Potential Reasons Why Top Students From Impoverished Backgrounds Often Do Not Apply To The Best Universities And The Kind Of Actions That Can Be Taken To Change Such Behavior

Liberty Tatenda Taruvinga *

March 25, 2024

Abstract

The development of behavioral economics has precisely evinced that human beings are not always rational actors, and that instead, people often rely on mental shortcuts when making decisions. This is however a huge problem and when it comes to the United States, students from low-income backgrounds in the United States continue to be underrepresented in prestigious colleges despite increasing efforts to encourage diversity and inclusion in higher education. This research attempts to investigate the causes of this underrepresentation from a behavioral economic perspective, particularly among top students from impoverished households who do not apply to prestigious universities in the United States. It also identifies the potential biases and heuristics that hinder students from applying to the best universities in the United States. The biases are conformity bias, representativeness bias, and status quo bias. Policies that can potentially change such behavior, and promote greater equity and access to higher education are also suggested

1 Introduction

"Education is the passport to the future, for tomorrow belongs to those who prepare for it today." – Malcolm X

Since time immemorial, education has played an instrumental role in helping people achieve greater economic and social mobility and subsequently put a dent in the universe. The creation of Sustainable Development Goal 4 to ensure inclusive and equitable quality education and promote lifelong learning opportunities for all was aimed at giving impetus to that phenomenon, albeit at

*Advised by: Edoardo Gallo, University of Cambridge

the moment, this all seems like an illusion. Exceptional students who hail from impoverished backgrounds are less represented and often do not apply to top universities in the United States. Some high achievers from low socioeconomic backgrounds graduate from high school with grades and test scores that place them in the top 10% of all students taking the ACT or SAT college entrance exams, or the top 4% of all secondary school students in the United States [Hox13]. A report issued by the National Student Clearinghouse Research Centre ahead of the 2021/22 academic calendar revealed that 34% of 18–24-year-olds who were not enrolled in college at the time could not afford it, despite achieving good grades the previous year.

The recent college admissions scandal in which wealthy parents of students allegedly bribed and manipulated the admissions system for their children has served as a stark reminder to many people that the US educational system can be stacked against children who do not come from privileged backgrounds [MM19]. The exorbitant costs of entrance exams and the selective habit of some top universities both complicate the application process of students from low-income families. Lack of guidance from counselors before making an application, which stems from high school before students matriculate to university, cuts across these aforementioned reasons. Being equipped with the relevant information before making an application is key in helping a student make a sound decision and subsequently guarantee success in their chosen course and professional endeavors. Seton Hall University conducted research in a bid to understand the factors that influence students' desires to attend higher education. After the research was coded and analyzed, it was determined that the main reasons students did not go to college were the lack of guidance and support from experts and the lack of general college knowledge.

Many students from the school lacked the basic information about college expectations and college application procedures. While students did have the propensity and desire to attend institutions of higher education, they often did not know how to get there. [Tem09]. As mentioned above, there are fewer outstanding students applying to top universities and the reason is not the quality of students, but it is influenced by rational decisions which humans make daily. This research will help solve this problem from a precise behavioral economic perspective through the scope of biases and heuristics that influence human behavior. Behavioral economics is an interdisciplinary field that combines insights from psychology and economics to understand how people make decisions. The field challenges the traditional economic assumption of rationality by exploring the ways in which people's biases, heuristics, and emotions influence their choices [Tha15]. On the other hand, heuristics refer to mental shortcuts commonly used to simplify problems and avoid cognitive overload.

I will start by outlining a brief background of the US university application process to help us have a clear understanding of the issue being addressed. The first section will address the status quo bias, by explaining what it is, providing examples of how the bias works, and evidence on the role of the bias in preventing students from poor backgrounds from applying to top universities.

This will be done by referencing evidence of an experiment where the bias

was applied or was in effect. A potential policy to overcome the bias is provided. Secondly, the representative bias will be addressed and a precise definition of what it is will be provided. Furthermore, examples of how the bias works and its role in preventing students from disadvantaged backgrounds from applying to top universities are backed up by evidence of an experiment where the bias was applied. Recommendations on potential actions that can be taken to solve this problem are provided at the end of the section.

