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Investigating Online versus Face-to-Face Course Dropout: Why Do Students Say They Are Leaving?

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Abstract: Despite more focused attention in the wake of the COVID-19 pandemic, high online attrition remains both a concern and a mystery; gaps in our knowledge exist as to why students so often do not complete online courses. Pre-pandemic, and using a sample of 780 students who dropped out of fully online courses (or the same course face-to-face) from a large university system in the Northeast U.S., students were explicitly asked about their specific reasons for course withdrawal. All students enrolled in a fully online course (or a face-to-face section of the same course) at the City University of New York (CUNY) in fall 2015 were invited to take the online survey from which this study data was taken. Results indicate that there were distinct differences in the patterns of reasons given by online and face-to-face students: although the perceived quality of the instructor/instruction was deemed important to student persistence in both modalities, it seemed to be of greater importance face-to-face than online. Furthermore, issues related to time were found to be more prominent reasons for dropping for online learners than face-to-face learners. Findings from this study shed new light on the impetus for online attrition, with implications for online policy and course design in a post-pandemic era.

Keywords: post-secondary education; adult learning; online learning; course dropout; time poverty



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1. Introduction

Notwithstanding continued pre-pandemic growth in the adoption of online learning in higher education for more than a decade [1] and the almost universal move to Emergency Remote Teaching (EMT) in the U.S. during the height of COVID-19 [2], the impact that online enrollment may have on college persistence and degree attainment remains unclear. Research from prior to the onset of the pandemic shows that online courses may provide increased access to college [3], and there is support that students can learn as much online as they do face-to-face via comparison of course-level factors (see review in [4]). However, studies are mixed as to the outcomes for those who choose to enroll online, with some multi-institutional studies [5–7] finding negative impacts on college persistence. Other multi-institutional studies [3,8] and a nationally representative study [9] found no differences in retention or graduation rates between those who engage in online learning and those who engage in face-to-face learning.

While the impact of voluntary online enrollment on college outcomes such as persistence and degree attainment may be uncertain, what does seem to be supported by pre-pandemic research is that online courses often have higher dropout rates than face-to-face courses (see [4,10–12] for reviews). The issue of higher dropout in online courses

continues to raise the concern that online course enrollment might hinder degree completion; course withdrawals are considered to be a significant variable in student success [13]. However, online students have different characteristics than face-to-face students, and thus higher course dropout online, when it exists, may be related to demographic and environmental variables that prompt students to enroll online in the first place. For example, online students are more time-poor, and this has been linked to lower retention and credit accumulation [14].

While online attrition has been linked by some research to academic non-success (see [4]), in other cases it may be a reasonable response to a rational cost-benefit analysis; Diaz [15] theorized that students may choose to drop online courses in order to meet their immediate personal or long-term academic goals (for example, a student might drop because they determine that they have insufficient time for the academic work needed to obtain their desired course grade; as students who choose to take courses online are more time-poor [4,16], this may happen more often in online courses). Twenty years after Diaz's theorizing, we still do not have a complete understanding of what motivates online students to drop out (and in turn, how best to implement interventions to better retain them). Given that almost three quarters of higher education administrators noted online learning as critical to their future strategic plan pre-pandemic [17], and that higher education online administrators recently sampled across the U.S. predict that by 2025, most higher education learner experiences will include online learning [18], more knowledge about why those who voluntarily enroll online may choose to drop out seems critical.

2. Literature Review

2.1. Rise of Online Learning

Pre-pandemic, the number of students studying on-campus in the U.S. dropped by over one million from 2012–2016; at the same time, enrollments in online learning increased for fourteen years straight, and almost a third of all post-secondary students enrolled in at least one online course annually [1,17,19,20]. By the fall of 2020, after the onset of the COVID-19 pandemic, 75% of all undergraduate students in the U.S. were enrolled in at least one online course [21]. Prior to the pandemic, not all students elected to enroll in online courses, and as we move into a post-pandemic era, students will again be able to choose whether or not to voluntarily enroll online [4]. Data today suggests that student interest in online learning is currently higher than it was pre-pandemic, and that higher education institutions will likely continue to invest more in online programming to meet student demand [18,22].

2.2. Online Learning and Attrition

Research indicates that many who take online courses (outside of pandemic-induced necessity) do so because they need the flexibility that these courses offer due to a wide range of life challenges that make it difficult to attend face-to-face courses [23–30]. However, what is currently empirically unknown is the specific reason that prompts these same students to drop out of their online courses; most studies instead focus on the behaviors of students who persist online [31]. Attrition rates among online learners fluctuate between 40–80% [32], and these rates may be increasing [11,31]. At least twenty-five studies over almost two decades conducted prior to the pandemic report that online dropout rates are consistently and significantly higher than dropout rates for face-to-face courses, with online attrition appearing to be 7–20 percentage points higher than the attrition found in face-to-face courses (see reviews in [4,10]). However, why more students drop out online in comparison to face-to-face is uncertain [33].

Studies often assume that higher rates of dropout in online courses are the result of features of the online environment itself [6,7]; however, student self-selection into online courses makes it difficult to tease apart whether student reasons for dropout are related to the online medium itself (at least in terms of how it is typically currently implemented), or other characteristics or environmental factors in the lives of the students who elect

to take courses online [14,34]. Students who choose to enroll in online courses have different characteristics than those who enroll only face-to-face: for example, they are more likely to be older, with work and family responsibilities, and are on average more time poor [14]. Thus, students who choose to enroll in online courses may have reasons for dropping that are different on average from students who enroll in face-to-face courses, but existing research has not directly compared student reasons for dropout in both mediums side-by-side.

2.3. Online Learning and Student Satisfaction

A body of research has investigated the perceptions of students and their “satisfaction” with online learning, although this literature focuses on completers rather than those who drop out of online courses. Course design/quality has been implicated as a critical—perhaps the most important—factor influencing completer’s satisfaction with online learning; other factors include the learner’s motivation and time management, and their comfort with technology [11,12,35–37]. Furthermore, instructor presence (i.e., feedback and interaction) is often cited as important for students who report being satisfied with online learning experiences, as well as the quality of peer interaction and whether the course is a match with individual learning styles [38–42]. This research provides useful knowledge about what influences the satisfaction of online completers, and may in turn provide some clues as to why unsatisfied students drop out, as research suggests that online learners are less likely to drop when they are satisfied with their courses [12,43]. However, it does not necessarily follow that all of the same factors in the completer satisfaction literature influence decisions to drop out of online courses, or which factors, if they influence these decisions, are of the most importance for non-completers.

2.4. Persistent Knowledge Gap—Why Do Online Students Drop?

Even though the question this study addresses originated 20 years ago, the reasons why students drop out of online courses continues to remain under-researched; very few studies have attempted to give students a voice by actually asking them why they drop. In a meta-review spanning 1999–2009 [44], only seven empirical studies were identified that specifically sought students’ reasons for dropping out of online courses. One of these, [45] found that 10 masters-level students dropped out online due to work-related reasons, personal issues (i.e., lack of time; family responsibilities), course reasons (course workload/course difficulty), and technology difficulties. The other six empirical studies noted in the Lee and Choi review also report some combination of these explanations for students dropping out, with instructional design issues and time-related issues related to work and family implicated the most often across the studies. However, all these studies are decades old, and they had very small and homogenous samples (in terms of the number of students and only one/few online courses sampled), likely resulting in selection bias [44], which severely limits their generalizability.

In a larger study, Fetzner [46] reports data from telephone surveys of unsuccessful online students at a single college ($n = 438$); she found that when asked to select from 22 statements, the top three reasons for dropping an online course selected by students were: could not catch up/ falling behind in coursework (19.7%), personal problems (health, job, childcare) (14.2%), and could not handle combined study plus work/family responsibility (13.7%). However, Fetzner also noted that the sample was not representative of the college population, and particularly was under-representative of “Blacks and other ethnicities and first-time online students” (p. 16). This study also studied online course dropout in isolation, without a comparison group of students enrolled in face-to-face courses, so it is unclear the extent to which these reasons for dropout are specific to students enrolled in online courses specifically, or just courses in any medium.

While scholars have given considerable effort to being able to better predict dropout, students’ voiced reasons for dropping out remain somewhat ignored by the online literature as a whole; Xavier and Meneses [31] assert that more qualitative data is needed to probe

students' real-life experiences and the multiplicity of factors that may impact their decisions to drop out. There are significant limitations of scale and potential generalizability in the few early online studies about why students drop online courses. There is also a scarcity of larger and more recent studies that focus on students' voiced reasons for dropping out, rather than summarizing the characteristics of those who drop or persist. Furthermore, we know of no studies in any of the literature that utilizes our specific method of comparing student reasons for dropping out in matched online versus face-to-face courses to directly compare reported reasons for dropout. However, this is necessary if we are to distinguish which factors may be specific to online courses (or the students who take them) versus which factors are pertinent to general course dropout regardless of medium.

3. Conceptual Framework

Currently, there is no empirically validated model for online retention; the few models available [47–50] have not been widely tested and may exclude important factors [4]. However, there are substantiated models of retention for face-to-face students. Tinto's widely cited model [51–53] posits that family background, pre-college schooling, and individual student attributes influence student persistence through two "integration" variables: (1) academic integration (e.g., often measured by G.P.A.); and (2) social integration (e.g., interaction with peers/faculty). In a similar vein, Bean and Metzner's model [54] is widely cited and specifically examined "non-traditional" adult learners. This model contains three main input categories: environmental, academic, and background, and these variables then influence academic and psychological outcomes, which in turn determine a student's decision to persist. The emphasis of Bean and Metzner's model on "non-traditional" students makes it more likely to be relevant for online students, as the data show that most students who enroll in online courses have "non-traditional" characteristics [6,7,9,33,55–59].

