



Standing out from the PACK

NC STATE

Office of Postdoctoral Affairs

Chris Smith, Ph.D.

July 15, 2021

To Begin: Think Deeply About What You Want in Your Next Career

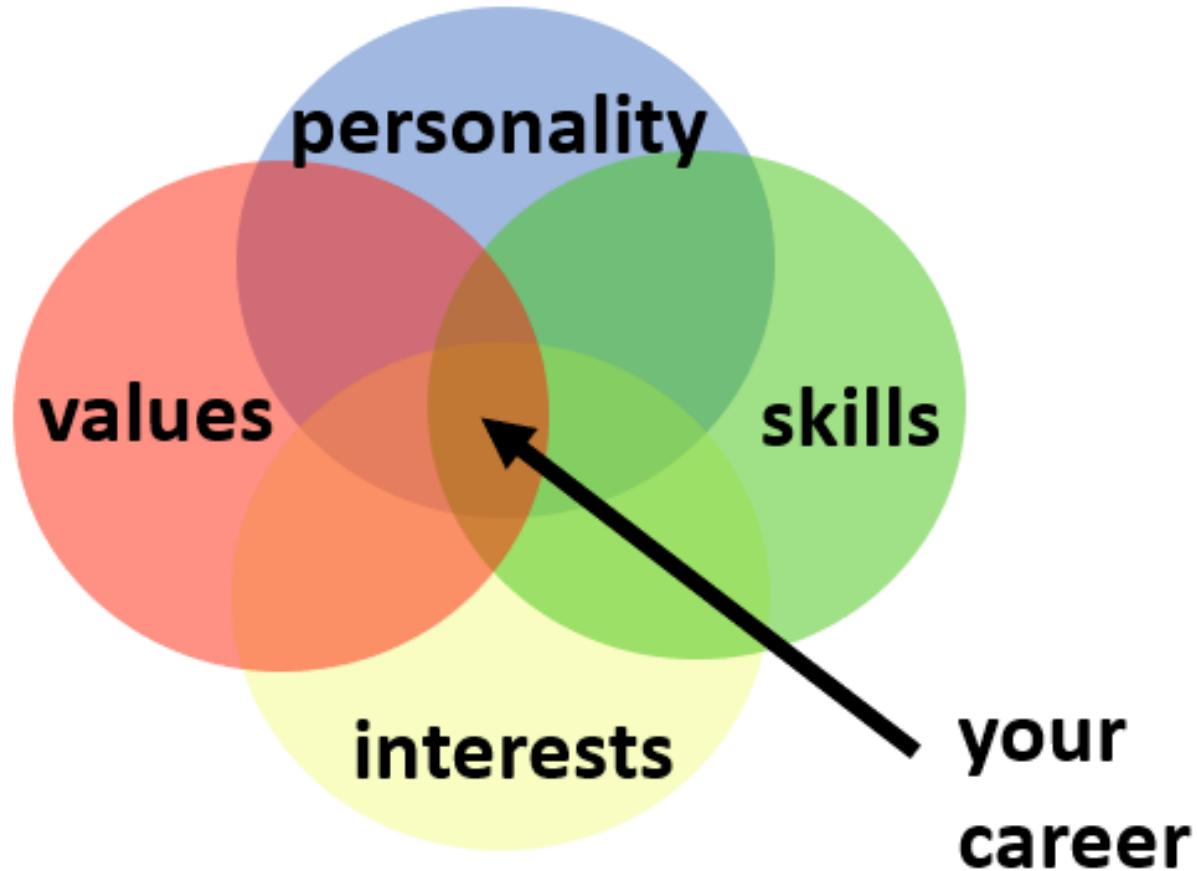
- What do you enjoy in your day-to-day activities?
 - Teaching?
 - Mentoring?
 - Research?
 - Writing?
 - Grant writing?
 - Talking about science?

Is a faculty position the best fit for your interests?

Think about which type of institution and role best suits you.

Don't pursue a faculty position because you aren't sure what else you can do with your skills.

Career Fit & Self-Assessment



Online Skills, Interests, & Values assessments built into career planning & creation of Individual Development Plan (IDP; <https://career.ucsf.edu/phds/myIDP>)

- [myIDP](#)
- [ImaginePhD](#)
- [ChemIDP](#)

There are many types of institutions who hire faculty... think beyond R1

- Community Colleges, n=1,462 (see [Dept of Education Data](#))
- Liberal Arts School, Primarily-Undergraduate Serving 4-year institutions, n=575
- Master's Comprehensive Universities, n=685
- R3 (Doctoral Univ), n=152 ; R2 (Doctoral Univ, High Research Activity), n=135
- R1 (Doctoral Univ, Very High Research Activity), n=131 -> **~7% of all institutions**

See [Carnegie Classifications](#)

Also, getting a faculty position (at an R1) is HARD

Biomedical Sciences Faculty (R1)

~1 openings/year/department



200+ applications/opening



~30 applicants after first cut



~10 applicants invited
to remote interview



~6 applicants invited
to onsite interview



~1 offer/opening

[See eLife paper](#) for more

See also: [Path to the Professoriate](#)

How do applicants applying for faculty positions perceive the process?