Thirdly, I will address conformity bias and how it influences low-income students' decision to apply to top universities. I will provide a precise definition of the bias and examples of how the bias affects humans daily. Evidence on the role of the bias will be provided by referencing evidence of a classic experiment where bias was in effect. I will therefore provide behavioral economic recommendations on the potential actions that can be taken to solve the conformity bias to increase university applications from underrepresented students. Finally, a conclusion will be provided to wrap up the main ideas and limitations that could hinder future research.

1.1 Background of the US University application process

The US boasts some of the most prestigious and competitive universities on the planet, and applying at these universities is typically an arduous process. The college search usually begins in 11th grade with the most activity taking place during 12th grade. In the US, access to colleges or universities varies substantially across the income distribution. Students from families in the top 1% are 77 times more likely to attend an Ivy-Plus college compared to the students from families in the bottom quintile [Che17] . The US university application system is a competitive and rigorous process for students seeking admission to American colleges and universities. The application process involves several components, including standardized test scores, transcripts, essays, and letters of recommendation. Students typically take standardized tests like the SAT or ACT, which are used to evaluate a student's academic performance and readiness for college.

One popular choice that is widely used is The Common Application, which is accepted by more than 900 colleges, including some outside the U.S. Students fill out the Common App once and can then submit it to multiple colleges. Despite the availability of the Common App, some universities have university system-specific applications such as the University of California [Cla22] . Students are also required to provide transcripts of their high school coursework, which are evaluated by university admissions committees to assess the student's academic record. In addition to this, another important component of the US university application system is the personal essay. Students are typically asked to write one or more essays as part of their application, which allows them to showcase their personality, character, and life experiences. These essays are evaluated by admissions committees to assess the student's writing skills, creativity, and ability to articulate their ideas.

In other contexts, the college essay is sometimes referred to as a personal statement and usually has a word limit. Letters of recommendation are also

an important part of the application process. Students typically need to submit two to three letters of recommendation from teachers, counselors, or other adults who know them well and can speak to their character, academic abilities, and potential for success in college [Cla22]. Overall, the US university application system is designed to identify the best and brightest students who have the potential to succeed in college and beyond. While the process can be competitive and challenging, it ultimately rewards students who have demonstrated academic excellence, personal character, and a commitment to learning and growth.

2 Status quo bias

Status quo bias is a cognitive bias that involves the preference for maintaining one's current situation and opposing actions that may change the state of affairs. The term was coined in 1988 by researchers William Samuelson and Richard Zeckhauser. They conducted decision-making experiments to show that when given the choice between the status quo and a new option, individuals were more likely to stick with what they already knew, also known as the default. When faced with a choice among different options, people tend to stick with the default [SW88]. The effect is driven by the even small cognitive costs involved in thinking about the choice and switching. Status quo bias is stronger when there are more choices available, or the choice is more complex.

An example of status quo bias would be of a company that has been using the same technology for many years. Even though new technology is available that could improve their operations and save them money, the company continues to use the old technology because it is familiar and comfortable. Employees are used to working with it, and it is seen as a reliable and established part of the company's identity. In this scenario, the company is exhibiting status quo bias by resisting change and sticking with the old technology, even though newer and better options are available.

In an effort to fully understand the status quo bias, several studies and experiments have been conducted, one of which dates back to 1988. Richard Zeckhauser and William Samuelson investigated the tendency for people to exhibit a bias in favor of the status quo in different decision-making contexts, through a series of experiments. The experiments were conducted in a questionnaire form consisting of a series of decision problems, each requiring a choice among a fixed number of alternatives. The experimental tests conducted used a questionnaire consisting of decision questions, where subjects, drawn from diverse economics classes were asked a range of scenarios in which they had to act as decision-makers to reveal a substantial status quo bias in important real decisions.

