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Age, Gender, and Student Success: Mixing Face-to-Face and Online Courses in Political Science

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ABSTRACT

Once on the fringes of higher education, online learning is now mainstream. Today, there are fewer entirely online or entirely face-to-face students; increasingly, college students are taking courses in a variety of instructional formats. How might this new reality of diverse modalities affect student success? Does a greater or lesser proportion of online classes in a student's course load lead to different levels of success? And how might these outcomes be conditioned by demographic variables such as age and gender? We explore these questions using data from 761 students in the Political Science Department at the University of Central Florida (UCF), a large public university. Our findings indicate that overall student success varies by the specific mix of course delivery modalities students are enrolled in and is conditioned by demographic variables. For instance, the data show that younger female students tend to do well with any mix of course modalities, but older male students are less successful as they take a greater proportion of their courses online. These results indicate that a changing academic culture regarding online education may not affect all students equally.

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Gender; online learning; undergraduate education; age

Introduction

College students across the country, including at the University of Central Florida, are taking online courses at an astounding and increasing rate. Metastudies, as well as analyses of individual courses, provide some indication that students learn well in the online environment, including courses in political science (e.g., Means et al. 2010; Ni 2013). Perhaps as a result, online courses, and entire degree programs, are increasingly common not only at private, for-profit institutions, but also at accredited private and public colleges and universities. As the field of online education grows, more students are including some online courses in their college career, rather than completing their degrees entirely online or entirely in-person. Yet, we know relatively little about how the mix of online and in-person courses might impact student success.

Without systematic information about the demographics and academic success records of online students in Political Science departments, we are unprepared to answer questions about how the relatively new online environment, where many

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students take classes in different modalities, influences student success overall. A better understanding of who our online students are, the mix of online and in-person courses they enroll in, and how successful they are in their major, is a vitally important place to start as we fine-tune how we design online instruction and what kinds of courses we offer. Here, we take a first step toward understanding who the online students in Political Science are, and whether—and if so, how—the mix of online and in-person classes they take impacts their course performance.

We use the University of Central Florida (UCF) as a case study. UCF is a large public university with a well-established and recognized online program. The Political Science Department has offered both the International & Global Studies BA and the Political Science BA as an online only option for several years; both programs are also available in face-to-face mode and offer opportunities for students to combine online and face-to-face course selections. UCF thus provides an interesting pilot study to improve our understanding of the background of students who select different modalities—and different combinations of modalities—to complete their degree in Political Science. We use demographic data as well as data on academic success for over 750 students in the UCF Political Science Department to evaluate whether, and how, class modality affects student success.

Online courses are part of the higher education experience for more and more students. Instead of comparing “online only” students to “traditional” students, we need to understand that these binary categories are becoming less meaningful as online courses become more prevalent for *all* students. And, in order to help our students be successful, we need to know more about how students are faring in this new learning environment where students are attending courses in different delivery formats.

The Context of Online Instruction

Among the many uses of technology in American college classrooms, the virtual classroom is perhaps the most notable and impactful one. Growth in the institutional adoption of “fourth generation” (Amemado 2014) classroom technologies—particularly those based on online modalities—has become commonplace and spread to several types of higher education institutions, including public and private, both nonprofit and for-profit (Allen and Seaman 2016).

Despite the growing prevalence of online higher education, there remain concerns about its impact on student learning and success. Many studies have demonstrated a consistent gap in online student persistence—students in online courses are simply more likely to drop their classes (Terry 2001; Stover 2005; Patterson and McFadden 2009; Xu and Jaggars 2014; Glazier 2016; Bolsen, Evans, and McCaghren Fleming 2016). Several other studies point to mixed results when comparing the retention or success rates of online courses; for example, Glader (2013) and Research Initiative for Teaching Effectiveness (RITE n.d.) suggest that online courses can increase retention and completion rates in higher education. Data on student learning are less conclusive. Those students who persist in online classes often have comparable outcomes in terms of learning objectives (McLaren 2004; Ni 2013). Similarly, a 2010 metastudy by the U.S. Department of Education finds that student learning outcomes in courses

that are taught fully or partially (“blended”) online tend to be stronger than in courses that are conducted entirely face-to-face (Means et al. 2010, 18; Means, Bakia, and Murphy 2014). However, other research indicates that online students have worse performance outcomes (Xu and Jaggars 2014). For instance, Krieg and Henson (2016) find that students who take prerequisite courses online earn lower grades in subsequent classes.

