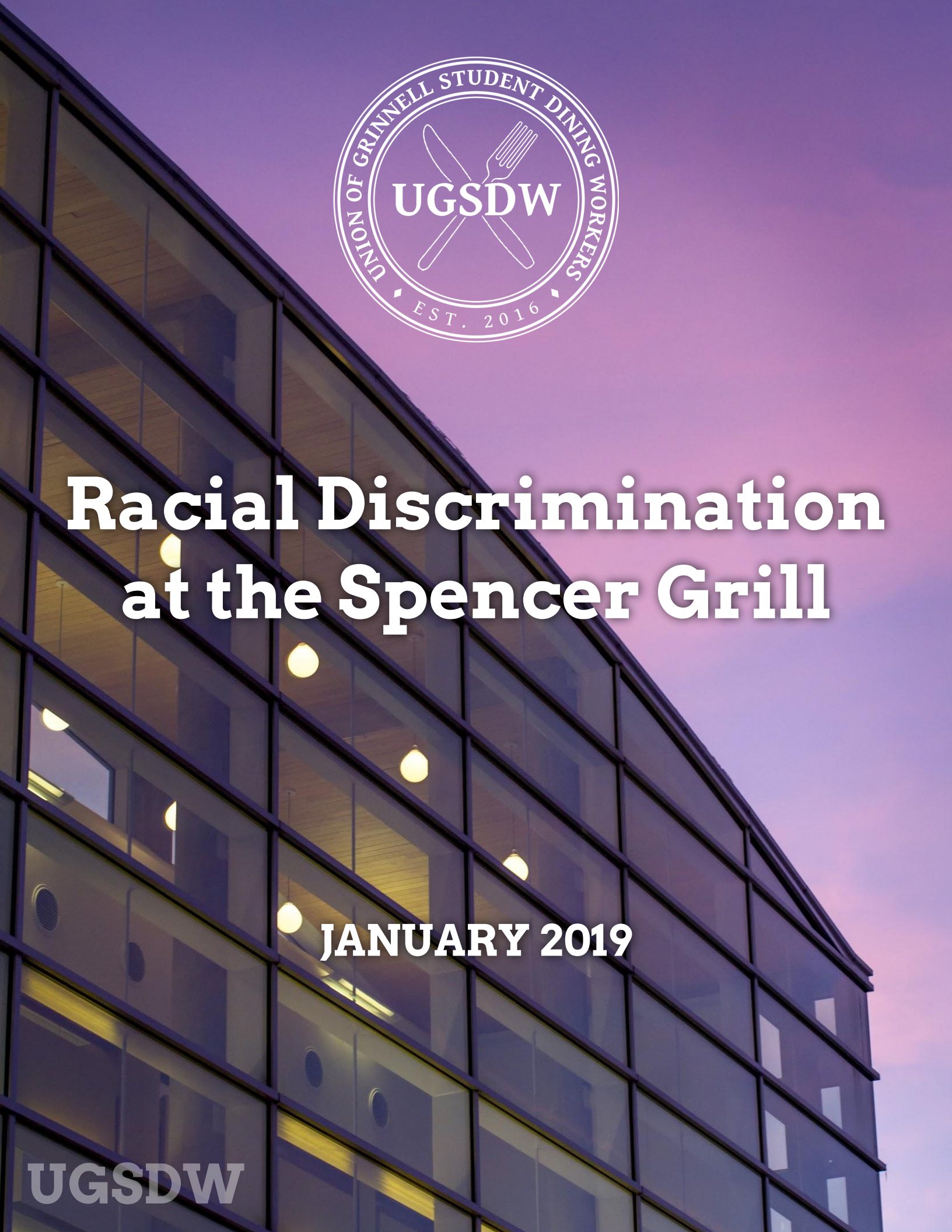

Racial Discrimination at the Spencer Grill

JANUARY 2019

UGSDW

Racial Discrimination in Employment Decisions at the Spencer Grill

Cory McCartan, UGSDW
January 19, 2019

Introduction

UGSDW has represented student employees of the Spencer Grill since December 2016. Over the last two years, it has heard anecdotal evidence from these employees of a pattern of racially-influenced employment decisions, both in discipline and in termination. In November 2018, UGSDW requested detailed discipline and firing information to study this issue. I analyzed the data provided to UGSDW by Dining Services, and have compiled this report to summarize my analysis.

