

Research summary: trends and disparities in extracurricular activity reporting

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Authors

Data Analytics and Research

Brian Heseung Kim*
Mark Freeman
Trent Kajikawa
Honeiah Karimi
Preston Magouirk

*corresponding author

Original Study Authors

Julie J. Park
Brian Heseung Kim
Nancy Wong
Jia Zheng
Stephanie Breen
Pearl Lo
Dominique Baker
Kelly Rosinger
Mike Hoa Nguyen
OiYan Poon

Press inquiries

Emma Steele
esteele@commonapp.org

Introduction

Each year, hundreds of thousands of students use the Common App to apply to colleges and universities across the United States. While they can describe and distinguish themselves in a variety of ways on the application, extracurricular activities are a particularly salient option for applicants to showcase their talents, passions, and individual accomplishments.

Even so, we currently know little about the landscape of extracurricular participation among our applicants, to include insight into **how** applicants describe their extracurricular involvement – what kinds of accolades do they describe? And what types of leadership positions do they report?

These questions are of particular importance to explore through a lens of equity as **(a)** many institutions remain test-optional and are poised to shift that focus to other components of the application, and **(b)** the existence of well-documented financial, cultural, and logistical barriers across many extracurriculars (e.g., cost of equipment, lessons, travel, etc.). To what extent might consideration of extracurriculars advantage some demographic groups over others?

In this brief, we summarize [the findings](#) of an academic research collaboration between scholars at University of Maryland,

College Park (led by Julie J. Park) and Common App (led by Brian Heseung Kim), supported by the Bill and Melinda Gates Foundation, to dive deeper into the millions of activity descriptions reported through the Common App each year.

Using sophisticated text analysis techniques, we were able to examine not only the number and types of activities reported by applicants (e.g., athletics versus service), but also whether applicants mention distinctive leadership positions or awards/accomplishments for their activities – details often valued highly by admissions committees. After analyzing over 6 million activity descriptions from approximately 860,000 applicants in the 2018–19 and 2019–20 application seasons, we then examined the extent of disparities in activity counts, top-level leadership positions, and excellence awards and accomplishments across racial/ethnic and socioeconomic groups.

We find large and meaningful differences across racial/ethnic and socioeconomic groups in all of these measures, concentrated most notably in athletics, academic, service, and arts activities. Our results suggest that applicants across groups are similarly **likely** to report a leadership position or excellence award if participating in a given activity, but that higher-SES, White, and Asian applicants tend to report greater **numbers** of activities.

Our analysis points to the importance of considering individual applicants' contexts when reviewing their extracurricular activities, as these activities seem to be shaped through a combination of factors like individual financial and logistical resources, school circumstances, and broader college preparedness trajectories. It also suggests that finding ways to focus on the **quality** of applicants' extracurricular engagement, rather than **quantity** (e.g., reducing the number of activities applicants can list), could serve to reduce the impact of any such disparities in the evaluation of applications.

We present this brief as a high-level and non-technical summary of our academic research paper, both to better facilitate the accessibility of these important insights to our constituents, and also hopefully to spark valuable conversation about ways we can continue to support equitable college admissions going forward. That said, greater detail and discussion for all of the results mentioned here can be found in the [full research paper draft available to the public](#).

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Key findings

1. **There were stark and substantial differences in the total number of activities applicants reported across nearly every measure of race and SES.** For example, White applicants reported an average of 46.5% more activities than Black applicants (7.43 versus 5.07), non-URM applicants reported an average of 30.3% more than URM¹ applicants (7.43 versus 5.7), continuing-generation applicants reported an average of 36.9% more than first-generation applicants (7.45 versus 5.44), and fee waiver non-recipients reported an average of 35.4% more activities than fee waiver recipients (7.46 versus 5.51).
2. **The majority of demographic differences in the overall number of activities applicants reported are due specifically to differences in Athletics, Academic, Arts, and Service activities.** Conversely, differences are less pronounced for Culture/Identity, School Government/Spirit, and Other activities.
3. **We see similar, if not larger, demographic differences in the number of activities applicants reported with top-level leadership positions or excellence awards.** For example, White applicants report 62% more activities with top-level leadership positions than Black applicants, and continuing-gen applicants report 61% more leadership positions than first-gen applicants. Similarly, fee waiver non-recipients report 69% more activities with excellence awards than recipients, and non-URM applicants report 52% more than URM applicants.
4. We find that these disparities in leadership and excellence are largely the result of differences in the raw number of activities applicants engage in, as **applicants are almost equally likely to demonstrate leadership or excellence regardless of demographic when they do report participation.**
5. We offer suggestive evidence showing that **these disparities in extracurricular reporting are not likely the result of a singular root cause, but rather reflect an accumulation of multiple exacerbating factors combined:** differences in closely related applicant demographics (e.g., socioeconomics in the case of racial/ethnic disparities, and race/ethnicity in the case of socioeconomic disparities), differences in the sorts of high schools that applicants attend, and differences in competitiveness as measured through standardized tests.
6. **Such insights should motivate careful contextualization of applicants' extracurriculars given their individual backgrounds and circumstances.** This might entail offering additional training for admissions staff to understand how inequality and opportunity shapes extracurricular engagement, specifically, or the development of adjustments to the application that support a focus on the quality of activities, rather than quantity.

¹ We use the term underrepresented minority (URM) in alignment with conventions employed by the National Science Foundation. In this report, applicants identifying as Black or African American, Latinx, Native American or Alaska Native, or Native Hawaiian or Other Pacific Islander are classified as URM applicants.

Study sample and approach

Because our team was focused on understanding extracurriculars in the context of selective college admissions, and because we were interested in the most recent data available unaffected by the COVID-19 pandemic, we examined data from applicants who applied to at least one selective institution (40% admit rate or lower per publicly available IPEDS data from 2018–19) via the Common App in the 2018–19 and 2019–20 seasons.² We moreover exclude international applicants from the sample, given meaningfully different extracurricular contexts and circumstances when compared with domestic applicants. These study parameters result in the examination of a total of 860,003 applicants (41% of all applicants in this time period) submitting nearly 6 million activity descriptions.³ More details about the demographic and academic characteristics of this sample can be found in Appendix Table A1.

