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## Student Motivation and Intent to Take Online Courses

Ashley W. Cullum

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# STUDENT MOTIVATION AND INTENT TO TAKE ONLINE COURSES

by

ASHLEY WINDLEY CULLUM

(Under the Direction of Jason LaFrance)

## ABSTRACT

The Motivation Orientation Scale – Student Version (MO-SV) and Unified Theory of User Acceptance of Technology (UTAUT) were used to predict to what extent motivation orientation impacts student intent to take online courses, to examine the intrinsic and extrinsic motivators of students that drive them to take online courses, to examine the relationship between motivation to take online courses and motivation to take face-to-face courses, and to determine if demographic variables influence behavioral intent to take online courses. A sample of 394 full-time and part-time students at a large, public, research university with an integrated health center in the Southeast United States responded to the online survey. Results demonstrated that more students than not reported behavioral intent to take online courses. Multiple regression analysis indicated that performance expectancy, social influence, facilitating conditions, total motivation orientation to take online courses, total motivation orientation to take face-to-face courses, and current number of online courses taken statistically and significantly predicted behavioral intent to take online courses.

INDEX WORDS: Student Motivation, Behavioral Intent, Online Learning, Intrinsic Motivation, Extrinsic Motivation

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## **DEDICATION**

This dissertation is dedicated to my family and friends. I am truly blessed to have such a strong support system. My church family, especially my choir family, has continuously prayed for me and supported me on this journey. I am especially grateful for my loving husband, Ryan, who has been there for me through the highs and lows of this process, always encouraging me to achieve my goals. A special note of thanks to my parents who have supported me in so many ways, have always believed in me, and taught me that there isn't anything that I can't do if I set my mind to it.

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# CHAPTER 1

## INTRODUCTION

Technology has rapidly become an everyday part of society in America. This integration has had a tremendous impact in the field of education. Online education has become increasingly popular and many universities are compelled to offer online programs to accommodate student-learning preferences, increase student enrollment to generate revenue, and also meet the demands of traditional and non-traditional students. This change in how education utilizes technology has led to significant modifications in teaching and learning practices (Hockridge, 2013). The first generation of distance education courses was conducted through postal correspondence. The addition of radio, television and film production began the second generation. The integration of interactive technologies such as audio, video, text, web, and video conferencing transformed distance education and it has continued to change over the years. As new technologies are integrated, the old are not eliminated, but built upon. These technologies are modified and adapted to the changes with distance education (Anderson & Dron, 2011).

A survey conducted by the Pew Research Center in May 2012 showed that 85 percent of Americans ages 18 and over use the Internet. Another survey conducted by the Pew Research Center in 2012 showed that of the 1,055 college and university presidents interviewed, 77 percent reported that their institutions offered completely online programs. More and more institutions are offering online programs and courses to meet the demands of students. Due to rising tuition costs, students and parents are

looking at online education as a more affordable option than physically attending a higher education university (Anderson, Boyles, & Rainie, 2012).

There are several types of courses available for students to choose from to fit their different learning styles. Traditional courses are courses where no online technology is used. Content in these types of courses is either delivered orally or in writing. Web facilitated courses use web-based technology to facilitate what is essentially a face-to-face course. It may use web pages or a course management system to post the syllabus and assignments and up to 29 percent of the content is delivered online. Blended or hybrid courses blend online and face-to-face delivery through the use of online discussions, and a substantial portion of the content is delivered online. This type of course typically has a reduced number of face-to-face meetings and has 30-79 percent of content delivered online. An online course has most or all of the content delivered online. There are typically no face-to-face meetings and 80 percent or more of the content is delivered online (Allen & Seaman, 2013).

Over the years the number of students enrolling in online courses has grown. In 2011, 6.7 million students were taking at least one online course. With large numbers of institutions offering online programs, teachers are encouraged, and often required, to offer their courses in an online environment. Many professors are skeptical about how effective the learning outcomes are for online courses. A study conducted by the Babson Survey Research Group showed that almost two-thirds of faculty members surveyed believed that the learning outcomes for online courses were inferior to the comparable face-to-face courses. While online programs have continued to grow, the attitudes about online education have been conflicted (Allen, Seaman, Lederman, & Jaschik, 2012a).

A survey conducted in 2011 showed that the responding chief academic officers described online learning as critical to their institutions' long-term strategic plans. They expressed that they expected the demand for online courses to grow, but also had serious concerns about the quality of education that students were receiving. Almost one-third stated that online learning outcomes were inferior to face-to-face instruction. Many believed that their faculty members did not accept the value or legitimacy of distance learning (Allen et al., 2012a).

There have been technology-related standards and performance indicators for administrators to help improve student performance and integrate technology effectively in online classes (Chang, Chin, & Hsu, 2008). While some faculty members are resistant to online education, there is a need to integrate technology into education to promote innovation. As stated by Cristina, Emanuela, and Adriana (2011), "Information and communications technology is considered 'the backbone of the knowledge economy, the main engine of economic growth' and social development" (p. 737).

There has been an increase in digital media in face-to-face classrooms as well as online classes. Teachers use web-conferencing, lecture capture, learning management systems, and other tools to give students easy access to the materials being taught and reach those who are distant learners (Betrus, 2012). Students have access to smart phones and tablets, which makes accessing information online easier. Instructors can utilize e-textbooks, and embed videos and simulations into their online courses to help engage the students (Allen, Seaman, Lederman, & Jaschik, 2012b). They have options to use synchronous and asynchronous methods of communicating to complete tasks and work together (Charsky, Kish, Briskin, Hathaway, Walsh, & Barajas, 2009). Traditional



face-to-face instruction is becoming less popular since online instruction provides students with convenience. In a study conducted by Nichols (2011), it was indicated that the effectiveness of online programs had less to do with the instruction and more to do with the work habits of students.

This study sought to identify what the level of behavioral intent is for students to take online courses, determine the factors that contribute to student intent to take online courses, to what extent motivation orientation to take online courses and motivation orientation to take face-to-face courses relate to student intent to take online courses, what the relationship is between motivation to take online courses and motivation to take face-to-face courses and how that relates to student intent to take online courses, and how demographic variables influence student behavioral intent to complete online courses. While several studies have been conducted to discover the number of students taking online courses and their satisfaction, the majority of them have not addressed why students choose online education and what their experiences are in comparison with traditional education. After reviewing the literature in online learning and distance education, there is a gap in the literature regarding why students choose to take online courses. The focus of this study explored what motivates students to take online courses in order to help higher educational leaders better understand why students choose to take online courses. This will assist higher educational leaders with developing strategies to increase student enrollment in online courses and programs.

For this study, the literature was thoroughly examined to better understand what motivates students to take online courses. A history and evolution of online education was given as well as what constitutes an online course. A survey was created by

combining two existing instruments and administered to students. Presented data provided insight describing student motivation to take online courses compared with the motivation orientation to take online courses versus face-to-face courses. The results of this study may help higher educational leaders to develop effective strategies to bring in more distance education students, improve online education and understand where areas of improvement are needed.

The delivery of distance education has changed over the years. The rapid integration of technology in education has compelled universities to deliver instruction online to accommodate students' learning preferences. The growth of online instruction has caused an increase in student enrollment and ultimately, an increase in revenues (Allen, Seaman, Lederman, & Jaschik, 2012).

Many students are now able to choose to learn through a traditional classroom setting or an online environment. It is important to understand factors affecting student enrollment in online courses so that administrators and instructors can remove some of the perceived barriers in an online environment (Robinson & Doverspike, 2006). Enrollment for students in online courses has continued to grow each year. A survey conducted showed that 1.6 million students were taking at least one online course in 2002 and by fall of 2011 that number had increased to 6.7 million students (Allen et al., 2012). Some surveys show that students are choosing online education over traditional education because of the flexibility to take classes on their own time and at any location (Nandi, Hamilton, & Harland, 2012). While these data indicate the number of students enrolled in online courses, they do not provide enough imperative information to understand the

reasons behind why students choose online education over traditional face-to face-education.

The theory of planned behavior helps to explain students' choices in learning environments (Ajzen, 1991). There is a combination of positive attitudes and subjective norms associated with taking online courses. There is also the perception that students in online courses have a higher degree of control to successfully complete the course and are more willing to enroll in other online courses as well (Robinson & Doverspike, 2006).

According to Ajzen (1991), if students have negative attitudes about using computers or the Internet, these negative attitudes will lead them to choose a traditional classroom setting. These negative attitudes can hold a student back from enrolling in an online course. Students may also be under the impression that if they take an online course, they have a better chance of learning more. It is important for educational leaders to be aware of these student perceptions of online learning in order to improve online programs (Robinson & Doverspike, 2006).

Online education has previously been assumed to be synonymous with asynchronous instruction. It was perceived that online courses were supplementary to face-to-face instruction and were of lesser quality than traditional face-to-face courses (Roseth, Akcaoglu, & Zeller, 2013). While this may have been the case in the past, more effort is being put into creating a quality online educational experience for students. To maintain quality in an online course, it is important to evaluate the effectiveness of it. It is also important to modify and change online content based on feedback and results (Martinez, Cummins, Savenye, & Shewell, 2012).

Hathorn (2010) explained the need for an instrument to evaluate the effectiveness of web-based, asynchronous, course websites. Students need to have clear and consistent expectations when taking online courses. In Hathorn's study a set of research-based criteria were created that provided guidelines for presenting information in a course website. Faculty and students took a survey to determine whether the guidelines met the needs of faculty without sacrificing student satisfaction. The results of the study showed that there is a need for an evaluation tool for online teaching. Survey results also showed that students do not always want the easiest option when it comes to online learning. Some of the students felt cheated if the online course content was weak. Just as there are standards in traditional face-to-face instruction, there is a need for standards for online instruction as well (Hathorn, 2010).

Although there are many perceptions from students that online education is of equal quality to traditional instruction or better, there are an equal number of voices arguing that online education is a lower quality alternative to traditional face-to-face instruction. These students believe that online instruction is time-intensive and a struggle (Anderson, Gainey, & Rooks, 2011). Many students like direct interaction with their instructors and other students. They believe that distance education often limits this type of interaction making it a less personal educational experience. Students believed they were disconnected from their professors due to the lack of instructor interaction in their online courses (Braun, 2008).

A survey of 26 questions, mostly using a Likert scale, was given to 90 students who had experience with traditional graduate courses and online graduate courses to find out why students enroll in online courses. The most frequent response at 81 percent was

for financial reasons. The second most frequent response at 80 percent was the flexibility that online courses provide. The third most frequent response at 74 percent was students liked the ability to do coursework at home and not on campus. In the open-ended questions it was mentioned that online courses allowed them to take care of their families without sacrificing school (Braun, 2008). In this survey students were also asked if they felt like online instruction offered the same challenging academic and valuable experiences compared to traditional instruction. Seventy-seven percent said that the online courses were much more demanding or slightly more demanding than traditional courses. Twenty-three percent indicated that there was no difference in the demand. Participants were also asked if online instruction increased the amount of interaction with the instructor and students. Forty-four percent of the students felt they received much more or slightly more interaction with their online professors than a traditional classroom. The reasons behind why students enroll in online courses is important to the future of distance education and helping to understand how these students learn (Braun, 2008).

While there have been many studies conducted that compare the number of students enrolled in face-to-face courses with online courses, there have been few studies conducted that show the reasons behind why students choose online education versus traditional face-to-face education. With a large number of universities offering online programs, it is important to understand the reasons why students are enrolling in these courses. Providing quality education to all students is important, so it is important to understand what motivates students to choose online education and traditional face-to-face education. By understanding why students enroll in online courses, higher education

administrators can develop strategies to help online enrollment and learn how to improve the quality of their institution's online programs.

### **Statement of the Problem**

The rapid growth of technology has caused an explosion in online education and the number of students enrolling in online programs. Faculty members are being asked to offer comparative courses online that they typically would teach in a traditional face-to-face classroom because of the demand for online education. Many American universities are trying to compete for student enrollment and have increased the numbers of online courses and online degree programs.

Although online education gives students the freedom to complete their assigned work during their own time, the majority of faculty members believe that online education is inferior to the traditional face-to-face instruction. There is a great deal of apprehension from faculty associated with teaching online. This could stem from a variety of factors including: lack of experience with teaching online, lack of technical support, or limited guidance from administration to create online programs. Studies have been conducted to discover some of the barriers with offering online programs such as resistant or untrained faculty, lack of professional development, and lack of technical support or resources. However, there have been very few studies conducted to understand the intrinsic and extrinsic motivators that drive students to take online courses.

This study builds on a previous study conducted by Casdorff (2013) addressing faculty intent and motivation to teach online. In his study, he found that more faculty than not reported that they intended to teach online in the next 12 months. Through his study, he found that the constructs of performance expectancy, effort expectancy, and

social influence predict behavioral intent to teach online. Casdorff (2013) also found that facilitating conditions were not significant in predicting behavioral intent to teach online. He discovered through his study that motivation orientation to teach online and motivation to teach face-to-face predicted behavioral intent to teach online, with online intrinsic motivation having the greatest impact within the faculty motivation orientation scale to predict intent to teach online. Demographic variables were not significant in his study addressing faculty intent and motivation to teach online.

This study fills the gap in the literature by (1) examining what extent motivation orientation impacts student intent to take online courses, (2) examining the intrinsic and extrinsic motivators of students that drive them to take online courses, (3) examining the relationship between motivation to take online courses and motivation to take face-to-face courses and (4) determining if demographic variables influence behavioral intent to complete online courses. This study provides data about student motivators to take online courses versus face-to-face courses. The results may help higher education leaders to develop effective strategies to increase online enrollment, improve online education, and target weaknesses in online programs. For the purpose of this study, the institution where the study took place is labeled anonymously as Swinging Pendulum University (SPU).

### **Research Questions**

This study surveyed current full-time and part-time students at a large research university with an integrated academic health center in the Southeast United States. The goal of the survey was to answer the overarching research question: What factors

contribute to student intent to take online courses at Swinging Pendulum University (SPU)? The following sub-questions were also addressed:

1. What is the relationship between motivation to take online courses and motivation to take face-to-face courses?
2. To what extent does motivation orientation to take online courses and motivation orientation to take face-to-face courses relate to student intent to take online courses?
3. What are the primary motivational factors that relate to student intent to take online courses?
4. What, if any, demographic variables influence motivational orientation and behavioral intent to take online courses?

### **Significance of the Study**

Many higher education faculty members believe that online education is inferior to traditional face-to-face education. Faculty members are fearful and apprehensive when asked to teach online even though online programs are growing at a rapid rate (Allen et al., 2012a). Many universities now offer completely online programs for students because the flexibility of an online education is appealing to many students. Since there are many universities offering programs online, students may be faced with a difficult decision as to which program they will choose.

With many online universities coming about because of the push for online education, there is concern about the quality of education provided. Faculty members do not believe they are prepared to teach online, but are being pushed to do so because of need. Oftentimes, there is a disconnect between the desires of the students, the university



pushing to increase student enrollment through online programs, and the faculty members who are responsible for teaching these online courses. This study was conducted to discover what motivates students to take online courses when many faculty members believe that online education is inferior to face-to-face education. Higher education leaders will use the results of the study to better understand what students are looking for in online education and help to improve online courses to give students a better quality educational experience.

This research study builds on existing research to assess the intrinsic and extrinsic motivators that impact students to take online courses. The research was conducted at SPU, a research university with an integrated academic health center in the Southeast United States whose administration has chosen to increase online degree offerings. This university has previously offered very few online degrees and courses. This study informed the academic leadership about student intent to take online courses in order to give insight into what factors and barriers influence students' decisions to choose an online program.

### **Procedures**

In order to answer the research questions, the researcher conducted a multiple regression research design utilizing a survey to measure and analyze (1) intent to take online courses, (2) the relationships between motivation to take online courses and motivation to take face-to-face courses, (3) to what extent motivation orientation relates to student intent to take online courses (4) primary motivational factors that relate to student intent to take online courses, and (5) the influence of demographic variables. This study builds off existing research that includes faculty motivation and intent to teach

online (Casdorff, 2014). This study utilized approximately 5,800 full-time and part-time students as the study population. Participation in the study was completely voluntary and anonymous. Participants in the study were able to stop their participation at any time without penalty. Before collecting any data, the researcher obtained approval from the university's Institutional Review Board (IRB), as well as Georgia Southern's IRB.

The Motivation Orientation Scale – Student Version (MO-SV) and the Unified Theory of Acceptance and Use of Technology (UTAUT) scale were combined to create a single survey instrument. The 21-item version of Deci and Ryan's (1985) Motivation Orientation scale (MO-SV) revised and developed by Johnson (2013) was used to examine the students' intrinsic and extrinsic motivation for taking both online and traditional face-to-face courses. The Unified Theory of Acceptance and Use of Technology (UTAUT) scale, created by Venkatesh, et al. (2003), was utilized to measure behavioral intent to take online courses using the independent subscales of: performance expectancy, effort expectancy, social influence, facilitating conditions, and voluntariness of use. These constructs were used to measure the intent to take online courses rather than intent to use a technology. Students received an email invitation requesting that they voluntarily participate in an anonymous study and complete answers to the questions asked in the survey instrument. The email directed students to a link to the web-survey that was delivered by Qualtrics Research Suite. The Qualtrics Research Suite provided the researcher with results of the survey, along with a basic statistical analysis and raw data. Survey responses were collected over a three-week period of time with a follow up email sent out after ten days.

For this correlational study, the researcher exported the data from Qualtrics Research Suite. That information was then imported into STATA software for a more thorough statistical analysis. Demographic data provided by participants were examined through descriptive statistics. This demographic data included sex, age, college of chosen major, year in college, number of current online courses, and number of previous online courses completed. Behavioral intent to take online courses is the dependent variable and independent variables include the constructs of performance expectancy, effort expectancy, social influence, facilitating conditions, and voluntariness of use associated with acceptance and use of technology, motivation to take online classes, motivation to take face-to-face classes, age, sex, college of chosen major, year in college, current number of online courses, and number of previous online courses completed. Data were presented pictorially through the use of histograms or explained in a narrative. A multiple regression analysis was used to determine the relationship of the independent variables from the Unified Theory of Acceptance and Use of Technology (UTAUT) scale, as well as the Motivation Orientation Scale – Student Version (MO-SV) in predicting student intent to take online courses. The researcher also conducted a factor analysis to analyze the construct validity of the Motivation Orientation Scale. The researcher anticipates that the analysis and findings will assist leadership in improving the online strategic plan and make improvements to increase online enrollment.

### **Limitations, Delimitations, and Assumptions**

There are limitations, delimitations, and assumptions made in all research. It is important that researchers acknowledge these and address them to provide more validity to the research being conducted. In this study, the researcher asked students to

voluntarily participate in answering survey questions provided to them. Not all students participated so the sample size decreased, which limits the generalizability of the results. Although there were 440 responses to the survey, some students who volunteered to participate in the study did not answer all questions completely so the sample size was reduced to 394 participants. Another limitation to this study is that it was limited to students attending the research university who chose to participate and complete the survey instrument. The study was also limited to only the variables in the survey instrument and was focused on data collected in the summer semester of 2016.

The population of this study was limited due to the focus on just students enrolled at SPU during the summer semester, excluding those students who were currently attending the medical college and dental college. The researcher's intent was to focus the study on students at this particular institution and, therefore, the population was delimited. Data were not collected over a long period of time due to time constraints. The researcher was aware that students taking an online class for the first time could change their reasons for choosing online courses and their opinions about the quality of online education over the course of their academic career could change as well. Students may have teachers with a wide range of experience in online education from novice to very seasoned online teachers and this may impact their views on online education. The types of technology and how effectively they are utilized and supported in the course may also impact the students' perceptions of online education as well.

The assumption was made that all students responded honestly and openly in their survey results. There was an awareness that students may not be comfortable voicing their opinion openly about online education when currently enrolled in an online course

due to fear that it may impact them negatively in their course performance. The survey instruments have psychometric properties that are verified through validity studies conducted by multiple researchers. The instruments that were used have been utilized in a variety of settings and situations. It was assumed that the survey measures utilized would have a high level of construct validity. Participants were completing the survey voluntarily and on their own so any potential bias from the researcher was not present.

### **Key Terms**

For the purpose of this study, key terms were defined as follows:

*Asynchronous education.* In asynchronous education faculty and students are separated geographically (not in a classroom), and the faculty and students participate when they choose, not necessarily at the same time (Moore & Kearsley, 2012).

*Behavioral intent.* Behavioral intent measures an individual's degree of intent to perform a behavior (Fishbein & Ajzen, 1975).

*Blended/Hybrid course.* A blended or hybrid course is a type of course that blends online and face-to-face delivery. Substantial proportion of the content is delivered online, typically uses online discussions, and typically has a reduced number of face-to-face meetings (Allen & Seaman, 2010).

*Effort expectancy.* Effort expectancy is "the degree of ease associated with the use of the system" (Venkatesh et al., 2003, p. 450).

*Facilitating conditions.* Facilitating conditions is defined as "the degree to which an individual believes that an organizational and technical infrastructure exists to support use of the system" (Venkatesh et al., 2003, p. 453).

*Learning management system.* A learning management system (LMS) is a software system utilized by educational institutions to deliver education to students via the Internet (Moore & Kearsley, 2012). Examples of modern LMS systems include: Blackboard and Desire2Learn.

*Motivation.* A process governing choices among alternative forms of voluntary activities, a process controlled by the individual. The individual makes choices based on estimates of how well the expected results of a given behavior are going to match up with or eventually lead to the desired results (Vroom, 1964).

*Online course.* It refers to a course in which the majority or all of the content is delivered in an online format. Typically online courses have no face-to-face meetings (Allen & Seaman, 2010).