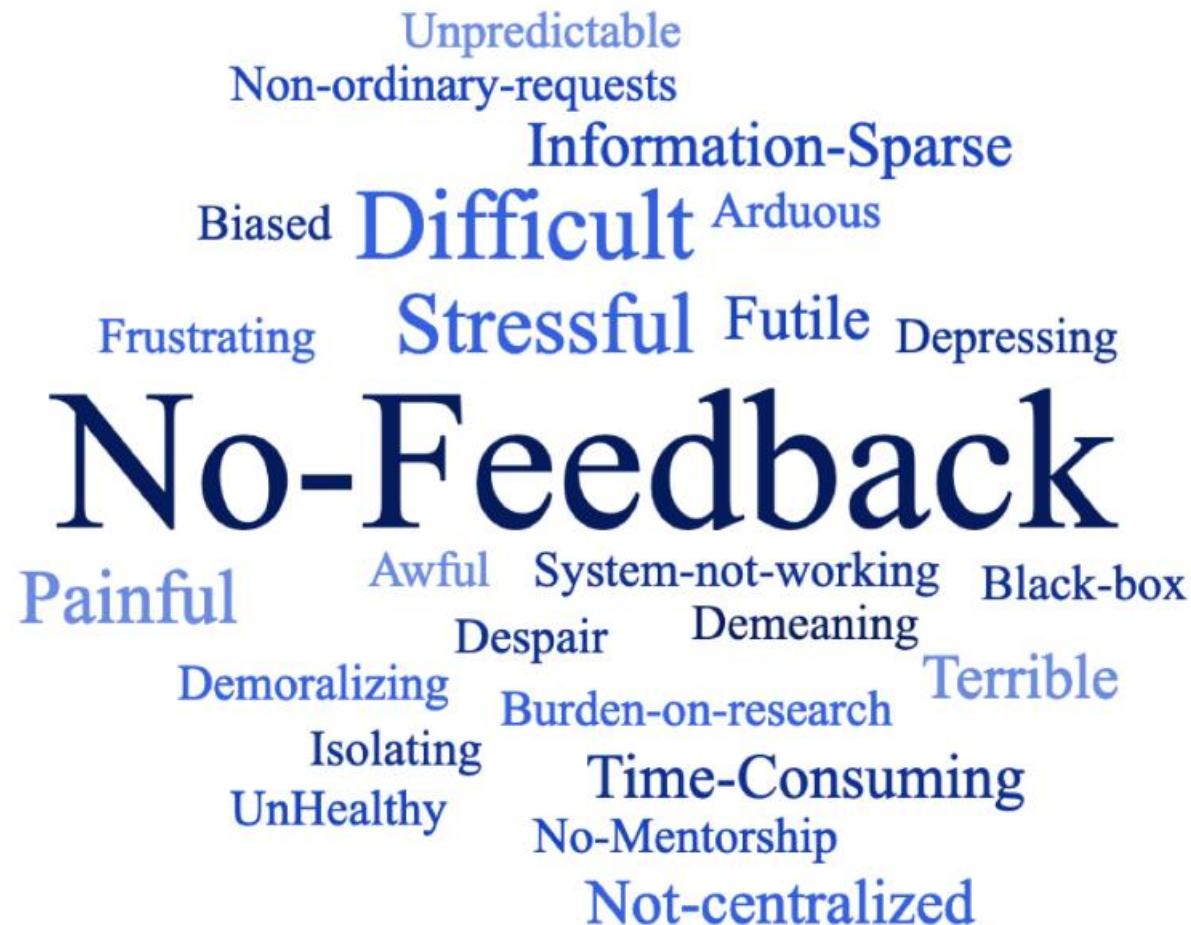
What was helpful for your application?



[A survey-based analysis
of the academic job
market \(eLife\)](#)

How do applicants applying for faculty positions perceive the process?

What is your general perception of the entire application process?



[A survey-based analysis of the academic job market \(eLife\)](#)

What are hiring committees looking for?

- Academic Career Readiness Assessment (ACRA) from UCSF
 - <https://career.ucsf.edu/phds/academic/acra>

		Qualification ^a	Required ^b	Level 1	Level 2	Level 3	Level 4
T	RT	Teaching experience		Candidate has had significant responsibilities (2) as a teaching assistant.	Candidate has been fully responsible for organizing (3) and teaching a course.	Candidate has been fully responsible for organizing (3) and teaching a course with a comparable student population (4).	Candidate has been fully responsible for organizing (3) and teaching a variety of courses (5) with comparable student populations (4).
		T	100%		33%	67%	
		RT	91%	27%	45%	9%	9%
		R	0%				

T=teaching-intensive institution (comm college); RT=research & teaching institution (R2, R3, Masters Comprehensive, liberal arts) ;
 R=research-intensive institution (R1)

[Learn more about ACRA's development in this publication](#)

What are hiring committees looking for?