In order to analyze the open-response text data of applicants' activity descriptions at this scale, we employed a sophisticated text analysis approach combining manually defined keyword "dictionaries" for top-level leadership positions⁴ and exceptional awards/accomplishments ("excellence")⁵ with an automated text analysis algorithm that scans for these keywords in context (i.e., properly distinguishing phrases like "I was team captain" from "I assisted the team captain," and "president" from "vice president").

Our research team iteratively and collaboratively developed these dictionaries after referencing actual college admissions scoring rubrics from a variety of institutions, prior research on selective admissions practices (to include interview data with admissions officials), independent investigation into a variety of common activity awards and organizational structures (e.g., JROTC), and examples of actual applicant activity descriptions. Examples of the keywords we searched for to identify top-level leadership and excellence awards can be seen in Table 2 alongside examples of excluded phrases in context; complete dictionary lists can be found in the full paper.

² While the 2019–2020 application cycle was partially affected by the onset of the COVID-19 pandemic, the overwhelming majority of our sample applicants from this season (>99%) had already submitted their application prior to February of 2020 – well before most U.S. communities began any semblance of pandemic response. Moreover, the vast majority of extracurricular involvement that students reported on would have already taken place in the unaffected years prior.

³ Note that in the activity entry interface, applicants can submit up to 10 activities total.

⁴ We define top-level leadership as holding a position or title corresponding to the *highest level of leadership or responsibility* for a given activity.

⁵ We define excellence as holding any position/title or receiving any award/honor/distinction indicating a *noteworthy level of skill or accomplishment* for a given activity.

Table 1. Examples of dictionary keywords and excluded phrases

Activity Characteristic	Keyword Examples	Excluded Phrase Examples
Top-level leadership	captain, president, founder, ceo, chairwoman, editor-in-chief, secretary general	assisted the captain, interned for the founder, supported the chairwoman, help the editor-in-chief, shadow the secretary general
Excellence	most valuable player, mvp, prize, 1st place, junior Olympic, champs, all american	gave prize, all american steakhouse, champs sports, junior Olympic volunteer

With this approach, we were able to characterize every one of the 6 million activity descriptions submitted by applicants for the incidence of top-level leadership positions and excellence awards, nearly instantaneously. When we compared this algorithmic assessment of activity descriptions against the assessments from a team of trained human readers to measure its accuracy and reliability, we found that the algorithm attained the highest levels of agreement possible with human readers, with no evidence that inaccuracies in the algorithm affected specific groups of students more than others.⁶ Thus, while this automated approach is imperfect and cannot account for all the possible nuances in applicants' activity descriptions, we can nonetheless have high confidence in our ability to detect meaningful patterns and signal in these data.

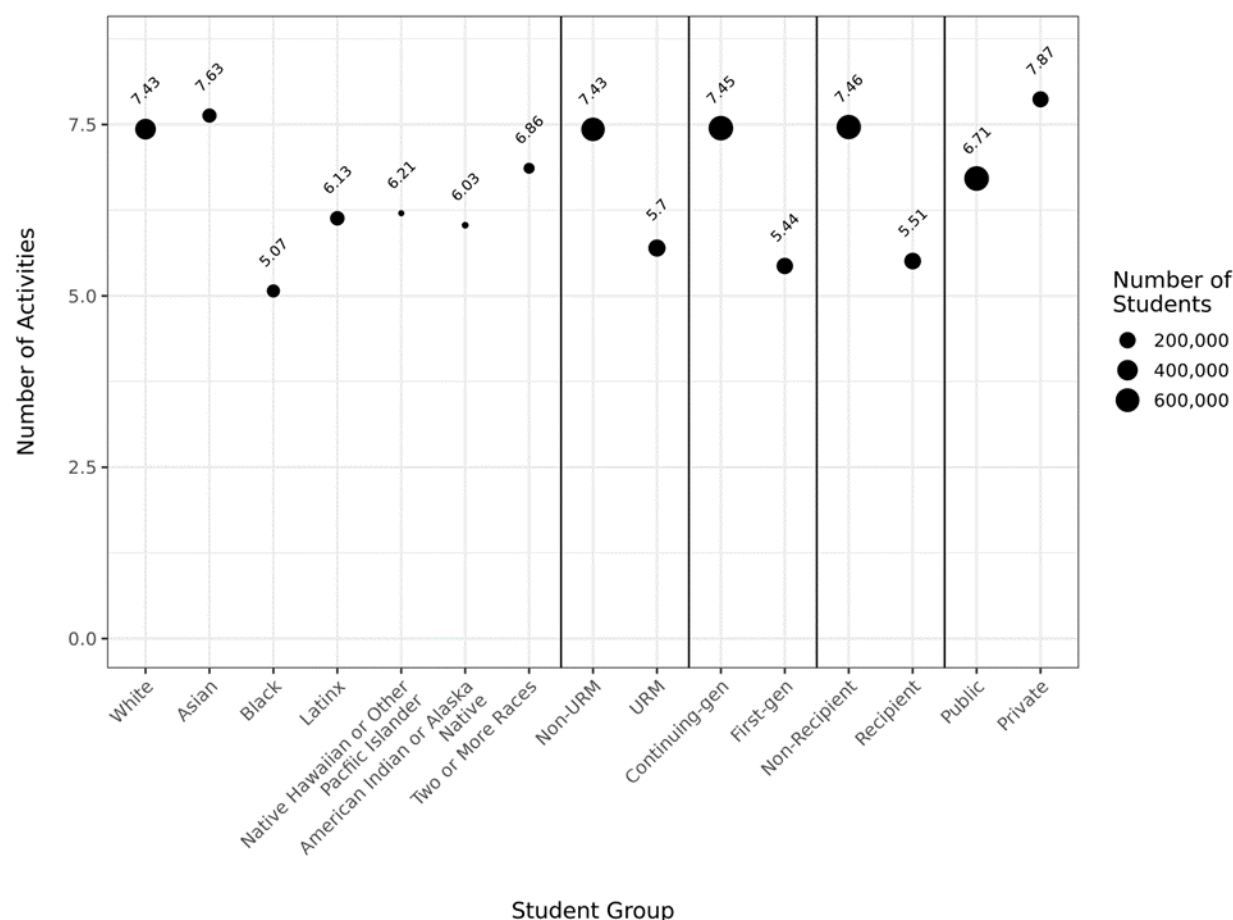
Trends and disparities in the number of activities reported by applicants

We first examined trends in the overall quantity of activities that applicants reported in their applications. In other words, we ask: Is it the case that some groups of applicants systematically report involvement in greater numbers of activities than others? We find that this is the case along every dimension of interest we examined: race/ethnicity, first-generation status, fee waiver eligibility (a proxy for low-income status), and public/private school attendance. Figure 1 displays our findings, where each point represents the average number of activities reported for a given demographic group (e.g., White applicants, Asian applicants, Black applicants, first-gen applicants, etc.), with the points sized according to the number of applicants in that group. Importantly, note that averages for these groups are not mutually exclusive (e.g., applicants who identify as URM *and* first-gen are counted in *both* the URM and first-gen averages displayed here). For convenience, data in this and all following figures can be accessed in table format (csv) [here](#) (password: 8qmPZ9er).