*Online education.* Online education is “teaching and planned learning in which teaching normally occurs in a different place from learning, requiring communication through technologies as well as special institutional organization” (Moore & Kearsley, 2012, p. 2).

*Performance expectancy.* Performance expectancy is “the degree to which an individual believes that using the system will help him or her to attain gains in job performance” (Venkatesh et al., 2003, p. 447).

*Social influence.* Social influence is “the degree to which an individual perceives that important others believe he or she should use the new system” (Venkatesh et al., 2003, p. 451).

*Synchronous education.* In synchronous education, the instructor and students are distributed in different geographic locations, utilizing technology such as web

conferencing or video conferencing, to create a live (*synchronous*) virtual classroom experience (Moore & Kearsley, 2012).

*Traditional course.* Course with no online technology used – content is delivered in writing or orally (Allen & Seaman, 2010).

*Voluntariness of use.* Voluntariness of use is “the degree to which use of the innovation is perceived as being voluntary, or of free will” (Moore & Benbasat, 1991, p. 195).

*Web facilitated course.* Course that uses web-based technology to facilitate what is essentially a face-to-face course. May use a course management system (CMS) or web pages to post the syllabus and assignments (Allen & Seaman, 2010).

### **Chapter Summary**

The explosion in technology has had a profound impact on education. University administrators are strategically planning for growth in online enrollment even though studies have shown that the majority of faculty members have not embraced online teaching and learning, and do not feel it is comparable to traditional teaching in terms of quality. Because of this disparity between students’ and administrators’ views of online education compared to faculty, further study was necessary to understand the intent and motivation for students to take online courses.

The purpose of this study was to 1) determine what factors contribute to student intent to take online courses through the constructs of performance expectancy, effort expectancy, social influence, facilitating conditions, and voluntariness of use, 2) understand to what extent motivation orientation relates to student intent to take online courses, 3) understand the primary motivational factors that relate to student intent to take online courses, 4) understand the relationship between motivation to take online courses

and motivation to take face-to-face courses, and 5) determine what, if any, demographic variables influence motivational orientation and behavioral intent to take online courses.

A survey instrument was created by combining two existing scales: The Motivation Orientation Scale – Student Version (MO-SV) and the Unified Theory of Acceptance and Use of Technology (UTAUT) scale, based off the Technology Acceptance Model (TAM) and others. This anonymous survey was administered via Qualtrics Research Suite to all full-time and part-time students at SPU. Educational leaders will use the results of this study to better understand the reasons students are choosing particular online programs. This will help them develop effective strategies to bring in more distance education students and improve online education programs.



## CHAPTER 2

### REVIEW OF LITERATURE

There has been a significant growth in the number of online courses and programs offered in higher education during the past decade and that number is continuing to grow (Collins, Weber, & Zambrano, 2014). These distance education offerings and enrollment levels are varied at different types of institutions (U.S. Department of Education, 2014). The Integrated Postsecondary Education Data System (IPEDS) defines distance education as, “education that uses one or more technologies to deliver instruction to students who are separated from the instructor and to support regular and substantive interaction between the students and the instructor synchronously or asynchronously” (U.S. Department of Education, 2014). In the fall semester of 2011, over 6.7 million students took one or more online courses. This was a 9.3 percent growth rate from 572,000 students the previous year (Allen & Seaman, 2013).

The University of Central Florida had a tremendous growth in online education with 94 percent of its enrollment growth in 2011 and 100 percent in 2012 (Hartman, 2013). In 2002 only 28.3 percent of higher education institutions had no online course offering. That number has decreased to 13.5 percent with no online course offerings in 2012. The number of higher education institutions offering complete online programs has grown from 34.5 percent in 2002 to 62.4 percent in 2012. While the number of students taking at least one online course is at an all-time high of 32.0 percent, the online enrollment growth rate of 9.3 percent is the lowest recorded in the 10-year report series (Allen & Seaman, 2013). Researchers have found that undergraduate enrollment in at least one online course is most common at public two-year institutions. Undergraduate

enrollment in online degree programs was most commonly found in students attending for-profit institutions (Radford, 2011).

In 2003, 57.2 percent of academic leaders rated the learning outcomes in online education the same as or superior to those in face-to-face courses. That number has since increased to 77 percent (Allen & Seaman, 2013). Although the number of online programs and courses continues to grow, chief academic officers' perceptions of the acceptance of this type of learning modality by faculty has decreased in the most recent years. Only 30.2 percent of chief academic officers believe that their faculty value and accept the legitimacy of online education. This is a lower rate than previously recorded in 2004 (Allen & Seaman, 2013). These data provide information about the number of students enrolled in online education, but it does not explain who is taking these online courses and why. To understand what motivates students to take online courses, it is important to understand the demographics of those students choosing online education.

In 2012, 12.5 percent of students enrolled exclusively in distance education courses and 13.3 percent of students enrolled in some type, but not exclusively distance education courses. In 2012, 74.2 percent of students were not enrolled in any distance education courses (U.S. Department of Education, 2014). Most of the growth in online environments is attributed to nontraditional students. These are students who may attend part-time, are working full-time jobs, are financially independent, have dependents, may not have obtained a high school diploma, delayed postsecondary enrollment or are single parents (Layne, Boston, & Ice, 2013). According to the Learning House (2012), in general, online students nationwide most often fit the following profile:

Online students are typically Caucasian females about 33 years of age who are not the first in their family to attend college and who typically have a total family income of about \$66,500. They work full-time for an employer who offers tuition reimbursement. About 25% of undergraduate online students had already earned a bachelor's degree or higher before they most recently enrolled in undergraduate study. About 35% of graduate online students had already earned a master's degree or higher before they most recently enrolled in graduate study. Online students most often use student loans and other financial aid to pay for courses (36%), followed by personal funds (32%), or they use a combination of personal funds and student loans or other financial aid (25%) (Aslanain & Clinefelter, p. 27).

A survey conducted by The Learning House, Inc. (2014) shows that the majority (68 percent) of online learners are female with 71 percent of females being at the undergraduate level and 66 percent being at the graduate level. The largest percent of online learners that were sampled were in the 25-29 year old age group at 18 percent. Following closely at 16 percent were the 30-34 year old students with 13 percent in the 21-24 year old range and 13 percent in the 35-39 year old group. The graduate students responding to the survey were slightly older than the undergraduates. Almost half of the survey respondents at 48 percent indicated that they live in a suburban environment, while 27 percent responded that they live in a rural environment and 23 percent responded that they live in an urban environment (Clinefelter & Aslanain, 2014).

In the survey conducted by The Learning House, Inc. a little over half of the survey respondents at 55 percent are married or partnered and the majority of respondents

at 51 percent do not have any children. The survey results also showed that 20 percent have one child, 18 percent have two children, and 11 percent have three or more children under the age of 18. The largest group of respondents has a total household income of less than \$70,000. The survey results showed that 19 percent of respondents had income levels under \$25,000 and 19 percent had between \$25,000 and \$39,999. Almost half of the undergraduate level respondents had a household income of less than \$39,999 at 48 percent. Only 17 percent of respondents spoke English as a second language (Clinefelter & Aslanain, 2014).

The Learning House, Inc. survey results showed that the percentage of students employed full time has decreased every year from 2012 to 2014. In 2012, 48 percent of undergraduates and 73 percent of graduates were employed full time. Those numbers decreased in 2014 with 38 percent of undergraduates being employed full time and 59 percent of graduates being employed full time. The large majority of survey respondents (84 percent) had no military service experience. The population of undergraduates in 2014 was largely white at 69 percent and 70 percent at the graduate level. Sixteen percent of African Americans were undergraduates and 12 percent were graduates. Hispanics were at 7 percent for undergraduates and 8 percent for graduates (Clinefelter & Aslanain, 2014). It is important to know how students learn, especially adult learners in higher education, in order to understand why students choose online education.

### **The Psychology of Education**

Educational psychology is the scientific study of human learning, the behavior of people in instructional settings and the learning process. Educational psychology covers a broad spectrum of learners from infants to adolescents and older adults. The field of

educational psychology is so diverse that no general theory has been formulated to cover all areas. Various different learning theories help educational psychologists understand and predict human behaviors (Educational Psychology, 2014).

Cognitive and behaviorist pedagogies focus on the way that learning is predominantly being defined, practiced and researched in the late 20<sup>th</sup> century. This behaviorist learning theory is described by the notion that learning is generally defined as a new behavior or changes in behaviors acquired from the result of a learner's response to stimuli. This definition focuses on the individual and the behaviors, not attitudes or capacities. B.F. Skinner, John Thorndike and Edward Watson are major behaviorist learning theorists and their ideas led to instructional designs and interventions, as well as computer-assisted instruction (Anderson & Dron, 2011). Robert Gagné's (1965) events of instruction progress through linear and structured phases, including:

1. Gain attention of the learners
2. Inform learners of objectives
3. Simulate the recall of previous information
4. Present stimulus material and display the content
5. Provide learners with guidance
6. Elicit performance and give learners the chance to respond to demonstrate knowledge
7. Provide informative feedback on the learner's performance
8. Assess performance to reinforce information
9. Enhance transfer opportunities

Distance education is historically founded on the thinking and behavior patterns of those who developed, tested, and implemented what were once innovative systems. Each era develops distinct pedagogies, technologies, learning activities, and assessment criteria, consistent with the social worldviews of the eras in which they are developed. Educational theorists, Garrison (1985) and Nipper (1989) defined distance education based on the predominate technologies used for delivery. Many educators strive to use pedagogically based methods to drive their face-to-face instruction, but in distance education there is a need to balanced between technological and pedagogically driven instruction (Anderson & Dron, 2011). As stated by Anderson (2009), the two must be, “intertwined in a dance: the technology sets the beat and creates the music, while the pedagogy defines the moves” (p. 2).

Many students in higher education are adult learners. Adult education describes the process of adults learning. This encompasses nearly all of the experiences by which mature women and men acquire new knowledge. It is a process used for self-development with others and alone. Adult education also describes the organized activities offered by a variety of institutions for the accomplishment of educational objectives. This includes classes, study groups, guided discussions, conferences, workshops, and correspondence courses through which adults engage and interact with one another (Knowles, 1980). Andragogy is the art and science of helping adults learn and as stated by Knowles (1980):

People become ready to learn something when they experience a need to learn it in order to cope more satisfyingly with real-life tasks or problems. The educator has a responsibility to create conditions and provide tools and procedures for

helping learners discover their ‘needs to know.’ And learning programs should be organized around life-application categories and sequenced according to the learners’ readiness to learn. (p. 44)

Adult learners have a different perspective of education than children and the way they view learning is different. Children often have a perspective of postponed application on much of their learning to prepare them for the future. Adults tend to have the perspective of immediacy of application toward their learning. They are engaging in higher education most often in response to pressures that they feel from their current life situation. For adult learners, education is a way to improve their ability to cope with problems they are facing now so they enter into educational activities with a problem-centered frame of mind (Knowles, 1980).

### **Progression of Online Education**

Distance education has become more popular in recent years and there has been an increasing demand for online courses. The use of instructional technologies has made online courses a more attractive option for some colleges and universities (Brown, 2012). Distance education first began through the use of mail correspondence and was defined by the predominant technologies employed for delivery. The inclusion of television, radio, and film production were later added to these technologies followed by audio, text, and video and web conferencing. With the inclusion of new forms of technology, the previous technology options have not been eliminated but added to the repertoire of options available to the distance education designers and learners (Anderson & Dron, 2011).

Online teaching is changing how education is being delivered to students worldwide. Higher education institutions are reexamining their policies and regulations based off of traditional classroom delivery and are attempting to increase their global outreach to advance their competitiveness (Hung & Jen, 2013). In today's society, technology provides people with news media, magazines and journals, encyclopedias, music, motion pictures, and television at their fingertips so the transmission of knowledge no longer must be tethered to a college campus. Cloud-based computing, digital textbooks, high-quality streaming videos, and mobile connectivity allow students access to "just-in-time" information. This has caused universities to reexamine their mission and role within their networked societies (Anderson, Boyles, & Raine 2012a). Since the beginning of distance education, administrators have been required to satisfy the needs of students in order to keep enrollment up and establish viable programs (Essary, 2014).

A review of studies conducted between 1995 and 2006 found that the trend for effective online learning has been moving toward problem-based learning and group-based learning in order to sustain student motivation and increase achievement through collaborative problem solving. This demonstrates that online learning involves adopting the technology to create feature-rich learning management systems and gradually incorporate effective pedagogical and instructional strategies for learners to engage in meaningful lessons (Bekele & Menchaca, 2008). Some educational experts believe that there is a need for common standards, benchmarks and performance measurements for internal and external assessments of procedures for online courses, while others believe that distance learning education can be evaluated on the same criteria and benchmarks that are set for conventional education and institutes (Rafiq, Shoaib, & Arshad, 2014).



There has been a digital revolution showcasing a vast array of technical options available to the general population. Along with this increase in technology use in daily life, educational institutions have many options for utilizing technology in their classrooms. They have the option of electronic textbooks, lecture capture, videoconferencing, streaming video, simulations and much more (Allen, Seaman, Lederman, & Jaschik, 2012). In today's society, there is the expectation that the use of technology will be used in the proliferation of information and as a consequence, there has been a parallel paradigm shift in education. Online education is no longer a supplement to traditional education, but it is an integral part of mainstream society. The change in the nature of how learning occurs has affected the definition, design, and delivery of education (Bozkurt et al., 2015).

### **Student and Faculty Perceptions of Online Learning**

The growth in online learning has caused mixed feelings among faculty, as well as students. Faculty members have different styles when it comes to instruction and students also have a variety of different learning styles. When a course or program attracts students with non-fitting preferences, there will be friction and the learning experience will be less beneficial to the student. Fitting students with learning preferences to their type of learning is especially important in distance education, since it attracts mostly adult learners with conflicting preferences (Koper, 2015). As stated by Artino (2010), "Notwithstanding the growth of online learning, little is known about the personal factors that predict student decisions to enroll in online courses" (p. 272).

Diaz and Cartnal were one of the first to compare learning styles of online learners with traditional, face-to-face learners. They conducted a study using 40 online

students and 63 on-campus students. Diaz and Cartnal used the Grasha-Reichmann Student Learning Styles Scale to assess each group's learning styles. After assessing learning styles, Diaz and Cartnal discovered that online learners were more independent and less collaborative than those students in the traditional classroom setting. They also found that there was more collaboration and competitiveness among the on-campus students (Butler, 2006). Student satisfaction is a major factor in the management of educational quality. Satisfaction of educational experience deals with the contrast between expectations and experience that students receive within the course (Koper, 2015).

In a study conducted by Koper (2015) the following categories were variables for the exploration of student preferences:

1. Preferences for functional aspects of the learning and teaching process.
2. Preferences for the structure of the teaching learning process.
3. Preferences in the approach to learning in the learning and teaching process.
4. Preferences for temporal aspects of the learning and teaching process.

In this study, enrolled students ( $n = 1939$ ) were recruited from a public distance teaching university in the Netherlands (Koper, 2015). Participants joined a panel for multiple surveys in the coming year. The study showed that students preferred more collaboration with peers and teachers, pacing versus flexible time, more practical orientation versus theoretical, as well as proactive teachers and deep learning. Knowing student learning preferences is important for better communication with prospective students to avoid discrepancies between student preferences and the types of programs offered by the learning institution (Koper, 2015).

Online education has come with many changes for not only students, but also faculty. The role of an online instructor is different from the role of a teacher in the traditional classroom setting. This change in role could cause a change in pedagogy. Professors who previously relied on lecture style to transfer information have to change the way they present content to distant learners in order to engage them. Multiple assignments, discussion threads, asynchronous reflection, interactive learning tools, and a variety of media are some of the characteristics of effective online instruction (Braun, 2008). A study conducted by the Babson Survey Research Group showed that faculty reported being more pessimistic than optimistic about online learning, while academic technology administrators were extremely optimistic about the growth of online learning. Results also showed that the attitudes toward online learning aligned with faculty members' own teaching experiences since professors teaching online and blended courses viewed online learning more favorably and were more excited than fearful about the growth of online education. Those faculty members with no online teaching experience expressed fear about the growth of online education (Allen et al., 2012a).

The design of online courses plays an important part into the perceptions of students taking those classes. As stated by Naidu (2013), "In most educational settings, very little attention is paid to analyzing and understanding learners and their learning context before any learning and teaching occurs" (p. 268). A thorough understanding about the preferences of learners is needed for the proper design of online courses (Koper, 2015). In a study conducted by Butler (2006), survey results showed that structured learning goals and threaded discussions were necessary for online learning. Courses with

a significant amount of instructor and student interaction, as well as providing an active pedagogy resulted in a higher satisfaction rate and increased learning (Butler, 2006).

Horspool and Lange (2012) conducted a study at a university in California to find out students' perceptions of online courses versus face-to-face. The study quantitatively assessed student behaviors, perceptions, and success in two online sections of a course with 119 enrolled students (only 88 participated). They compared the results to findings collected from the same course taught face-to-face that consisted of 71 students (only 64 participated). The instructor used the same textbook, taught the same content, and used the same exam for the face-to-face format and online format. The 119 students were invited to participate in a 21-question survey that addressed student perceptions of their experiences taking the course and learning behaviors. Eighty-eight online students and sixty-four face-to-face students participated in the survey (Horspool & Lange, 2012). Students answered questions about student behaviors, student perceptions, and student success. In the area of student behaviors, survey results revealed that the group of online students chose the online format for the flexibility it provided them. In the area of student perceptions, the majority of students in both learning environments had very few technical issues and did not need technical support. The majority of student indicated a readiness to use the course technologies and found the communication and interaction within the two course formats to be satisfactory. Students felt comfortable asking questions when they did not understand the course content. In the area of student success, they found no statistically significant differences between face-to-face and online student grades. Students indicated that they were pleased with both formats of the course (Horspool & Lange, 2012). Horspool & Lange (2012) concluded that students had

similar learning experiences in both the face-to-face and the online formats of the course. In a search to better understand what motivates students to take online courses, it is important to review the literature to discover student satisfaction in online learning.

### **Student Satisfaction in Online Learning**

Allen and Seaman's (2013) ten-year study of the nature and extent of online education in the United States showed that online education is continuing to play an important part in higher education. Online education is expanding at a faster rate than traditional face-to-face courses. Allen and Seaman (2013) conducted a survey and found that 77 percent of university leaders responded with results showing that the learning outcomes within online courses were rated to be the same, if not better, when compared to face-to-face courses. Student satisfaction with online education is relevant for curriculum development, which in turn is relevant for student retention so it is important to understand the satisfaction of students in online courses in order to understand why they may choose an online format over a face-to-face course (Cole, Shelley, & Swartz 2014). Palmer and Holt (2009) found that students' comfort level with technology was critical to the satisfaction with online courses, along with clarity of expectations and student self-assessments to track how they were doing in the online environment.

Cole, Shelley, and Swartz (2014) conducted a study of student satisfaction with online education over the course of three years. They focused on business students at a university in Southwestern Pennsylvania. Combining the three studies they conducted, they had 553 participants out of 603 who participated with a response rate of 92 percent. They conducted a survey based on two survey questions:

1. What is your level of satisfaction with online and/or partially online courses you have taken?
2. What made your online learning experience satisfactory or unsatisfactory?

A 5-point Likert scale was used to measure responses ranging from 0 being “very satisfied” to 4 being “very dissatisfied”. The survey assessed how well student expectations were met in specific online courses and if they were satisfied with their experience with online education. Students were offered extra credit for taking the survey (Cole, Shelly, & Swartz, 2014). Bollinger & Erichsen (2013) define student satisfaction as, “the learner’s perceived value of their educational experiences in an educational setting” (p. 5). Data indicated that overall, students were satisfied with the fully online format of the course. Results showed that 22.5 percent of respondents said they were “very satisfied” and 36.2 percent responded that they were “satisfied” with their fully online course experience. The results showed that 26.7 percent of students were “neutral” in their satisfaction of the fully online format, while 10.8 percent said they were “dissatisfied” and 3.8 percent of respondents were “very dissatisfied” (Cole, Shelly, & Swartz, 2014).

The survey results for students taking partially online courses showed that 23.6 percent of respondents said they were “very satisfied” with their partially online experience and 32.4 percent responded that they were “satisfied”. A large group of respondents at 32.6 percent were “neutral” in their satisfaction of the partially online format. The results also showed that 10.2 percent of students were “dissatisfied” and 1.2 percent of students were “very dissatisfied” with their partially online course experience (Cole, Shelly, & Swartz, 2014).

In order to gain information about what made students' online experience satisfactory or unsatisfactory, a single open-ended survey question was added. This question did not distinguish fully online courses from partially online courses. Ninety-one percent of participants responded to the question and keywords were identified and grouped to form five categories: interaction, convenience, structure, learning style, platform and other. Convenience was the highest ranked response for student satisfaction, with online course structure and learning style following. The most common reason for dissatisfied students in an online course was lack of interaction with the instructor and other students. The researchers concluded that discovering "the right mix" of traditional instruction and online delivery is key to the satisfaction of students (Cole, Shelly, & Swartz, 2014). It is important to understand the effectiveness of online education in order to understand the motivation behind why students take online courses.

### **Efficacy of Online Education**

With the increasing popularity of distance learning programs, higher education administrators need to understand the external influences that impact online learning environments in order to develop strategic plans and take advantage of positive factors that make online learning an effective option for students (Essary, 2014). Changes must be made for educators to transfer their face-to-face to an online format since teaching online is much different than traditional teaching. It is important for educators to learn how to develop online courses efficiently and effectively in order for students to have a positive learning experience (Mulig & Rhame, 2012). In an online environment, meaningful learning must take place with the instructor providing effective, constructive, purposeful, authentic, and collaborative activities (Baran & Keles, 2011).

