Students' Characteristics and Motivation Orientations for Online and Traditional Degree Programs

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Abstract

The interaction among demographic variables and motivation orientation were compared in students interested in completing online and traditional degree programs. Two hundred and sixty-five students enrolled at an open-enrollment state institution completed an online survey examining student interest in online degree programs. Results demonstrated similar student motivations for completing online and traditional degrees, age, gender, and ethnic interactions with motivations for completing of online and traditional degrees, and intrinsic motivation as a predictor of online student interest in online degree programs. Taken together, these data are useful for developing online degree programs that support online learners' needs and increase retention rates.

Keywords: online degree, online student characteristics, intrinsic motivation, extrinsic motivation, traditional degree

Introduction

Increasing access to higher education has become of national interest as government officials are encouraging the masses to enroll in college courses. Recently, the Obama administration proposed to place a cap on student loan payments at ten percent of the borrower's income (Lips, 2010). Skeptics fear that the debt payment cap will switch the burden from borrowers to taxpayers (most of whom do not have a college degree) and fails to address ever rising tuition costs. An alternative proposal is to increase competition among higher education institutions by increasing online course offerings and providing greater opportunity for students to complete courses by examination only, much like Advanced Placement tests, which have been used widely for years. Lips (2010) asserts that these measures, taken together, could drastically decrease tuition costs and other student expenses, thereby increasing access to higher education and reducing costs to taxpayers.

Washington is not alone in its interest in promoting online degree programs. Universities want to improve graduation rates and attract non-traditional students by increasing online offerings (Allen & Seaman, 2007). Between 2002 and 2008, the number of online students tripled from 1.6 million to 4.6 million, making up 25% of total enrollments in higher education (Allen & Seaman, 2007; 2010). While student enrollment in online courses has shown steady growth, the number of four-year institutions offering online degrees has increased slowly in comparison to associate and graduate degree programs. Generally, institutions with more than 7,500 students teach 50% of online students and those institutions comprise only 6% of all institutions offering online courses (Allen & Seaman, 2007; 2010).

Chief academic officers overwhelmingly predict (83%) that student demand for online courses is rising and online enrollments will continue to increase and data suggest that their predictions are accurate (Allen & Seaman, 2007). Enrollments are growing for institutions offering online courses and degree

programs, but there is little change in the number of institutions newly implementing distance education. Researchers state that 86% of academic leaders in state institutions experienced increased demands for online course offerings as the result of the economic downturn (Seaman & Allen, 2010).

To meet the expected student demand, the University of Houston-Downtown (UHD), a large open-enrollment state institution, desires to increase online course offerings and online degree programs to improve access to students, a goal consistent with the University mission statement. Several degree programs are ready for transition from traditional to fully online degrees, if UHD students are interested in completing online degree programs. Little is known about students who enroll in online degree programs (Maxwell et al., 2003), except that their class retention rates are inferior to traditional students (Frankola, 2001). In order to develop and maintain student e-services (DeTure, 2004; Dupin-Bryant, 2004; Halsne & Gatta, 2002; Schmid & Abell, 2003) and customize support systems to meet the needs of students (Dupin-Bryant, 2004; Habley & McClanahan, 2004), online degree program students must be identified and described.

Group comparisons of online students are inconsistent and most studies fail to address the interaction of demographic variables. In some studies females are more likely to complete online courses than are male students (Allen & Seaman, 2010; Aragon & Johnson, 2009; Dabaj, 2009; US Department of Education, 1999; Qureshi, Morton, & Antosz, 2002; Stevens & Switzer, 2006), yet other studies show no gender differences in online course completion (Jenkins & Downs, 2003; Roblyer, 1999). Similar inconsistencies exist for age differences. Researchers report that more older students enroll in online courses and complete online degree programs in comparison to the traditional student age group (Allen & Seaman, 2007; Allen & Seaman, 2010; Dutton, Dutton, & Perry, 2002; Mattes et al., 2003; Qureshi et al., 2002; Stevens & Switzer, 2006; Wisan, Roy, & Pscherer, 2001), while others find no significant age differences (Aragon & Johnson, 2003; Jenkins & Downs, 2003; Willging & Johnson, 2004).