⁶ Some activity descriptions written by applicants are ambiguous, and even human readers can disagree in their interpretations. Thus, there is not always a "ground truth" correct answer for the algorithm to agree with; instead, we attempt to show that the algorithm agreed with the human readers as often as the human readers agreed with each other as a more realistic benchmark for performance. We also show that this level of agreement holds across all applicant demographic groups, e.g., the algorithm is no more or less accurate at detecting top-level leadership positions for Black applicants than White applicants.

Figure 1. Average number of activities reported by key applicant demographics

Among domestic applicants to selective institutions in the 2018–19 and 2019–20 seasons



Stark and substantial differences exist across nearly every measure of race and SES when examined this way. For example, White applicants reported an average of 46.5% more activities than Black applicants (7.43 versus 5.07), non-URM applicants reported an average of 30.3% more than URM applicants (7.43 versus 5.7), continuing-generation applicants reported an average of 36.9% more than first-generation applicants (7.45 versus 5.44), and fee waiver non-recipients reported an average of 35.4% more activities than fee waiver recipients (7.46 versus 5.51). Similarly, private school students listed an average of 17.3% more activities than public school students (7.87 versus 6.71).

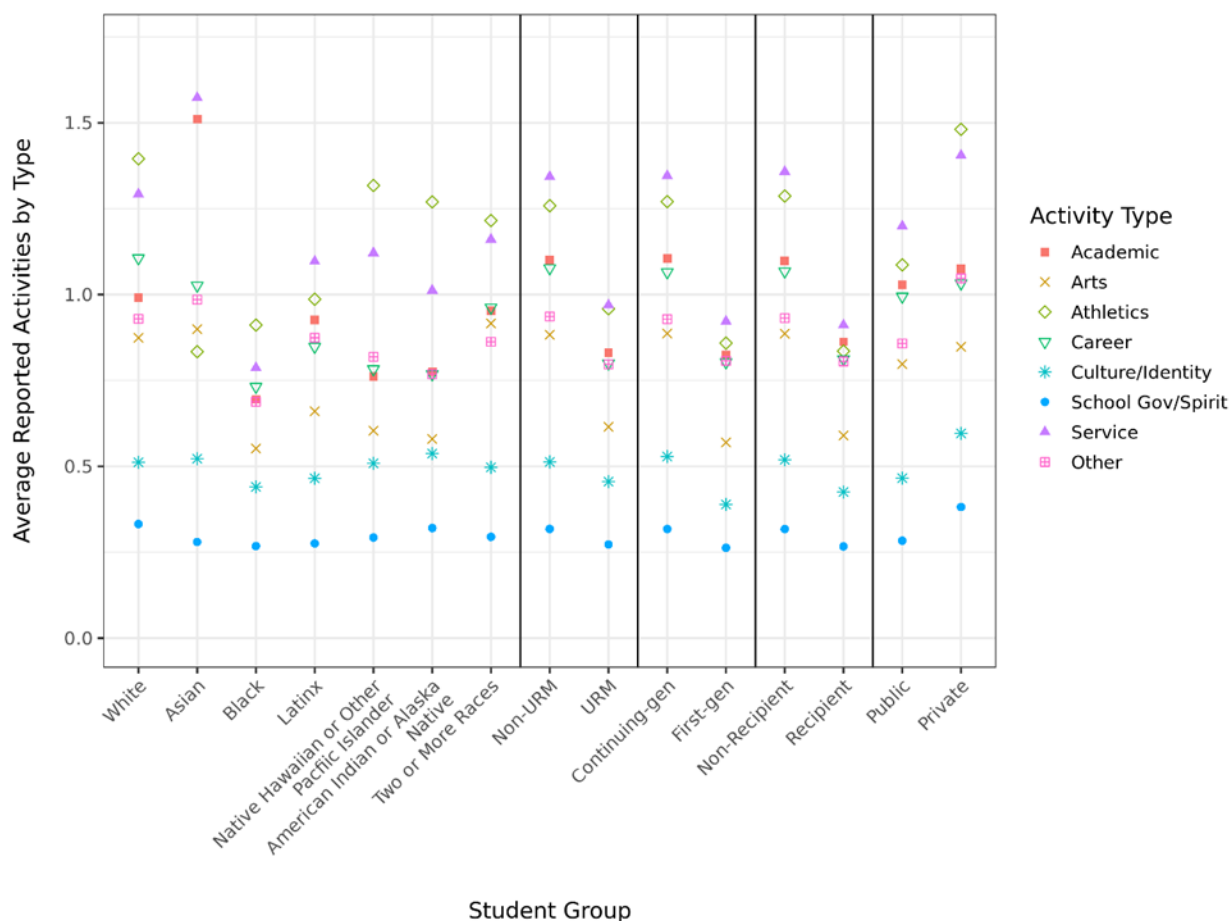
We then break out these numbers by activity type⁷ in Figure 2. This plot reveals that the majority of differences we saw in the overall number of activities reported are due to differences in Athletics, Academic, Arts, and Service activities, more specifically. Conversely, differences are less pronounced for Culture/Identity, School Government/Spirit, and Other activities. These

⁷ While applicants can select from 30 activity types, we combine these options down to 8 broader categories for ease of interpretation. For example, we combine the options of “Athletics: Club” and “Athletics: JV/Varsity” into “Athletics,” and the options of “Internship,” “JROTC,” “Work (Paid),” and “Career Oriented” into “Career.”

trends may make intuitive sense to many; for example Athletics and Arts activities often pose significant financial barriers (e.g., equipment, lessons, transportation to events, etc.), and Academic activities likely mirror pre-existing and well-studied differences in academic opportunities and preparation across demographic groups. Similarly, applicants coming from lower-socioeconomic contexts may be less inclined to think of engagement in their own communities as service per se (e.g., versus distance service trips) or may simply have less flexibility to participate in the face of other familial and financial responsibilities.