- Academic Career Readiness Assessment (ACRA) from UCSF
 - <https://career.ucsf.edu/phds/academic/acra>

Qualification ^a	Required ^b	Level 1	Level 2	Level 3	Level 4
Research Feasibility with available resources		Candidate demonstrates ability to develop a research program within the limitations of the start-up funds (8).	Level 1 and candidate demonstrates the ability to independently manage and run the equipment required for his or her research program (9).	Level 2 and research program is feasible in the institution's research and geographic environment, which includes some minor constraints (10).	Level 3 and research plan is tailored to the non-R1 institution's highly limited resources (11).
T	0%				
RT	100%	18%	9%	36%	36%
R	67%	67%		33%	

R

T=teaching-intensive institution (comm college); RT=research & teaching institution (R2, R3, Masters Comprehensive, liberal arts) ;
R=research-intensive institution (R1)

[Learn more about ACRA's development in this publication](#)

The qualifications of successful faculty applicants looks different based on hiring institution type.

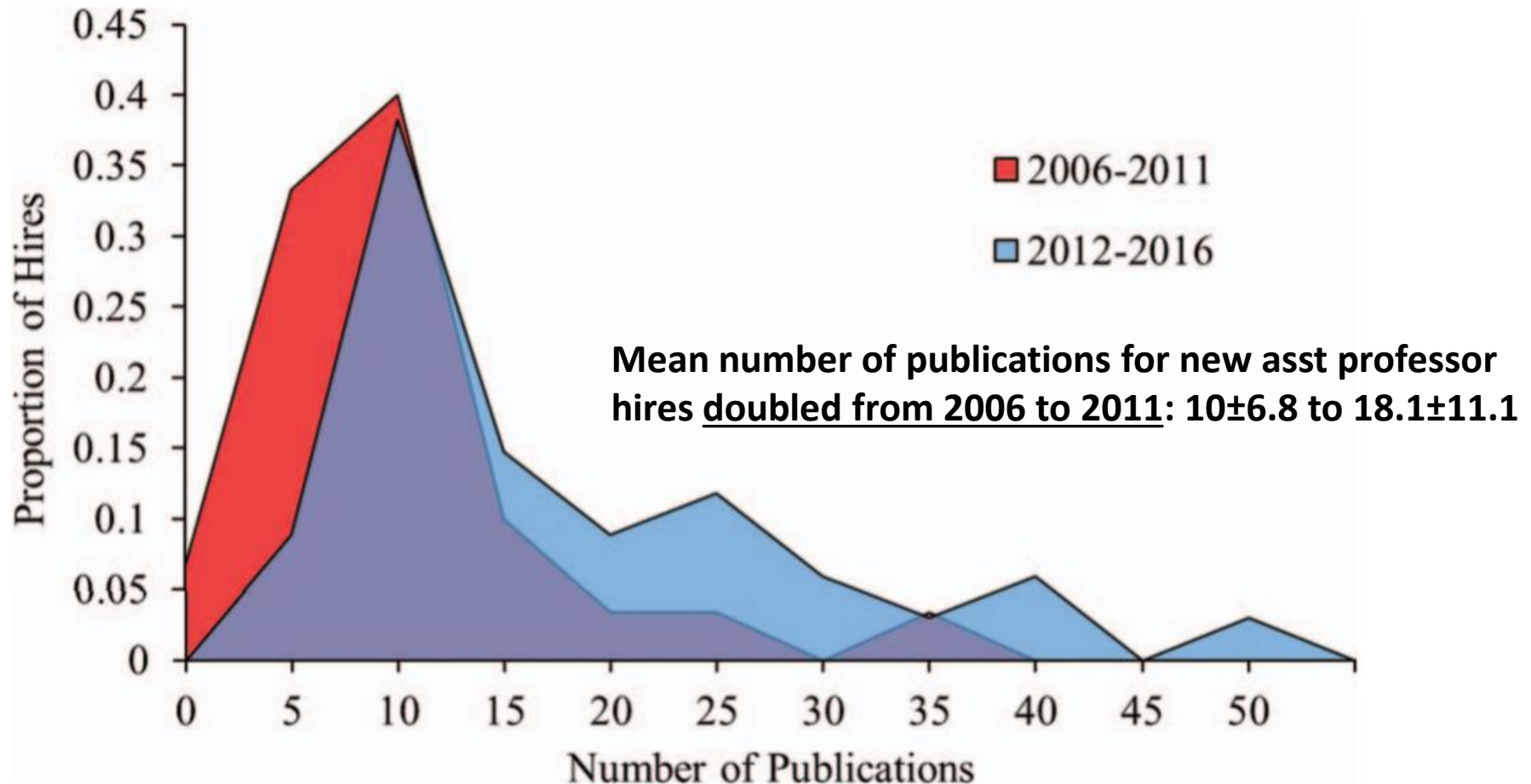
Profile of Assistant Professor Hires in Psychology from top-ranked R1s and SLACs

