



Cognitive Bias and Repairs in Admissions Decision Making

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What Is Holistic Admissions?

Whole File (49.7%):

“We review, consider, and evaluate **all information provided** when rendering an admission outcome.”

Whole Person (19.2%):

“It means that we value getting to know the whole person, beyond just grades and scores... If we are committed to creating a diverse, interesting, and vibrant community, we **embrace applicants as individuals.**”

Whole Context (29.2%)

(Bastedo, Bowman, Glasener, & Kelly, in prep)

Admission Paradox 1: Holistic Practices

We consider each applicant on their own, within the context of their environment... High schools have different offerings. Different regions have different opportunities. Different families have different resources. The primary job of the application reader is to summarize a student's qualifications *within context*.

-- Matt McGann, MIT

"We don't want to compare a student who's attending a well-resourced school with a student who may be attending a high school that offers few or no honors courses. That would be an apples-to-oranges comparison."

-- Susan Wilbur, UCSB

Evidence of Holistic Review

- “Maxing out” the high school curriculum does not, on its own, improve chances of selective college admission (ELS:02). It does in states with affirmative action bans, and when interacted with GPA. Even then the effects are surprisingly weak.
- Despite access to stronger high schools, suburban, high-SES, white, and Asian students are the most likely to “max out” their high school curricula. Male students are also more likely to maximize their math and science curricula, which may help explain male admissions advantage at elite colleges.

(Bastedo, Howard, & Flaster, 2016)

Admissions paradox 2: Tests

“The SAT and SAT Subject Tests are globally recognized college admission exams. They’re just *one factor among many* in the university admission review process.”

-- The College Board

“Standardized tests are *only one factor among many* in Harvard's holistic admissions process. The Committee on Admissions has always taken into account the fact that test scores can be affected by such factors as schooling, intensive test preparation and socio-economic background.”

-- Harvard Admissions PR

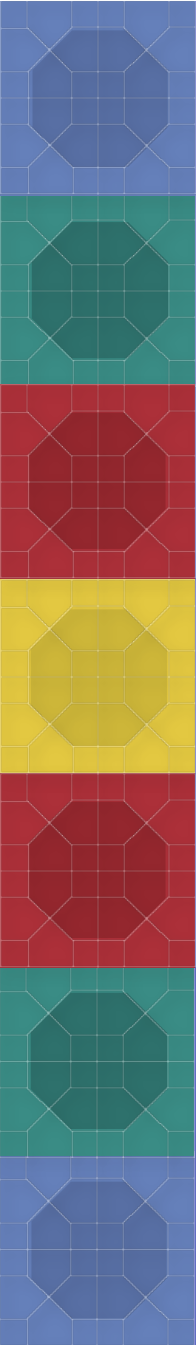
Role of Tests in College Stratification

- Rising academic competition drives increasing reliance on test scores by highly selective colleges, reducing chances of admission for low-income and minority students.

(Alon 2009; Bastedo & Jaquette 2011; Posselt, Bielby, Jaquette, & Bastedo, 2012)

- Even today, women are underrepresented in highly selective colleges, a gap not explained by self-selection or admissions preferences for men. Test score differentials explain 63% of the enrollment gap in 1972 and 100% in 2004.

(Bielby, Posselt, Jaquette, & Bastedo, 2014)



Question: Why is there such a disparity between what is said about undergraduate admissions and our research results?

Cognitive Bias

Rich literature on biases and heuristics since the 1970s (Tversky, Kahneman...) conducted in lab experiments

Yet decision theorists are highly pessimistic about the possibility of change

Need for *organizational* thinking that addresses how decisions are made and shaped in real-world work contexts

1st possible answer: Anchoring

- Anchoring bias is the human tendency to consider arbitrary numerical values from the recent past when estimating future numerical values, particularly when those values are uncertain or ambiguous.
- Many examples: e.g., the “wheel of fortune”
- Evidence from experimental and field settings (real estate, car mechanics, college rankings, German judges). Influences both expert and lay judgments.
- People usually *inadequately adjust* to anchors, particularly if the anchor is provided externally.

2nd possible answer: Correspondence Bias

- Correspondence bias is the human tendency to attribute decisions to a person's dispositions rather than to the situation in which the decision occurs. Also "fundamental attribution error" (Ross & Nisbett)
- Many experimental examples: Princeton theology students, rigged game shows
- However, with the right information, people properly account for situational information rather than relying on dispositional inferences – and thus make more accurate attributions (Quattrone).

Cognitive Repairs

Cognitive repairs are organizational routines that seek to correct systematic biases and heuristics that affect interdependent tasks in organizational work.

Research questions:

- How are anchoring and correspondence bias operating in college admissions offices?
- What cognitive repairs are being used to address these biases?
- What are the strengths and weaknesses of these cognitive repairs?