Figure 2. Average number of activities reported for each activity type by key applicant demographics

Among domestic applicants to selective institutions in the 2018–19 and 2019–20 seasons



Trends and disparities in top-level leadership positions and excellence

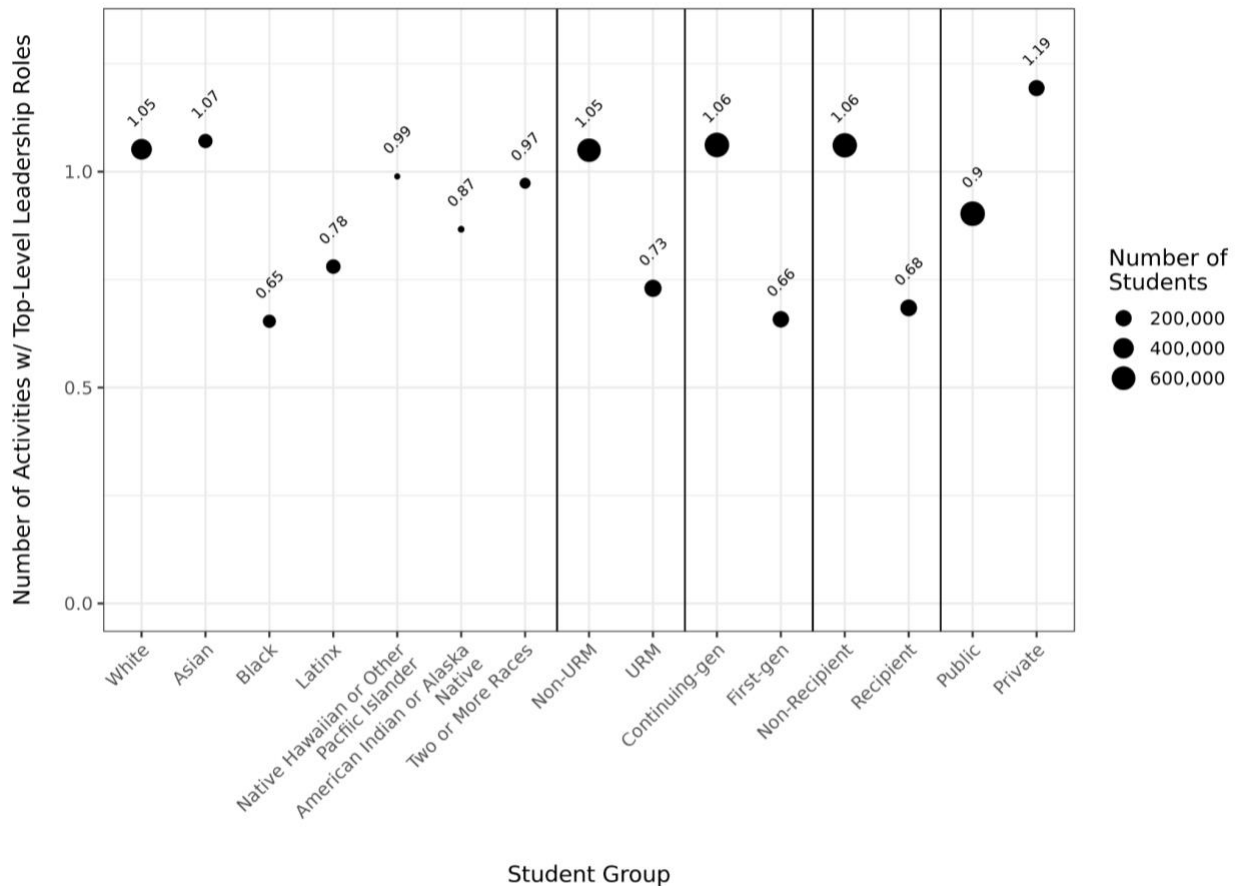
Looking past the straightforward counts of reported activities, we see similar trends when we examine either the number of activities applicants reported with top-level leadership positions (Figure 3) or the number of activities applicants reported with excellence awards (Figure 4). Indeed, the relative magnitude of these disparities are often **larger** (on a percentage difference basis) than what we observed for the overall number of activities. For example, White applicants report 62% more activities with top-level leadership positions than Black applicants, and continuing-gen applicants report 61% more than first-gen applicants.

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Figure 3. Average number of activities reported with top-level leadership positions by key applicant demographics