Academic leaders state that providing educational access to unreached populations is a primary motivator for going online and thus, examining ethnic differences in online students is necessary (Allen & Seaman, 2007; 2010). Gladieux and Swail (1999) assert that while the Internet shatters geographical barriers, it segregates people who have a computer from those who do not. In their study, twice as many Caucasians had computers as African Americans or Hispanics. Similarly, a more recent study found that Caucasian students are more likely to enroll in online courses (Tallent-Runnels, Thomas, Lan, Cooper, Ahern, & Xiaoming, 2007); whereas, Wisan and colleagues (2001) report that enrollment in online courses increased from 1999-2001 for all ethnic groups; yet other studies show no significant ethnic differences (Aragon & Johnson, 2003; Mattes et al., 2003; Willging & Johnson, 2004).

Parental status, employment, and enrollment in previous online courses are suspected reasons that students enroll in online degrees. Predictably, students in online degree programs work more hours per week than do students in traditional degree programs (Dutton et al., 2002; Jenkins & Downs, 2003; Mattes et al., 2003). Some speculate that parents are more likely to enroll in online degree programs because they feel pressure from work and home responsibilities (Conklin, 1997; Dutton et al., 2002; Grimes & Antworth, 1996), but little research has examined how parental status influences interest in online degree programs. Most researchers assume that nontraditional students enroll in online degree programs because of time constraints (Dutton et al., 2002; Grimes & Antworth, 1996) and such motives are often cited as the main causes for students' withdrawal from online courses (Aragon & Johnson, 2003; Willging & Johnson, 2004). In addition, completion of one online course increases the likelihood of enrollment in other online courses (Dutton et al., 2002; Mattes et al., 2003; Stevens & Switzer, 2006).

Overwhelmingly, research has relied on student characteristics to predict interest in or completion of online courses and degrees. Yet, few studies have examined student motivation which influences student interest, persistence, and performance in academics (Bandura & Schunk, 1981; Frankola, 2001; 2002). Online student motivation research has produced mixed results. Qureshi and colleagues (2002) found that online students are less motivated than are traditional students, while Dutton and colleagues (2002) established that online students' motivation did not differ from traditional students; however, Roblyer (1999) found that online students are more motivated and autonomous than traditional students. Clearly, further research is needed to elucidate motivational differences between online and traditional students.

Comparing motivation orientation in online versus traditional students is needed because motivation is associated with student autonomy (Roblyer, 1999), increased effort (Ntoumanis, 2001), satisfaction with school, improved performance, and persistence (Fortier, Vallerand, & Guay, 1995; Lepper & Henderlong,

2000). Specifically, motivation orientation explains why a person engages in a task; intrinsically motivated students perform behaviors for internal reasons while extrinsically motivated students perform behaviors for external reasons (Brophy, 1998).

Both intrinsically and extrinsically motivated students can achieve academic success (Lepper & Henderlong, 2000), but students benefit more from an intrinsic orientation than from an extrinsic orientation (Stipek, 1992). Intrinsically motivated students have more sophisticated cognitive understandings of the material (Stipeket al., 1998), remain interested in tasks (Ryan & Deci, 2000), persist (Frankola, 2001), and value autonomy (Roblyer, 1999) more than extrinsically motivated students. Understanding motivation orientation and interest in online degree programs could provide educators with much needed knowledge of student enrollment patterns and the ability to develop programs to meet online students' needs. Given the high withdrawal rate of online students (20%), such information could prove useful in increasing graduation and retention rates for online students (Breslin, 2001).

The present study extends previous research by examining the interactions among age, gender, and ethnicity with motivational orientation and student interest in online and traditional degree programs. It was expected that: 1) there would be an interaction between age and gender for interest in degree programs. Given that past research has found that older students and females are more likely to enroll in and complete online courses, it was hypothesized that female students over the age of 30 would be most interested in online degree programs. 2) Students who worked more hours and students who had children would be more interested in online degree programs than traditional degree programs, which is consistent with previous findings suggesting that online students work more hours each week than traditional students. 3) Online students would be more interested in online degree programs than students who had not completed an online course. 4) Students would have similar motivation orientations for traditional and online degree programs, consistent with Dutton and colleagues' (2002) findings. 5) However, it was hypothesized that student characteristic variables would be related to motivation orientation. Specifically, students who worked more hours and students who had children would be extrinsically motivated to completed online degrees, while younger students who worked fewer hours would be more motivated to complete traditional degrees. 6) Online students would be intrinsically motivated to complete online degree programs. 7) Intrinsically motivated students would be more interested in online degree programs than would extrinsically motivated students, a prediction based on Ryan & Deci's (2000) findings.

