Examining the Impact of Emergency Aid at Dallas College

Japbir Gill

The Hope Center for College, Community, and Justice at Temple University

Trey Miller

The University of Texas at Dallas

June 2022

Introduction

As the price of college and its associated costs continue to rise, students are often left without the necessary financial resources to succeed in class and cover their basic needs. According to previous research (Wesaw et al., 2016), a student's ability to cover essential expenses poses a significant barrier to degree completion. Often, the current financial aid system may not be able to provide rapid assistance to students facing an urgent financial emergency.

Students' ability to cover expenses hence prohibiting degree completion has prompted colleges and universities across the United States to implement programs that swiftly provide students with additional funds promptly through emergency aid programs (Dachelet & Goldrick-Rab, 2015). While an abundance of previous literature (Geckeler et al., 2008) has focused on emergency aid programs that were externally funded by foundations and other organizations, additional research (Wesaw et al., 2016) noted that there was a significant gap in information on programs started and supported by an institution.

In a 2015 study (Dachelet & Goldrick-Rab, 2015), survey data and interviews of emergency aid program administrators across the United States demonstrated that emergency aid programs are gaining popularity. Program administrators see them as effective, yet these programs face substantial problems. Initial findings from the first study of this specific emergency aid program in Los Angeles show promising results (Anderson, 2021). Provided that institutions can distribute fast, equitable, and accessible funds, a well-implemented emergency aid program may contribute significantly toward persistence and completion.

1

Researchers also noted that there are some challenges in implementing an emergency aid program including defining an emergency, managing and delivering funds quickly, raising awareness of the program while sustaining limited funding, and collecting data to establish program effectiveness (Dachelet & Goldrick-Rab, 2015). Students who need emergency aid the most are enrolled part-time and face substantial life challenges that may pose challenges for accessing emergency aid despite being eligible to receive it. This emergency aid program aims to address these issues by providing efficient distribution of relatively small dollars to address emergency needs of students with an easy-to-use application for emergency aid, Edquity, Inc. The goal of this study was to evaluate the impact of receiving emergency aid to address a financial hardship through the Edquity application on student academic outcomes at a large community college system.

Settings and Intervention

Dallas College, one of the largest community colleges in Texas, enrolls a racially, ethnically, and educationally diverse group of approximately 80,000 students with substantial needs for non-tuition services. While tuition at Dallas College is relatively low compared to other colleges and universities in the country, the cost of living is high. In fact, among the country's twenty largest metropolitan areas, Dallas is the fifth most expensive despite having some of the most affordable housing (Manfield, 2020).

Surveys of Dallas College students conducted before the pandemic (in fall 2016 and 2019) found that 58% of respondents experienced basic needs insecurity (Wisconsin HOPE Lab, 2016). Despite an increase in available non-tuition supports offered by Dallas College over that period, basic needs insecurity did not markedly decline. A key reason seems to be that just 31% of students experiencing basic needs insecurity used campus supports. Furthermore, only 18% of students used the campus food pantry, just 5% accessed help enrolling in the Supplemental Nutrition Assistance Program (SNAP), and only 1% received emergency aid.

The study presented here took place at Dallas College at the onset of the COVID-19 pandemic during the college's first year as a comprehensive multi-campus institution. The summer before program implementation, and at the start of the pandemic, Dallas Country Community College District was comprised of seven individual colleges. These colleges merged to become Dallas College at the start of the 2020-2021 academic year. The merger led to substantial centralization of resources across the various campuses. This included a variety of supports pulled together across the large system, including emergency aid delivered via the Edquity platform, and resource navigators to help students connect to public benefits programs, as well as resources for food and housing called College Navigators.

The intervention studied in this report is the delivery of emergency aid via the Edquity app. Edquity is a technology-enabled student-facing platform (available via app and on the web) that is white-labeled by institutions so that students understand that this is a support being provided by their college or university. All students who are notified about the availability of the product are considered eligible to apply. Allocation decisions are made within the app according to student need and the total amount of emergency aid available to distribute on the application day.

Specifically, the Edquity app draws upon student-level information submitted by the student and provided by the college to rate each student's need according to a continuous need score. Students whom the algorithm identifies as high-to-moderate risk based on their need score are determined eligible for aid, while students identified as not-at-risk are declined. Edquity awards aid to eligible students with the highest need scores until the funding available to distribute on that day is exhausted. On any given application day, a student's need score completely determines whether their emergency aid application is awarded. This implies that a student with a particular need score would be more likely to have their application approved on a day on which fewer students with high need had applied.

