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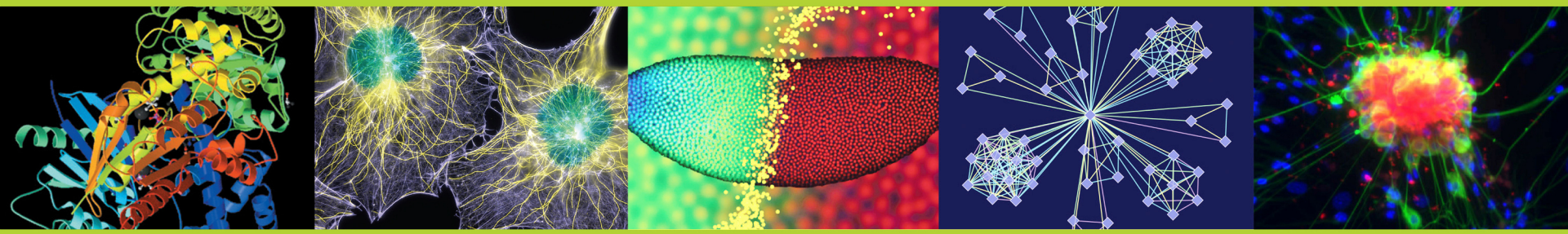
Office of Program Planning, Analysis and Evaluation (OPAE)

National Institute of General Medical Sciences

F31 Diversity Fellowship Program Evaluation



Background

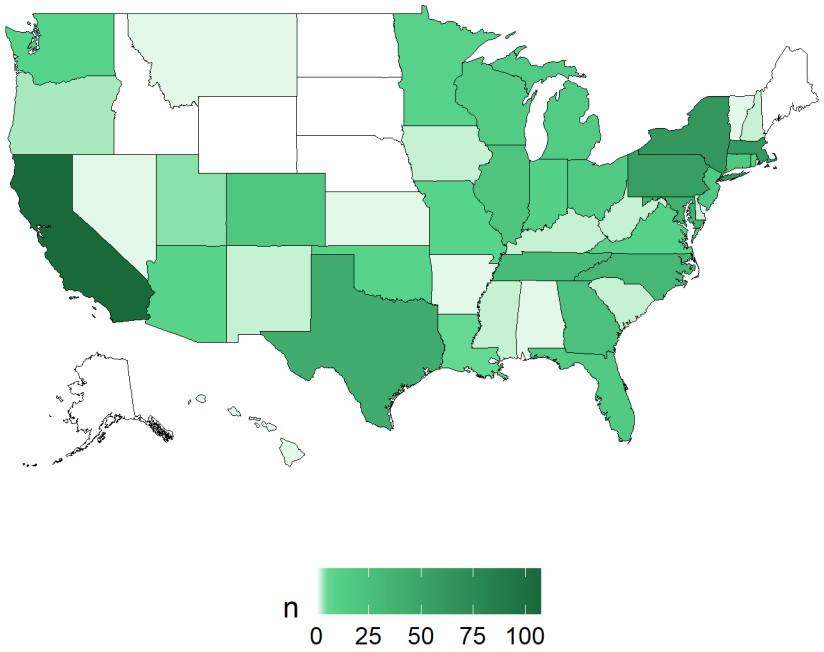
- **Purpose:** The purpose of the F31 Diversity Fellowship program is to enhance the diversity of the biomedical research workforce by supporting the research training of predoctoral students from population groups that have been shown to be historically underrepresented in the biomedical sciences (non-White/Asian, Latino, or disabled).

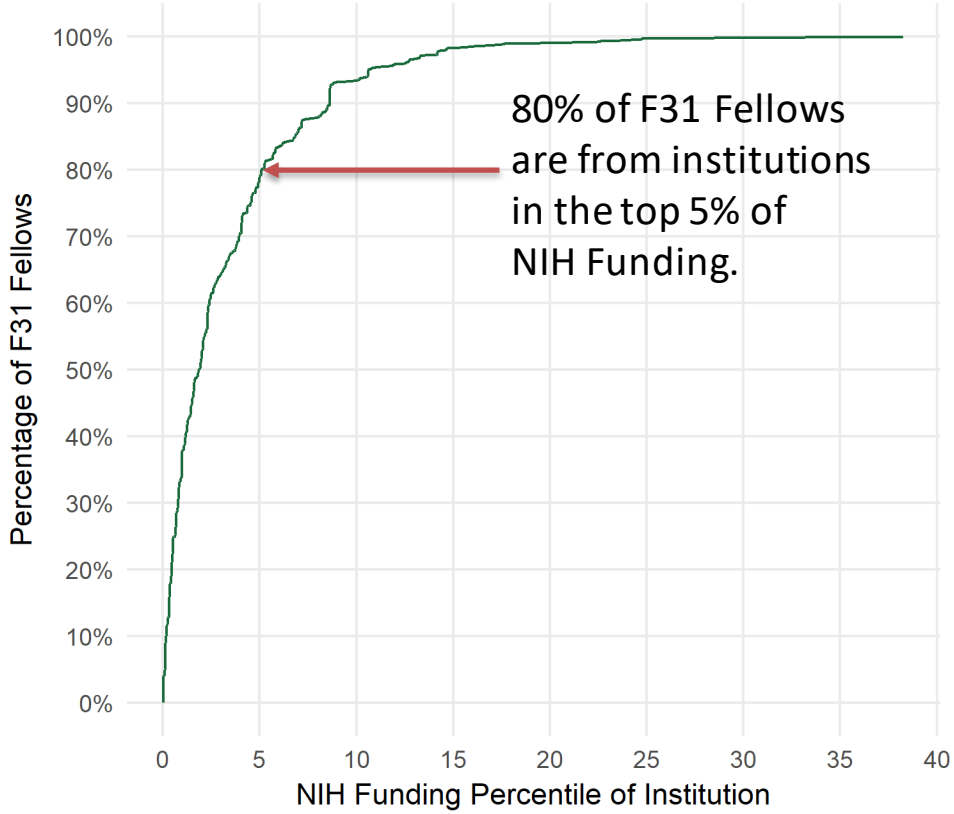
- **Duration:** 1991-Present

- **Logic Model:** NIGMS provides funding for the tuition and stipend of underrepresented students, and the students' institutions provide research facilities and faculty mentorship to the students. It is hoped that these provisions will increase the probability of these students pursuing careers in biomedical research.

