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Hitting where it hurts most: COVID-19 and low-income urban college students

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ABSTRACT

Using data from a rich online student survey collected at an urban college during the summer of 2020, I estimate the causal impact of the pandemic on students’ current and expected outcomes. I find that the COVID-19 disruptions on students’ lives were significant. Because of the pandemic, between 14% and 34% of the students considered dropping a class during spring 2020, 30% modified their graduation plans, and the freshman fall retention rate dropped by 26%. The pandemic also deprived 39% of the students of their jobs and reduced the earnings of 35% and the expected household income of 64%. The economic consequences are grimmer for Pell recipients as they were 20% more likely to lose a job due to the pandemic and 17% more likely to experience earning losses than never Pell recipients. Despite being 36% more likely to receive financial support from the CARES Act than never Pell recipients, Pell recipients were 65% more likely to have faced food and shelter insecurity, and 15% more likely to expect lower annual household income. In contrast with economic outcomes, the only educational differential effect between the two groups is Pell recipients’ 41% greater likelihood to consider dropping a course mostly because of concerns that their grade would jeopardize their financial assistance. Other vulnerable students, such as first-generation students and transfer students, were relatively harder hit. To the extent that they seem to rely less on financial aid and more on income from wage and salary jobs, both their educational and employment outcomes were more negatively impacted by the pandemic relative to students whose parents also attended college or those who began college as freshmen.

1. Introduction

Worldwide, the COVID-19 pandemic has disrupted the educational careers of students. Closing college campuses and moving learning online has burdened students, added technological difficulties to their learning, and raised significant concerns about those students who depend on college housing, meal plans, jobs, and other support to stay safe and secure (Altindag, Filiz & Tekin, 2021; Aucejo, French, Ugalde Araya & Zafar, 2020; Bird, Castleman & Lohner, 2020; Jaeger et al., 2021; Kofoed, Gebhart, Gilmore & Moschitto, 2021). Moreover, the pandemic has suddenly changed the economic environment many students depend on in maintaining the financial support for their studies. Jobs and internships ensuring financial well-being during their studies have vanished overnight. In addition, the grim labor-market prospects have halted graduates’ career prospects and professional dreams (Aucejo et al., 2020; Hu, 2020; Yaffe-Belani & Peiser, 2020).

As working-class neighborhoods in New York City’s outer boroughs became the epicenter of the COVID-19 outbreak in mid-March 2020, many in those dense, lower-income areas have been struggling due to lack of resources or because of the emotional impacts of isolation. While the unsettling and difficult health and economic implications of this crisis appear to be disproportionately felt by the most vulnerable people in these communities, the evidence up to date remains scarce. The objective of this paper is threefold. First, the paper documents and quantifies the causal short-term impact of the pandemic on the educational and economic expected and actual outcomes of New York City’s public university students. Second, the paper evaluates whether these burdens are greater for the most vulnerable students: low-income students, defined as those who ever received the federal Pell grant; first-generation students; and transfer students. Third, the paper explores the mediator factors behind its main results.

For this purpose, I collected rich student online survey data from Queens College (QC) between July 24th and September 18th 2020, and merged it with academic administrative records to identify Pell grant recipients and observe students’ fall 2019 cumulative GPA. Close to 3200 students responded to the survey. The survey asked them about how the COVID-19 pandemic and subsequent shutdown had changed their academic experience and expectations, as well as their future

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economic expectations. In addition to collecting subjective information, the survey also collected objective information including employment or earnings loss due to the pandemic, receipt of any emergency relief fund related to COVID-19, and socio-demographic characteristics. To the extent that the survey inquired on how these outcomes/expectations had changed due to the COVID-19 pandemic, they reflect individuals’ change from the counterfactual state, without COVID-19. For the subjective treatment effects to reflect a causal effect of COVID-19 I assume that: (1) students have accurate beliefs about the counterfactual, and (2) there is no systematic bias in students reporting their subjective beliefs. In the methodology section, I discuss why both assumptions are reasonable in this context.

The analysis of the differential impact of COVID-19 on low-income students estimates the causal impact of the pandemic on Pell recipients relative to that on never Pell recipients. To address concerns that these estimates may be confounded by pre-pandemic differences between the two groups of students, I control for a battery of baseline characteristics, including fall 2019 cumulative GPA, known to be associated with academic performance, as well as employment status and economic wellbeing.

I find that, due to the pandemic, between 14 and 34% of QC students considered dropping a class mostly because they were concerned that their grade would jeopardize their financial assistance. Furthermore, the pandemic reduced freshman students’ retention rate by 26% and modified the graduation plans of 30% of QC students with two fifths of them postponing graduation. The pandemic also deprives 39% of the students of their jobs and reduced the earnings of 35% and the expected household income of 64%.

The analysis in this paper also reveals that the early stages of the pandemic were grimmer for urban college students who ever received the federal Pell grant than students in the same college who had never received the Pell grant (hereafter Pell recipients and never Pell recipients). Pell recipients experienced greater labor-market shocks than never Pell recipients as they were 20% more likely to lose a job due to the pandemic and 17% more likely to experience earning losses than never Pell recipients. Despite being 36% more likely to receive financial support from emergency relief grants and stimulus payments and unemployment benefits from the CARES Act than never Pell recipients, Pell recipients were 65% more likely to have faced food and shelter insecurity, and 15% more likely to expect lower annual household income due to the pandemic than their wealthier peers.

Despite these economic differences across the two groups of students, the only educational differential effect is Pell recipients’ 41% greater likelihood to consider dropping a course during spring 2020 semester. This greater withdrawing consideration is mostly driven by Pell recipients more likely to be concerned that their grade would jeopardize financial assistance than the counterfactual. Consistent with this, Pell recipients were 60% more likely to report to have had difficulties maintaining financial aid than their counterparts.

Other vulnerable students, such as first-generation students and transfer students, were even harder hit. To the extent that first-generation students and transfer students seem to rely less on financial aid than Pell recipients and more on income from wage and salary jobs, both their educational and employment outcomes were more negatively impacted by the pandemic relative to students whose parents also attended college or those who began college as freshmen.

The current paper connects to a well-developed literature that documents the effect of crises on student well-being, such as violent conflicts (Briick, Di Maio & Misari, 2019), natural disasters (Macedo, 2012) or financial crises (Fernández-Kranz & Rodríguez-Planas, 2018; Oreopoulos, Von Wachter & Heisz, 2012). It adds to this literature a timely perspective on the arguably most severe disruption of educational careers that has been observed in recent history. At the same time, it contributes to a recent but growing literature analyzing the consequences of the COVID-19 pandemic on poverty (Bittner, Hoynes & Schanzenbach, 2020; Cortes & Forsythe, 2020; Han, Meyer & Sullivan, 2020) and college education (Altimad et al., 2021; Aucejo et al., 2020; Bird et al., 2020; Jaeger et al., 2021; Kofoed et al., 2021; Rodríguez-Planas, 2022).

The current paper is closest to Aucejo et al. (2020) as these authors examine the impact of COVID-19 on Arizona State University (ASU) students’ experiences and expectations, and study how these effects differ along existing socioeconomic divides. The current paper adds to this earlier work by analyzing the students’ experiences at QC, an urban college with a socially vulnerable and ethnically diverse student population, located within three miles of the epicenter of New York City’s COVID-19 outbreak in early spring 2020. Both ASU and QC are in an urban setting, and both are Hispanic minority-serving institutions, but ASU doubles QC enrollment and acceptance rate as well as in tuition costs. Aucejo and co-authors fielded their survey at the end of April 2020 as spring semester was coming to an end and the COVID-19 positivity rate in Phoenix was 7% (Lau et al., 2021), COVID-19 hospitalizations were less than 200 per day, and deaths were less than 20 per day. In contrast, the survey at QC was fielded at the end of the summer after NYC had been harshly hit by COVID-19 during April and May 2020 with a positivity rate of 27% to 65% (Rodríguez-Planas, 2022; Thompson et al., 2020), hospitalizations of close to 2000 per day and close to 800 deaths per day. The findings in the current paper corroborate those in the earlier study that the pandemic disrupted both academic and labor-market expectations of college students in the US, and that the most disadvantaged students were harder hit. It is important to underscore that, while the economic, financial and health outcomes of the pandemic are relevant mediating factors as in ASU (Aucejo et al., 2020), the estimates in the current paper reveal that the educational impacts of the pandemic at QC remain relevant even after I control for the negative impact of COVID-19 on economic and health outcomes. This stresses that in the case of QC, with a more vulnerable student population than in ASU, the pandemic impacted educational outcomes beyond its effect on students’ economic, financial, and health wellbeing.

The current paper also relates to Rodríguez-Planas (forthcoming) as it focuses on the same student population at Queens College. In this other paper, I am the first to use administrative records from Spring 2017 to Spring 2020, complemented with transcript data for Spring 2020, to study the short-run effects of the pandemic on college students’ academic performance using difference-in-differences models and event study analyzes with individual fixed effects. I uncover differential effects of the pandemic on students’ Spring 2020 GPA based on both students’ pre-pandemic income and pre-pandemic academic performance. Importantly, the analysis in Rodríguez-Planas (forthcoming) reveals students’ differential use of the flexible grading policy based on their financial and academic needs. It also suggests that the flexible grading policy was able to counteract negative shocks, especially among the most disadvantaged students. The current paper complements the administrative records analysis by focusing on students’ self-perceived COVID-19 challenges.

The rest of the paper is structured in the following way. Sections 2 and 3 describe the data and the statistical methods, respectively. Section 4 presents the results before concluding in Section 5.

