Diving into the CSDCAS data: Benefits to programs, universities, and the profession

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Communication Science and Disorders Centralized Application Service

# State of CSDCAS

#### **Participating Programs**

- 167 SLP programs
- 47 Audiology programs

#### Now with more resources!

- 1<sup>st</sup> annual Applicant Data Report
- 1<sup>st</sup> 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

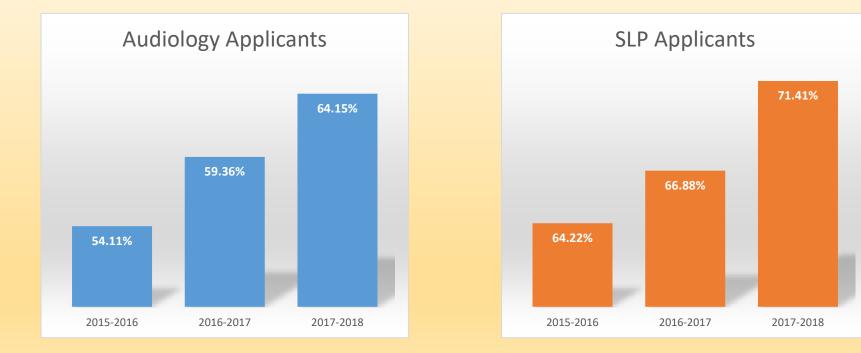




#### Average Number of Applications per Program



#### 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

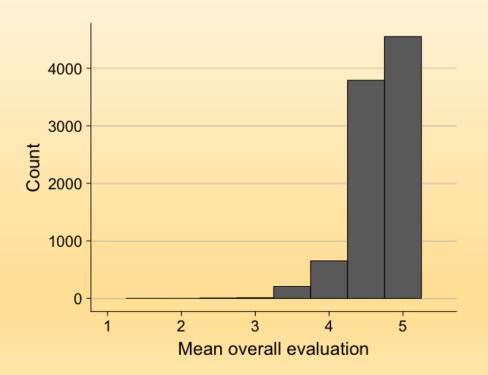
Some schools offer more than one program, and some applicants apply to both AUD and SLP programs

#### Our applicants come highly recommended

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

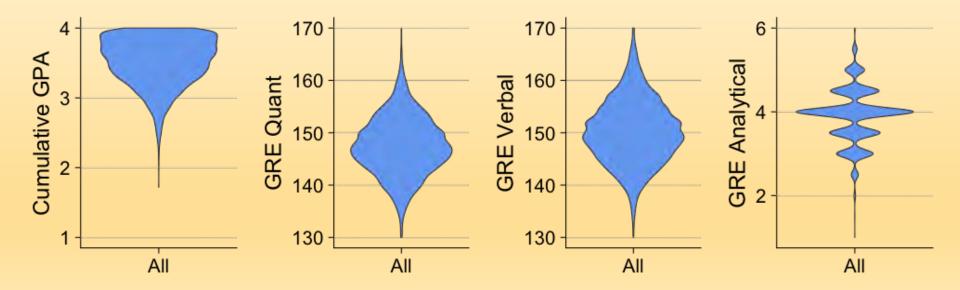
49% of applicants rated "Excellent" across all recommenders