F31 Diversity Fellowships (1991-2017)

- NIGMS funded 706 F31 Fellows from 1991-2017.
- The total costs were $86.6 million (in 2016 dollars).
- The average total costs, per F31 Fellow, per year, were $40.3K.
  - This is slightly lower than the corresponding costs for T32 Trainees: $43.6K.





Evaluation Questions

1. How does the F31 Diversity Fellowship affect a student's chance of completing his or her PhD program?

2. How does the F31 Diversity Fellowship affect a student's chance of going on to do a postdoc?

3. How does the F31 Diversity Fellowship affect a student's chance of receiving future NIH research grants?

4. How does the F31 Diversity Fellowship affect a student's chance of becoming a research scientist?

Comparators and Methodology

- Predoctoral Groups
  - **F31 Fellows** – Individuals who received an NIGMS F31 Diversity Fellowship.
  - **F31 Applicants** – Individuals who applied for an NIGMS F31 Diversity Fellowship (and made it to review), but were never awarded one.
  - **T32 Trainees** – Individuals who did not apply for an NIGMS F31 Diversity Fellowship, were appointed as a predoctoral T32 trainee on an NIGMS T32 training grant, and were classified as underrepresented minorities/disabled students by NIH or NSF (Survey of Earned Doctorates).
    - 20% of F31 Fellows and 11% of F31 Applicants were previously on a T32 predoc, but these T32 Trainees never applied for an F31.
- Individuals were also grouped into five year cohorts based on their first year of predoctoral support from NIGMS (on either a T32 or an F31): 1991-1995, 1996-2000, 2001-2005, and 2006-2010.
- p-values
  - p-values for percentage comparisons were calculated by performing a Fisher's exact test.
  - p-values for distribution comparisons were calculated by performing a Wilcoxon rank-sum test
  - Significant differences ($p \leq 0.05$) appear in red.
  - Asterisks indicate the level of significance: * for $p \leq 0.05$, ** for $p \leq 0.01$, and *** for $p \leq 0.001$.

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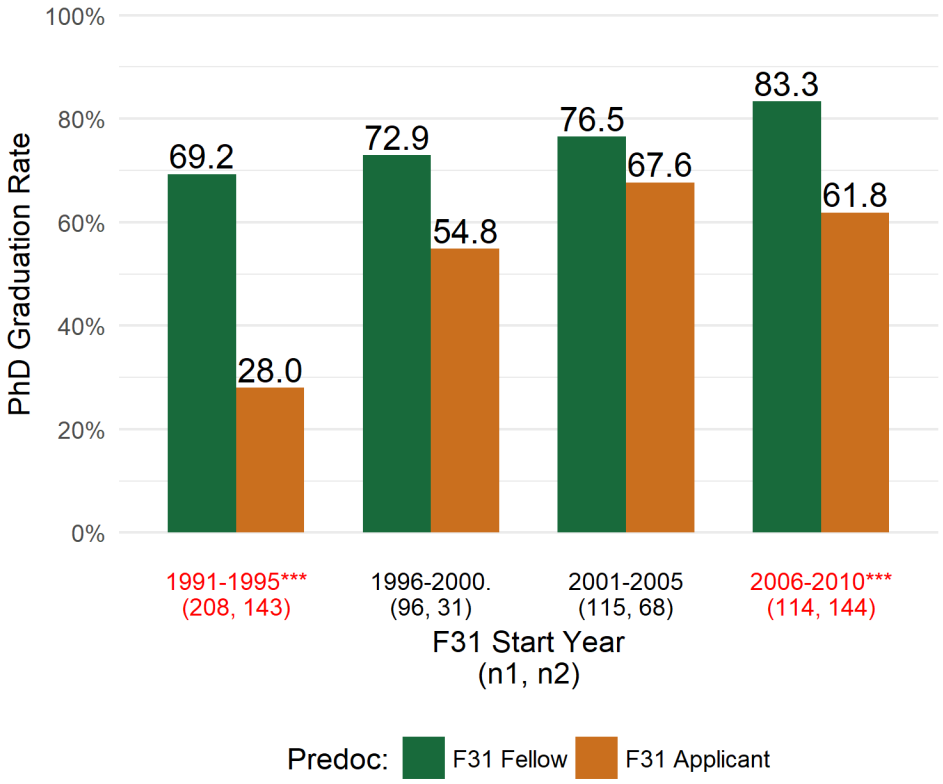
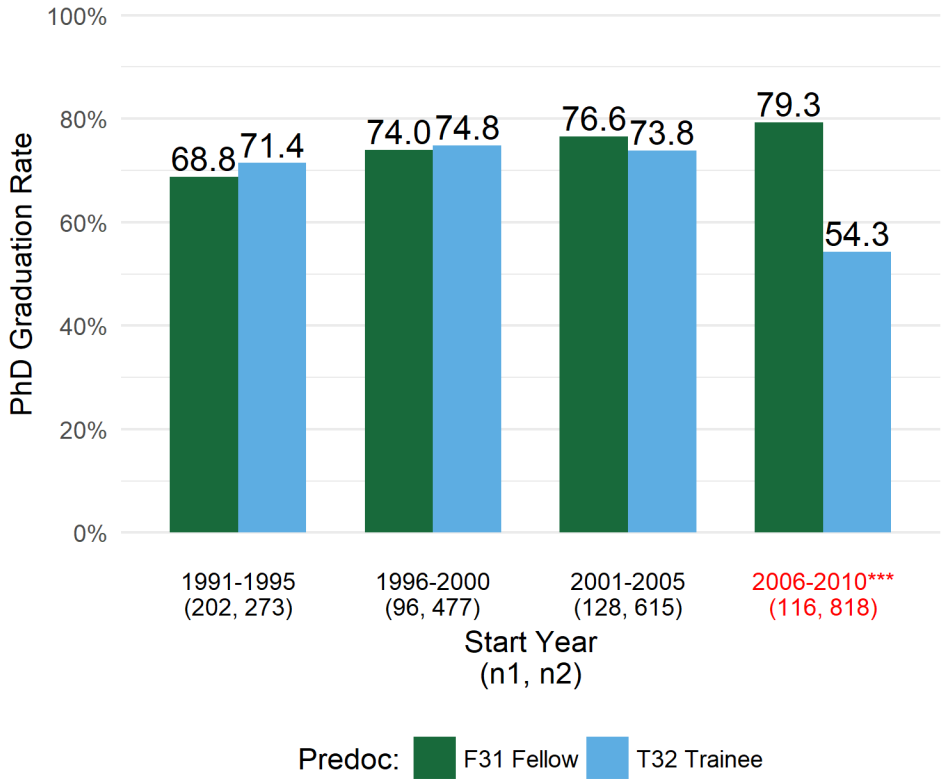
PhD Graduation Rates