This study used an application day fixed effect model to leverage the variation in emergency aid receipt driven by differences in the pool of students using the Edquity app to apply for emergency aid across days to estimate the causal effect of receiving emergency aid on student academic outcomes at Dallas College. Effectively, students in the treatment group used the Edquity app to apply for emergency aid and had their requests granted. Those in the control group had about the same need score as the treatment group but had their request denied as there were more students with higher need scores that applied on the same day than the availability of emergency aid. It is important to note that all students at Dallas College have access to a robust suite of other institutional student supports.

The main purpose of this evaluation was to examine the impact of emergency aid on students' college persistence and academic outcomes. In addition, several proximal outcomes of interest included graduation or persistence, credits completed, and term Grade Point Average (GPA)—measured using administrative data. We hypothesized that:

1) Receipt of emergency aid will positively impact college persistence in current and subsequent terms.
2) Receipt of emergency aid will positively impact these intermediate/proximal outcomes, ultimately supporting degree attainment/persistence.

Demographic moderators may affect the relationship between emergency aid and academic success. Students who need emergency aid the most are often part-time and marginalized yet are less likely to qualify for it. Evidence from other experiments and correlational studies suggest that certain types of students are less likely than others to access supports along factors of race, gender, age, and GPA (Baker-Smith et al., 2020). Likewise, recent evidence examining the impact of this emergency aid program finds that impacts vary by need suggesting that there may be moderating factors in the impact of the program.

Therefore, in this paper, all models also control for additional baseline variables captured at the time of application. These include:

- Demographics (gender, race/ethnicity, age)
- Academics (cumulative GPA, number of total college credits completed)

Study Design

To identify institution-specific causal impacts of emergency aid, equation (1) will be estimated:

$$\text{(1) } Y_i = \alpha + \beta * \text{Treatment}_i + \gamma * X_i + \delta * Z_i + \varepsilon_i$$

where Y_i represents an outcome for student i; Treatment_i is an indicator variable for whether a student was assigned to the treatment group; X_i is a vector of additional student-level covariates such as race, gender, age, etc.; Z_i is a vector of application-level fixed effects such as the date the application was submitted or when an application was decided upon[1]; and ε_i is a term for student-specific random error. All analyses will account for student-level heterogeneity when computing standard errors, and institution-fixed effects are employed where appropriate.

In Equation (1), β represents the treatment impact, the average improvement in outcome Y_i for the treatment group relative to the control group. This model produces unbiased estimates of the impact of emergency aid receipt on student outcomes if, conditional upon student need score, all variance in aid receipt is fully captured by the application fixed effects. If emergency aid is effective, estimates of β are expected to be positive, statistically significant, and substantively important.

Observations with missing outcome data were dropped from analyses. However, for academic outcomes, we impute a 0 when missing as their missingness is, in fact, meaningful. For outcomes from administrative data (including National Student Clearinghouse data)—completion, persistence, and academic achievement—we identified few issues with missing data. Students who have not graduated from participating institutions, who are no longer enrolled, and who do not appear in the Clearinghouse data are most likely no longer in college. In this case, we interpret attrition from the sample as a negative outcome (i.e., failure to complete or persist in college). Some proximate outcomes, such as student credit completion, and grades are not observable for students who stop out or transfer. Therefore, we approach analyses of these outcomes with caution.

Data from Edquity, coded to assess the extent to which the emergency aid program was implemented as intended, helps to supplement these analyses. For example, deviations from planned protocols for administration may be captured during textual analysis of app data. These can be flagged for their relationship to observed impacts. In prior work, careful attention to such details helped explain why impacts of a private grant program occurred at some colleges and not others (Anderson & Goldrick-Rab, 2016).