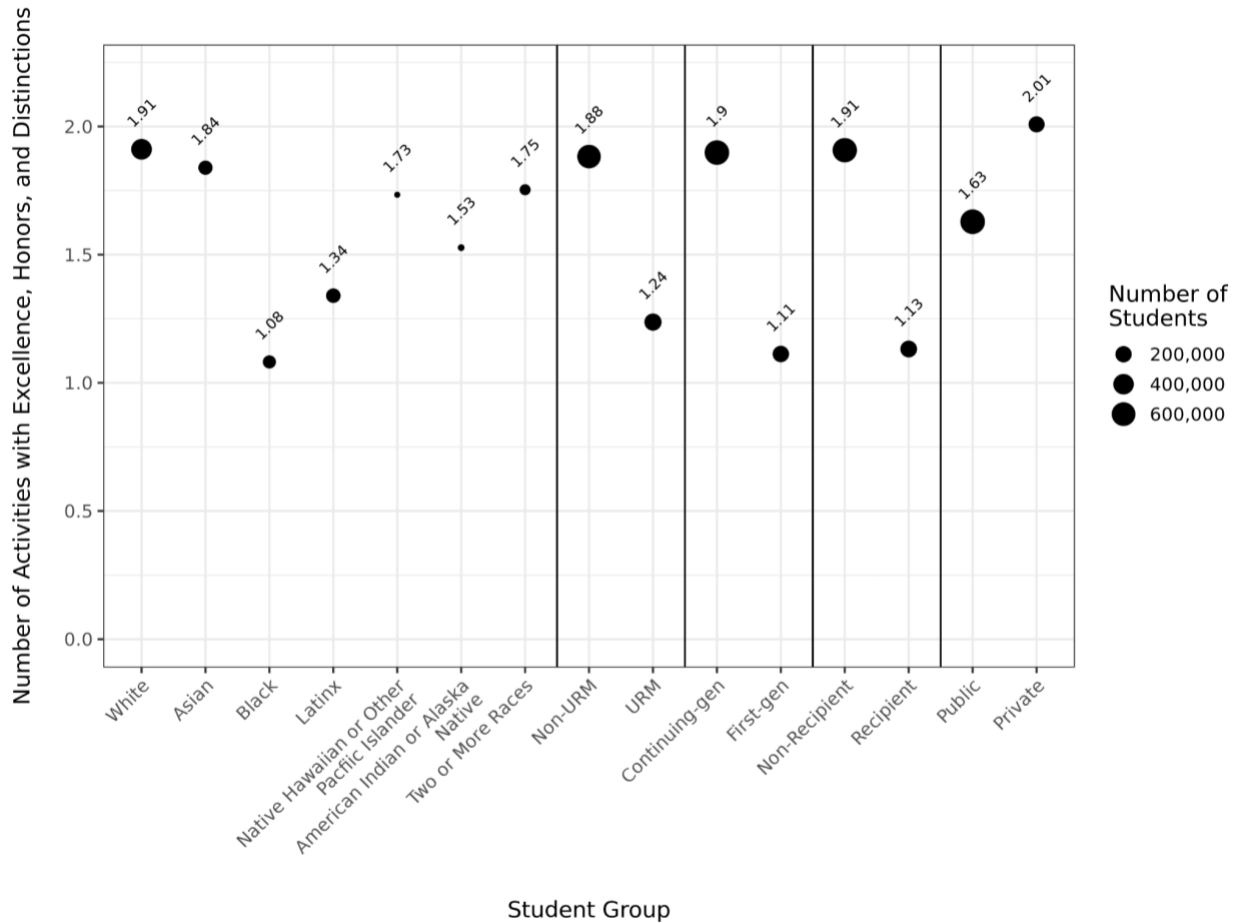
Among domestic applicants to selective institutions in the 2018–19 and 2019–20 seasons



Likewise, as shown in Figure 4, fee waiver non-recipients report 69% more activities with excellence than recipients, and non-URM applicants report 52% more than URM applicants. That said, readers may notice the extremely close visual similarities in Figures 3 and 4 and Figure 1, raising an important question: are we finding that certain groups of applicants report more activities with top-level leadership and/or excellence simply because they report more activities in general? Or are they actually *more likely* to report a top-level leadership position (or excellence) for any given activity?

Figure 4. Average number of activities reported with excellence awards/accomplishments by key applicant demographics

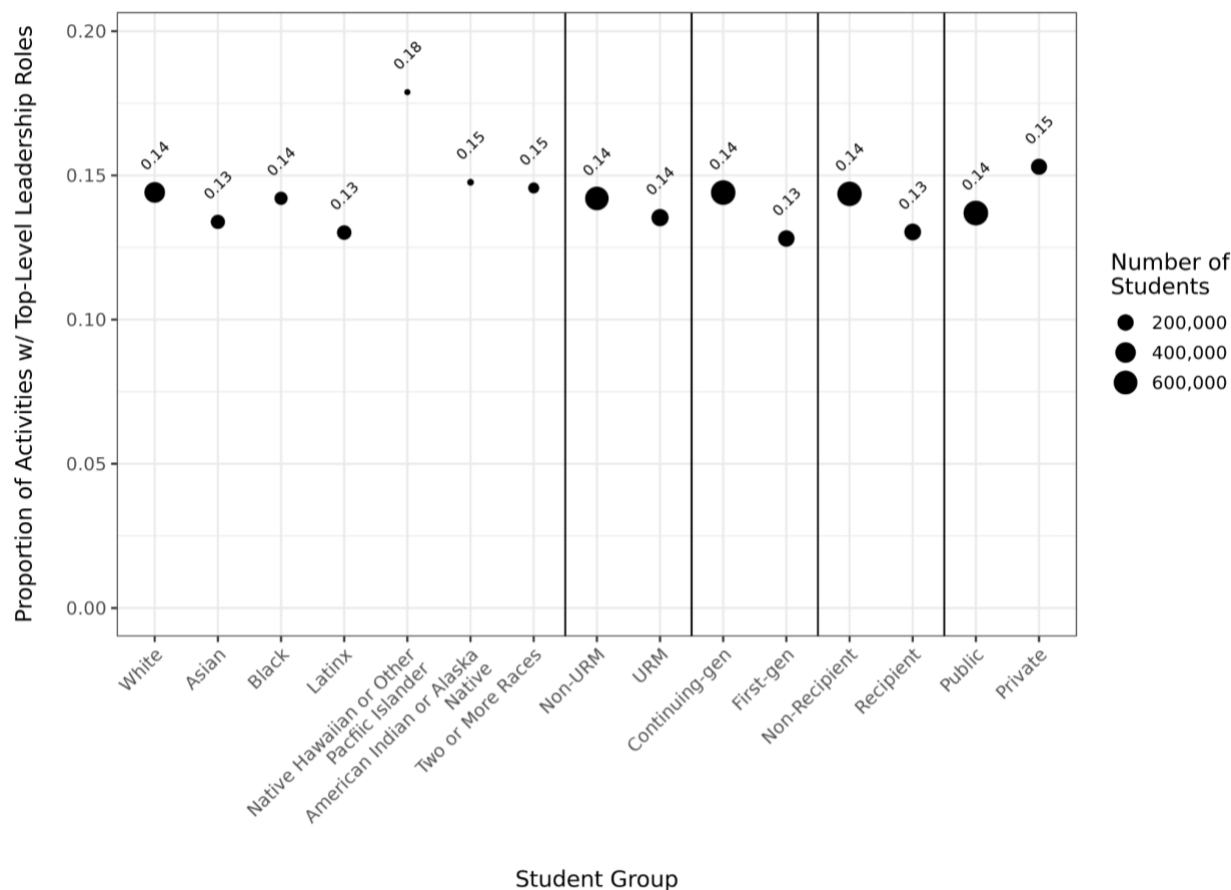
Among domestic applicants to selective institutions in the 2018–19 and 2019–20 seasons



We get at this question by calculating the **proportion** of activities that applicants report with top-level leadership or excellence, which we can also interpret as the likelihood that an applicant reports top-level leadership or excellence for any given activity. Figures 5 and 6 show differences across groups – but as the figures reveal, they are **drastically** reduced in magnitude when examined in this way.

