Diving into the CSDCAS data:

Benefits to programs, universities, and the profession

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CSD CAS

Communication Science and Disorders
Centralized Application Service

State of CSDCAS

Participating Programs

- 167 SLP programs
- 47 Audiology programs

Now with more resources!

- 1st annual Applicant Data Report
- 1st pre-conference hands-on training
- Expanded online training options

Current Cycle (2018-2019)

- 10,569 SLP applicants
  - Submitted 37,072 applications
- 1045 AuD applicants
  - Submitted 3,287 applications
- 166 fee waivers given out
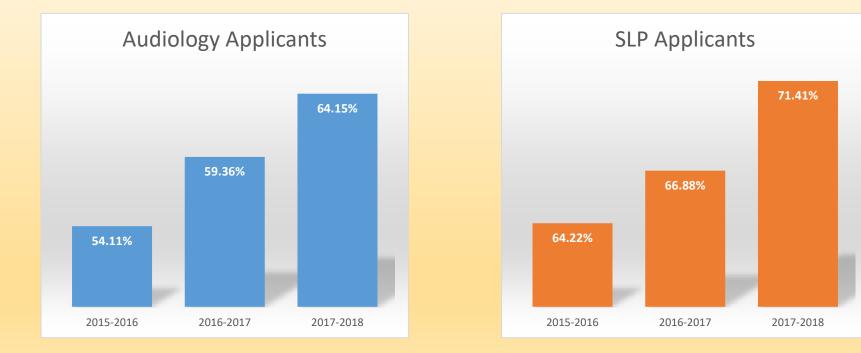
Participation is Growing

Average Number of Applications per Program

Percentage of Applicants Offered Acceptance

A year in review: 2017 - 2018 cycle

Analysis of subset of applicants with complete data, including decision outcomes

9137 unique applicants across **145** unique schools

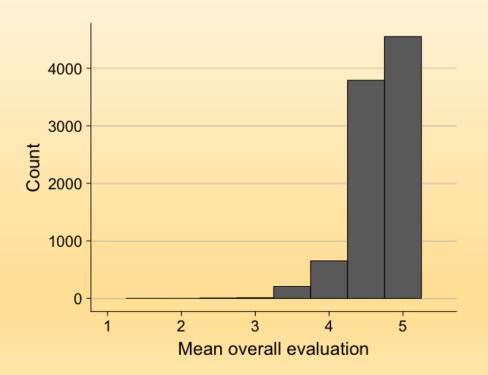| Program	Number of schools	Number of applicants
AUD	35	771
SLP	144	8448

Some schools offer more than one program, and some applicants apply to both AUD and SLP programs

Our applicants come highly recommended

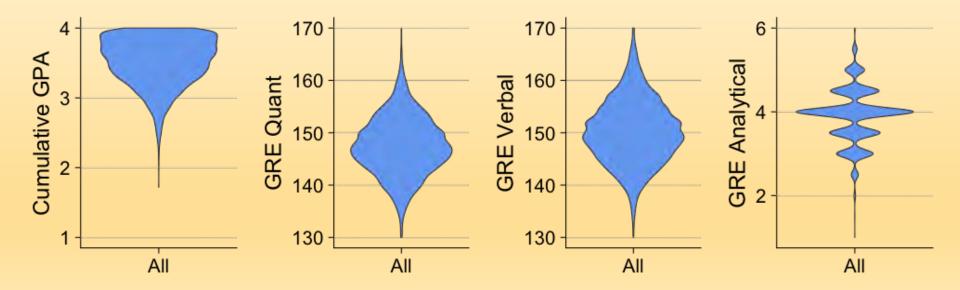*5 = Excellent, 4 = Good, 3 = Average*
2 = Below average, 1 = Poor