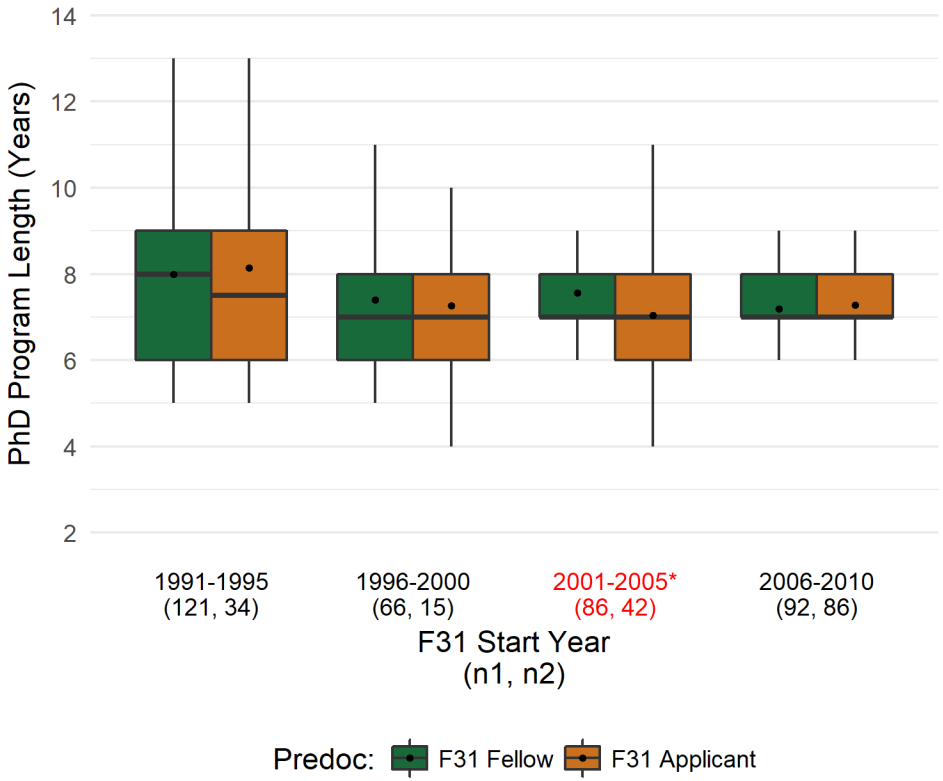
- F31 Fellows (74.5%) were more likely to get a PhD than F31 Applicants (49.7%; $p < 0.001$).
- F31 Fellows (73.8%) were more likely to get a PhD than T32 Trainees (66.4%; $p < 0.001$). However, this was driven entirely by the last cohort (in which T32 PhD data is incomplete).

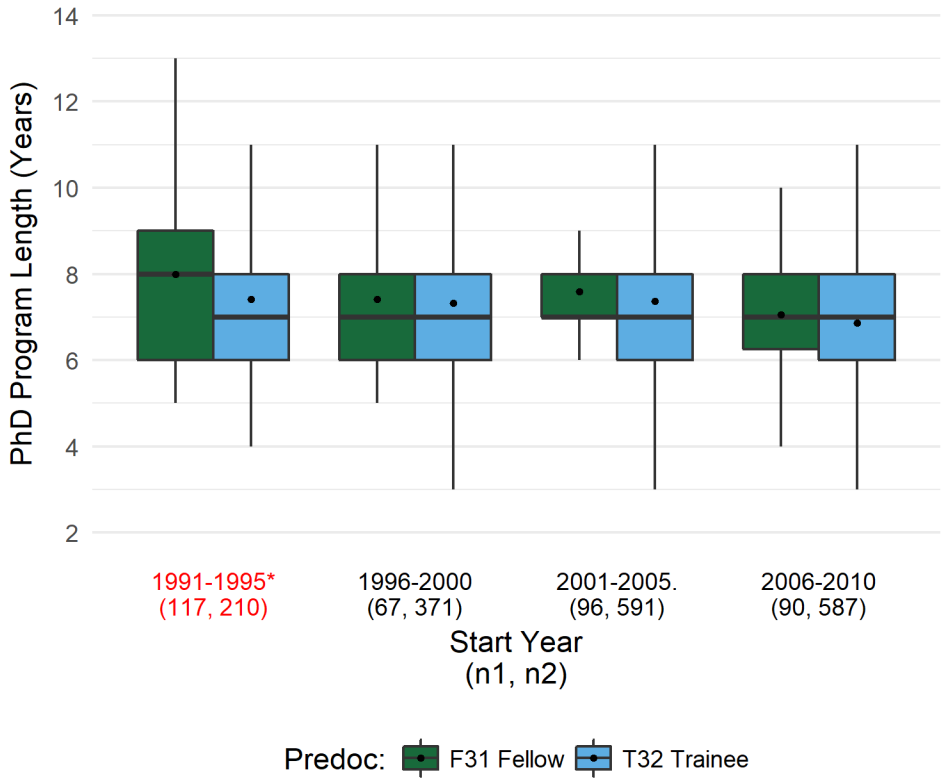




PhD Program Length

- F31 Fellows (mean 7.6 years) and F31 Applicants (mean 7.4 years) had similar PhD program lengths ($p = 0.18$).
- F31 Fellows (mean 7.6 years) had slightly longer PhD program lengths than T32 Trainees (mean 7.2 years; $p < 0.001$).





