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Predicting Admission to the Ivory Towers: Grades, Scores, and Other Flowers

Overview of the admissions process and discussion of grades and scores

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Common Requirements for Graduate School Applications

A graduate application packet is like a basket of cut flowers

Typical Components of the Floral Basket

• Undergraduate transcripts (GPA)

• GRE Scores

• Publications and relevant experiences list

• Letters of Recommendation

• Description of Research Experiences (Dr. Dolinoy will cover in detail)

• Personal Statement (Dr. Aleksunes will cover in detail)

Typical Admissions Process

1. Prospective student's completed packet is received (Nov – Dec)
2. Administrative Review by the Graduate School (Dec - Jan)
3. Review by Graduate School Admission Committee (Nov- Jan+)
4. Selection of candidates to invite out for interviews (Dec - April)
5. INTERVIEW (Jan-April)   (January Webinar!!!)
6. Applicant Evaluations submitted (Jan - April)
7. Offers made to candidates (Feb - April)
8. Student submits decision to accept offer or not (April - May)
9. *Matriculate and Embark upon your PhD training (June – Sept)*

Presenting Your Best Basket of Flowers

Prepare early and invest the time to learn

- Take Fundamental Science Classes
  - Org. Chem, Chem, Math, etc) even if not an A
  - GPA of 4.0 is not required, diminishing returns

- Discover your research passion(s)

- Get intensive and diverse research experiences
  - ➤ More than 1yr cumulative experience best
  - https://www.toxicology.org/careers/if/internships.asp

- Get connected with the labs you work with

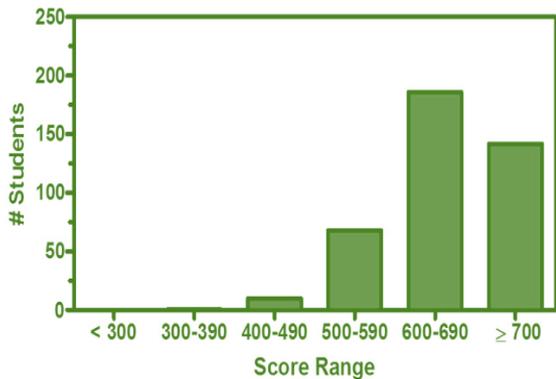- Learn about the institutions you are interested in attending

Advice on Grades and GRE

- Strive for a GPA of ~3.5 or higher, but >3.0 is okay
- Upper-level science coursework is most important
- Upward trajectory can overcome poor initial performance
- Master's program success can overcome poor undergrad. GPA
- If above threshold GRE scores, may be better off investing in your research experiences than extensive studying to improve your scores.
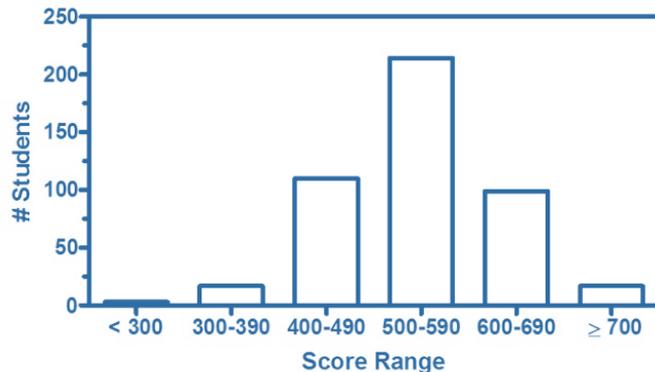- If there is a reason for lower grades/GRE include them on personal statement

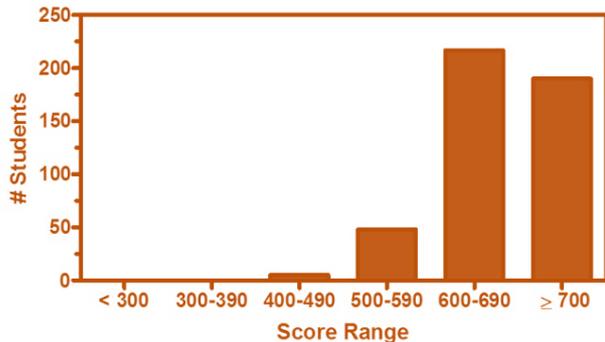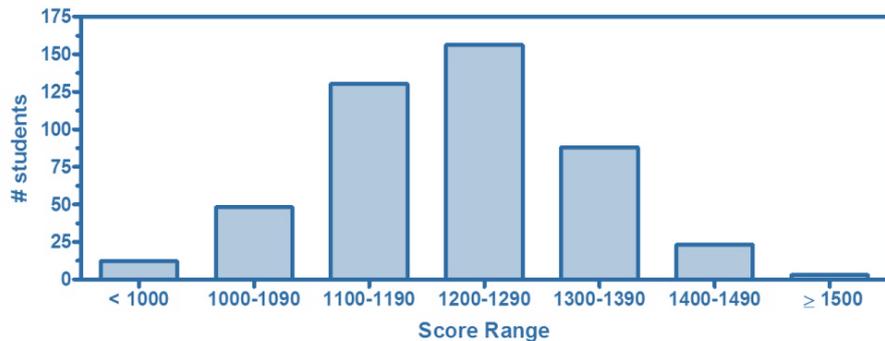# Example GRE Scores of Admitted Students