49% of applicants rated "Excellent" across all recommenders

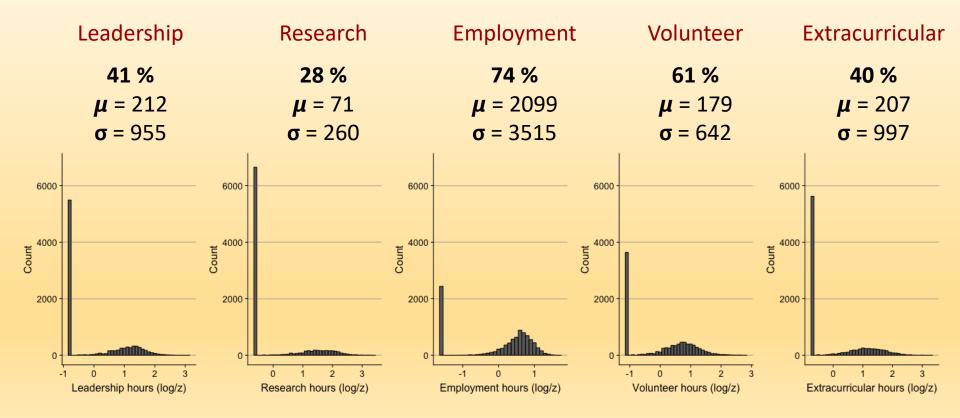98% of applicants rated "Good" to "Excellent" across all recommenders

Our applicants are wicked smart

36% of applicants have GPAs higher than 3.700
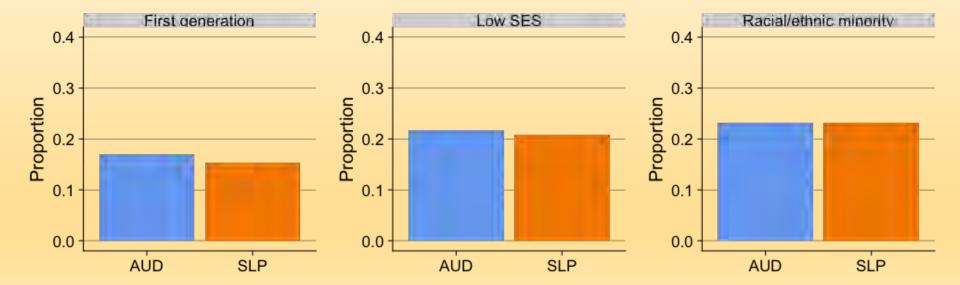58% of applicants have GPAs higher than 3.500

Our applicants are experienced

Leadership	Research	Employment	Volunteer	Extracurricular
41 %	**28 %**	**74 %**	**61 %**	**40 %**
μ = 212	μ = 71	μ = 2099	μ = 179	μ = 207
σ = 955	σ = 260	σ = 3515	σ = 642	σ = 997

Our applicants are diverse

Most applicants are offered admission

67% of applicants received at least one offer; 33% of applicants received 0 offers

		Number of offers										
	0	1	2	3	4	5	6	7	8	9	10	11
n	3058	3070	1491	795	434	211	97	36	12	9	3	2
%	33	34	16	9	5	2	1	<1	<1	<1	<1	<1

Do our acceptances reflect diversity of the pool?

Lower proportion of <u>racial/ethnic minority</u> applicants receive an offer of admission, relative to diversity in applicant pool
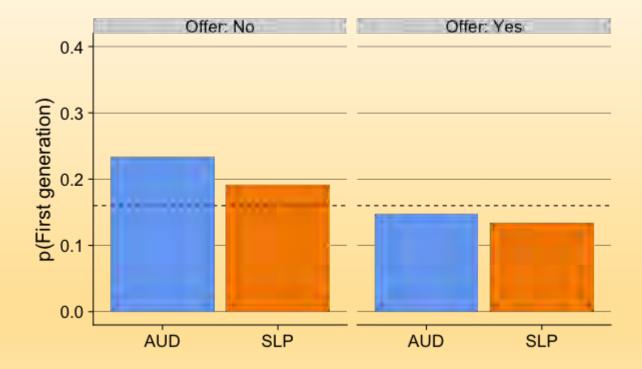
Do our acceptances reflect diversity of the pool?