Method

Participants

The sample included 209 female and 57 male undergraduate students (*N*=285) enrolled at a large, open-enrollment state university. Demographic data showed that 58% of participants were full time students, 30% were juniors and 50% were seniors (see Table 1 for participant characteristics).

Design and Procedure

Students enrolled in web-enhanced, hybrid, or online courses were invited to participate in an online survey through the Survey Monkey system (www.surveymonkey.com). Students who logged into the university computer management system received a pop up message advertising the study. Students interested in participating clicked on a link to the Survey Monkey website, reviewed the consent form and if they agreed to participate, they completed the brief online survey. Students were free to withdraw from the survey at any time and did not receive any compensation for their participation.

Measure

A survey was developed to examine students' interest in online degree programs and students' motivations for completing online and traditional degrees at a state university. The survey included 37-items that measured student demographics, experience with the computer management system, motivations for enrolling in traditional degrees, motivations for enrolling in online degrees, interest in online degree programs, and perceived prestige of online degree programs.

Demographics Subscale. A 12-item subscale assessed age, academic level, ethnicity, gender, number of hours worked and parental status.

Exposure to the Computer Management System. An 11-item subscale examined students' exposure to the university platform. The items assessed experience with various types of technology-based courses such as web-enhanced face-to-face classes, hybrid/blended classes, and fully online classes.

Table 1. Participant Characteristics

Variable		***n***	**%**
Age			
	18-22	35	12
	23-29	121	43
	30-37	67	24
	38-50	39	14
	Over 50	5	2
Gender			
	Female	209	77
	Male	57	21
Ethnicity			
	Caucasian	68	24
	Hispanic	73	26
	Asian American	21	7
	African American	86	30
	Middle Eastern	3	1
	Other	15	5
Number of Hours Worked			
	Less than 5	49	17
	6-10	12	4
	11-20	20	7
	21-30	24	8
	31-40	83	30
	More than 40	78	28
Parental Status			
	Have Children	126	44
	Do Not Have Children	140	49
Completed a Fully Online Course			
	Yes	220	77
	No	46	16
Note. *N* = 285. Age data were missing for 18 students; and 19 students were missing data for gender, ethnicity, hours worked, parental status and fully online class completion.			

Interest in and Perceived Prestige of Online Degree Programs. Four items measured student interest in online degree programs using a four point response scale ranging from 1 (*not interested*) to 4 (*very interested*). An item examined overall interest in online degrees programs being offered and additional items measured student interest in specific degree programs from various colleges on campus. Perceived prestige of online degree programs was examined using a single item.

Student Motivations for Completing an Online Degree Program. A 14-item scale measured student motivations for participating in an online degree program. Students responded using a 4-point response scale ranging from 1 (*not motivated*) to 4 (*very motivated*). A Principle Component Analysis (PCA) with Varimax rotation was conducted on the motivation for completing online degree items. The analysis identified three factors (one intrinsic motivation factor and two extrinsic motivation factors: time constraints and course scheduling concerns), which accounted for 65% of the total variance. Items with factor loadings exceeding .50 were included in the factor (see Table 2 for the factor loadings and coefficient alphas).

Table 2. Factor Loadings for Exploratory Factor Analysis with Varimax Rotation of Student Motivation to Complete Online Degrees Scale

Item	Intrinsic	Time Constraint	Schedule
Work Responsibilities	.13	.18	**.79**
Home Responsibilities	.11	.18	**.76**
Speed Graduation Rate	.37	.06	**.51**
Daytime Class Schedule	.17	**.74**	-.04
Nighttime Class Schedule	.00	**.82**	,24
Weekend Class Schedule	.08	**.80**	.22
Commute and Car Care	.29	.44	.43
Enjoy Online	**.63**	-.02	.49
Make Better Grades	**.81**	.06	.22
More Responsible	**.83**	-.03	.28
More Motivated	**.84**	.03	.28
Communicate with Students	**.86**	.21	.05
Communicate with Professor	**.84**	.19	.04
Easier Classes	**.73**	.22	.12
Note. Factor loadings > .50 are in boldface. Coefficient alphas for scales were: Intrinsic, α = .92; Time Constraints, α = .67; Course Schedule Concerns, α = .75.			