Figure 5. Average proportion of activities reported with top-level leadership positions by key applicant demographics

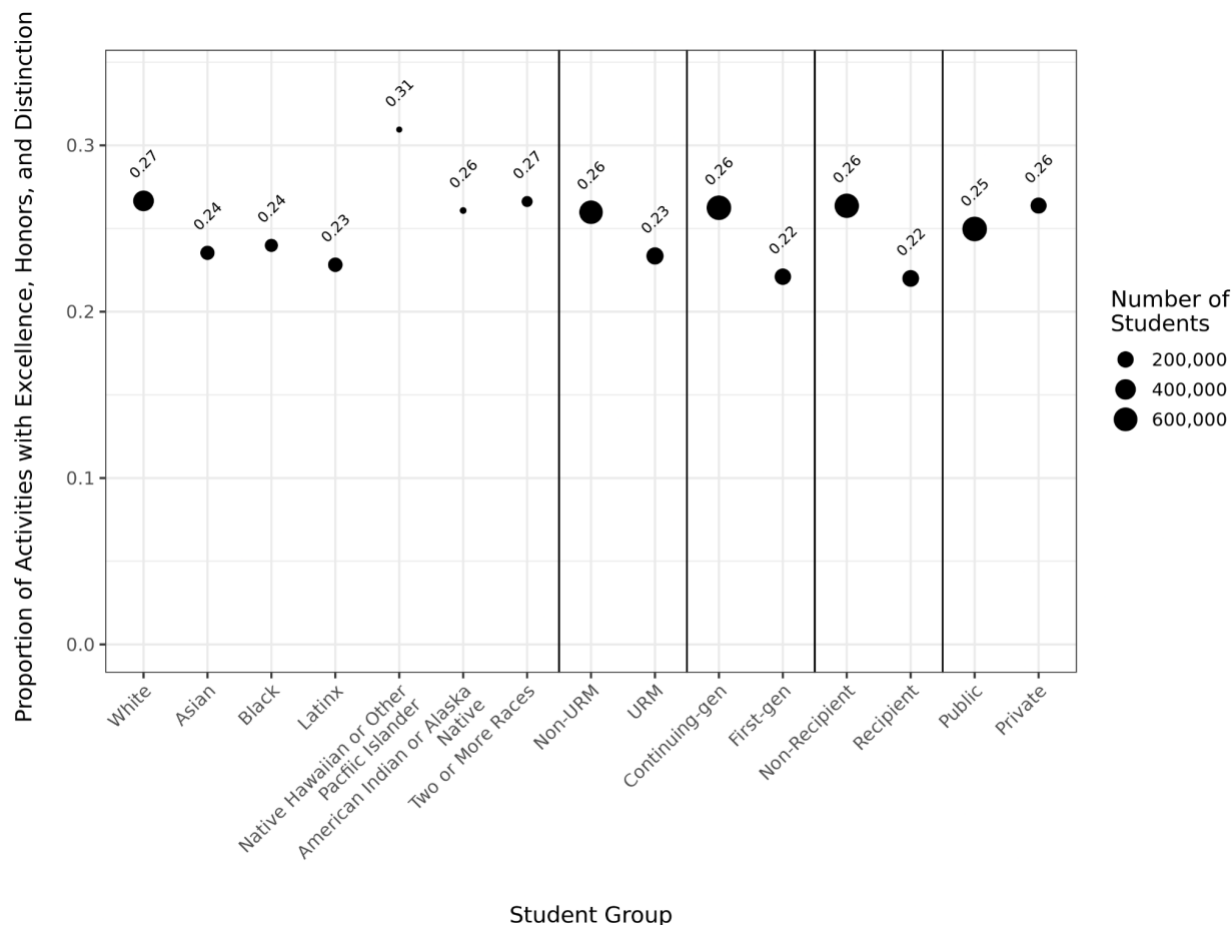
Among domestic applicants to selective institutions in the 2018–19 and 2019–20 seasons



What this tells us is that applicants are almost equally likely to demonstrate leadership or excellence regardless of demographic **assuming** they report a given activity, but White and Asian and higher-SES groups tend to have more **opportunities** for extracurricular involvement, resulting in higher numbers of leadership positions and excellence awards/accomplishments reported overall.

Figure 6. Average proportion of activities reported with excellence awards/accomplishments by key applicant demographics

Among domestic applicants to selective institutions in the 2018–19 and 2019–20 seasons



What can we say about the causes of these disparities?

These findings, together, lead us to a critical question: if applicants are generally equally **likely** to demonstrate leadership or excellence for a given activity, what seems to drive disparities in the **number** of activities applicants are involved in? This question is especially pressing if it is the case that admissions counselors generally prefer applicants with larger portfolios of distinctive extracurricular participation in their applications.

We use a variety of statistical techniques and approaches in [our full paper](#) to begin exploring this question; though we are unable to provide definitive answers from the data we have, we can offer suggestive evidence to point to a handful of more likely explanations. For concision and accessibility here, we only summarize the intuition of our statistical techniques and provide illustrative examples of our findings. Greater detail can be found in the paper itself.

To start with some intuition, the results reported above look at trends in activity reporting by demographic groups in isolation from one another (e.g., the number of activities reported by all