Lower proportion of <u>low SES</u> applicants receive an offer of admission, relative to diversity in applicant pool
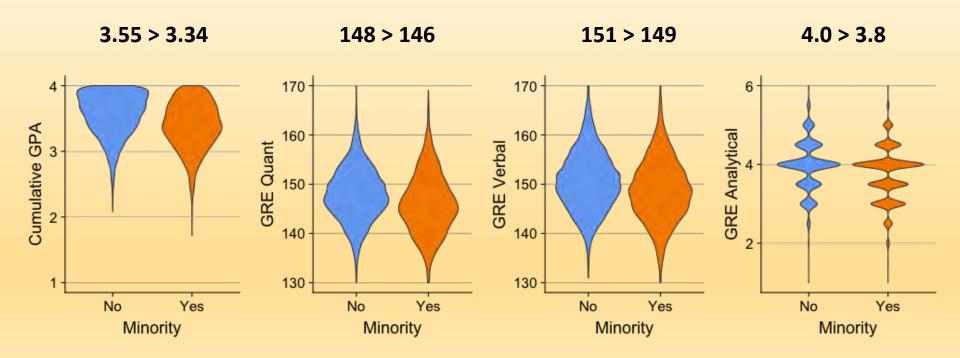
Do our acceptances reflect diversity of the pool?
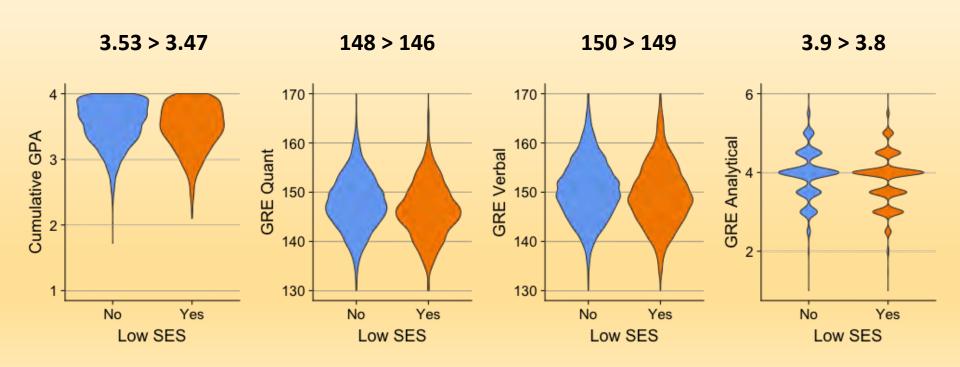
Lower proportion of <u>first generation</u> applicants receive an offer of admission, relative to diversity in applicant pool
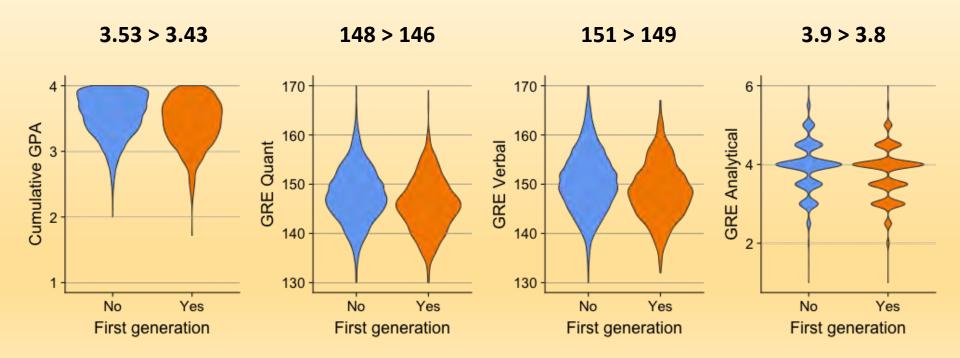
Racial/ethnic minority applicants <u>minimally</u> differ quantitatively

3.55 > 3.34   **148 > 146**   **151 > 149**   **4.0 > 3.8**

Low SES applicants <u>minimally</u> differ quantitatively

3.53 > 3.47 **148 > 146** **150 > 149** **3.9 > 3.8**

First generation applicants <u>minimally</u> differ quantitatively

3.53 > 3.43   **148 > 146**   **151 > 149**   **3.9 > 3.8**

Which factors predict acceptance?