I find strong evidence of racial discrimination in discipline decisions, especially once employees are on the verge of being terminated for repeated discipline. This discrimination is borne primarily by African-American employees and "Non-resident alien" (i.e., international student) employees, the vast majority of who are from Asia.[1] Gender discrimination was also examined, but no evidence of such discrimination was found. Put together, these findings are extremely concerning and warrant immediate attention and action.

I begin in Section 1 by summarizing the operations and discipline system in the Spencer Grill. In Section 2 I explain the source and format of the data provided to UGSDW. Section 3 more precisely defines discrimination, to allow for proper analysis. Section 4 details the statistical methods used to determine whether or not discrimination exists, in both discipline and termination decisions, and the results of those analyses. Section 5 concludes, and provides recommendations for action.

1. The Spencer Grill

The Spencer Grill is one of three divisions of the Department of Dining Services, and is the second-largest by employment. The Grill employs approximately ninety student workers and four staff members: three Spencer Grill Supervisors, and one Assistant Director of Dining Services, who is the chief supervisor of the Spencer Grill.

Students must apply to work at the Grill; applications are generally competitive. Once hired, employees sign up for regular shifts through an online system. Most employees work between four and eight hours a week at the Grill, though there is significant variation. Some employees may be promoted to "Spencer Grill Leads"; these employees take on additional responsibilities and earn a higher wage.

[1] Throughout this report, classifications of race and gender are those reported by Dining Services according to categories mandated by federal education reporting laws and regulations. Students may not identify as the race or gender listed for them in the data.

1.1. Discipline and Termination

Discipline at the Spencer Grill is through a three-strikes system administered by the Assistant Director. Strikes, referred to as "cuts" in Dining Services, can be earned for a variety work rule infractions, but in nearly all cases are given for absenteeism or tardiness. Given students' hectic schedules, tardiness is not uncommon, and whether tardiness counts as a cut is at the discretion of the supervisor on duty. Consequently, there is much leeway and little consistency in the application of attendance rules. Cuts are "reset" at the end of each semester.

According to the student employee handbook, once an employee earns three cuts in a semester, they are terminated. In practice, many (but not all) employees are allowed additional cuts before being terminated. Cuts for absenteeism are reported by the supervisor on duty or noticed after the fact upon consultation of time clock records, but termination decisions are at the discretion of the Assistant Director.

Termination decisions must be for just cause, under Section 2.3 of the collective bargaining agreement between the college and UGSDW, which covers Spencer Grill employees. Employees may file a grievance with the college should they believe that their termination was not for cause. The traditional definition of just cause, and the definition used by arbitrators across the country in resolving grievances, protects workers from arbitrary or unevenly-applied discipline, but does not specifically cover race or gender discrimination.

1.2. Demographics

The Grill's workforce is quite diverse, compared to Grinnell's student body. Of the 157 workers hired since the start of the Spring 2017 semester (see Section 2 below for more information on data), 60% are women and 40% are men. Only 25% are white. Full racial demographics are summarized in Table 1. I replace Dining Services' "Non-resident alien" classification with an "International" classification.

Race classification	Pct. of workforce	Pct. of student body
White	24.8%	50.9%
African-American	19.1%	5.8%
Hispanic (any race)	14.0%	7.0%
Asian (domestic)	6.4%	7.5%
Two or more races	2.5%	4.4%
International	33.1%	19.0%

Table 1: Racial composition of the Spencer Grill student workforce compared to the student body as a whole.