Field Data



- 30+ hours of “norming” and participant-observation at “*Forest*” and “*Brickton*” in 2010-11
- Read and scored 420 applications for freshman admission at Forest
- Interviews with 58 admissions readers at Forest (18 staff, 40 external).

The Norming Process

Norming is the primarily inductive process where readers learn to evaluate and score applications. From the rubric for 2.5 at Forest:

The score of 2.5 should be given to applicants whom the reader would recommend for fall admission. Approximately 10% of all applicants should receive a score of 2.5, meaning that these applicants, along with those receiving scores of 1 or 2, constitute roughly the top 25% of the Forest applicant pool... In general, such applicants would demonstrate levels of academic achievement that, when viewed in the context of educational and personal circumstances, are judged to be high.

Anchoring & Academics: Brickton

Explicit instruction to choose an initial score based on GPA/SAT and then adjust based on further information:

“Lisa has a 3.4 GPA. 1340 SAT. And she’s applying to engineering, and her ACT math sub-score is 33. And just by the numbers for engineering, that puts her somewhere between a 2 and a 6. So I guess we can call it a 4 and see if she moves up or down.”

Anchoring & Academics: Forest

Explicit instruction *not* to choose an initial score based on GPA/SAT:

“Remember, every read is a quality read. The thing about academic profile is that it’s little pointers that you’re sort of putting in the back of your head, little questions you need answered as you’re going through the application, or just kind of setting the scene for what you’re going to expect in the application. Do a scan, look across, get a sense of what’s going on... Where are the strengths? Where are the weaknesses? Then keep going.” (Forest senior staff)

Struggling with Anchoring: Forest

“I’m open-minded, I have information. I can try and start to visualize what my applicant kind of, what their day-to-day looks like but I’m still waiting for that critical information from the personal statement, the specific courses that were listed... we still have to finish you know, painting the picture.” (Forest staff)

“I think I like what Danielle said earlier, after she has reviewed school profile... She said, “I could see that this student is average.” So now you're forming the impression that the student is a 4.” (Forest staff)

Language: Sliding scales, ranges, pots, “safety zones”...

Correspondence & School Context: Brickton

“We need to do a better job of putting those numbers into the context of that student's, you know, academic background and environment.” (Brickton director)

Dinh: “We are talking really the top student at a below-average school. These are the students we want to try to do our best to get to campus.”

Multiple mitigating factors:

- Anchor-and-adjust limits the range of scores

- “Shout outs” required for committee review

- Reliance on school profile sheets

2013-2014 Manchester High School Profile

SCHOOL AND COMMUNITY: The Manchester Community School District is located in the southwest corner of Washtenaw County, twenty-five miles from Ann Arbor. It is a picturesque community of rolling hills and century-old dairy farms centered around the quaint village of Manchester. Manchester welcomes the technology of the 21st century while maintaining the proud traditions of the American way of life. It is these traditions that are reflected in the school system.

The high school serves grades nine through twelve with an enrollment of approximately 400 students. A comprehensive curriculum is provided with about 93 courses being offered in the building. The South and West Washtenaw Consortium provides 15 career technical programs for juniors and seniors at other locations. Manchester offers an Advanced Placement class in Calculus AB, English Literature, English Language, and U.S. History. We offer 6.2 clock hours of instruction divided into a seven period day. Manchester is accredited by the North Central Association.

The State of Michigan has an average ACT composite score of 19.9. Manchester High School has an average ACT composite score of 21.7. About 75% of our graduating seniors plan to attend a 4 year college after high school, while 20% plan to attend a community college. 4% plan to attend a trade school and 1% intend to join the armed services.

GRADUATION REQUIREMENTS: Twenty-five credits are required for graduation. For the Class of 2014, these include four in English, four in mathematics, three in science, three in social studies, one in physical education, one half in health, one in fine or applied arts, one half in computer technology.

GRADING SYSTEM/CLASS RANK: Grade point average and rank are based on all classes given letter grades using the following unweighted scale: A=4, B=3, C=2, D=1, F=0. Manchester employs weighted grading system as well adding ½ of a GPA for A, B, or C's earned in honors classes, and 1 GPA point for A, B, or C's earned in AP classes. Unweighted GPA's and class ranks are reported on all college and scholarship applications.

EXTRA-CURRICULAR ACTIVITIES: Manchester High School has long enjoyed a successful and rewarding tradition in extra-curricular athletics. We belong to the Cascades Conference and provide varsity competition in the following areas: baseball, basketball, cheerleading, football, golf, soccer, softball, track, cross-country, volleyball, and wrestling. Many extra-curricular clubs are also available to student including: Drama Club, FFA, German Club, Spanish Club, Quiz Bowl, National Honor Society, Key Club, Student Council, Jazz Band, and Students Leading Students (formally SADD).

Grade Point

High schools are doing away with class rank. What does that mean for college admissions?