<i>Up to and including the year they began their job...</i>	Research University (R1) N = 112	Small Liberal Art College (SLAC) N = 43
# of publications	16 (22)	11 (6)
# of 1 st author publications	7 (8)	4 (3)
# of instructor of record	1 (5)	3 (4)
# of TAs	1 (3)	3 (4)
# of years since PhD	5 (3)	2 (4)
% who did a postdoc	83%	56%
% who had a prior faculty position (TT or NTT)	27%	35%

See: [Path to the Professoriate](#)

The Bar is Rising...Globally

An Analysis of the Canadian Cognitive Psychology Job Market

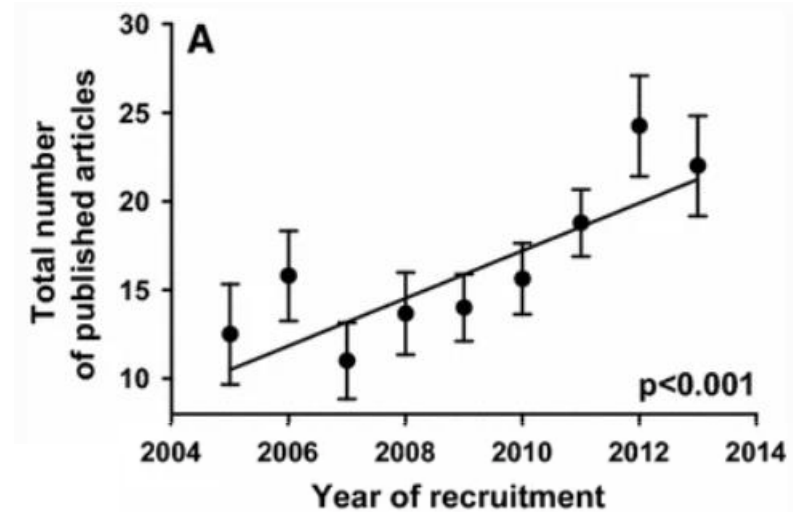


The Bar is Rising...Globally

Academia's never-ending selection for productivity

Evolutionary biologists employed as “junior researchers” by French CNRS

of publications



Years from 1st pub to hire







Mean # of pubs per year before recruitment



How many positions to apply to?

Data from mostly biomedical science faculty applicants

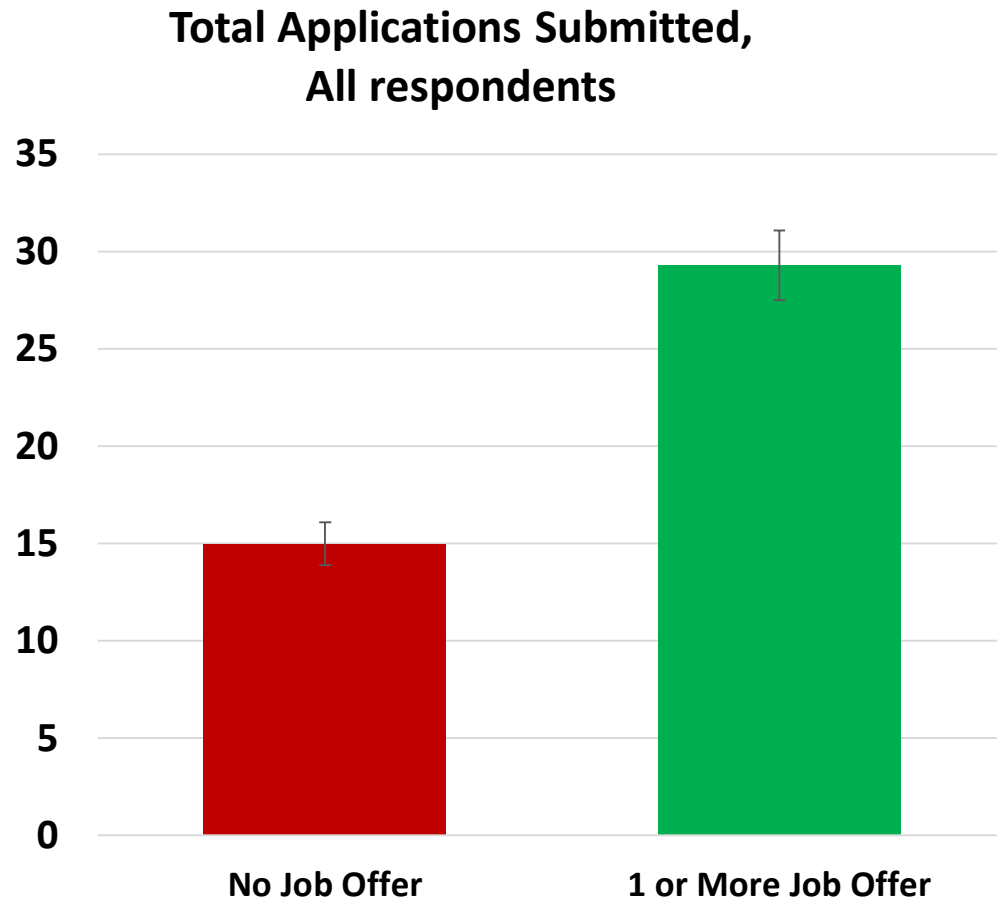
			Subgroup Medians		
			Medians		
Total			All	1+ Offer	No Offer
Application		7,644	15	20	10.5
Remote Interview		805	1	3	0
On-site Interview		832	2	3	0
Offer		359	1	1	0