2. Data

The data for this study come from an online survey merged with QC administrative records. To better understand students’ challenges linked to the COVID-19 pandemic, I conducted an online survey on the student population of QC between Friday, July 24th and Friday, September 18th 2020. The survey asked students about how the pandemic and the subsequent shutdown have changed their graduation plans, as well as their expectations to withdraw from a class, return to QC in the fall, maintain financial aid, maintain their aspiring level of academic performance, and complete their degree. I also inquired on students’ future economic expectations regarding their household income and employment. In addition to collecting subjective information, the survey also
collected objective information including job and earnings losses due to the pandemic, receipt of any emergency relief fund related to COVID-19, socio-demographic characteristics, family background, and COVID-related health outcomes. It is important to underscore that, to the extent that the survey inquired students on how these outcomes/ex-pectations had changed due to the COVID-19 pandemic, they reflect individuals’ change from the counterfactual state, a state without COVID-19.

The average duration of the survey was under 10 min, and I used SurveyMonkey software to create the online survey. The survey instrument can be found in the online Appendix A. I received IRB approval (IRB file #2020-0475) on July 21st, 2020, to conduct the survey, collect, and de-identify administrative records, and merge both data sources.

Information on students’ prior Pell grant receipt was obtained from QC administrative records, which were merged with the survey data using students’ ID. Other administrative-records information include students’ sex, race and ethnicity, age, major, class level, and part-time student status measured at the beginning of spring 2020 semester. Importantly, administrative records give us students’ fall 2019 semester cumulative GPA. I do not observe the fall 2019 cumulative GPA for 331 students because they were not enrolled in fall 2019 semester.

I define low-income students as those who ever received financial support from the federal Pell Grant Program. To be eligible for the Pell grant, students must demonstrate financial need—that is, their expected family contribution towards their education expenses must be lower than $5273. Other conditions for eligibility include: US citizenship or eligible non-citizenship (that is, with a valid social security number); enrollment in a course for earning an undergraduate degree, a graduate degree or professional certification; and lack of criminal offenses related to drug possession and distribution. The minimum Pell Grant award for 2020–21 is $639 and the maximum is $6345.

Table 1
Descriptive statistics.

| Queens College | Arizona State University b | Flagship university c |
|---------------|---------------------------|-----------------------|
| Survey data   | Registered in QC fall 2019 a | (1) (2) (3) (4) (5) (6) (7) |
| Whole sample  | Never Pell recipients | Pell recipients | Difference (2) minus \( (1) \) | \( (4) \) | \( (5) \) | \( (6) \) | \( (7) \) |
| Female        | 0.6724 0.6769 0.6674 | 0.6674 | 0.009 | 0.017 | 0.068 | 0.568 | 0.048 | 0.50 |
| Black         | 0.1173 0.1175 0.1170 | 0.1170 | 0.000 | 0.011 | 0.086 | 0.048 | 0.04 | 0.07 |
| Asian         | 0.3260 0.2567 0.4066 | 0.4066 | 0.150*** | 0.017 | 0.285 | 2.85 | – | – |
| Hispanic      | 0.3019 0.2650 0.3450 | 0.3450 | 0.080*** | 0.016 | 0.284 | 0.24 | 0.12 |
| White         | 0.2583 0.3561 0.1444 | 0.1444 | 0.212*** | 0.015 | 0.269 | 0.49 | 0.61 |
| 18 years old  | 0.1255 0.1351 0.1143 | 0.1143 | 0.021 | 0.012 | 0.163 | – | – | – |
| 19 years old  | 0.1094 0.0875 0.1348 | 0.1348 | 0.047*** | 0.011 | 0.098 | – | – | – |
| 20 to 22 years old | 0.2830 0.2609 0.3087 | 0.3087 | 0.019 | 0.012 | 0.312 | 0.312 | 0.32 | 0.312 |
| 23 to 24 years old | 0.1239 0.1240 0.1239 | 0.1239 | 0.000 | 0.012 | 0.136 | – | – | – |
| 25 to 29 years old | 0.1625 0.1580 0.1677 | 0.1677 | 0.010 | 0.013 | 0.158 | – | – | – |
| 30 to 44 years old | 0.1445 0.1694 0.1259 | 0.1259 | 0.034*** | 0.013 | 0.105 | 0.105 | 0.105 | 0.105 |
| Over 45 years old | 0.0439 0.0617 0.0233 | 0.0233 | 0.038*** | 0.007 | 0.028 | – | – | – |
| US born       | 0.4372 0.4790 0.3990 | 0.3990 | 0.071*** | 0.018 | 0.677 | – | – | – |
| Pell grant receipt | – | – | – | – | – | 0.469d | – | – |
| Ever Pell receipt | 0.4619 (0.5156 0.201) | 0 | 1 | 0 | 0.547e | – | – | – |

Baseline Characteristics

Note: Standard errors are reported in parentheses in column 4. Column 4 presents the coefficient on the low-income dummy from a regression model with no other controls.

Significant at the: ***1 percent level, ** 5 percent level, *10 percent level.

a Source: https://www.qc.cuny.edu/about/research/Pages/CP-Enrolled%20Student%20Profile.aspx. College-level data for spring 2020 semester will not be available until late January 2021.

b From column 2 in Table 1 of Aucejo et al. (2020).

c Includes the largest public university in each state. From column 4 in Table 1 of Aucejo et al. (2020).

d Excludes graduate students.

e Refers to working in the ASU campus.

f Sample size is 2832. This outcome is from administrative data and hence, there is no attrition. Missing variables are either because the student was not yet a QC student or was not enrolled in the fall 2019 semester.
2.1. Survey response rate and external validity

The survey was administered via email, sent from an official email address of QC administration to the entire universe of QC students, 15,982 graduate and undergraduate students. Of these, 3163 students responded to the survey, which represents a response rate of 20%. Even though this response rate may seem low, it is well above the usual response rate on City University of New York (CUNY) online surveys of 13%, and the response rate of 10% to 12% obtained around the same time in 28 universities around the world (Jaeger et al., 2021). The QC sample is also twice as large as that of the ASU study (Aucejo et al., 2020).

Overall, the socio-demographic characteristics of survey respondents compare well with those of the broader QC student population as seen by comparing columns 1 and 5 in Table 1. For example, the racial/ethnic distribution, the share of part-time students, the distribution of majors, and the share of Pell recipients is similar across both groups. Importantly, the share of undergraduate students who ever received the Pell grant in the sample is 52%, not far from the 55% observed at the college level. There are, however, some differences: survey respondents are more likely to be females (67% versus 57%) and older than 25-years old (35% versus 29%) than the overall QC population. They are also less likely to be born in the US (44% versus 68%), and to be English second language (ESL) learners (22% versus 36%) and transfer students (23% versus 55%). To address concerns on whether the findings from this survey are representative of the QC student population, I constructed weights to reduce the gap in the proportion of females, US citizens, and transfer students between the survey and QC student population. Appendix Table A.2 shows the distribution of socio-demographic characteristics before and after the weighting. In Section 4, I present weighted estimates and compare them to the unweighted estimates.

When I compare QC students to those in other US colleges, QC has a more racially diverse student population as seen by comparing column 1 to columns 6 and 7 in Table 1. QC affordability is likely to be an important factor behind this diversity. Indeed, at $6530, QC’s undergraduate tuition is $14,203 less than the national average ($20,733) and $5,208 less than the tuition for ASU ($11,338). The high economic vulnerability and racial and ethnic diversity of QC, while making it a valid test of the lessons learned about student behavior as low-income students at CUNY are representative of US low-income college students (Marx & Turner, 2018).

2.2. Baseline descriptive statistics

Columns 2 and 3 in Table 1 show baseline characteristic means for never Pell recipients and Pell recipients, respectively. Pell recipients represent 46% of the sample. Column 4 displays the unconditional differences in baseline characteristics between the two groups of students. Pell recipients are 15 percentage points or 60% more likely to be Asians and 8 percentage points or 30% more likely to be Hispanics than never Pell recipients. Pell recipients are 43% more likely to be first-generation college students, 35% more likely to be transfer students, 37% more likely to be ESL students, and 15% less likely to be US born than general population students. Perhaps not surprisingly given the Pell-grant requirements, Pell recipients are younger, and less likely to be graduate students or study part-time than never Pell recipients. They also have a lower fall 2019 cumulative GPA than never Pell recipients (2.973 versus 3.215). Appendix Table A.1. shows that psychology, computer science, education, and accounting are among the most popular majors in both the sample and QC student population.

3. Statistical methods

3.1. Average causal impact of COVID-19 on students’ outcomes

The analysis focuses on outcomes that reflect change in students’ lives as consequence of the COVID-19 pandemic. Let $Y_i(\text{COVID} - 19 = 0)$ be student’s outcome in the state of the world without COVID-19 pandemic, and $Y_i(\text{COVID} - 19 = 1)$ be student’s outcome in the state of the world with COVID-19 pandemic, my analysis focuses on the change between those two states:

$$\Delta_i = Y_i(\text{COVID} - 19 = 1) - Y_i(\text{COVID} - 19 = 0)$$

Because the pandemic did happen, the student experienced $Y_i(\text{COVID} - 19 = 1)$. In contrast, the counterfactual, $Y_i(\text{COVID} - 19 = 0)$, is what would have happened in the absence of COVID-19, is not observed by the student nor the researcher. Nonetheless, to the extent that the student has private information on how his academic performance and economic wellbeing were prior to the pandemic, I can estimate an individual-level subjective treatment effect by asking students directly how the pandemic has changed their experience or perceptions. This is indeed what I did in the online survey, which began with the following introduction: “To better assist you cope with challenges linked to the COVID-19 virus pandemic, we would like to ask you to take a few minutes of your time to complete this confidential survey. Our objective is to identify what challenges you are facing as a consequence of the COVID-19 pandemic. (...) We will ask you questions on topics such as: (1) how the pandemic has altered your academic experience at Queens College; (2) what services and resources you need assistance with to succeed in graduating from Queens College; (3) how the pandemic has affected your wellbeing and your employment (current and prospective); and (4) some basic questions about your demographics and your household composition.” All the survey outcomes are binary as I asked students for the change as a consequence of the COVID-19 pandemic. For example, I asked students: “Have your plans for graduation changed as a consequence of the COVID-19 pandemic? [Yes, I will postpone graduation; Yes, I will consider starting graduate school; Yes, I will consider taking more courses].”