---

[1] Ideally the model would include a full set of application date fixed effects (as in the date the application was submitted or decided upon). However, in practice, doing so tends to oversaturate the model, because—for example—there are many days when only one student applied for emergency aid. The results presented below include month of application and day of week fixed effects. We also ran models with the full set of application date fixed effects, and the results were similar but less precise.
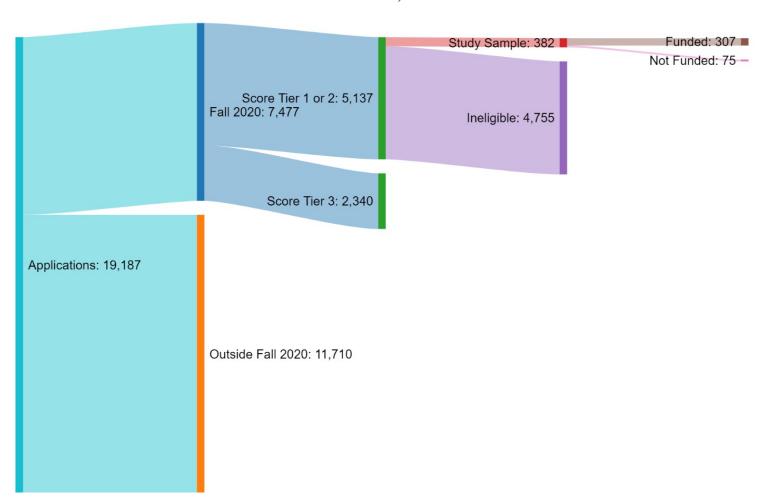
Program Implementation

We assess program implementation in two ways: application for and disbursement of emergency aid. In terms of the application of emergency aid, we reviewed the timing and eligibility for each applicant for emergency aid. In fall 2020, emergency aid applications submitted via the Edquity platform that were outside the Fall 2020 semester.

Applications that were scored in their third, or bottom tier per the Edquity algorithm, were deemed to be not-at-risk applicants. As these applications were all rejected, we removed these applications from the study sample to not influence the results. In addition, each application was tagged with details as to the result of the final assessment outcome. One of these categories, "ineligible," was found to result in all applications being rejected for funding. Figure 1 below details the study sample per implementation constraints.

FIGURE 1 I DETERMINATION OF STUDY SAMPLE, BY APPLICATION CHARACTERISTICS

The two resulting groups, the treatment group where students received aid and the control group where students did not receive aid, were not equivalent across all observable characteristics (see Table 1). This means that to attribute observable differences to receipt of aid, we would need to control for these characteristics in causal models. The sample of students is predominately female, Hispanic or African American, and in their early to mid-20s. Before the intervention, these students have a prior GPA of 2.70 and had amassed just over thirty credits.

TABLE 1 | DETERMINATION OF STUDY SAMPLE, BY APPLICATION CHARACTERISTICS

Category	All	Treatment	Control	p-value	Effect Size	N
Gender Identity (%)						
Female	66.75	67.43	64.00	0.57	0.09	255
Male	33.25	32.57	36.00	0.57	0.09	127
Race/Ethnicity (%)						
White or Caucasian	8.90	8.79	9.33	0.88	0.04	34
African American	32.20	32.57	30.67	0.75	0.05	123
Hispanic	32.98	31.27	40.00	0.15	0.23	126
Southeast Asian	14.92	14.66	16.00	0.77	0.06	57
Unknown	5.76	6.19	4.00	0.47	0.28	22
Two Or More Races/ Ethnicities	1.83	2.28	0.00		0.00	7
Other	3.40	4.23	0.00		0.00	13
Age (Mean)						
Age in Years	24.51	24.92	22.83	0.04	0.26	382
Citizenship (%)						
US Citizen	54.45	53.09	60.00	0.28	0.17	208
Non-US Citizen	45.55	46.91	40.00	0.28	0.17	174
PRIOR TO FALL 2020: *Cumulative GPA (Mean)*						
GPA, Cumulative Through June 2020	2.70	2.73	2.55	0.25	0.15	382
Cumulative Credits (Mean)						
Credits, Cumulative Through June 2020	31.41	32.22	28.09	0.22	0.16	382

Notes | Table reports the effect size of difference between treatment and control groups. Effect size is estimated using Hedges G or Cox's Index, as appropriate. Missing GPA data due to students who dropped out of college, records with missing information were imputed with zeros. Percentages may not add up to 100 due to rounding.
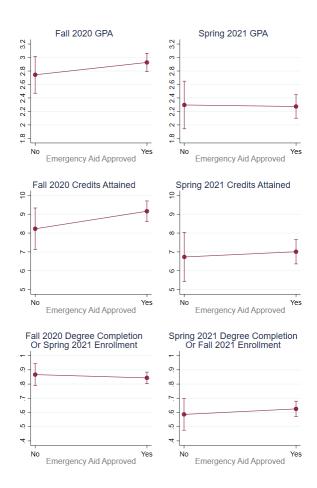
Impacts of Emergency Aid Grants on Academic Outcomes

Using administrative records from Dallas College along with application records from Edquity, we examined whether receipt of emergency aid generates improvements in students' academic outcomes. Specifically, we explored the impact of receipt of emergency aid on credit attainment, GPA, retention, and completion across two terms: fall 2020 and spring 2021. Importantly, the first term is measured concurrently with the submission and decision of emergency aid applications.

