
The Impact of Employment and University Connectedness on the Academic Success of College Students Taking Varying Numbers of Online Courses

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Abstract

This paper reports two related studies on the role of student work, university connectedness, and taking online courses on college student academic success. In study 1, it was found that differences in GPA between students taking varying numbers of courses online is predicted by the number of hours students are working and not course format. It was also found that higher levels of university connectedness predicted higher GPAs in all students. In study 2, it was found that higher levels of university connectedness predicted higher GPAs in regular campus students, but not the fully online students. However, university connectedness predicated intentions to persist in both regular campus and fully online students. Implications are discussed.

Introduction

There has been a rapid proliferation of online programs in higher education in the past decade (Flanagan, 2012; Hart, 2012; Stone & Springer, 2019), because online courses offer scheduling flexibility to the student, as well as allowing students who cannot physically attend a college or university to complete college level coursework, professional development credits, and/or a degree (Signore & Moore, 2014). Unfortunately, the drop-out rates are higher (Hart, 2012; Kreideweis, 2005; Stone & Springer, 2019) and student GPAs are lower (Ferguson & Tryjankowski, 2009; Helms, 2014) in online versus face-to-face courses and programs. Therefore, variables that affect persistence and success in online education should be investigated. Two such variables that affect college student persistence and success are the level of connectedness to the university (Horn, 2014; Pascarella & Tarenzini 2005; Tinto, 2012; Wilson et al., 2018; Wilson & Gore, 2009; 2013), and the number of hours that students are working (Blaga, 2012; Ivankova & Stick, 2007; Logan, et al., 2016).

This paper reports the results of two related studies that investigate the effects of university connectedness and hours worked per week on persistence and academic success in college students taking varying numbers of their courses online. The first study investigates the combined effect of

university connectedness and hours working on academic success, and both studies report the results of students taking all, some, or none of their courses online. No study to date has investigated the combined effects of work and university connectedness on academic success and persistence in students. Additionally, no study to date has compared these three groups of students, as most studies of distance education compare only students in online versus students in face-to-face courses or programs.

University Connectedness and Student Success and Persistence

University connectedness is defined as college students' subjective sense of "fit" within the university, and the perception that they are personally accepted, respected, included, and supported by others at the university (Dingel & Sage, 2016; Goodenow, 1993; Hoffman, et al., 2002; Hotchkiss, et al., 2006). A number of studies have reported a high level of connectedness to the university positively affects student persistence, positive academic attitudes, and academic success (Horn, 2014; Hotchkiss et al., 2006; Pascarella & Tarenzini 2005; Tinto, 2012).

As examples of the benefit of university of connectedness on college student success, Hotchkiss et al., (2006) found that college students in a Freshman Learning Community, which was intended to promote connectedness to the university, had higher GPAs than students who were not members of a learning community. More recently, Wilson & Gore, (2009) and Wilson et al., (2018) also reported that college students with higher levels of university connectedness reported higher GPAs than students with lower levels of university connectedness. Research also suggests that connectedness to the university predicts intentions to persist until degree completion (Burks & Barrett, 2009; Horn, 2014; Jorgenson, et al., 2018).

Distance Education and University Connectedness

Previous research has reported mixed results related to university connectedness in students in online degree programs. Jamison and Bolliger (2019) reported that students in a graduate-level fully online business degree reported feeling low levels of a sense of community in their program. Similarly, Glazer and Wanstreet (2011) reported that learners in a doctoral program in education at a fully online university felt some connection to other learners, but no connection to their university. Alternatively, Green et al., (2017) reported high levels of connectedness to peers, professors, and to other students in a fully online Master's program in educational technology. In a comparison of a fully online and face-to-face undergraduate teacher education degree program, Daves and Roberts (2010) found that both groups of students experienced an above average level of connectedness to other students, and there were no overall differences in the scores of both groups. Because of these mixed results, additional research is needed to further elucidate the relationship between connectedness and student persistence and success in online courses and degrees.