In order to effectively teach online, educators need training and experience in online education, whether it is a fully online or hybrid course. It is important that an online course or hybrid course has a structured course environment, the instructor maintains a presence online, and communicates clearly with the students (Mulig & Rhame, 2012). Lack of confidence in the instructor while using instructional tools to teach an online course may decrease student satisfaction in an online course and in turn lower their performance (Kuo, Walker, Belland & Schroder, 2013).

Evaluating online learning processes and outcomes requires an applicable evaluation strategy as a tool to understand the effectiveness of the online course. In order to know how effective an online course is, it is important to know if learners are satisfied with the course contents, what knowledge was learned and what skills were developed or improved. It is also important to know if the attitudes of students were changed after taking the course. The results of course evaluations can be used to improve course content and determine whether the learning objectives have been met. Academic leaders can utilize the results of evaluations to assess the value of the course within the institution (Chang & Chen, 2014).

A study conducted by Chang and Chen (2014) used the Kirkpatrick four-stage framework to evaluate the effectiveness of an online information literacy class. The Kirkpatrick model evaluates student reactions about the learning experience of the course, a learning evaluation to measure increase in knowledge and skill from before the course to after the course is over, the extent to which a change in behavior has occurred in study or daily life, and the effect on daily life as a result of improved performance of the student. The population consisted of 206 students at university in Taiwan and the course



evaluation spanned two academic years. A mixed-methods approach was used to include a quantitative online questionnaire and ten semi-structured interviews (Chang & Chen, 2014). The course used in the study was a partially online course with a group assignment, action plan presentation, written report, and self-paced learning activities. Students were requested to complete an online survey at the end of the course. Questions were measured on a 5-point scale ranging from 1 meaning strongly disagree to 5 meaning strongly agree. The survey consisted of a personal profile, previous learning experience, cognition of learning, views of content, views of media within the course, and three open-ended questions about student satisfaction within the course (Chang & Chen, 2014). Survey results showed how students responded in each of the four levels of the Kilpatrick model. In the area of reaction of how students feel about the course and learning experience, survey results indicated that 42 percent of students strongly agreed that they liked online more than face-to-face instruction and 35 percent of students agreed. Although the majority of students preferred the online delivery, 17 percent of the respondents were neutral and 6 percent disagreed and preferred the face-to-face delivery of instruction. The second level of the Kilpatrick model measured the increase in knowledge before and after students took the course. The results showed that 34 percent of respondents strongly agreed that the materials enriched their knowledge and skills and 50 percent agreed. Level three of the Kilpatrick model measured the transfer of student learning and applying new knowledge. In this area 36 percent of respondents strongly agreed that they had integrated the knowledge and skills learned from the course into studies and daily life, while 44 percent agreed. The fourth level of the Kilpatrick model measured the result of learning as it relates to productivity, cost, and service quality. In

this level 38 percent of respondents strongly agreed that they would recommend the course to their friends and 43 percent agreed (Chang & Chen, 2014).

The study on the effectiveness of online learning utilizing the Kilpatrick model showed that students felt like their learning experience with online education was a positive one. Students appreciated the self-paced learning; however, the findings showed that students with low motivation or poor study habits might fall behind in an online environment due to the demands of the course. Many students thought that the online format should be offered each semester and would recommend it to others (Chang & Chen, 2014).

### **Student Barriers to Online Education**

While online courses provide an alternative to traditional face-to-face courses, those distance-learning courses are not without challenges. Educational institutions and instructors have a difficult time building and sustaining trust in an online learning environment (Wang, 2014). Although many students prefer the convenience and flexibility that online courses offer, Beard et al (2004) state, “many students learn best from direct interaction with their instructors and other students. Distance education often prohibits this interaction making learning and direct involvement less personal” (p. 29). This feeling of disconnect may be caused by professors that do not provided students opportunities for interaction using communication tools often provided by a learning management system (Beard et al., 2004). Not only do some students feel disconnected or a lack of trust in an online environment, but some disabled students struggle for acceptance in an online environment (Wang, 2014).

One of the barriers with online learning is the high dropout rate. Lee and Choi (2011) conducted a study about the factors influencing students' decisions to dropout of online courses based on the three categories of student factors, course or program factors and environmental factors. This high dropout rate is a concern for educators since failure in completing an online course could discourage students from registering for other online courses (Lee & Choi, 2011).

A study conducted by Capdeferro and Romero (2012) showed that there were feelings of frustration among online learners. The study was conducted to find out what contributing factors led to student frustration. Students in the study found that asymmetric collaboration among teammates was the largest point of frustration. Some students complained that the online collaborative learning environments interfered with their willingness to engage in projects and collaborating with people they do not know well caused them to experience stress and frustration (Capdeferro & Romero, 2012). Others believe that online education is a mistake. As stated by Verene (2013):

The thinking behind electronic education and electronically supplemented instruction is active rather than passive, that is, it seeks repeatedly to engage the student in the absorption of bits of information and in providing continual responses and checks on what is absorbed. In such a process the student is trained to acquire information but is not educated. Although in principle this approach does not prohibit the student from reading, and reading assignments may be included, it does not promote the reading of great books. Great books are not information. They cannot be grasped in bits but must be read as a whole. They allow readers to enter into worlds of images and ideas that take readers out of

themselves and foster the art of contemplation, the arts of intellectual and aesthetic meditation. (p. 302)

Those with this view believe that online education does not have enough substance and cannot prepare students in the same way that traditional education does. They feel that teachers attempting to teach in an online environment are not capable of making the same types of connections with their students (Verene, 2013). There are a number of barriers for students taking online courses and how much acceptance a student has for technology can impact their online educational experience.

### **Technology Acceptance Model**

Although many students have been exposed to technology in some capacity, not all students embrace or accept the use of it for academic purposes. Davis (1986) developed and tested a model to better improve our understanding of user acceptance processes to improve design and implementation of information technology systems. Davis's study also helped to develop a "user acceptance testing" methodology to assist in evaluating proposed new systems before rolling them out to their customers. Davis's research questions were:

1. What are significant motivational variables that mediate between system characteristics and actual use of systems by end-users?
2. How are the variables causally related to another, system characteristics and user behavior?
3. How can motivation be measured before implementing to evaluate the likelihood that users will accept proposed new systems?

Fred Davis (1986) called this model the *technology acceptance model (TAM)* and it has been utilized to provide empirical evidence on the relationships that exist between usefulness, ease of use, and system use.

The technology acceptance model was built off the theoretical model of human behavior created by Fishbein & Ajzen, (1975). Several adaptations to the Fishbein model were made in order for it to be applicable. Literature was reviewed to demonstrate that support existed for the model before measuring and testing the psychological variables. This model was built on the constructs of behavioral intention, attitude, and subjective norm (Fishbein & Ajzen, 1975). Behavioral intention is defined as an individual's probability that he or she will perform a behavior. Attitude refers to the degree of affect toward the behavior. Subjective norm describes the individual's perceptions of how the people feel that are closest to him or her in regards to the individual carrying out the behavior (Fishbein & Ajzen, 1975).

The goal of the research conducted by Davis (1986) was to develop and test the effects of system characteristics on user acceptance of computer-based information systems. This helped to better understand the user acceptance processes in order to provide insight into the design and implementation of information systems. The research also assisted in providing a basis for "user acceptance testing" to enable system designers and those implementing the systems to evaluate proposed new systems before implementation. The testing could provide useful information about how successful they will be utilizing proposed systems and which would be of greatest value (Davis, 1986).

Attitude toward using technology is a function of perceived usefulness and perceived ease of use (Davis, 1986). Perceived usefulness is when people tend to use an

application to the extent they believe it will help them perform their job better. There are some users that believe that an application is useful, but may believe that the system is too hard to use and that the performance benefits of using it are out-weighed by the effort of using the application (Davis, 1989). As stated by Bagozzi, Davis, and Warshaw (1992):

“Because new technologies such as personal computers are complex and an element of uncertainty exists in the minds of decision makers with respect to the successful adoption of them, people form attitudes and intentions toward trying to learn to use the new technology prior to initiating efforts directed at using. Attitudes towards usage and intentions to use may be ill-formed or lacking in conviction or else may occur only after preliminary strivings to learn to use the technology evolve. Thus, actual usage may not be a direct or immediate consequence of such attitudes and intentions. (p. 667)

Although many students leaving high school to start college have been exposed to various types of technology, it cannot be assumed that students accept the use of technology. Approximately seventy-five percent of higher education students in the United States are classified as “nontraditional students”. The term “nontraditional” refers to those students who do not enter postsecondary enrollment in the same year that they complete high school. They are sometimes older students who have not grown up using technology on a daily basis. These “nontraditional students” attend part time for part of the academic year, work full time, have dependents, are single parents, considered financially independent from a legal guardian, or have a General Education Development (GED) test score (U.S. Department of Education, 2003).

### **Motivation Orientation Scale – Student Version**

Ruth Johnson, Cindy Stewart, and Christine Bachman published research about measuring motivation in online education in 2013. They examined the psychometric properties of a motivation scale based on Deci and Ryan's (1985) Self-Determination Theory to measure intrinsic and extrinsic motivation for online and face-to-face courses. The Self-Determination Theory examines motivation and behavior to meet individual needs. The two basic motivation orientations are intrinsic motivation and extrinsic motivation. Deci and Ryan had developed a standardized measure of intrinsic and extrinsic motivation, but it had not been adapted to examine online versus face-to-face education in university students and faculty (Johnson et al., 2013). Stewart, Bachman, and Johnson (2010) conducted a study in which they extended the variables in the technology acceptance model (TAM) to create the extended TAM based on Deci and Ryan's (1985) Motivation Orientation Scale. In 2013, Johnson, Bachman, and Stewart published research on the validity of their scale called the Motivation Orientation Scale. The scale consisted of a faculty version and a student version.

Johnson, Stewart, and Bachman (2013) conducted a study at a large, public, urban university in the Southeastern United States. They conducted two online surveys to examine online education motivation in both the students and faculty. Participation in the study was voluntary and consisted of students ( $n = 235$ ) and faculty ( $n = 104$ ). Students received course credit or extra credit for participation, while faculty had no incentive to participate. Both faculty and students completed online surveys that asked demographic questions and then questions were asked from the Motivation Orientation Scale – Student Version (MO-SV) or Motivation Orientation Scale – Faculty Version (MO-FV) to better

understand the intrinsic and extrinsic motivation for both online and face-to-face courses in faculty and students.

The Motivation Orientation Scale – Student Version consisted of a 21-item survey where students responded using a 4-point Likert scale ranging from 1 (Not Motivated) to 4 (Very Motivated). A principal component analysis (PCA) with varimax rotation was performed on the MO-SV to examine the psychometric properties. The results from the PCA revealed a four-factor solution that accounted for 73 percent of the cumulative variance. In order to confirm the results of the principal component analysis, a confirmatory factor analysis (CFA) was tested to produce an acceptable fit:  $X^2(113) = 235.68$ ,  $p < .0001$ , CFI = .95, RMSEA = .07, but could be improved with minor adjustments to the model. Removing “Online courses are easy” and “Courses are scheduled at inconvenient times and locations” significantly improved the overall model fit:  $X^2(82) = 76.10$ ,  $p < .66$ , CFI = .99, RMSEA = .03. External validation of the Motivation Orientation Scale – Student version revealed an excellent fit:  $X^2(97) = 100.14$ ,  $p < .39$ , CFI = .98, RMSEA = .03. The results were unexpected with online extrinsic motivation being positively correlated to the number of courses that were previously completed:  $\beta = .31$ ,  $p < .001$ .

The Motivation Orientation Scale – Faculty Version consisted of 19 items and was developed to examine online and face-to-face intrinsic and extrinsic motivation in university faculty. The faculty responded using a 4-point Likert scale ranging from 1 (Not Motivated) to 4 (Very Motivated). A principal component analysis (PCA) with varimax rotation was performed on the scale and produced a four-factor solution that accounted for 70 percent of the cumulative variance. A confirmatory factor analysis



(CFA) was performed and indicated a poor fit:  $X^2(146) = 268.42$ ,  $p < .0001$ , CFI = .90, RMSEA = .09. Removal of “Teaching online is easier,” “Commute,” and “I enjoy teaching face-to-face” improved model fit:  $X^2(97) = 96.73$ ,  $p = .46$ , CFI = .99, RMSEA = .04. External validation of the Motivation Orientation Scale – Faculty Version showed an excellent fit:  $X^2(113) = 129.72$ ,  $p = .13$ , CFI = .98, RMSEA = .03. These results were not predicted because neither online intrinsic nor extrinsic motivation was negatively associated with the number of online courses previously taught:  $\beta = -.29$ ,  $p < .01$ .

Previous research predicted that motivation would differ for online and face-to-face education. The motivation scales comprised of four dimensions: online intrinsic and extrinsic motivation and face-to-face intrinsic and extrinsic motivations. Even though online intrinsic and extrinsic motivation dimensions were moderately correlated, they were not with the face-to-face dimensions. This suggests that online and face-to-face motivation dimensions are distinct constructs. It was expected that online and face-to-face motivation would differentially predict the number of online courses taken by students or taught by faculty since previous research has shown that intrinsic motivation is associated with intent to participate and persistence in online education. It was expected that online intrinsic motivation would be associated with higher numbers in online courses completed by students and taught by faculty, but results by Johnson et al. (2013) did not support that hypothesis. In the study conducted by Johnson et al. (2013) online intrinsic motivation was related to responsibility, enjoyment, improved grades, and preferences for online interactions in the student sample. The study by Johnson et al. (2013) showed students’ reports of better grades was related to intrinsic motivation rather

than extrinsic, which was contradictory to previous studies that indicated external rewards decreased intrinsic motivation.

The faculty members in the study conducted by Johnson et al. (2013) associated online intrinsic motivation with teaching enjoyment, responsibility, improved communication, and student learning in online courses and these results were consistent with previous studies showing that internal forces motivate behaviors that produce internal rewards. Results also showed that those students that found face-to-face instruction rewarding were hesitant to participate in online education, so face-to-face motivation was a predictor of online educational behaviors for students. Johnson et al. (2013) found that students with online extrinsic motivation enrolled in online education because of time constraints such as work and home schedule. Those students with face-to-face extrinsic motivation completed traditional courses because they had reliable transportation and did not have scheduling constraints. Regardless of the delivery preferences, the study conducted by Johnson et al. (2013) showed that motivation is related to the inherent propensity to engage in a behavior.

### **Unified Theory of Acceptance and Use of Technology**

In a study conducted by Viswanath Venkatesh, Michael Morris, Gordon Davis, and Fred Davis (2003) eight prominent technology acceptance models were reviewed in order to empirically compare them, formulate a unified model that integrates elements across the eight models, and validate the unified model. The eight models reviewed were the theory of reasoned action (TRA), the technology acceptance model (TAM), the motivational model (MM), the theory of planned behavior (TPB), a model combining the technology acceptance model (TAM) and the theory of planned behavior (TPB), the

model of personal computer utilization (MPCU), the innovation diffusion theory (IDT) and the social cognitive theory (SCT). A unified model called the Unified Theory of Acceptance and Use of Technology (UTAUT) was then formulated with four determinants of intention and usage and found to outperform the eight individual models.

The theory of reasoned action (TRA) was used to predict a wide range of human behaviors. This theory is based on the assumption that individuals are rational decision makers who are continuously calculating and evaluating relevant beliefs in the process of forming their attitude toward the behavior. Fishbein and Ajzen (1975) define attitude as, “an individual’s positive or negative feelings (evaluating affect) about performing the target behavior” (p. 216). Davis et al. (1989) applied TRA to individual acceptance of technology and they found that the variance explained was consistent with studies that employed TRA in the context of other behaviors. The TRA core constructs of attitude toward behavior and subjective norm were utilized in formulating the UTAUT.

The technology acceptance model (TAM) developed by Davis (1989) was designed to predict information technology acceptance and usage on the job excluding the construct of attitude to better explain intention. This model has been applied to a diverse set of technologies and users. The core constructs of perceived usefulness, perceived ease of use, and subjective norm were utilized in the creation of the TAM. Davis (1989) defines perceived usefulness as, “the degree to which a person believes that using a particular system would enhance his or her job performance” (p. 320).

The motivational model (MM) was created after a thorough examination of motivational theory. Davis et al. (1992) applied motivational theory to understand new technology adoption and use. The motivation model suggests that individuals’ behaviors

are based on extrinsic and intrinsic motivations. Examples of extrinsic motivation include perceived usefulness, perceived ease of use, and subjective norm. Intrinsic motivation includes computer playfulness and enjoyment (Venkatesh, 2000).

Ajzen (1991) developed the theory of planned behavior (TPB) to predict intention and behavior in a wide variety of settings. The core constructs of attitude toward behavior, subjective norm, and perceived behavioral control were utilized to create the theory of planned behavior. Ajzen (1991) defines perceived behavioral control as, “the perceived ease or difficulty of performing the behavior” (p. 188). The theory of planned behavior has been widely applied to understand individuals’ acceptance and use of various different technologies. The combined TAM and TPB developed by Taylor and Todd (1995) combined the predictors of TPB with the constructs of perceived usefulness from the TAM.

The model of personal computer (PC) utilization (MPCU) assists in predicting individual acceptance and use of a range of information technologies. Thompson et al. (1991) found that the following constructs influenced PC utilization:

- Job-fit: “the extent to which an individual believes that using a technology can enhance the performance of his or her job” (p. 129)
- Complexity: “the degree to which an innovation is perceived as relatively difficult to understand and use” (p. 128)
- Long-term consequences: “outcomes that have a pay-off in the future” (p. 129)
- Affect towards use: “feelings of joy, elation, or pleasure, or depression, disgust, displeasure, or hate associated by an individual with a particular act” (p. 127)

- Social factors: “the individual’s internalization of the reference group’s subjective culture and specific interpersonal agreement that the individual has made with others, in specific social situations” (p. 126)
- Facilitating conditions: “provision of support for users of PCs may be one type of facilitating condition that can influence system utilization” (p. 129)

The innovation diffusion theory (IDT) by Rogers (1995) has been used to study a variety of innovations. Moore and Benbasat (1991) refined Rogers’ theory to focus on technology acceptance and developed the following set of constructs used to study individual technology acceptance:

- Relative advantage: “the degree to which an innovation is perceived as being better than its precursor” (p. 195)
- Ease of use: “the degree to which an innovation is perceived as being difficult to use” (p. 195)
- Image: “the degree to which use of an innovation is perceived to enhance one’s image or status in one’s social system” (p. 195)
- Visibility: the degree to which one can see others using the system in the organization
- Compatibility: “the degree to which an innovation is perceived as being consistent with the existing values, needs, and past experiences of potential adopters” (p. 195)
- Results demonstrability: “the tangibility of the results of using the innovation, including their observability and communicability” (p. 203)

- Voluntariness of use: “the degree to which use of the innovation is perceived as being voluntary, or of free will” (p. 195)

Compeau and Higgins utilized the social cognitive theory (Bandura, 1986) in order to predict the use of technology. The following constructs were developed to study computer utilization:

- Outcome expectations – performance: performance expectations of behaviors that deal with job-related outcomes
- Outcome expectations – personal: personal consequences and expectations that deal with an individual’s esteem and sense of accomplishment
- Self-efficacy: A person’s ability to utilize a computer or technology to accomplish job tasks
- Affect: how much an individual likes a particular behavior such as utilizing technology
- Anxiety: causing an emotional reactions when performing a behavior such as utilizing technology

Venkatesh et al. (2003) developed the UTAUT by conducting longitudinal field studies among individuals being introduced to new technology in the workplace. They took samples from different industries: entertainment (N=54), telecomm services (N=65), banking (N=58), and public administration (N=38). Each organization was implementing a new technology. Two of the organizations allowed users to voluntarily utilize the new technology and the other two organizations mandated the adoption of the new systems. A pretest containing items that measured constructs from all eight models was administered to the users post-training, one month after implementation, and three

months after implementation. The actual usage was also measured over the six-month post-training period (Venkatesh et al., 2003). The questionnaire given to the users was created with items that had been validated in prior research and by utilizing the TRA scales from Davis et al. (1989); TAM scales adapted from Davis (1989), Davis et al. (1989), and Venkatesh and Davis (2000); MM scales adapted from Davis et al. (1992); TPB/DTPB adapted from Taylor and Todd (1995a, 1995b); MPCU scales adapted from Thompson et al. (1991); IDT from Moore and Benbasat (1991); SCT scales from Compeau and Higgins (1995a, 1995b) and Compeau et al. (1999). Behavioral intention was measured using the three-item scale adapted from Davis et al. (1989) and was used in previous individual acceptance research. Perceived voluntariness was also measured as a manipulation check utilizing the scale of Moore and Benesat, where 1 was not voluntary and 7 was completely voluntary (1991). The questionnaire was given to a focus group of five business professionals to be evaluated where minor wording changes were made based on their feedback. Actual usage behavior was then collected and measured through computer generated system logs. The reliability and validity was measured using partial least squares where 48 separate validity tests were run to examine convergent and discriminate validity. Since the goal was to examine prediction of intention rather than interrelationships among determinants of intention, only the direct effects on intention were modeled. All internal consistency reliabilities were greater than .70 (Venkatesh et al., 2003).

The results showed that perceptions of voluntariness were very high in the two organizations implementing voluntary systems ( $M = 6.50$ ,  $M = 6.51$ ) and were very low in the organizations mandating the implementation ( $M = 1.50$ ,  $M = 1.49$ ) so two data sets

were created: voluntary and mandatory (Venkatesh et al., 2003). In the mandatory settings constructs relating to social influence were significant, while in the voluntary settings, they were not. The determinants of intention varied over time going from significant to not significant with increasing experience (Venkatesh et. al., 2003).