While the impacts trend in the anticipated direction, most of our findings show relatively minor differences. Importantly, we see that receipt of emergency aid increases student GPA in the semester in which the aid was delivered by approximately 0.4 points from a base of 2.77 (p<0.05). While the point estimates for other outcomes including credit attainment, retention, and completion in both fall 2020 and spring 2021 are all positive, they are all statistically indistinguishable from zero. Moreover, the effects on spring 2021 outcomes appear to generally be smaller than those in fall 2020, suggesting that receipt of emergency aid may help students address outside challenges and modestly improve their GPAs during the term in which the need arises, but may have less of a sustained impact on subsequent outcomes.

FIGURE 2 | ADJUSTED IMPACTS OF EMERGENCY AID RECEIPT ON ACADEMIC OUTCOMES, BASED ON APPLICATION SUBMISSION DATE

One explanation for these findings is a Doppler Effect with emergency aid. We noted in our analysis that applications filed in December 2020 had more positive effects on academic outcomes than applications submitted in prior months in fall 2020 (see appendix). This could indicate that emergency aid alleviates many of the stressors that students face at the end of the semester due to funds having been depleted throughout the semester. This alleviation could allow students to concentrate on finishing out the semester and pursuing higher GPA levels.

Additionally, we analyzed models with the full set of application dates as fixed effects as a robustness check. We found similar patterns but lost significance at least in part due to oversaturation.

Conclusion

During the pandemic, colleges and their students sought out ways to address college affordability and secure their basic needs. Recent federal investments in higher education provide the resources to meet the present need. Yet, distributing support equitably and efficiently remains a struggle. The American Rescue Plan Act requires colleges and universities to implement practices supporting the distribution of emergency aid and conduct outreach to students regarding the potential to receive adjustments to their federal financial aid (US Department of Education, 2021). However, it provides little guidance on how institutions should achieve these goals. This paper identifies a promising first step in improving student outcomes and inequitable allocation of those resources: the web-based Edquity emergency aid application.

Results from our study, which was implemented across a large Texas community college system, suggest that students who applied for and received emergency aid using the Edquity app were able to improve their GPA in the term in which the aid was disbursed. Impacts on other outcomes were generally positive but statistically indistinguishable from zero, owing at least in part to the small sample size for this study. Nevertheless, the results suggest that the most salient effect of emergency aid is its potential to help students complete their courses during a period of unforeseen financial hardship. Colleges should explore other ways to ensure the short-term impacts of emergency aid receipt translate to longer-term outcomes including retention and completion.

Notes

Financial disclosure: In addition to serving as Founding Director of The Hope Center, Dr. Goldrick-Rab also created the FAST Fund, a faculty-run emergency aid program operated by the nonprofit Believe in Students, and she is Chief Strategy Officer at Edquity, a private company also distributing emergency aid. Edquity's approach to emergency aid uses an algorithm that Dr. Goldrick-Rab developed based on her research. She is a paid consultant and holds stock in the company.

Acknowledgements

Suggested Citation

Gill, J., & Miller, T. (2022, June). *Examining the impact of emergency aid at Dallas College*. The Hope Center for College, Community, and Justice at Temple University.

Works Cited

Anderson, D. M. (2021). *Edquity emergency aid helps Compton College students cross the finish line*. Edquity.

Anderson, D. M., & Goldrick-Rab, S. (2016). *The Wisconsin grant: Overview and recommendations for evaluation*. University of Wisconsin.

Dachelet, K., & Goldrick-Rab, S. (2015). *Investing in student completion: Overcoming financial barriers to retention through small-dollar grants and emergency aid programs*. Wisconsin HOPE Lab and Scholarship America.

Geckeler, C., Beach, C., Pih, M., & Yan, L. (2008). *Helping community college students cope with financial emergencies: Lessons from the Dreamkeepers and Angel Fund emergency financial aid programs*. MDRCf

Manfield, L. (2020, March). *Dallas handed out subsidies in exchange for affordable housing. Developers got around it*. Dallas Observer.

US Department of Education. (2021, May). *ARP FAQ*.

Wesaw, A., Kruger, K., & Parnell, A. (2016). *Landscape analysis of emergency aid programs*. NASPA.

Wisconsin HOPE Lab. (2016). *Dallas County Community College District report from fall 2016 survey of student basic needs*. University of Wisconsin.