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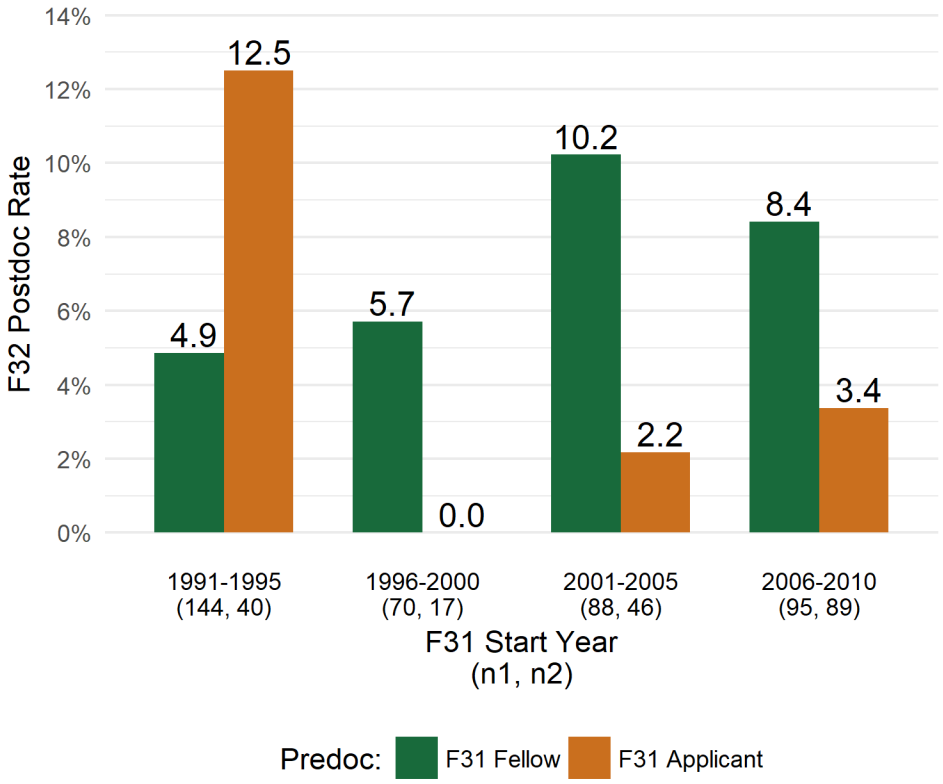
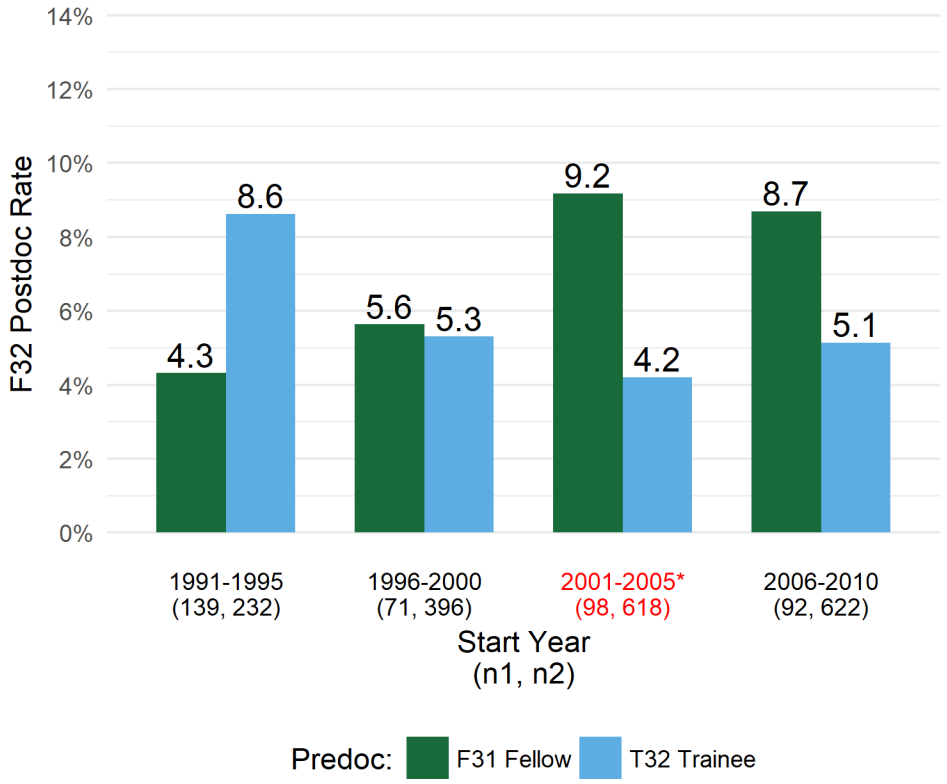
F32 Postdoc Rates

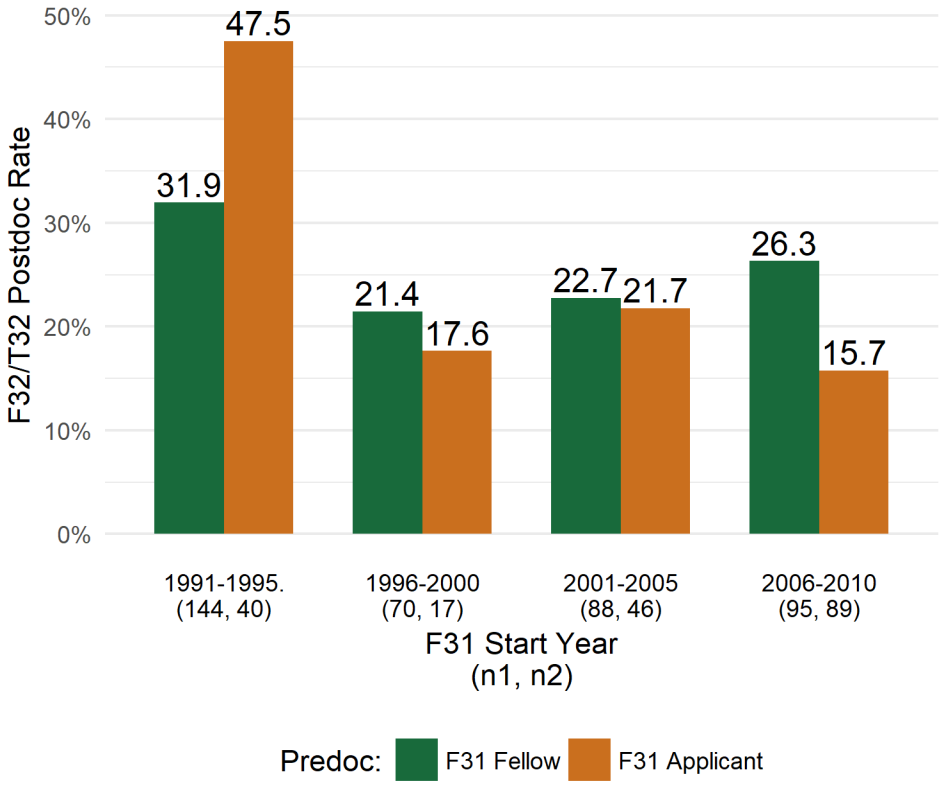
- F31 Fellows (7.1%) were not more likely to be an F32 postdoc than F31 Applicants (4.7%; p = 0.36). The difference (8.3% vs 2.6%) was significant for the last three cohorts (p = 0.031).
- F31 Fellows (6.8%) were not more likely to be an F32 postdoc than T32 Trainees (5.3%; p = 0.28). The difference (8.1% vs 4.8%) was significant for the last three cohorts (p = 0.037).