They were presented with a concise description of a decision facing an individual, a manager, or a governmental policymaker, followed by a set of alternative policies to choose from. The subjects were then asked to pick a portfolio to invest in from the four choices that were presented. Two questions were posed to the subjects, and one had a status quo, while the other did not. The study

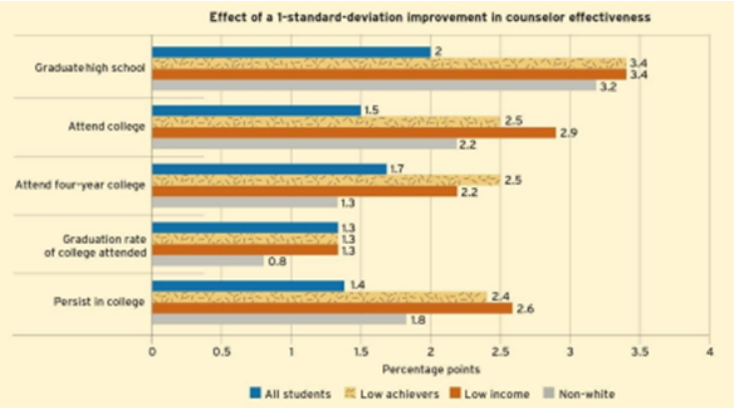
explored the phenomenon of status quo bias and its impact on decision-making. The authors concluded that people tend to favor the status quo, or the current state of affairs, over potential alternatives. This status quo bias can affect decision-making in a variety of contexts, from personal choices such as choosing or applying to university as demonstrated in the following section [SW88] .

2.1 Status Quo Bias and the university application process

Status quo bias plays an influential role when it comes to critical decision-making such as choosing and applying to university. Students from impoverished families often succumb to this bias because they will be bereft of someone who can guide them with the application and, in this context, the unavailability of counselors comes at a huge cost. As a result, they tend to stick with the default of not applying to top universities. When it comes to the United States university application process, guidance counselors play a vital role in ensuring that students have all the necessary wherewithal to guarantee success in post-secondary school. A study conducted in Massachusetts revealed that a minority student assigned to an effective counselor is 3.2 percentage points more likely to graduate high school and 2.2 percentage points more likely to attend college [CM20]. Counselors are influential in many ways, but two of the main roles they play are offering students the steps to apply and enroll in college and obtaining SAT fee waivers [CM20]. There is a growing understanding that broader socioeconomic and environmental factors, such as school atmosphere and the availability of peer, parental, and tutor support, influence motivation and academic achievement as much as, or more so than, individual-level elements like personality [Gro17].

If there are high school guidance counselors specifically earmarked for admission and guiding students with the application process, the default is that the students from poor backgrounds apply, but if there are no counselors tasked with doing that job, the default is that the students do not apply. Students from poor backgrounds may have similar exceptional students like them not applying to top universities, and as a result, without support from counselors and mentors, which can further limit their own chances of success, top students have an emotional tendency to remain in the status quo and not apply. A study by Avery and Hoxby revealed that the majority of low-income students with grade point averages of A- or above and who scored in the 90th percentile of college admission tests did not apply to any selective colleges at all. This mismatch of academic ability and college choice persists even though these students would often qualify for generous financial aid [Hox13] . Figure 1 represents the data showing how more effective counselors boost their student's success based on a case study from Massachusetts.

Figure 1: Effect of a 1-standard-deviation improvement in counselor effectiveness



Source: Data are from Massachusetts Department of Education, 2008-2017

2.2 Potential solution for Status Quo Bias

Solving the status quo dilemma will require an intricate approach to ensure that students from low socioeconomic backgrounds apply to top universities. To achieve this, revamping the system in which counselors conduct their tasks, may be a potential solution. In this case, this would require changing the default to make it opt-out instead of opting in. Based on the findings of Avery and Hoxby, students from poor backgrounds have a good track record when it comes to academic performance, with good grades accounting for 10 % of all students taking the ACT or SAT college entrance exams, or the top 4 % of all secondary school students in the United States. To this end, coming up with a pragmatic scheme that fosters affirmative action will ensure that more students who are underrepresented apply to top universities. To achieve this, the Department of Education in the United States should ensure that students whose ACT or SAT scores represent 10 % of the pass rate and are automatically considered or recommended for admission to top universities by the counselors based on that scheme. This will potentially boost the chances of such students to attend elite institutions, hence curtailing the inherent educational inequalities.

