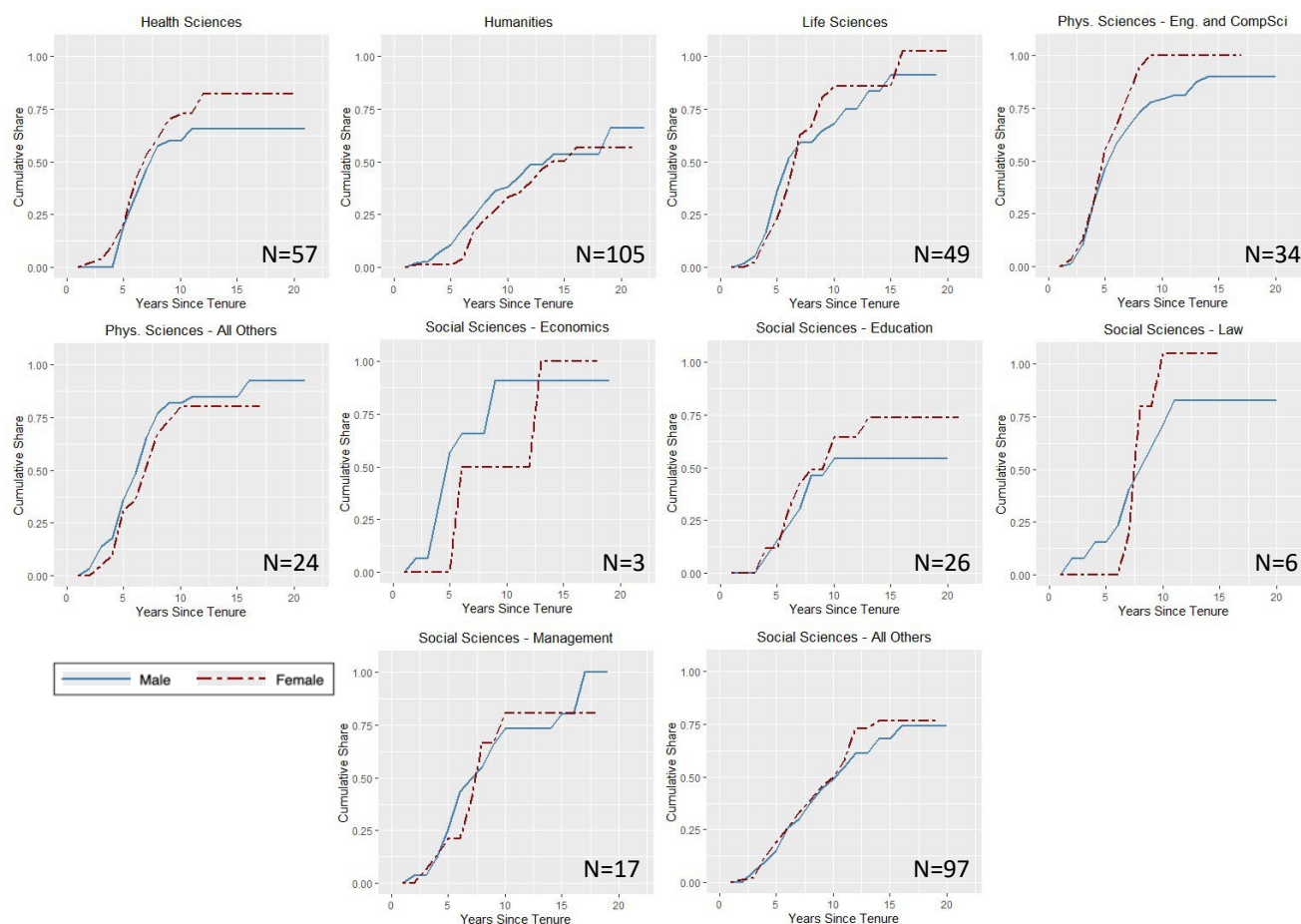
6.2.3 Possible explanations for the lag

Having observed, in Figure 2, a lag between males and females in time to promotion, our next step was to try to better understand what is driving the lag for females. We had a number of hypotheses that we tested.

6.2.3.1 Testing Hypothesis 1: There is a gap between males and females in all Divisional Groups that explains the gap between males and females.

We looked first at whether the lag in time to promotion that we observed in Table 6 for females as compared to males exists in all Divisional Groups.

Figure 3: Cumulative Probability of Promotion, by Divisional Group (the number in the bottom right is for the number of females in the data for each Divisional Group)



The number of faculty and especially of female faculty is small in some Disciplinary Groups (see Table 5 below for a breakdown) affecting the robustness of the analysis.

However, Figure 3 shows:

- Females do not appear to lag behind males in all Disciplinary Groups.
- The Humanities appear to have particularly low levels of promotion for both sexes. (Males in “Social Sciences – Education” also appear to have a particularly low rate of promotion).
- There is a noticeable lag in the Humanities for females as compared to males.

This analysis suggests that hypothesis one is not correct: the lag in time to promotion is not being driven by a lag across all Divisional Groups.