Rational choice theory [60], which avers that students make educational decisions based on the costs, benefits, and probability of successful outcomes, may help explain why some college students choose to drop out of online courses. As it is not possible for students to consider all potential consequences of course dropout because of limitations in current knowledge and factors that may play out in the future, we do not assume that students are perfect rational decision-makers. Instead, we use the concept of bounded rationality [61]. In line with this, Diaz [15] contended that the mere fact of high online drop rates is not necessarily indicative of academic non-success; it may instead reflect a mature decision on the part of students who also have different characteristics than face-to-face students. There is strong evidence that students who choose to enroll in online courses and are more likely to be: female, older (e.g., over 24 years old), employed and financially independent, married with children, and with other life responsibilities [3–7,9,58,59]. Moreover, these student characteristics have been connected to higher rates of time poverty (i.e., not enough quantity of time and high-quality time to engage in academic studies), which has been shown to mediate course/college outcomes [14,16,34,62–64].

Therefore, life factors and issues related to time may greatly contribute to student dropout of online courses. Thus far, the issue of time as a potential dropout factor, while noted by scholars for decades, has been largely ignored in studies and models of online attrition [14,16,31]. It may be that student demographic characteristics (i.e., woman, parent, student of color) that lead to more prevalent environmental factors (higher amount of work, lack of childcare, other family responsibilities) have served as both the impetus, and predictive proxies in studies, for the underlying issue of time poverty [14,16]. As our study focuses on the motivation for drop out (rather than retention), we postulated an a priori model of online dropout based on Bean and Metzner's [54] model, the scant online dropout literature available, related work on online satisfaction and persistence (i.e., [11,12,35,39–42], and related research on time poverty and online learning [14,16,34,62] (see Figure 1).

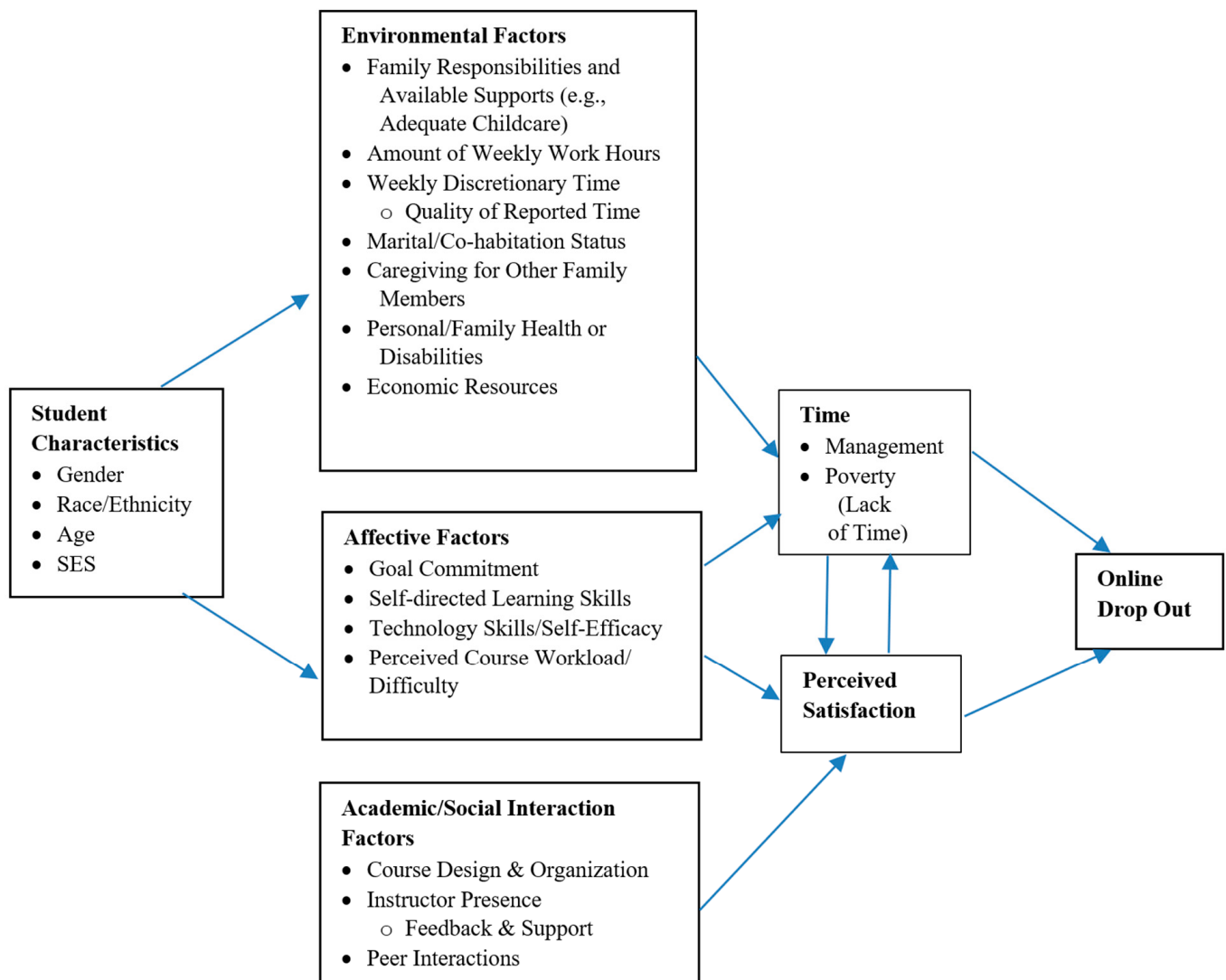


Figure 1. A priori Model of Online Dropout.

4. Research Objective

The goal of this study was to test and refine the model of online student dropout posited in Figure 1, by determining the extent students cite these factors, or others, as playing a role in their decision to drop out of college courses. In particular, by comparing the responses between those who withdraw from online vs. face-to-face sections of the same courses, we hoped to elucidate any factors that may be unique (or more pervasive or significant) for online learners, such that specific interventions may be employed in higher education to ameliorate these for online dropout in the future. Therefore, in this study, we asked:

What are the reasons postsecondary students give for dropping out of online courses, and how do these reasons compare to reasons given by students in comparable face-to-face classes?

5. Method

The City University of New York (CUNY) system is the third largest university system in the U.S., and the largest public urban university in the U.S. [65,66]. Data analyzed for this study were taken from existing survey data. All students at the two- or four-year colleges at CUNY who were either enrolled in a fully online or face-to-face section of any course that offered sections in both mediums were invited via email to take an online survey during

fall 2015. Students were sent multiple email reminders, and the response rate (18%) was double that of official surveys at the university [67]. This resulted in 22,410 responses, and sample analysis indicates that this sample is roughly representative of the larger CUNY population. In this survey data, a total of 780 students dropped out; of these, 702 provided their reasons for dropping (response rate of 90%).

While definitions of “dropout” vary in the literature [44], we operationalized dropout (used interchangeably with the term withdrawal in this article) as formally or informally (by stopping attendance) withdrawing from a course at some point in the semester. Students who dropped a course were asked about their reasons for leaving in the survey. In this study, we analyze students’ written responses explaining why they dropped the course.

Courses in this study are classified as fully online if 80% or more of the course is conducted online. Courses are classified as face-to-face if less than 20% of the course is conducted online. (Courses that fell in between these two ranges were denoted as hybrid; these courses were excluded from the study to make the distinction in course medium distinct and to allow for a clear-cut comparison of the data.). We note that online courses at CUNY (as well as more generally [68]) prior to the COVID-19 pandemic were mostly asynchronous; thus, the results of this study are specific to comparisons of asynchronous vs. face-to-face courses.

The overall goal was to investigate the motivation for students’ decisions to withdraw from their courses. Student responses to the same survey, given to a different sample the prior year, were analyzed and then used to develop a coding frame which was then applied in this study; we employed a thematic analysis method adapted from Joffe [69] within the software QDAMiner 6. To develop the coding frame, pilot study data were analyzed through a four-part process, including: (1) a general review to familiarize researchers with the data; (2) open coding to generate all possible raw code units while drawing from previous dropout research and an inductive reading of the responses, (3) categorization of similar/related code units under initial themes, and (4) generation of themes by refining and naming. To ensure rigor during the coding frame development process, the collected pilot study data were examined by three researchers independently. Three different coding schemes were initially developed from the pilot data; these were compared for interrater reliability, and cases with discrepancies were resolved through discussion and consensus.

The coding frame developed from the pilot study was then used to conduct a thematic analysis on the responses generated in this study. For this study’s data analysis, each student response was coded by two coders. After the first round of coding, inter-rater reliability, as measured by Krippendorff’s alpha (measuring the presence/absence of each code for each student) was 0.71 for individual sub-codes and 0.85 for larger theme categories. After this round, coders went through a round of norming; many cases of disagreements involved subtle distinctions (e.g., one coder may have selected “teaching style did not fit student learning style” while another may have coded “quality of instructor”); to resolve this, codes in the coding frame were more carefully defined to distinguish them from one another. After the second round of coding, inter-rater agreement as measured by Krippendorff’s alpha was 0.98 for individual codes and 0.99 for larger code categories (See Figure 2).

General trends were explored for all codes in the coding frame, including those that were cited by only a small number of students. However, when calculating and comparing the percentages of students in each instructional medium who selected particular codes, the findings reported here were limited to only those themes that were indicated by at least 20 students.