The researchers tested moderating influences to conduct a complete test of the existing models and their extensions and pooled the data across studies and time periods, resulting in a single sample (N = 645) (Venkatesh et. al., 2003). The predictive validity increased by adding the moderating variables with the exception of MM and SCT. The variance increased to 53 percent in TAM2 and there was also an increase to 52 percent in TAM including gender. The variance of TRA, TPB/DTPB, MPCU, and IDT also increased as well. In each of the models, the researchers only included moderators previously tested in the literature and acknowledged that this may have unintentionally biased the results and contributed to the high variance in the TAM-related models when compared to other models. The researcher showed that extensions to various models identified in previous research mostly enhanced the predictive validity (Venkatesh et. al., 2003).

In addition to intention being a key predictor of technology use, the research showed that behavior control and facilitating conditions were key predictors of future behavior. Perceived behavior control became a significant direct determinant of technology use over and above intention. Increased experience would indicate that continued use could be directly hindered or fostered by resources and opportunities. After reviewing and comparing models, the Unified Theory of Acceptance and Use of Technology (UTAUT) was formulated (Venkatesh et. al., 2003).



In the formation of the Unified Theory of Acceptance and Use of Technology (UTAUT) model, seven constructs were significant direct determinants of intention or usage in each of the eight models. The constructs that were pertinent to performance expectancy in the study were: (1) perceived usefulness, (2) extrinsic motivation, (3) job-fit, (4) relative advantage, and (5) outcome expectations (Venkatesh et al., 2003). During the development of the UTAUT, the researchers theorized that performance expectancy, effort expectancy, social influence, and facilitating conditions were direct determinants of user acceptance and usage behavior. Key moderators included gender, age, voluntariness and experience (Venkatesh et al., 2003).

In the UTAUT study, Venkatesh et al. defined performance expectancy as, “the degree to which an individual believes that using the system will help him or her to attain gains in job performance” (2003, p. 447). Performance expectancy was the strongest predictor of intention and was significant at all points of measurement in both voluntary and mandatory settings. Age and gender also played a moderating role. This was consistent with previous model tests from Argarwal and Prasad, 1998; Compeau and Higgins, 1995b; Davis et al., 1992; Taylor and Todd, 1995a; Thompson et al., 1991; and Venkatesh and Davis, 2000.

Effort expectancy was defined as, “the degree of ease associated with the use of the system” (Venkatesh et al., 2003, p. 450). Perceived ease of use, complexity, and ease of use are constructs from the existing models that capture the concept of effort expectancy. The researchers discovered similarities among the construct definitions and measurement scales. Venkatesh et al., found through research that effort expectancy is

more noticeable in women than in men, particularly older women with relatively little experience with the system (Venkatesh et al., 2003).

Social influence was defined as, “the degree to which an individual perceives that important others believe he or she should use the new system” (2003, p. 451). The researchers discovered that social influence was a direct determinant of behavioral intention. An individual’s behavior is influenced by the way that he/she believes others will view them as a result of having used the technology. Subjective norm, social factors, and image are three constructs relating to social influence. Women tend to be more sensitive to the opinions of others and find social influence to be more when forming intention to use a new technology. Affiliation needs increased with age, which implies that older workers placed more importance on social influence than experience (Venkatesh et al., 2003).

Venkatesh et al. defined facilitating conditions as, “the degree to which an individual believes that an organizational and technical infrastructure exists to support use of the system” (2003, p. 453). Each construct is operationalized to include aspects of the technological and organizational environment designed to remove barriers for use. The researchers found that the relationships between each of the constructs and intention were similar. Behavioral control was significant in both voluntary and mandatory settings immediately following training. The research indicated that facilitating conditions do not have a direct influence on behavioral intention. The influence of facilitating conditions on usage was moderated by age and experience and found the effect to be stronger for older workers with increasing experience (Venkatesh et al., 2003).

Self-efficacy and anxiety were thought to be direct determinants of intention in social cognitive theory but UTAUT does not include them to be direct determinants (Venkatesh et al., 2003). Previous research by Venkatesh (2000) shows self-efficacy and anxiety to be distinct from effort expectancy. Self-efficacy and anxiety have been shown to be indirect determinants of intention mediated by perceived ease of use (Venkatesh, 2000). All of the eight theories in the study predicted that behavioral intention would have a significant positive influence on technology usage and this theory was the final hypothesis of the UTAUT (Venkatesh et al., 2003).

A measurement model of the seven direct determinants of intention was created. Performance expectancy, effort expectancy, social influence, facilitating conditions, self-efficacy, anxiety, and behavioral intention to use technology were the indicators utilized in the model. This model was then applied to the pooled sample using the post-training data (N = 215). The internal consistency reliabilities were all greater than .70 and as stated by the researchers, “the square roots of the shared variance between the constructs and their measures were higher than the correlations across constructs, supporting convergent and discriminant validity” (Venkatesh et al, 2003, p. 457). Venkatesh et al., (2003) also reported that inter-item correlation matrices confirmed that intra-construct item correlations were high and inter-construct item correlations were low. The small sample size was a limitation given the number of latent variables and associated items so the data was reanalyzed using four of the highest loading items from the measurement model for each of the determinants (Venkatesh, 2003). The results from the second analysis report were similar to the first in terms of reliability, convergent validity,

discriminant validity, means, standard deviations and correlations (Venkatesh et al., 2003).

The UTAUT was valid based on the empirical data and accounted for 70 percent of variance in technology usage intention. Performance expectancy, effort expectancy, and social influence proved to be direct determinants of intention to use, while intention and facilitating conditions were proven to be direct determinants of usage behavior (Venkatesh et al., 2003). Experience, voluntariness, sex, and age were found to be significant moderating influences and this data supported the researchers' theory. The elements from the eight foundational theories were combined and utilized in the Unified Theory of Acceptance and Use of Technology (UTAUT) model (Figure 1) uniting the four main effects and four moderators (Venkatesh et al., 2003).

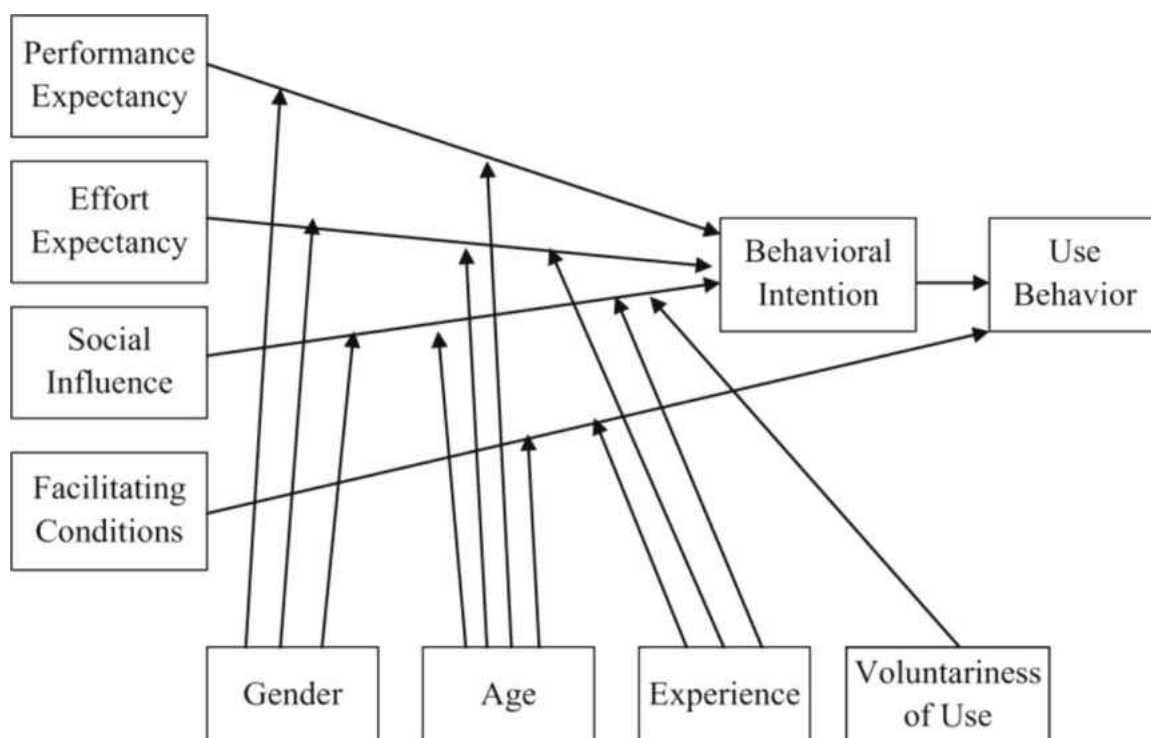


Figure 1. Unified Theory of Acceptance and Use of Technology Model. Adapted from "User Acceptance of Information Technology: Toward a Unified View," by V. Venkatesh, M. G. Morris, G. B. Davis, and F. D. Davis, 2003, *MIS Quarterly*, 27, p. 447. Copyright 2003 by MISQ. Adapted with permission.

## Chapter Summary

The significant growth in online courses and programs offered in higher education universities has provided students with the option to go to anywhere they want for the degree that they would like to pursue. These students come from all walks of life and include older adult learners as well. Many of these students are working full time, parenting, and trying to balance responsibilities in their personal life while trying to obtain a degree. These learners face many challenges and are looking for flexibility with their education. This is also a challenge for many faculty members since they are being asked to provide comparative online courses that they have previously taught face-to-face. Administrators in higher education are faced with the challenge to not only provide fully online programs, but must stand out among all of the other universities to appeal to a larger student population.

Although there is a push for online education, many faculty members believe the quality of online courses is lacking when compared to face-to-face courses. This creates a challenge for students to find a high quality online program so that they will be more marketable in the workforce. This disparity between administrators, faculty, and students creates a problem that needs to be analyzed thoroughly so that it can be better understood. Understanding can be achieved by exploring online education through the lens of Stewart et al.'s (2010) extended Technology Acceptance Model (TAM) and Venkatesh et al.'s (2003) Unified Theory of Acceptance and Use of Technology (UTAUT). Research must be conducted to: (1) determine the factors that contribute to student intent to take online courses, (2) understand to what extent motivation orientation relates to student intent to

take online courses, and (3) understand what, if any, demographic variables influence motivational orientation and behavioral intent to take online classes.

## CHAPTER 3

### RESEARCH METHODS

A review of the literature suggests that online education is being utilized more and more in the higher education setting. Universities have a larger number of non-traditional adult learners (over the age of 24) looking for opportunities to obtain degrees while working and tending to other life commitments. University administrators are trying to stay competitive in the education field by providing students with online programs and online courses so that they can further their education while still fulfilling their important life commitments. Although there is a push from administration for faculty to transfer their traditional face-to-face class into an online environment, many faculty members are apprehensive to do so. The large majority of faculty in the higher education setting have not embraced online education and believe that online courses are of lesser quality than the traditional face-to-face courses (Allen, Seaman, Lederman, & Jaschik, 2012a). There is a growing disconnect between university administrators pushing online education, faculty apprehension about the quality of online courses, and students seeking alternatives to traditional face-to-face education (Allen et al., 2012a).

In reviewing the literature, many studies have been conducted about barriers students face in online education including: feelings of disconnect due to lack of interaction between students and instructors (Beard et al., 2004), difficulty sustaining trust in an online environment, and difficulty collaborating with classmates (Wang, 2014). These barriers lead to frustration among students and are responsible for high dropout rates (Capdeferro & Romero, 2012). Although there have been many studies about the barriers of online education, there are limited studies that examine the intrinsic and

extrinsic motivators impacting student behavioral intent to take online courses through the lenses of the Unified Theory of Acceptance and Use of Technology and the extended technology acceptance model. Due to limited studies in this subject area, the results of this study determine the factors that contribute to student intent to take online courses, determine to what extent motivation orientation relates to student intent to take online classes, determine the relationship between motivation to take online courses and motivation to take face-to-face courses and how that relates to student intent to take online courses, and determine the influence of demographic variables on motivation orientation and behavioral intent to take online classes. The dependent variable was behavioral intent to take online classes and the independent variables were defined as:

- A. Motivation orientation: the intrinsic and extrinsic motivational factors that influence student intent to take online courses and face-to-face courses.
- B. The following constructs that influence behavioral intent to take online classes: performance expectancy, effort expectancy, social influence, and facilitating conditions.
- C. Demographic variables that include age, sex, year in college, number of online courses taking, and number of face-to-face courses taking.

This chapter includes a review of: (1) research questions, (2) research design and methodology, (3) study population and setting, (4) procedures, (5) instrumentation, and (6) data analysis.

### **Research Questions**

This study surveyed full-time and part-time students at SPU to assess the intrinsic and extrinsic motivational factors that influence their decision to take online courses, the



constructs that predict student intent to take online courses, and determine if demographic variables influence behavioral intent to take online courses. The overarching research question was used to guide the study: What factors contribute to student intent to take online courses at SPU? In addition to the overarching research question, the following research sub-questions were also addressed to guide the primary research question:

1. What is the relationship between motivation to take online courses and motivation to take face-to-face courses?
2. To what extent does motivation orientation to take online courses and motivation orientation to take face-to-face courses relate to student intent to take online courses?
3. What are the primary motivational factors that relate to student intent to take online courses?
4. What, if any, demographic variables influence motivational orientation and behavioral intent to take online courses?

### **Research Design and Methodology**

In order to answer the research questions, the researcher proposed a study to measure and analyze: (1) intrinsic and extrinsic motivation to take online and face-to-face courses, (2) primary motivational factors, (3) behavioral intent to take online courses, (4) what, if any, demographic variable influence motivational orientation and behavioral intent and (5) the relationship between these variables. The goal study was to predict student intent to take online courses (the dependent variable) based on the individual student's scores on multiple other independent variables to predict intent to take online courses so a multiple regression research design was used. The researcher was not trying

to determine causality in this study. Creswell (2009) believes that when measuring perceptions, attitudes, and beliefs, survey methodologies are most effective, so a survey was used to obtain data. The researcher reviewed the literature and found that previous researchers who studied these constructs have utilized surveys in their research (e.g. Davis, 1989; Venkatesh et al., 2003; Stewart et. al., 2010). Based on the previous research, the researcher conducted a non-experimental, multiple regression study utilizing a survey methodology.

The researcher utilized a single survey instrument to gain information relating to individual's demographics, perceptions and self-reported observations that formed the variables for the study. The variables included in the study are as follows:

- A. Behavioral intent to take online courses (dependent variable),
- B. Motivation orientation to take online courses and to take face-to-face courses (independent variables),
- C. The constructs that influence behavioral intent to take online courses: performance expectancy, effort expectancy, social influence, and facilitating conditions (independent variables),
- D. Demographics that include age, sex, year in college, college of chosen major, number of online courses currently taking, and previous number of online courses (independent variables).

These variables included in this research were selected based on previous research studies that demonstrated sound research design and psychometric properties. The researcher conducted an analysis of the data to determine how the independent predictor variables

influence the dependent variable of behavioral intent to take online courses. The researcher was not exploring a cause and effect relationship between variables.

The researcher was basing the research design on Trochim (2006) stating that it is: (1) grounded in theory, (2) reflects the setting of the investigation, (3) is feasible, (4) is flexible, and (5) balances redundancy and the predisposition to overdesign. Based on a thorough review of the literature, the researcher believed the research design to be grounded in a solid theoretical framework that guided the research questions and the research design.

### **Study Population and Setting**

The researcher conducted the study at a large, public university in the Southeast using both full-time and part-time students as research subjects. The university includes nine colleges and serves approximately 8,500 students, over 1,000 full-time faculty and nearly 7,000 staff. Of the total students enrolled, approximately 5,000 are undergrads and 3,500 are graduate students, professional and post professional students in the academic programs in the nine colleges. Of the total students enrolled, 80 percent are full-time students and 20 percent are part-time students. Of the total students, 60 percent are female and 40 percent are male. Of those students 57 percent are White, 20 percent are African American, 9 percent are unreported, 6 percent are Asian, 5 percent are Hispanic, 3 percent are two or more ethnicities, .3 percent are Native Hawaiian or other Pacific Islanders and .3 percent are American Indian or Alaskan Native. The majority of students enrolled are within Medicine (19 percent), College of Science and Mathematics (17 percent), followed by College of Arts, Humanities, and Social Sciences (11 percent), College of Nursing (15 percent), College of Business (10 percent), College of Education

(10 percent), College of Allied Health Sciences (8 percent), College of Dental Medicine (5 percent), Other (Not in a specific college) (4 percent), and Graduate School (1 percent), (See Table 1).

Swinging Pendulum University (SPU) was chosen because it is initiating an online strategic plan to grow its online degree program offerings. The researcher has a strong connection to the online programs and wants to ensure that future online programs are implemented successfully. The results of this study were believed to add significant value to designing the strategic implementation plan as well as contributing to the literature on online learning. The population of this study was the approximately 5,800 full-time and part-time students at SPU, excluding students from the medical college and dental college because they are protected groups of the university. A convenience sample, comprised of students who self-selected to participate in the study, was utilized and a 95 percent confidence level was desired to achieve conclusion validity in social sciences research (Trochim, 2006).

### **Human Subject Protection**

This study was in compliance with the United States Office for Human Research Protections (OHRP) and the Institutional Review Board (IRB) policies at Georgia Southern University and Swinging Pendulum University. The survey utilized was anonymous and the participants gave implied consent to participate in the research study by completing the survey. The informed consent form was delivered electronically to participants via Qualtrics Research Suite.

## **Instrumentation**

The researcher utilized a single survey instrument to gain specific, self-reported information of students' demographics and perceptions utilized as variables for the study. These variables were selected from previous research studies that utilized sound research design and psychometric properties including: (1) the Motivation Orientation Scale – Student Version (MOS-SV) and (2) the Unified Theory of Acceptance and Use of Technology (UTAUT).

The Motivation Orientation Scale – Student Version (MOS-SV) created by Johnson, Stewart, and Bachman (2013) includes a 19-item subscale that is based on Deci and Ryan's Motivation Orientation Scale. It was designed to measure student motivations for taking traditional (face-to-face) courses and online courses using a four-point scale with one being not motivated to four being very motivated (Johnson et al., 2013). The MO-SV scale was found to be reliable after analysis, as intrinsic and extrinsic motivation for online and face-to-face courses were similarly constructed for students and faculty. A principal component analysis (PCA) with varimax rotation was performed on the Motivation Orientation Scale – Student Version (MO-SV). Items that did not cross load (more than one factor having a strong influence on the variable of motivation) on other components and had factor loadings exceeding .50 were deemed to load on a given component and had a strong influence on the variable of motivation. Those items with online intrinsic factor loading greater than .50 included: I am more motivated (.89), I am more responsible (.89), because of grades (.86), because of interaction (.81), enjoyment (.74), and because it is easier (.71) (Johnson et al., 2013). Those with online extrinsic factor loading greater than .50 included: course schedule

(.72), because of work (.69), because of home (.69), and commute (.66) (Johnson et al., 2013). Those items with face-to-face intrinsic factor loading greater than .50 included: more motivated (.88), more responsible (.85), because of interaction (.84), it is easier (.79), because of grades (.79), and enjoyment (.78) (Johnson et al., 2013). Those items with face-to-face extrinsic factor loading greater than .50 included: course schedule (.80), lack constraints from work or home (.79), and because of commute (.72) (Johnson et al., 2013). External validation of the MO-SV demonstrated an excellent fit:  $X^2(97) = 100.14$ ,  $p = .39$ , CFI = .98 and RMSEA = .03 (Johnson et al., 2013). Cronbach's Alpha for the four components were: online intrinsic motivation  $\alpha = .92$ , online extrinsic motivation  $\alpha = .75$ , face-to-face intrinsic motivation  $\alpha = .92$  and face-to-face extrinsic motivation  $\alpha = .81$  (Johnson et al., 2013).

For the purpose of this study, the survey instrument included the 19 items from the Motivation Orientation Scale – Student Version. The researcher obtained written permission from Johnson, Stewart and Bachman to utilize the scale.

The Unified Theory of Acceptance and Use of Technology (UTAUT) scale, created by Venkatesh et al. (2003) was also utilized to measure the behavioral intent of students to take online courses using the independent variables of performance expectancy, effort expectancy, social influence, and facilitating conditions proposed by Venkatesh to measure behavioral intent to use a technology. The constructs measured intent to take online courses rather than intent to use a technology. Participants in the study were asked to respond with their level of agreement to statements utilizing a 5-point Likert scale, with responses ranging from *Strongly Disagree* to *Strongly Agree* (Venkatesh et al., 2003). All internal consistency reliabilities were greater than .70 and

the square roots of the shared variance between the constructs and their measures were higher than the correlations across constructs, which supported convergent and discriminant validity. Intra-construct item correlations were found to be very high while inter-construct item correlations were low (Venkatesh et al., 2003). Venkatesh et al. (2003) discovered that the UTAUT was valid and was able to account for 70 percent of the variance in technology usage intention. Through the study, Venkatesh et al. (2003) discovered that performance expectancy, effort expectancy, and social influence were proven to be direct determinants of intention to use technology. Two direct determinants of usage behavior were found to be intention and facilitating conditions (Venkatesh et al., 2003).

For the purpose of this study, the survey instrument included 23 items from the Unified Theory of Acceptance and Use of Technology (UTAUT) scale designed to measure performance expectancy, effort expectancy, social influence, facilitating conditions, and behavioral intent. Participants responded to statements and selected their level of agreement with each statement utilizing a 7-point Likert scale ranging from strongly disagree (0) to strongly agree (7). Eleven items were intentionally excluded from the original UTAUT and were not used in this survey because self-efficacy, anxiety, and attitude did not have a direct impact on behavioral intent (Venkatesh et al., 2003).