6.2.3.2 Testing Hypothesis 2: There is a gap between males and females in some Divisional Groups which is driving the overall gap.

We looked next at whether the lag in time to promotion that we observed in Figure 2 for females as compared to males is driven, at least in part, by the lag in time to promotion in the Humanities. Figure 4a presents the cumulative probability of promotion in the Humanities; and Figure 4b presents the cumulative probability of promotion in the other, remaining, Divisional Groups.

Figure 4a: Cumulative Probability of Promotion, Humanities

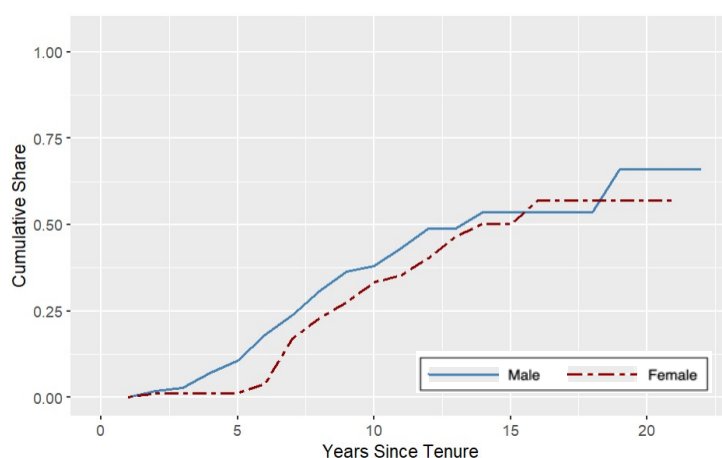


Figure 4b: Cumulative Probability of Promotion, All other Divisional Groups

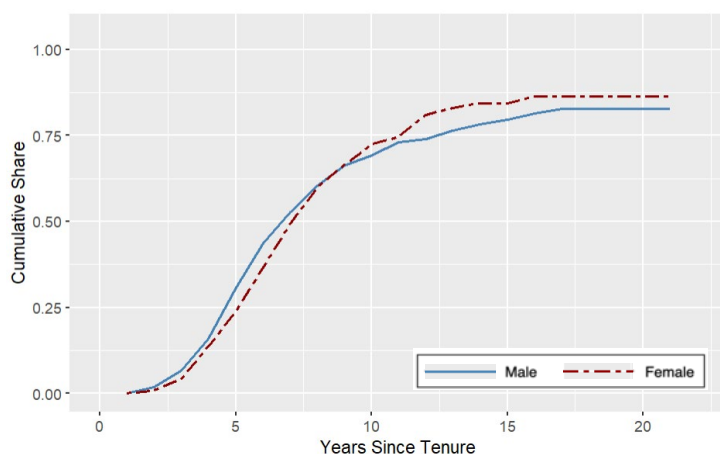


Figure 4a and 4b show:

- There is a strong and persistent (negative) gap between males and females in time to promotion in the Humanities.
- The gap nearly disappears when Humanities are excluded from our analysis.

This analysis suggests that hypothesis two is correct: there is a lag in time to promotion for females as compared to males in the Humanities that drives the overall lag in time to promotion for females.

6.2.3.3 Testing Hypothesis 3: Females are more represented in Divisional Groups with slower time to promotion which skews results.

We looked finally at whether the lag in time to promotion for females as compared to males is a result of the fact that females are more represented in Divisional Groups with slower overall time to promotion. Figure 5a presents the cumulative probability of promotion, unweighted, which is what we saw in Figure 2. Figure 5b reweights the observations so that females have the same distribution across Divisional Groups as males. For example, if only 5% of females are in Divisional Group A but 25% of males are in that Group, each female in the group would be weighted as 5 females. Table 5 shows the relative weighting of females to males in each Divisional Group and the raw promotion data for each sex in five-year increments. This helps to demonstrate the relationship between representation of males and females and time to promotion within Divisional Groups.