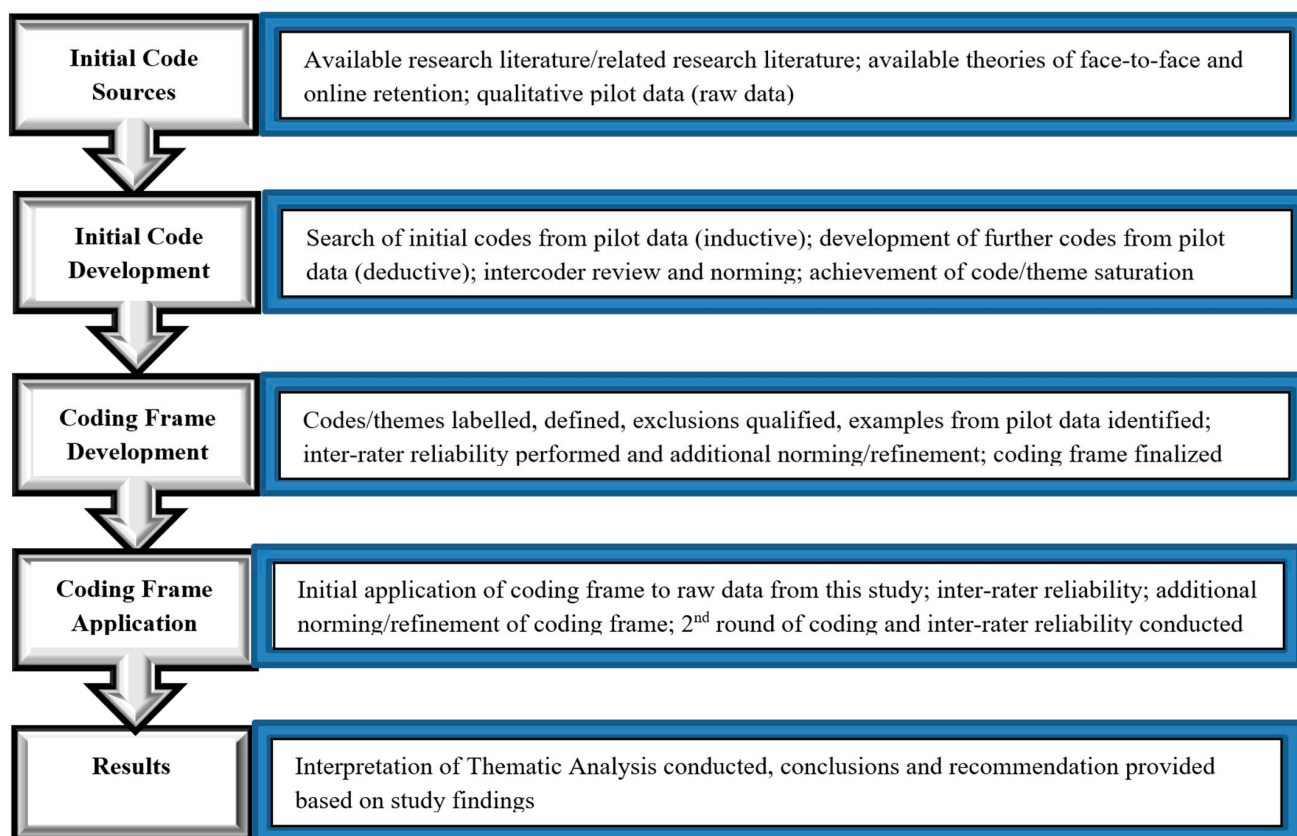


Figure 2. Process of thematic analysis code frame creation and application in this study.

6. Results and Discussion

6.1. General Findings

For both types of students (online and face-to-face), three main themes for dropping a course were indicated in the data. Course characteristics were the most named reasons for withdrawal across modalities; the most cited sub-codes were the quality of the instruction/instructor in the course and course workload/difficulty. Issues related to a lack of time was the next most given motivation for dropping a course provided by both sets of students (specifically, they noted paid work; family commitments; personal time commitments; and other academic demands on time). Finally, the third most cited reason for dropping out of online or face-to-face courses was course performance (i.e., grade at the time of drop).

Web and Cotton [70], who recently researched why students contemplate dropping out generally (nonspecific to course medium), similarly found instructor interactions and workload as significant motivating factors, although unlike in our results, they note financial concerns as the main reason. Financial concerns, not found in this study as a major consideration, have also been found to be a consideration for online course dropout and the main reason for college attrition more generally [71,72]. Although not as high as the other reasons given, a notable proportion of students in both modalities cited course performance as a reason for dropping out at almost identical rates, suggesting that protecting overall G.P.A. may be equally motivating in prompting dropout for both online and face-to-face students. We note that recent research by Akos and James [13] indicates that while course withdrawal may allow students to protect their GPAs at that specific point in time, it may also result in academic disengagement and increased later general college dropout.

While the three main themes for course withdrawal were similar in order across course modality, a deeper look at the data shows that there were some distinct differences in the patterns between modality for students' decision to withdraw from their courses (See Table 1). Results indicated that online students were significantly more likely to cite course characteristics as their motivation for dropping out in comparison to face-to-face students.

We note that course characteristics as the main reason for dropping an online course is consistent with some past online research on student satisfaction [11,12,35–37]. In addition, online students were much more likely to indicate lack of time as their reason for dropping out in comparison to face-to-face students; this is in line with early studies reviewed by Lee and Choi [44]. In contrast, face-to-face students indicated financial issues, not needing the particular course anymore, or a feeling of not fitting in/belonging at higher rates in comparison to online students as their reasons for leaving.

Table 1. Reasons for course withdrawal by course medium—general trends.

	Fully Online	Face-to-Face	F-Test	<i>p</i>
course characteristics	65.3%	49.7%	7.2	0.007
lack of time	44.9%	36.7%	3.16	0.076
money/resources	1.0%	4.9%	2.69	0.101
no longer need this particular class for degree	1.0%	3.2%	1.26	0.262
fit/belonging	1.0%	2.6%	0.73	0.392
class performance	21.4%	22.0%	0.07	0.798

Percentages indicate proportion of students who gave responses that were coded at least once with a given code.

Since online and face-to-face students cited both course characteristics and lack of time at very different rates, we further analyzed these themes by exploring the specific response patterns. To visualize the differences in patterns of reasons given by students enrolled in online versus face-to-face courses, graphs were generated (See Figures 3 and 4). The figures show the commonalities between modalities (e.g., quality of instruction/instructor is by far the most noted dropout motivation across both types of students). The figures also highlight differences between student types (e.g., factors related to time and course workload are much more cited issues motivating course withdrawal for online students in comparison to face-to-face students). Subsequent investigations were conducted to delve deeper into these differences observed between student types.

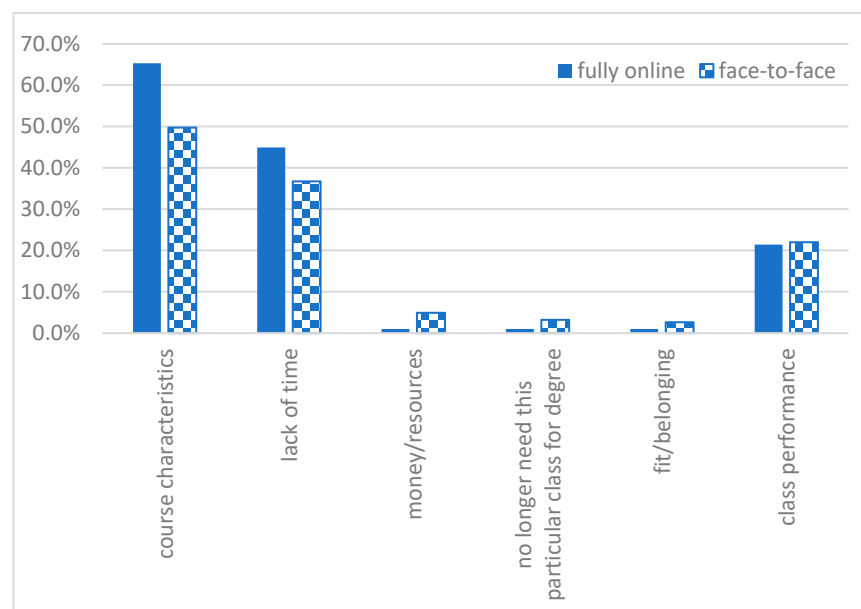


Figure 3. Graph of face-to-face vs. online course dropout motivation.

6.2. Course Characteristics

Table 2 presents the detailed pattern of course characteristic sub-codes that were cited by students in online versus face-to-face courses. While quality of instruction/instructor was the most commonly cited reason students in both types of courses withdrew, face-to-face students cited this at significantly higher rates than online students. Moreover, online

students cited course workload and course difficulty as the next most prominent course characteristic reasons for dropping out, and at significantly higher rates than face-to-face students. Significant differences in the proportion of responses between student type was also observed for four other sub-codes: instructional modality did not fit learning style; quality of instructional materials; understanding of instructor expectations; and quality of peer interactions, with online students citing all of these at significantly higher rates.

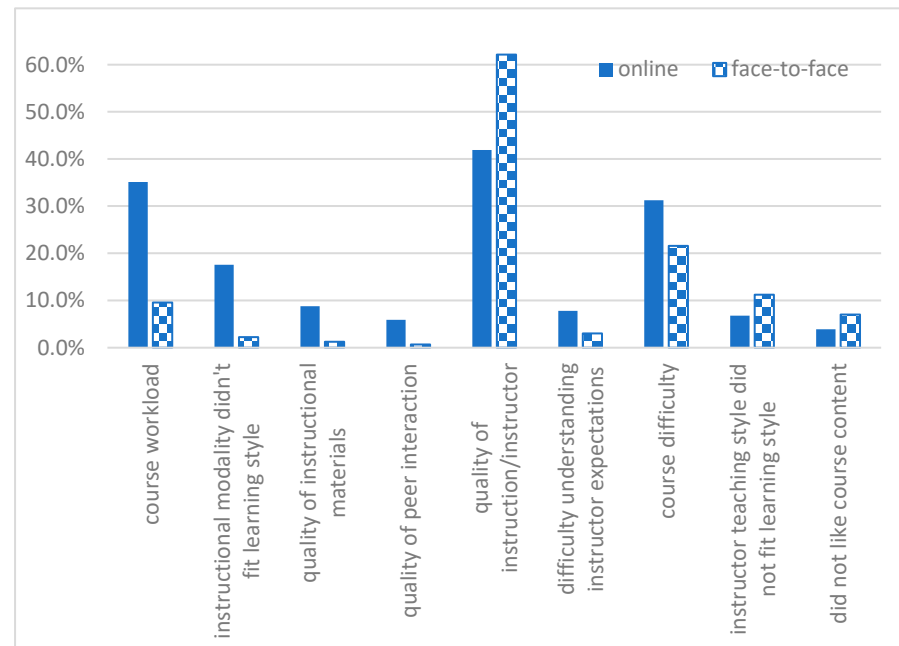


Figure 4. Graph of face-to-face vs. online course dropout reasons related to course characteristics.

Table 2. Reasons for course withdrawal by course modality—course characteristic sub-codes.