### **Data Collection**

The researcher submitted the research proposal to the IRBs of both Georgia Southern University and SPU for approval. Data collection did not begin until IRB approval from both universities had been received. Students received an email invitation asking them to voluntarily participate in an anonymous survey with a link to the survey

instrument. Participants were provided with an explanation of the purpose of the study, how the data would be used, and how results would benefit the university. Students were told that their choice to participate in the survey was completely voluntary, all responses were completely anonymous, and they could choose to end their participation in the study at any time. One follow-up email was sent out after ten days to provide a reminder for students to complete the survey. An incentive was provided in order to encourage survey completion. This incentive was distributed by a non-affiliated staff member and consisted of a prize awarded through a raffle drawing. The prize was not excessive and did not promote undue influence on survey participants.

The email that students received contained a link to the web survey delivered by Qualtrics Research Suite. The survey was built following Dillman's Tailored Design Method so it was easy to read and understand and short for voluntary participants. Participants were asked to answer questions by choosing predetermined response categories. Dillman's Tailored Design Method allowed the researcher to generalize results with greater precision, which made it a very efficient method for learning about people and populations. This design method was a scientific approach to conducting surveys with a focus on reducing the four sources of survey error: coverage, sampling, nonresponse, and measurement (Dillman, Smyth & Christian, 2014). Users were allowed to start and stop the survey as needed, while saving their previous answers to complete later. The researcher explained that the survey should take no longer than 20 minutes to complete. Students received an automatically generated email thanking them for completing the survey. Results of the survey were provided by the Qualtrics Research



Suite and provided the researcher with a basic statistical analysis, as well as raw data. This data was imported into Excel and STATA for data analysis.

### **Data Analysis**

Data analysis began with the collection of data using the integrated database within the Qualtrics Research Suite. The researcher closed the survey in the Qualtrics Research Suite at the end of the survey completion period. In order to get a good estimate of population characteristics with a fixed population size of approximately 5,800 students, 361 participants were needed. This was the minimum number to characterize the student population assuming 5 percent margin of error with 95 percent confidence. Incomplete surveys were not analyzed or used in the study. Data was exported from Qualtrics Research Suite and imported into STATA analytics software for data analysis.

The researcher confirmed internal validity and described basic features of the data in the study by utilizing differential statistics. Cronbach's Alpha was calculated for reliability analysis of the items from the UTAUT and MO-SV for each variable. After establishing reliability, a univariate analysis was conducted to include distribution, central tendency, and dispersion. Tables, graphs, and distribution curves were used to provide a visual representation after calculating frequency distribution. The researcher analyzed central tendency by calculating mean, median, and mode for each variable and analyzed dispersion by calculating the range and standard deviation for each variable. For categorical variables, such as the demographic characteristics, counts and percentages were calculated. Bivariate analysis was conducted in order to examine the relationship between a single independent variable and the dependent outcome, behavioral intent to take online courses. Dependent upon variable type, statistical testing procedures such as

the chi-square, Kruskal Wallis, and Mann-Whitney U tests were utilized. A multiple regression analysis was used to fully answer all research questions and understand the relationships between variables.

A factor analysis was performed, due to the large number of questionnaire items, in order to better understand the variable relationships across the survey components of the MO-SV. After the initial factor analysis was conducted, the factors were rotated using an orthogonal varimax rotation to better interpret the factor loadings of each component. After identifying factors that explained the greatest amount of variance, a multiple regression analysis was performed to determine how the overall motivation orientation measures influenced the dependent criterion variable of behavioral intent to take online courses. Additionally, a multiple regression analysis was also conducted to identify the primary motivational factors from the UTAUT and its association with behavioral intent to take online courses. Finally, a stepwise model-building procedure was utilized in order to create an overall model to predict behavioral intent to take online courses. Multiple regression analysis was conducted using STATA software with a level of significance fixed at  $p < .05$ .

### **Chapter Summary**

The purpose of this study was to: (1) determine what factors contribute to student intent to take online courses through the constructs of performance expectancy, effort expectancy, and social influence, (2) determine the extent that motivation orientation relates to student intent to take online courses, (3) determine the primary motivational factors that relate to student intent to take online courses, (4) determine the relationship between motivation to take online courses and motivation to take face-to-face courses

and how that relates to student intent to take online courses, and (5) determine the influence of demographic variables on behavioral intent to take online courses. In order to thoroughly answer these questions, the researcher conducted a correlational study utilizing a survey methodology.

The study was conducted at a public university in the Southeast using both part-time and full-time students as the study population (N = 5,813). The researcher combined existing, validated instruments with high psychometric properties to create a single survey instrument: the Unified Theory of Acceptance and Use of Technology (UTAUT) scale (Venkatesh et al., 2013), and the Motivation Orientation Scale – Student Version (Johnson et al., 2013).

Student participation in the study was completely voluntary and anonymous and was delivered via Qualtrics Research Suite. At the conclusion of the survey, data was imported into STATA analytics software to be analyzed. A multiple regression analysis was used to predict the dependent variable, behavioral intent to take online courses.

## **CHAPTER 4**

### **DATA ANALYSIS**

This goal of this study was to: 1) determine what factors contribute to student intent to take online courses through the constructs of performance expectancy, effort expectancy, and social influence, 2) determine the intrinsic and extrinsic motivational factors that relate to a student's decision to take online courses, and 3) identify any demographic variables that influence behavioral intent to take online courses. Out of 5,813 full-time and part-time students, 394 students at Swinging Pendulum University (SPU) voluntarily participated in the online survey (6.8 percent). The survey was constructed by combining two existing scales: the Motivation Orientation Scale – Student Version (Johnson et al., 2013) and the Unified Theory of User Acceptance of Technology scale (Venkatesh et al., 2003). This chapter will provide the results of the study to answer the research questions, provide demographic information of the sample population, and an analysis of the data.

#### **Research Questions**

The overarching research question was used to guide the study: What factors contribute to student intent to take online courses at Swinging Pendulum University (SPU)? The following sub-questions were also addressed:

1. What is the relationship between motivation to take online courses and motivation to take face-to-face courses?
2. To what extent does motivation orientation to take online courses and motivation orientation to take face-to-face courses relate to student intent to take online courses?

3. What are the primary motivational factors that relate to student intent to take online courses?
4. What, if any, demographic variables influence motivational orientation and behavioral intent to take online courses?

### **Description of Respondents**

This study was conducted at a large, public university with an integrated health system in the Southeast part of the United States. The study population consisted of 5,813 full-time and part-time students falling under the following colleges: 1) Allied Health Sciences, 2) Arts, Humanities & Social Sciences, 3) Business, 4) Education, 5) Nursing, 6) Sciences & Mathematics, and 7) Other (Not in a Specific College). The Dental College and Medical College were excluded because they are protected populations (see Table 1 for population characteristics).

The survey was open for 21 days with a reminder email sent out after 10 days. A total number of 440 student responses were recorded in Qualtrics. Of the 440 responses 394 (89.6 percent) completed all the survey questions, 12 (2.73 percent) answered 90 percent, 2 (.45 percent) answered 80 percent, 16 (3.64 percent) answered 70 percent and 16 (3.64 percent) answered 10 percent of questions. Therefore, 46 (10 percent) students were excluded from survey analysis due to incomplete responses. The largest number of respondents came from the College of Sciences & Mathematics (21.32 percent), while the smallest number did not specify a college. Most of the respondents were graduate students (26.9 percent) and most fell into the 22 or under age range (47.21 percent). Of the total respondents, 301 were female (76.40 percent) and 93 were male (23.60 percent) (See Table 2 for participant characteristics).

Table 1

*Population Characteristics*

Variable	Category	n = 8,333	Percentage %
College of Chosen Major	Allied Health Sciences	623	7.5%
	Arts, Humanities & Social Sciences	978	11.7%
	Business	859	10.3%
	Education	876	10.5%
	Nursing	1,220	14.6%
	Sciences & Mathematics	1,446	17.4%
	Other (Not in Specific College)	344	4.1%
	Dental Medicine	403	4.8%
	Medicine	1,580	19%
	Graduate Studies	4	1%
Year in School	Freshman	1,287	15.4%
	Sophomore	1,105	13.3%
	Junior	1,205	14.5%
	Senior	1,379	16.5%
	Graduate	1,506	18.1%
	Professional	1,258	15.1%
	Post Professional	593	7.1%
Age	22 or under	3,493	41.9%
	23-29	3,267	39.2%
	30-37	1,010	12.1%
	38-50	432	5.2%
	Over 50	131	1.6%
Sex	Female	5058	60.7%
	Male	3275	39.3%

Table 2

*Participant Characteristics*

<i>Variable</i>		n = 394	Percentage %
College of Chosen Major			
	Allied Health Sciences	52	13.20%
	Arts, Humanities & Social Sciences	64	16.24%
	Business	51	12.94%
	Education	45	11.42%
	Nursing	60	15.23%
	Sciences & Mathematics	84	21.32%
	Other (Not in Specific College)	38	9.65%
Year in School			
	Freshman	16	4.1%
	Sophomore	69	17.5%
	Junior	93	23.6%
	Senior	110	27.9%
	Graduate	106	26.9%
Age			
	22 or under	186	47.21%
	23-29	128	32.49%
	30-37	36	9.14%
	38-50	34	8.63%
	Over 50	10	2.54%
Sex			
	Female	301	76.40%
	Male	93	23.60%
Online Courses Currently Taking			
	0	204	51.78%
	1	96	24.37%
	2	59	14.97%
	3	16	4.06%
	4 or more	19	4.82%
Online Courses Previously Completed			
	0	105	26.65%
	1	69	17.51%
	2	65	16.50%
	3	38	9.64%
	4 or more	117	29.70%

When comparing the participant characteristics to the population characteristics, the data showed freshmen were underrepresented ( $n = 16$ ) and sophomores ( $n = 69$ ), juniors ( $n = 93$ ), seniors ( $n = 110$ ), and graduate students ( $n = 106$ ) were overrepresented. Students 22 years old or under ( $n = 186$ ) and students 38-50 years old ( $n = 34$ ) were overrepresented, while students 23-29 years old ( $n = 128$ ) and students 30-37 years old ( $n = 36$ ) were underrepresented. In this sample, females were overrepresented and males were underrepresented. When comparing the observed number of respondents by college to the expected number, Allied Health Sciences ( $n = 52$ ) and Other (Not in Specific College) ( $n = 38$ ) were overrepresented in this sample, while Nursing was underrepresented ( $n = 60$ ). A chi-squared test was conducted to show that this difference was statistically significant with a  $\chi^2$  (6, 23.25),  $p < .001$  (Table 3).

Table 3

*Frequencies of Participant Responses by College*

College	AH	AHSS	B	E	N	SM	O
Observed Freq.	52	64	51	45	60	84	38
Expected Freq.	38.61	61.07	53.19	54.37	75.65	89.83	21.28
Proportion	(9.8)	(15.5)	(13.5)	(13.8)	(19.2)	(22.8)	(5.4)

*Note.* AH = Allied Health, AHSS = Arts, Humanities & Social Sciences, B = Business, E = Education, N = Nursing, SM = Science & Math, O = Other (Not in Specific College).  $\chi^2 = 23.25$ ,  $df = 6$ ,  $p = .0007$

### Findings

The purpose of this study was to determine the level of behavioral intent of students to take online courses at Swinging Pendulum University (SPU). In this study, behavioral intent was measured by calculating the mean of the behavioral intent subscale



from Venkatesh et al.'s (2003) Unified Theory of Acceptance and Use of Technology (UTAUT) scale (Table 4). Due to technical issues with the software, one of the questions on behavioral intent was not presented to the students; therefore, no data was given for that question.

Table 4

*Student Intent to Take Online Courses*

	<i>N</i>	<i>M (SD)</i>
BI1: I intend to take online courses in the next 12 months.	394	4.59 (2.17)
BI2: I predict I will take online courses in the next 12 months.	394	4.74 (2.17)
Calculated mean behavioral intent to take online courses.	394	4.67 (2.13)

A total of 394 students responded to a 7-point Likert scale for both questions on behavioral intent ranging from Strongly Agree (7) to Strongly Disagree (1). When asked if they intended to take online courses in the next 12 months, most students (52.88 percent) strongly agreed, moderately agreed, or somewhat agreed, while a much smaller group (27.92 percent) somewhat disagreed, moderately disagreed, or strongly disagreed (see Figure 2). When asked if they predicted that they would take online courses in the next 12 months, most students (59.89 percent) responded that they strongly agreed, moderately agreed, or somewhat agreed, while a smaller group of students (25.89 percent) somewhat disagreed, moderately disagreed, or strongly disagreed (See Figure 3). Figure 2 shows the range of student responses for intent to take online courses, Figure 3

shows the responses for prediction to take online courses, and Figure 4 shows the average behavioral intent for students taking online courses.

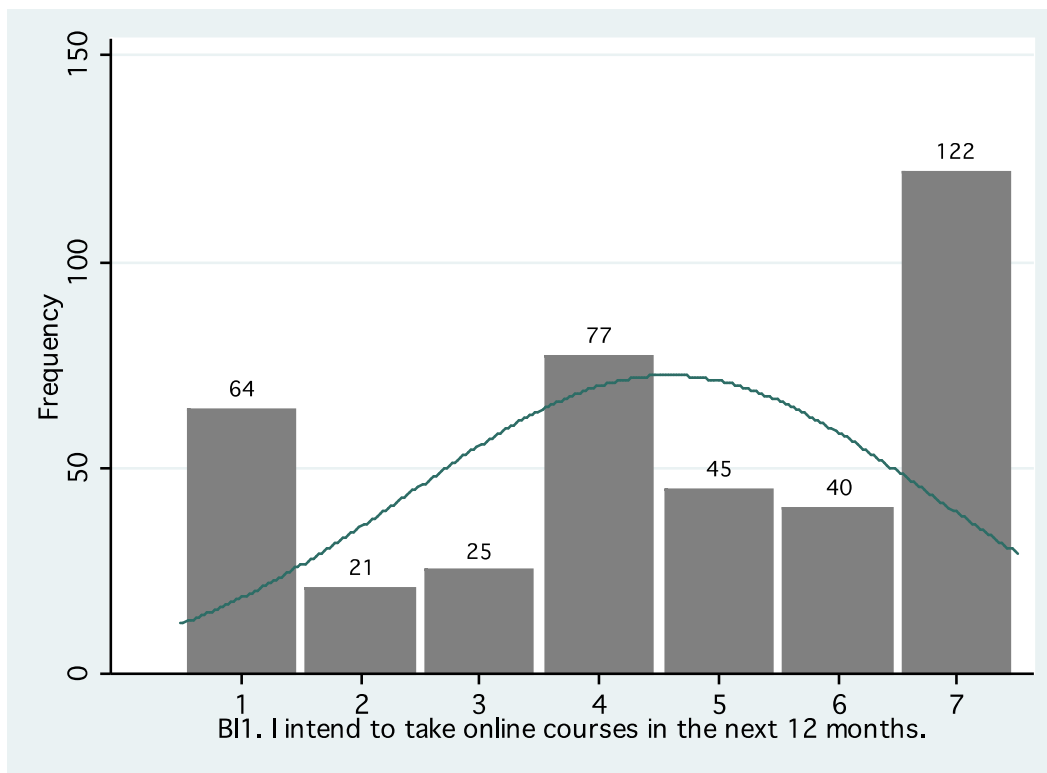


Figure 2. Histogram of Intent to Take Online Courses

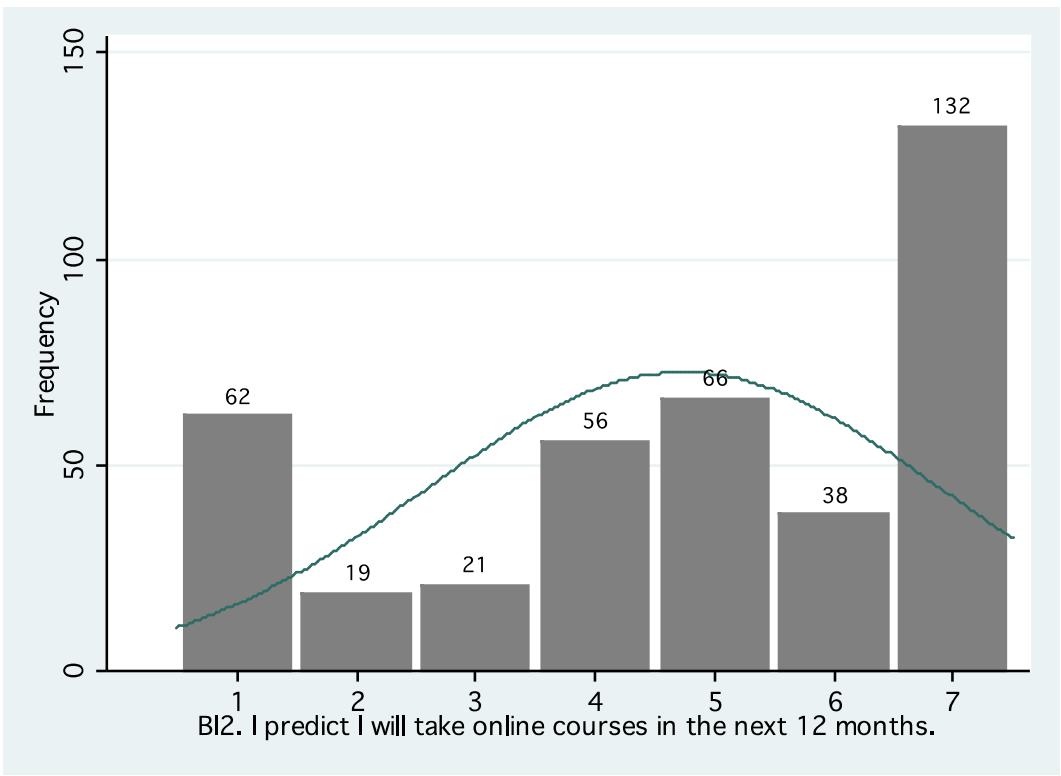


Figure 3. Histogram of Prediction to Take Online Courses

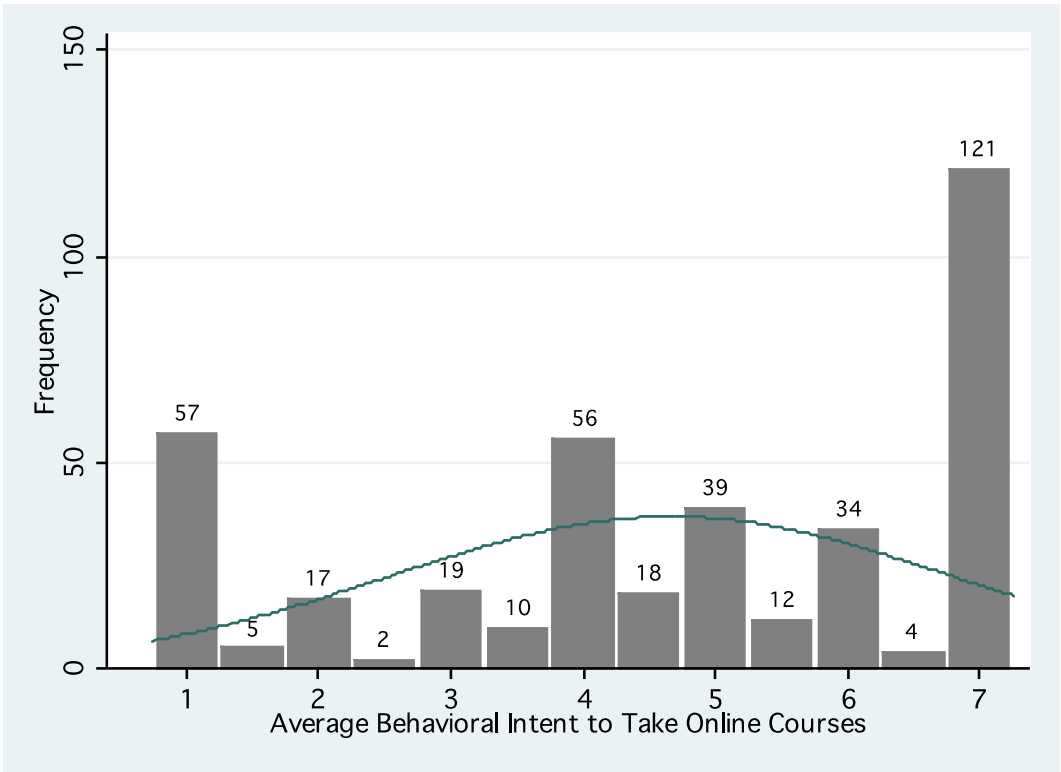


Figure 4. Average Behavioral Intent to Take Online Courses

### Performance Expectancy, Social Influence, and Facilitating Conditions

In this study, Venkatesh et al.'s (2003) Unified Theory of Acceptance and Use of Technology (UTAUT) scale was utilized to predict behavioral intent through the constructs of performance expectancy, effort expectancy, social influence, facilitating conditions, and voluntariness of use. A total of 14 questions were used based on the UTAUT scale. The constructs of performance expectancy, effort expectancy, social influence, and behavioral intent demonstrated a high level of internal consistency, while facilitating conditions and voluntariness of use demonstrated a marginal level of internal consistency (Table 5).

*Table 5*

*Unified Theory and Use of Technology (UTAUT) Reliability Subscales*

<i>Construct</i>	<i>Questions</i>	<i>Cronbach's <math>\alpha</math></i>	<i>N</i>	<i>M</i>
Performance Expectancy	4	0.8692	394	4.61
Effort Expectancy	4	0.8211	394	4.98
Social Influence	4	0.7445	394	3.95
Facilitating Conditions	4	0.5483	394	5.00
Voluntariness of Use	4	0.4712	394	4.62
Behavioral Intent	2	0.9645	394	4.67

A multiple regression analysis was utilized to determine the extent that performance expectancy, effort expectancy, social influence, facilitating conditions, and voluntariness of use related to student intent to take online courses. For the purpose of this analysis, different types of regression were attempted in order to best describe the impact of multiple independent variables (UTAUT subscales) on total behavioral intent to take online courses. When examining the assumptions needed to run a linear regression, linearity between the independent and dependent variables did not hold, as well as the

assumptions of homoscedasticity and multivariate normality of the independent variables. For this reason, the dependent variable, behavioral intent to take online courses was dichotomized with a score of 8 or greater indicating high behavioral intent to take online courses and 7 or less as an indicator of low intent to take online courses. Due to the binary nature of the dependent variable, a logistic regression analysis was performed.