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

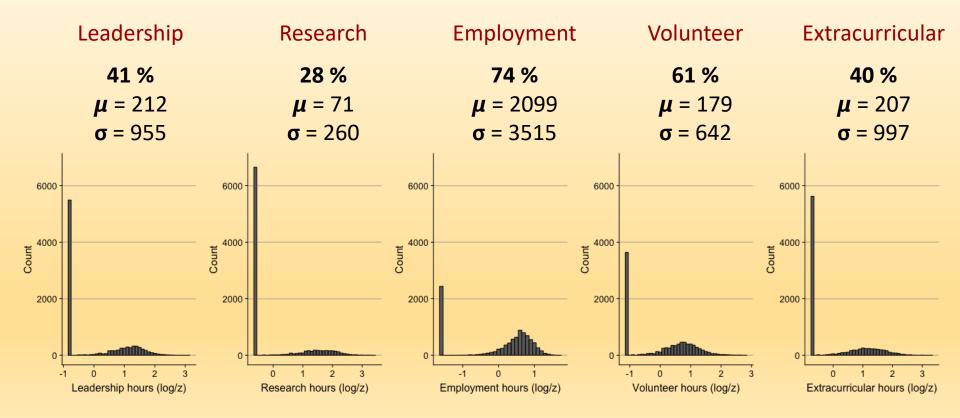


#### Our applicants are wicked smart

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



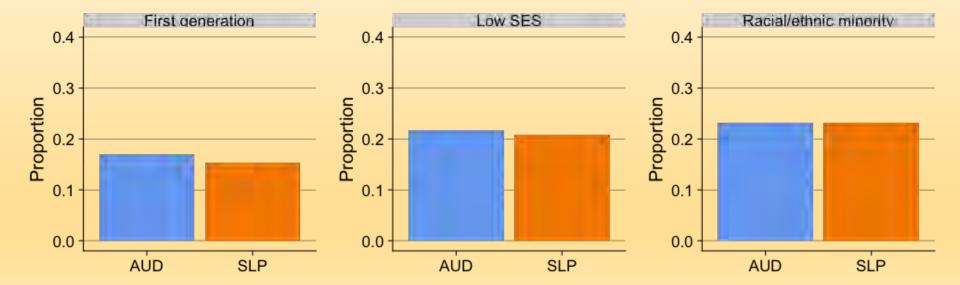
#### Our applicants are experienced



#### Our applicants are diverse

**μ** = 0.16

**μ** = 0.23



### 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



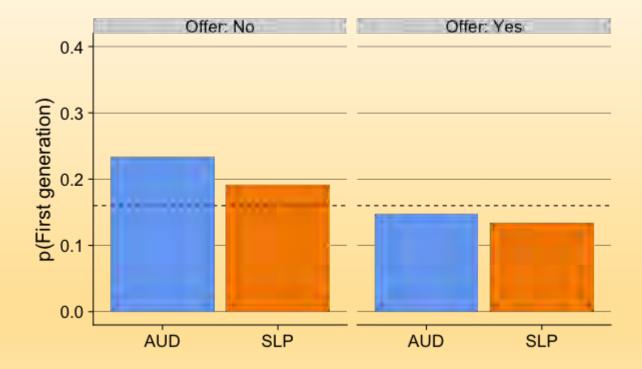
#### Do our acceptances reflect diversity of the pool?

Lower proportion of <u>low SES</u> applicants receive an offer of admission, relative to diversity in applicant pool