	Online	Face-to-Face	Z-Score	p
course workload	35.1%	9.6%	7.01	0.000
instructional modality did not fit learning style	17.6%	2.2%	6.99	0.000
quality of instructional materials	8.8%	1.2%	4.76	0.000
quality of peer interaction	5.9%	0.7%	4.09	0.000
quality of instruction/instructor	41.9%	62.1%	−3.59	0.000
difficulty understanding instructor expectations	7.8%	3.0%	2.37	0.024
course difficulty	31.2%	21.6%	2.12	0.042
instructor teaching style did not fit learning style	6.8%	11.2%	−1.32	0.093
did not like course content	3.9%	7.0%	−1.17	0.121

Percentages indicate proportion of students who gave responses that were coded at least once with a given code.

6.2.1. Quality of Instruction/Instructor

Most student responses were identified as issues of instructor/instruction quality, regardless of modality. The majority of the comments on what a lack of quality entailed found in the data were related to either a lack of organization or unresponsiveness of instructors (including unwillingness to answer questions):

- *The professor I had was very unorganized and was not clear with the content.*
- *The professor was not very helpful, to be very honest. Furthermore, his teaching style was very unorganized and thus, I had a hard time following along.*
- *The professor did not respond to emails, and the style of teaching was not clear to me.*
- *I did not get any feedback from my professor when I asked for help.*

This finding is consistent with recent research by Glazier and Harris [73], who also found that having instructors who are engaged and available matter to students regardless of instructional modality.

While comments on a lack of instruction/instructor quality were the most cited reason for course withdrawal across modalities, there were specific trends in student responses related to instructor/ instruction quality that were only found in the descriptions of face-to-face students. These trends may help explain why face-to-face students cited this specific reason at significantly higher rates than online students (55.9% vs. 33.7%). A closer look at face-to-face student comments suggests that this difference is likely due to the quality of face-to-face interactions and oral lectures. Many face-to-face students denoted professors as rude or disrespectful, and furthermore, many cited class lectures that were off-topic or that were poorly explained. In conjunction, common among the responses were descriptions of how face-to-face instructors would not answer questions or became angered when questions were asked:

- *The professor I took did not do a good job in lectures and he was extremely rude and did not care about the students at all.*
- *The professor did not know how to properly teach the class, as well as not staying on task.*
- *The material was not taught well and the professor ridiculed the student for asking any questions.*
- *The instructor was not explaining the work, and whenever the class had a question, the instructor would yell at the class. The instructor was no help at all!*

This may point to a need for professional development of face-to-face instructors who rely on in-the-moment oral lectures to convey course materials, as past research identifies key elements (chief among these organization and clarity) of a highly effective in-person lecture [74]. However, there are other possible interpretations, such as instructor self-selection: some instructors have reported teaching practices becoming more prepared after working with instructional designers and devoting time and effort to development of online courses [75]. Further still, the ability to record and edit lectures for online viewing (compared to the spontaneous nature of face-to-face lecturing) or other means of multi-media may have alleviated this issue for online students; some research suggests higher student satisfaction (although not necessarily less dropout) with access to recorded lectures [76]. Future research is needed to assess this in relation to course withdrawal between student types.

While similar lecture descriptors were not present in online student responses, there were other similarities: specific online student comments regarding instructor/instructor quality tended to refer to a lack of instructor communication/responsiveness as a driving motivation for course withdrawal, which was also a common theme among face-to-face students. This is consistent with Glazier and Harris [73], who note that a lack of instructor engagement may hurt online students' satisfaction more than it hurts face-to-face students' satisfaction. It further supports a plethora of online social presence research (e.g., see review in [11]) noting the critical importance of high amounts of contact and timely and high-quality feedback from instructors in facilitating academic understanding, as well as a sense of belonging in the online environment.

Thus, we saw that a lack of instructor engagement and responsiveness appeared to be a critical reason for student dropout in both mediums, but that dissatisfaction with lectures was a recurrent theme in face-to-face courses but not online. This may suggest that online asynchronous courses frequently use different types of instruction, rather than relying primarily on lectures, or that lectures, when used in online asynchronous courses, may tend to be more well organized due to the fact that it has to be prepared and recorded in advance. This could be a productive area to explore further in future research.

6.2.2. Course Workload and Course Difficulty

While course difficulty was the second most cited reason for dropping for face-to-face students, course workload was the second most cited reason given by online students.

More critically, the data showed that online students were significantly more likely in comparison to face-to-face students to cite course difficulty (28.1 and 19.4%) and course workload (31.6% vs. 8.6%) as a reason for dropping their courses:

- *Workload for an online class was too much. And the times for the due dates were not helpful. Lack of time.*
- *I found the class hard to keep up with. The readings were intense and in heavy amounts. The assignments were every week and it was just too much.*
- *The course was really time consuming. . . Everyday there was something new and if you were lost in one chapter you will not be able to pass.*
- *The workload required for this course was overwhelming. Aside from assigned reading assignments that equated to a face-to-face course class time, the homework and assignments required a great amount of additional time.*

This confirms previous research [45] that indicates that online students will drop their courses if the course workload is perceived to be too hard. However, what is interesting about online students' comments on course difficulty and course workload is that when looking closely at their specific statements, these often tended to be related to students' time, in addition to, or even in some cases instead of, the actual quality of the course design. This may support Pierrakeas et al. [77] and Leeds et al. [78], who note that a miscalculation/under-estimation of the time required for completing the online workload influenced students' decisions to withdraw. Alternatively, it may be that some instructors who teach online courses design their online courses in such a way that they are actually more difficult or have a higher workload than their face-to-face sections; for example, to counter stigma often associated with online courses [79,80]. To our knowledge, there are no studies available that have investigated this possibility. It is also possible that students enrolled in online courses perceive their courses to be more difficult or the workload to be higher precisely because they suffer from more time poverty on average than comparable face-to-face students [16]. More research is needed to better understand what contributes to student perceptions of course workload and difficulty online.

6.2.3. Instructional Modality and Learning Style

Only 2% of face-to-face students identified that a poor fit between instructional modality and their learning style was a reason for their course withdrawal, in comparison to 15.8% of online students who provided this reason; this difference in motivation for dropping the course is significant:

- *I felt I was not understanding the material as fully as I would have in a classroom.*
- *I could not follow the online class, the material is complicated. I think the course should be face-to-face.*
- *It was very challenging for me, and I feel as though I will have to take the course in a classroom setting.*
- *I found myself distracted and overwhelmed and even more isolated. . . I WOULD NEVER TAKE ANOTHER ONLINE CLASS.*

The students who gave these kinds of responses may reflect a genuine lack of fit between their own learning style and the asynchronous online course design (the typical online course design at CUNY prior to the pandemic); learners may have specific preferences or predispositions to perceive and process information in a particular way/combination of ways, and this may not always match the ways that online instructors present content [81]. Alternatively, the fit issue may be less about the medium and more about course difficulty. At a closer look, many of the online student responses seemed to relate to the difficulty of the content/subject of the class; findings from Jaggars [82] suggest that students prefer to take "easy" subjects online and "hard" or "important" subjects face-to-face. Thus, responses related to the online medium not fitting student learning styles may be related to the earlier identified issue of a connection between perceived course difficulty and online course dropout.

6.2.4. Quality of Online Materials and Instructor Expectations

There were significant differences in reporting quality of instructional materials and a lack of understanding of instructor expectations as the reasons for course withdrawal. Specifically, online students were much more likely to say that they had dropped the course because of the quality of instructional materials (7.9% vs. 1.1%) and because they could not understand the instructor's expectations (7% vs. 2.9%):

- *My professor was not clear enough on her syllabus. . . what the class will be like and what would be expected from us.*
- *Questions were not formatted properly and it was hard to understand what she was asking for.*
- *Found it difficult to understand the professor's announcements.*
- *The instructor decided to use another website for the assignments and I was all over the place.*

This is consistent with Glazier and Harris [73], who note that online students expressed greater concern about course organization and quality of assignments in comparison to face-to-face students. It also supports previous research reporting vague expectations and problems with online course materials, and that findability/quality of instructional materials are critically important (see review in [11]). Additionally, some recent research suggests that online students care deeply about the quality and quantity of online materials, whereas instructors may not focus on this, assuming whatever is provided is sufficient [72]. It is unclear the extent to which online materials were actually more poorly crafted than face-to-face ones. In an online asynchronous course, it may be that *all* interactions with the professor are perceived to be a type of "course material", and this may be one reason why this category occurred more often with online students. Furthermore, the clarity of written instructions may be more important in asynchronous online courses in comparison to face-to-face courses, as this may be seen as a form of instructor presence in this modality [73].

6.2.5. Quality of Peer Interactions

We note that the low rates of citation of quality of peer interactions as a motivation for course withdrawal is surprising, as social integration with peers has been deemed a critical retention factor in previous research across modalities (see reviews in [11,72]). Furthermore, the quality of peer interactions has been found to be a major reason that online students contemplate dropping out [70]. Even though this reason was cited at lower rates than other motivations for course withdrawal, the data does show that online students in comparison to face-to-face students were significantly more likely to cite the quality of peer interactions (5.3% vs. 0.6%) as the reason for dropping their courses:

- *I was forced to do group work. My group members did not want to do anything and when I emailed the professor about it, he told me to deal with it. I dropped because I was not putting my grade in the hands of lazy classmates. . .*
- *. . .the issue that a "classmate" was literally copying my post on the discussion board and I was not getting credit for it. . .*

The data seems to corroborate previous research that suggests that online students are not in favor of group assignments without instructor support [83], and that instructor facilitation is critical to structuring meaningful peer-peer interactions (see review in [84]). Furthermore, our findings support the idea that online students may find instructor-student interactions more important than student-student interactions [85]. There is an entire body of research about building learning communities online through online collaboration and discussion (see reviews in [72,78,84]). However, this as a protective factor against student withdrawal may depend greatly on instructor facilitation in the online environment; this bears further investigation.