Work, Distance Education, and University Connectedness

A common reason students report selecting online courses and/or online programs over face-to-face courses or programs is to help balance the competing demands of their lives, with work being a primary demand that requires accommodation (Ivankova & Stick, 2007; Signore & Moore, 2014). Although the literature is mixed on the effects of work on college student GPA (see Riggert et al., 2006), it is generally found that working longer hours in employment is negatively correlated with grades (Blaga, 2012; Logan, et al, 2016). Students working longer hours have also been found to be less involved in campus life (Halley & Eduljee, 2013). If students taking more online courses are working more hours than students taking fewer online courses, then hours working per week in employment and not course or degree format might explain the differences in connectedness, GPA, and course grades typically reported in students in regular campus and fully online programs.

Study 1

Study 1 investigates the relationship between number of completed online courses, university connectedness, hours working per week in employment, and GPA. This study was conducted at a university that offers a baccalaureate Psychology major, as well as many other majors and general education courses, fully online to students enrolled in an online degree program. Additionally, regular campus Psychology majors can also enroll in as few or as many online courses as they desire both within and outside of the major. Thus, students majoring in Psychology can be classified in one of three ways: (1) regular campus students who have taken only face-to-face courses (FTFOnly), (2) regular campus students who have taken varying numbers of online courses, as well as face-to-face courses (SomeOnline), and (3) fully online students those who have completed their entire undergraduate degree online (FullyOnline).

Consistent with previous research, it is hypothesized that there will be a relationship between number of online courses and number of hours worked per week with students working more hours taking more online courses (Signore & Moore, 2014) (Hypothesis 1). Because the structure of both the fully online degree program at this university is similar to a fully online university and the global measure of university connectedness used in this study are most similar to those described in Glazer and Wanstreet (2011), it is predicted that students taking fewer or no online courses will have a higher level of connectedness to the university than students in the fully online degree (Hypothesis 2). It is also predicted that students taking more online classes will have lower GPAs, as previous research reports that college students in online courses often have lower GPAs than students in face-to-face courses (Ferguson & Tryjankowski, 2009; Helms, 2014). (Hypothesis 3). Consistent with the previous research on the relationship between university connectedness and GPA, it is predicted that students with higher connectedness to the university will have higher GPAs (Hotchkiss et al., 2006; Wilson et al., 2018; Wilson & Gore, 2009) (Hypothesis 4). It is also predicted that any effects of online courses completed on GPA (Ferguson & Tryjankowski, 2009; Helms, 2014) will be eliminated once hours worked is accounted for, as students are taking online courses primarily to balance work-life demands, and it is these demands and not the course format that drive academic success (Hypothesis 5).

Method

Participants and Procedure

There were a total of 534 participants in this study who were enrolled at a regional comprehensive university in the Southeastern United States. Sixty-four participants were dropped because of incomplete data, which resulted in a total of 470 participants with a mean age of 25 ($SD = 7.8$).

Most of the participants were female (79%) and Anglo-American (91%). The sample was well-distributed by academic standing (23% Freshman, 19% Sophomores, 24% Juniors, 29% Seniors, and 5% as Fifth year or other). All participants received course completion credit in exchange for participation in this study. Participants completed a survey questionnaire online by logging into an online data collection system and volunteering for the study by accessing a link to the survey. They read an informed consent statement, and then completed the measures associated with this study. All participants were presented the survey items in the same order. Upon completion, all participants were provided with a debriefing statement.

Materials

In addition to providing basic demographic information including GPA and how many hours worked, participants were grouped as described below and completed the assessment as described below. See Table 1 for a correlations, means, standard deviations, and reliability information.

Grouping by Percentage of Online Courses.

To assess the number of courses taken online, participants were first asked if they were enrolled in the Online Only or Face-to-Face (FTF) degree. Students in the fully online degree were classified as

having taken 100 percent of their courses online (FullyOnline). The FTF students were asked to indicate the number of courses they had completed online during each academic year of their degree (e.g., How many online courses did you complete your Freshman year?). Students in the FTF degree who indicated they had completed no online courses during any academic year were classified as having taken 0 percent of their courses online (FTFOnly). For the FTF students who had taken some courses online (SomeOnline), the number of online courses completed was totaled, converted to credit hours based upon a 3 credit per course scale, then divided by the total number of hours needed to be classified as a Freshman (30 hours), Sophomore (60 hours), Junior (90 hours), or Senior/Senior Plus (120 hours). For example, a Junior (90 hours) who had taken six courses online (18 hours) would be classified as having taken twenty percent (e.g., 18/90) of their courses online.