2. Data

Dining Services provided UGSDW with a list of all 162 student employees hired since January 23, 2017, a total of four semesters of employment data. To protect student privacy, employee names were not provided; instead, each employee was identified by a unique number. Each entry in the

dataset consisted of this identifier, the employee's date of hire, whether the employee was terminated, the number of cuts the employee has received this semester (or the number of cuts received up until the employee's termination), and the race and gender of the employee. Race and gender were presumably classified the same way Grinnell reports data to the federal government, hence the "non-resident alien" classification, and the absence of non-binary gender classifications. No cut data exist for employees receiving cuts in previous semesters (i.e., before August 2018), but who were not terminated, since cuts reset each semester. Since I do not model a trend in discrimination over time (and since there is no evidence of a time trend in the data), this omission is not relevant to the analysis—each employee in the dataset has a number of cuts reported, whether for this semester or for an earlier semester during which they were terminated.[2]

	0 cuts	1 cut	2 cuts	3 cuts	4 cuts	5 cuts
Not terminated	94	26	15	0	0	0
Terminated	1	0	0	12	7	2

Table 2: Two-way table of cumulative employee cuts and termination decisions, January 2017 – December 2018.

Over the four-semester period, 62 workers received a total of 130 cuts, and 22 workers were terminated. Table 2 displays the number of cuts, and the termination decisions, for student employees over the period of study. It is important to note that the absence of employees with more than three cuts who have not been terminated does not mean that the 3-cut rule is strictly enforced; rather, as the data were provided at the end of the semester, all outstanding 3-cut employees were terminated. In fact, the presence of 4-cut and 5-cut employees is demonstrative of the significant discretion that management has in terminating employees.

3. Defining Discrimination

Racial disparities in discipline and termination outcomes, while themselves concerning, are not necessarily proof of racial discrimination. To conclude that discrimination is present, we must find that, all else being equal, an employee from a racial minority is more likely to suffer an adverse employment decision.

As noted above, the data provided to UGSDW contain, in addition to race and gender information, only when each employee was hired, the number of cuts they received, and whether they were ultimately terminated. We therefore lack other relevant information which could factor into discipline and termination decisions—job performance and qualifications, or extenuating circumstances, for example.

While at another workplace this omission might render any meaningful analysis impossible, I believe that here the issue is not so serious. The Grill's workforce is largely homogeneous on these fronts—every employee is a student, taking similar course loads and facing similar time constraints, and the positions at the Grill are unskilled, so every employee is equally qualified. There is absolutely no reason to believe, *a priori*, that employees of color, or female employees, are on average more likely to miss shifts, violate work rules, or demonstrate inferior job performance.

[2] Indeed, when the analysis was rerun using only employees hired during the Fall 2018 semester, the results were substantially similar, though more variable due to the smaller sample size.

Furthermore, these discipline decisions should not (in theory) involve any managerial discretion; cuts are supposed to be given if an employee misses a shift, without exception. Therefore, if racial or gender disparities are found in employment decisions, we can and should conclude that these disparities are the result of bias, conscious or unconscious, on the part of Dining Services management, and the Assistant Director in particular.

Discrimination could manifest itself through discipline, or termination, or both. For example, if employees of color were given cuts at a higher rate than white employees, we would conclude that there discrimination in discipline. This discrimination would also create a racial disparity in terminations, if the 3-cut rule was evenly enforced, since more employees of color would be receiving cuts. If, however, nonwhite and white employees received cuts at the same rate, it could be the case that white employees were given more leniency and second changes, resulting in discrimination in termination. I study both of these types of discrimination, using separate models to determine whether each is present.

4. Methods and Results

I begin by providing some two-way tables which suggest where the problems lie, and then follow up with a more thorough analysis.

4.1. Preliminary Results

Table 3 breaks down termination decision by race and gender, and the results are already cause for concern. A test for independence of rows and columns yields a p-values of 0.068, providing moderate-to-strong evidence for a racial disparity in employment decisions.[3] Thankfully, no such disparity appears with regard to gender, where the p-value is 0.643 (a larger p-value indicates weaker evidence; a p-value above 0.10 means that there is no evidence of discrimination whatsoever).

Race	Not term.	Term.
White	37	2
African-American	22	8
Hispanic (any race)	21	1
Asian (domestic)	9	1
Two or more races	4	0
International	42	10

Gender	Not term.	Term.
Male	53	10
Female	82	12

Table 3: Two-way tables for race and gender versus termination.