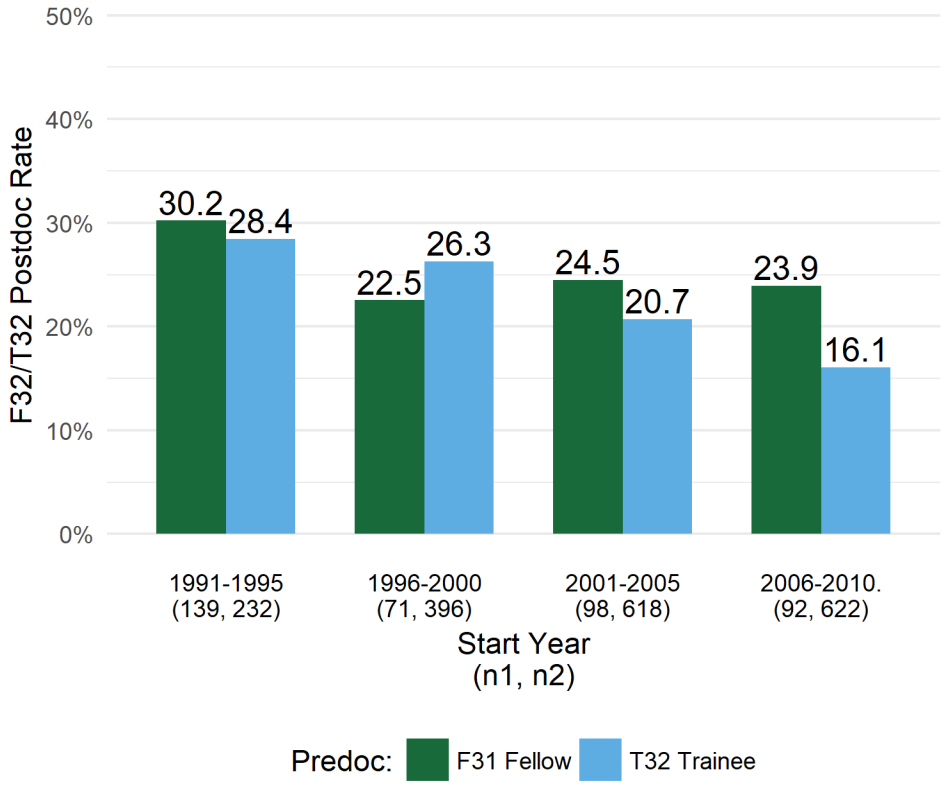




F32/T32 Postdoc Rates

- F31 Fellows (26.7%) were not more likely to be an F32 or T32 postdoc than F31 Applicants (24.0%; p = 0.55).
- F31 Fellows (26.0%) were more likely to be an F32 or T32 postdoc than T32 Trainees (21.3%; p = 0.046). However, this result does not hold after adjusting for confounders (p = 0.37).





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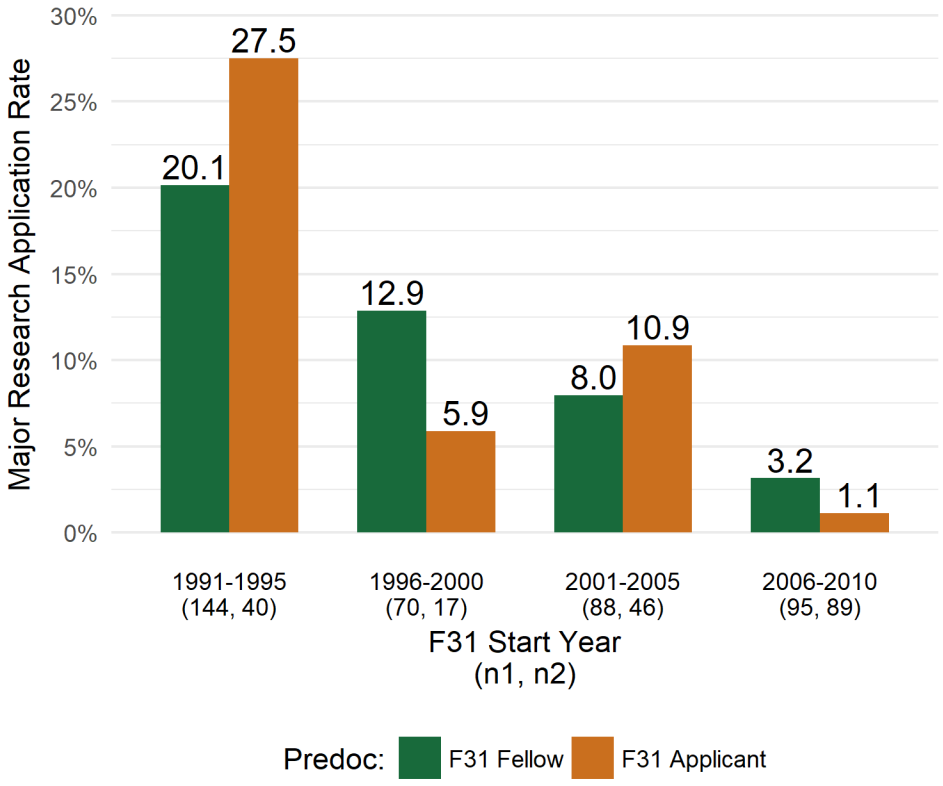
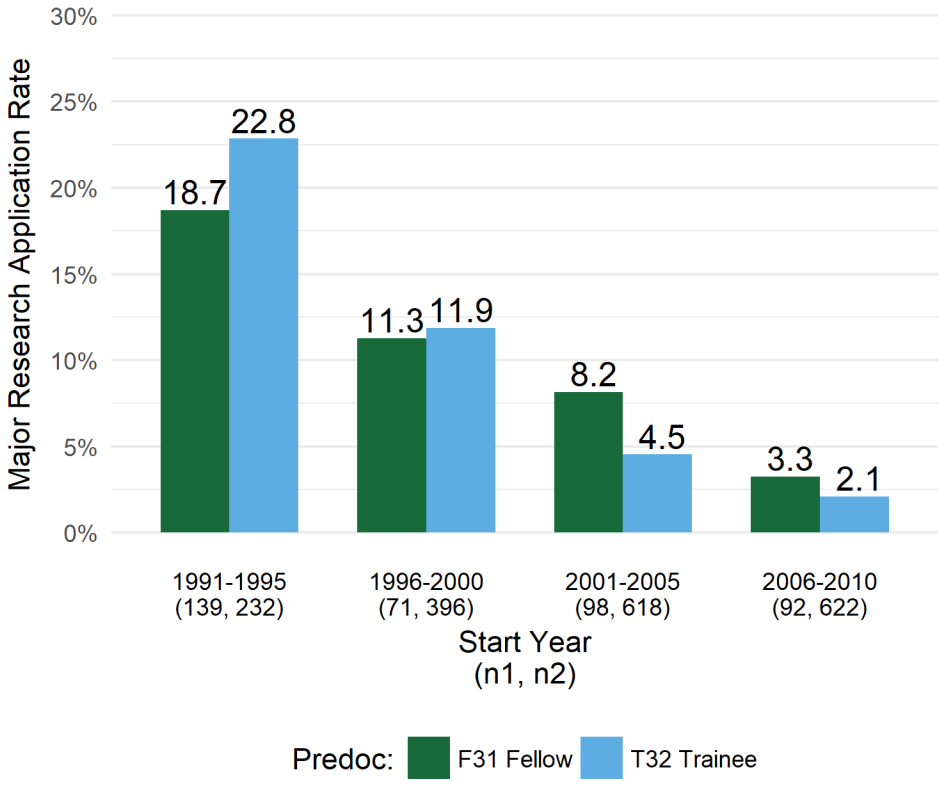
Major Research Application Rate