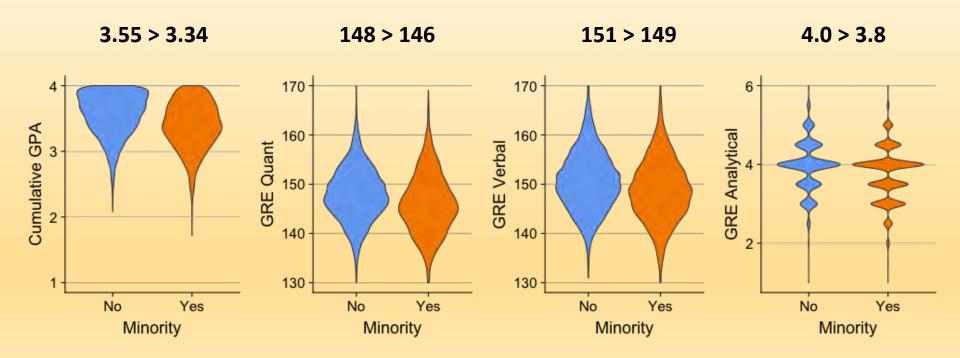


### Do our acceptances reflect diversity of the pool?

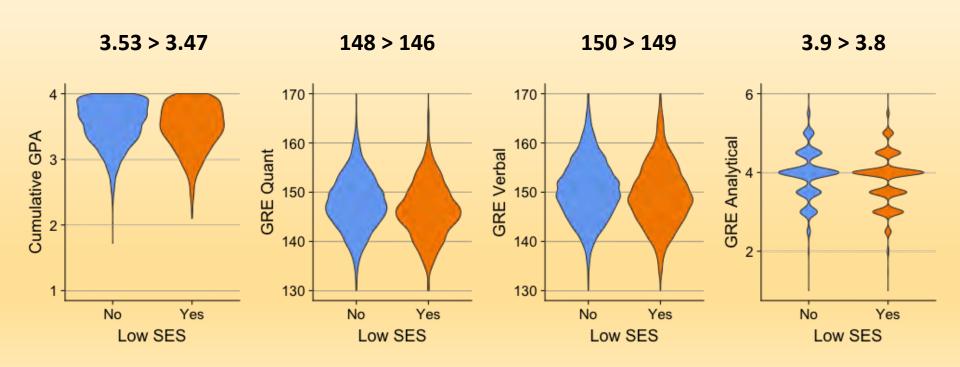
Lower proportion of <u>first generation</u> applicants receive an offer of admission, relative to diversity in applicant pool



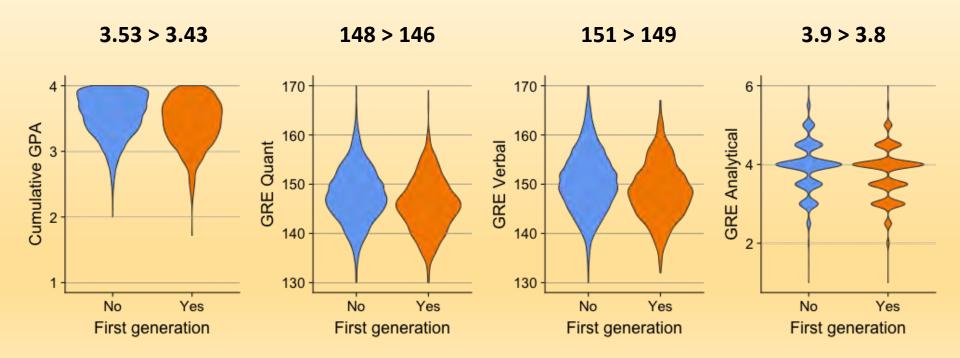
# Racial/ethnic minority applicants <u>minimally</u> differ quantitatively



#### Low SES applicants minimally differ quantitatively



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



### 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	р
(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	<b>X</b> <sup>2</sup>	χ² 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	<b>X</b> <sup>2</sup>	χ² df	р
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?

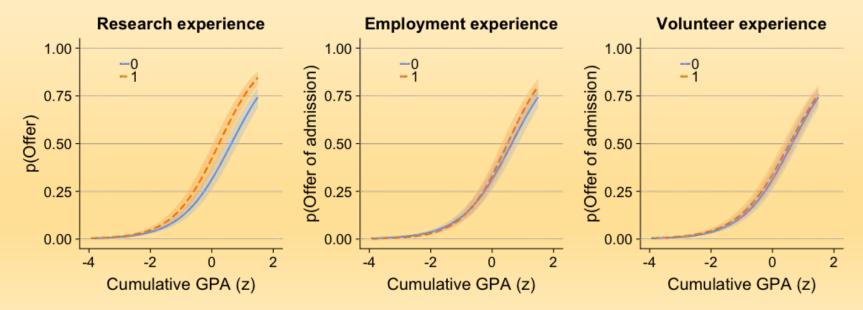
Fixed effects included the **interaction** between GPA and experience (research, employment, volunteer); experience is still treated as a binary factor

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>

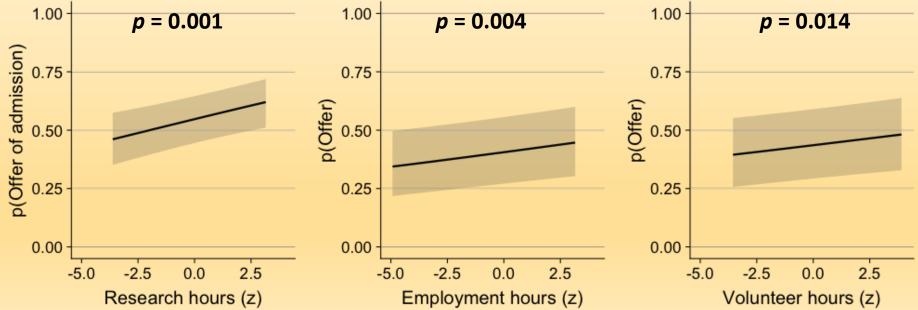
For those who do have experience, is **more** experience better?