Recently, several authors have used subjective expectations to estimate ex-ante treatment effects (Arcidiacono, Hotz, Mure & Romano, 2020; Giustinelli & Shapiro, 2019; Wiswall & Zafar, 2020) as well as ex-post treatment effects (Aucejo et al., 2020). I follow Aucejo et al., 2020 in that I focus on both ex-ante and ex-post outcomes. An example of ex-ante outcome in my analysis is whether the student expects a lower household income for next year, and an example of an ex-post outcome is whether the student experienced difficulties maintaining academic performance during the spring semester.

For the subjective treatment effects to reflect a causal effect of COVID-19 I assume that: (1) students have accurate beliefs about the counterfactual, and (2) there is no systematic bias in students reporting their subjective beliefs. To the extent that the counterfactual was the state of the world about half a year prior to responding to the survey and the students’ reality up until mid-March 2020, the first assumption is not unreasonable. The second assumption is a standard assumption made when using survey data (Arcidiacono et al., 2020; Aucejo et al., 2020; Giustinelli & Shapiro, 2019; Wiswall & Zafar, 2020). Importantly, the results reflect perceived treatment effects, not actual ones. To the extent that perceived treatment effects have an impact on students’ decisions, whether their perceptions are accurate or not is not relevant. In addition to subjective treatment effects, I also estimate objective (actual) treatment effects for the following three outcomes: COVID-19 financial aid receipt; job loss; and earnings loss.

3.2. Differential effect of COVID-19 by Pell status

As I am particularly interested in exploring whether the educational and economic implications of this crisis have been disproportionately felt by Pell recipients, I estimate the causal impact of COVID-19 on
students’ outcomes as follows:
\[ \Delta_\text{Pell} - \Delta_\text{Non-Pell} = \left\{ \frac{1}{N_{\text{Pell}}} \left( \text{COVID} - 19 = 1 \right) - \frac{1}{N_{\text{Non-Pell}}} \left( \text{COVID} - 19 = 0 \right) \right\} - \left\{ \frac{1}{N_{\text{Non-Pell}}} \left( \text{COVID} - 19 = 1 \right) - \frac{1}{N_{\text{Non-Pell}}} \left( \text{COVID} - 19 = 0 \right) \right\} \]  
(2)

where \( \Delta_\text{Pell} \) is the COVID-19 treatment effect on outcome \( Y \) for Pell recipients, and \( \Delta_\text{Non-Pell} \) is the COVID-19 treatment effect on outcome \( Y \) for never Pell recipients. Because both \( \Delta_\text{Pell} \) and \( \Delta_\text{Non-Pell} \) are changes in outcomes due to COVID-19, Eq. (2) is like estimating a differences-in-differences effect of the pandemic on low-income students relative to QC general student population. Nonetheless, as I do not observe pre-trends of the outcomes prior to the pandemic, one may be concerned that \( \Delta_\text{Pell} - \Delta_\text{Non-Pell} \) is confounded by differences in trends between Pell recipients and never Pell recipients that existed prior to the pandemic. To address such concerns, I control for a battery of baseline characteristics, known to be associated with academic performance as well as employment status and economic wellbeing, by estimating Eq. (3) below:
\[ \Delta_i = \alpha + \beta_1 \text{Pell}_i + \beta_2 X_{\text{Bas}} + \epsilon_i \]  
(3)

where \( \Delta_i \) denotes the change due to COVID-19 in a given outcome variable for student \( i \), \( \text{Pell}_i \) is a dummy variable that takes value one if the student ever received the Pell grant and zero otherwise, \( X_{\text{Bas}} \) is a vector of baseline controls that include gender, age, race, ethnicity and whether the student was born in the US. In some specifications, I also control for the cumulative GPA in fall 2019 semester, which I use as a proxy of students’ ability. \( \epsilon_i \) is the error term. The coefficient of interest, \( \beta_1 \), measures the association between being Pell recipient and the change in outcome \( Y \) due to COVID-19. As most of the outcome variables are binary, I estimate Eq. (3) with a linear probability model.

4. Findings

4.1. Average effect of COVID-19 on Queens college students

Column 1 in Table 2.A and 2.B displays aggregate treatment effects for all survey respondents (regardless of their Pell status). Table 2.A presents educational outcomes and Table 2.B presents economic outcomes.

Estimates in Table 2.A, show that as many as 34% of QC students considered dropping a class during the spring 2020 semester. The most frequent reasons students gave were being concerned that their grade would jeopardize their future financial assistance (27%), the need to work (9%), and the need to care for a sick family member (7%). In addition, some students also stated getting sick with COVID-19 (5%) or the need to move due to the pandemic (3%). Consistent with students’ concerns that the pandemic would hurt their grade and jeopardize their future financial assistance, 32% of the sample reported having difficulties maintaining their desired level of academic performance because of the pandemic and 22% reported having difficulties maintaining financial aid due to the pandemic.

To address concerns that the question regarding dropping a class during spring 2020 was unclear and that students may have not understood that it referred exclusively to dropping a course because of the pandemic, I used survey question #10 on COVID-19 related challenges to explore how much of the 34% is directly associated with these challenges. I find that two fifths of the 34% (namely 14.4%) is driven by self-reported COVID-19 challenges. Hence, a more conservative estimate of the causal effect of the pandemic on students’ consideration of dropping a class during the spring 2020 semester would be 14.4%. Nonetheless, to the extent that the list of COVID-19 challenges I am controlling for is not exhaustive, this may well be an underestimate of the true effect.

When asked on their plans for the fall 2020 semester, 20% of the students had no plans to return to QC and an additional 12% still did not know whether they would return or not. Only 1% reported not returning to QC to attend another college. These estimates are conditional on not having graduated during the spring or summer 2020. As retention rates for other years are only available for first-year students, I estimated the share of freshmen in the sample who planned to return to QC in the fall to have some perspective of how the COVID-19 pandemic may be affecting the retention rate. Based on the survey, the retention rate of first-time students who began their studies in the fall 2019 is 58% compared to the official retention rate of 84% in 2017. This represents a drop of 26% in the retention rate of freshmen.

Finally, 30% of QC students reported changing their graduation plans because of COVID-19. Students who reported changing their graduation plans were mostly either postponing graduation (13%) or taking more courses (11%). An additional 7% considered graduate school. It is also concerning that as many as 26% of the students reported difficulties with continuing college education and completing their degree as a result of the pandemic.

Moving to economic outcomes, column 1 in Table 2.B, shows that the employment situation of QC students changed drastically after the city’s lockdown as less than one third of the students continued to work for pay or profit, down from 70% before the pandemic hit NY city. About two thirds of students who lost their jobs due to the pandemic reported either being laid-off or furloughed. Overall, 35% of QC students saw their wage and salary earnings decrease as a result of the pandemic. By the end of the summer, 45% of QC students continued to have difficulties replacing a lost job or internship due to the COVID-19 pandemic.

The pandemic also increased the receipt of financial assistance with 63% of students receiving additional financial support due to COVID-19 pandemic. This additional aid includes CARES Act for higher education and the emergency relief grants from CUNY’s Chancellor (32%) and CARES Act for the unemployed and income earners (43%). Despite this additional financial support, half a year after the outbreak, as many as 64% of QC students expect their annual household income to decrease due to the COVID-19 pandemic, and 6% report having difficulties securing basic needs such as food and shelter because of the pandemic.

Relative to Arizona State University, QC students were harder hit as they were 31% (or 9 percentage points) more likely to lose employment due to the pandemic. It is plausible that this difference is due to the timing of the two surveys in relation to the peak of the first wave in both cities (April/May for New York City and July in Phoenix). Despite this difference, it is interesting that the expected household income loss due to the pandemic is quite similar across both campuses: 64% in QC versus 61% in ASU. Unfortunately, few of the educational outcomes overlap across the two surveys. The only one is the share of students delaying their graduation due to COVID-19, which happens to be the same size at both schools (13%).