3 Representativeness Heuristic

Representativeness bias or heuristics occurs when people estimate the probability of an event based on how similar it is to a known situation, comparing it to a situation, prototype, or stereotype they already have in mind. The Representativeness heuristic was first discussed by Kahneman and Tversky in the early 1970's [Kah72], who discussed it as a heuristic according to which the subjective probability of an event, or a sample, is determined by the degree to which it is similar in essential characteristics to its parent population. An example of this is when we meet someone for the first time, and they are wearing glasses, have a book in their hand, and seem quiet and studious, we might assume that they

are a university student because their appearance and behavior fit our mental image of what a typical university student looks like. The judgment in this scenario is influenced by the stereotype of university students who are typically studious, albeit this assumption may not be accurate, and the person may not be a university student. By relying too heavily on the representativeness heuristic, we may miss important information or make incorrect assumptions about people or situations.

One of the famous experiments conducted to prove the representativeness heuristic was by Daniel Kahneman and Amos Tversky [Kah72]. The study explores how people make judgments about the likelihood of an event based on how representative it seems to them. Most of the data collected was done so in questionnaire form and the respondents or subjects were students in grades 10, 11, and 12 of college-preparatory high schools, whose ages ranged between 15-18. They were asked to estimate the probability of a particular event occurring. In one of the questions, respondents were presented with a scenario where there were two programs in a high school. Boys were a majority (65 %) in program A, and a minority (45 %) in program B. There was an equal number of classes in each of the two programs. The participants were therefore asked to give their best guess on whether the class belonged to program A or to program B when entering a class at random and observe that 55 % of the students are boys.

Since boys constituted the most students in the class, it was more representative of program A than of program B. Accordingly, 67 of 89 subjects guessed that the class belonged to program A [Kah72]. Based on the outcome of the experiments, Tversky and Kahneman concluded that people often rely on representativeness as a heuristic or mental shortcut when making judgments about probability, and these subjective probabilities play an important role in our lives. This means that people judge the likelihood of an event based on how well it fits their mental model or stereotype of that event. For example, people might judge that a person is more likely to be a librarian than a farmer if they fit the stereotype of a librarian more closely. In light of this, the representativeness heuristic causes subjective judgments of probability and sheds light on the cognitive biases that can lead to errors in judgment, such as choosing or applying to university.

3.1 Representativeness bias and the University application process

Representativeness bias can have an inalienable effect, leading students from poor backgrounds to undermine their potential and avoid applying to top universities. This bias can prevent students from impoverished backgrounds from applying to top universities by influencing how they perceive their chances and probability of being admitted to elite universities. It occurs when students use stereotypes to make judgments about individuals or groups, based on limited information about the admissions process. In this case, students from poor backgrounds succumb to representativeness bias which may lead them to believe that they are not good enough or do not fit the typical profile of a successful can-

didate for a top university. A student from a low-income family who attends a low-performing high school may assume that they do not have the same chances of being admitted to a top university as a student from an affluent family who attends a prestigious private school.

This assumption is based on a stereotype about the students who typically attend top universities, rather than an objective assessment of their abilities and potential. The majority of students attending top universities are from different high socio-economic backgrounds and this is due to the similarity between races and classes with regard to transition into higher education [Che17]. According to the annual report issued by The National Center for Educational Statistics (NCES), it was estimated that in 2006, 55.5 % of black students and 68.5 % of white students attended college immediately after high school. Regarding social class, in 2006, low-socioeconomic status students were 30 % less likely to attend college than their high-socioeconomic status peers [fES06]. Based on the information provided, the baseline probability of impoverished students applying to top universities is lower because they compare themselves to students who are in a different percentile.

3.2 Potential solution for Representativeness Heuristic

In the context of representativeness heuristics, providing students with information and knowledge that helps them challenge the stereotypes and assumptions that may discourage them from pursuing their goals, might be a feasible solution. This will require emphasizing the importance of diversity and inclusivity in higher education, to help them shift from underestimating the probability of being accepted to top universities. This can involve showcasing success stories of students from underrepresented backgrounds who have succeeded in top universities and emphasizing the positive impact of diversity on campus. Despite the fact that students from affluent families make up the majority of students at some top universities, the success stories will potentially nudge the underrepresented students to apply more to top universities.

