

QSS Honors Program Experience 2021 -2022
Matthew Schnell
“Facial Biases in the Evaluation of Baseball Pitchers”

What I Did

My QSS Thesis was inspired from the second I picked up Michael Lewis’s *Moneyball*, a fascinating telling of how the Oakland Athletics revolutionized baseball by becoming the first team to use analytics in their front office. This book recounts several stories of how professional scouts judged players by their appearances, ignoring more accurate and evaluative features about players such as their hitting statistics. This happens in every area of society — there has been tons of research suggesting more attractive individuals are more likely to be hired and earn more money. Furthermore, people with more trustworthy faces are less likely to be found guilty of a crime. However, there has been little empirical research on facial biases in sports, specifically none on how baseball evaluators are biased by a player’s face when evaluating their talent.

My Thesis aimed to answer this question: how does a baseball player’s face bias a baseball scout’s evaluation of that player? To do this, I employed two different surveys. First, I asked survey respondents on Amazon’s Mechanical Turk platform to answer a set of questions about how they perceived nine different baseball pitchers’ faces along five different attributes. Participants looked at a photograph of each pitcher’s face and assessed how attractive, intimidating, smart, and athletic each pitcher’s face appeared, and how much each pitcher’s face looked like that of a baseball player’s face. Employing a principal component analysis, I determined that the first principal component explained roughly half of the variance in how the pitchers’ faces looked among the five attributes described above, and players were ranked on this principal component. Second, I took the four players highest on this principal component and asked college baseball coaches to evaluate them based on their pitching abilities after watching a short video of them throwing a pitch. The coaches were randomly shown either a set of the original videos of the pitchers throwing or a set of videos of the pitchers throwing where their faces were blurred out from the video, so their face could not be seen in the evaluation. I compared the difference in the rating a player received from the coaches when the coaches could see his face in the evaluation videos compared to when they could not see his face in the videos of him pitching. Using an ordinary least squares regression, I found that, for two of the four players evaluated, baseball coaches rated the players significantly differently when they could see their faces in the pitching videos compared to when their faces were blurred out.

What I Learned

My findings suggest that pitchers’ faces can bias baseball scouts’ evaluations of pitchers. As Michael Lewis discusses in *Moneyball*, sight-based heuristics cloud baseball scouts’ abilities to

make accurate judgements on players. If the face is being used to aid baseball evaluators in the selection of their players, is this, too, hurting baseball scouts' ability to make accurate player evaluations? Since I find that baseball evaluators specifically look at a player's face to help make their decisions, how are such facial biases affecting scouts' judgements? Could these facial biases lower the performance of baseball evaluators and reduce the accuracy of scouts' evaluations of pitchers? Scouts could improve their talent identification by ignoring the face altogether when evaluating players. To reduce potential gender, ethnic, or racial biases when evaluating job applicants, some job employers have removed the names of the applicants from their resumes. As a result, these companies have greatly increased the diversity of their workforce. Baseball teams could follow a similar path by blurring out the face in videos of players to remove any facial biases from the evaluation process. My study contributes to the existing research surrounding facial biases by focusing on how facial biases affect baseball evaluator's judgment of baseball pitchers.

Why I Did It

I chose to write a Thesis because it really is the true culmination of one's Dartmouth experience. This was my chance to showcase the hard skills I had learned from my courses and professors at Dartmouth but also the more soft skills I gathered. It enabled me to combine my critical writing, problem solving, and analytical skills into a year-long research endeavor, one in which I was constantly challenged and persevered through difficult times. I also never had the opportunity to do research with a professor during my time at Dartmouth and thought that a Thesis was my last chance to work on a research assignment with careful guidance from one of my professors. Additionally, I love sports, and know that one day, I want to work in the industry. This Thesis was the perfect opportunity to showcase what I had learned from Dartmouth in a subject that I am truly interested in, which made the entire experience enjoyable. Lastly, I loved the idea of running a field experiment for my Thesis. I have analyzed millions of data points, but not until my Thesis had this data been carefully crafted and obtained via an experiment that I designed myself. This was easily the best part of writing my Thesis.

Advice for Future Thesis Students

- **Pick a topic you are REALLY interested in.** My QSS peers wrote their Theses' about healthcare, education, international trade, and voting preferences, among many other subjects. At first, I felt like I was settling by writing my Thesis about sports, since, as much as I love sports, there are much bigger, more important issues in the world. However, I simply chose an area of research that I was genuinely interested in, which was the best decision I made. I loved reading literature about biases in sports and taking a deep dive in my subject. Remember, this project goes from September to June, so focus on whatever you are passionate about, no matter the research question.

- **Start writing early.** Professor Herron did a fantastic job as my advisor of keeping me on schedule with my research and draft due dates, but I definitely wish I started my actual writing earlier than I did. At the end of the winter quarter, I figured I had plenty of time to write my draft and build my slides for my presentation, and took a few weeks off during spring break. This was a major mistake, as I definitely was writing more than I intended right up to my presentation date. Start writing early, no matter if it's a single paragraph or just creating a graph — it will be an immense stress reliever, particularly in the spring. Furthermore, writing a solid introduction and lit review is paramount to finishing in time.
- **If you are doing an experiment, apply for CPHS approval as soon as possible.** With field experiments, such as the one I did, there were a ton of issues getting CPHS approval for the survey designs. You want to get your surveys out as soon as possible so that there is no concern about getting enough responses. And, if you don't get enough responses, you will want plenty of additional time to resend the survey or find a new sample, which, again, can take time.
- **There will be setbacks.** For me, I had to redo my first survey three times, change my analytical test a week before my final draft, scrap all of my footage from my first go-around and find nine new baseball pitchers to record, wait anxiously for survey responses from college coaches, persuade multiple college coaches that my project would not get their players into trouble, and much more. Setbacks are bound to happen, which is why starting early and being able to adapt and persevere through challenges is so crucial to success.
- **Choose an advisor you can count on.** I was incredibly fortunate to have Professor Herron as my advisor, who held me accountable while being readily available to help answer any of my questions or solve any problems I faced. However, some of my peers had difficulties scheduling meetings with their advisors, which created undeserving stress in their projects.
- **Meet at least once a week with your advisor.** This echoes the bullet point above, but they will help solve challenges and hold you accountable for your work. Meeting weekly will force you to do the work on time, which will help come spring.
- **Use your librarians.** The QSS librarian was immensely helpful in helping find research sources. I spent too much time trying to pull my own sources, when the librarian was readily available.

While writing a Thesis is a ton of work, yet I found it to be the most rewarding part of my Dartmouth experience. If you are debating whether to pursue a thesis, have questions about my own Thesis, or questions about research, QSS, feel free to email me at mattrschnell@gmail.com or shoot me a text at 404-805-0967.