Although some findings on the efficacy of teaching and learning online are mixed, what we do know is that the face of online education in American is changing (Ortagus 2017). For a growing share of college students, online instruction has become a common part of their educational experience. For example, in the 10-year period between Fall 2002 and Fall 2012, the percentage of college and university students enrolled in at least one online course more than tripled, from 9.6 to 33.5% (Allen and Seaman 2014, 33). Means, Bakia, and Murphy (2014) estimate that half of all higher education enrollees now take at least one course online, indicating that “distance education is clearly mainstream” (Allen and Seaman 2016, 3). In light of this development, Shea and Bidjerano (2014) suggest that we need a new model for scholarship on online education to account for the normalization of digital interactions.

With online education now so much a part of the college experience, it makes less sense to talk about online versus face-to-face student populations as though they are discreet categories. Allen and Seaman (2016) report that nearly 6 million students nationally are enrolled in at least one online class. Public universities educate the vast majority (about 72%) of online college students in the United States and their online populations are made up of nearly twice as many partially-online students as exclusively-online students. Although there are some differences between fully online and fully face-to-face student populations, for many institutions those differences have diminished over the years and the populations today are quite similar (Botsch and Botsch 2012). Rather than being the pedagogy of choice for specific student demographics, online courses are increasingly more of a norm and less of an exception for the general student population. As such, researchers can ask more complex questions about how the proportion of online classes a student takes may influence their overall academic success.

For instance, does it matter if the students are enrolled in only one online class or if they are taking many? The online learning environment can be challenging and these challenges may have a cumulative effect as a student takes more online classes. And perhaps different student demographic groups respond to the challenges of multiple online courses differently.

Two key demographic indicators that come up in the online education literature again and again are age and gender. Age has always been a dividing line in online education. Online courses emerged in part to provide access to a college education for more mature learners who may be returning to school, pursuing continuing education, and/or trying to balance full-time work and family responsibilities. These students valued the flexibility and pacing of online courses (e.g., Bengiamin et al. 1998; Wallace and Mutooni 1997). Historically, the online student has tended to be older than the “traditional” student (Diaz 2002; Dutton, Dutton, and Perry 2002), which has led to a demographic split of sorts in online versus face-to-face education.¹

Age may influence online student success in either direction—and sometimes both simultaneously (van Deursen, van Dijk, and Peters 2011). In some cases, older students may struggle with technology or family demands and so do worse in online classes (e.g., Knestrick et al. 2016; Park and Choi 2009). In other cases, older students' experience and motivation may lead them to be more successful in online classes (e.g., Neuhauser 2002; Wladis et al. 2015; Wojciechowski and Palmer 2005; Xu and Jaggars 2014). Either way, what were once clear and large age differences between the average online student and the average in-person student may be decreasing as online education becomes mainstream and students who are taking face-to-face courses are also opting to complete a portion of their degree online.

The effects of gender on online learning have also changed over time. In the early years of online education research, women were assumed to have less access to technology and to be less technologically savvy (Kirkup and von Prümmer 1997; Yates 2001), in addition to being so busy with family commitments as to be unable to access online education (Wolf 1998). But more recent research has found that women are “confident independent learners” (Price 2006, 21) and often actually outperform men in courses taught entirely or partially online (Willging and Johnson 2009; Wilson, Pollock, and Hamann 2006).²

Here, we take a first look at how student demographics and the number of online courses students are enrolled in might influence their success. Does a larger number of online classes, as a proportion of all classes a student is enrolled in, impact student success? How might this effect be conditioned by demographics? We use data from 761 students in the Political Science Department at the University of Central Florida to begin examining these important questions.

Data

Our data are based on course performance and demographic attributes for all students at UCF majoring in either Political Science or International & Global Studies. Both majors are housed in the university's Political Science Department. Students can complete either degree either face-to-face only, online only, or with a mix of online and face-to-face courses. The department has offered online courses for more than 20 years. The same faculty members teach online and face-to-face courses; that is, there is no special “online faculty” or “online degree.”³ In fact, all online courses were taught by full-time faculty. In addition, at UCF, all faculty must successfully complete a semester-long training that includes online pedagogy, course design, and proficiency in the use of the university's course management system before they are authorized to teach a course entirely online. All full-time faculty in the department have completed the training and are qualified to teach online. The Political Science Department offers a large range of courses online including courses in American politics, comparative politics, international relations, political theory, and the undergraduate research methods course required of all majors. For example, in the Fall 2015 semester, the department offered a total of 88 regular undergraduate course sections, 59 of which were offered face-to-face and 29 were offered online. Course topics included classes such as Comparative Politics, Politics of Eastern Europe, International Relations Theory, American Security Policy,

Florida Politics, Latino Politics, American National Government, Constitutional Law, and Modern Political Ideologies, among others. Much like in face-to-face instruction, faculty use a variety of teaching styles and pedagogies in online courses—including short online video lectures, recorded audio lectures, narrated PowerPoint lectures, textual materials, quizzes, discussions, essays, and so on. All online courses are asynchronous, that is, students complete assignments within specified time frames and deadlines, but are not required to be online at any specific time. Online courses are popular with students and tend to enroll quickly, often more quickly than face-to-face sections. Students completing all of their coursework online are not separated into special course sections, but are in the same course sections as those students who take only a few virtual courses.

