

The Impact of BRAINS

Program Overview:

The BRAINS (Broadening the Representation of Academic Investigators in Neuroscience) Program, established in 2011 with funding from the NIH, explicitly addresses the inclusion, retention, and advancement of early career (post Ph.D. and pre-tenure) neuroscientists from historically underrepresented and marginalized groups (URMGs: individuals from marginalized racial and ethnic identities and persons with disabilities). BRAINS has pioneered a unique cohort-based professional development approach that positively impacts participants' career trajectories, especially in academic neuroscience, and creates a perpetually empowering community. As of 2022, 179 neuroscientists have participated in the program (Table 1) as either Fellows or Affiliates.

PARTICIPANT DEMOGRAPHICS	
Gender	
Man	62
Woman	116
Non-binary	1
Race and Ethnicity*	
American Indian or Alaskan Native	9
Asian or Asian American	5
Black or African American	81
Hispanic, Latinx, or Spanish origin	93
Native Hawaiian or Pacific Islander	0
White	41
Ability Status	
Has one or more disabilities	26

* Individuals may select all that apply.

Table 1: Demographics of BRAINS participants through 2022. (N =179)

The two program pathways (Fellows and Affiliates) both begin with a cohort launch event followed by peer coaching circles. Fellows are individuals who have not, at the time of application, experienced sufficient community, access to mentors and networks, and/or professional development opportunities. All eligible applicants who are not selected as Fellows are invited to join the Affiliates pathway. The Fellows program begins with an in-person four-day symposium while the Affiliates program is launched with a series of virtual workshops. All BRAINS participants also have access to ongoing professional development through cross-cohort symposia, virtual community gatherings, weekly newsletters, and other events.

Outcomes:

BRAINS participants are succeeding in neuroscience and advancing in the field
 As of 2020, 144 people had participated in the BRAINS program and 90% of them remained in neuroscience careers at that point in time (Table 2). Each pathway is meeting the needs of its participants as evidenced by the similar job outcomes of Fellows and Affiliates (Table 2). No statistically significant differences were found in these outcomes between Fellows and Affiliates. Moreover, as of 2020, 50% of the 144 participants were in tenure track positions, compared to 24% at time of application, a statistically significant increase ($t(140)=6.33, p<.001$). Specifically, 72 participants were in tenure track positions, including 42 participants who had become assistant professors since entering the program, and 15 participants who had advanced to associate professor, full professor, and chair positions. BRAINS participants, regardless of pathway, are more likely to be in tenure track positions at the time of follow-up as compared to time of application.

Program Pathway	Time point	Tenure-track position in neuroscience	Non-tenure track position in neuroscience	Non-neuroscience science position	No position in Science
Fellows	Application (N=112)	25%	72%	4%	0%
	Follow-up (N=111)	54%	38%	5%	3%
Affiliates	Application (N = 30)	16%	84%	0%	0%
	Follow-up (N = 30)	40%	50%	7%	3%

Table 2: Job outcomes comparison of Fellows and Affiliates. Follow-up occurred in 2020. Application occurred in 2013, 2014, 2017, and 2019 (4 application cycles.)

Sustained improvement in key career measurements

In 2022 longitudinal data was available to compare changes from the time of application to the first, second, and third follow-up surveys (conducted one, two, and three years after application) for BRAINS Fellows from the 2013, 2014, 2017, and 2019 Cohorts. The analysis was limited to Fellows only, as the distinct Affiliates programming was introduced after the first two BRAINS cohorts. Across all four cohorts of BRAINS Fellows, longitudinal analysis of survey indices revealed significant and sustained improvements on measures of self-efficacy, mentoring and networking, success in become tenured, and satisfaction with career progression from the time of application to the first, second, and third follow-up surveys (Table 3). There were no significant differences in changes over time between the four cohorts, indicating that the program had similar effects on the 2013, 2014, 2017, and 2019 Cohorts from the time of application to the first, second, and third follow-up surveys.

	Mean at Appl'n (t ₀)	Mean 1-year later (t ₁)	Mean 2-years later (t ₂)	Mean 3-years later (t ₃)	t ₀ – t ₁	t ₀ – t ₂	t ₀ – t ₃
Career Success: Tenure	3.25	4.12	3.99	4.02	***	***	***
Self-Efficacy	3.84	4.15	4.07	4.16	***	***	***
Mentoring & Networking	3.40	3.88	3.97	4.01	***	***	***
Outcomes: Career Satisfaction	3.34	3.65	3.81	3.97	**	***	***

*Statistically Significance Levels: **p < 0.01, ***p < 0.001, Scale: 1 = strongly disagree ... 5 = strongly agree

Table 3. Descriptive Statistics with Longitudinal Changes Across All Fellows

Ongoing Impact

On the whole, evaluation findings demonstrate that BRAINS participants have experienced positive changes to their self-efficacy, professional networks, and mentoring relationships. In turn, BRAINS participants are experiencing career success and advancement.

“BRAINS has helped shape my sense of what I would need to advance my career, gave me confidence to pursue it, and expanded my network to utilize [it] to succeed.”

Visit the program website to learn more information about the program (<https://brains.uw.edu/about>) and its impact (<https://brains.uw.edu/impact>). Questions may be directed to brains@uw.edu.