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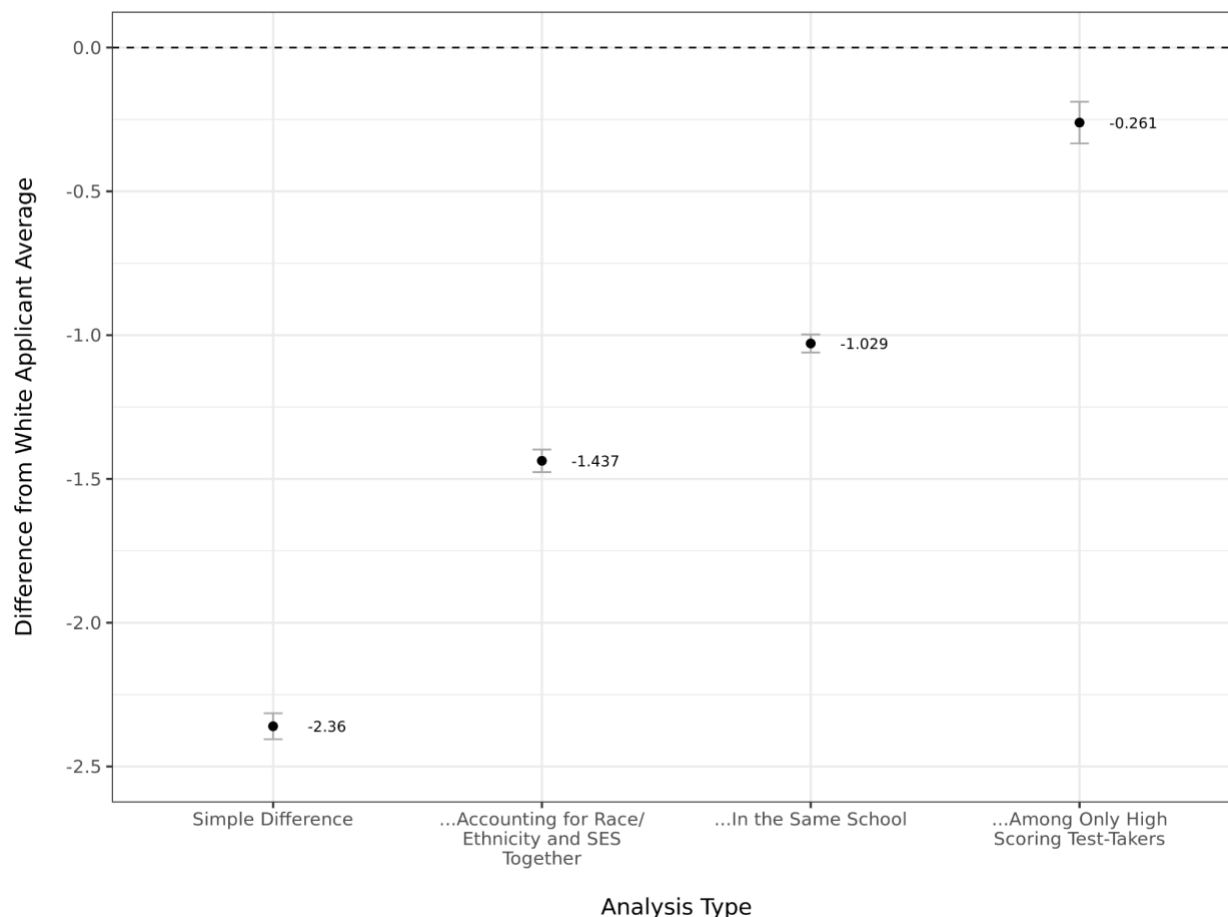
first-gen applicants compared with those reported by all continuing-gen applicants), which is clear and straightforward from an interpretation perspective. However, this simplicity also comes with shortcomings that make it difficult to know what is **really** driving the disparities we observe. For example:

- What if the racial/ethnic differences we observe are really the result of socioeconomic differences between these racial/ethnic groups, or vice versa?
- What if various high schools just offer really different opportunities for activities, and the various racial/ethnic or socioeconomic differences we observe across applicant groups is then really just the result of them generally attending different schools?
- What if the racial/ethnic or socioeconomic differences we observe are really the result of average differences in applicants' college readiness/competitiveness, and applicants who are equally competitive otherwise actually participate in activities at the same rates regardless of demographics?

As one example, Figure 7 displays the results of our attempts to progressively address each of the above concerns with respect to the number of activities Black and White applicants report. Beginning on the far left with the same basic style of analysis that we displayed in Figure 1 (a simple difference in averages), we see the difference between Black and White applicants starts at -2.360 activities as a baseline. When we additionally account for applicant race/ethnicity **and** socioeconomic characteristics together, we see that the difference among Black and White applicants with similar socioeconomic characteristics reduces down to -1.437 activities. When we compare Black and White applicants with similar socioeconomic characteristics **from the same high schools**, we see that the average difference is reduced to -1.029. And finally, when we compare Black and White applicants with similar socioeconomic characteristics, from the same high school, and with exceptional reported standardized test scores (95th percentile and above for SAT or ACT), this difference drops to a difference of just -0.261 activities.

Figure 7. Estimated differences in the average number of activities reported by Black and White applicants after accounting for additional factors

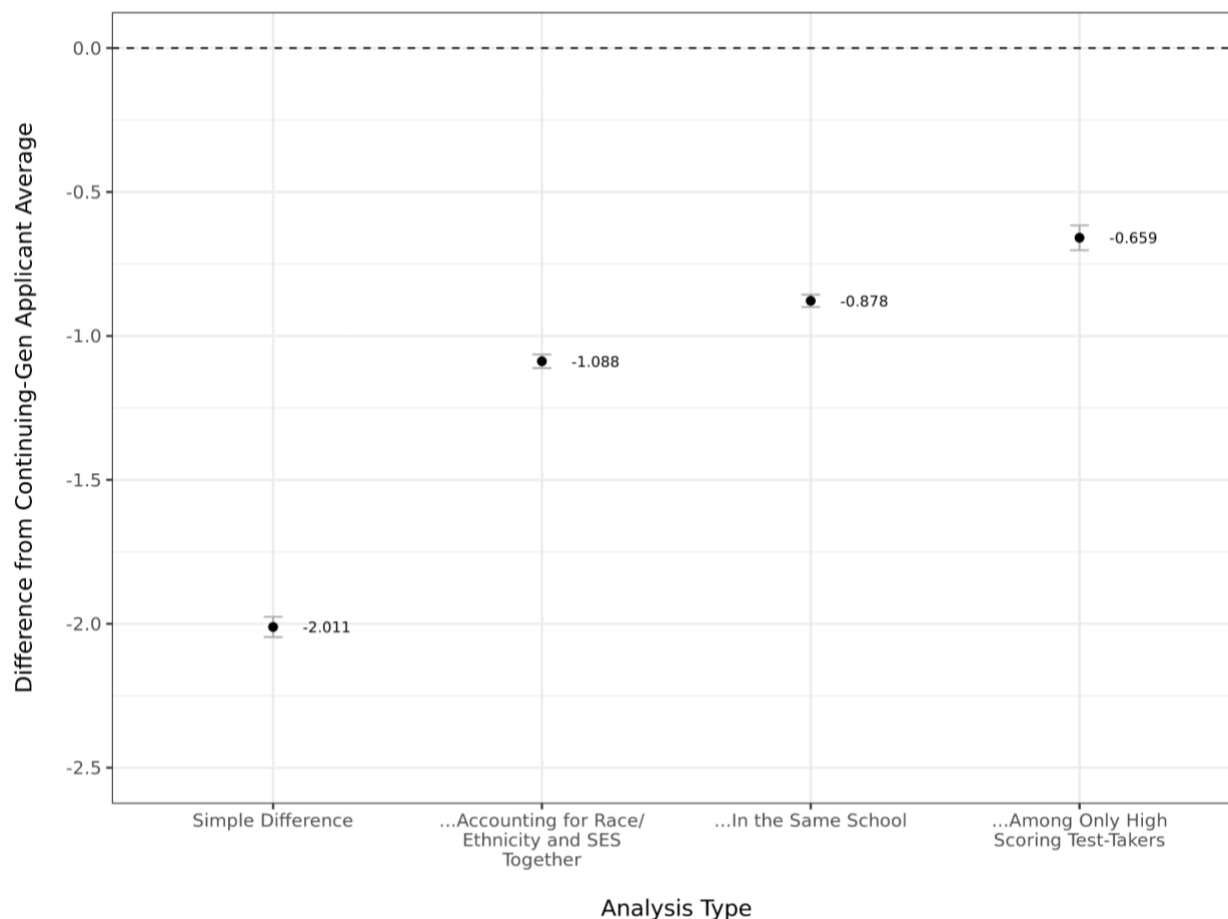
Among domestic applicants to selective institutions in the 2018–19 and 2019–20 seasons