The data used in the following analyses were provided by the UCF Office of Institutional Research (OIR) in Spring 2016. For each enrolled student, OIR provided information on all career credit hours attempted prior to and including the Fall 2015 semester. Credit hours are categorized as “live” or “online,”⁴ and are further measured as “successful” (a grade of A, B, or C) or “unsuccessful” (D, F, I, N, or W).⁵ Students’ ages, gender, and race are recorded as well. The original, disaggregated dataset has 2,342 data lines, each of which describes each student’s course hours in four ways: live/successful, live/unsuccessful, online/successful, and online/unsuccessful. Thus, a student who had enrolled in four courses in Political Science prior to and including the Fall 2015 semester would have four data lines—one for each course. If all courses were online and the student earned A’s in three of the classes and a D in one class, the three courses with A grades would be coded online/successful and the one with a D grade would be coded online/unsuccessful. We aggregated on student, retrieving the total number of hours attempted, percentage of hours that were online, and percentage live hours. The aggregated dataset has information on 1,060 students. We further filtered the data, focusing on students who had attempted at least 12 hours of course work in their college career. This is the dataset ($N = 761$) on which the following analyses are based.

Describing live and online student populations

What does this student population look like in terms of online versus live hours attempted? [Figure 1](#) shows the distribution of students’ online hours, from 0% (all attempted hours were live) to 100% (all attempted hours were online).⁶ The data are highly granular, to be sure, but they tell an interesting story. Although the largest single bars are at the two extremes—13% of students took live hours exclusively and 10% were online-only—the majority of students took a mix of online and face-to-face classes. Only 23% of students “specialized” in either online or in-person, with 77% taking some of each modality. The median percentage of online hours is 33%, although of course variation is the hallmark here—the interquartile range spans over 40 percentage points of territory, between 17 and 58%.

Are some students more likely than others to enroll in online-leaning versus live-leaning course loads? What are the demographic correlates of students’ curricular choices? Consider [Table 1](#), which reports the distribution of students, by race, age, and

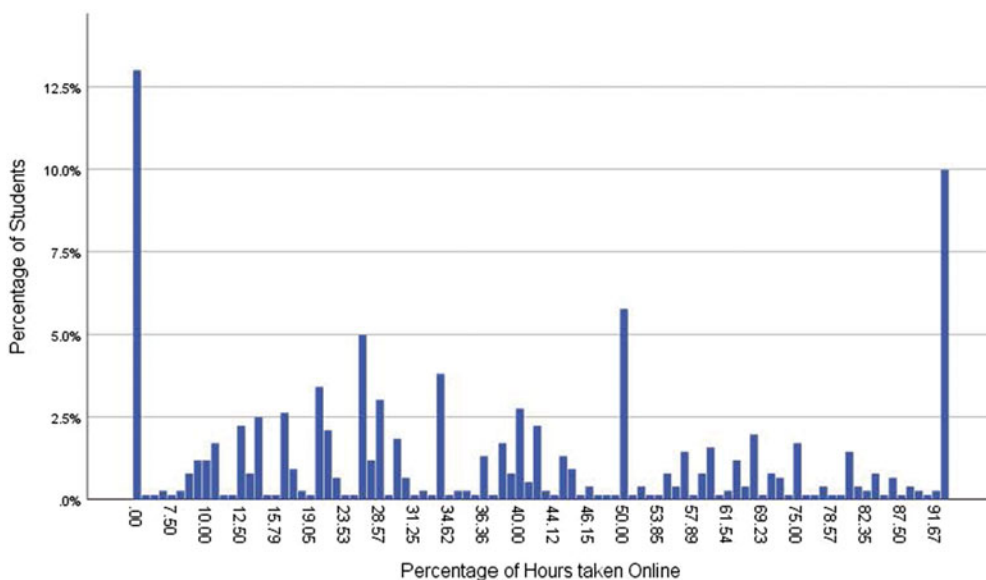


Figure 1. Distribution of percentage of hours taken online (Data are for students who had taken 12 hours of more total hours. $N = 761$).