Series of generalized linear mixed effects models for application-level data; models included random intercepts by applicant, school, and program

34830 applications across the 9137 unique applicants, 145 unique schools, and 2 programs (AUD/SLP)

Dependent measure is **binary outcome decision** (0 = deny, 1 = offer)

Predictors are GPA, GRE Quant, GRE Verbal, GRE Analytical, and each of the five types of experience

GPA + GREs treated as **continuous** variables; for now, experience is treated as a **binary** variable (0 = no experience, 1 = has experience)

Fixed effects	Beta	SE	z	p
(Intercept)	-0.48	0.30	-1.58	0.114
Cumulative GPA	1.12	0.02	52.37	**<0.001**
GRE Quantitative	0.28	0.02	13.59	**<0.001**
GRE Verbal	0.37	0.02	17.87	**<0.001**
GRE Analytical	0.25	0.02	13.07	**<0.001**
Leadership experience	0.02	0.02	0.95	0.343
Research experience	0.15	0.02	8.58	**<0.001**
Extracurricular experience	-0.01	0.02	-0.45	0.655
Employment experience	0.05	0.02	2.67	**0.008**
Volunteer experience	0.06	0.02	3.30	**0.001**

GPA is the greatest predictor <u>by far</u>; beta estimate is x3 that of the next highest predictor

Leadership and extracurricular experience show no relationship with decision outcome

Do GREs predict outcomes beyond GPAs?

Yes; holding experiences constant across models, model comparison shows that GRE scores provide <u>additive</u> predictive value for outcome decisions

Model	df	AIC	χ^2	χ^2 df	p
GPA	10	34747			
GPA + GRE Q	11	33744	904.94	1	< 0.0001
GPA + GRE Q + GRE V	12	33372	474.10	1	< 0.0001
GPA + GRE Q + GRE V + GRE A	13	33203	170.93	1	< 0.0001

Do experiences predict outcomes beyond GPA/GREs?

Yes; holding GPA/GREs constant across models, model comparison shows that experiences provide <u>additive</u> predictive value for outcome decisions

Model	*df*	AIC	χ^2	χ^2 *df*	*p*
GPA/GREs	8	33318			
GPA/GREs + Research	9	33223	96.89	1	< 0.0001
GPA/GREs + Research + Employment	10	33210	15.29	1	< 0.0001
GPA/GREs + Research + Employment + Volunteer	11	33200	11.89	1	= 0.0005

Do experiences interact with GPA?
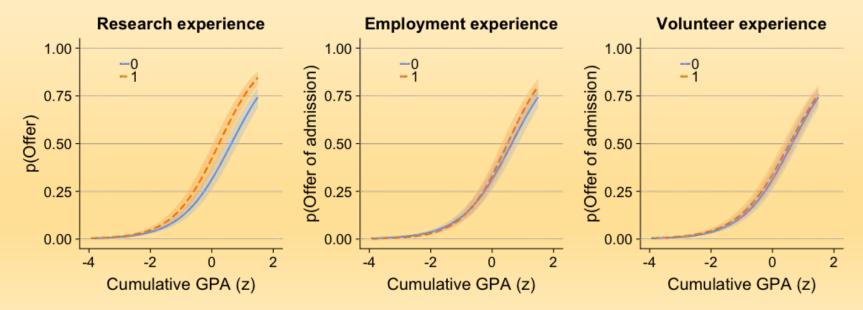
Fixed effects included the **interaction** between GPA and experience (research, employment, volunteer); experience is still treated as a binary factor

Note that beta estimate for research is x5 that of employment and volunteer!

Fixed effects	Beta	SE	z	p
(Intercept)	-0.45	0.31	-1.44	0.149
Cumulative GPA	1.35	0.03	46.61	**<0.001**
Research	0.24	0.02	11.51	**<0.001**
Employment	0.05	0.02	2.09	**0.037**
Volunteer	0.06	0.02	2.91	**0.004**
GPA * Research	0.05	0.02	2.22	**0.026**
GPA * Employment	0.08	0.03	2.96	**0.003**
GPA * Volunteer	-0.01	0.02	-0.54	0.587

Do experiences interact with GPA?

Research experience "boosts" getting an offer, even for GPAs < 1 SD below the mean; employment experience gives a boost to those with otherwise high GPAs

Is more experience better?