University Connectedness. Participants completed the Psychological Sense of School Membership (PSSM) scale as a measure of university-level school connectedness (Goodenow, 1993). This scale consists of 18 questions on student perceived liking, personal acceptance, inclusion, respect, and participation at the institution (e.g., I feel like a real part of [name of school.]). Each item was rated on a 5-point scale (1 = *not at all true*, 5 = *completely true*). Five of the 18 items are reversed to avoid a set response pattern (e.g., Sometimes I feel as if I don't belong here.). Because this scale was originally created for use with middle school students, the questions were modified slightly for use with college students (e.g., Most professors at [name of university] are interested in me.). This scale has a very high internal reliability for a variety of populations (Cronbach's $\alpha = .77 - .88$).

Results

Student Type and Hours Worked. To test Hypothesis 1, that students taking more online classes will also be working more hours, a one-way ANOVA was conducted with student type (FullyOnline, SomeOnline, FTFOnly) as the independent variable and Hours Worked per week as the dependent variable. A main effect of student type was found for Hours Worked, $F(2, 468) = 58.92, p < .01$. Planned comparisons using a Tukey HSD test indicated that FullyOnline students work more hours per week ($M = 28.23, SD = 19.1$) than SomeOnline students ($M = 15.35, SD = 14.57$) and FTFOnly students ($M = 10.10, SD = 12.1$). Additionally, SomeOnline students work significantly more hours per week than FTFOnly students. This supports Hypothesis 1, that states that students taking more online courses are also working more hours.

Student Type and Connectedness. To test Hypothesis 2, that states that students taking more online classes will have a lower level of connectedness to the university than students taking some or none of their courses online, a one-way ANOVA was conducted with student type (FullyOnline, SomeOnline, FTFOnly) as the independent variable and University Connectedness as the dependent variable. A main effect of student type was found for Connectedness, $F(2, 468) = 15.3, p < .01$. Planned comparisons using a Tukey HSD test indicated that FullyOnline students had lower connectedness ($M = 3.18, SD = .51$) than SomeOnline students ($M = 3.36, SD = .53$) and FTFOnly students ($M = 3.48, SD = .48$). There was no significant difference in SomeOnline and FTFOnly student connectedness to the university. This partially supports Hypothesis 2, as students in the fully online program have a lower level of connectedness than regular campus students taking some or none of their courses online.

Student Type and GPA. To test Hypothesis 3, that states that students taking more online classes will have lower GPAs, a one-way ANOVA was conducted with student type (FullyOnline, SomeOnline, FTFOnly) as the independent variable and GPA as the dependent variable. A main effect of student type was found for GPA, $F(2, 468) = 6.07, p < .01$. Planned comparisons using a Tukey HSD test indicated that FullyOnline students had a lower GPA ($M = 3.11, SD = .49$) than SomeOnline students ($M = 3.26, SD = .55$) and FTFOnly students ($M = 3.31, SD = .55$). There was no significant difference in SomeOnline and FTFOnly students GPAs. This partially supports Hypothesis 3, as students in the fully online program have a lower GPA than regular campus students taking some or none of their courses online.

Connectedness and GPA. To test Hypothesis 4, that states that students with higher levels of connectedness will have higher GPAs, a multiple linear regression equation was conducted with connectedness as the predictor variable and GPA as the dependent variable. In support of Hypothesis 4, a significant regression equation was found, $F(1, 468) = 19.11, p < .05$. Higher levels of connectedness predicted a higher GPA in the combined group of participants ($\beta = .202, p < .05$.)

Relationship Between Online Courses, Connectedness, Hours Worked and GPA.

To test Hypotheses 5, that states that the effect of taking larger numbers of online courses on GPA will be eliminated once hours worked per week has been accounted for, university connectedness, percentage of online courses completed, and hours worked were entered into a three stage hierarchical regression analysis with GPA as the dependent variable. Connectedness to the University was entered into the analysis in Step One. The percentage of online courses taken was entered into the analysis in Step Two. Hours worked per week was entered into the analysis at Step Three. Inter-correlations between the multiple regression variables are reported in Table 1, and the regression statistics are in Table 2.