gender, across terciles of online hours: Students taking between 0 and 20% online ($N = 245$), 21–49% ($N = 251$), and 50% or more of their hours online ($N = 265$). **Figure 2** graphs the percentages from each cross-tabulation who fall into the online-leaning mix; that is, at least 50% of their hours were taken online. First, note the virtual absence of racial/ethnic differences. For example, similar percentages of Whites (36.0%), Blacks (38.6%), and Hispanics (32.8%) opted into course loads comprised primarily of online classes. A separate chi-square analysis confirms that race is not a significantly related to course-load tercile (chi-square = 3.585, $p = .732$).

The patterns change dramatically for gender and age. Although similar percentages of males and female fall in the middle tercile (33.6 and 32.4%, respectively), men are about 10 percentage points more likely to favor live-leaning loads (37.0%, compared with 27.3% of females), and women more likely to enroll in online modalities (40.3% of females, compared with 29.4% of males). Again, chi-square concurs (chi-square = 12.080, $p = .002$). Age differences are similarly significant.⁷ Although, again, similar in the middle tercile (31.5% of students older than 22; 34.5% of students 22 or younger), over-22 students are far more likely than their younger peers to end up with online course mixes (40.3%, compared with 29.4%) and, thus, much less likely to choose live formats (25.4%, compared with 39.4%). A separate chi-square test confirms this systematic pattern (chi-square = 27.681, $p = .000$).

The intersection of these two characteristics, gender and age, clarifies the differential demographic pull of live and online settings. Younger males are especially averse to taking online courses: Merely one-fifth (19.5%) of them had substantial online commitments, a number that is 17 percentage points lower than over-22 males (36.8%). Younger females appear thoroughly indifferent on modality mix—about a third of their number appear in each of the terciles. Their over-22 counterparts, by contrast, are

Table 1. Number of online hours, by race, gender, age, and gender/age intersection.

Student Attribute	Percent of Hours Online			Total
	0–20%	21–49%	50% or More	
Race				
White (<i>N</i>)	32.3% (131)	31.8% (129)	36.0% (146)	100.0% (406)
Black (<i>N</i>)	29.7% (30)	31.7% (32)	38.6% (39)	100.0% (101)
Hispanic (<i>N</i>)	31.3% (60)	35.9% (69)	32.8% (63)	100.0% (192)
Other	38.7% (24)	33.9% (21)	27.4% (17)	100.0% (62)
Gender				
Male (<i>N</i>)	37.0% (142)	33.6% (129)	29.4% (113)	100.0% (384)
Female (<i>N</i>)	27.3% (103)	32.4% (122)	40.3% (152)	100.0% (377)
Age				
22 or younger (<i>N</i>)	39.4% (146)	34.5% (128)	26.1% (97)	100.0% (371)
Older than 22 (<i>N</i>)	25.4% (99)	31.5% (123)	43.1% (168)	100.0% (390)
Gender/Age				
Males ≤22	46.3% (76)	34.1% (56)	19.5% (32)	100.0% (164)
Females ≤22	33.8% (70)	34.8% (72)	31.4% (65)	100.0% (207)
Males >22	30.0% (66)	33.2% (73)	36.8% (81)	100.0% (220)
Females >22	19.4% (33)	29.4% (50)	51.2% (87)	100.0% (170)
Success				
Mean % successful hours:	87.2% (245)	84.2% (251)	83.0% (265)	84.7% (761)