Because the number of online courses completed was correlated with two of the motivation factors (intrinsic motivation, r =. 26, p < .0001 and time constraints, r = .31, p < .0001), separate PCAs with

Varimax rotations were conducted with students who had not completed an online course (traditional subsample, n = 46) and students who had completed one or more online courses (online subsample, n = 220) to determine if the data would yield similar factor structures for motivation. Results from both follow up analyses yielded a three factor solution, which accounted for 67% of the variance in the traditional students and 64% of the variance in the online students, as shown in Tables 3 and 4.

Table 3. Factor Loadings for Exploratory Factor Analysis with Varimax Rotation of Student Motivation to Complete Online Degrees Scale with Traditional Student Sample

Item	Intrinsic	Time Constraint	Schedule
Work Responsibilities	.21	**.73**	.27
Home Responsibilities	.13	**.74**	.30
Speed Graduation Rate	.31	**.63**	.02
Daytime Class Schedule	.17	-.05	**.77**
Nighttime Class Schedule	-.05	.23	**.76**
Weekend Class Schedule	-.01	.28	**.82**
Commute and Car Care	.29	.48	.40
Enjoy Online	**.70**	.43	-.05
Make Better Grades	**.78**	.29	-.06
More Responsible	**.82**	.33	-.09
More Motivated	**.83**	.25	-.04
Communicate with Students	**.88**	.29	.01
Communicate with Professor	**.84**	.07	.18
Easier Classes	**.76**	.11	.24
Note. n = 46. Factor loadings > .50 are in boldface. Coefficient alphas for scales were Intrinsic, α = .93; Time Constraints, α = .67; Course Schedule Concerns, α = .76.			

Student Motivations for Completing Traditional Degree Programs. A 10-item measure using a 4-point response scale ranging from 1 (*not motivated*) to 4 (*very motivated*) examined student motivations for completing traditional degree programs. Students reported their motivations for completing traditional degree programs. A PCA with Varimax rotation was performed on the motivation for enrolling in traditional degrees items. Results yielded a two factor solution: an intrinsic motivation factor and an extrinsic motivation factor, which accounted for 72% of the variance (see Table 5 for the factor loadings and coefficient alphas).

Results

Students' Motivations for Completing Traditional Degree Programs. Means were computed for the two factors and then correlations were examined. Completion of a fully online course was correlated with intrinsic (r = .26, p < .01) and extrinsic motivation (r =. 16, p <. 01) to complete traditional degrees. Interestingly, the number of online courses completed was negatively correlated with intrinsic motivation

to enroll in traditional degree programs (r = -.36, p < .0001). Moreover, the number of online courses completed was negatively related to extrinsic motivation (r = -.31, p < .0001).

Table 4. Factor Loadings for Exploratory Factor Analysis with Varimax Rotation of Student Motivation to Complete Online Degrees Scale with Online Student Sample

Item	Intrinsic	Time Constraint	Schedule
Work Responsibilities	.09	**.76**	.11
Home Responsibilities	.03	**.75**	.15
Speed Graduation Rate	.35	.49	.03
Daytime Class Schedule	.19	-.08	**.73**
Nighttime Class Schedule	-.05	.17	**.84**
Weekend Class Schedule	.08	.22	**.80**
Commute and Car Care	.31	.45	.39
Enjoy Online	**.56**	.50	-.06
Make Better Grades	**.81**	.18	.03
More Responsible	**.83**	.27	-.05
More Motivated	**.86**	.26	-.00
Communicate with Students	**.86**	.05	.18
Communicate with Professor	**.83**	.06	.18
Easier Classes	**.72**	.06	.20

Note. n = 220. Factor loadings > .50 are in boldface. Coefficient alphas for scales were Intrinsic, α = .92; Time Constraints, α = .57; Course Schedule Concerns, α = .74.