A closer examination of the table reveals that black and international employees in particular are more likely to be terminated—over 25% of black employees, and nearly 20% of international

[3] A χ^2 test was not used, as some of the group sizes were too small. Instead, a Monte Carlo simulation was used to find p-values testing the null hypothesis that, assuming the marginal totals for race and termination were fixed (a somewhat questionable assumption), that there is complete independence between race and termination. While this approach is frequentist and rather ill-suited to the question at hand, it does provide a useful gut-check on the presence of racial disparities.

student employees, were terminated. However, the group sizes here are relatively small. Consequently, I proceed with the analyses focusing on discrimination against employees of color overall, but at times I also consider discrimination against black and international employees specifically.

4.2. Discrimination in Discipline

My initial investigation of discrimination in discipline focused on whether workers of color received more cuts than their white peers. As discussed earlier, were there no discrimination, we would assume that white and nonwhite workers would receive cuts at an approximately similar rate.

I first modeled the total number of cuts received by each employee as a function of their race (white or nonwhite).[4] Under this model, we can be 87% confident that racial discrimination exists in how many cuts employees receive. The median white employee receives 0.6 cuts a semester, while the median employee of color receives 0.9 cuts a semester. This seems like a small difference, but translates to a 10% chance of termination for employees of color, compared to only 6% for white employees. In other words, due to this discrimination in discipline, employees of color are 1.7 times more likely to be fired.[5]

But it is not just the total number of cuts in which discrimination manifests itself. As Figure 1 demonstrates, cuts are meted out fairly evenly while they have no immediate effect on employment (i.e., for the first and second cuts). But a striking disparity emerges on the third and subsequent cuts, with the fraction of 3-cut employees who are nonwhite jumping to 92%.

To confirm the pattern suggested by Figure 1, I built another model to predict the probability of receiving three or more cuts as a function of race.[6] I report here the results for a comparison between white and nonwhite employees, as well as between black and international student employees and their peers.[7] Table 4 reports these results (see the end of this report). Under this model, we can be 98% confident that racial discrimination exists in whether nonwhite employees cross the 3-cut threshold, and 99.9% confident in such discrimination against black and international student employees specifically.

Nonwhite employees overall are between 1.2 and 14.5 times more likely than white employees to reach the 3-cut threshold, and black and international student employees are in particular between 1.8 and 13.7 times more likely to reach three cuts. In the fall of 2018, three nonwhite employees received three cuts. All were fired. No white employees received three cuts. This disparity is shocking, and completely unacceptable. When one in five employees of color can expect to have their jobs imperiled in a given semester, immediate and serious corrective action is called for.

How does this discrimination in third-cut application relate to the more general discrimination studied above? An identical model which tried to predict whether an employee would receive

[4]The model was a negative binomial regression. Several alternative model specifications were compared using leave-one-out cross-validation (LOO-CV) to calculate the expected log predictive density. A negative binomial regression provided scored lower (better) than a Poisson regression. Models including a gender term and its interaction with race were also considered, but scored higher (worse). All models used weakly informative priors, and were fit with the `rstanarm` package, which uses Hamiltonian Monte Carlo. For each model, there were no other simulation issues.

[5]More precisely, the odds of being fired for employees of color are 1.7 times higher. Odds are not the same as raw probabilities.

[6]This was a logistic model, and as before, several alternative specifications were compared using LOO-CV. Models including a gender term and its interaction with race did not perform as well.

[7]The latter model performed better, according to LOO-CV.