GPA, GRE and Other Flowers Do a Dismal Job at Predicting Graduate School Success Measures

GRE-Q Score

Random GRE-Q score

800

300

-200

0   50   100

Normalized Research Success Score
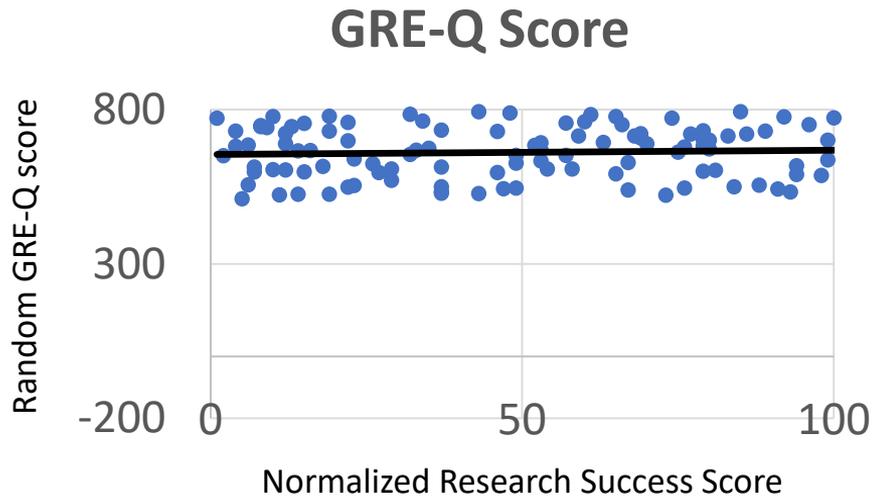
Simulated data set of random numbers (GRE-Q 520 to 800) is surprisingly representative of actual findings published from two graduate programs. Similar results for GPA, faculty interviews, prior research experience

True for many other measures of success: # of 1st author papers, time to graduation, Qual exam success, etc.

First study listed below found letters of recommendation scores correlated positively with # 1st author publications in graduate school.

Second study listed found GRE-Q and GRE-V had moderate predictive power for first semester grades

1. Hall, O'Connell and Cook. "Predictors of Student Productivity in Biomedical Graduate School Applications". 2017. PLoS ONE

2. Moneta-Koehler, Brown, Petrie, Evans and Chalkley. "The Limitations of the GRE in Predicting Success in Biomedical Graduate School". 2017. PLoS ONE

Administrative and Committee Review

- Representative outcomes (~1400 applicants, ~350 committee review, ~150 interviews offered, ~100 offers made)
- Are there GPA, GRE minimum cut offs?
  - typical ranges of GPA = 2.5 to 4.0; with most above 3.0
  - typical ranges GRE percentile scores = GRE-Q or V (>40%, but most above 60%)
  - Vary widely by school and program
  - School you attended makes a difference in evaluating GPA
  - GPA and GRE scores can make a big difference for some scholarships/bump ups
- Coursework (course requirements, hard sciences, discipline specific classes)
- Research experiences and evidence of productivity
- Evidence to predict success in the graduate coursework
- Letters of reference to gauge your chances of success in grad. school.
- It's a committee decision

Gaining Admission to the Best Program for You

- Quality/productivity of your research experience(s) (duration, publications, letters)
- Letters of references from your research mentor(s)
  - who should you ask to write letters for you?
  - course instructors, grad students, postdocs, program directors are often weighted lower than letters from mentors of research experiences
- Read the literature in your research area
- Learn about the research hypotheses and data interpretation

Applying to the Right Program for You

- Umbrella or Discipline-Specific Program
- Faculty doing research that suits your intellectual passions
- Funding level of these faculty
- Relevant course work for your training
- Contact admissions offices – don't take decisions personally

Be Now Who You Want to be Tomorrow

Wishing you success!!!

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https://medschool.vanderbilt.edu/toxicology/

SOT | Society of Toxicology
Creating a Safer and Healthier World by Advancing
the Science and Increasing the Impact of Toxicology

SOT Undergraduate Student Resources
https://www.toxicology.org/groups/ug/affiliates.asp

SOT Graduate Student Resources
https://www.toxicology.org/groups/gs/graduates.asp

Questions via the Q&A function at end of the webinar