4.1.1. External validity concerns and item non-response

It is plausible that students who subjectively felt more affected by the COVID-19 pandemic, irrespective of whether that subjective feeling corresponded to an objective reality or not, may have been attracted to respond the survey, introducing an upward bias in the estimates. To address concerns, I present weighted estimates to reflect the general QC student population (estimates shown in column 2 of Table 2.A and 2.B). If students who perceived being more negatively affected by the COVID-19 pandemic had responded to the survey in higher probability, the weighted estimates would be smaller in size than the non-weighted ones. There is no evidence of this as we generally observe larger coefficients with the weighted sample than with the unweighted for all but one estimate (“received CARES act and other emergency relief assistance”). This suggests that a sample of respondents more representative
Table 2
COVID-19 treatment effects, educational outcomes from survey data.

| Subjective educational outcomes | Change after COVID-19 | Unweighted sample (1) | Weighted sample (2) | Unweighted sample (3) | Unweighted sample (4) | Unweighted sample (5) | Unweighted sample (6) |
|---------------------------------|-----------------------|-----------------------|---------------------|-----------------------|-----------------------|-----------------------|-----------------------|
| Considered withdrawing from a class in spring 2020 | 0.343*** (0.010) | 0.3724*** (0.015) | 0.334*** (0.026) | 0.347*** (0.030) | 0.226*** (0.041) | 0.191*** (0.041) |
| Reasons: | | | | | | | |
| Had to move | 0.031*** (0.003) | 0.036*** (0.005) | 0.029*** (0.010) | 0.024** (0.011) | -0.006 | -0.011 |
| Got sick with COVID-19 | 0.048*** (0.004) | 0.056*** (0.006) | 0.039*** (0.012) | 0.050*** (0.015) | 0.034* (0.020) | 0.000 |
| Concerned grade would jeopardize financial assistance | 0.265*** (0.009) | 0.290*** (0.012) | 0.304*** (0.024) | 0.321*** (0.028) | 0.218*** (0.039) | 0.205*** |
| Had to care for family member | 0.074*** (0.005) | 0.086*** (0.008) | 0.045*** (0.014) | 0.048*** (0.017) | 0.051** (0.024) | 0.008 |
| Had to work | 0.086*** (0.006) | 0.103*** (0.008) | 0.060*** (0.015) | 0.072*** (0.018) | 0.031 (0.025) | 0.017 |
| Sample size (non Pell recipients sample size) | 2529 (1357) | 2529 (1357) | 2529 (1357) | 1973 (1070) | 1973 (1070) | 1948 (1055) |
| Does not plan to return to QC in the fall 2020 | 0.200*** (0.008) | 0.326*** (0.011) | 0.176*** (0.022) | 0.175*** (0.026) | 0.088** (0.036) | 0.082** |
| Still does not know whether return to QC in the fall 2020 | 0.118*** (0.007) | 0.126*** (0.009) | 0.137*** (0.018) | 0.144*** (0.021) | 0.066*** (0.029) | 0.067*** |
| Sample size (non Pell recipients sample size) | 2375 (1279) | 2375 (1279) | 2375 (1279) | 1848 (1001) | 1848 (1001) | 1825 (988) |
| Difficulties maintaining academic performance | 0.317*** (0.009) | 0.329*** (0.013) | 0.296*** (0.026) | 0.310*** (0.029) | 0.166*** (0.040) | 0.145*** (0.040) |
| Difficulties continuing college education | 0.262*** (0.009) | 0.293*** (0.012) | 0.266*** (0.025) | 0.264*** (0.028) | 0.106 (0.037) | 0.0936** (0.038) |
| Difficulties maintaining financial aid | 0.218*** (0.008) | 0.243*** (0.011) | 0.228*** (0.023) | 0.226*** (0.027) | 0.035 (0.035) | 0.022 |
| Sample size (non Pell recipients sample size) | 2413 (1302) | 2413 (1302) | 2413 (1302) | 1923 (1044) | 1923 (1044) | 1898 (1029) |
| Change in graduation plans | 0.290*** (0.009) | 0.326*** (0.013) | 0.284*** (0.026) | 0.302*** (0.029) | 0.099*** (0.040) | 0.091*** (0.041) |
| I will consider graduate school | 0.066*** (0.005) | 0.081*** (0.008) | 0.028* (0.014) | 0.031* (0.016) | -0.002 (0.022) | -0.002 |
| I will postpone graduation | 0.126*** (0.007) | 0.143*** (0.010) | 0.111*** (0.019) | 0.122*** (0.022) | 0.034 (0.029) | 0.035 |
| I will consider taking more courses | 0.106*** (0.006) | 0.102*** (0.008) | 0.146** (0.018) | 0.149** (0.020) | 0.066*** (0.027) | 0.059** |
| Sample size (non Pell recipients sample size) | 2340 (1266) | 2340 (1266) | 2340 (1266) | 1975 (1071) | 1975 (1071) | 1950 (1056) |
| No controls | X | X | X | X | X | X |
| Class level and Major FE | X | X | X | X | X | X |
| Financial & Economic Outcomes | X | X | X | X | X | X |
| COVID-19 Health Outcomes | X | X | X | X | X | X |

OUTCOMES

| Objective economic outcomes | Change after COVID-19 | Unweighted sample (1) | Weighted sample (2) | Unweighted sample (3) |
|-----------------------------|-----------------------|-----------------------|---------------------|-----------------------|
| COVID-related financial assistance | 0.627*** (0.010) | 0.6349*** (0.014) | 0.694*** (0.042) |
| CARES Act for higher education & CERc | 0.322*** (0.010) | 0.276*** (0.012) | 0.436*** (0.041) |
| CARES Act for unemployed and income earners | 0.434*** (0.010) | 0.474*** (0.014) | 0.426*** (0.043) |
| Sample size | 2410 (1302) | 2410 (1302) | 2410 (1302) |

(continued on next page)
of the QC student population would have revealed greater challenges than the ones observed in the current sample. This is possibly driven by the fact that transfer students, who tend to come from more disadvantaged backgrounds and face more employment and family responsibilities than students who begin their studies at QC as freshmen, were less likely to respond to the survey.

Another potential concern is whether item non-response is biasing the findings. Item response rates in the paper are generally between 74% and 80% of the sample of respondents, except for students’ response on their expectations on household income changes due to the pandemic, which, at 63%, is lower (see Appendix Table A.3). It is not unusual to have lower item response rates on questions related to income. To explore the extent to which item non-response may be an issue, I regressed a dummy indicating whether the student responded to a particular outcome question on a battery of socio-demographic and educational characteristics. Most of the controls in these regressions are not statistically significant, including covariates indicating US born, Pell receipt, ESL student, first-generation student, and transfer student. In Appendix Table A.4, I show estimates associated with the covariates that may reflect students’ more vulnerable economic background such as being a Pell recipient, an ESL student, a first-generation student, or a transfer student, as well as whether the student is born in the US. Overall, there is no evidence that the most vulnerable students were more (or less) likely to respond to certain questions, which will be particularly relevant in Section 4.B where I estimate the differential impact of COVID-19 by Pell status, being first-generation student, or a transfer student.

4.1.2. Mediating factors

Following Aucejo et al. (2020), columns 3 to 6 in Table 2.A explore how the estimated effects of educational outcomes change when one controls for class level and major, financial outcomes, and COVID-19 health outcomes. Column 3 presents estimates controlling for class level, graduate school fixed effects (FE) and major FE. Column 4 re-estimates the specification in column 3 using the sample of students who respondent both the educational outcome in the left-hand-side of the equation and the nine economic and financial outcomes listed in Table 2.B. Column 5 adds to the specification in column 4 the nine economic and financial controls listed in Table 2.B. Column 6 adds to the specification in column 5 an indicator for whether the student reported having COVID-19 symptoms and another indicator for whether the student reported taking care of a sick family member.

By comparing columns 1 and 3, I observe the extent to which the negative educational effects of the COVID-19 pandemic are associated with the students’ class level, graduate-school status, or choice of major. Interestingly, the effect of COVID-19 on educational outcomes does not change much when I control for these covariates with some exceptions. For example, after adding these controls, the effect of COVID-19 on the outcomes “considered dropping a course during spring 2020 semester because the student had to care for a family member” or “because the student had to work” is reduced by 40% and 30%, respectively. Similarly, class level, graduate school and choice of major are associated with 40% of the decision to “change graduation plans to take more courses” and 60% of the decision “change graduation plans to consider graduate school”.

By comparing columns 4 and 5 in Table 2.A, I observe the extent to which the negative education effects of the COVID-19 pandemic is associated with the negative impact of the pandemic on economic and financial outcomes, whereas comparing estimates from columns 5 and 6 informs us on the extent to which the negative educational effects of the pandemic are associated with either the respondent or a family member being sick with COVID-19. Note that these estimates are only capturing the negative educational effects of the COVID-19 pandemic are associated with considering dropping a class in the spring 2020 (35%
reduction in impact size), not returning in the fall (50% reduction), difficulties with academic performance (46% reduction), difficulties getting a degree (60% reduction), and change in graduation plans (67% reduction). Not surprisingly, controlling for economic and financial outcomes drives all the association of students’ consideration to withdraw from a class in spring 2020 because they had to move or work, difficulties maintaining financial aid, and change in graduation plans to consider graduate school or to postpone graduation.

In contrast with the role of economic and financial outcomes, health outcomes play a lesser role in mediating on the negative education effects of the COVID-19 pandemic. Health outcomes are associated with a 16% reduction of the impact of COVID-19 on both considering withdrawing from a class in spring 2020 and difficulties maintaining academic performance, a 12% reduction of the impact of COVID-19 on difficulties continuing college education, and an 8% reduction of change in graduation plans.

In summary, while economic, financial and health outcomes of the pandemic are relevant mediating factors as in Arizona State University (Aucejo et al., 2020), estimates at Queens College reveal that the educational impacts of the pandemic in New York City remain relevant even after I control for the negative impact of COVID-19 on economic and health outcomes. This underscores that in the case of Queens College, with a more vulnerable student population than in ASU, the pandemic impacted educational outcomes beyond its effect on students’ economic, financial, and health wellbeing.

4.2. COVID-19 differential impact by pell grant status

In this section, I estimate whether the COVID-19 pandemic had differential effects on students’ educational and economic outcomes by Pell status. Columns 2 and 3 in Tables 3.A and 3.B present unweighted and weighted estimates of the differential impact of COVID-19 by Pell status using Eq. (2) in Section 3. In the other columns, I present results from estimating different versions of Eq. (3) in Section 3. To put these estimates in context, column 1 presents the COVID-19 average treatment impact (using Eq. (1) in Section 3) for never Pell recipients, that is those students who never received the Pell grant.