At Stage one, Connectedness to the University contributed significantly to the regression model, $F(1, 469) = 19.05, p < .01$, and accounted for 4% of the variation in GPA. Percentage of courses completed online (PercentOnline) also contributed significantly to the regression model in Stage Two. This change in R² was significant, $F(2, 468) = 12.7, p < .01$, and accounted for an additional 2% of the variation in GPA. Average number of hours worked per week also contributed significantly to the regression model in Stage Three. This change in R² was significant, $F(3, 467) = 10.7, p < .01$, and accounted for an additional 1% of the variation in GPA. In support of Hypothesis 5, when all three independent variables were included in stage three of the regression model, percent of courses completed online was no longer a significant predictor of GPA, $\beta = .06$. Together the three independent variables accounted for 6% of the variance in GPA.

Study 1 Discussion

As predicted in Hypothesis 1, students in a fully online degree are working an average of almost three times as many hours per week in comparison to students completing all of their courses face-to-face, with students taking some online courses falling in the middle of these two extremes in hours working. This continuum of students taking more online courses as students are working increasingly longer hours supports previous research that suggests that students are taking online courses to balance their work-school demands (Signore & Moore, 2014).

In support of Hypothesis 2, students in a fully online degree had lower levels of global connectedness to the university in comparison students taking some or none of their courses online. There were no differences in level of connectedness in students taking some or none of their courses online. This is consistent with previous research that found that students in a fully online university had low levels of university connectedness (Glazer & Wanstreet, 2011).

Hypothesis 3 was supported with students in a fully online degree having a lower GPA than students taking some or none of their courses online. There were no differences in GPA in the students taking some or none of their courses online. This is consistent with previous research that found that students in online courses have lower GPAs than students in face-to-face courses (Ferguson & Tryjankowski, 2009; Helms, 2014). It is notable that there were no differences in connectedness or GPA in students taking some or none of their courses online.

Support for Hypothesis 4 came from a regression analysis in which higher levels of connectedness to the university predicted higher GPAs in the combined group of participants. This is consistent with previous research reporting a positive relationship between GPA and university connectedness (Hotchkiss et al., 2006; Wilson et al., 2018; Wilson & Gore, 2009).

The Hypothesis 5 is the novel addition to literature from Study 1. This hypothesis was supported with the relationship between taking online courses and GPA (Ferguson & Tryjankowski, 2009; Helms, 2014) no longer being significant in a hierarchical regression equation once hours working per week was entered into the equation. These results suggest that the lower GPAs typically found in students taking online courses may be related to these students working longer hours, and not the format of the courses they are completing to fulfill their degree requirements. It is notable that the overall relationship between lower university connectedness and lower GPA remained after controlling for hours worked and number of completed online courses (Hotchkiss et al., 2006; Wilson et al., 2018; Wilson & Gore, 2009).

Study 2

As mentioned earlier, research suggests that connectedness to the university predicts intentions to persist until degree completion (Burks & Barrett, 2009; Horn, 2014; Jorgenson, et al., 2018), as well as GPA (Hotchkiss et al., 2006; Wilson et al., 2018; Wilson & Gore, 2009). It was also mentioned that the drop-out rates in online courses and programs is much higher than in face-to-face courses and programs (Hart, 2012; Stone & Springer, 2019), making retention a significant problem for online educators in higher education.

Study 2 will replicate portions of Study 1 by investigating the relationship between university connectedness and student success in a new group of fully online and regular campus college students in the same degree program as the participants in Study 1. Study 2 will also build upon the results of Study 1 by including intentions to persist, in addition to GPA, as an academic success indicator.

As in Study 1, students enrolled in a fully online degree make up the Fully Online degree group in Study 2. The regular campus students with some or no online coursework were merged into the Regular Campus degree group, because there were no differences in GPA and University Connectedness in the FTFOOnly and SomeOnline groups in Study 1. In addition to the university connectedness and GPA assessments described in Study 1, participants in Study 2 indicated their intention to remain at the current university through the completion of their undergraduate degree.

In a replication of Study 1, it is predicted that students in the Fully Online degree will have a lower GPA (Hypothesis 1) and lower level of university connectedness (Hypothesis 2) than students in the Regular Campus degree. Because previous research reports higher drop-out rates in online than in face-to-face courses and programs (Hart, 2012; Stone & Springer, 2019), it is predicted that students in the Fully Online degree will report lower levels of intentions to persist than students in the Regular Campus degree (Hypothesis 3).