Stepwise analysis showed performance expectancy, social influence, and facilitating conditions were associated with high behavioral intent to take online courses (Table 6). Effort expectancy and voluntariness of use were not significant in influencing behavioral intent to take online courses. When examining the linearity of voluntariness of use with the logit, this assumption was violated and attempts to transform the variable were not successful. The subscale effort expectancy was not significant in the model, and removing the variable improved the model fit, as indicated by the Akaike Information Criterion (AIC) and the Bayesian Information Criterion (BIC). In the final logistic regression model, the assumptions of binary dependent variable, independence of observations, lack of multicollinearity, and linear relationship of the remaining independent variables with the logit were satisfied.

Table 6

*Summary of Multiple Regression Analysis (PE, SI, and FC)*

Variable	Coef.	Std. Err.	z	P>  z	95% Conf. Interval	
PE	.084	.027	3.11	.002	.031	.137
SI	.129	.321	4.01	.000	.066	.192
FC	.085	.037	2.29	.022	.012	.157
Cons	-4.165	.771	-5.40	.000	-5.68	-2.65

### Motivation Orientation and Student Intent to Take Online Courses

This study utilized Johnson et al.'s (2013) Motivation Orientation Scale – Student Version to predict behavioral intent to take online courses. The scale showed a high level of reliability as determined by a Cronbach's alpha of 0.894. When examining the subscales for motivation orientation, as delineated between online intrinsic, online extrinsic, face-to-face intrinsic and face-to-face extrinsic motivation, each one displayed a high level of internal consistency (Table 7).

Table 7

*Motivation Orientation Scale – Student Version: Reliability and Mean Findings*

<i>Construct</i>	<i>Questions</i>	<i>Cronbach's <math>\alpha</math></i>	<i>SD</i>	<i>M</i>
Online Intrinsic	6	.922	.895	1.98
Online Extrinsic	4	.721	.814	2.58
Face-to-Face Intrinsic	6	.898	.830	2.82
Face-to-Face Extrinsic	3	.754	.812	2.74

A comparison was conducted to better understand the relationship between motivation to take online courses and motivation to take face-to-face courses. The comparison showed the majority of students surveyed (n = 163, 41 percent) had low motivation orientation for both online and face-to-face courses. There was a large group of students who had a low motivation for taking online courses, but a high motivation for taking face-to-face courses (n = 158, 40 percent). Some students had a high motivation for taking online courses, but low motivation for taking face-to-face courses (n = 46, 12 percent). Finally, a small group of students had high motivation for taking both online

courses and face-to-face courses ( $n = 27$ , 7 percent). However, these findings were not statistically significant as determined through a chi-squared test ( $p = 0.059$ ).

Table 8

*Relationship Between Online and Face-to-Face Motivation Orientation*

Total Motivation of Face-to-Face	Total Motivation of Online		Total
	Low Motivation	High Motivation	
Low Motivation	163	46	209
High Motivation	158	27	185
Total	321	73	394

Note:  $\chi^2 = 3.57$ ,  $df = 1$   $p = .059$

A multiple logistic regression analysis was used to determine the relationship between online and face-to-face intrinsic and extrinsic motivation orientation on predicting student intent to take online courses. A multiple logistic regression analysis showed a positive association between total online motivation scores (intrinsic and extrinsic combined) and behavioral intent to take online courses. Likewise, the total face-to-face motivation scores (intrinsic and extrinsic combined) yielded a negative association with behavioral intent to take online courses (Table 9).

Table 9

*Summary of Multiple Regression Analysis (MO and MFF)*

Variable	Coef.	Std. Err.	z	P>  z	95% Conf. Interval	
Total MO	.090	.019	4.74	0.000	.053	.127
Total MFF	-.070	.021	-3.34	0.001	-.111	-.029
Cons	.885	.761	1.16	0.245	-.607	2.377

**Factor analysis of motivation orientation.** A factor analysis was conducted to determine the construct validity of the Motivation Orientation Scale – Student Version. Suitability of factor analysis was first assessed. The Kaiser-Meyer-Olkin (KMO) measure of sample adequacy was .890 indicating a “meritorious” sample according to Kaiser’s (1974) classification of measure values. Bartlett’s Test of Sphericity was found to be statistically significant ( $p < .001$ ) which indicated that the data was able to be factorized.

The factor analysis showed that three components had eigenvalues greater than one. Factor one explained 59.3 percent, factor two explained 27.9 percent, and factor three explained 10.7 percent of the total variance. Pictorial inspection of the scree plot suggested three components should be retained (see Figure 5). A Varimax orthogonal rotation was utilized to assist in interpretability. There was not a significant difference between face-to-face intrinsic and face-to-face extrinsic, so it was determined that a three-factor analysis addressed the greatest variation in the data and would be most appropriate for the observed data, compared to a four-factor solution (Table 10). Overall, the three-factor analysis explained 98 percent of total variance (Table 11).



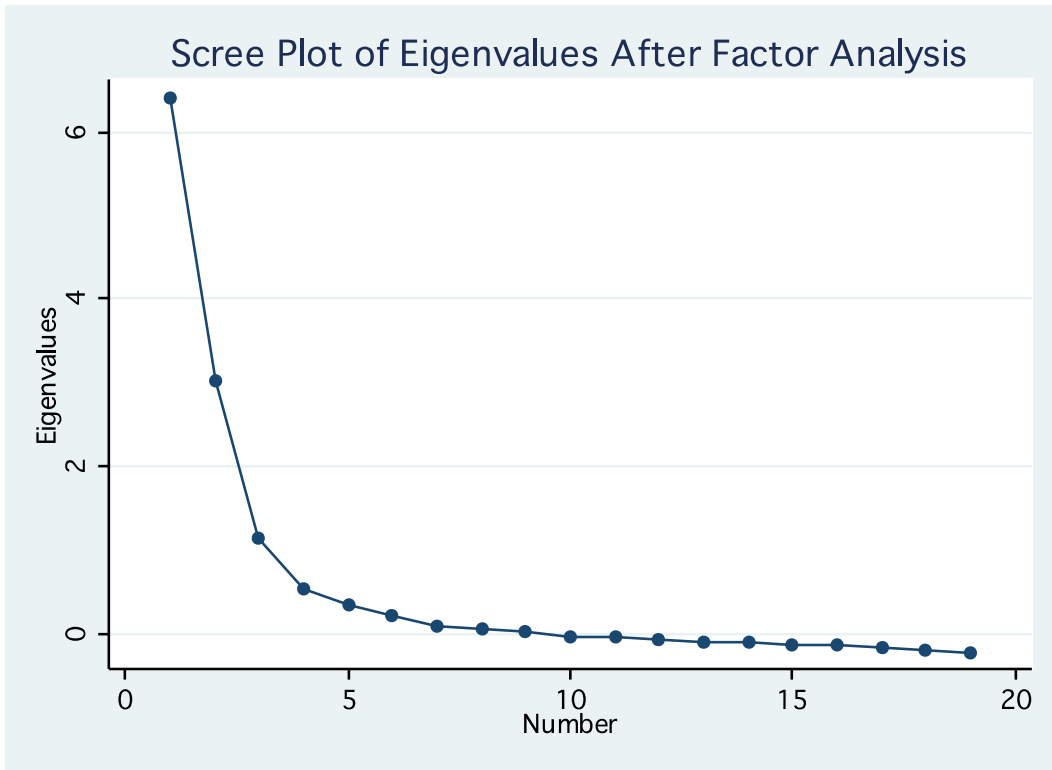


Figure 5. Scree Plot of Eigenvalues

Table 10  
*Factor Analysis of Student Motivation Orientation Scale (Four-Factor)*

	Item	Online Intrinsic	Online Extrinsic	Face-to- Face Intrinsic	Face-to- Face Extrinsic
Online Extrinsic Motivation	MO1: Time constraints due to work responsibilities	.241	-.103	.616	.078
	MO2: Time constraints due to family responsibilities	.334	-.058	.517	.074
	MO3: My courses are not scheduled at convenient times and locations	.376	-.002	.433	-.033
	MO4: Commuting related issues such as wear and tear on car, gas, and mileage	.434	.092	.405	-.103
	MO5: I enjoy taking online courses	.758	-.244	.192	-.018
Online Intrinsic Motivation	MO6: I make better grades in online courses than in face-to-face courses	.837	-.051	.086	-.089
	MO7: I am more responsible in online courses	.868	-.100	.144	.107
	MO8: I am more motivated in online courses	.866	-.143	.092	.045
	MO9: I prefer online interaction with my professor and other classmates	.694	-.114	.153	-.242
	MO10: I find online courses easier than face-to-face courses	.738	-.097	.077	-.117
Face-to-Face Extrinsic Motivation	MFF1: My schedule is flexible enough to afford me to take face-to-face courses	.086	.430	-.468	.180
	MFF2: I have a reliable car and do not mind driving to the university	.095	.404	-.403	.257
	MFF3: I am scheduled to take courses at times and locations that are convenient for me	.072	.442	-.474	.251
	MFF4: I enjoy face-to-face courses	-.359	.539	-.052	.526
	MFF5: I prefer face-to-face courses because of the interaction with my professor and other classmates	-.366	.591	-.043	.465
Face-to-Face Intrinsic Motivation	MFF6: I make better grades in face-to-face classes	-.097	.770	-.013	.133
	MFF7: I am more responsible in face-to-face classes	-.120	.846	-.161	-.088
	MFF8: I am more motivated in face-to-face classes	-.147	.874	-.133	.004
	MFF9: I find face-to-face classes easier than online classes	-.127	.725	-.046	.063

*Note.*  $n = 394$ . Online extrinsic motivation  $a = .721$ . Online intrinsic motivation  $a = .922$ . Face-to-face extrinsic motivation  $a = .754$ . Face-to-face intrinsic motivation  $a = .898$ .

Table 11  
*Factor Analysis of Student Motivation Orientation Scale (Three-Factor)*

Online Extrinsic Motivation	MO1: Time constraints due to work responsibilities	.234	-.093	.613
	MO2: Time constraints due to family responsibilities	.328	-.049	.515
	MO3: My courses are not scheduled at convenient times and locations	.375	-.020	.434
	MO4: Commuting related issues such as wear and tear on car, gas, and mileage	.436	.054	.410
	MO5: I enjoy taking online courses	.753	-.240	.189
Online Intrinsic Motivation	MO6: I make better grades in online courses than in face-to-face courses	.838	-.077	.090
	MO7: I am more responsible in online courses	.862	-.078	.143
	MO8: I am more motivated in online courses	.862	-.134	.091
	MO9: I prefer online interaction with my professor and other classmates	.699	-.177	.156
	MO10: I find online courses easier than face-to-face courses	.740	-.128	.079
Face-to-Face Extrinsic Motivation	MFF1: My schedule is flexible enough to afford me to take face-to-face courses	.088	.469	-.460
	MFF2: I have a reliable car and do not mind driving to the university	.093	.462	-.397
	MFF3: I am scheduled to take courses at times and locations that are convenient for me	.072	.498	-.468
	MFF4: I enjoy face-to-face courses	-.369	.654	-.049
	MFF5: I prefer face-to-face courses because of the interaction with my professor and other classmates	-.374	.690	-.039
Face-to-Face Intrinsic Motivation	MFF6: I make better grades in face-to-face classes	-.091	.779	.002
	MFF7: I am more responsible in face-to-face classes	-.104	.802	-.142
	MFF8: I am more motivated in face-to-face classes	-.134	.851	-.114
	MFF9: I find face-to-face classes easier than online classes	-.118	.720	-.031

Note.  $n = 394$ . Online extrinsic motivation  $\alpha = .721$ . Online intrinsic motivation  $\alpha = .922$ . Face-to-face motivation  $\alpha = .888$ .

### **Influence of Demographic Variables**

In order to provide greater depth to the study results, the researcher investigated the direct relationship with the demographic variables of: 1) age, 2) sex, 3) college of chosen major, 4) year in school, 5) current number of online courses, and 6) previously completed online courses.

**Age.** In order to determine if there were differences in behavioral intent to take online courses among each age group, a Kruskal-Wallis H test was run. The level of behavioral intent between age categories was found to be: 22 years old or under (*median* = 5.0), 23 – 29 years old (*median* = 5.0), 30 – 37 years old (*median* = 4.75), 38 – 50 years old (*median* = 5.0), and over 50 years old (*median* = 7). Different age groups did not have significantly different behavioral intents,  $\chi^2(4) = 9.298$ ,  $p = .0541$ .

**Sex.** To determine if there were differences in behavioral intent among males and females, a Mann-Whitney U test was conducted. The level of behavioral intent between male and female was found to be: female (*median* = 5.0) and male (*median* = 5.0),  $z = -0.032$ ,  $p = 0.9746$ . Males and females were not different in their behavioral intent to take online courses (Figure 6).

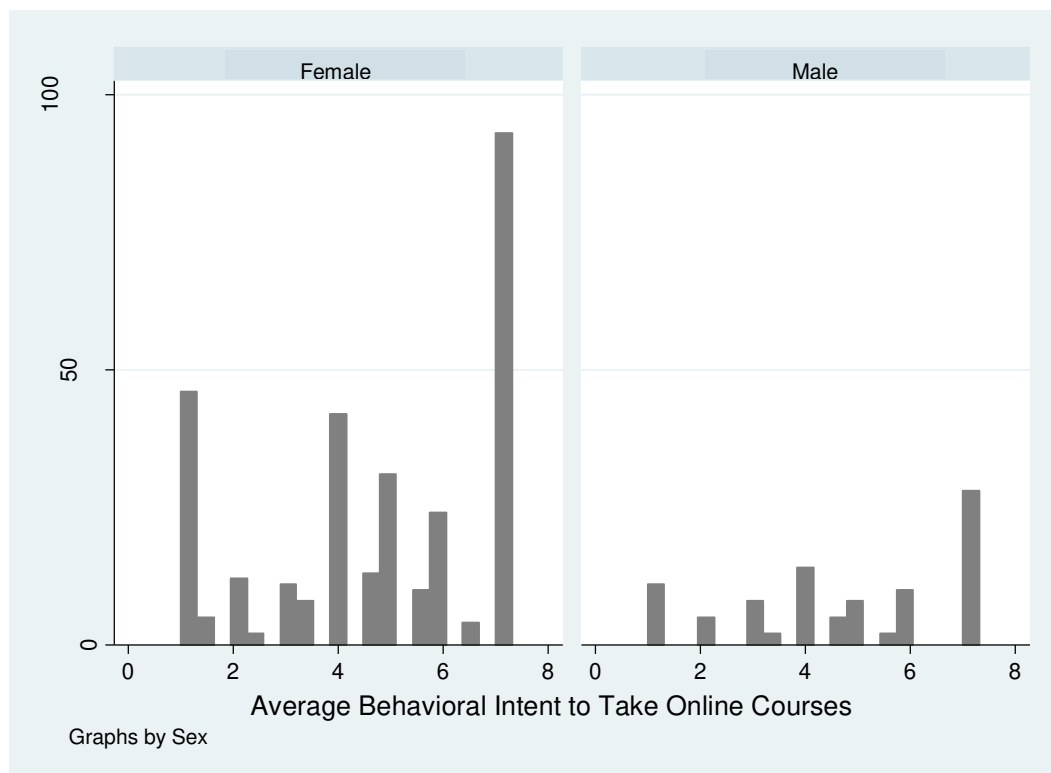


Figure 6. Behavioral Intent Frequency Between Sexes

**College.** A Kruskal-Wallis H test was run to determine if there were differences between a student's college of chosen major and their intent to take online courses. The Kruskal-Wallis H test score showed that college of chosen major was statistically significantly in predicting behavioral intent,  $\chi^2(6) = 14.591, p = .0237$  (Figure 7). Dunns's Pairwise Comparisons were conducted with a Bonferroni adjustment to find out which colleges were statistically significant from one another. The results showed that the College of Science & Mathematics and the College of Business were statistically significant from the other colleges,  $p = .0066$ .

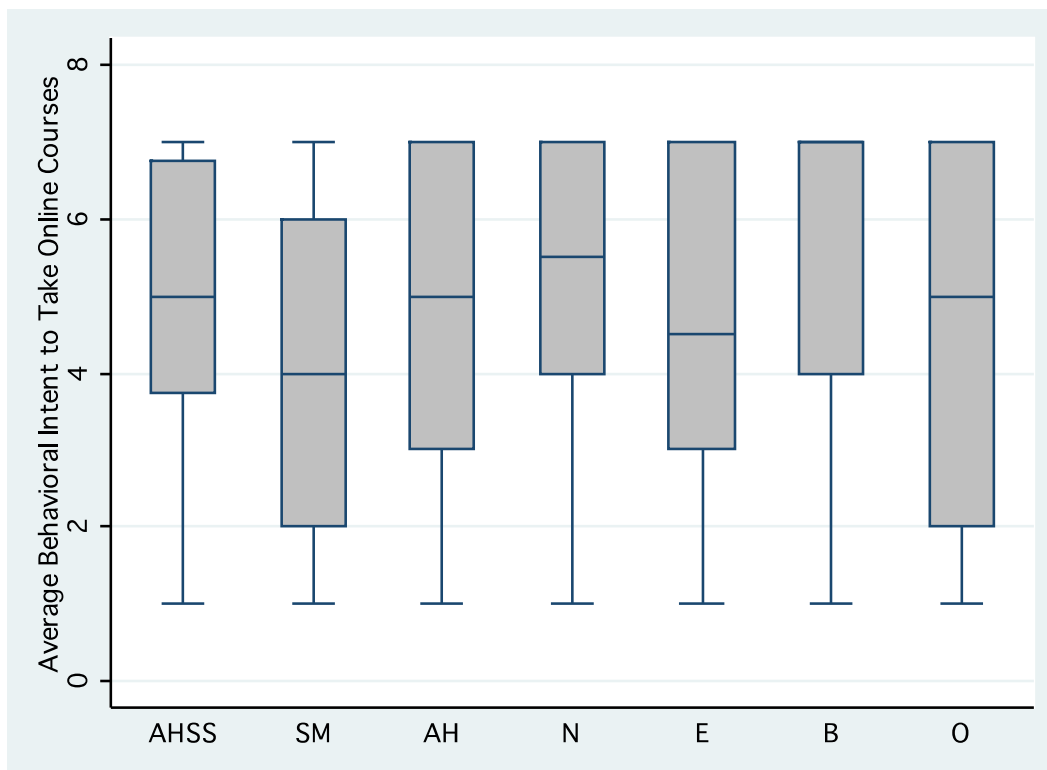


Figure 7. Kruskal-Wallis H Test: Behavioral Intent Frequency by College

**Year in School.** A Kruskal-Wallis H Test was conducted to determine if there were differences between behavioral intent to take online courses and year in school. The difference between year in school for students was not statistically different,  $\chi^2(4) = 4.087, p = .3944$  (Figure 8).

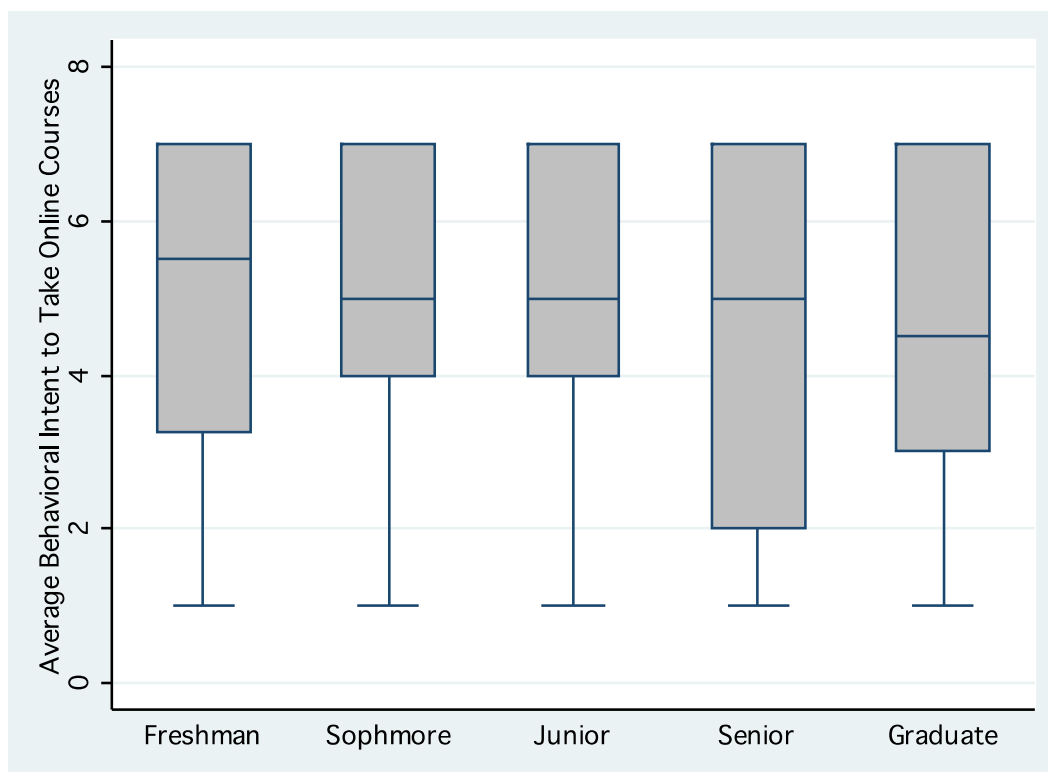


Figure 8. Kruskal-Wallis H Test: Behavioral Intent Between Year in School

**Current number of online courses.** A Kruskal-Wallis H test was run to determine if there were differences in the level of behavioral intent and the current number of online courses that students were taking. The Kruskal-Wallis H test score showed the number of current online courses was found to be statistically significant in predicting behavioral intent,  $\chi^2(4) = 72.929$ ,  $p = .0001$  (Figure 9). Dunns's Pairwise Comparisons were conducted with a Bonferroni adjustment to find out what number of current online courses taken was statistically significant from one another. The results showed that taking no online courses was statistically different from taking 1 online course, 2 online courses, or 3 online courses,  $p = .0001$ .