Interestingly, column 2 in Table 3.A reveals few (but large) educational differences of the COVID-19 pandemic by students’ Pell grant status. First, Pell recipients were 12 percentage points more likely to consider withdrawing a class during the spring 2020 semester than students who never received the Pell grant. This represents a 41% increase relative to the average effect for never Pell recipients of 28.5%. This greater withdrawing consideration during the spring 2020 semester is driven by Pell recipients more likely to: (1) be concerned that their grade would jeopardize financial assistance (64%); (2) care for a family member (44%); and (3) get sick with COVID-19 (49%) than the never Pell recipients. These estimates are statistically significant at the 5% level or lower. While the Pell Grant is not awarded based on academic performance, students are expected to maintain a GPA at or above 2.0 and have a good class attendance record that does not lead to an automatic withdrawal from a college course. Hence, it is not surprising that low-income students weary of losing their Pell Grant, or of having to return a portion of the funding already received may have considered dropping a course prior to getting a grade that would have hurt their GPA. Consistent with this, I observe that Pell recipients were 60% more likely to report having had difficulties maintaining financial aid than their never Pell recipients. While there are no other differential challenges related to academic performance or academic continuity, the share of QC students who report having experienced such challenges because of the COVID-19 pandemic—32% for academic performance and 26% for dropping out of college—is sufficiently high to raise some concerns, even if no differential income pattern is observed. There is also no differential impacts of the pandemic by Pell grant status on fall 2020 retention rates or change in graduation plans.

In contrast with the small number of differential COVID-19 impacts by Pell status on educational outcomes, there is a consistent differential impact by Pell status on economic and financial outcomes. Pell recipients were 20% more likely to report losing a job due to COVID-19 and 17% more likely to report being laid-off or furloughed because of COVID-19 than never Pell recipients. They were also 17% more likely to report a reduction in wage and salary earnings than students who never received the Pell grant. This greater employment disruption would explain Pell recipients’ 17% higher receipt of pandemic unemployment compensation relative to never Pell recipients. Importantly, Pell recipients were 65% more likely to have faced food and shelter insecurity, and 17% more likely to have experienced difficulties to replace a lost job or internship than never Pell recipients. All these impacts are statistically significant at the 5% level or lower.

Perhaps not surprisingly, Pell recipients were 36% more likely to receive COVID-19 emergency relief funds than never Pell recipients. They were 81% more likely to receive emergency relief funds from CARES Act for higher education or the Chancellor’s emergency relief fund than the never Pell recipients, and 17% more likely to receive CARES Act for income earners or the unemployed.

Despite this greater receipt of aid, Pell recipients were 15% more likely to expect a decline in household income resulting from the pandemic than never Pell recipients. All these estimates are statistically significant at the 1% level.

4.2.1. External validity and mediating factors

To explore the extent to which these estimates may be biased by students’ self-selecting into responding to the survey or not, column 3 presents weighted estimates. Overall, there are small differences between estimates in columns 2 and 3, and no clear pattern of over- or under-estimation, suggesting that differential response rates by socio-demographic characteristic do not seem to be biasing the results. As an alternative approach, column 4 presents unweighted estimates that control for sex, age, race and ethnicity, and whether the student was born in the US, respectively. Again, the differences with estimates in column 1 are small and not suggestive of an upward or downward bias.

Column 5 adds to the specification in column 4 class-level indicators, graduate-school indicator, indicators for the eleven most popular majors, an indicator for undeclared major, and an indicator for no degree. Column 6 adds to specification in column 5 the student’s fall 2019 cumulative GPA. Comparing estimates in either column with estimates in column 4 informs us on mediating factors related to major, class level or graduate-school status. Overall, there are small differences across the different specifications with some exceptions. For instance, class level and major are associated with 29% of the differential gap by Pell status on students’ consideration of dropping a class in spring 2020 semester; 28% of the differential gap by Pell status on the likelihood of losing a job due to COVID-19; and 12% of the differential gap by Pell status on students’ difficulties replacing a job or internship loss. Adding Fall 2019 cumulative GPA as a control in column 6 leaves most coefficients unaffected, suggesting that it is unlikely that unobserved heterogeneity between Pell and never Pell recipients is driving the differential impact of COVID-19 on educational and economic outcomes.

Columns 7 to 9 in Table 3.A informs us on whether the COVID-19 impact on economic or health outcomes are mediating factors in the COVID-19 differential educational impact by Pell status. Overall, adding such controls has little effect on the coefficient of interest suggesting a small role of such factors in the differential impact of COVID-19 by Pell status.

4.2.2. Alternative measures of students’ vulnerability

As alternative and complementary measures of students’ economic vulnerability, columns 2 and 3 in Table 4.A and 4.B present estimates of COVID-19 differential effects on both educational and economic outcomes by whether students are first-generation students or not (the counterfactual here are students whose parents also attended college), and by whether students are transfer students or not (the counterfactual
Table 3
Economic gap between Pell and non-Pell recipients, outcomes from survey data.

| Subjective economic outcomes | Average outcome for Never Pell recipients | Gap between Pell recipients and Never Pell recipients |
|------------------------------|------------------------------------------|--------------------------------------------------------|
|                              | No controls Unweighted (1) No controls Weighted (2) Demographic controls Unweighted (3) Class level & major Fall GPA (4) Fall GPA (5) Fall GPA (6) Econ. outcomes (7) Health (8) | |
| Considered withdrawing from a class in Spring | 0.285*** | 0.118*** | 0.101*** | 0.106*** | 0.072*** | 0.081*** | 0.086*** | 0.073*** | 0.072*** |
| Reasons: Had to move | 0.025*** | 0.012* | 0.019* | 0.013* | 0.008 | 0.009 | 0.014 | 0.011 | 0.011 |
| Got sick with COVID-19 | 0.039*** | 0.019** | 0.017 | 0.015* | 0.008 | 0.007 | 0.014 | 0.009 | 0.008 |
| Concerned grade would jeopardize financial assistance | 0.204*** | 0.130*** | 0.101*** | 0.120*** | 0.094** | 0.102** | 0.112** | 0.093** | 0.093** |
| Had to care for family member | 0.062*** | 0.027*** | 0.019 | 0.019* | 0.017 | 0.017* | 0.016 | 0.015 | 0.014 |
| Did not plan to return to QC in the fall 2020 | 0.078*** | 0.017 | 0.016 | 0.014 | 0.007 | 0.020 | 0.026* | 0.020** | 0.029** |
| Sample size | 2529 2529 2529 2529 | 2529 2529 2529 | 1790 1790 | 1770 1770 |
| Does not know whether return to QC in the fall 2020 | 0.195*** | -0.011 | -0.007 | -0.002 | -0.013 | -0.016 | -0.008 | -0.014 | -0.010 |
| Sample size | 1279 2375 2375 2375 | 2375 2119 1644 1644 |
| Difficulties maintaining academic performance | 0.306*** | 0.025 | 0.017 | 0.020 | 0.010 | 0.009 | 0.011 | -0.007 | 0.008 |
| Difficulties continuing college education | 0.262*** | 0.000 | -0.012 | -0.011 | -0.017 | -0.014 | -0.013 | -0.033 | -0.033 |
| Difficulties maintaining financial aid | 0.171*** | 0.103*** | 0.108*** | 0.090*** | 0.085*** | 0.096*** | 0.104*** | 0.077*** | 0.077*** |
| Sample size | 1302 2413 2413 2413 | 2413 2172 1774 1774 |
| Change in graduation plans | 0.286*** | 0.027 | -0.001 | 0.007 | 0.022 | 0.017 | 0.013 | 0.022 | 0.022 |
| I will consider graduate school | 0.062*** | 0.010 | 0.025 | 0.006 | -0.009 | -0.009 | 0.000 | -0.003 | 0.003 |
| I will postpone graduation | 0.116*** | 0.021 | 0.006 | 0.008 | 0.006 | 0.013 | 0.012 | 0.016 | 0.016 |
| I will consider taking more courses | 0.108*** | -0.004 | -0.022 | -0.007 | -0.019 | -0.021 | -0.025 | -0.034 | -0.035** |
| Sample size | 1266 2340 2340 2340 | 2340 2105 1771 1771 |
| COVARIATES | Sex. race, age, and US born | X | X | X | X | X |
| Class level and major | X | X | X | X | X |
| Fall 2019 cumulative GPA | X | X | X | X | X |
| Economic outcomes | X | X | X | X | X |
| Health outcomes | X | X | X | X | X |

Average outcome for Never Pell recipients

| Objective economic outcomes | No controls Unweighted (1) No controls Weighted (2) Demographic controls Unweighted (3) Class level & major Fall GPA (4) Fall GPA (5) Fall GPA (6) |
|-----------------------------|--------------------------------------------------------|
| COVID-related financial assistance | 0.548*** | 0.200*** | 0.205*** | 0.191*** | 0.188*** | 0.201*** |
| CARES Act for higher education & CER | 0.226*** | 0.183*** | 0.163*** | 0.169*** | 0.157*** | 0.169*** |
| CARES Act for unemployed and income earners | 0.388*** | 0.067*** | 0.106*** | 0.073*** | 0.086*** | 0.090*** |
| Sample size | 1347 | 2500 | 2500 | 2500 | 2500 | 2246 |
| Lost job | 0.359*** | 0.073*** | 0.067*** | 0.058*** | 0.060*** | 0.066*** |
| Sample size | 1302 | 2413 | 2413 | 2413 | 2413 | 2172 |
| Laid-off or furloughed | 0.233*** | 0.039*** | 0.058*** | 0.043*** | 0.034*** | 0.002 |
| Sample size | 1090 | 2008 | 2008 | 2008 | 2008 | 1802 |
| Earnings loss | 0.325*** | 0.055*** | 0.072*** | 0.062*** | 0.054*** | 0.058*** |
| Sample size | 1260 | 2333 | 2333 | 2333 | 2333 | 2098 |
| Subjective economic outcomes | Lower annual household income | 0.506*** | 0.087*** | 0.081*** | 0.054*** | 0.045*** | 0.059*** |
| Sample size | 1090 | 2008 | 2008 | 2008 | 2008 | 1802 |
| Difficulties replacing a job or internship loss | 0.417*** | 0.069*** | 0.051*** | 0.049*** | 0.037*** | 0.042*** |