Consistent with previous research, it is also predicted that university connectedness will predict intentions to persist (Burks & Barrett, 2009; Horn, 2014; Jorgenson et al., 2018) in both the Regular Campus (Hypothesis 4) and in the Fully Online students (Hypothesis 5). In a replication of Study 1, it is also predicted that university connectedness will predict GPA (Hotchkiss et al., 2006; Wilson et al., 2018; Wilson & Gore, 2009) in both the Regular Campus (Hypothesis 6) and in the Fully Online students (Hypothesis 7).

Method

Participants and Procedure

There were a total of 261 participants in this study who were enrolled at a regional comprehensive university in the Southeastern United States. Eight participants were dropped because of incomplete data, which resulted in a total of 253 participants. Most of the participants were female (82%) and

Anglo-American (91%), with a mean age of 26 ($SD = 7.78$) Participants' academic standing were as follows: 15% Freshman, 15% Sophomores, 38% Juniors, 29% Seniors, and 3% as Fifth year or other. There were 136 participants enrolled in the Fully Online Degree group, and 117 participants were enrolled in the Regular Degree group.

All participants received course completion credit in exchange for participation in this study. Participants completed a survey questionnaire online by logging into an online data collection system and volunteering for the study by accessing a link to the survey. They read an informed consent statement, and then completed the measures associated with this study. All participants were presented the survey items in the same order. Upon completion, all participants were provided with a debriefing statement.

Materials

In addition to providing basic demographic information including GPA and Online or Regular degree enrollment status, participants completed the following assessments.

University Connectedness. The same university connectedness measure described in Study 1 was presented to participants, as a global measure of connectedness to the university.

Intentions to Persist. Participants were also asked "How likely are you to complete your college degree at [current university]?" This item was rated on a 5-point scale ($1 = \text{Not At All Likely}$, $5 = \text{Very Likely}$ or $1 = \text{Not at all Committed}$, $5 = \text{Very Committed}$).

Results

Student Type and GPA

To test Hypothesis 1 that students in the Fully Online degree will have a lower GPA than students in the Regular Campus degree, a t-test was conducted comparing GPAs between these two groups. In a replication of Study 1 and in support of Hypothesis 1, participants in the Regular Campus Degree ($M = 3.35$, $SD = .60$) had a higher average GPA than participants in the Fully Online Degree ($M = 3.00$, $SD = .490$), $t(251) = -3.72$, $p < .01$.

Student Type and Connectedness to the University

To test Hypothesis 2 that students in the Fully Online degree will have a lower level of university connectedness than students in the Regular Campus degree, a t-test was conducted comparing levels of university connectedness between these two groups. In a replication of Study 1 and in support of Hypothesis 2, participants in the Regular Campus Degree ($M = 3.89$, $SD = .64$) had a higher average university connectedness score than participants in the Fully Online Degree ($M = 3.62$, $SD = .69$), $t(251) = -3.22$, $p < .01$.

Student Type and Intentions to Persist

To test Hypothesis 3 that students in the Fully Online degree will have lower levels of intentions to persist than students in the Regular Campus degree, a t-test was conducted comparing average scores on intentions to persist between these two groups. Hypothesis 3 was not supported. The opposite of the predicted relationship was found with participants in the Regular Campus Degree ($M = 4.63$, $SD = 0.89$) having a lower average intention to persist than participants in the Fully Online Degree ($M = 4.84$, $SD = 0.490$), $t(251) = 2.25$, $p < .05$.

Student Type, Connectedness, and Intentions to Persist

To test Hypotheses 4 and 5 that university connectedness will predict intentions to persist in both Regular campus and Fully Online degree students, two multiple linear regressions equations were

calculated separately for the Regular Campus degree students and Fully Online degree students to predict intentions to persist at the current university based upon University Connectedness. In support of Hypothesis 4, a significant regression equation was found for the Regular Campus degree students, $F(3, 113) = 7.35, p < .01, R^2 = .16$. Higher levels of university connectedness was a significant predictor of intentions to persist in Regular Campus students, ($\beta = .33, p < .01$). In support of Hypothesis 5, a significant regression equation was found for the Fully Online degree students, $F(3, 132) = 6.76, p < .01, R^2 = .13$. Higher levels of university connectedness predicted greater levels of intentions to persist in Fully Online students ($\beta = .27, p < .01$).