So far, experience has been considered as a binary factor, with the results indicating that having <u>any</u> research, employment, or volunteer experience is better than having <u>none</u>
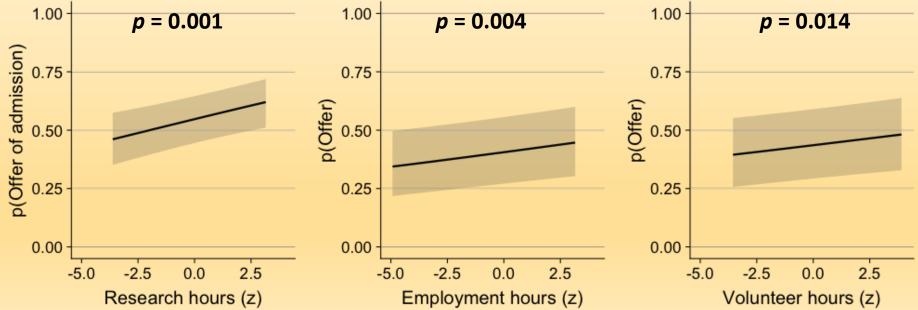
For those who do have experience, is **more** experience better?

We ran three models, including only those applicants with >0 hours for research, employment, and volunteer experience, respectively

GPA and GREs were also included as fixed effects

Is more experience better?

Yes, increased hours (i.e., experience) was associated with increased probability of receiving an offer; but check out the difference in intercepts across the models

Do our applicants need to do it all?

How do research, employment, and volunteer experiences interact to predict decision outcomes?
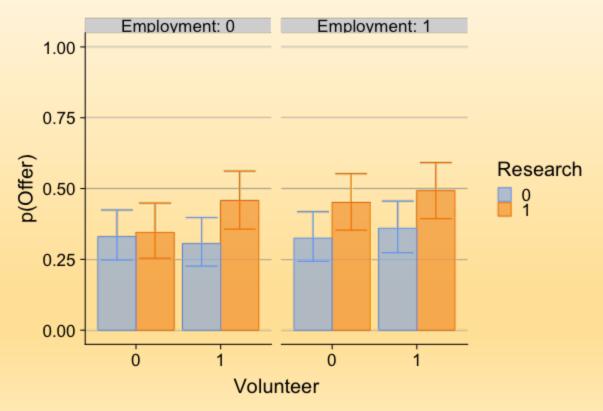
Significant 3-way interaction; let's check it out...

Fixed effects	Beta	SE	z	p
(Intercept)	-0.49	0.31	-1.56	0.119
Cumulative GPA	1.36	0.02	58.81	**<0.001**
Research experience	0.22	0.03	8.36	**<0.001**
Employment experience	0.10	0.03	3.76	**<0.001**
Volunteer experience	0.08	0.03	3.17	**0.002**
Research x Employment	0.05	0.03	1.07	0.089
Research x Volunteer	0.07	0.03	2.80	**0.005**
Employment x Volunteer	0.00	0.03	-0.15	0.877
Research x Employment x Volunteer	-0.07	0.03	-2.69	**0.007**

Do our applicants need to do it all?

Without employment experience, research experience gives a boost only to those <u>with</u> volunteer experience

With employment experience, research gives a boost <u>regardless</u> of volunteer experience

Why research?

What mechanism(s) could explain the relationship between research experience and (positive) decision outcomes?

Rich get richer	*"Stand out"*	*Letters*
Applicants who are strong to begin with are the one who join labs	Research experience is distinctive experience because few have it	Applicants have qualitatively different letters given faculty interaction in laboratory setting
No; doesn't seem to be supported by the data, but further analyses are in progress	Maybe; only 28% of applicants had research experience	Seems possible; but hard to analyze...