Age, ethnic, and gender differences for motivation to enroll in a traditional degree programs was analyzed using a factorial Multivariate Analysis of Covariance (MANCOVA). Age and intrinsic and extrinsic motivations for completion of traditional degree programs were negatively correlated (r = -.24, p < .0001 and r = -0.15, p < .01, respectively); therefore, age was controlled for in the model to determine if motivations were still related to ethnicity and gender. Results showed that holding age constant eliminated ethnic and gender differences in the motivations for completing traditional degree programs. As expected, the multivariate main effect for age was significant, λ = .96, F(2, 202) = 4.6, p < 0.05. A significant age difference was found for intrinsic motivation for completing tradition degrees, F(1, 214) = 9.2, p < 0.01, and post hoc tests showed that students under the age of 30 were more intrinsically motivated to complete traditional degrees than were students over the age of 30.

A Multivariate Analysis of Variance (MANOVA) was performed to examine the main effects for number of hours worked and parental status on motivations for completing traditional degrees. The multivariate main effect for hours worked was significant, λ = 0.95, F(10, 402) = 2.4, p < 0.01, and the univariate main effect showed that number of hours worked outside the home was related to intrinsic motivation, F (5, 202) = 3.0, p < 0.05. Tukey's HSD revealed that those who work 11-20 hours a week were more intrinsically motivated to complete traditional degrees than were those who worked 31-40 hours a week.

Students' Motivations for Enrolling in Online Degree Programs. Means were computed for the three online degree motivation factors and then correlations were examined. Completion of one online course was negatively correlated to the time constraints factor (r = -.19, p < 0.01) and intrinsic motivation (r = -0.22, p < .01). However, completion of several online courses was related to time constraints (r = 0.30, p < .01) and intrinsic motivation (r = 0.25, p < 0.01).

Table 5. Factor Loadings for Exploratory Factor Analysis with Varimax Rotation of Student Motivation to Complete Traditional Degrees Scale

Item	Intrinsic	Extrinsic
Flexible Schedule	.21	**.81**
Like Commute	.30	**.76**
Like Course Schedule	.24	**.84**
Enjoy Face-to-Face	**.80**	.22
Communicate with Students	**.79**	.29
Communicate with Professor	**.89**	.11
Make Better Grades	**.70**	.50
More Responsible	**.77**	.43
More Motivated	**.81**	.39
Easier Classes	**.72**	.23
Note. Factor loadings > .50 are in boldface. Coefficient alphas for scales were: Intrinsic, α = .92 and Extrinsic, α = .81.		

Age, ethnic and gender differences in motivations for completing online degrees were examined using a MANOVA. Results showed a multivariate main effect for age, λ = 0.82, $F(12, 500) = 3.3$, p < 0.001, and a significant interaction between age and gender, λ = 0.91, $F(9, 460) = 1.9$, p < 0.05 (see Table 6 for significant univariate results). Follow up tests revealed that students between the ages of 23 and 49 were more motivated to complete online degree programs because of time constraints than were those younger than age 22 or older than age 50 and students between the ages of 23-29 were more intrinsically motivated to complete online degrees than were those over 50. Furthermore, follow up tests revealed that males between the ages of 23-29 were more intrinsically motivated to complete online degrees than were females, and African American males, between the ages of 38-49 were more motivated to complete online degree programs due to course scheduling concerns than were Caucasian males of the same age.

Table 6. Factorial Analysis of Variance for the Motivations for Completing Online Degrees Factors

	Motivation Factors		
	Intrinsic	Schedule	Time Constraints
Variable	*F*(df)	*F*(df)	*F*(df)
Age	2.7* (4, 226)	1.4 (4, 226)	4.7** (4, 226)
Age X Gender	2.5* (4, 226)	1.1 (4, 226)	1.4 (4, 226)
Age X Gender X Ethnicity	.87 (5, 225)	2.9* (5, 225)	1.2 (5, 225)
*p < .05, **p < .01			

Additional student characteristic variables and motivations for completing online degrees were analyzed using a series of MANOVAs. The multivariate main effect for number of hours worked was significant, λ = 0.93, $F(15, 602) = 2.4$, $p < 0.01$, and the multivariate main effect for parental status was significant, λ = 0.94, $F(3, 223) = 4.9$, $p < 0.01$ (univariate effects are shown in Table 7). Follow up tests revealed that students who worked more than 31 hours a week were more motivated to complete online degrees because of work and home obligations than were other students. Moreover, students who worked between 21-40 hours a week were more intrinsically motivated than were students who worked fewer than 20 hours a week or more than 40 hours a week. Additionally, parents were more motivated to complete online degrees due to time constraints than were students who did not have children.