Figure 5 a: Cumulative Probability of Promotion, Unweighted

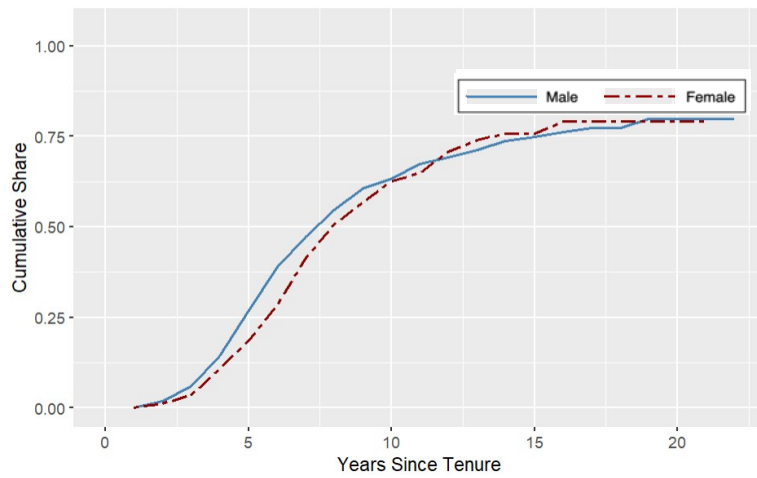


Figure 5b: Cumulative Probability of Promotion, Weighted

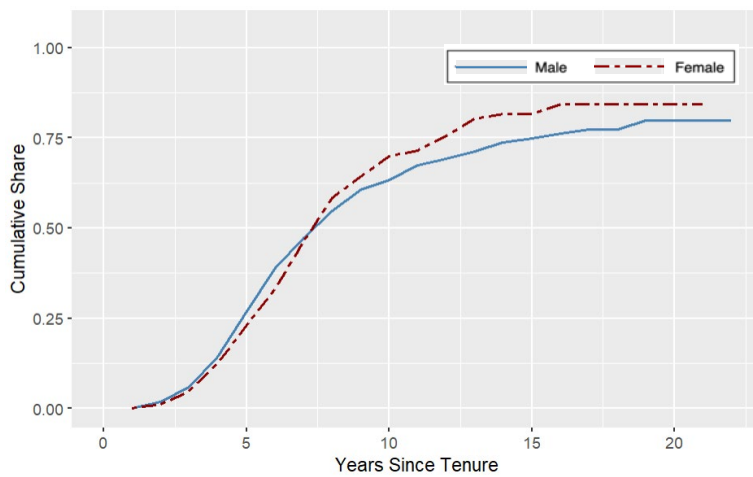


Table 5: Cumulative Probability of Promotion by Divisional Group sorted by Weight

Divisional Group	Percent of Male (Female) Faculty Promoted...			Overall Faculty Representation		
	5 Years since Tenure	10 Years since Tenure	15 Years since Tenure	% of all Female Faculty in the Divisional Group	% of all Male Faculty in the Divisional Group	Weighting of female observations ²⁸
Social Sciences - Education	15% (12%)	54% (65%)	54% (74%)	6%	3%	0.41
Social Sciences - All Others	15% (19%)	49% (50%)	68% (77%)	23%	16%	0.68
Humanities	11% (1%)	38% (33%)	54% (50%)	25%	19%	0.75
Health Sciences	20% (21%)	60% (73%)	66% (82%)	14%	10%	0.76
Life Sciences	36% (23%)	68% (86%)	91% (86%)	12%	11%	0.95
Social Sciences - Law	15% (0%)	71% (100% ²⁹)	83% (100% ³⁰)	1%	2%	1.44
Physical Sci – Eng. and CompSci	47% (55%)	79% (100%)	90% (100%)	8%	16%	1.95
Physical Sci - All Others	36% (31%)	82% (80%)	85% (80%)	6%	12%	2.05
Social Sciences - Management	26% (21%)	74% (81%)	80% (81%)	4%	9%	2.22
Social Sciences - Economics	57% (0%)	91% (50%)	91% (100%)	1%	3%	3.76

Figures 5a, 5b and Table 5 show:

- Females are more represented in Divisional Groups that have slower promotion rates in general, even among males (and particularly in “Social Sciences – Education”, “Social Sciences – All Others”, and Humanities).
- Females are most under-represented in Divisional Groups that have faster promotion rates in general, even among females (like “Physical Sci – Engineering & Computer Sci,” “Physical Sci – All Others”, and “Social Sciences – Management”).

This analysis suggests that hypothesis three is also correct: females are over-represented in Divisional Groups with slower time to promotion which helps to drive the lag we have identified in time to promotion for females when compared to males.

6.2.3.4 Summary

Our cumulative probability analysis suggests that the lag for females as compared to males in time to promotion to the rank of Professor appears to be driven by the fact that female faculty are disproportionately employed in Divisional Groups, and especially in the Humanities, where the rate of promotion is slower and lower than in other Divisional Groups. This is compounded

²⁸ Weights are the ratio of the percent of male faculty in a divisional group to the percent of female faculty in the same divisional group.

²⁹ Note: this has technically been calculated as 105%; this is an artifact of the methodology.

³⁰ See footnote 30.

by the fact that, in the Humanities, females lag behind males. The gap appears to close approximately 13 years out from tenure.

7 Conclusion

Our analysis shows that there is no gap in time to tenure (and promotion from Assistant Professor to Associate Professor) between males and females at the University of Toronto.

However, our analysis shows that there is a gap in time to promotion (from Associate Professor to Professor) between males and females of, on average, six to seven months. This lag persists for the population that was at the University in Fall 2023 until approximately 13 years from tenure, at which point it closes. Approximately 25% of faculty are never promoted.

The gap in time to promotion between males and females appears to be driven by a variety of factors:

- The time to promotion varies by Divisional Group; females are more represented in Divisional Groups where there is slower time to promotion (including the Humanities);
- The overall likelihood of promotion at all is lower in Divisional Groups in which females are more represented (including in the Humanities);
- Within the Humanities, itself, females lag behind males with respect to time to promotion.