Data-driven advice for our advisees

Focus on **excelling in your academic coursework**; GPA is (by far!) the single biggest predictor of decision outcomes
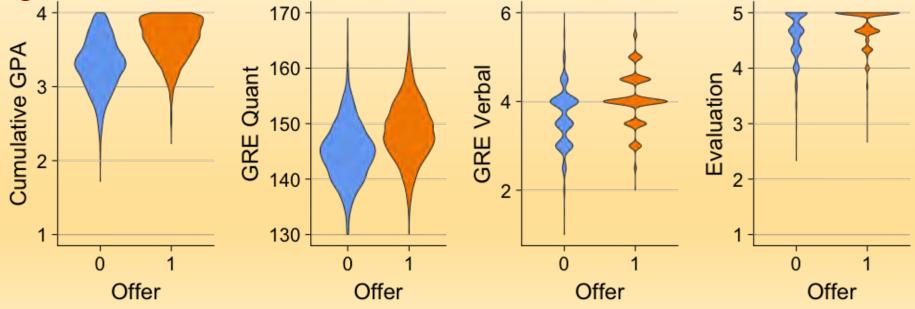
Extracurricular involvement **did not** predict decision outcomes

Get involved in research; we still don't know why, but research experience was the only type of experience that boosted the chance of getting an offer (holding GPA constant)

The benefit of research experience was observed among applicants who had lower GPAs and applicants with the highest GPAs

A final note: What's the "deny" pool look like?

They look great; 2611 applicants rated "good" to "excellent" and 856 applicants have GPA > 3.500. **How can we use this to advocate for program growth?**

Analyzing your individual program data:

How do we compare to the national trends?

Using WebAdmit to generate reports and analyze program-level data

Accessing the data: running reports

- Report Manager has <u>predefined</u> reports:
  - Applicant – data on your applicant pool
  - Comparative – compare your pool to the entire CSDCAS pool
  - Decision – based on the decision codes you have assigned
  - User - admissions users reports

- List Manager can create specific sets of applicants (e.g. offers made by SLP or AuD)

- Export Manager allows you to run <u>custom</u> reports on the whole set or lists you've set up

Applicant Reports

- [Help Center - Types of Reports](#)
- Examples of Applicant Reports
    - Designations by Application Status
    - Designations by Decision Code
    - GRE General Official
    - Local Status Summary
    - Local and Prerequisite GPAs

Report manager

Comparative Report: Races and ethnicities

Your chosen comparison 5 (or more) programs

Your program

Ethnicities and Races	Applicants to 5 CSDCAS organizations		Applicants to Your Programs	
	Number of Applicants	% of Applicants to 5 CSDCAS organizations	Number of Applicants	% of Applicants to Your Programs
American Indian	0	0.00%	0	0.00%
Hispanic	83	7.02%	16	7.96%
Asian	106	8.97%	15	7.46%
Black or African American	25	2.12%	5	2.49%
Native Hawaiian	1	0.08%	1	0.50%
White	862	72.93%	144	71.64%
Other	0	0.00%	0	0.00%
Multiple	27	2.28%	6	2.99%
Did Not Report	78	6.60%	14	6.97%
Total	1182	100.00%	201	100.00%

*This particular comparison was run for SLP,
all of the comparison schools located in the NE region

Comparative Report: Ages by Gender or Sex

Female applicants

Age Group	Applicants to CSDCAS		Applicants to Your Programs	
	Number of Applicants	% of Applicants to CSDCAS	Number of Applicants	% of Applicants to Your Programs
Female				
Age Up to 19	28	0.27%	0	0.00%
Age 20 - 25	8785	83.44%	281	90.65%
Age 26 - 30	1054	10.01%	23	7.42%
Age 31 - 35	314	2.98%	3	0.97%
Age 36 - 40	156	1.48%	2	0.65%
Age 41 - 45	90	0.85%	0	0.00%
Age 46+	77	0.73%	1	0.32%
Did Not Report	25	0.24%	0	0.00%
Total	10529	100%	310	100%
Median for Female Applicants	22		21	
Range for Female Applicants	19 through 61		20 through 52	
Average for Female Applicants	23.44		22.46	

Male applicants

Age Group	Applicants to CSDCAS		Applicants to Your Programs	
	Number of Applicants	% of Applicants to CSDCAS	Number of Applicants	% of Applicants to Your Programs
Male				
Age Up to 19	0	0.00%	0	0.00%
Age 20 - 25	294	60.87%	19	73.08%
Age 26 - 30	101	20.91%	5	19.23%
Age 31 - 35	51	10.56%	2	7.69%
Age 36 - 40	17	3.52%	0	0.00%
Age 41 - 45	16	3.31%	0	0.00%
Age 46+	1	0.21%	0	0.00%
Did Not Report	3	0.62%	0	0.00%
Total	483	100%	26	100%
Median for Male Applicants	24		23	
Range for Male Applicants	20 through 46		21 through 33	
Average for Male Applicants	26.00		24.15	