If you don't apply to enough positions, your chances of securing one will be lower.

How many positions to apply to?

2019-2020 Search Cycle Data

- 544 respondents to the survey, 47% in biological sciences, 21% in social, behavior, & economic sciences



Median numbers for those with 1+ offer	2018-2019 Cycle	2019-2020 Cycle
Applications	20	20
Remote interviews	3	3
“On-site” interviews	3	3
Offers	1	1

In aggregate, a similar level of selectivity is being applied to faculty hires over two cycles' worth of data.

Consistently, we see applying to more positions (within reason) is associated with a greater likelihood of receiving a job offer.

What do the data say are important for applicants to get offers?

Predictors of Receiving a Faculty Job Offer

Logistic regression with stepwise variable selection analysis on the survey data
(missing data imputed)

VARIABLE	Coefficient	P-Value	Z-Value
Application number	0.5171	0.000855	3.3344
Citations	0.4363	0.0134	2.4735
Transition Funding	0.3156	0.0172	2.3834
Applying to other jobs	-0.2944	0.0198	-2.3303
Postdoc Fellowship	0.2583	0.0375	2.0801
Years on the Market	-0.2286	0.0774	-1.7661

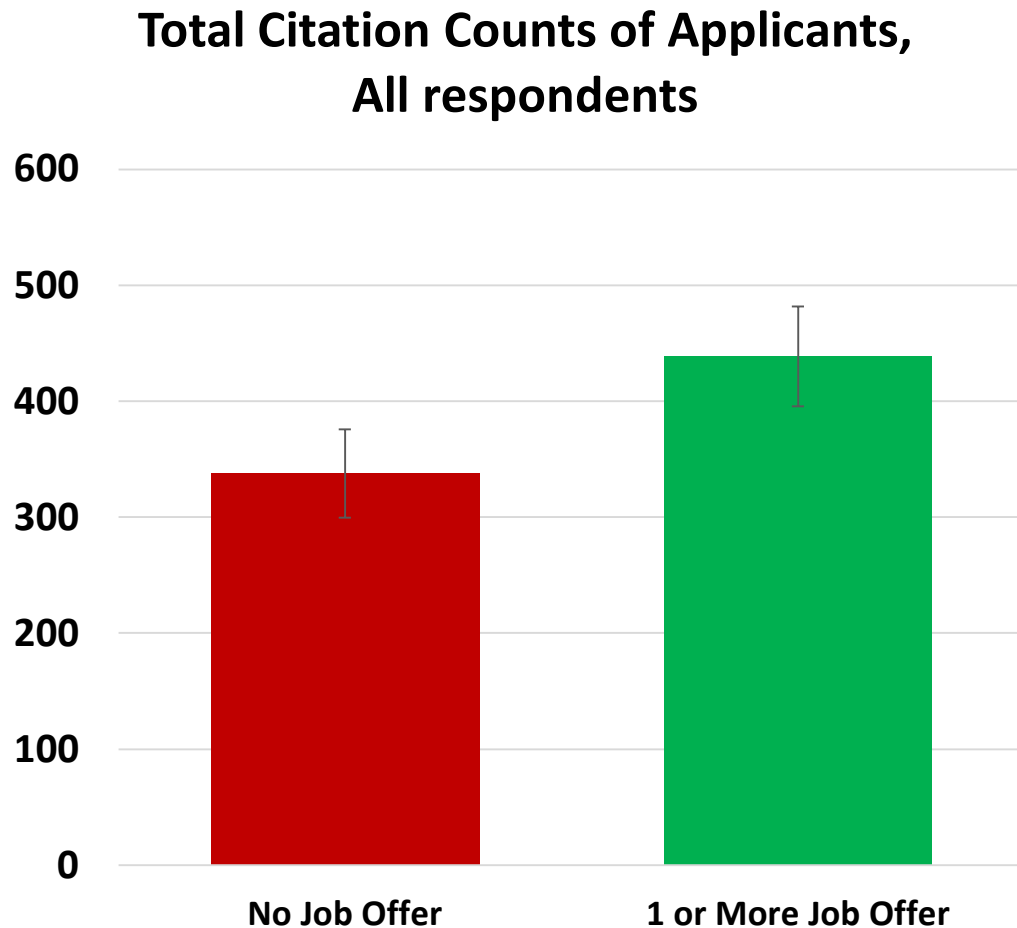
Takeaways

- You need to apply to enough positions
- You need to be performing recognized scholarship
- ★ You need to show you can secure funding (esp for R1/2 positions)
- You need to want a faculty job (don't default to this path)
- Don't wait too late into your training to apply

How do applicants and search committees' perceptions of what is valuable compare?



Applicant Citation Counts and Postdoc Advisor's Scholarly Impact ([h-index](#)) are Higher in Those Receiving a Faculty Job Offer (2019-2020 Cycle Data)



	No Job Offer	1+ Job Offers
All respondents, Median H-Index of...		
PhD Advisor	37	43
Postdoc Advisor	32.5	47
Biological Sciences respondents, Median H-Index of...		
PhD Advisor	44.5	43
Postdoc Advisor	36	51

When you get to the interview stage...

- It is often more about evaluating you as a good colleague



Kay M Tye
@kaymtye



Faculty Search committees:

Once you get to the interview stage, what is the single most important factor in candidate selection?

(pls comment if I missed it):

Quality of seminar

22.6%

Quality of 1v1

10.6%

Quality of chalk talk

29.7%

Overall attitude/vibe

37.1%

Don't be a jerk!

650 votes · Final results

9:19 AM · Sep 18, 2019 · [Twitter for iPhone](#)

How to stand out? – Demonstrate Fit

- A key component in the faculty job search is “fit”
- You need to work to research the institutions, departments, and potential colleagues to outline how you will integrate your work into the department
- Start with [informational interviews](#): Talk with new faculty at institutions that interest you to learn what it is like working there
- Read more from [Inside Higher Ed](#)

How to stand out? – Presenting Yourself Clearly & Effectively

- If the average posting gets 200+ applicants, you want your materials to stand out
 - Clearly organized and well designed
 - Use of figures/graphics when appropriate (especially in research statement)