6.3. Issues of Time/Time Poverty

In addition to course characteristics, issues related to time were also highly prevalent as reasons for dropping out online and face-to-face, with almost half of all online students citing this, and over one-third of all face-to-face students giving this as a reason

for dropping out; the difference in these propositions online vs. face-to-face was significant. Time constraints are an oft-reported reason for enrolling online in the first place (e.g., [23,25,27–29]). We have posited that the same time constraints that make some students more likely to take online courses may be the same reasons that make them drop out [14,16,34]. Results from this study suggest some support for this notion, as issues related to time were found to be more prominent reasons for dropping for online students than for face-to-face students (45% vs. 37%).

To tease apart specific responses related to time, Table 3 presents a detailed breakdown of the cause of the time limitations that were cited by students enrolled in each course medium. The largest proportion of time-related-reasons for course withdrawal in order of prevalence fell into the following sub-codes: personal time commitments, work, family, and other academic demands; this order of prevalence was consistent across student type. However, a deeper look at patterns between online and face-to-face students reveals significant differences (see Figure 5). Specifically, online students in comparison to face-to-face students were significantly more likely to cite work, family, and other academic demands (which may be a proxy for generally having too little time available for college) as their reason for dropping out, and were also more likely to indicate higher rates of personal time commitments and a general lack of time as their reason for leaving.

Table 3. Reasons for course withdrawal by course modality—detailed sub-codes related to time.

	Fully Online	Face-To-Face	Z-Score	<i>p</i>
work	29.2%	18.6%	2.47	0.019
other academic demands	21.4%	13.3%	2.13	0.041
family	23.4%	15.9%	1.86	0.070
personal time commitments	34.1%	25.9%	1.71	0.093
commute	0.0%	1.3%	−1.18	0.120
time quality	2.9%	5.0%	−0.92	0.179
general lack of time	12.7%	9.6%	0.98	0.246

Percentages indicate proportion of students who gave responses that were coded at least once with a given code.

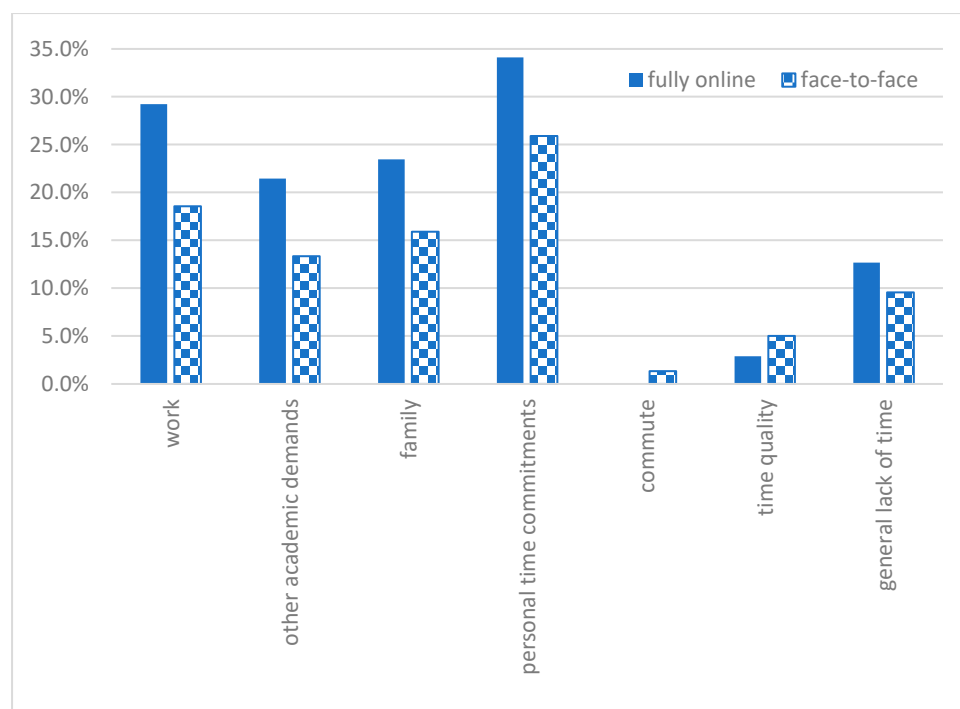


Figure 5. Graph of face-to-face vs. online course dropout reasons related to time.

6.3.1. Personal Time Commitments

Both students in online and face-to-face courses cited personal time commitments as the most prominent reason for dropping out. This supports earlier research (e.g., [86]), where students have identified personal reasons as their motivation for course withdrawal. We note in this study, students tended to explicitly and specifically name that their personal issue was a drain on their time/increased their time poverty; time poverty in this context has been defined as insufficient time to devote to college work/maintain academic well-being [14,16,34]. Furthermore, online students were more likely to report personal time commitments as a reason for dropping their courses (although these differences were not as significant as for other time-related sub-codes). When taking a deeper look at many of the online student responses, the data showed that online students tended much more often than face-to-face students to state that their experienced personal time issues were related to their mental health/health:

- *My anxiety kicked up again really strongly and I just could not handle anything involving class or work.*
- *I was unable to finish the course due to my chronic medical issues.*
- *Sudden health complications that required medical testing.*

It is important to note that our data was collected pre-pandemic, yet online student comments indicated a pattern of time limitations specifically due to personal health issues as their reason for dropping out. Pre-pandemic, student health has been linked to the ability to succeed in college; however, very little research is available [87]. Findings from this study do support some early research (e.g., [77]) specifically connecting online dropout to health and disability issues. More recently [87], we found that health-related events that occurred prior to the onset of the pandemic had a substantially and significantly larger correlation with course outcomes than those that occurred after the onset of the pandemic; we connect this to a lack of *body capital*, which “encompasses all the resources that ‘live in the body’: physical, mental, and psychological” [87]. Online student comments in this study support this line of reasoning and point to the need for future research on possible connections between student health, disability, and online course withdrawal.

6.3.2. Work

Both online and face-to-face students cited needing to work/work interfering with their time to study as the second most prevalent reason for dropping their courses; again, this confirms previous course withdrawal research [86]. However, work was mentioned significantly more for online students than for face-to-face students as the motivation for withdrawal (26% vs. 17%):

- *My job was also placing a lot of demands on my time, which made it difficult.*
- *Could not balance the class with my hectic work schedule.*
- *The workload was more than expected, and I was unable to keep up as I had full time work.*
- *Because of my work schedule, I was unable to dedicate the time needed to do the necessary readings and turn in my assignment in a timely fashion.*

Work as a reason for course withdrawal may be connected to online enrollment in the first place; research suggests that online students are more likely to be non-traditional students who work and have family responsibilities. [3,5–7,9,14,16,58,59]. Findings from this study are consistent with other research (see review in [44,72]) that ties online course withdrawal to the time demands placed on students by their employment.

6.3.3. Other Academic Demands, Family Issues, and General Lack of Time

Students in online courses were also significantly more likely than those in face-to-face courses to indicate other academic demands (19% vs. 12%) as their reason for withdrawing from courses. However, we note that a deeper look at many of the online student responses suggests a general lack of time for all of their courses, often due to intersections of other family and work responsibilities. This corresponded to online students being more likely

(although not significantly so) to indicate family issues (21.1% vs. 14.3%) and a general lack of time (11.4% vs. 8.6%) in connection to other academic demands as their motivation for course withdrawal:

- *I no longer had time to sit and complete all the assignments.*
- *Unable to balance work, school, and personal issues.*
- *I was unable to handle the course load of that one particular class because of all the other courses I was taking in fall.*
- *I believe I took too many classes and focused more on the face-to-face class than I did with the online class.*

Overall, the data from this study related to time issues suggests any flexibility that the online medium offers may often not be enough to mitigate a student's time constraints. Our findings substantiate findings in earlier studies, noting that holding multiple life responsibilities and time management/time poverty are an issue for online students (see reviews in [11,44,72]). Furthermore, it corroborates our more recent research, which suggests that both time quality and total discretionary time has a significant direct effect on college persistence, and that time poverty may be a mediating variable in explaining course and college outcomes for students who enroll in at least one class online [14,16,34,64].

7. Implications

Our findings strongly indicate that more professional development in online pedagogy will likely be needed, both perhaps for those who taught online pre-pandemic, and especially those new to the modality who plan to continue online, to help ameliorate online course dropout. The ERT that took place during the pandemic has been found in many cases to not be based on the best pedagogical practices in online learning [88,89]. So, even though instructors may have gained experience teaching online due to the pandemic, many high quality course designs and instructional practices have not been put into practice during COVID-19. Research shows that effective online pedagogy can be significantly different from teaching face-to-face, and furthermore, that there is no single approach to training faculty who decide to teach online [90,91]. However, several established models for high quality instruction design in the online environment (e.g., Quality Matters "www.qualitymatters.org accessed on 1 September 2023"); Community of Inquiry [92] exist for use by institutions. We also note that Travers [93] reported a need for data collection on student performance and retention from programs where online instructors receive pedagogical and instructional design training versus those with only technology training. This study's findings highlight the critical role that course characteristics play in online students' decisions to withdraw, and support the need for this type of research moving forward.

At the same time, face-to-face students cited instructional quality as the most common reason for dropping, and at significantly higher rates than online students. The specific descriptions from students revealed that this was often related to the quality of in-person lectures, or the responsiveness of instructions. Thus, this study also points to a critical need for increased professional development for face-to-face instructors.

That time issues were shown to be a more critical factor for online students is notable. This is in line with recent research that suggests time poverty may play a critical role in influencing course/college completion [14,16,34]. In this study, personal time commitments were cited at higher rates for online students in comparison to face-to-face students; the nature of these commitments supports other research [77,87], tending to concentrate on personal health/mental health issues. This suggests that future research should investigate the extent to which issues of health and disability may be a major understudied factor impacting online student course withdrawal, and that institutions may wish to carefully consider additional services to meet the health/mental health needs of students even outside of COVID-19.

Furthermore, online students also significantly cited work and other academic demands—connected to family issues and a general lack of time for studies—as the motivation for their withdrawal at higher rates than face-to-face students. The findings in

this study of time issues as a critical factor motivating online student course withdrawal strongly indicates the need for greater financial aid support (e.g., to reduce employment load) and other social support services (e.g., childcare) for online students, to free up their time so they can complete their online courses. Some attempts have been made to develop combined measures of time poverty and income poverty (e.g., [94]); results from this study indicate that institutions that hope to reduce online course withdrawal in the future may do well to devote resources to development and research on interventions addressing the combined effects of lack of income and time on online course persistence.