4 Conformity Bias

Conformity bias can be defined as the tendency to go along with group norms and follow them passively, thereby displaying a lack of agency. The bias occurs when people adjust their behavior or beliefs to fit in with a group, even if it goes against their own preferences or values. And when examining the individual, they are bound to ask themselves the question "Should I follow the group or the minority?" or in other words they are faced with the alternative of conformity or deviance [Mos69]. An example of conformity bias in our lives would be when a group of colleagues is discussing a new project proposal, and most of the group expresses support for the proposal. Even if one or more colleagues have reservations or concerns about the proposal, they may be hesitant to voice their opinions and instead go along with the group to avoid conflict or being seen

as outsiders. In this scenario, the individuals who conform may be missing out on the opportunity to raise valid concerns or propose alternative solutions that could improve the project. The group may also suffer from groupthink, where the desire for harmony or conformity overrides critical thinking and independent judgment.

One of the most notable experiments conducted to prove conformity bias was by Moscovici, Lage and Naffrechoux in the late 1960s [Mos69]. The study, known as the "Blue Green Study," is a classic study in social psychology that was conducted to discover the influence of a consistent minority. It examined how a consistent minority can influence the beliefs and behaviors of a majority group and concerned social pressure exercised by a minority, and attempted at the same time to prove that behavioral style is a general source of influence. In this study, participants who were drawn from liberal arts, law, and social science fields, were shown a series of slides that were varying shades of blue and were asked to identify the color. Preference was given to female subjects because of their greater involvement in evaluating the color of an object. However, before the task, the participants were informed that there was a minority group of people who consistently identified the slides as green. The minority group was consistent in their beliefs, meaning that they always identified the slides as green, even when they were clearly blue.

The study found that the consistent minority was able to influence the beliefs and behaviors of the majority group. Specifically, a significant number of participants began to identify some of the blue slides as green after hearing the minority group's consistent responses. Responses that expressed the influence of minority in the experimental groups, the green responses, constituted 8.42 % of the answers of the 128 naive subjects in the two first experiments. The study also demonstrated the power of a consistent minority in influencing the beliefs and behaviors of a majority group. The experimenters concluded that even a small group of people who are consistent in their beliefs and actions can have a significant impact on the attitudes and behaviors of others, hence conformity bias was in effect. Figure 2 represents a shift in the threshold for perception of the Green Color in the Blue-Green Study.

Shift in the Threshold for Perception of the Color Green

	Control Group		Experimental Group			
Threshold	Mean	SD	Mean	SD	t	P (one-tailed level)
50	47.39	1.21	48.03	1.38	1.78	.038
75	46.16	1.42	46.85	1.54	1.68	.047
25	48.41	1.14	49.19	1.28	2.33	.01

Figure 1: Figure 2: Source: Moscovici et al., 1969

4.1 Conformity Bias and the University Application process

The role of conformity bias when it comes to university application should not be underestimated. Students from low-income backgrounds often do not apply to top universities owing to social pressure as they may face pressure from their families or peers to stay within their community and not venture outside of their familiar social circles. This pressure can make them feel like they should conform to their environment rather than pursue opportunities that may be outside of their current experience. As denoted from the Blue Green Study, [Mos69], families and peers have a significant impact on the behaviors of students in their quest to attend elite universities. In his book, Collective Illusions: Conformity, Complicity, and the Science of Why We Make Bad Decisions, Todd Rose addresses what he calls the copycat trap, a costly phenomenon that nudges people to conform to societal norms and this can lead to bad decision making.

Students from low-income families relent to social pressure due to this copycat trap by deferring to others because they don't believe that they have enough solid information of their own or they don't trust their judgment, and hence they do not apply to these prestigious universities. Furthermore, conformity bias can prevent students from poor backgrounds from applying to top universities by reinforcing the perception that they do not belong in those environments. Some students from poor backgrounds may not see themselves as fitting into the culture of top universities, which can be seen as exclusionary. This perception can prevent them from applying or pursuing opportunities that may be outside of their comfort zone. [Ros22] argues that as human beings we have a profound fear of social embarrassment that makes us reluctant to speak up, and because of this, students from low-income backgrounds end up giving up their knowledge in favor of what they observe others doing by perceiving that they do not fit into a different environment.