Student Type, Connectedness, and GPA

To test Hypotheses 6 and 7 that university connectedness will predict GPA in both Regular campus students and Fully Online degree students, two multiple linear regressions equations were calculated separately for the Regular Campus degree students and Fully Online degree students to predict GPA based upon University Connectedness. In support of Hypothesis 6, a significant regression equation was found for the Regular Campus degree students, $F(3, 113) = 3.40, p < .05, R^2 = .08$. Higher levels of university connectedness was a predictor of GPA for the Regular Campus degree students, ($\beta = .22, p < .05$). Hypothesis 7 was not supported, as the regression equation for the Fully Online degree students was not significant, $F(3, 132) = 1.71, NS$.

Study 2 Discussion

The results of Study 2 replicated those of Study 1, with participants enrolled in a fully online degree reporting a lower GPA (Hypothesis 1) and a lower level of connectedness to the university (Hypothesis 2) than students enrolled in a Regular Campus degree. Surprisingly, students enrolled in the fully online degree had higher levels of intention to persist than students in the regular campus degree (Hypothesis 3). This is inconsistent with the literature that reports high drop-out rates in fully online courses and programs (Hart, 2012; Stone & Springer, 2019).

In support of Hypotheses 4 and 5, and consistent with the literature reporting a relationship between university connectedness and intentions to persist (Burks & Barrett, 2009; Horn, 2014; Jorgenson, et al., 2018), it was found that university connectedness predicted intentions to persist in both the Fully Online degree and Regular Campus students. Hypothesis 6 was supported with university connectedness predicting GPA in the Regular Campus degree students. Hypothesis 7 was not supported, as university connectedness did not predict GPA in the Fully Online students. The lack of prediction between university connectedness and GPA in the Fully Online students is inconsistent with the typical relationship between connectedness and GPA (Hotchkiss et al., 2006; Wilson et al., 2018; Wilson & Gore, 2009).

General Discussion

The first novel finding reported in this paper is that the GPA differences seen in students in fully online courses and programs is at least partially a function of the number of hours these students are working, and not that they are taking all of their courses online. Because average GPAs were above a 3.0 for all student groups, it can be concluded that taking online courses is an effective way for college students to pursue a degree and work at the same time. Working will have a cost (e.g., possibly a lower GPA), but working is necessary for many students (Barber & Levitan, 2015; Kalenkoski & Pabilonia, 2010; Wenz & Yu, 2010), and the cost seems to be moderate. Therefore, one possible retention strategy is for universities to adjust their expectations of student GPA in fully online programs, as these students will likely have lower GPAs than regular campus students.

The second novel finding reported in this paper is that no university connectedness or GPA differences were found in regular campus students taking none or some of their courses online, even though the students taking some of their courses online are working significantly more hours than

students taking none of their courses online. These results should be a welcome relief to college and university administrators, as they suggest that offering a subset of online courses to their regular campus students is an effective way to help these students balance their school-work-life issues (Signore & Moore, 2014).

The third novel finding in these studies is that students in the fully online degree have higher levels of intentions to persist than students in the regular campus degree. This may be explained by the fact that students in fully online courses and programs are often older than students in face-to-face programs (Dendir, 2016). It may be the case that these more mature students have a more mature understanding of their goals and motivations for seeking an online degree, which translates into their higher levels of intention to persist to degree completion.

As is typically reported, university connectedness levels predicted both GPA and intentions to persist in regular campus students (Horn, 2014; Tinto, 2012; Wilson et al., 2018; Wilson & Gore, 2009; 2013), but only intentions to persist in fully online students. That is, the fully online students who reported being connected to the university saw the benefit of higher levels of intention to persist, but unfortunately, not the benefit of a higher GPA. It is also notable that the relationship between connectedness and intentions to persist was present in regular campus students despite their overall lower levels of intention to persist. Therefore, improving student connectedness may be a way to promote persistence in all students and a higher GPA in regular campus students. Methods for improving connectedness in regular campus students can be found in Wilson & Gore (2013).