Decision-based Reports:

Shared Applicants

Syracuse University - Shared Applicants Report		
Applications for 8575 Entering Class.		
Report run at Mar 15, 2018 at 3:57 PM		
Organization	**Program**	**Total Number of Shared Applicants with School**
The College of Saint Rose	Communication Sciences & Disorders - Fall	54
Hofstra University	SLP Fall 18	46
Temple University	MA- SLH program	43
Boston University	MS-SLP	40
SUNY University at Buffalo	SLP-Fall 2018	39
Adelphi University	SLP - Fall 2018	37
Northeastern University	SLPNU	36
New York University	Speech Language Pathology	35
SUNY University at Buffalo	AUD-Fall 2018	34
Salus University	Doctor of Audiology On-Campus Program	32
The Pennsylvania State University	Communication Sciences and Disorders	32
Emerson College	Fall 2018	30
MGH Institute of Health Professions	CSDCAS	30
SUNY Buffalo State	SLP-Fall 2017	29
University of Pittsburgh	Pitt AuD	27
Kean University	MA Fall	26
Mercy College	SLP-Fall 2016	26
University of Pittsburgh	Pitt SLP-MA	26
La Salle University	SLP-Fall 2018	25
New York Medical College	SLP-Fall 2018	25
Long Island University - Post	SLP-Fall 2018	24
Loyola University Maryland	MS, Speech Fall 2017	24
Salus University	Master of Science in Speech-Language Pathology (SLP)	24
Duquesne University	SLPMS-Fall 2016	23
Long Island University, Brooklyn	MS-SLP Fall 2018	22
Northwestern University	SLP-Fall 2017	22

Creating custom reports - lists

- **Which set of applicants?**

    - Can analyze data for all applicants or sub-groups of applicants

    - Use field lists to define the groups

    - Examples:

        - All the applicants that were verified and were offered admission

        - SLP applicants who did not receive offers

        - Applicants from under-represented racial/minority groups

List manager

List Manager – field lists

This list, named Offers made , and will not ▾ appear on the toolbar.
These settings can be seen by only myself ▾

Included applicants will match any ▾ of the following rules:

Decision Code ▾	equals ▾	Matriculated ▾	⊖ ⊕
Decision Code ▾	equals ▾	Offer Accepted ▾	⊖ ⊕
Decision Code ▾	equals ▾	Offer Declined ▾	⊖ ⊕
Decision Code ▾	equals ▾	Offer Made ▾	⊖ ⊕

This list, named No offer made , and will not ▾ appear on the toolbar.
These settings can be seen by only myself ▾

Included applicants will match any ▾ of the following rules:

Decision Code ▾	equals ▾	Denied ▾	⊖ ⊕
Decision Code ▾	equals ▾	Offer Withdrawn ▾	⊖ ⊕
Decision Code ▾	equals ▾	Wait-Listed ▾	⊖ ⊕
Decision Code ▾	equals ▾	Applicant Withdrew ▾	⊖ ⊕

Submit   Return to List Manager

List manager – composite lists

Creating custom reports – data fields

- What data fields do you want in your report?

- Use the Export Manager to choose the specific data fields

- Some fields have transforms or filters

    - Turn field into a Y/N

    - Maximum scores, most recent scores, etc.

How does our program compare for the questions we asked about the national data?

- Are the proportions of offers made or not made similar to the national trends for
  - First generation
  - Low SES
  - Racial/ethnic minorities

- How do GPA and GRE scores compare?
  - By offers made and not made
  - By the above categories of applicants

- Do experience hours contribute to offers made or not made for our review process?