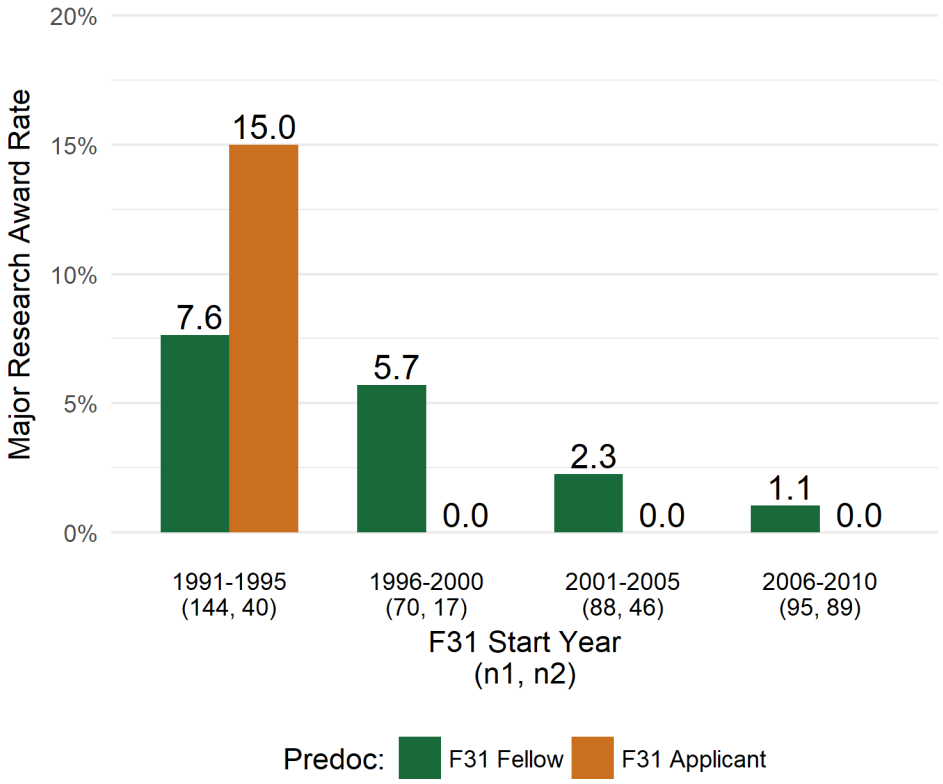
- F31 Fellows (12.1%) were not more likely to apply for major research applications than F31 Applicants (9.4%; p = 0.40).
- F31 Fellows (11.3%) were more likely to apply for major research applications than T32 Trainees (7.5%; p = 0.02). However, this result does not hold after adjusting for confounders (p = 0.38).

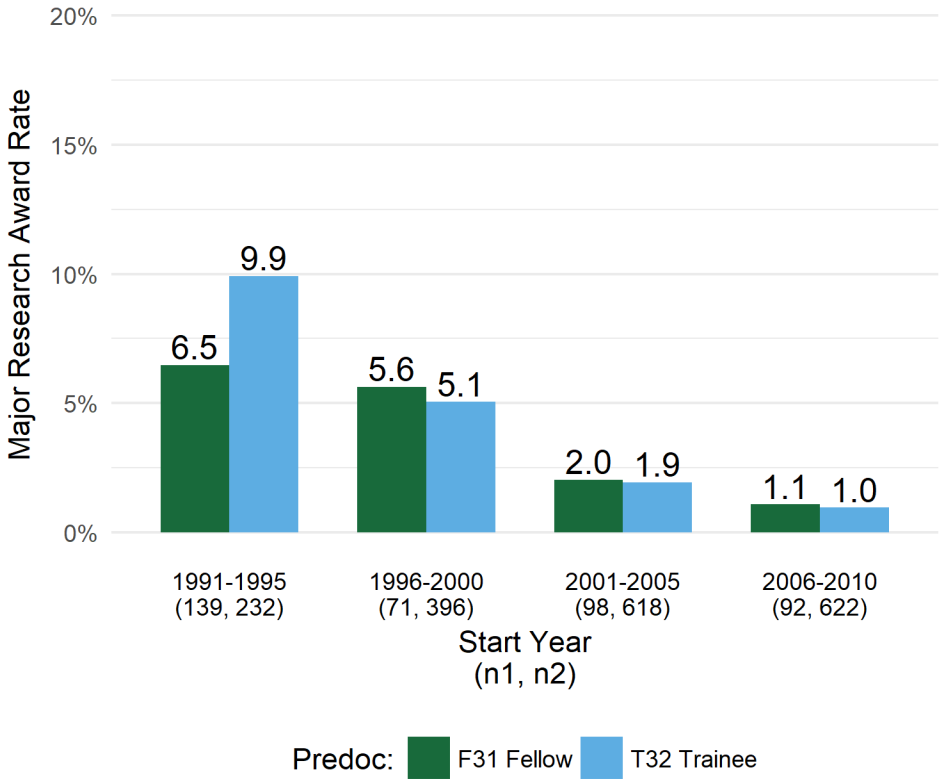




Major Research Award Rate

- F31 Fellows (4.5%) were not more likely to receive major research awards than F31 Applicants (3.1%; p = 0.51).
- F31 Fellows (4.0%) were not more likely to receive major research awards than T32 Trainees (3.3%; p = 0.45).