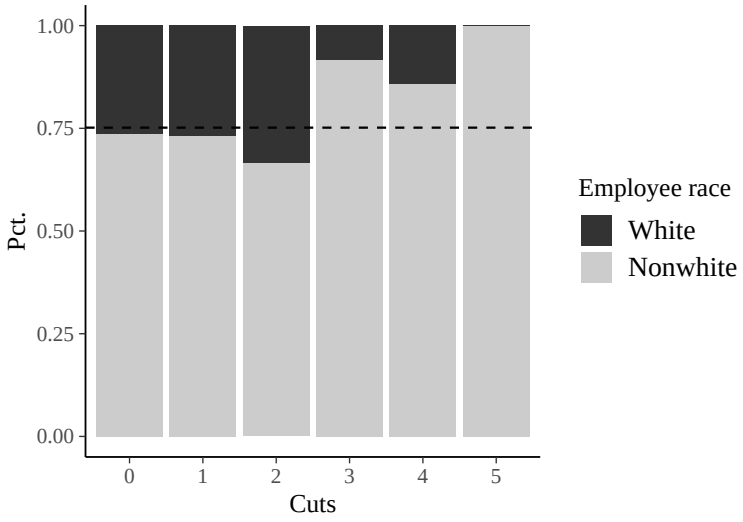

Figure 1: Racial distribution by number of cuts. Within the group of employees with 0, 1, 2, etc., cuts, the bars represent the fraction of those employees who are white and who are not. The dashed line represents the fraction of employees of color across the entire Spencer Grill.

any cuts (instead of 3 or more), found no evidence of discrimination. So the discrimination discovered above likely derives from the discrimination in which employees are given the crucial third cut.

4.3. Discrimination in Termination

There is a serious problem of racial discrimination in discipline decisions. Is there additional discrimination with regards to termination decisions? To answer this question, I built a similar model to the 3-or-more cuts model above, trying to predict whether an employee would be terminated based on their race, whether or not they had received three or more cuts, and whether both of these were true at the same time (what statisticians call an *interaction term*). The results are displayed in Table 5 after the conclusion.

After controlling for whether an employee has received three or more cuts (i.e., after controlling for discipline), there is on average no discrimination in termination decisions, with the odds ratio ranging from 0.2 to 13.8. As expected, whether an employee receives three or more cuts is highly predictive of whether the employee is fired. Especially interesting is the interaction term, which suggests that employees of color, while on average no more likely to be terminated, are between 1 and 400 times more likely to be terminated once they reach three cuts.

To make these numbers concrete, take two employees, one white and one not, who have each been given a third cut. According to the model, the employee of color has a 97% chance of being terminated. The white employee has only a 73% chance. Given the relatively modest number of employees who reach three cuts, the estimates of this model are highly variable, but they are in line with the pattern of discrimination with regards to discipline: once employees of color reach the "danger zone" in the neighborhood of three cuts, they suddenly become much more likely to receive additional cuts and be terminated.

5. Conclusion

Employees of color at the Spencer Grill, especially African-American and international student employees, receive more cuts, are given third cuts at a much higher rate (around four times higher), and are more likely to be fired for receiving cuts, than their white peers. The data here confirm these discriminatory practices back to January 2017, but conversations with current and former employees suggest that it extends much further back, probably beginning when the Assistant Director assumed her current position in 2014.

The size and persistence of these disparities calls for immediate corrective action. No one intervention will suffice. UGSDW and the college should meet to identify and finalize specific improvements, and the college should provide additional data to UGSDW so that progress can be monitored. Interventions could include, but should not necessarily be limited to, implicit bias training, stricter and more consistent enforcement of the Grill's discipline and attendance policies, HR/UGSDW reviews of all termination decisions, and reassignment or removal of the Assistant Director.

Grinnell's nondiscrimination policy states "Grinnell College is committed to establishing and maintaining a safe and nondiscriminatory educational and working environment for all College community members. It is committed to a policy of nondiscrimination in matters of admission, employment, and housing, and in access to and participation in its education programs, services, and activities." The clear pattern of discriminatory discipline and termination documented here is entirely inconsistent with that policy, and is an affront to Grinnell's egalitarian values.

	Intercept	Nonwhite	Intercept	Black/int'l
Median estimate	−3.0	1.3	−2.9	1.5
5% odds ratio	–	1.2	–	1.8
Median odds ratio	–	3.7	–	4.5
95% odds ratio	–	14.5	–	13.7

Table 4: Regression results for logistic regression on two different race indicators (left and right), with posterior intervals for the odds ratios.

	Intercept	Nonwhite	3 or more cuts	Interaction
Median estimate	−4.6	0.2	6.2	2.9
5% odds ratio	–	0.2	44.9	1.0
Median odds ratio	–	1.2	497.6	18.5
95% odds ratio	–	13.8	6,683.0	445.4

Table 5: Regression results of logistic regression for termination decisions, with posterior intervals for the odds ratios.