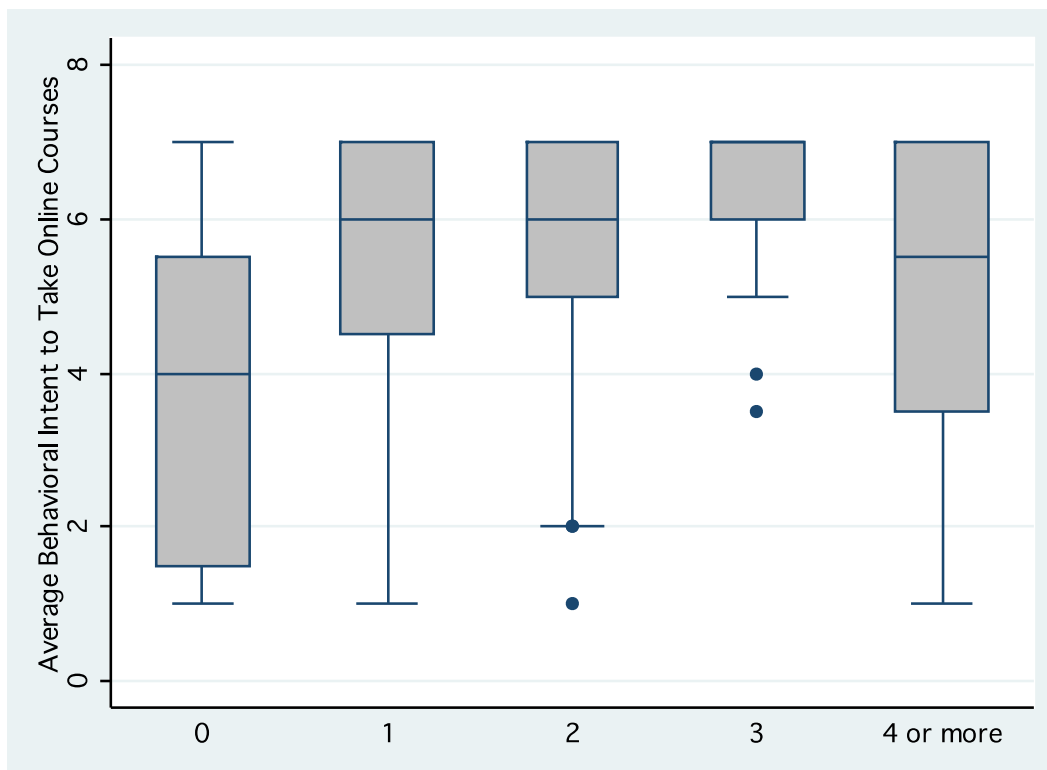


Figure 9. Kruskal-Wallis H Test: Current Number of Online Courses

**Previously completed online courses.** A Kruskal-Wallis H test was run to determine if there were differences in the level of behavioral intent and the number of online courses that students had previously taken online. The Kruskal-Wallis H test score showed that the number of current online courses was found to be statistically significant in predicting behavioral intent,  $\chi^2(4) = 28.618, p = .0001$  (Figure 10). Dunn's Pairwise Comparisons were conducted with a Bonferroni adjustment to find out what number of previously taken online courses was statistically significant from one another. The results showed that taking 4 or more previous online courses was statistically different from taking 0, 1, and 2 online courses,  $p = .0001$ .



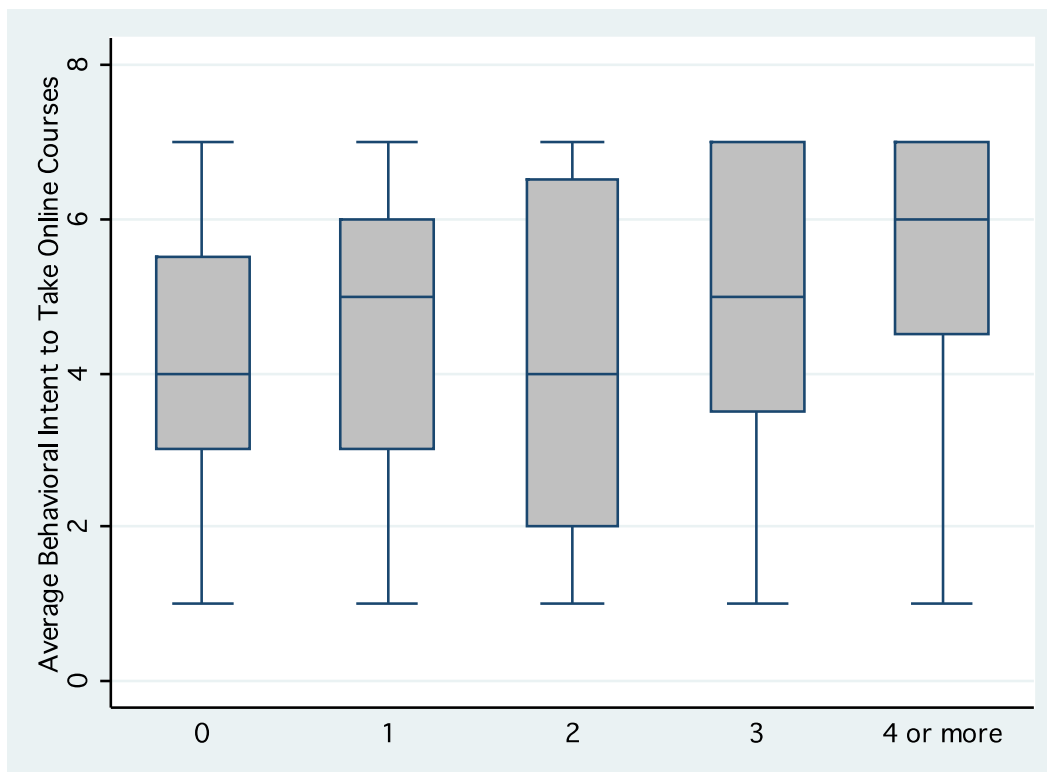


Figure 10. Kruskal-Wallis H Test: Number of Previously Completed Online Courses

### Multiple Regressions of Significant Constructs

The results of the previous analyses showed the direct impact of the constructs of performance expectancy, social influence, and facilitating conditions from individual scales on behavioral intent to take online courses, but did not display the potential effects of the constructs from the other scales. In total, the constructs of performance expectancy, social influence, facilitating conditions, motivation to take online courses, and face-to-face courses predicted behavioral intent to take online courses. For better understanding, the researcher conducted multiple regression analysis of each construct, plus demographic characteristics that were significant, in order to determine the primary factors that impact behavioral intent to take online courses.

Multiple logistic regression analysis was used to determine the impact of the constructs found to be statistically significant in predicting behavioral intent to take online courses. A stepwise regression was conducted to evaluate whether performance expectancy, social influence, facilitating conditions, motivation to take online courses, motivation to take face-to-face courses, current number of online courses taken, and previous number of online courses taken were necessary to predict student intent to take online courses (Table 12). A Likelihood Ratio Test was used to decide if the variables contributed to the model. Previous number of online courses taken did not contribute and was excluded from the model. Current number of online courses was dichotomized to “currently taking no online courses” and “currently taking one or more online courses” for interpretability.

The stepwise regression showed that performance expectancy, social influence, facilitating conditions, motivation to take online courses, and current number of online courses positively impacted student behavioral intent to take online courses, while motivation to take face-to-face courses negatively impacted student behavioral intent to take online courses.

Table 12

*Multiple Regression Analysis (PE, SI, FC, MO, MFF, Current Number of Courses)*

Variable	Coef.	Std. Err.	z	P>  z	95% Conf. Interval	
PE	.065	.033	1.96	0.050	.000	.130
SI	.119	.035	3.43	0.001	.051	.187
FC	.036	.040	0.90	0.369	-.042	.114
MO	.033	.024	1.35	0.178	-.015	.080
MFF	-.047	.023	-2.04	0.042	-.093	-.002
Current # Online	1.381	.290	4.77	0.000	.813	1.949
Cons	-2.692	1.155	-2.33	0.020	-4.956	-.428

*Note.* PE = Performance Expectancy, SI = Social Influence, FC = Facilitating Conditions, MO = Total Motivation for Online Courses (Extrinsic & Intrinsic), MFF = Total Motivation for Face-to-Face Courses (Extrinsic & Intrinsic), Current # Online = Current Number of Online Courses, Cons = Constant. Pseudo R-squared = 0.239.

### Summary

The survey instrument utilized in this study was designed to: 1) determine the factors that contribute to student intent to take online courses through the constructs of performance expectancy, effort expectancy, social influence, and facilitating conditions (Venkatesh et al., 2003); 2) determine the relationship between motivation to take online courses and motivation to take face-to-face courses; 3) determine to what extent motivation orientation to take online course and motivation to take face-to-face courses relate to student intent to take online courses; 4) determine the primary motivational factors that relate to student intent to take online courses (Stewart et al., 2010); and 5) determine what, if any, demographic variables influence motivational orientation and

behavioral intent to take online courses. The survey was administered to students ( $N = 5,800$ ) at a large, public, research university with an integrated academic health center in the Southeast United States. There were a total of 440 responses with 98.5 percent completing all survey questions ( $n = 394$ ).

Significantly more students than not reported a behavioral intent to take online courses ( $n = 250$ ,  $M = 4.67$ ,  $SD = 2.13$ , 95 percent CI). Significantly more students than not reported they intend ( $M = 4.59$ ) to take online courses in the next 12 months.

Multiple regression analysis indicated that performance expectancy, social influence, and facilitating conditions significantly predicted behavioral intent to take online courses.

A comparison was conducted to understand the relationship between motivation to take online courses and motivation to take face-to-face courses. This comparison showed that the majority of students had low motivation orientation for both online and face-to-face courses. The comparison conducted in this study demonstrated that students who have a high motivation orientation for taking face-to-face courses have low motivation orientation for taking online courses, while students who have a high motivation orientation for taking online courses have a low motivation orientation for taking face-to-face courses. The results of this study were not statistically significant.

Multiple regression analysis indicated performance expectancy, social influence, and facilitating conditions statistically and significantly predict behavioral intent to take online courses while effort expectancy and voluntariness of use were not significant in predicting behavioral intent to take online courses.

Multiple logistic regression analysis showed a positive association between total online motivation scores (intrinsic and extrinsic combined) and behavioral intent to take

online course, while the total face-to-face motivation scores (intrinsic and extrinsic combined) demonstrated a negative association with behavioral intent to take online courses.

An analysis of demographic data revealed that year in college, current number of online courses, and previously taken online courses were found to significantly impact behavioral intent to take online courses, while age, sex, and year in school were found not significant in impacting behavioral intent to take online courses. The Kruskal-Wallis H test results showed that intent to take online courses was statistically significant between college of chosen major, ( $\chi^2(6) = 14.591, p = .0237$ ) indicating behavioral intent to take online courses varies by college. The Kruskal-Wallis H test results also showed that intent to take online courses was statistically significant between students taking no online courses and 1, 2, or 3 online courses ( $\chi^2(4) = 72.929, p = .0001$ ) indicating that behavioral intent to take online courses varies by the number of courses students are currently taking. Another Kruskal-Wallis H test results demonstrated that intent to take online courses was statistically significantly different between the numbers of previously taken online courses by students ( $\chi^2(4) = 28.618, p = .0001$ ). Results showed that taking four or more previous online courses was statistically different from taking 0, 1, and 2 online courses. The results of the Kruskal-Wallis H test demonstrated that difference between age groups ( $\chi^2(4) = 9.298, p = .0541$ ) and year in school ( $\chi^2(4) = 4.087, p = .3944$ ) were not statistically significant. The Mann-Whitney U test results revealed that intent to take online courses was not significantly higher in females (median = 5.0) or males (median = 5.0),  $z = -0.032, p = 0.9746$ .

In this study the constructs were found to be individually predictive of intent to

take online courses and when combined, the constructs of performance expectancy, social influence, facilitating conditions, total motivation orientation to take online courses, total motivation orientation to take face-to-face courses, and current number of online courses significantly predict behavioral intent to take online courses.

## CHAPTER 5

### DISCUSSION, RECOMMENDATIONS AND CONCLUSION

Higher education has been transformed by technology innovations and, according to Christensen and Eyring (2011) higher education in America is facing the first major “disruptive innovation” since the invention of the printed textbook. They define disruptive innovation as technology that forces an industry to reinvent the way it does business and consider higher education’s latest disruptive innovation to be online education (Christensen & Eyring, 2011). Now more than 80 percent of public universities and half of private colleges offer at least one fully online program. Online teaching and learning has had a tremendous influence on higher education in the United States. Although the percentage of students taking online courses continues to grow rapidly, the rate of growth is slowing. There are a significant number of on-campus students who probably would not consider an online program even if it were available (Clinefelter & Aslanian, 2014). It is important for academic leaders to understand what motivates students to make that choice so that they can more effectively meet their strategic goals and improve online programs.

Academic leaders in the United States are finding that online education is critical to the long-term growth of their institutions and the demands for online courses or programs is greater than the demand for face-to-face courses (Kuo et al., 2013). The popularity of online education programs in both non-profit and for-profit educational institutions has led many institutions to expand their enrollment and provide more flexibility and options for students. Understanding what motivates students to take online courses can help higher education administrators take advantage of this desire for more

options in education and to develop strategic plans in order to help grow programs at their institutions (Essary, 2014).

There is great demand for online education in American universities and the annual growth rate of online education is outpacing traditional enrollment, mainly due to the increase of non-traditional adult students (Allen & Seaman, 2012). Although many higher education universities are trying to meet the needs of these students by increasing their online courses and online degree programs, many students feel that online education is of lesser quality than face-to-face education (Cole et al., 2014). A great rift exists between educational leaders pushing for increased student enrollments, the faculty that feel they do not have the skillset to teach online, and students who desire online educational options, but feel they are of lesser quality than face-to-face courses. The purpose of this study was to 1) determine the factors that contribute to student intent to take online courses through the constructs of performance expectancy, effort expectancy, social influence, and facilitating conditions; 2) determine the relationship between motivation orientation to take online courses and motivation orientation to take face-to-face courses; 3) determine to what extent motivation orientation to take online courses and motivation orientation to take face-to-face courses relate to student intent to take online courses; 4) determine the primary motivational factors that relate to student intent to take online courses; and, 5) determine what, if any demographic variables influence motivational orientation and behavioral intent to take online courses.

This study focused on the motivation of students choosing online and face-to-face courses so the significance of the study is much more timeless. Distance education will continue to evolve over time and the need to understand the intent and motivation of



students to choose academic institutions, online programs and courses will be important information for years to come. By understanding student motivation and intent to take online courses, higher education leaders can better predict and influence how they might offer new courses online to students in order to improve their online programs.

### **Research Questions**

The overarching research question addressed in this study was: What factors contribute to student intent to take online courses at Swinging Pendulum University (SPU) to take online courses? The following sub-questions were also addressed:

1. What is the relationship between motivation to take online courses and motivation to take face-to-face courses?
2. To what extent does motivation orientation to take online courses and motivation orientation to take face-to-face courses relate to student intent to take online courses?
3. What are the primary motivational factors that relate to student intent to take online courses?
4. What, if any, demographic variables influence motivational orientation and behavioral intent to take online courses?

A survey instrument combining scales from the Motivation Orientation Scale – Student Version (Johnson et al., 2013) and subscales of performance expectancy, effort expectancy, social influence, facilitating conditions, voluntariness of use, and behavioral intent from the Unified Theory of User Acceptance of Technology (Venkatesh et al., 2003) was used to answer the research questions.

### Summary of Findings

In summary, the majority of students reported behavioral intent to take online courses. The constructs of performance expectancy (degree to which the students believe taking online courses will help them have higher academic achievement), social influence (the degree to which the students believe that important others believe they should take online courses), and facilitating conditions (institutional factors provided to students to support online education) predict behavioral intent to take online courses. Effort expectancy (ease of taking online courses), and voluntariness of use (the degree to which taking online courses is perceived as being voluntary) were not significant in predicting behavioral intent to take online courses. These results were different from the original study conducted by Venkatesh et al. (2003) that showed that performance expectancy, effort expectancy, and social influence proved to be direct determinants of intention to use. Motivation orientation to take online courses positively impacted student behavioral intent to take online courses and motivation to take face-to-face courses negatively impacted student behavioral intent to take online courses. The demographic variables of college of chosen major, current number of online courses, and number of previously completed online courses significantly impacted student behavioral intent to take online courses, while age, sex, and year in school were not significant in impacting student behavioral intent to take online courses. This was different from the findings of Venkatesh et al. (2003) where experience, voluntariness, sex, and age were found to be significant moderating influences.

## **Discussion of Findings**

The overarching research question aimed to determine the factors that contribute to student intent to take online courses at SPU. For this study, behavioral intent utilized a 7-point Likert scale with the options of (1) Strongly Disagree, (2) Moderately Disagree, (3) Somewhat Disagree, (4) Neutral (Neither Disagree nor Agree), (5) Somewhat Agree, (6) Moderately Agree, and (7) Strongly Agree. The responses to the behavioral intent scale show that significantly more students than not intend or predict to take online courses in the next 12 months ( $n = 394$ ,  $M = 4.67$ ,  $SD = 2.13$ ). When placing results into the categories of agree (scores  $> 4$ ), disagree (scores  $< 4$ ), and neutral (4), the results show that the majority of students intend or predict they will take online courses within the next 12 months; 207 students agreed, 77 students were neutral, and 110 students disagreed that they intend or predict they will take online courses in the next 12 months. To answer the overarching research question regarding the level of behavioral intent to take online courses at Swinging Pendulum University (SPU), significantly more students than not intend or predict that they will take online courses in the next 12 months.

### **Social Influence, Facilitating Conditions, and Performance Expectancy**

The Unified Theory of User Acceptance and Use of Technology (UTAUT) scale created by Venkatesh et al. (2003) was based on the theory of reasoned action (TRA), the technology acceptance model (TAM), the motivational model (MM), the theory of planned behavior (TPB), a model combining the technology acceptance model (TAM) and the theory of planned behavior (TPB), the model of computer utilization (MPCU), the innovation diffusion theory (IDT), and the social cognitive theory (SCT). In Venkatesh et al.'s (2003) study, the UTAUT proposed that the constructs of performance

expectancy, effort expectancy, social influence, facilitating conditions, and voluntariness of use predicted behavioral intent to use new technologies.

In the current study, the UTAUT was administered to a population of students to determine their intent to take online courses. The researcher believed that intent to take online courses was similar to intent to use new technologies because of the significant technology factor in online education. Results of the UTAUT were analyzed through multiple regressions to determine the impact of performance expectancy, effort expectancy, social influence, facilitating conditions, and voluntariness of use on predicting student intent to take online courses. The results of this study indicated that performance expectancy, social influence, and facilitating conditions do predict behavioral intent, but the constructs of effort expectancy and voluntariness of use were not found to predict behavioral intent to take online courses as previously found in the study by Venkatesh et al. (2003). Social influence ( $B = .129$ ) was found to be the greatest predictor of intent to take online courses, followed by facilitating conditions ( $B = .085$ ), and performance expectancy ( $B = .084$ ).

Venkatesh et al. (2003) discovered that social influence was a direct determinant of behavioral intention and this was found to be true in this study as well. In other words, students' behavioral intent is influenced by the way that they believe others will view them as a result of taking online courses. These results could be due to the large number of students that responded to the survey ages 22 or under ( $n = 186$ , 47.21 percent) because they are at the age where peer pressure and parental encouragement still heavily influence their decision-making process.

Unlike the study conducted by Venkatesh et al. (2003), the results of this study

indicated that facilitating conditions predict behavioral intent to take online courses. This means that the intent of students to take online courses will increase if they believe that the organizational and technical infrastructure exists to support them in online education. This shows academic leaders the importance of making sure that there is technological support for students online and the need to make sure faculty are prepared to teach online through professional development opportunities and training.

Similar to the study conducted by Venkatesh et al. (2003) this study found that performance expectancy predicted intent to take online courses. What this means as described by Venkatesh et al. (2003) is that the intent of students to take online courses will increase if they believe doing so will result in higher academic performance. These results may be due to the large portion of graduate students responding to the survey (n=106, 26.9 percent). Many of these students are working full time and furthering their education by taking online courses in hopes to advance in their career.

These results provide leaders in higher education with insight as to why students choose to take online courses, as well as how they may modify online programs in the future to fit the needs of students. In summary, social influence, facilitating conditions, and performance expectancy do predict student intent to take online courses at SPU.