While increasing university connectedness will likely only improve intentions to persist and not GPAs in fully online students, this is still a laudable goal given the higher drop-out rates for students in fully online programs (Hart, 2012; Stone & Springer, 2019). How might universities promote connectedness in their students completing online degrees and courses? Fully online students could be block enrolled in courses so that they are interacting with the same peers across multiple courses (Liu et al., 2007). Additionally, holding a face-to-face orientation can be an effective method of building community in a fully online program. If a face-to-face orientation is not possible, then an online orientation to the program with a focus on technical support can be very beneficial to building community (Scagnoli, 2001). Similarly, live extracurricular events such as academic skills workshops and information sessions with both a streaming and chat function that are moderated by university personnel provide an opportunity for students in an online degree to interact in real-time in a safe space and build community. These activities should be optional, and allow students to ask questions, share comments, as well as chat directly with other students (Foley & Marr, 2019).

Previous research has also found that reliable and consistent access to both academic and technical support throughout a course, as well as high levels of faculty responsiveness, can facilitate the development of community in online learners (Aragon & Johnson, 2008; Bunn, 2004; Glazer & Wanstreet, 2011). At the class-level, faculty can hold regular synchronous meetings with their classes, (Bernard et al., 2004), and require all students to upload a photograph in the learning management system, and provide discussion forums and assignments that promote student-student interaction. Additionally, high quality interactive instruction that is appropriate for the online course environment, with high levels of instructor presence and responsiveness promotes student connectedness, engagement, and persistence (Stone & Springer, 2019).

Limitations and Future Directions

One limitation of this study is that the amount of variance in GPA that is accounted for in Study 1 by the combination of university connectedness, hours working, and online course completion is quite small. Therefore, other variables that are not included in this study are affecting GPA.

It should also be noted that even though intention to persist differences in regular campus and fully online students in Study 2 were significantly different, the averages for both groups are extremely high, falling above a 4.5/5 on a rating scale. Therefore, it could be concluded that this may be a

significant difference, but not necessarily a practical one. The results of this study suggest qualitative differences in fully online and regular campus students taking varying numbers of online courses, and these differences may affect connectedness to the university. For example, while both FTFOOnly and SomeOnline students take most of their courses face-to-face on campus, the majority of the FullyOnline students never set foot on the university campus or take any classes face-to-face. This creates a very different university experience that likely affects the connectedness differences seen between these groups. Similarly, only regular campus students are likely to have a work-study, but location of work was not assessed in this study. Research suggests that on-campus work is typically much less detrimental to the student than off-campus work (Logan, et al., 2016; Thibodeaux et al., 2017). Thus, the work experiences of fully online and regular campus students assessed in these studies may not be comparable.

Conclusions

The studies reported here suggest that GPA differences in fully online and regular campus students are the result of fully online students working longer hours, and not because they are taking courses online. Because the significant GPA differences in regular campus and fully online students were moderate in amount, taking courses online is an effective way to both pursue an education and work. The results of these studies also suggest that offering some courses online to regular campus students is an effective method of facilitating school-work-life balance in these students. Because university connectedness predicts intention to persist in regular campus and fully online students and GPA in regular campus students, colleges and universities should intentionally implement strategies to facilitate university connectedness in all students.

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Table 1

Correlation Matrix with Descriptive and Reliability Statistics (Study 1)

Variables	1.	2.	3.	4.
1. Connectedness	--	-.24**	-.22**	.20**
2. PercentOnline		--	.45**	-.16**
3. HoursWork			--	-.19**
4. GPA				--
<i>M</i>	3.32	45.9	19.0	3.22
<i>SD</i>	0.52	45.9	17.8	0.53
α	0.84			

** $p < .01$

Table 2

Summary of Hierarchical Regression Analysis for Variables predicting GPA (Study 1)

Variable	B	SE(B)	β	<i>t</i>	<i>p</i>	ΔR^2
<u>Step 1</u>						
Connectedness	.2	.05	.2	4.37	.01	.04
<u>Step 2</u>						
Connectedness	.17	.05	.17	3.67	.01	.05
PercentOnline	-.001	.001	-.115	-2.47	.05	
<u>Step 3</u>						
Connectedness	.158	.05	.154	3.32	.01	.06
PercentOnline	-.001	.001	-.06	-1.21	NS	
HoursWorked	-.004	.002	-.13	-2.55	.01	