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?

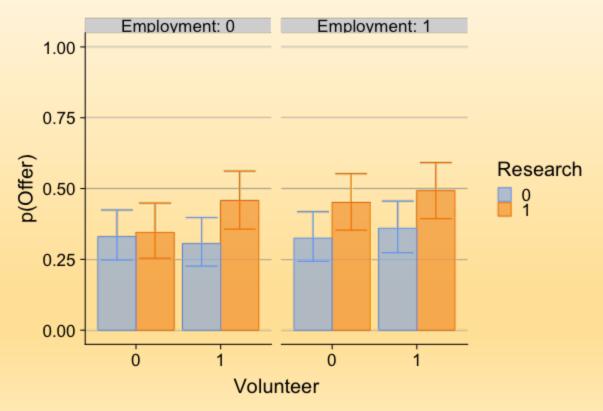
Significant 3-way interaction; let's check it out...

Fixed effects	Beta	SE	Z	р
(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

Applicants who are strong to begin with are the one who join labs

No; doesn't seem to be supported by the data, but further analyses are in progress

#### "Stand out"

Research experience is distinctive experience because few have it

Maybe; only 28% of applicants had research experience

#### Letters

Applicants have qualitatively different letters given faculty interaction in laboratory setting

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

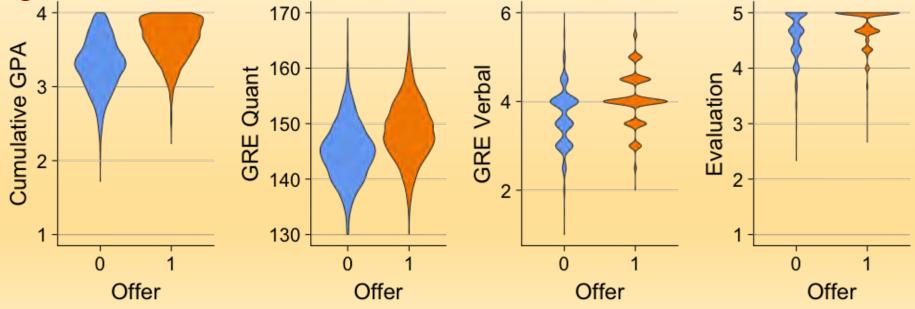
Extracurricular involvement **did not** predict decision outcomes

**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 predefined 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

Search Search Assignments Search Interviews	
Search Interviews	
Contraction of the second s	
Clipboard	
In Progress Applicants	
On Hold Applicants	
Undelivered Applicants	
Search Correspondence	
Applicant Lists	
SLP applicants w/ background	
Under-represendted minority applicants	
SLP w/ background	
SLP no background	
SLP Post-bacc	
SLP Partial	
List Manager	
Reports & Exports	
1191_Applicants	
Export Manager	
Report Manager	
PDF Manager	
Recent Files	

# Report Settings My report will be named: Create a Applicant • This report Applicant • These se Decision • User Save and Run Report Save Report Settings Return to Report Manager

https://help.webadmit.org/webadmit2016/documents/Report\_Manager\_Guide.pdf

#### Comparative Report: Races and ethnicities

Your chose 5 (or more)	•	Your progr	am	
	Applicants to	5 CSDCAS organization	Applicants (	to Your Programs
Ethnicities and Races	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**

#### Male applicants

	Applicants to	CSDCAS	Applicants to Your Programs			
Age Group	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	1		

	Applicants to	CSDCAS	Applicants to Your Programs			
Age Group	Number of Applicants	% of Applicants to CSDCAS	Number of Applicants	% of Applicants to Your Programs		
Male	1.0					
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	1	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

Applicants	
Search	
Search Assignments	
Search Interviews	
Clipboard	
In Progress Applicants	
On Hold Applicants	
Undelivered Applicants	
Search Correspondence	
Applicant Lists	
SLP applicants w/ background	
Under-represendted minority applicants	
SLP w/ background	
SLP no background	
SLP Post-bacc	
SLP Partial	
List Manager	
Reports & Exports	
1191_Applicants	
Export Manager	
Report Manager	
PDF Manager	
Recent Files	
■ Management	
Admissions Users	