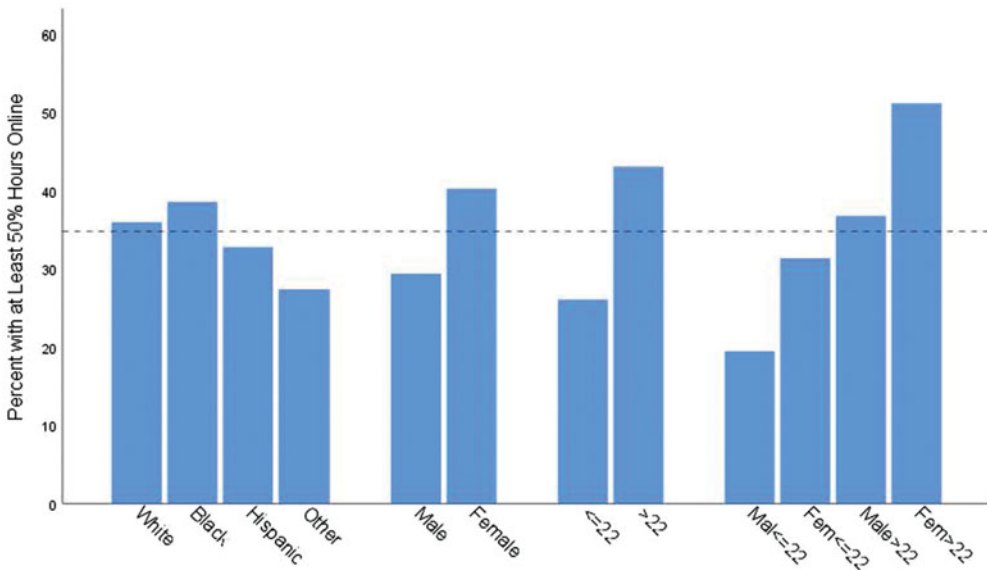


Figure 2. Percentages of selected groups with at least 50% of hours taken online.

thinly represented in the live-learning tercile (19.4%) and biased toward online instruction. Not surprising, these findings are statistically significant (chi-square =45.296, $p = .000$).

Does learning modality matter for success?

Are course modality and student success related? The bottom row of Table 1 provides a preliminary clue. The overall success rate, 84.7%, is clearly a weighted average: students

in the live-leaning scenario had more successful outcomes overall in all their coursework (87.2%) than students in the online-leaning scenario (83.0%). Thus, it would appear that online courses are associated with lower success rates. We now turn to a closer inspection of this relationship.

Table 2 displays the relationship between the three-category measure of percent hours taken online and overall success rates, live-hour success rates, and online-hour success rates. The left-most column of numbers merely re-expresses the averages along the bottom row of Table 1: as online hours go up, success rates decline by about 4 points on average, from 87.2 to 83.0%. The live-hours and online-hours columns reveal the gross anatomy of this decline. Student live-hour success rates are remarkably stable, in the mid- to high 80s (85–88%), regardless of the balance between live and online hours. Indeed, online success rates are stable, as well, in the low-80 range (81–84%). Overall, student success rates are 4–5 points lower in online modalities. Thus, the decline in student success would appear to be a straightforward function of the number of online hours in the curricular mix. This finding is important not only because it demonstrates that there is a difference in student success between online and in-person classes, as previous research has shown, but it also demonstrates that the success gap is greater for students who take higher percentages of online hours.

As we look even closer at the data, they reveal that this general pattern—lower success rates for students with online-leaning course loads—is strongly conditioned on the two main demographics that define compositional differences across pedagogical venues: age and gender. Table 3 redisplayes the Table 2 analysis separately for the four groups defined by the intersection of these two attributes: younger males (panel 3A), younger females (3B), over-22 males (3C), and over-22 females (3D). Figure 3 tracks overall success rates for each of the four groups (presented in Table 3's first data column, "Percent successful: All hours") and adds visual clarity to these comparisons.

Consider first the patterns for the younger cohorts (3A and 3B, represented by the solid lines in Figure 3). With the exception of younger males with heavier online commitments, all of these students posted success rates well above the sample average: Five of the six highest numbers in Table 3 appear in the top two panels. (That subpar mean of 82.4 was produced by only 32, or 8.3%, of the 384 men in the sample. Over-22 men with this online-leaning course mix, by contrast, comprise 21.1% of the male subsample.) Furthermore, an examination of Table 3's "Live minus Online" column indicates that younger males, unique among the age/sex categories, enroll in the mix that yields the best comparative success rate. Those who enroll into live-leaning loads do better in live venues (by 15.5 percentage points), and those who enroll into online-leaning loads do better in online venues (by 3.9 percentage points). And recall from Table 1 that nearly half (46.3%) of younger males enrolled into the hugely advantageous live-leaning mix.

Contrast this pattern with that of younger women, for whom successful course outcomes remain lofty (91.1, 88.9, and 91.8), impervious to pedagogical context. Moreover, the second and third columns of means in Table 3 indicate that these overall performance numbers are built from virtually identical live-hour and online-hour success rates. With one anomaly (better performance in online hours among

Table 2. Success rates, by percentage of hours taken online.

Percent Hours Taken Online	Percent Successful: All Hours	Percent Successful: Live Hours	Percent Successful: Online Hours	Live Minus Online ^a
0–20 (N)	87.2 (245)	87.5 (245)	83.6 (146)	4.5 (146)
21–49 (N)	84.2 (251)	85.4 (251)	81.6 (251)	3.8 (251)
GE 50 (N)	83.0 (265)	85.8 (189)	81.3 (265)	4.9 (189)
Total (N)	84.7 (761)	86.3 (685)	81.9 (662)	4.3 (586)

Note. Entries are mean percentages of hours taken in which students earned at least a C.