(continued on next page)
Table 3 (continued)

| Subjective economic outcomes | Average outcome for Never Pell recipients | Gap between Pell recipients and Never Pell recipients |
|------------------------------|------------------------------------------|---------------------------------|
|                              | No controls                               | No controls                      | Demographic controls | Class level & major | Fall GPA | Fall GPA | Econ. outcomes | Health |
|                              | Unweighted                                | Weighted                         | Unweighted            |                           |         |         |               |        |
| Securing food or shelter     | 0.048**                                 | 0.031**                          | 0.042**               | 0.020**                 | 0.020** | 0.025** |               |        |
|                              | [0.213]                                  | (0.010)                          | (0.014)               | (0.010)                 | (0.011) | (0.011) |               |        |
| Sample size                  | 1302                                     | 2413                             | 2413                  | 2413                     | 2413    | 2172    |               |        |
| Covariates                   | Sex, race, and age                       | X                                | X                     | X                        |         |         |               |        |
| Class level and major        | Fall 2019 cumulative GPA                 | X                                | X                     | X                        |         |         |               |        |

Notes: The table reports estimates associated with low-income students on the dependent variables indicated in row headings. Estimates in columns 4 and 5 include socio-demographic characteristics (column 4) and class level and graduate school FE as well as major FE (column 5). Column 6 adds fall 2019 cumulative GPA as a control. The difference between columns 6 and 7 is the sample size, which in column 7 is restricted to students who also responded to the economic and financial outcomes. Estimates in column 8 add to the specification in column 7 controls for all the economic and financial outcomes listed in Table 2.B. Estimates in column 9 add to the specification in column 8 controls for whether the respondent had COVID-19 symptoms and whether the respondent took care of a sick family member. Standard errors are reported in parentheses. Standard deviations are reported in brackets.

** Estimate significantly different from zero at the 0.1 or 0.05 level or 0.01 level.

*** Estimate significantly different from zero at the 0.1 or 0.05 level or 0.01 level.

here are those who began QC as a freshmen). For comparison purposes, column 1 shows earlier findings by Pell status.

As discussed earlier, the only educational differences between Pell and never Pell recipients were “considering withdrawing a class during spring 2020” and “difficulties maintaining financial aid”. In contrast, first-generation students and transfer students have been much more negatively affected by the pandemic than their counterfactuals in several additional educational dimensions. First-generation students are more likely to report difficulties with academic performance and continuing college education than their counterfactual. They are also more likely to report changing their graduation plans by postponing graduation and considering graduate school than their counterfactual. Similarly, transfer students are more likely to report difficulties with continuing college education, changing their graduation plans by considering graduate school or taking more classes than their counterfactual.

Estimates in Table 4.A and 4.B also reveal an interesting pattern. The gap in considering dropping a class during the spring 2020 semester because of concerns that lower grades would jeopardize financial assistance between first-generation students or transfer students and their counterfactual is half the size of the gap between Pell recipients and never Pell recipients. However, the opposite is true for dropping a class because they had to work. This underscores that first-generation and transfer students are more likely than Pell recipients to rely on wages than financial aid (relative to each student’s counterfactual). Indeed, the gap in receipt of CARES act funds for higher education and the Chancellor’s emergency relief fund between first-generation students or transfer students and their counterfactual is smaller than that observed between Pell recipients and never Pell recipients (shown in Table 4.B). Noteworthy is also the gap in CARES act for unemployed and income earners between transfer students and their counterfactual as it is twice as large as the gap between Pell recipients and never Pell recipients or between first-generation students and their counterfactual.

These findings corroborate Aucejo et al.’s earlier findings that students with more disadvantaged backgrounds experienced larger negative impact from COVID-19 pandemic in educational and economic outcomes. Importantly, they provide some light as to why the pandemic had few differential impacts in educational outcomes between Pell recipients and non-recipients, but more widespread ones among first-generation students or transfer students (relative to their counterfactual). To the extent that first-generation students and transfer students seem to rely less on financial aid than Pell recipients and more on income from wage and salary jobs, both their educational and employment outcomes were more negatively impacted by the pandemic relative to their counterfactual. To put it differently, Pell recipients’ financial aid may have been an important buffer against further detrimental effects of COVID-19 on educational outcomes.

5. Conclusion

This paper estimates the impact of the COVID-19 pandemic on the short-term educational, financial, and personal burdens faced by urban university students in the US. It finds that the students were hard hit by the COVID-19 pandemic as they saw their educational careers and employment situation severely and abruptly disrupted by the outbreak. Half a year later, students were still seriously concerned with the consequences of the pandemic on their academic performance and college completion, and they continued to experience financial stress. Half of those working prior to the pandemic had lost their jobs and, despite having received emergency relief assistance from CUNY and the CARES Act, close to two thirds of them expected their annual household income to decrease because of the pandemic.

The situation is grimmer for Pell recipients relative to never Pell recipients as the former were more likely than the latter to consider dropping a course because of concerns that their grade would jeopardize their financial assistance relative to their wealthier peers. Despite being 36% more likely to receive financial support, Pell recipients had experienced more financial distress including securing basic food needs and shelter, facing job loss, or losing their financial aid than never Pell recipients.

The paper also documents that first-generation students and transfer students were harder hit. To the extent that first-generation students and transfer students seem to rely less on financial aid than Pell recipients and more on income from wage and salary jobs, both their educational and employment outcomes were more negatively impacted by the pandemic relative to students whose parents also attended college or those who began college as freshmen. Hence, it is plausible that Pell recipients’ financial aid may have been an important buffer against further detrimental effects of COVID-19 on educational outcomes.

The evidence presented in this paper suggests that the pandemic is hurting the most economically vulnerable and contributes to the mounting evidence that the pandemic may be widening inequality and increasing poverty in the US. Understanding how the coronavirus pandemic has impacted the lives of students in public colleges is important because these colleges tend to serve a socially vulnerable and ethnically diverse population. Furthermore, public colleges are more
Table 4
Economic gap between Pell and non-Pell recipients, outcomes from survey data alternative measures of vulnerable students.

| Objective economic outcomes | Gap between different types of vulnerable students and non-Pell vulnerable students Pell dummy | First generation dummy | Transfer student dummy |
|-----------------------------|-------------------------------------------------|------------------------|------------------------|
| Considered withdrawing from class in Spring | 0.118*** | 0.063*** | 0.083*** |
| Reasons: | | | |
| Had to move | 0.012* | −0.001 | 0.001 |
| Got sick with COVID-19 | 0.019** | 0.021** | 0.026** |
| Concerned grade would jeopardize financial assistance | 0.130*** | 0.064*** | 0.065*** |
| Still does not know whether return to QC in the fall | −0.017 | −0.018 | −0.019 |
| Sample size (non-Pell recipients sample size) | 2529 | 2529 | 2529 |
| Difficulties maintaining academic performance | 0.025 | 0.040** | 0.019 |
| Difficulties continuing college education | −0.019 | −0.019 | −0.021 |
| Difficulties maintaining financial aid | 0.103*** | 0.068*** | 0.087*** |
| Change in graduation plans | 0.027 | 0.075*** | 0.082*** |
| I will consider graduate school | 0.01 | 0.021** | 0.043*** |
| I will postpone graduation | −0.01 | −0.01 | −0.011 |
| I will consider taking more courses | −0.014 | −0.014 | −0.014 |
| Sample size (non-Pell recipients sample size) | 2340 | 2340 | 2340 |

Table 4 (continued)

| Objective economic outcomes | Gap between different types of vulnerable students and non-Pell vulnerable students Pell dummy | First generation dummy | Transfer student dummy |
|-------------------------------|-------------------------------------------------|------------------------|------------------------|
| COVID-related financial assistance | 0.200*** | 0.086*** | 0.042*** |
| CARES Act for higher education & CER | 0.183*** | 0.061*** | 0.060*** |
| CARES Act for unemployed and income earners | 0.067*** | 0.061*** | 0.146*** |
| Lower annual household income | 0.087*** | 0.122*** | 0.066*** |
| Sample size | 2500 | 2500 | 2500 |
| Sample size | 2008 | 2008 | 2008 |
| Sample size | 2413 | 2413 | 2413 |
| Sample size | 2333 | 2333 | 2333 |

Notes: The table reports estimates associated with low-income students on the dependent variables indicated in row headings. Standard errors are reported in parentheses. Standard deviations are reported in brackets.

* Estimate significantly different from zero at the 0.1 or 0.05 level or 0.01 level.
** *** Estimate significantly different from zero at the 0.1 or 0.05 level or 0.01 level.
likely to successfully move students from poverty to prosperity. Our findings corroborate earlier findings by Aucejo et al. (2020) in Arizona State University and underscore the need to target a variety of services and assistance to both the general student population and disadvantaged students to prevent the current public health crisis from further widening inequality and increasing poverty in the USA.

Declaration of Competing Interest

The author is a faculty member of Queens College, where the data were collected. The employment relationship did not inappropriately influence (bias) the analysis undertaken or results presented in this study.