## 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	T	$\ominus$ $\oplus$
Decision Code	▼ equals	Offer Accepted	•	$\odot \oplus$
Decision Code	equals	▼ Offer Declined	T	$\ominus$ $\oplus$
Decision Code	equals	▼ Offer Made	•	$\ominus$ $$

uded applicants will match any 🔻 of the foll	lowing rules:					
Decisión Code		equals	•	Denied	•	Θ
Decision Code	*	equals	Ŧ	Offer Withdrawn	Ŧ	$\Theta$
Decision Code		equals	•	Wait-Listed		ΘΘ
Decision Code		equals	•	Applicant Withdrew		$\Theta$

# List manager – composite lists

### New Applicant Composite List

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

Included applicants will match all • of the following rules:

Verified status - AuD	•	applicant appears in list	•
Offers made total	•	applicant appears in list	•
Under-represendted minority applicants	•	applicant appears in list	•
Select a list	•	applicant appears in list	•
Select a list	•	applicant appears in list	•

### Submit Return to List Manager

### 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.

		-
Export Settings		
Export SLP w/ background   to a Microsoft Excel (vis)   to a Microsoft Excel (vis)   file named vitt as may columns as needed   These settings [will not v] appear on the toolbar. These settings can be seen by only myself	8	
Export these fields   Additional Questions  Applicant	in this order. Group by Field ® Group by Numeric ©	
<ul> <li>Applicant Ethnicities</li> <li>Applicant Gateway Activities</li> </ul>	Applicant Last Name	)^
Applicant Reported GRE	First Name	
Applicant Reported MAT Applicant Reported TOEFL	Designation X	
Assignments     AuD Questions: Syracuse University application questions	Local Status	
▶ Awards ▶ Background ▶ CSDCAS Questions: CSDCAS Professional Code of Conduct:	Lecal Status Last Changed On Transformations: None	
College(s) Attended Conferences	GPAs by Year Overall Total GPA	ĺ
<ul> <li>▶ Current Mailing Address</li> <li>▶ Custom Fields</li> </ul>	GPAs by Subject Communication Sciences & Disorders GPA	
<ul> <li>▷ Designation</li> <li>▷ Employment</li> <li>▷ Extractividual Activities</li> </ul>	Official GRE General     ★       GRE Quantitative Percentile     Filters:       Filters:     Maximum	
▶ GPAs by Subject ▶ GPAs by Year ▶ HRSA Indicators	Official GRE General GRE Verbal Percentile Filters: Highest Overall Result ▼	
▶ Honors ▶ Interviews	GRE Written Converted	
▶ Languages ▶ Leadership ▶ Notes	Custom Fields	•
<ul> <li>▶ Official GRE General</li> <li>▶ Permanent Malling Address</li> <li>▶ Personal</li> </ul>		
Preferred Malling Address     Prerequisite GPA		

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

- ourrent maning Address

Custom Fields

Designation

Employment

Extracurricular Activities

GPAs by Subject

GPAs by Year

HRSA Indicators

#### All Fields 🕂 🗙

I am the first generation in my family to attend college(neither my mother nor my father attended college).

I graduated from a high school from which a low percentage of seniors received a high school diploma.

I graduated from a high school at which many of the enrolled students are eligible for free or reduced price lunches.

I am from a family that receives public assistance (e.g., Aid to Families with Dependent Children, food stamps, Medicaid, public housing).

I am from a family that lives in an area that is designated as a Health Professional Shortage Area, or a Medically Underserved Area.

I participated in an academic enrichment program funded in whole or in part by the Health Careers Opportunity Program

I am a high-school drop-out who received AHS diploma or GED or I am receiving public assistance.

I am from a school district where 50% or less of graduates go to college or where college education is not encouraged.

Your parent's family income falls within the table's guidelines and you are considered to have met the criteria for economically disadvantaged.

What is the type of geographic area where you were raised?

English is not my primary language.

I have a diagnosed physical or mental impairment that substantially limits my participation in educational experiences and opportunities offered by a college

I was accepted to the health professions program after academic reassessment at the completion of remedial courses

#### ... in this order. Group by Field

Group by Numeric

Application Status

Designation Decision Code

Decision Cour

#### HRSA Indicators

I am the first generation in my family to attend college(neither my mother nor my father attended college). Transformations:  $\boxed{V/N} \bullet$ 

×

×

×

×

×

×

HRSA Indicators

I graduated from a high school at which many of the enrolled students are eligible for free or reduced price lunches.