Table 7. Analysis of Variance for the Motivations for Completing Online Degrees Factors

	Motivation Factors		
	Intrinsic	Schedule	Time Constraints
Variable			
Hours Worked	2.8* (5, 222)	1.4 (5, 222)	4.7** (5, 222)
Parental Status	3.3 (1, 226)	.04 (1, 226)	12.9** (1, 226)
$p < .05$, ** $p < .01$			

Students' Interest in Online Degree Programs. A total score for interest in online degree programs was computed and correlations were examined. Completion of one online course was negatively correlated with interest in online degree programs (r = -.15, $p < 0.05$); however, interest was positively correlated with the number of online courses completed (r = .20, $p < 0.01$).

A factorial ANOVA examined the interaction among student demographic variables and interest in online degree programs. The data failed to yield significant findings. Similarly, the number of hours worked and parental status were not predictors of interest in online degrees. Next, student motivation and interest in online degree programs were examined using an ANOVA. A significant main effect was found for time constraints and interest in online degrees, $F(7, 242) = 2.5$, $p < 0.05$.

To test the hypothesis that perceived prestige of online degrees would affect student interest in online degree programs, an ANOVA was conducted and results produced a significant main effect, $F(2, 212) = 12.0$, $p < 0.0001$.

Because student interest in online degree programs was related to the number of online courses completed, analyses were re-examined with online students only (n = 220). Analyses examining online student characteristics and interest in online degrees did not yield significant results. However, analyses investigating the online student motivation factors and perceived prestige of online degrees and interest in online degree programs showed significant main effects for intrinsic motivation, $F(31, 156) = 1.5$, $p < 0.05$, and perceived prestige, $F(2, 171) = 10.6$, $p < 0.0001$.

Discussion

The present study examined student characteristics and motivation orientation of students interested in completing traditional and online degree programs at a four-year, open-enrollment university. As predicted in Hypothesis 4, findings demonstrated that students interested in traditional degree programs and students interested in online degree programs were similarly motivated by intrinsic and extrinsic motivation orientations. One exception was that online students placed greater emphasis on differentiating between course schedule concerns and time constraints due to work and home responsibilities as separate extrinsic motivation dimensions than did traditional students. Faculty often posit that students are interested in online courses and online degrees because students do not want to attend class regularly or because online courses are easier. The current data suggested that students had clear preferences with regard to delivery mode and the factors that motivated students to complete traditional degrees were the same factors that motivated students to complete online degrees.

Previous research suggested that students motivated to complete traditional degrees completed few online courses, were younger and male, worked fewer hours, and had no children (e.g., Conklin, 1997).

Hypothesis 5 stated that student characteristics would be related to motivation to enroll in online and traditional degree programs. The present study found a correlation between age and motivation, but after controlling for age, there were no significant gender differences in motivation to complete traditional degrees. These findings extend those of previous studies and provide support for Hypothesis 5 in that results showed that students under the age of 30 were more intrinsically motivated to complete traditional degrees. Put simply, these younger students enjoyed traditional courses, enjoyed face-to-face interaction with other students and their professor and were more motivated in those courses than were students over the age of 30. The current study bolstered studies that showed that students who work fewer hours were more motivated to complete traditional degree programs (e.g., Jenkins & Downs, 2003). In particular, students who worked between 11-20 hours a week were more intrinsically motivated to complete traditional degrees than were those who worked more than 30 hours a week. Researchers have speculated that students without children were more interested in traditional degree programs (Grimes & Antworth, 1996), but current findings failed to demonstrate that parental status impacted decisions to complete traditional degrees.

Interestingly, completion of one online course increased students' intrinsic and extrinsic motivation to complete traditional degrees. Conversely, students were more intrinsically motivated to complete online degrees as they completed more online courses; a finding that supports Hypothesis 3. It appears that students' enjoyment increased with each online course completed. Together these data help to explain enrollment patterns in traditional degree programs. As expected, younger students and students who work part-time were more motivated to complete traditional degrees, but as students completed several online courses, they became less interested in traditional degree programs, which may account for the growing interest in online degree programs.