 - A cover letter that makes your case – why you are the right person for that position/department/institution
- A professional brand that shows you are ready for a faculty position – **Be Known**
 - Professional Website or [Portfolio](#) that highlights your experience & expertise
- Materials that present a clear vision of what you ***will*** do in the role (vision) and how you will differentiate yourself from your advisor(s).

How to stand out? – Coordinate Your Reference Letters

- Be sure you let each of your reference letter writers know what you want them to emphasize.
 - Ideally, each writer speaks to a different attribute of yours and they point toward supporting what you have already said about yourself in you app materials
 - **Current supervisor/PI:** XXX shows great potential for leading his/her own research group. They have already demonstrated leadership on projects. In addition, they contributed substantially to our groups recent grant submission to NSF/NIH/USDA. Their contributions were significant enough that they could be listed as Co-PI of the proposal but, unfortunately, postdocs/grad students cannot easily serve in such roles according to our institution's policies.
 - **Current collaborator:** XXX has a great grasp on the current state of this research area and I think will contribute substantially to the field. They also are a pleasure to work with. We have published collaboratively Y times and each time I review their writing, I am always impressed with their ability to communicate their ideas clearly and effectively.
 - **Graduate advisor or supervisor of your TA/RA position:** XXX is a superb teacher and mentor. They are able to connect with students and guide them through the learning process.

My own research statement examples

Drugs of abuse release dopamine in the brain. This fact suggests that individual differences in dopamine signaling may explain variation in risk for developing drug abuse. My research involves combining behavioral, genetic, and neuroimaging measures including functional magnetic resonance imaging (fMRI) and positron emission tomography (PET) to better characterize risk factors associated with drug abuse. This work has the potential to link more basic research into the relationship between dopamine and drugs of abuse as measured with drug challenge studies to behavioral, biological, and neural processes affected by and affecting dopamine signaling to produce maladaptive behaviors associated with drug abuse. Working with the Medical Discovery Team on Addiction at the University of Minnesota, I plan to broaden our understanding of the relationship between brain areas I have shown to be critical in drug wanting (ventral striatum, insula, and ventromedial PFC, vmPFC) and how they change in function and connectivity in drug addicted individuals. Furthermore, I plan to build off work showing that catechol-O-methyltransferase (COMT) inhibition can modulate choice processing to ask whether this enzyme could be useful as a treatment target in addicted individuals displaying a particular biological profile of impaired dopamine signaling.