In other words, each of the alternative explanations articulated in the bullet points above are true **to an extent**, but we see that some racial/ethnic disparities remain even after accounting for all of these possible explanations. This pattern of the difference progressively diminishing with each added factor for consideration holds largely true across all demographic measures (e.g., Hispanic/Latinx applicants versus White applicants, fee waiver recipients versus non-recipients, etc.) – with the main exception of first-generation status.

Figure 8 displays parallel results to Figure 7, but showing the difference in the average number of activities continuing-generation and first-generation applicants report. From a baseline of -2.011, the difference reduces in each progressive step but remains fairly large at -0.659. In other words: even among first-gen and continuing-gen applicants with the same race/ethnicity and similar socioeconomics, from the same high schools, and with notably high standardized test scores, first-generation applicants are **still** reporting roughly 10% fewer activities on average than continuing-generation applicants.

Figure 8. Estimated differences in the average number of activities reported by continuing-generation and first-generation applicants after accounting for additional factors
Among domestic applicants to selective institutions in the 2018–19 and 2019–20 seasons



In all, these results signal that the large disparities we observe in activity reporting (in terms of quantity, leadership, and excellence, together) are not the result of any **one** root cause, but rather the accumulation of multiple exacerbating factors combined: differences in closely related applicant demographics (e.g., socioeconomic in the case of racial/ethnic disparities, and race/ethnicity in the case of socioeconomic disparities), differences in the sorts of high schools that applicants attend, and differences in competitiveness as measured through standardized tests.

Conclusion

Overall, we found that White, Asian American, higher-SES, and private school applicants listed more activities in general, as well as more activities with top-level leadership roles and awards/accomplishments. But that said, our results show it is not necessarily the case that these students are somehow innately better at leadership or more worthy of recognition, as URM, lower-SES, and public school students reported similar *proportions* of top-level leadership

roles and excellence awards as did their peers. In other words, they were about as likely to describe leadership positions and excellence awards for the activities they reported.

We find, then, that these disparities are largely the result of differences in the raw **number** of activities applicants engage in, which may reflect broader disparities in the opportunities and supports in place for students of racial/ethnic minority backgrounds and lower-SES to participate in a rich array of extracurriculars. This seems to be due to some combination of financial, cultural, and logistical barriers to specific activities (especially athletics, academic, arts, and service activities), school-level differences in resources or facilities for extracurriculars, **and** differences in these groups' college preparatory trajectories (especially those of first-generation applicants).

We suggest that such insights should motivate the careful **contextualization** of applicants' extracurriculars given their individual backgrounds and circumstances in admissions contexts where they are used. This might entail additional training for admissions staff to understand how inequality and opportunity shapes extracurricular engagement, specifically, as well as greater resources and time for them to take this context into account when evaluating student involvement. It also suggests that finding ways to focus on the **quality** of activities, rather than the **quantity** (e.g., perhaps by limiting the number of activities counselors might consider from an application, or limiting the number of activities students are asked to list), could serve to reduce the impact of any such disparities in extracurricular involvement and reduce stress on students in the application process more broadly.

Ultimately, these data serve as only one view into a complicated and multifaceted aspect of applicants' lives and assets, and we hope our analyses spark valuable discussions about what more we should explore to ameliorate inequities in college access going forward.

Appendix

Appendix Table A1. Demographic and academic characteristics of study sample

Among domestic applicants to selective institutions in the 2018–19 and 2019–20 seasons

Variable	2018	2019	Pooled	Variable	2018	2019	Pooled
Sample				Applications Sent			
Applicants	426270	433733	860003	1-3	0.24	0.216	0.228
Activities	2913757	3078857	5992614	4-7	0.392	0.393	0.392
Activities Per Applicant	6.835	7.099	6.968	>=8	0.369	0.391	0.38
Student Demographics				Scaled GPA Group			
Female	0.572	0.575	0.574	Other/Missing	0.161	0.101	0.131
First Generation	0.239	0.238	0.238	<0.90	0.155	0.168	0.161
Fee Waiver Recipient	0.252	0.255	0.253	0.90-0.99	0.296	0.31	0.303
Highest Income Community	0.601	0.595	0.598	1.00	0.042	0.043	0.043
Missing Community Income	0.017	0.018	0.018	>1.00	0.345	0.378	0.362
Student Race/Ethnicity				SAT/ACT Percentile Group			
White	0.483	0.472	0.477	Missing	0.199	0.163	0.181
Black	0.11	0.115	0.113	<75	0.172	0.194	0.183
Latinx	0.157	0.163	0.16	75-89	0.181	0.19	0.186
Asian	0.145	0.151	0.148	90-94	0.147	0.149	0.148
Other	0.058	0.058	0.058	95-98	0.154	0.152	0.153
URM	0.27	0.281	0.275	>=99	0.147	0.151	0.149
Missing	0.048	0.041	0.045				
Student School Sector							
Public School	0.768	0.772	0.77				
Private School	0.226	0.222	0.224				
Other School	0.006	0.007	0.007				