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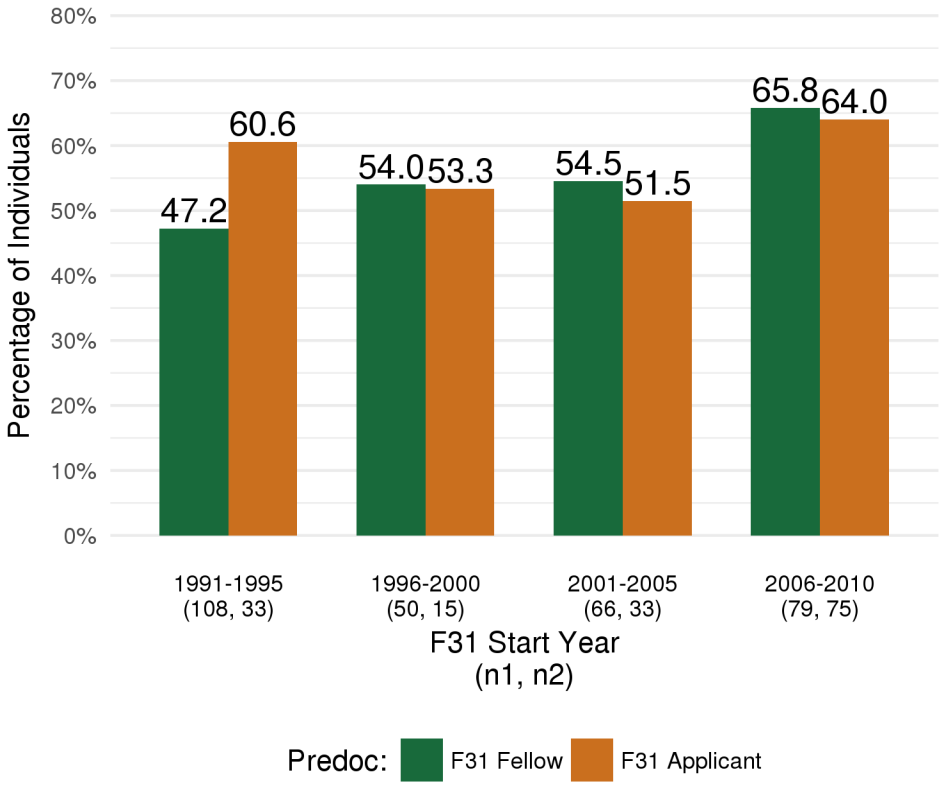
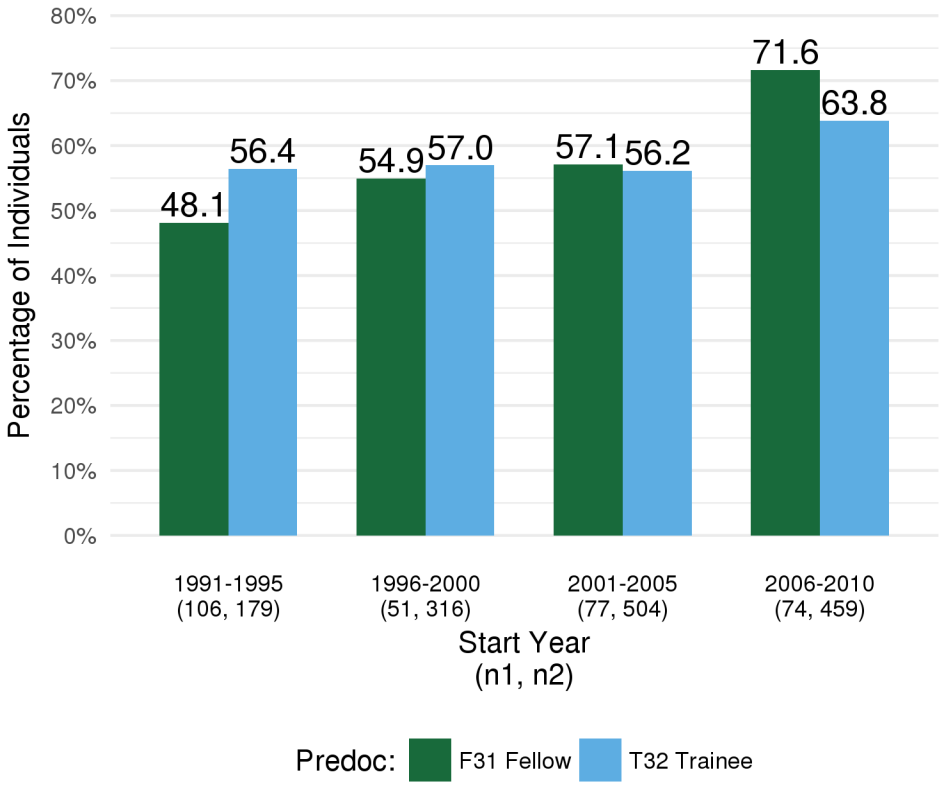
Employed in Research in 2014 (Census Data)