Export manager – building the exported data

Export manager

Export manager

Export to a spreadsheet:

| designation	application_status	decision_code	first_generation_enrollment	free_reduced_price_school_lunches	family_receives_public_assistance	holds_ahs_ged_or_receives_public_assistance	family_income_is_economically_disadvantaged
Audiology (AuD)	Verified	Offer Declined					
Speech Language Pathology (MS)	Verified	Offer Declined		Y			Y
Speech Language Pathology (MS)	Verified	Denied	Y				
Audiology (AuD)	Verified	Denied					Y
Speech Language Pathology (MS)	Verified	Denied	Y				
Speech Language Pathology (MS)	Verified	Offer Declined					
Speech Language Pathology (MS)	Verified	Denied					
Speech Language Pathology (MS)	Verified	Applicant Withdrew					
Speech Language Pathology (MS)	Verified	Matriculated					
Speech Language Pathology (MS)	Verified	Offer Declined	Y	Y			
Audiology (AuD)	Verified	Offer Declined		Y			Y
Audiology (AuD)	Verified	Denied					
Audiology (AuD)	In Progress						
Audiology (AuD)	Verified	Offer Declined					Y
Speech Language Pathology (MS)	Verified	Denied					
Audiology (AuD)	In Progress						
Audiology (AuD)	Verified	Denied					
Speech Language Pathology (MS)	In Progress						
Speech Language Pathology (MS)	Verified	Denied					
Speech Language Pathology (MS)	Verified	Denied	Y				
Speech Language Pathology (MS)	In Progress						
Audiology (AuD)	Verified	Denied					

How does our program compare?
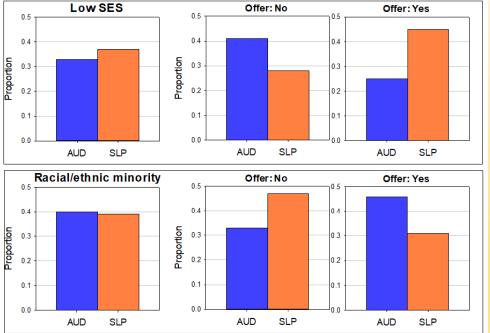
Similar proportions of first generation college students received offers as did not

Similar to national trends

Syracuse University

How does our program compare?

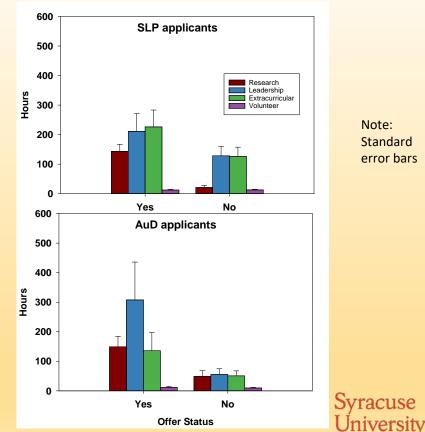SLP – higher proportion of applicants with low SES status received offers than did not

AuD* – higher proportion of applicants identifying as any racial/ethnic minority received offers than did not

*REMEMBER these are small n sizes, especially Audiology!

Hours of experience

- National data showed role of research hours and employment*

- Some trends in SU data for research

  - SLP applicants significant difference between yes and no offer status in hours of research (143 hours vs. 21 hours, p < 0.001)

  - AuD applicants research hours were significantly higher for those who received offers (149 vs. 49, p = .014) and leadership was borderline (308 vs 55, p = .052)

Note: Standard error bars

Syracuse University

*Employment hours not shown – outliers and large variability

Powerful ways to analyze national and program level data

- **The more programs that are part of CSDCAS, the more powerful!**
- What other data is possible and would help our field?
- Individual programs: can add custom questions and fields
- Need to ensure all programs matriculate their applicants to the appropriate areas to get the most out of this data

Related CAPCSD Initiatives

Plural Research Scholarship Application
- Plural Publishing funds two scholarships to support graduate student research:
- Masters/AuD level Award for graduate students pursuing research in speech-language pathology or audiology
- Doctoral-level Award for Ph.D. students pursuing research in audiology, speech-language pathology, or speech-language-hearing sciences

PhD Scholarship Application
- CAPCSD supports a scholarship program for Ph.D.* students who are focused on pursuing an academic career in Communication Sciences and Disorders.

CAPCSD Leadership Academy
- A program to help individuals considering academic leadership positions, or who are newly engaged in academic leadership, develop their knowledge and skills in the area of leadership.