Much of the previous research assessing online student characteristics has failed to examine the interactions between age, gender, and ethnicity. Hypothesis 1 stated that older females would be more interested in online degree programs than other students. The current findings yielded several interactions among demographic variables and motivation for online degrees. Specifically, results showed that middle-aged, African American males were more extrinsically motivated to complete online degrees because of course schedule concerns than were Caucasian males of the same age group and younger age groups. Another interaction was found for age, gender and motivation. Males between the ages of 23-29 were more intrinsically motivated to complete online degrees than were females of other age groups. This finding contradicts the first hypothesis and prior research suggesting that females were more motivated to participate in online degrees (Stevens & Switzer, 2006). Moreover, results demonstrated that students between the ages of 23-49 were more extrinsically motivated due to time constraints than were students under the age of 22 or over the age of 50. Based on these findings, African American, middle-aged males desired to complete online degrees because the current course schedule did not offer classes at convenient times, while males in early adulthood preferred online courses and thus were motivated to complete online degrees. Last, young and middle-aged students and those who worked more than thirty hours a week were motivated to complete online degrees because of time constraints and needed flexibility.

Several studies demonstrated that online course withdrawal was related to work conflicts and personal problems (Aragon & Johnson, 2009) and family responsibilities (Grimes & Antworth, 1996). Mattes and colleagues (2003) pointed out that future research should attempt to address whether older students enroll in online degree programs due to work and family obligations. The present study demonstrated the need to tease apart the various factors that motivated students to enroll in online degree programs. Hypothesis 7 stated that intrinsically motivated students would be more interested in online degrees than extrinsically motivated students. The current research provided partial support for this hypothesis. Specifically, although students reported being motivated to complete online degrees because of time constraints, those who worked between 21-40 hours per week were more intrinsically motivated to complete online degrees than were those who worked less than 20 hours or more than 41 hours. This is a notable finding because most motivation orientation research suggests that intrinsically motivated students have an advantage over extrinsically motivated students with regards to persistence, sustained interest, and conceptual understanding (e.g., Ryan & Deci, 2000; Stipek et al., 1998). A possible explanation for these findings is that students who worked between 21 and 40 hours a week preferred online courses and were motivated to complete online degrees because they enjoyed the classes, they enjoyed the interactions with classmates and professors, and were motivated in the courses, but also recognized that their home and work responsibilities necessitated a flexible school schedule.

The present data suggested that parental status impacted motivation to complete online degrees. Specifically, parents were more motivated to complete online degree programs due to time constraints caused by home and work responsibilities than were students who did not have children, which lends further support to Hypothesis 2. Interestingly, parental status did not affect motivation to complete traditional degrees as those with children were equally as motivated to complete them as those without children. Future studies should compare intrinsically and extrinsically motivated online students with those who are only extrinsically motivated on their achievement and retention rates. Such data might demonstrate that intrinsic motivation serves as a protective factor from withdrawal, characteristic of those who solely participate in online degrees because of time constraints and personal problems.

Another aim of the current study was to gauge students' interest in online degree programs prior to the development of those programs. Therefore, it was important to examine student interest in online degree programs offered at the university. As stated in Hypothesis 3, students with online experience were more interested in online degrees, which are consistent with Dutton et al., (2002) findings. When online students were examined, intrinsic motivation was related to interest in completion of online degrees. Put simply, online students who enjoy the delivery format are also interested in completing online degree programs. In addition, equality in online and traditional degree prestige influenced student interest in online degrees, regardless of their online experience. Online and traditional students expressed interest in online degree programs, if the university could demonstrate quality equivalency.

In summary, students were motivated to complete traditional and online degree programs for similar reasons. There is a need for future research to investigate students' perceptions of their first online course and its impact on student motivation. Given that students' first experiences with online courses may not be as positive as they are in subsequent online courses, identifying first time online students and providing them with additional support may improve their initiation to the online delivery mode. Current results also established a number of interactions among demographic variables not identified in previous research. These findings support the need for examining the interactions between gender, age, and ethnicity when describing how online student characteristics affect motivation and online learning. Online students who are intrinsically motivated to complete online degrees are also interested in the university offering online degree programs. Based on the motivation orientation research, those students are expected to perform well in online degree programs as they are more likely to persist than are other students. Finally, students agreed that quality matters. Regardless of student motivation to participate in online or traditional degrees, if students perceived the online degree program as equally prestigious as the traditional degree program, then students were interested in completing online degrees.

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