8. Conclusions

Course withdrawal has substantial negative impacts on students in terms of lost effort and money, and research strongly indicates that it may impact not only their academic momentum but also may lead to overall college attrition [13,95]. As institutions re-calibrate to new norms post-pandemic, online courses will likely play a greater role in the higher education landscape than pre-COVID-19 [18]; a broader array of students have experienced online learning, which has heightened student interest in this modality [96]. Because dropout rates have historically been higher in online than face-to-face courses (see reviews in [4,10]), an understanding of what may specifically motivate students to drop is important for institutions to consider as they implement policies and practices post-pandemic.

Reasons for dropout found in this study point to some malleable factors motivating online course withdrawal and specific interventions post-secondary institutions could adopt. This study strongly indicates that course instructors play a core role in course withdrawal; quality of the instructor/instruction was the most cited motivation for students dropping their courses across both modalities. Students across mediums indicated lack of responsiveness and course organization as specific forms of lack of instructor/instruction quality; this is consistent with previous research (e.g., [70]). However, a deeper look at the data from this study indicates some distinct patterns of motivation for dropping courses for online students in comparison to face-to-face students. In addition to students in both mediums generally citing poor organization and lack of responsiveness, our data indicated that online students in comparison to face-to-face students cited the quality of instructional materials, a lack of understanding of instructor expectations, and the quality of peer interactions as their reasons for dropping out at significantly higher rates than face-to-face students. All of these relate to aspects of online course design, and support previous research (See reviews in [11,36,37,42,84]) highlighting the importance of these factors both in online student satisfaction and retention.

Furthermore, the findings that online students were significantly more likely to cite a lack of time as a reason for dropping out than face-to-face students point to two important implications. First, research must account for the fact that the reasons why students choose to enroll online in the first place may also contribute to student dropout. Thus, analyzing outcomes in online vs. face-to-face courses without accounting for the differing characteristics of those who choose to enroll online is problematic [4,14,16,34]. Even when comparing outcomes for online vs. face-to-face courses for the same student, students may drop online instead of face-to-face courses in which they are enrolled simply because of an overall lack of time; for example, as one student explained, “I believe I took too many classes and focused more on the face-to-face class than I did with the online”. This points to broader issues with time poverty, rather than problems with the online medium itself. And second, while both online and face-to-face students cited lack of time as a frequent reason for dropping out, and therefore would likely benefit from interventions that enable them to spend more time on their studies, online students were particularly likely to cite time as a reason. Thus, one of the most important interventions for online students may not be technical support, or other interventions targeted to help students navigate online courses directly, but rather supports that free up more time for online students to spend on their studies. This could be an important shift in how supports for online students are conceptualized moving forward.

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References

1. Seaman, J.E.; Allen, I.E.; Seaman, J. Grade Increase: Tracking Distance Education in the United States. 2018. Available online: <https://onlinelearningsurvey.com/reports/gradeincrease.pdf> (accessed on 1 September 2023).
2. Lederer, A.M.; Hoban, M.; Lipson, S.K.; Zhou, S.; Eisenberg, D. More than inconvenienced: The unique needs of U.S. student during the COVID-19 pandemic. *Health Educ. Behav.* **2021**, *48*, 14–19. [CrossRef] [PubMed]
3. Johnson, H.; Mejia, M.C. *Online Learning and Student Outcomes in California's Community Colleges*; Public Policy Institute of California: San Francisco, CA, USA, 2014.
4. Hachey, A.C.; Conway, K.M.; Wladis, C.; Karim, S. Post-secondary online learning in the U.S.: An integrative review of the literature on undergraduate student characteristics. *J. Comput. High. Educ.* **2022**, *34*, 708–768. [CrossRef] [PubMed]
5. Smith, N.D. *Examining the Effects of College Courses on Student Outcomes Using a Joint Nearest Neighbor Matching Procedure on a State-Wide University System*; North Carolina State University: Raleigh, NC, USA, 2016. Available online: https://aefpweb.org/sites/default/files/webform/41/NicholeDSmith_ExaminingOnline.pdf (accessed on 1 September 2023).
6. Xu, D.; Jaggars, S.S. The effectiveness of distance education across Virginia's community colleges: Evidence from introductory college-level math and English courses. *Educ. Eval. Policy Anal.* **2011**, *33*, 360–377. [CrossRef]
7. Xu, D.; Jaggars, S.S. *Online and Hybrid Course Enrollment and Performance in Washington State Community and Technical Colleges*; CCRC Working Paper No. 31; Community College Research Center, Columbia University: New York, NY, USA, 2011. Available online: <http://ccrc.tc.columbia.edu/media/k2/attachments/online-hybrid-performance-washington.pdf> (accessed on 1 September 2023).
8. James, S.; Swan, K.; Daston, C. Retention, progression and the taking of online courses. *Online Learn.* **2016**, *20*, 75–96. Available online: <https://files.eric.ed.gov/fulltext/EJ1105922.pdf> (accessed on 1 September 2023). [CrossRef]
9. Shea, P.; Bidjerano, T. Does online learning impede degree completion? A national study of community college students. *Comput. Educ.* **2014**, *75*, 103–111. [CrossRef]
10. Delnoij, L.E.C.; Dirckx, K.J.H.; Janssen, J.P.W.; Martens, R.L. Predicting and resolving noncompletion in higher (online) education: A literature review. *Educ. Res. Rev.* **2020**, *29*, 100313. [CrossRef]
11. Muljana, P.S.; Luo, T. Factors contributing to learner retention in online learning and recommended strategies for improvement: A systematic literature review. *J. Inf. Technol. Educ. Res.* **2019**, *18*, 19–57. [CrossRef]
12. Shaikh, U.U.; Asif, Z. Persistence and dropout in higher online education: Review and categorization of factors. *Front. Psychol.* **2022**, *13*, 902070. [CrossRef]
13. Akos, P.; James, S. Are course withdrawals a useful student success strategy? *NACADA J.* **2020**, *40*, 80–93. [CrossRef]
14. Wladis, C.; Hachey, A.C.; Conway, K.M. Time Poverty: A hidden factor connecting online enrollment and college outcomes? *J. High. Educ.* **2022**, *94*, 609–637. [CrossRef]
15. Diaz, D.P. Online Drop Rates Revisited. 2002. Available online: http://www.technologysource.org/article/online_drop_rates_revisited/?utm_campaign=elearningindustry.com&utm_source=/5-ways-humanize-the-elearning-experience&utm_medium=link (accessed on 1 September 2023).
16. Wladis, C.W.; Hachey, A.C.; Conway, K.M. Time poverty as a mediator between voluntary online enrollment and college outcomes. In Proceedings of the EDEN 2022 Annual Conference, Madrid, Spain, 20–22 June 2022; pp. 87–92. Available online: <https://eden-europe.eu/wp-content/uploads/2023/02/Tallinn-Proceedings-2.pdf> (accessed on 1 September 2023).
17. Allen, I.E.; Seaman, J. *Online Report Card: Tracking Online Education in the United States*; No. ED572777; Babson Survey Research Group: Boston, MA, USA, 2016. Available online: <https://files.eric.ed.gov/fulltext/ED572777.pdf> (accessed on 1 September 2023).