Immediate Reward Selection Bias, Intermediate Phenotype for Alcohol Use Disorders

While work has demonstrated immediate reward selection bias (choosing a smaller, sooner reward (*NOW*) over a larger, later reward (*LATER*)) is elevated in individuals with substance use disorders, whether increased *NOW* choice bias is a cause or consequence of drug use remains unclear. In a recent study (Smith et al., 2015 *Frontiers in Human Neuroscience*), we showed *NOW* choice bias displays many qualities of an intermediate phenotype for alcohol use disorders (AUDs), including being elevated in heavy drinking adults without an AUD and being elevated in light drinking adults with a first degree relative with problematic alcohol use. Furthermore, we observed that natural, age-related declines in *NOW* bias were not present in heavy drinkers suggesting heavy alcohol use may "lock in" a preference for *NOW*, potentially by affecting normal brain maturational processes. Importantly, we have also demonstrated this behavior is modulated by 1) both age and putative prefrontal dopamine as assessed with the Val158Met *COMT* (rs4680) single nucleotide polymorphism (SNP; Smith and Boettiger, 2012 *Psychopharmacology*), 2) estradiol by *COMT* effects in naturally cycling female participants (Smith et al., 2014 *J Neurosci*), and 3) putamen dopamine synthesis capacity as assessed with FMT PET (Smith et al., 2016 *J Neurophys*). These data suggest means by which individual differences in dopamine signaling may modulate *NOW* bias and offer insights into potential treatments to reduce elevated *NOW* bias in drug abusers.

Future longitudinal work that investigates initial *NOW* bias level before alcohol use initiation and changes in *NOW* bias as a result of exposure to alcohol in college-aged individuals will offer greater insights into *NOW* bias as a potential risk factor for and/or cause of excessive alcohol use. Identifying individuals who are likely to transition to heavy alcohol use via behavioral, genetic, environmental, or other risk factors will be immensely powerful in planning early interventions. Additionally, while the *COMT* inhibitor, tolcapone, has been shown to modulate *NOW* bias and its neural underpinnings, no one has tested its potential to treat *NOW* focused drug addicted individuals. Tolcapone may assist in cognitive or motivational therapies used to reframe drug abusers' goals and priorities beyond drug use toward more constructive endeavors. My research suggests that tolcapone's effectiveness may depend on *COMT* genotype, age, and estradiol levels. Thus, I plan to tailor such a trial to examine the impact of these variables on the treatment's effectiveness.

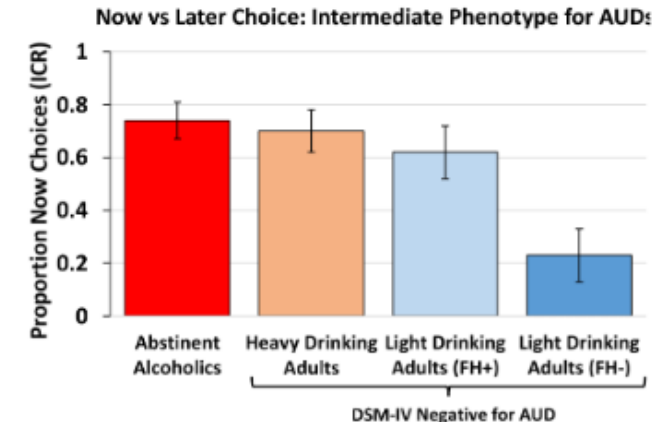
VS

My research seeks to understand neural circuits associated with drug responsivity, how **dopamine (DA)** affects these circuits, and ultimately behavior. Combining behavioral, genetic, and neuroimaging measures including functional Magnetic Resonance Imaging (fMRI) and Positron Emission Tomography (PET), I seek to better characterize individual differences in DA signaling and risk factors associated with drug abuse. At the University of California, Santa Barbara (UCSB), I plan to build off work showing that both cortical and striatal DA signaling are associated with risk behaviors for drug addiction in differential ways. Cortical DA effects on decision making behaviors such as *NOW* vs *LATER* choice often follows an inverted-U model while we have found striatal DA affects trait measures of impulsivity and subjective responses to drugs of abuse in a more linear manner. The next step is integrating this work into a comprehensive model of DA's role in traits and behaviors that are also risk factors for substance abuse. Further characterization of both the biological bases and modulators of these risk factors (***NOW* choice bias, impulsivity, subjective experience**) for substance use disorders will ultimately lead to improved intervention and treatment approaches. Furthermore, combining genetic and neuroimaging data with pharmacological studies can offer more thorough insights into how DA-targeted treatments may affect individuals differentially. This work may ultimately lead to more personalized and effective treatments for DA-related disorders including drug addiction, ADHD, schizophrenia, and [Parkinson's disease](#).