4.2 Potential Solution for Conformity Bias

Solving conformity bias is a complex issue just like any other heuristic. It is imperative to encourage peer support to help students from poor backgrounds apply to top universities in the The US. This entails encouraging students to connect with peers who have successfully applied to top universities or who are currently enrolled in them. This can potentially help reduce the sense of isolation and increase their confidence in their own abilities. In addition, taking a similar route in solving representativeness bias, could potentially be useful. As highlighted, conformity bias prevents students from low-income families from applying to top universities by reinforcing the perception that they do not fit in the cultures of top universities. To achieve this, highlighting success stories of successful students from similar backgrounds who have gained admission to top universities can potentially help to counteract the perception and dispel the narrative that these institutions are only for the wealthy and privileged. With that in mind, students will be motivated to apply, hence increasing the number

of students from impoverished backgrounds who apply to top universities.

5 Conclusion

Despite the availability of several financial grants and scholarship opportunities, students from underprivileged backgrounds often do not apply to top universities, despite having exceptional grades. The research was able to investigate the reasons that cause students to not apply through the scope of biases and heuristics. Status quo bias, representativeness heuristic, and conformity bias are three influential biases that have a negative bearing on the future goals of students. Students from low-income backgrounds are susceptible to these biases, which hinder them from applying to colleges in the US. Potential solutions to these biases require a multifaceted approach, which includes but is not limited to creating a scheme that automatically considers top students for admission based on their grades to achieve affirmative action. Going forward, future research could be limited due to time constraints. Limited time may prevent the collection of sufficient data or conducting a more thorough analysis.

6 Acknowledgements

I wish to express my sincere gratitude to Dr. Edoardo Gallo for his invaluable guidance and support throughout the research paper process. His expertise, insightful feedback, and unwavering dedication were instrumental in shaping the outcome of this project.

I am also sincerely grateful to Dr. Cassese for the time and effort he invested in providing constructive criticism and encouragement, which undoubtedly contributed to the quality and depth of the research paper.

References

[Che17] Friedman N J. Saez E. Turner N. Yagan D. Chetty, R. Mobility report cards: The role of colleges in intergenerational mobility. *NBER Working Paper Series 23618. http://www.nber.org/papers/w23618*, 2017.

[Cla22] C. Claybourn. Choosing a major in college: What to know. command education. *Retrieved May 5, 2023, https://www.commandeducation.com/press/choosing-a-major-in-college-what-to-know/*, 2022.

[CM20] Education Next. Christine Mulhern. Better school counsellors, better outcomes. *Vol.20, No. 3. Retrieved May 5, 2023, from https://www.educationnext.org/better-schoolcounselors-better-outcomes-quality varies-can-matter-as-much-as-w*, 2020.

[fES06] National Center for Education Statistics. The condition of education 2006. u.s. department of education 2006-071. 2006.

[Gro17] Sanders M. Rogers T. Groot, B. I get by with a little help from my friends: Two field experiments on social support and attendance in further education colleges in the uk. *The Behavioural Insights Team*, 2017.

[Hox13] Avery C. Hoxby, C. The missing "one-offs": The hidden supply of high achieving, low-income students. *Brookings Papers on Economic Activity, Spring 2013.*, 2013.

[Kah72] Tversky A. Kahneman, D. Subjective probability: A judgment of representativeness. *COGNITIVE PSYCHOLOGY 3, 430-454*, 1972.

[MM19] Colorado Minds Matter. One reason lower income students don't attend college (and what to do about it). *Retrieved May 5, 2023, from https://www.mindsmatterco.org/one-reason-lower-income-students-dont-attend college-and-what-to-do-about-it/*, Y2019.

[Mos69] Lage E. Naffrechoux M. Moscovici, S. Influence of a consistent minority on the responses of a majority in a colour perception task. *Sociometry, Vol. 32, No. 4, pp. 365-380*, 1969.

[Ros22] T. Ross. Collective illusions: Conformity, complicity, and the science of why we make bad decisions. *New York: Hachette Books.*, 2022.

[SW88] Zeckhauser R. Samuelson W. Status quo bias in decision making. *J Risk Uncertain 1:7–59*, 1988.

[Tem09] L. Temple, S. Factors that influence students' desires to attend higher education. *Seton Hall University Dissertations and Theses (ETDs). 420*, 2009.

[Tha15] R. H. Thaler. W w norton co. misbehaving. *The making of behavioural economics.*, 2015.