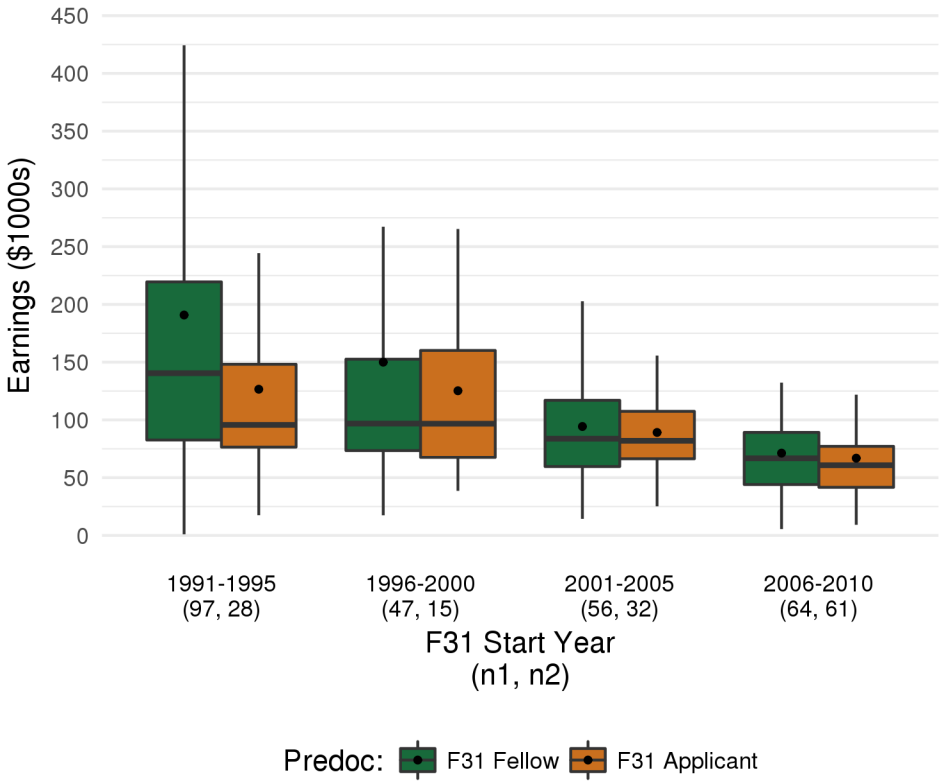
- F31 Fellows (54.8%) were not more likely to be employed in research in 2014 than F31 Applicants (59.6%; p = 0.37).
- F31 Fellows (57.1%) were not more likely to be employed in research in 2014 than T32 Trainees (58.8%; p = 0.61).

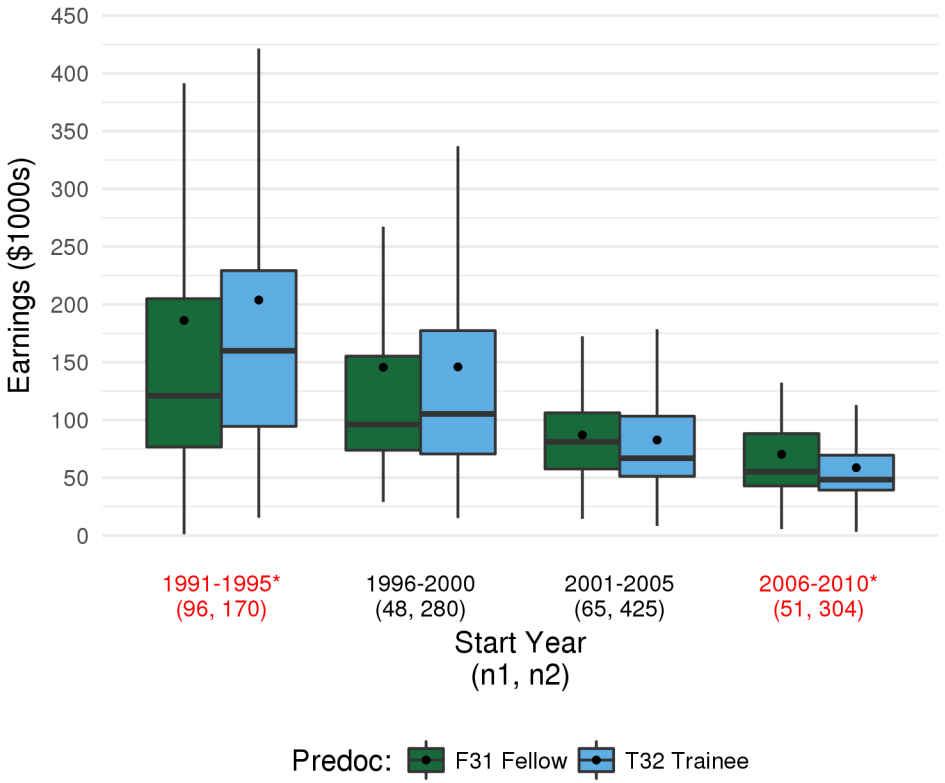




Earnings in 2014 (Census Data)

- F31 Fellows (mean $134k) had higher salaries in 2014 than F31 Applicants (mean $91k; p = 0.002).
- F31 Fellows (mean $131k) had higher salaries in 2014 than T32 Trainees (mean $109k; p = 0.006).





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Results

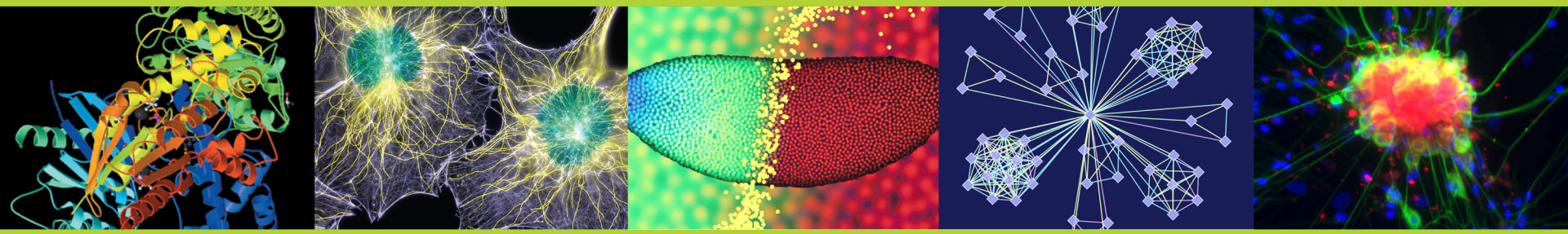
1. F31 Fellows were more likely to receive a PhD than F31 Applicants, but not T32 Trainees. F31 Fellows had PhD program lengths similar to F31 Applicants, and slightly longer than T32 Trainees.

2. F31 Fellows were more likely to be an F32 postdoc than F31 Applicants or T32 Trainees in the last three cohorts. F31 Fellows were not more likely to be an F32 or T32 postdoc than F31 Applicants or T32 Trainees.

3. F31 Fellows were not more likely to apply for/receive major research grants than F31 Applicants or T32 Trainees.

4. F31 Fellows were not more likely to be employed in research in 2014 than F31 Applicants or T32 Trainees. F31 Fellows earned more money in 2014 than F31 Applicants or T32 Trainees.

QUESTIONS?



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