18. Garrett, R.; Simunich, B.; Legon, R.; Fredericksen, E.E. *CHLOE7: Tracking Online Learning from Mainstream Acceptance to Universal Adoption—The Changing Landscape of Online Education*; Quality Matters & Eduventures Survey of Chief Online Officers: Austin, TX, USA, 2022. Available online: <https://encoura.org/wp-content/uploads/2022/08/CHLOE-7-Tracking-Online-Learning-From-Mainstream-Acceptance-To-Universal-Adoption.pdf> (accessed on 1 September 2023).
19. National Center for Education Statistics [NCES]. *The Condition of Education at a Glance: Distance Education in Post-Secondary Institutions*; National Center for Education Statistics, U.S. Department of Education: Washington, DC, USA, 2013. Available online: <https://nces.ed.gov/pubs2013/2013037.pdf> (accessed on 1 September 2023).
20. Snyder, T.D.; de Brey, C.; Dillow, S.A. *Digest of Education Statistics, 2015*; No. NCES 2016-014; National Center for Education Statistics, Institute of Education Sciences, U.S. Department of Education: Washington, DC, USA, 2016. Available online: <https://nces.ed.gov/pubs2016/2016014.pdf> (accessed on 1 September 2023).
21. National Center for Education Statistics [NCES]. Undergraduate Enrollment. In *Condition of Education*; U.S. (Fast Facts); Department of Education, Institute of Education Science: Washington, DC, USA, 2022. Available online: <https://nces.ed.gov/fastfacts/display.asp?id=80> (accessed on 1 September 2023).
22. Roberts, J. 2022 Students and technology report: Rebalancing the student experience. *Educause*. 2022. Available online: <https://www.educause.edu/ecar/research-publications/2022/students-and-technology-report-rebalancing-the-student-experience/modality-preferences> (accessed on 1 September 2023).
23. Brown, J.L.M. Online learning: A comparison of Web-based and Land-based Courses. *Q. Rev. Distance Educ.* **2012**, *13*, 39–42.
24. Burnette, D.M. Negotiating the mine field: Strategies for effective online education administrative leadership in higher education institutions. *Q. Rev. Distance Educ.* **2015**, *16*, 13–25.
25. Daymont, T.; Blau, G. Deciding between traditional and online formats: Exploring the role of learning advantages, flexibility and compensatory adaptation. *J. Behav. Appl. Manag.* **2011**, *12*, 156–175.
26. Jaggars, A.; Bailey, T. *Effectiveness of Online Courses for College Students: A Response to a Department of Education Meta-Analysis*; Community College Research Center, Teachers College Columbia University: New York, NY, USA, 2010; Available online: <https://ccrc.tc.columbia.edu/publications/effectiveness-fully-online-courses.html> (accessed on 1 September 2023).
27. Jaggars, S.S.; Edgecombe, N.; West Stacey, G. *What We Know about Online Course Outcomes*; Community College Research Center, Teachers College Columbia University: New York, NY, USA, 2013. Available online: <http://ccrc.tc.columbia.edu/media/k2/attachments/what-we-know-about-online-course-outcomes.pdf> (accessed on 1 September 2023).
28. Lei, S.A.; Gupta, R.K. College distance education courses: Evaluating benefits and costs from institutional, faculty and student perspectives. *Education* **2010**, *130*, 616–631. Available online: <https://www.learntechlib.org/p/109315/> (accessed on 1 September 2023).
29. O'Neill, D.K.; Reinhardt, S.; Jayasundera, K. What undergraduates say about choosing an online or in-person course: Qualitative results from a large-sample, multi-discipline survey. *High. Educ. Res. Dev.* **2021**, *41*, 1199–1214. [CrossRef]
30. Wladis, C.; Hachey, A.C.; Conway, K.M. Online STEM and mathematics course-taking: Retention and Access. In *Proceedings of the 20th Annual Conference on Research in Undergraduate Mathematics Education*, San Diego, CA, USA, 23–25 February 2017; pp. 1695–1697. Available online: <http://sigmaa.maa.org/rume/RUME20.pdf> (accessed on 1 September 2023).
31. Xavier, M.; Meneses, J. *Dropout in Online Higher Education: A Scoping Review From 2014 to 2018*; ELearn Center, Universitat Oberta de Catalunya: Barcelona, Spain, 2020. Available online: <https://femrecerca.cat/meneses/publication/dropout-online-higher-education-scoping-review/dropout-online-higher-education-scoping-review.pdf> (accessed on 1 September 2023).
32. Smith, B. E-Learning Technologies: A Comparative Study of Adult Learners Enrolled in Blended and Online Campuses Engaging in a Virtual Classroom. ProQuest Dissertations and Theses Database. Ph.D. Thesis, Capella University, Minneapolis, MN, USA, 2010. Available online: <https://search.proquest.com/docview/746605945> (accessed on 1 September 2023).
33. Xu, D.; Jaggars, S.S. *Adaptability to Online Learning: Differences across Types of Students and Academic Subject Areas*; CCRC Working Paper No. 54; Community College Research Center, Columbia University: New York, NY, USA, 2013. Available online: <http://ccrc.tc.columbia.edu/media/k2/attachments/adaptability-to-online-learning.pdf> (accessed on 1 September 2023).
34. Wladis, C.; Hachey, A.C.; Conway, K.M. No time for college? An investigation of time poverty and parenthood. *J. High. Educ.* **2018**, *89*, 807–831. [CrossRef]
35. Kauffman, H. A review of predictive factors of student success in and satisfaction with online learning. *Res. Learn. Technol.* **2015**, *23*, 1–13. Available online: <https://journal.alt.ac.uk/index.php/rlt/article/view/1648> (accessed on 1 September 2023). [CrossRef]
36. Song, L.; Singleton, E.S.; Hill, J.R.; Koh, M.H. Improving online learning: Student perceptions of useful and challenging characteristics. *Internet High. Educ.* **2004**, *7*, 57–70. [CrossRef]
37. Swan, K.; Shea, P.; Fredericksen, E.E.; Pickett, A.M.; Pelz, W.E. Course design factors influencing the success of online learning. In *Proceedings of the WebNet 2000 World Conference on the WWW and Internet*, San Antonio, TX, USA, 30 October–4 November 2000; pp. 513–518. Available online: <https://files.eric.ed.gov/fulltext/ED448760.pdf> (accessed on 1 September 2023).
38. Eom, S.B.; Wen, J. The determinants of students' perceived learning outcomes and satisfaction in university online education: An empirical investigation. *Decis. Sci. J. Innov. Educ.* **2009**, *4*, 215–235. [CrossRef]
39. Ladyshevsky, R.K. Instructor presence in online course and student satisfaction. *Int. J. Scholarsh. Teach. Learn.* **2013**, *7*, 1–23. Available online: <https://digitalcommons.georgiasouthern.edu/cgi/viewcontent.cgi?article=1377&context=ij-sotl> (accessed on 1 September 2023). [CrossRef]

40. Lee, S.J.; Srinivasan, S.; Trail, T.; Lewis, D.; Lopez, S. Examining the relationship among student perception of support, course satisfaction, and learning outcomes in online learning. *Internet High. Educ.* **2011**, *14*, 158–163. [CrossRef]
41. Richardson, J.; Swan, K. Examining Social Presence in Online Courses in Relation to Students' Perceived Learning and Satisfaction. 2003. Available online: <http://hdl.handle.net/2142/18713> (accessed on 1 September 2023).
42. Sher, A. Assessing the relationship of student-instructor and student-student interaction to student learning and satisfaction in Web-based Online Learning Environment. *J. Interact. Online* **2009**, *8*, 1–19. Available online: <https://www.ncolr.org/jiol/issues/pdf/8.2.1.pdf> (accessed on 1 September 2023).
43. Park, J.H.; Choi, H.J. Factors Influencing Adult Learners' Decision to Drop Out or Persist in Online Learning. *Educ. Technol. Soc.* **2009**, *12*, 207–217. Available online: <https://www.learntechlib.org/p/74987/> (accessed on 1 September 2023).
44. Lee, Y.; Choi, J. A Review of Online Course Dropout Research: Implications for Practice and Future Research. *Educ. Technol. Res. Dev.* **2011**, *59*, 593–618. [CrossRef]
45. Willigig, P.A.; Johnson, S.D. Factors that influence students decisions to dropout of online courses. *J. Asynchronous Learn. Netw.* **2009**, *13*, 115–127.
46. Fetzner, M. What do unsuccessful online students want us to know? *J. Asynchronous Learn. Netw.* **2013**, *17*, 13–27. Available online: <https://files.eric.ed.gov/fulltext/EJ1011376.pdf> (accessed on 1 September 2023). [CrossRef]
47. Kember, D. *Open Learning Courses for Adults: A Model of Student Progress*; Educational Technology Publications: Englewood Cliffs, NJ, USA, 1995.
48. Kember, D.A. Longitudinal-process model of drop-out from distance education. *J. High. Educ.* **1989**, *60*, 278–301. [CrossRef]
49. Park, J. Factors related to learner dropout in online learning. In *Proceedings of the 2007 Academy of Human Resource Development Annual Conference*; Nafukho, F.M., Chermack, T.H., Graham, C.M., Eds.; AHRD: Indianapolis, IN, USA, 2007; pp. 25–1–25–8. Available online: <https://files.eric.ed.gov/fulltext/ED504556.pdf> (accessed on 1 September 2023).
50. Rovai, A. In search of higher persistence rates in distance education online programs. *Internet High. Educ.* **2003**, *6*, 1–16. [CrossRef]
51. Tinto, V. Dropouts from higher education: A theoretical synthesis of recent research. *Rev. Educ. Res.* **1975**, *45*, 89–125. [CrossRef]
52. Tinto, V. Theories of student departure revisited. In *Higher Education Handbook of Theory and Research*; Smart, J., Ed.; Agathon: New York, NY, USA, 1986; pp. 359–384.
53. Tinto, V. *Leaving College: Rethinking the Causes and Cures of Student Attrition*; University of Chicago Press: Chicago, IL, USA, 1993.
54. Bean, J.; Metzner, B. A conceptual model of non-traditional undergraduate student attrition. *Rev. Educ. Res.* **1985**, *55*, 485–539. [CrossRef]
55. Jaggars, S.S.; Xu, D. *Online Learning in the Virginia Community College System*; Community College Research Center, Columbia University: New York, NY, USA, 2010. Available online: <http://ccrc.tc.columbia.edu/media/k2/attachments/online-learning-virginia.pdf> (accessed on 1 September 2023).
56. Layne, M.; Boston, W.E.; Ice, P. A longitudinal study of online learners: Shoppers, swirlers, stoppers, and succeeders as a function of demographic characteristics. *Online J. Distance Learn. Adm.* **2013**, *16*, 1–16. Available online: https://www.westga.edu/~distance/ojdla/summer162/layne_boston_ice162.pdf (accessed on 1 September 2023).
57. Pontes, M.C.F.; Hasit, C.; Pontes, N.M.H.; Lewis, P.A.; Siefiring, K.T. Variables related to undergraduate students preference for distance education classes. *Online J. Distance Learn. Adm.* **2010**, *13*, 8. Available online: <https://www.learntechlib.org/p/76550/> (accessed on 1 September 2023).
58. Wladis, C.W.; Conway, K.M.; Hachey, A.C. The online STEM classroom—Who succeeds? An exploration of the impact of ethnicity, gender and non-traditional student characteristics in the community college context. *Community Coll. Rev.* **2015**, *43*, 142–164. [CrossRef]
59. Wladis, C.W.; Hachey, A.C.; Conway, K.M. The representation of minority, female, and non-traditional STEM majors in the online environment at community colleges: A nationally representative study. *Community Coll. Rev.* **2015**, *43*, 89–114. [CrossRef]
60. Boudon, R. *Education, Opportunity, and Social Inequality: Changing Prospects in Western Society*; Wiley: Hoboken, NJ, USA, 1974.
61. Simon, H.A. *Models of Man*; Wiley: Hoboken, NJ, USA, 1957.
62. Conway, K.M.; Wladis, C.; Hachey, A.C. Time Poverty and Parenthood: Who Has Time for College? *AERA Open* **2021**, *7*, 1–17. [CrossRef]
63. McPartlan, P.; Rutherford, T.; Rodriguez, F.; Shaffer, J.F.; Holdton, A. Modality motivation: Selection effects and motivational difference in student who choose to take courses online. *Internet High. Educ.* **2021**, *49*, 100793. [CrossRef]
64. Wladis, C.; Hachey, A.C.; Conway, K.M. Student characteristics and online retention: Preliminary investigation of factors relevant to mathematics course outcomes. In *Proceedings of the 19th Annual Conference on Research in Undergraduate Mathematics Education*; Fukawa-Connelly, T., Engelke Infante, N., Wawro, M., Brown, S., Eds.; Mathematical Association of America: Pittsburg, PA, USA, 2016; pp. 1442–1453. Available online: [http://www.cwladis.com/Wladis%20Hachey%20Conway%20\(2016\)%20Student%20characteristics%20and%20online%20retention.pdf](http://www.cwladis.com/Wladis%20Hachey%20Conway%20(2016)%20Student%20characteristics%20and%20online%20retention.pdf) (accessed on 1 September 2023).
65. Boland, W.C. *New York: Minority Serving Institutions in the Empire State*; Rutgers Graduate School of Education: New Brunswick, NJ, USA, 2021. Available online: <https://cmsi.gse.rutgers.edu/sites/default/files/NewYorkReport.pdf> (accessed on 1 September 2023).
66. Yale Daily News (Ed.) *The Insider's Guide to the Colleges*, 39th ed.; St. Martin's Griffin: New York, NY, USA, 2013.