Appendix A. appendix

Appendix Table A.1. Descriptive Statistics

| Majors                     | Whole sample | Never Pell recipients | Pell recipients | Difference (2) minus (1) | QC Students Registered in fall 2019 * | Registered in fall 2019 * |
|----------------------------|--------------|-----------------------|----------------|--------------------------|----------------------------------------|--------------------------|
| Accounting major           | 0.0721       | 0.0617                | 0.0841         | 0.022*                   | 0.009                                  | 0.084                    |
| Education major            | 0.0702       | 0.0799                | 0.0589         | -0.021*                  | -0.009                                 | 0.051                    |
| Psychology major           | 0.0949       | 0.0811                | 0.1109         | 0.030**                  | -0.01                                  | 0.122                    |
| Biology major              | 0.0405       | 0.0288                | 0.0541         | 0.025***                 | -0.007                                 | 0.05                     |
| Computer science           | 0.0923       | 0.0741                | 0.1136         | 0.040***                 | -0.01                                  | 0.109                    |
| Economics                  | 0.0351       | 0.0306                | 0.0404         | 0.01                     | -0.007                                 | 0.05                     |
| Library science            | 0.0269       | 0.047                 | 0.0034         | -0.044***                | -0.006                                 | 0.019                    |
| Mathematics                | 0.03         | 0.027                 | 0.0335         | 0.006                    | -0.006                                 | 0.021                    |
| Media                      | 0.0108       | 0.0135                | 0.0073         | -0.006                   | -0.004                                 | 0.019                    |
| Music                      | 0.025        | 0.037                 | 0.0111         | -0.026***                | -0.006                                 | n.a.                     |
| Sociology                  | 0.0294       | 0.0194                | 0.0287         | 0.009                    | -0.005                                 | 0.029                    |
| No degree                  | 0.0237       | 0.0529                | 0.0002         | -0.051***                | -0.006                                 | n.a.                     |
| Undeclared                 | 0.1249       | 0.1199                | 0.1307         | 0.011                    | -0.012                                 | n.a.                     |
| Sample size                | 3163         | 1702                  | 1461           | 3163                     | 19,923                                 |                          |

Note: Standard errors are reported in parentheses in column 4. Column 4 presents the coefficient on the Pell-recipient dummy from a regression model with no other controls.

Significant at the: ***1 percent level, ** 5 percent level, * 10 percent level. a Source: https://www.qc.cuny.edu/about/research/Pages/CP-Enrolled%20Student%20Profile.aspx.

Appendix Table A.2. Descriptive Statistics

| Unweighted sample | Weighted sample | Registered in QC fall 2019 * |
|-------------------|-----------------|------------------------------|
| (1)               | (2)             | (3)                          |
| Female            | 0.6724          | 0.5176                       | 0.568           |
| Black             | 0.1173          | 0.1477                       | 0.086           |
| Asian             | 0.5260          | 0.2986                       | 0.285           |
| Hispanic          | 0.3019          | 0.3537                       | 0.284           |
| White             | 0.2583          | 0.2470                       | 0.269           |
| 18 years old      | 0.1255          | 0.0788                       | 0.163           |
| 19 years old      | 0.1094          | 0.0722                       | 0.098           |
| 20 to 22 years old| 0.2830          | 0.2693                       | 0.312           |
| 23 to 24 years old| 0.1239          | 0.1408                       | 0.136           |
| 25 to 29 years old| 0.1625          | 0.2145                       | 0.158           |
| 30 to 44 years old| 0.1445          | 0.1654                       | 0.105           |
| Over 45 years old | 0.0439          | 0.0503                       | 0.028           |
| US born           | 0.4372          | 0.5148                       | 0.677           |
| Pell grant receipt| –               | –                            | 0.469b          |
| Ever Pell receipt  | 0.4619 (0.5156 b) | 0.4904 (0.5249 b)              | 0.547b          |
| ESL               | 0.2229          | 0.2651                       | 0.357b          |
| First-generation  | 0.3585          | 0.4613                       | –               |
| Transfer student   | 0.2292          | 0.5180                       | 0.555           |
| Employed          | 0.7941          | 0.6704                       | –               |
| Part-time student  | 0.3566          | 0.4530                       | 0.351           |
| Freshman          | 0.0373          | 0.0025                       | –               |
| Sophomore         | 0.3209          | 0.3428                       | –               |
| Junior            | 0.1521          | 0.1413                       | –               |
| Senior            | 0.2412          | 0.2910                       | –               |
| Graduate          | 0.1789          | 0.1472                       | –               |
| Online enrollment | –               | –                            | 0.023           |
| Fall 2019 GPA     | –               | –                            | –               |

(continued on next page)
| Unweighted sample | Weighted sample | Registered in QC fall 2019 |
|-------------------|----------------|--------------------------|
| (1)               | (2)            | (3)                      |
| Child (0–17 y.o.) | 0.3085         | 0.3513                   | 0.3513                     |
| Young child (0–5 y.o.) | 0.1293      | 0.1622                   | 0.1622                     |
| Sample size       | 3163           | 3163                     | 19,923                      |

Note: Column 1 reflect sample means for our whole sample of respondents. Column 2 reflect weighted sample means using weights to represent the share of female students, US born students, and transfer students in QC student population. Column 3 are estimates for the QC student population. a Source: https://www.qc.cuny.edu/about/research/Pages/CP-Enrolled%20Student%20Profile.aspx. b Excludes graduate students.

Appendix Table A.3. Item Response Rate for the Different Survey Outcomes

| Outcomes                                                                 | Item response rate |
|--------------------------------------------------------------------------|--------------------|
| Considered withdrawing from a class in spring 2020                      | 79.96%             |
| Does not plan to return to QC in the fall                                | 79.73%             |
| Still does not know whether return to QC in the fall                     | 76.29%             |
| Difficulties maintaining academic performance                            |                    |
| Difficulties continuing college education                                |                    |
| Difficulties maintaining financial aid                                   |                    |
| Change in graduation plans                                               | 73.94%             |
| COVID-related financial assistance                                       | 79.04%             |
| CARES Act for higher education & G&R                                     |                    |
| CARES Act for unemployed and income earners                              |                    |
| Lost job                                                                 |                    |
| Difficulties replacing a job or internship loss                          |                    |
| Securing food or shelter                                                 |                    |
| Lay-ff or furloughed                                                     | 73.76%             |
| Earnings loss                                                            |                    |
| Lower annual household income                                            | 63.48%             |

Appendix Table A.4. Association between Selected Socio-Demographic Characteristics and the Probability of Responding Different Survey Questions

| Outcomes:                                                                | Considered withdrawing from a class in spring 2020 | Does not plan to return to QC in the fall | Difficulties maintaining academic performance | Change in graduation plans | COVID-related financial assistance | Lay-off or furloughed; Earnings loss | Lower annual household income |
|-------------------------------------------------------------------------|-----------------------------------------------------|------------------------------------------|---------------------------------------------|---------------------------|------------------------------------|-------------------------------------|----------------------------------|
| US born                                                                 | −0.005 (0.015)                                      | −0.002 (0.014)                           | 0.008 (0.009)                              | −0.004 (0.012)            | −0.000 (0.016)                    | 0.005 (0.012)                      | −0.013 (0.013)                   |
| Ever Pell recipient                                                     | 0.017 (0.011)                                      | 0.011 (0.013)                           | 0.012 (0.009)                              | 0.007 (0.011)            | 0.013 (0.011)                    | 0.010 (0.012)                      | 0.011 (0.013)                   |
| ESL                                                                     | 0.005 (0.016)                                      | 0.008 (0.014)                           | 0.014 (0.014)                              | 0.011 (0.013)            | 0.002 (0.016)                    | 0.020 (0.013)                      | 0.022 (0.014)                   |
| First-generation student                                               | −0.003 (0.012)                                     | −0.008 (0.012)                          | −0.005 (0.011)                             | −0.000 (0.010)           | −0.010 (0.013)                   | −0.007 (0.010)                     | 0.043*** (0.010)                 |
| Transfer student                                                        | −0.002 (0.014)                                     | −0.001 (0.014)                          | −0.005 (0.012)                             | 0.004 (0.011)            | 0.000 (0.014)                    | 0.013 (0.011)                      | −0.003 (0.012)                  |
| Sample size (non Pell recipients sample size)                           | 3163 (1702)                                        | 3163 (1702)                             | 3163 (1702)                               | 3163 (1702)              | 3163 (1702)                      | 3163 (1702)                       | 3163 (1702)                     |
| Female, race and age dummies                                            | X                                                   | X                                        | X                                           | X                         | X                                  | X                                  | X                                |
| Major and class level FE                                                | X                                                   | X                                        | X                                           | X                         | X                                  | X                                  | X                                |

Notes: The table reports estimates associated with the different covariates in the row headings on a dependent variable that indicates whether the student responded to the survey question indicated in column headings. In addition to the covariates shown in the columns, we included all socio-demographic and educational covariates as indicated in the bottom of the table. In the table, we only show estimates associated with the covariates that may reflect students’ more vulnerable economic background such as being a Pell recipient, an ESL student, a first-generation student, or a transfer student. I also show estimates for the US born dummy. Standard errors are reported in parentheses.

*, **, *** Estimate significantly different from zero at the 0.1 or 0.05 level or 0.01 level.

Survey Instrument

As you know, CUNY closed on March 11th and we moved to online teaching. The following day, Mayor de Blasio declared the state of emergency in NYC; by March 17th, he limited restaurants to only take-out and delivery and, by March 18th, he ordered schools to close. Effective March 22nd, Governor Cuomo implemented an executive order that placed the state on “pause”, closing all non-essential retailers and services or ordering them to
work from home, and ordering people to largely stay at home.