^aColumn differences will be equal (within rounding error) to the difference between displayed means only for the 21–49% category. The 0–20% category contains students who took 0% of their hours online and who, thus, did not contribute to the mean for online hours. Similarly, the group of students who took at least 50% of their hours online contains individuals who took 100% of their hours online and who, thus, did not contribute to the mean for live hours.

younger women who took most of their hours face-to-face), the “Live minus Online” column records the three smallest difference in the data stream (0.7, 3.0, and 0.0).

When we examine the patterns for over-22 students (3C and 3D, represented by the dashed lines in Figure 3), we find a different, less reassuring world. First, appreciate the relative sizes of these groups. Males over the age of 22 are the largest group represented in Table 3—28.9% of all students and 57.3% of males. The numbers for over-22 females: 22.3 and 45.1%, respectively. Thus, over one-half (51.2%) of the students in the sample are older than 22. Further, more than one-fifth (22.1%) are older students with course mixes that are at least 50% online.

These facts certainly bear testimony to the institutional goal of providing degree-seeking opportunities to nontraditional students. However, the success rates of these students are not encouraging. Overall success rates for over-22 males drop 6.2 points across the terciles, from 85.6 to 79.4, fueled by stable—and low—performance in online courses. Overall rates for over-22 females actually increase, from 73.6 to 79.9. But notice that this boost is based on live-hour success, from 73.3 to 83.1, not online rates, which remain mired in the mid- to high 70s.

Indeed, over-22 students illustrate that certain course-load mixes can have adverse effects on overall success rates; that is, their mix of course modalities yields the worst comparative success rate for this demographic group. This is especially true for over-22 females. Those who enroll into live-leaning loads do better in online venues (by 3.3 percentage points), and those who enroll into online-leaning loads do better in live venues (by 8.8 percentage points). And recall from Table 1 that over one-half (51.2%) of over-22 women have credit-hour loads that are at least 50% online. Similar effects are at work for over-22 males, though to a lesser degree. Male students who enroll into live-leaning loads—a bit less than a third of this group—do 8.3 points better in that context than in online environments. But the converse does not hold. Those with heavier online commitments (36.8% of this group) continue to perform substantially better face-to-face (by 8.5 percentage points).

Discussion and Conclusion

Existing scholarship on teaching and learning in political science and international studies has begun to answer some questions about how students learn in the online environment, but many questions pertaining to student success in the virtual classroom remain

Table 3. Mean success rates, by percentage of hours taken online and age/gender.

Percent Hours Taken Online	Percent Successful: All Hours	Percent Successful: Live Hours	Percent Successful: Online Hours	Percent Successful: Live Minus Online ^a
A. Males LE 22				
0–20	90.9	92.1	75.9	15.5
21–49	88.8	89.6	85.8	3.7
GE 50	82.4	79.2	82.8	–3.9
Total	88.5	88.8	82.2	5.3
A. Females LE 22				
0–20	91.1	90.6	94.2	–5.2
21–49	88.9	89.1	88.4	.7
GE 50	91.8	93.4	90.4	3.0
Total	90.5	90.9	90.5	.0
A. Males GT 22				
0–20	85.6	86.2	80.1	8.3
21–49	79.8	81.0	77.1	3.9
GE 50	79.4	83.9	77.1	8.5
Total	81.4	83.6	77.8	6.5
A. Females GT 22				
0–20	73.6	73.3	82.5	–3.3
21–49	78.7	81.8	73.7	8.1
GE 50	79.9	83.1	77.8	8.8
Total	78.3	80.2	77.1	6.5
All				
0–20	87.2	87.5	83.6	4.5
21–49	84.2	85.4	81.6	3.8
GE 50	83.0	85.8	81.3	4.9
Total	84.7	86.3	81.9	4.3

Note. Entries are mean percentages of hours taken in which students earned at least a C.

^aColumn differences will be equal (within rounding error) to the difference between displayed means only for the 21–49% category. The 0–20% category contains students who took 0% of their hours online and who, thus, did not contribute to the mean for online hours. Similarly, the group of students who took at least 50% of their hours online contains individuals who took 100% of their hours online and who, thus, did not contribute to the mean for live hours.

unanswered (see Hamann et al. 2017). This gap in our knowledge presents an issue as college professors care about student success not just because it is a metric that is scrutinized by legislators, donors, college administrators, parents, and students themselves, but also because college professors are generally deeply concerned with their students' success. The expansion of online instruction in higher education opens new questions as to the factors that condition student success in this increasingly common, but still relatively recent, pedagogical environment.