Transformations: Y/N •

#### HRSA Indicators

am from a family that receives public assistance (e.g., Aid to Families with Dependent Children, food stamps, Medicaid, public housing). Transformations: Y/N •

#### HRSA Indicators

I am a high-school drop-out who received AHS diploma or GED or I am receiving public assistance.

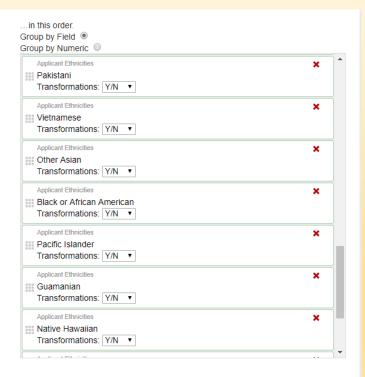
Transformations: Y/N •

#### HRSA Indicators

Your parent's family income falls within the table's guidelines and you are considered to have met the criteria for economically disadvantaged. Transformations: [YN] •

# Export manager

in this order. Group by Field ● Group by Numeric ○		
Applicant CSDCAS ID	×	*
Designation	×	
Designation Application Status	×	
Designation Decision Code	×	
GPAs by Year Overall Total GPA	×	
Official GRE General GRE Quantitative Converted Filters: Maximum	×	
Official GRE General GRE Verbal Converted Filters: Maximum	×	
Official GRE General GRE Written Converted Filters: Maximum	×	



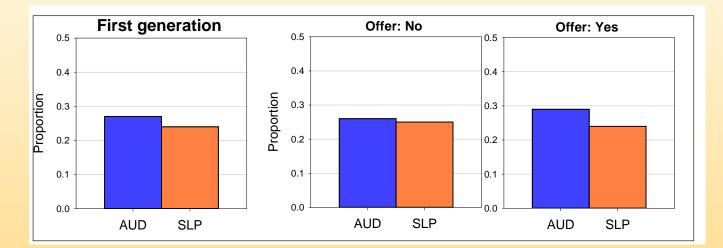
### Export manager

Applicant CSDCAS ID	×
CSDCAS ID	
Designation	×
Designation	
Designation	×
Application Status	
Designation	×
Decision Code	
Leadership	×
Total Hours	
Research	×
Total Hours	
Extracurricular Activities	×
Total Hours	
Employment	×
Total Hours	
Volunteer/Community Enrichment	×
Hours/Week	

### Export to a spreadsheet:

	application_st				family_recei ves_public_a		me_is_econ
designation	atus	decision_code	ent	ool_lunches	ssistance	ssistance	advantaged
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?

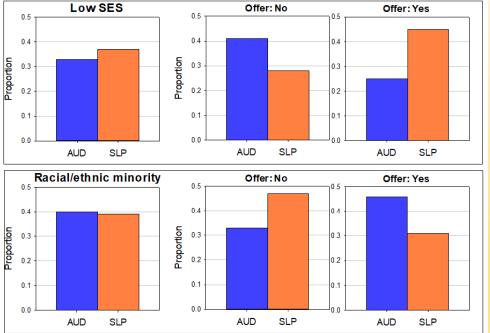


Similar proportions of first generation college students received offers as did not

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

Svracuse

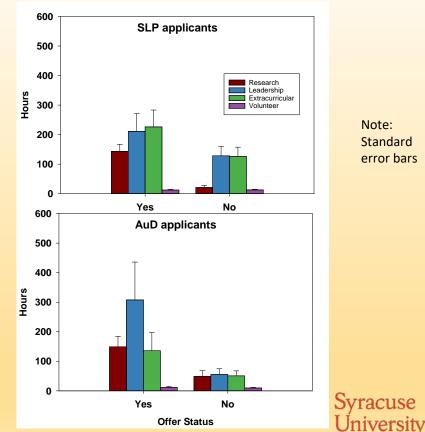
AuD\* – higher proportion of applicants identifying as any racial/ethnic minority received offers than did not

### <sup>SLP</sup> University

### \*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)</li>
  - 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)



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

### 35 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-languagehearing 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.