By **Moriah Balingit** July 13, 2015 

NACAC's

Research to Practice Brief

A RESEARCH SERIES OF
THE NATIONAL ASSOCIATION FOR COLLEGE ADMISSION COUNSELING

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Class Rank

Research highlights:

- Secondary school class rank has declined in importance as a factor in the college admission decision over the past decade.
- Colleges vary in how they use class rank in admission, based on a combination of institutional characteristics.
- High schools employ a range of class rank models, which vary based on

Inside This Issue:

- 2 How colleges value class rank in the undergraduate admission process
- 6 How high schools use and report class rank
- 9 Other uses for class rank: "X" percent class and

Correspondence & School Context: Forest

“If a student had a 3.6 [GPA] but for the school to Forest it was in the 90th percentile, then I know that the student is performing really well within the school... Obviously other circumstances going on with that school and the environment and so then I need to figure out what exactly was going on.” (Forest ext.)

Positive factors:

- High quality school information

- Percentiles “bake in” school context information

- Readers normed to anchor on context

- File structure emphasizes correspondence



Cognitive Repairs in Admissions

Three primary repairs:

Language monitoring

Reducing cognitive closure

Error correction routines

Repair: Language Monitoring

“We're always trying to look for the good things about the student's application. Reward their hard work.” (Forest)

“It's not a good personal statement or a bad personal statement, because what does that mean?” (Forest staff)

“Saying things like “This seems like a cool kid” is probably not that bad as if you are feeling the opposite way and recording that in the system indefinitely. So, again, make sure you're being appropriate. There are ways of saying things without having to say them.” (Brickton, senior staff)

Before	After
"bad grades"	"low grades for us"
"a great essay"	"a helpful personal statement"
"a poor essay"	"a missed opportunity"
"a bad AP score"	"neutral in our process"
"red flags"	"pointers" "raising questions"
"weak extracurriculars"	"light extras for our pool"

“It's not about being liberal or politically correct, or whatever. It's about how they think. We're worried that if they say the wrong things in norming, they'll make bad decisions later” (Forest, senior staff)

“Building” at Forest

“We don't like the idea of taking points off, we like the idea of starting neutral and building up. Because that way you're always looking for the good things to help, you're not the stern taskmaster looking for the things to go oh, this is bad.” (Forest staff)

“Part of the whole training and norming, especially the norming process, is understanding why it is you're building and to what level.... It's always about building up and into the group where relative to where the app pool and relative to the norming pool, *where the student belongs.*”

Repair: Reducing Cognitive Closure

Cognitive closure: Defined by “individuals' desire for a firm answer to a question and an aversion toward ambiguity” (Kruglanski and Webster, 1996)

Individuals tend to “seize” on an early choice opportunity before considering all of the information or alternatives, and “freeze” on that choice even when new information or alternatives are presented.

Cognitive Closure Driven by Cognitive Load

- At Forest, 6-8 minutes to read:
 - 22 numbers on school and family context
 - 46 numbers on academics (70 with two tests)
 - Family info, transcripts, two pages of extracurriculars, two personal statements.
- At Brickton, add letters of rec.

“I'm reading ten an hour and I'm there four hours, five hours at a time. You get kind of punchy. They start to blend together.”

Cognitive Closure at Forest

Readers were explicitly normed not to make scoring decisions before the end of the file.

Yet inexperienced and more senior readers often felt the need to judge each piece of data and make early decisions, adjust to manage the cognitive load of application read.

But for readers who did not judge each piece of information, they often felt less cognitive strain (the “Zen approach”)

Repair: Error Correction

Brickton: Staff validators, committee review

Forest: No committee

3rd read (independent, not validating)

Outliers (“I’m devastated”)

Score distributions

“I was very conscious of being a good boy and giving them the distribution they wanted. If I was low on 2s, I’d be looking for 2s.”

Examining Cognitive Repairs

There are some tradeoffs. Error correction repairs often led to gaming, overcorrection, and anxiety.

Language monitoring and reducing cognitive closure seemed to elicit no tradeoffs.

The *nature* of bias matters. Anchoring seems much more resistant to repairs than correspondence bias.

Evidence that quality of information, data transformation, and the design of information systems is important to bias mitigation.

Returning to the paradoxes...

Why does research show standardized tests as the primary driver of decision making?

It is likely that anchoring bias, either institutionalized in policy or subconsciously influencing decision making, gives standardized tests disproportionate influence.

Why are holistic admissions practices not adequately benefiting low-income students and students of color?

Even selective colleges often have poor information and weak policies regarding use of school and family context data, which encourages decision making that attributes achievement primarily to individual dispositions.

What can be done?

We can work directly with admissions offices on training for high-quality decision making, diversity, and equity

- Raising awareness of cognitive bias
- Revising norming/training practices
- Examining how data are presented
- Diversity among admissions officers
- Considering self-reported transcripts and using more robust state-level data

For more information

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