Our study looks at majors in the Political Science Department at a large public university and provides a first look at the factors that can provide a better understanding of student success. While much of the existing research tends to look at individual classes, or compares online course sections with the equivalent face-to-face version of the same course, our study looks at face-to-face and online instruction as a scale rather than an either/or, reflecting the reality that increasingly large numbers of students take courses in both formats. In our student population, we find that not all students have the same likelihood of enrolling in online courses, and enrollment patterns are shaped by the intersection of age and gender: Younger male students are significantly less likely to take courses online than older male students; younger female students show no strong preferences for either format; and older female students disproportionately enroll in online courses. Thus, despite the fact that students across demographic groups are

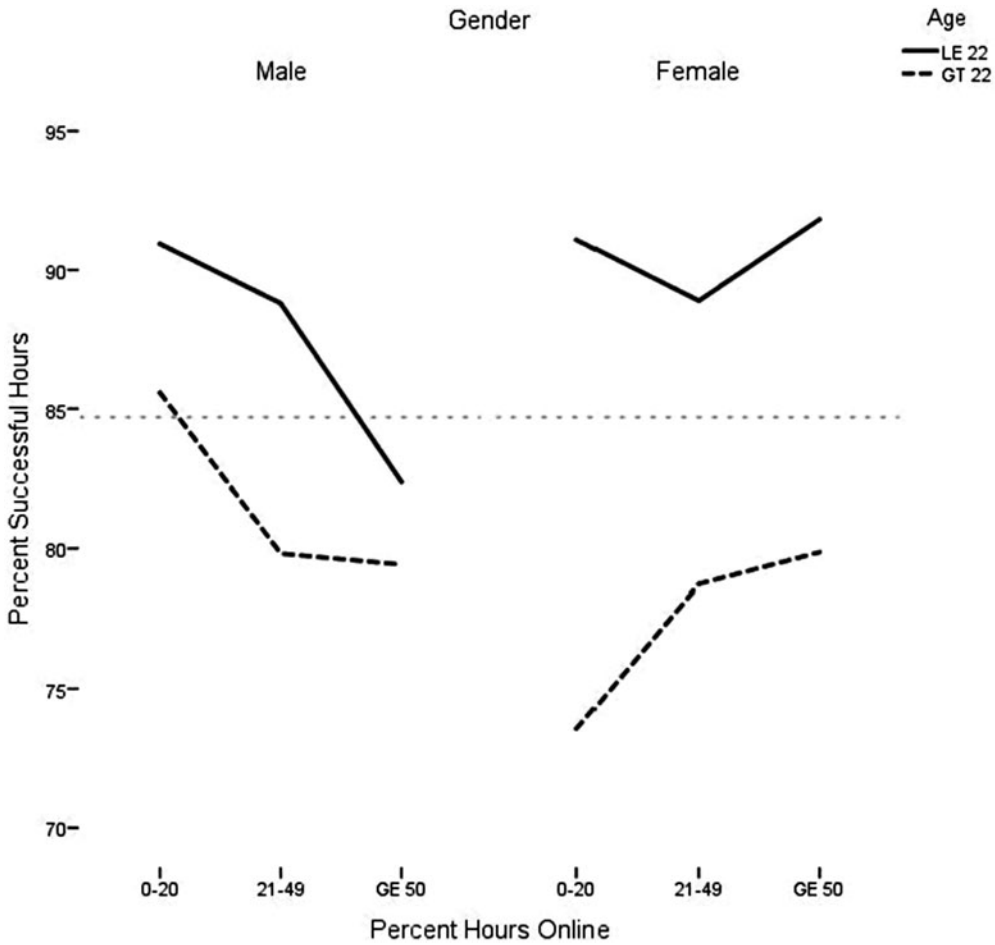


Figure 3. Genders, age, and success rates, by percent hours online.

more likely to complete at least a portion of their degree online, systematic differences in how many online courses students enroll in still persist, with age and gender standing out among other demographic factors.

Furthermore, our findings suggest that the balance between online and face-to-face courses taken by individual students matters for their success in *all* of their courses, not just in their online coursework. However, the way this matters is conditioned by gender and differs for women and men—women do well in both modalities as the balance of their coursework shifts toward online, whereas men who take more online course do worse in both modalities. In addition, age matters—but again, it matters differently for women and men: Older male students who take a larger share of their courses online have a significantly lower success rate in all their courses, while older female students who take a larger share of their course load online increase their overall success rate—a result that is driven by their improved success rate in their in-person courses rather than their online courses. Significantly, the largest demographic group were over-22 year olds, and over one-fifth took more than half their coursework online—a combination of course delivery modalities that led to lower overall

success rates. This raises important questions about whether students are making course modality decisions that are best suited to serve their progress towards graduation.