To better assist you cope with challenges linked to the COVID-19 virus pandemic, we would like to ask you to take a few minutes of your time to complete this confidential survey. Our objective is to identify what challenges you are facing as a consequence of the COVID-19 pandemic. While there are potential risks of slight emotional discomfort, your participation is completely voluntary and you can skip any question you may feel uncomfortable answering. Aggregate data including your responses will also help us advocate for resources and improve how we serve our students academically and through other supports.

The information you provide will be treated confidentially, and all analyzes will be carried out on anonymized data, estimated using large groups of students and presented in a form that no individual could ever be identified. Your decision to participate will not affect your academic or financial status, grades, or standing at Queens College. You can decide to stop with the survey at any time. Your response will be matched to your student records so we can conduct longitudinal analysis. To minimize any potential breach of confidentiality, we will de-identify student identifiable information right after the match so that the no identifiable information will be available during the analysis.

The survey should take approximately 10 min to complete, and should be submitted by August 2 2020.

We will ask you questions on topics such as: (1) how the pandemic has altered your academic experience at Queens College; (2) what services and resources you need assistance with to succeed in graduating from Queens College; (3) how the pandemic has affected your wellbeing and your employment (current and prospective); and (4) some basic questions about your demographics and your household composition.

If you have any questions, please contact Professor Rodriguez-Planas, Department of Economics at nuria.rodriguezplanas@qc.cuny.edu.

We really appreciate your cooperation and thank you in advance for your thoughtful responses!

By taking this survey, you are also consenting to the details provided above.

Yes, I consent to participate
No, I do not consent to participate

Your Academic Experience

1 What share of your online classes this spring have been primarily asynchronous (that is, have been conducted using pre-recorded lectures, discussion boards, via the exchange of documents and emails, etc.) versus primarily synchronous (that is conducted as classes where the instructor and students meet at the same time via an online platform like Zoom, Blackboard Collaborate, Google Meet, WebEx, etc.)?
   a 76%–100% asynchronous
   b 51%–75% asynchronous
   c 26%–50% asynchronous
   d 1%–25% asynchronous
   e None

2 Have you experienced challenges attending online classes this spring?

   (Mark all that apply)

   I experienced no challenges
   Yes, I have been sick
   Yes, I was caring for a sick family member
   Yes, I was caring for a child
   Yes, I was too stressed, anxious or overwhelmed
   Yes, I lacked a computer or laptop or phone
   Yes, I had a phone to connect, but needed a computer or laptop
   Yes, I lacked internet connection
   Yes, I experienced technical difficulties with the software
   Yes, I had basic needs such as food insecurity or shelter
   Yes, I had to work

1 Has online teaching helped you connect more with (personally talk to) your professors or has it made it more difficult to do so?

   Better connection/ Somewhat better connection/ Made no difference / Somewhat Worse connection/ Worse connection

1 Has online teaching helped you connect more with your classmates or has it made it more difficult to do so?

   Better connection/ Somewhat better connection/ Made no difference / Somewhat Worse connection/ Worse connection

1 Have you considered dropping a course during the Spring semester 2020?

   (Mark all that apply)

   No
   Yes, because you had to move due to the Corona virus pandemic.
   Yes, because you got sick with COVID-19/
   Yes, because of concerns that your grade may jeopardize your future financial assistance.
   Yes, because you had to care for a family member.
   Yes, because you had to work.
1 Has the flexible grading policy implemented as a consequence of COVID-19 influence you in:

(Mark all that apply)
Not dropping a course?
Considering choosing a credit/no credit class for this semester?
Asking for an incomplete for the course?
I was not aware of the flexible grading policy implemented as a consequence of COVID-19

1 What type of financial support did you received this spring/summer:

(check all that apply)
CUNY Emergency Relief Fund (the Chancellor’s Emergency Fund)
Petrie Emergency Grant (quick response personal emergency grant)
IRS economic impact payment of $1200
$600 per week additional unemployment benefits
Pandemic unemployment assistance for workers not traditionally eligible for unemployment insurance benefits (PUA)
Other? (please specify)
None

1 What are your college plans for the fall semester?

(Check all that apply)
Returning to Queens College
Not returning because you graduated/are graduating
Not returning because of health issues
Not returning because you care for sick family member (specify which family member)
Not returning because of stress related reasons
Not returning because there is too much uncertainty
Not returning because of financial issues
Not returning because of greater subsistence challenges (food insecurity, or shelter)
Not returning because you must work
Not returning because you are moving to a different college (name the college)
You still do not know what your plans will be regarding returning to college

The following questions ask about sensitive information. Please remember that your responses will be held confidential.

1 Are you facing any of the following challenges as a result of the COVID-19 pandemic?

Possible responses: Yes, currently facing; No, but at risk; No and not at risk

○ Replacing a job loss or other financial stress issues
○ Finding career assistance (including internship and job opportunities)
○ Maintaining mental health
○ Securing basic food needs
○ Securing shelter
○ Maintaining financial aid
○ Maintaining aspired level of academic performance (access to classes, grades, academic performance, etc.)
○ Continuing college education and completing my degree.
○ Other (specify)

a Which areas do you need assistance with as a result of COVID-19 (you can select multiple answers)?
   Job loss/Financial issues
b Career assistance (including internship and job opportunities)
c Mental health
d Food insecurity
e Shelter
f Student financial aid
g Academic advising (access to classes, assistance with what classes to register in and major choices)
h Academic performance (access to tutors, grades, academic performance, etc.)
i Academic continuity
j Other (specify)

Your Employment Status

1 Prior to Queens College moving instruction online on March 19 and the NY city lockdown on March 22, 2020, did you work for pay or profit in addition to studying at Queens College?
Yes, I worked 35 h or more
Yes, I worked 21 to 34 h
Yes, I worked 11 to 20 h
No, I did not work for pay

1 What is your current employment situation, compared to before mid-March?

I continue in the same job, working the same hours at the same wage
I continue in the same job, working more hours or at a higher wage
I continue in the same job but working fewer hours or at a lower wage
I have been furloughed
I have been laid off and need to find a new job
I changed jobs
I began working in a new job
Not applicable: I do not work.

1 Do/did you work in essential services (health care, utilities, transportation infrastructure, manufacturing, food processing, agriculture, groceries, pharmacies, convenience stores, gas stations, restaurants (take-out/delivery only), mail, auto repairs, financial services, shelters, food banks, law enforcement, fire prevention, security, building cleaners or janitors, child care, and essential government services)? Yes/No

2 What do you think your job prospects will be after your graduate from Queens College?

(Note: Cheryl mentioned to use the 7 points scale. If possible use Cheryl’s proposed scale.)
Very certain that I will find a job
Somewhat certain that I will find a job
Somewhat uncertain that I will find a job
Completely uncertain that I will find a job

1 Have your plans for graduation changed as a consequence of the COVID-19 pandemic?

They have not changed
Yes, I will postpone graduation
Yes, I will consider a double major
Yes, I will consider starting graduate school
Yes, I will consider taking more courses

Your Health

1 Check all that apply:

I have/have had symptoms of COVID-19
I tested/have tested positive due to COVID-19
I am/have been hospitalized due to COVID-19

1 One or more members of my household, other than me, has/has had:

COVID-19 symptoms
Tested positive due to COVID-19
Been hospitalized due to COVID-19

1 Have you been taking care of someone in your household who was sick?

No
Yes

You and Your Household

1 For each age group, how many people live in your household (including yourself)?

__ 0–5 years old
__ 6–11 years old
__ 12–14 years old
__ 15–17 years old
__ 18–30 years old
__ 31–50 years old
__ 51–65 years old
__ older than 65

1 Are you in charge of their home schooling since schools closed on March 16 2020,?
Yes (which children?) / Partially (which children?) / No

1 What is your best estimate of your total income in your household last year? Consider income from all sources before taxes

Less than $10,000
$10,000 to $14,999
$15,000 to $19,999
$20,000 to $24,999
$25,000 to $29,999
$30,000 to $34,999
$35,000 to $39,999
$40,000 to $49,999
$50,000 to $59,999
$60,000 to $69,999
$70,000 to $79,999
$80,000 to $89,999
$90,000 to $99,999
$100,000 to $149,999
$150,000 or more

1 How do you expect your household income to change due to COVID-19?

I expect that: it will be cut by 1–25% it will be cut by 26–50% it will be cut by 51–75% it will be cut by 76–100% it will increase by 1–25% it will increase by 26–50% it will increase by 51–75% it will increase by 76–100% it will not change

1 Have you had to move because of the Coronavirus pandemic? No/ Yes
2 What is your race/ethnicity? Asian, Black or African American, Hispanic or Latino, White or Caucasian, other (specify)
3 Is English your first language? Yes/No
4 Were you born in continental USA?

Yes
No: I was born in (country)

1 Are you first-generation college student in your family? (yes/no)
2 Did you transfer from a two-year college? (Cheryl, do we need this question if we are merging with administrative records?)
3 In questions 12 and 13 above you mentioned you may need assistance with different services as a result of COVID-19, we have counselors and specialists that can help you should you need to speak to someone. Below are some of their contacts.

Counseling Services
Dr. Barbara Moore, Director
718–997–5420
First Floor Reception
Health Services
Tsui-Fang Shen, Director
718–997–2760
Room 310
Minority Student Affairs
Maureen Pierce-Anyan, Director
718–997–5423
Room 119
Peer Support Services
Nancy Leighton, Program Administrator
718–997–5420
First Floor Reception
Special Services for Students with Disabilities
Dr. Miram Detres-Hickey, Director
718–997–5870
Room 111

1 Are there any other ways QC can help? Please explain.
2 Would you like to share with us any other information?
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