67. CUNY. 2014 Student Experience Survey: A Survey of CUNY Undergraduate Students. 2014. Available online: https://www.cuny.edu/wp-content/uploads/sites/4/page-assets/about/administration/offices/oira/institutional/surveys/SES_2014_Report_Final.pdf (accessed on 1 September 2023).
68. Lowenthal, P.; West, R.; Archambault, L.; Borup, J. Engaging students through asynchronous video-based discussions in online courses. *Educ. Rev.* 2020. Available online: <https://er.educase.edu/articles/2020/8/engaging-students-through-asynchronous-video-based-discussions-in-online-courses> (accessed on 1 September 2023).
69. Joffe, H. Thematic Analysis. In *Qualitative Research Methods in Mental Health and Psychotherapy: A Guide for Students and Practitioners*; Harper, D., Thompson, A., Eds.; Wiley-Blackwell: Hoboken, NJ, USA, 2012; pp. 209–223.
70. Web, O.J.; Cotton, D.R.E. Early withdrawal for higher education: A focus on academic experiences. *Teach. High. Educ.* **2018**, *23*, 835–852. [CrossRef]
71. UPCEA. New Research Answers Question Every College Wants to Know: Why Do Students Leave and How Do We Get Them Back? 2021. Available online: <https://upcea.edu/new-research-answers-question-every-college-wants-to-know-why-do-students-leave-and-how-do-we-get-them-back/> (accessed on 1 September 2023).
72. Yilmaz, A.B.; Karatas, S. Why do open and distance education students drop out? Views from various stakeholders. *Int. J. Educ. Technol. High. Educ.* **2022**, *19*, 28. Available online: <https://educationaltechnologyjournal.springeropen.com/articles/10.1186/s41239-022-00333-x#Tab1> (accessed on 1 September 2023). [CrossRef]
73. Glazier, R.A.; Harris, H.S. Common traits of best online and face-to-face classes: Evidence from student surveys. In Proceedings of the American Political Science Association Teaching and Learning Conference, Albuquerque, NM, USA, 7–9 February 2020. Available online: <https://preprints.apsanet.org/engage/api-gateway/apsa/assets/orp/resource/item/5e2f9610cd361a001afed294/original/common-traits-of-the-best-online-and-face-to-face-classes-evidence-from-student-surveys.pdf> (accessed on 1 September 2023).
74. Aregbeyen, O. Student perceptions of effective teaching and effective lecturer characteristics at the University of Ibadan, Nigeria. *Pak. J. Soc. Sci.* **2010**, *7*, 62–69. Available online: https://www.researchgate.net/profile/Omo-Aregbeyen-2/publication/250303799_Students_Perceptions_of_Effective_Teaching_and_Effective_Lecturer_Characteristics_at_the_University_of_Ibadan_Nigeria/links/562b4cfb08ae518e348064f6/Students-Perceptions-of-Effective-Teaching-and-Effective-Lecturer-Characteristics-at-the-University-of-Ibadan-Nigeria.pdf (accessed on 1 September 2023). [CrossRef]
75. Chiasson, K.; Terras, K.; Smart, K. Faculty perceptions of moving a face-to-face course to online instruction. *J. Coll. Teach. Learn.* **2015**, *12*, 231–240. Available online: <https://files.eric.ed.gov/fulltext/EJ1067275.pdf> (accessed on 1 September 2023). [CrossRef]
76. Euzent, P.; Marin, T.; Moskal, P.; Moskal, P. Assessing student performance and perceptions in Lecture Capture vs face-to-face course delivery. *J. Inf. Technol. Educ.* **2011**, *10*, 295–307. Available online: <https://www.jite.org/documents/Vol10/JITEv10p295-307Euzent1033.pdf> (accessed on 1 September 2023). [CrossRef] [PubMed]
77. Pierrakeas, C.; Xenos, M.; Panagiotakopoulos, C.; Vergidis, D. A comparative study of dropout rates for two different distance education courses. *Int. Rev. Res. Open Distance Learn.* **2004**, *5*, 1–15. [CrossRef]
78. Leeds, E.M.; Campbell, S.; Baker, H.; Ali, R.; Brawley, D.; Crisp, J. The impact of student retention strategies: An empirical study. *Int. J. Manag. Educ.* **2013**, *7*, 22. [CrossRef]
79. Haynes, C. *Breaking through the Stigma of Online Education*; Inside Higher Education: Washington, DC, USA, 2017. Available online: <https://www.insidehighered.com/digital-learning/views/2017/05/24/breaking-stigma-online-education> (accessed on 1 September 2023).
80. Kizilcec, R.; Davis, D.; Wang, W. Online degree stigma and stereotypes: A new instrument and implications for diversity in Higher Education. *SSRN* **2019**, 1–16. [CrossRef]
81. Zapalska, A.; Brozik, D. Learning styles and online education. *Campus-Wide Inf. Syst.* **2006**, *23*, 325–335. Available online: <https://www.qou.edu/ar/sciResearch/pdf/distanceLearning/learningStyles.pdf> (accessed on 1 September 2023). [CrossRef]
82. Jaggars, S.S. *Choosing between Online and Face-to-Face Courses: Community College Student Voices*; No. CCRC Working Paper No. 58; Community College Research Center, Columbia University: New York, NY, USA, 2013. Available online: <https://ccrc.tc.columbia.edu/media/k2/attachments/online-demand-student-voices.pdf> (accessed on 1 September 2023).
83. Fredrickson, J. Online learning and student engagement: Assessing the impact of a collaborative. *Acad. Educ. Leadersh. J.* **2015**, *19*, 127–141. Available online: https://www.abacademies.org/articles/AELJ_Vol_19_No_3_2015.pdf (accessed on 1 September 2023).
84. He, W.; Xu, G.; Kruck, S.E. Online IS education for the 21st century. *J. Inf. Syst. Educ.* **2014**, *25*, 101–105. Available online: <http://jise.org/Volume25/n2/JISEv25n2p101.pdf> (accessed on 1 September 2023).
85. Hammond, D.E.; Shoemaker, C. Are there differences in academic and social integration of College of Agriculture Master's students in campus based, online and mixed programs? *NACTA J.* **2014**, *58*, 180–188. Available online: https://www.nactateachers.org/attachments/article/2232/4.%20Hammond_NACTA%20Journal.pdf (accessed on 1 September 2023).
86. Scoggin, D.; Styron, R. Factors associated with student withdrawal from community college. *Community Coll. Enterp.* **2006**, *1*, 111–124. Available online: <http://www.schoolcraft.edu/pdfs/cce/12.1.111-124.pdf> (accessed on 1 September 2023).
87. Hachey, A.C.; Wladis, C.; Manly, C.A.; Conway, K.M. Health challenges and community college student outcomes before and during the COVID-19 pandemic. *Am. Behav. Sci.* **2022**, *67*, 1591–1610. [CrossRef]
88. McDaniel, C.; Suffern, C.; Joo, J.; Alamuddin, R. Student and Faculty Experiences with Emergency Remote Learning in Spring 2020. Ithaca S+R. 2020. Available online: <https://sr.ithaka.org/publications/student-and-faculty-experiences-with-emergency-remote-learning-in-spring-2020/> (accessed on 1 September 2023).

89. Stewart, W.H. A global crash-course in teaching and learning online: A thematic review of empirical Emergency Remote Teaching (ERT) studies in higher education during Year 1 of COVID-19. *Open Prax.* **2021**, *13*, 89–102. Available online: <https://search.informit.org/doi/pdf/10.3316/informit.758902304536019> (accessed on 1 September 2023). [CrossRef]
90. Allen, I.E.; Seaman, J. Learning on Demand: Online Education in the United States. 2009. Available online: <https://files.eric.ed.gov/fulltext/ED529931.pdf> (accessed on 1 September 2023).
91. Allen, I.E.; Seaman, J. Going the Distance: Online Education in the United States. 2011. Available online: <https://files.eric.ed.gov/fulltext/ED529948.pdf> (accessed on 1 September 2023).
92. Fiock, H.S. Designing a Community of Inquiry in online courses. *Int. Rev. Res. Open Distrib. Learn.* **2020**, *21*, 135–153. Available online: <https://www.irrodl.org/index.php/irrodl/article/view/3985> (accessed on 1 September 2023). [CrossRef]
93. Travers, S. Supporting online student retention in community colleges: What data is most relevant? *Q. Rev. Distance Educ.* **2016**, *17*, 49–61.
94. Zacharias, A.; Masterson, T.; Kim, K.; The Measurement of Time and Income Poverty in Korea. Informe de Proyecto de Investigación. Programa de las Naciones Unidas para el Desarrollo (PNUD)/Levy Economics Institute of Bard College/Korea Employment Information Service. 2014. Available online: https://papers.ssrn.com/sol3/papers.cfm?abstract_id=1939383 (accessed on 20 October 2023).
95. Bica, I. Course Withdrawals and College Student Success. Education Research Center Policy Brief. 2022. Available online: <https://texaserc.utexas.edu/wp-content/uploads/2022/08/157-UTA165-Brief-Withdrawal-6.29.22-REV.pdf> (accessed on 1 September 2023).
96. McKenzie, L. Students want online learning options post-pandemic. *Inside Higher Ed.* 2021. Available online: <https://www.insidehighered.com/news/2021/04/27/survey-reveals-positive-outlook-online-instruction-post-pandemic> (accessed on 1 September 2023).

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