We think our study makes an important contribution to the discussion on online teaching in Political Science as we move from evaluating course outcomes to assessing student success conditioned by the mix of online and face-to-face instruction. At the same time, however, we do acknowledge the limitations of our study and our findings, which are based on data from only one large state university.

Although the data presented here tell a previously untold story about differential success rates across demographics and modalities, we do not have a ready explanation for the differences we find. In order to understand better why different student demographics are more or less successful in specific course delivery modes, further research is needed. For example, we know little about the reasons for students' choice of online or face-to-face course sections. This is particularly true given the distributional nature of the majors in this analysis, and the fact that students generally have a large range of electives to choose from. How do students decide which modality to enroll in? Do they choose the course delivery mode to match their preferred learning style so as to maximize their chances for success? That is, do students who did well in an online or face-to-face course previously gravitate to the same course delivery mode for future enrollment? Does the type of course students enroll in matter? Do student success rates by course modality differ for lower-division courses compared to upper-division courses? Some research finds that students tend to have lower completion and success rates in online elective courses (Wladis, Wladis, and Hachey 2014). Researchers need to know more about specific course characteristics and how they might contribute to or hinder student success.

Furthermore, many other factors may affect both course delivery choice and success. For example, are the students who are less successful in online classes novices in online learning who may not have a clear understanding of the expectations and demands of online courses, or who are unfamiliar with the online course management platform? Do the students who enroll in a larger share of online courses have more responsibilities outside of their academic life—such as working more hours, family responsibility, or frequent travel commitments? Do students enroll in a particular course delivery mode because it is more convenient for them or because they believe they will be more successful? Research by Murphy and Stewart (2017) indicates that primarily on-campus students who enroll in an online class despite preferring in-person classes, are less likely to successfully complete the course. If students are unable to select their preferred course modality, how does this influence their potential success? Further research might address these questions by collecting and analyzing data that provide a better picture of individual students' circumstances including their full- or part-time student status, their employment status, if they are first time in college (FTIC), or if they are transfers from community college, for example. Comparable data from other institutions could also uncover whether our findings result from the idiosyncrasies of the University of Central Florida's student body, or if they are readily generalizable. These are just some of the questions we need to investigate in further research to better understand the patterns uncovered in the current study.

Regardless, it is important to be aware that some student groups are more likely to be successful as they shift more of their coursework to the online environment than others. As instructors, we may think of ways in which we can encourage early engagement with students in online courses, or build rapport with them (Glazier 2016). As students who take a larger share of their courses online are less likely to use resources for students available on campus, instructors might think about ways in which they can guide their students in online courses to these resources, see which ones are available virtually, and reach out to students to connect them. These interventions are just some examples of possible steps that may assist in narrowing the success gap for those student groups who are less successful as they are shifting more of their education online.

Notes

1. These findings also apply to the general student population at UCF, where our case study is conducted. At UCF, more women than men tend to enroll in online courses; online students are on average older than those enrolling in comparable face-to-face courses; and about half of the students in online courses work full-time. Online courses have on average “slightly lower success rates and higher withdrawal rates” than face-to-face courses, while women tend to have higher success rates than men regardless of the course delivery mode (RITE n.d.).
2. Few studies have looked at gender and the modality of course delivery in political science; Wilson, Pollock, and Hamann (2006), for example, analyze courses delivered partially online (“mixed” or “blended” courses) and find that women have higher learning gains (for an additional study on gender in online political science courses, see also Pollock, Hamann, and Wilson 2005).
3. Starting in Summer 2016, students have had the option of enrolling at UCF as designated online students, which excludes them from taking face-to-face courses. The data used here, however, are from Fall 2015, when such an online designation did not exist.
4. The department offers very few blended courses; in Fall 2015, no courses were designated as blended. Therefore, we excluded blended courses from our analysis.
5. These grade designations for “successful” or “unsuccessful” course completion are commonly used in higher education (see Moskal and Dziuban 2001).
6. The frequency distribution on which Figure 1 is based is not shown but is available from the authors.
7. There is no consensus in the literature about what constitutes an “older” or “nontraditional” student. Here, we follow the National Center for Education Statistics (NCES n.d.) study, which states that “students 23 or older were identified as older than typical and considered nontraditional.”

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