Immediate Reward Selection Bias, Intermediate Phenotype for Alcohol Use Disorders

While work has demonstrated immediate reward selection bias (choosing a smaller, sooner reward (*NOW*) over a larger, later reward (*LATER*)) is elevated in individuals with substance use disorders, whether increased ***NOW* choice bias** is a cause or consequence of drug use remains unclear. We (Smith et al., 2015 *Frontiers in Human Neuroscience*) have shown *NOW* choice bias (indexed by an **impulsive choice ratio, ICR**) displays many qualities of an intermediate phenotype for

alcohol use disorders (AUDs), including being elevated in heavy drinking adults without an AUD and in light drinking adults with a first degree relative with problematic alcohol use (family history/FH+, **see above Figure**). Furthermore, we observed that natural, age-related declines in *NOW* bias were not present in heavy drinkers suggesting heavy alcohol use may "lock in" a preference for *NOW*, potentially by affecting normal brain maturational processes. Importantly, we have also demonstrated this behavior is modulated by: 1) both age and putative prefrontal DA as assessed with the Val158Met *COMT* (catechol-O-methyltransferase, an enzyme critical in metabolizing cortical DA) single nucleotide polymorphism (SNP rs4680; Smith & Boettiger, 2012 *Psychopharmacology*), 2) estradiol by *COMT* effects in naturally cycling female participants (Smith et al., 2014 *J Neurosci*), and 3) putamen DA synthesis capacity as assessed with FMT PET (Smith et al., 2016 *J Neurophys*). These data suggest means by which individual differences in DA signaling may modulate *NOW* bias and offer insights into potential treatments to reduce elevated *NOW* bias in drug abusers.



Start early, revise & tailor your materials, & find a supportive feedback community

- **Start early**

- The more time you can spend refining and tailoring your message for each position, the better
 - Best to have the template/draft created
- Form faculty job search support groups where you can share postings with fellow trainees and give each other feedback
 - One online community [Future-PI Slack](#) (mainly targeted toward biomed postdocs)
- Ask your supervisor or junior faculty in your department for feedback, which you may need to target to ensure a response

Ex: “I would really like you to look at this section of my research statement to see if the future research plan appears feasible for a junior faculty.”

Invest in an alternate career plan(s)

- **How can your skills, interests, and values translate to meaningful work?**
 - Look beyond the tenure-track
 - Look for alternative academic careers
 - Research job families and positions from sites such as [ImaginePhD](#), [myIDP](#), & [ChemIDP](#)
 - Reach out to former classmates/trainees doing work you are interested in learning more about
 - Use the [LinkedIn Alumni](#) tool to find more individuals to connect with NC State, etc...
 - Conduct Informational Interviews

It is always good to have options.

Parting Thoughts

- Obtaining a faculty position involves variables you can and cannot control; and things you will never know about on the hiring institution's side
- Timing and fit are important
- It may take a few application cycles to secure a position
- Project your best self in your materials
 - Highlight accomplishments
 - Demonstrate the value of your work
 - Proposed important, future work you will do
- Show you have done your research on the department
- Be yourself
- Not ultimately securing a position is NOT a failure
 - You have skills that can be applied to a variety of careers beyond tenure-track faculty

Check out the **Academic PACKways** section of our
Grad School Professional Development Team Blog
for more tips & resources

go.ncsu.edu/academic-packways

- Alumni insights
- Tips on crafting application documents:
 - Research Statements
 - Statements of Teaching Philosophy
 - Cover Letters
- And more!

For further reading...

[How to read a faculty job ad](#)

[Beating the odds to secure a permanent contract](#): Six early-career researchers offer advice on how to secure a permanent contract in academia, and then make the most of it.

[Academic Job Search: The hiring process from the other side](#)

[Evidence-Based Training Goals for Faculty Positions](#) (from ACRA)

For further reading/reference...

- [How to put your best foot forward in faculty job interviews](#)
- [One evolutionary biology postdoc looks for a faculty job](#)
- [From PhD to Professor: Advice for Landing Your First Academic Position](#) (Social Work PhD)
- [How to Land a Community College Job](#)
- [A Guide for Applying to Jobs at Selective Liberal Arts Colleges](#)
- [The Hiring Process at Teaching Colleges](#)
- [Preprint servers](#)

See also:

[Psychology Job Wiki](#)
[ChemJobber](#)

Career Exploration Resources & Links

Individual Development Plan resources:

<https://grad.ncsu.edu/professional-development/opa/current-postdocs/resources/>

<https://grad.ncsu.edu/news/2019/09/career-exploration-ikigai/>

Ikigai: <https://youtu.be/Zxj3P0enJNQ>

<https://grad.ncsu.edu/news/2019/10/career-research-tips/>

Explore a variety of career paths

<http://www.mychoice.uchicago.edu/phd-careers/overview-of-phd-careers/>

Prototype: Job Simulations

<https://intersectjobsims.com/>

UCSF Career Resources

[Academic Careers](#)

[Non-Academic Careers](#)