### **Impact of Motivation Orientation on Student Intent to Take Online Courses**

Stewart et al. (2010) created the 21-item Motivation Orientation Scale – Student Version to measure online and face-to-face intrinsic and extrinsic motivation. In the study conducted by Johnson et al. (2013), online intrinsic motivation was related to responsibility, enjoyment, improved grades, and preferences for online interactions in the student sample. The study by Johnson et al. (2013) showed students' reports of better

grades was related to intrinsic motivation rather than extrinsic. This result was contradictory to previous studies that indicated external rewards decreased intrinsic motivation. The study conducted by Johnson et al. (2013) also showed that students who found face-to-face instruction rewarding were hesitant to participate in online education, so face-to-face motivation was a predictor of online educational behaviors for students. They also found that students with online extrinsic motivation enrolled in online education because of time constraints, such as home and work commitments. Those students with face-to-face extrinsic motivation chose traditional courses because they had reliable transportation and did not have scheduling constraints. Regardless of the preference for delivery of the course, the study conducted by Johnson et al. (2013) showed that motivation is related to the propensity to engage in a behavior.

In this study the Motivation Orientation Scale – Student Version was used to predict student intent to take online courses. Factor analysis was conducted to determine the construct validity of the 19 items from the Motivation Orientation Scale – Student Version assessing intrinsic and extrinsic motivation for online and face-to-face courses. Analysis revealed three components that explained 59.3 percent (online extrinsic), 27.9 percent (online intrinsic), and 10.7 percent (face-to-face extrinsic and intrinsic combined) of the total variance. The three-factor analysis explained 98 percent of total variance of the constructs.

Multiple regression analysis indicated that motivation orientation to take online courses was positively related to student behavioral intent to take online courses, while motivation to take face-to-face courses was negatively related to student behavioral intent to take online courses. Motivation orientation, especially online intrinsic motivation,

plays a significant role in predicting behavioral intent to take online courses. These results are consistent with the literature (Stewart et al., 2010).

### **Influence of Demographic Variables**

The final aim of the study was to determine what, if any, demographic variables influence motivational orientation and behavioral intent to take online courses. The demographic variables of 1) age, 2) sex, 3) college of chosen major, 4) year in school, 5) current number of online courses, and 5) number of previously completed online courses were examined using Kruskal-Wallis H and Mann-Whitney U tests. In the study conducted by Stewart et al., (2010) age and sex were commonly evaluated to determine the impact on behavioral intent. In this study however, age and sex were not significant in predicting intent to take online courses. College of chosen major, current number of online courses, and number of previously completed online courses were the demographic variables found to influence motivational orientation and behavioral intent to take online courses.

In this study, college of chosen major was a predictor of behavioral intent to take online courses. The results showed that the College of Science & Mathematics and the College of Business were statistically significant from the other colleges. Current number of online courses also predicted behavioral intent to take online courses. The results showed that taking no online courses was statistically different from taking 1 online course, 2 online courses, or 3 online courses. Number of previously completed online courses was also a predictor of behavioral intent to take online courses. The results showed that taking 4 or more previous online courses was statistically different from taking 0, 1, and 2 online courses. Although the researcher did not attempt to

understand the reasons behind why this is, questions may be asked if students have a higher level of satisfaction in online courses, if online courses are easier, or if students feel that online courses are of higher quality than face-to-face courses.

### **Recommendations**

The purpose of this study was to determine the level of behavioral intent of students at SPU to take online courses, factors that contribute to student intent to take online courses, and those driving forces that influence their intent. With more and more universities offering online courses and online programs, students are faced with many options for distance education. This creates competition for universities to try to attract students with their online programs in order to increase enrollment. It is important for academic leaders to understand what is motivating students to choose online courses so they can modify their university's online strategic planning in order to appeal to more students and ultimately increase student enrollment.

The research has shown that while online courses provide students with an alternative to traditional face-to-face courses, distance education courses are not without challenges. Previous research has shown that educational institutions and instructors have a difficult time establishing trust with students in an online environment (Wang, 2014). Understanding what motivates students' behavioral intent to take online courses could help with better meeting the needs of students in an online environment. Other research has shown that students find online courses to be less personal, lack direct involvement, and do not provide them opportunities for interaction, often due to lack of utilization of learning management system communication tools (Beard et al., 2004). In this research the construct of facilitating conditions was a predictor of student behavioral



intent to take online courses. Academic leaders can use this information to make sure they are providing appropriate resources needed for online courses and educating faculty on effectively using these resources to create a positive experience for online students.

Distance education has evolved over the years and will continue to change with the latest innovations in technology. The choices for students in online education will continuously change over time so it is important to understand what motivates students to choose online courses. A better understanding of these motivational factors will help higher education leaders to be able to make sure their online courses and programs are meeting the needs of their students, regardless of how distance education changes. When strategically planning the implementation of new online programs and courses, academic leaders need to be aware of the intrinsic and extrinsic motivators that drive student intent to take online courses. Academic leaders should develop strategies at their institutions to reach those students whether they are intrinsically or extrinsically motivated to take online courses.

### **Strengths**

Strengths of this study include a large enough response rate to achieve 95 percent confidence at a  $\pm 5$  confidence interval. Most of the students answered all of the questions in the survey (89.6 percent). There was a fairly equal representation of student responses collected from each age group, sex, college of chosen major, and year in school compared to the entire population. This study builds off a previous study, *Faculty Motivation & Intent to Teach Online* (Casdorff, 2014). In his study, he found that only slightly more faculty than not intend, predict, or plan to teach online in the next 12 months. He also found that an intense schism existed between faculty who “Strongly

Agree” and “Strongly Disagree” about their intent to teach online, with much fewer faculty falling in the valley between the two extremes. He collapsed his results into the categories of agree (scores >4), disagree (scores <4), and neutral (4) and the results showed that faculty was almost evenly split; 121 faculty disagreed, 17 were neutral, and 121 agreed they intend, predict, or plan to teach online in the next 12 months. He also found that the UTAUT constructs of performance expectancy, social influence, and effort expectancy predicted behavioral intent to teach online.

The results from the previous study, *Faculty Motivation & Intent to Teach Online* (Casdorff, 2014) differ from the current study, which shows that significantly more students than not intend or predict to take online courses in the next 12 months. When placing results into the categories of agree (scores > 4), disagree (scores < 4), and neutral (4), the results show that the majority of students intend or predict they will take online courses within the next 12 months; 207 students agreed, 77 students were neutral and 110 students disagreed that they intend or predict they will take online courses in the next 12 months. The current study found that the UTAUT constructs of performance expectancy, social influence, and facilitating conditions predicted behavioral intent to take online courses. There is now a complete picture about what motivates faculty to teach online and what motivates students to take online courses, along with the constructs that influence their intent to teach online and take online courses respectively at SPU.

### **Limitations**

Although this study provides information necessary for academic leaders to better understand the behavioral intent of students to take online courses, it is not without limitations. Data from this study were derived from a sample of students at one particular

institution and the results are only representative of that population. Ideally, samples would be included from higher educational institutions at different stages of distance education adoption. Results would be expected to vary depending on the adoption rate of the institution and population. Another limitation of the study was that it was conducted over a small period of time. Over the course of a student's entire academic career, intrinsic and extrinsic motivators can change for them as they progress. Due to time constraints this study could not be conducted over a large span of time. Finally, medicine and dental medicine had to be excluded from the sample since they are protected populations so a large group was excluded from the sample.

### **Future Areas of Research**

Future studies should be conducted from other universities with varying degrees of online education adoption in order to generalize the results of this study. While this study focused on student behavioral intent and motivation to take online courses, it did not touch on the students' perceptions of the quality of online courses, which would be important for academic leaders and instructors to know in order to improve online courses and improve programs. Research shows that one of the barriers with online education is the high dropout rate of students (Lee & Choi, 2011). Further research should be conducted to better understand what factors influence a student's decision to dropout of online courses. This information is important to academic leaders to help with increasing retention in online programs at their institutions.

### **Dissemination of Results**

With the push for online education and interest in academic leaders to improve and expand their online programs, there are numerous opportunities to share and

disseminate this research at the local and state levels. This research will be shared with the academic leadership at Swinging Pendulum University so they can better understand the motivation and intent of their students to take online courses in hopes of improving their online courses and online programs. The research intends to offer information gained through this research study with the leadership of the University System of Georgia, SPU's Distance Education department, and other University System of Georgia universities looking for ways to increase student enrollment.

### **Summary and Conclusion**

This research study determined the level of behavioral intent to take online courses at SPU and determined factors that influence behavioral intent for students to take online courses. The theoretical framework proposed that student intent to take online courses was linked to an individual's 1) intrinsic and extrinsic motivation orientation to take online courses and 2) level of performance expectancy, social influence, and facilitating conditions. A review of literature showed that motivation orientation and the constructs of performance expectancy, social influence, and facilitating conditions predicted student intent to take online courses.

The descriptive statistical analysis of participants who responded to the online survey showed that significantly more students than not intend or predict to take online courses in the next 12 months. Multiple regression analysis indicated the constructs of performance expectancy, social influence, facilitating conditions, total motivation to take online courses (both extrinsic and intrinsic combined), and total motivation to take face-to-face courses (both extrinsic and intrinsic combined), statistically and significantly predict behavioral intent to take online courses. The demographic variables of college of

chosen major, number of current online courses, and number of previously completed online courses significantly impacted behavioral intent to take online courses.

Based on the findings of this study, recommendations were presented to academic leaders for strategic planning in order to improve online courses and online programs so they can better meet the needs of students. Strengths and limitations of the current study were presented to assist in future research on this topic. Suggestions for future research to determine student intent to take online courses were presented as well.

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## Appendix A

### IRB Approval From Georgia Southern University

Georgia Southern University Office of Research Services & Sponsored Programs		
<b>Institutional Review Board (IRB)</b>		
Phone: 912-478-5465		Veazey Hall 3000
		PO Box 8005
Fax: 912-478-0719	IRB@GeorgiaSouthern.edu	Statesboro, GA 30460

**To:** Ashley Windley Culum

**From:** Office of Research Services and Sponsored Programs  
Administrative Support Office for Research Oversight Committees  
(IACUC/IBC/IRB)

**Approval Date:** 04/19/2016

**Subject:** Status of Application for Approval to Utilize Human Subjects in Research

---

After a review of your proposed research project numbered **H16404** and titled "**Student Motivation and Intent to Take Online Courses**" it appears that your research involves activities that do not require full approval by the Institutional Review Board (IRB) according to federal guidelines. In this research project research data will be collected anonymously.

According to the Code of Federal Regulations Title 45 Part 46, your research protocol is determined to be exempt from full review under the following exemption category(s):

- B2 Research involving the use of educational tests (cognitive, diagnostic, aptitude, achievement), survey procedures, interview procedures or observation of public behavior, unless: (I) information obtained is recorded in such a manner that human subjects can be identified, directly or through identifiers linked to the subjects; and (II) any disclosure of the human subjects' responses outside the research could reasonably place the subjects at risk of criminal or civil liability or be damaging to the subjects' financial standing, employability, or reputation.

Any alteration in the terms or conditions of your involvement may alter this approval. *Therefore, as authorized in the Federal Policy for the Protection of Human Subjects, I am pleased to notify you that your research, as submitted, is exempt from IRB approval. No further action or IRB oversight is required, as long as the project remains the same. If you alter the project, it is your responsibility to notify the IRB and acquire a new determination of exemption. Because this project was determined to be exempt from further IRB oversight, this project does not require an expiration date.*

Sincerely,



Eleanor Haynes  
Compliance Officer



## Appendix B

### IRB Approval From SPU

DATE: April 14, 2016

TO: Ashley Cullum

FROM: [REDACTED] Committee B

PROJECT TITLE: [842394-2] Student Motivation and Intent to Take Online Courses

SUBMISSION TYPE: Response/Follow-Up

ACTION: DETERMINATION OF EXEMPT STATUS

DECISION DATE: April 13, 2016

REVIEW CATEGORY: Exemption category # 1 & 2

1- Research conducted in established or commonly accepted educational settings, involving normal educational practices, such as: (i) research on regular and special education instructional strategies, or (ii) research on the effectiveness of or the comparison among instructional techniques, curricula, or classroom management methods.

2- Research involving the use of educational tests (cognitive, diagnostic, aptitude, achievement), survey procedures, interview procedures or observation of public behavior, unless: (i) information obtained is recorded in such a manner that human subjects can be identified, directly or through identifiers linked to the subjects; and (ii) any disclosure of the human subjects' responses outside the research could reasonably place the subjects at risk of criminal or civil liability or be damaging to the subjects' financial standing, employability, or reputation.

Thank you for your submission of Response/Follow-Up materials for this project. T [REDACTED] Committee B has determined this project is EXEMPT FROM IRB REVIEW according to federal regulations. Additionally, this protocol does not require a continuing review submission.

Research determined to be exempt does not require continuing review or protocol amendments (revisions and personnel changes). However, it must be noted that if the scope of the exempt protocol changes it must be re-submitted to the IRB for review and approval as an expedited or full review protocol prior to implementing the changes.

If the project is funded by [REDACTED], the Division of Sponsored Program Administration (DSPA) must also be notified of the change of scope and re-submission.

The Principal Investigator is responsible for ensuring all applicable ancillary approvals are obtained prior to initiating the study. This includes:

- Medical Center approval if Medical Center resources are used
- Biosafety Approval, if applicable
- Radiation Safety Approval, if applicable
- Chemical Safety Approval, if applicable

We will retain a copy of this correspondence within our records.

If you have any questions, please contact the IRB office at [REDACTED]

This letter has been electronically signed in accordance with all applicable regulations, and a copy is retained within [REDACTED] Committee B's records. If the reader of this message is not the intended recipient you are that any dissemination, distribution or copying of this information is STRICTLY PROHIBITED.

## Appendix C

### Survey Informed Consent

You are invited to participate in a research project to study student motivation and intent to take online courses because you are a part-time or full-time student at Swinging Pendulum University. The survey asks questions about your motivation to take online courses, motivation to take face-to-face courses. It should take you no more than 20 minutes to complete.

The results of this project will be used for scholarly purposes only. Through your participation I hope to understand what motivates students to choose online courses. I hope that the results of the survey will be useful for making improvements in online courses and programs and I hope to share my results by presenting them in educational settings and professional conferences and publishing them in a professional journal in the field of education or technology.

There are no known risks to you if you decide to participate in this survey. The alternative would be not participating in the study. To say thank you for participating, you will have the option to be entered into a raffle drawing to win one of four \$25.00 Amazon gift cards. If you complete this online survey and would like to be eligible for the drawing, you will be directed at the end of the survey to click on a link that will take you out of the survey and direct you to a form where you can enter your name and a way for someone to contact you if you are a winner of the drawing. Providing this information is voluntary and will not be connected to your survey data. It will be used strictly for the raffle drawing to contact winners.

I will do my best to keep your information confidential. All data is stored in a password protected electronic format. To help protect your confidentiality, the surveys will not contain information that will personally identify you. The results of this study will be used for scholarly purposes only and may be shared with SPU and Georgia Southern representatives that are on my dissertation committee where I am pursuing a doctoral degree.

I hope you will take the time to complete this questionnaire; however, if you agree to complete the survey you are not required to answer all the questions or complete it. Your participation is voluntary and there is no penalty if you do not participate. If you have any questions or concerns about completing the questionnaire, about being in this study, or to receive a summary of my findings you may contact me at (XXX) XXX-XXXX.

If you have any questions or concerns about the “rights of research subjects” you may contact the IRB Office at (XXX) XXX-XXXX.

Sincerely,

Ashley Cullum

[aculum@spu.edu](mailto:aculum@spu.edu)

Clicking on the link below indicates that:

- You have read the above information
- You voluntarily agree to participate
- You are at least 18 years of age

If you do not wish to participate in the research study, please disregard this email.

Click here to begin the survey

## Appendix D

### Email Invitation to Participate in Study

invitation to Participate in [redacted] Student Survey [redacted]

Message

**Invitation to Participate in [redacted] Student Survey**

Cullum, Ashley  
 Sent: Wednesday, June 1, 2016 at 4:40 PM  
 To: [redacted]

Dear [redacted] student,

You are invited to participate in a research project to study student motivation and intent to take online courses because you are a part-time or full-time student at [redacted]. The survey asks questions about your motivation to take online courses, motivation to take face-to-face courses. It should take you no more than 20 minutes to complete.

The results of this project will be used for scholarly purposes only. Through your participation I hope to understand what motivates students to choose online courses. I hope that the results of the survey will be useful for making improvements in online courses and programs and I hope to share my results by presenting them in educational settings and professional conferences and publishing them in a professional journal in the field of education or technology.

There are no known risks to you if you decide to participate in this survey. The alternative would be not participating in the study. To say thank you for participating, you will have the option to be entered into a raffle drawing to win one of four \$25.00 Amazon gift cards. If you complete this online survey and would like to be eligible for the drawing, you will be directed at the end of the survey to click on a link that will take you out of the survey and direct you to a form where you can enter your name and a way for someone to contact you if you are a winner of the drawing. Providing this information is voluntary and will not be connected to your survey data. It will be used strictly for the raffle drawing to contact winners.

I will do my best to keep your information confidential. All data is stored in a password protected electronic format. To help protect your confidentiality, the surveys will not contain information that will personally identify you. The results of this study will be used for scholarly purposes only and may be shared with [redacted] representatives that are on my dissertation committee where I am pursuing a doctoral degree.

I hope you will take the time to complete this questionnaire; however, if you agree to complete the survey you are not required to answer all the questions or complete it. Your participation is voluntary and there is no penalty if you do not participate. If you have any questions or concerns about completing the questionnaire, about being in this study, or to receive a summary of my findings you may contact me at [redacted].

If you have any questions or concerns about the "rights of research subjects" you may contact the IRB Office at [redacted].

Sincerely,

Ashley Cullum  
 [redacted]

Clicking on the link below indicates that:

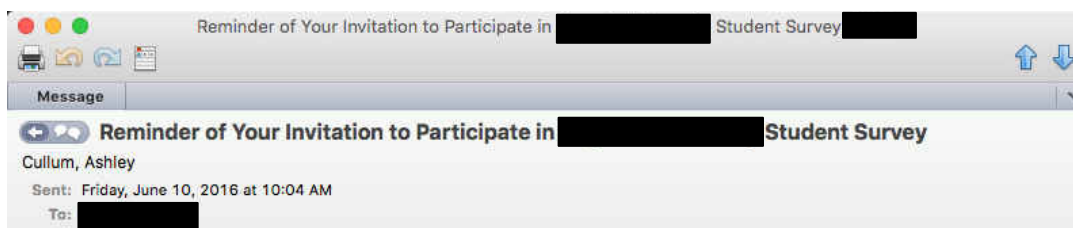
- You have read the above information
- You voluntarily agree to participate
- You are at least 18 years of age

If you do not wish to participate in the research study, please disregard this email.

Click here to begin the survey [redacted] [qualtrics.com/SE/?SID=SV\\_81dOq17xVEBbTEN](https://www.qualtrics.com/SE/?SID=SV_81dOq17xVEBbTEN)

## Appendix E

### Final Email Reminder to Participate in Study



This is your final invitation to complete the [REDACTED] Student Survey and enter the raffle drawing for one of four \$25.00 Amazon gift cards. The survey will close on June 21st and winners of the raffle drawing will be notified no later than July 1st. Thank you to everyone who has participated so far. Your feedback is greatly appreciated.

Dear [REDACTED] student,

You are invited to participate in a research project to study student motivation and intent to take online courses because you are a part-time or full-time student at [REDACTED]. The survey asks questions about your motivation to take online courses, motivation to take face-to-face courses. It should take you no more than 20 minutes to complete.

The results of this project will be used for scholarly purposes only. Through your participation I hope to understand what motivates students to choose online courses. I hope that the results of the survey will be useful for making improvements in online courses and programs and I hope to share my results by presenting them in educational settings and professional conferences and publishing them in a professional journal in the field of education or technology.

There are no known risks to you if you decide to participate in this survey. The alternative would be not participating in the study. To say thank you for participating, you will have the option to be entered into a raffle drawing to win one of four \$25.00 Amazon gift cards. If you complete this online survey and would like to be eligible for the drawing, you will be directed at the end of the survey to click on a link that will take you out of the survey and direct you to a form where you can enter your name and a way for someone to contact you if you are a winner of the drawing. Providing this information is voluntary and will not be connected to your survey data. It will be used strictly for the raffle drawing to contact winners.

I will do my best to keep your information confidential. All data is stored in a password protected electronic format. To help protect your confidentiality, the surveys will not contain information that will personally identify you. The results of this study will be used for scholarly purposes only and may be shared with [REDACTED] representatives that are on my dissertation committee where I am pursuing a doctoral degree.

I hope you will take the time to complete this questionnaire; however, if you agree to complete the survey you are not required to answer all the questions or complete it. Your participation is voluntary and there is no penalty if you do not participate. If you have any questions or concerns about completing the questionnaire, about being in this study, or to receive a summary of my findings you may contact me at [REDACTED].

If you have any questions or concerns about the "rights of research subjects" you may contact the IRB Office at [REDACTED].

Sincerely,

Ashley Cullum  
[REDACTED]

Clicking on the link below indicates that:

- You have read the above information
- You voluntarily agree to participate
- You are at least 18 years of age

If you do not wish to participate in the research study, please disregard this email.

Click here to begin the survey [REDACTED] [qualtrics.com/SE/?SID=SV\\_81dOq17xVEBbTEN](https://qualtrics.com/SE/?SID=SV_81dOq17xVEBbTEN)

## Appendix F

### Demographic Questions from Survey

What is the college of your chosen major?

- Medicine
- Arts, Humanities & Social Sciences
- Sciences & Mathematics
- Dental Medicine
- Allied Health Sciences
- Nursing
- Education
- Business
- Other (Not in Specific College)

What is your year in school?

- Freshman
- Sophomore
- Junior
- Senior
- Graduate

What is your age?

- 22 or under
- 23-29
- 30-37
- 38-50
- Over 50

What is your sex?

- Female
- Male

How many online courses are you taking this semester?

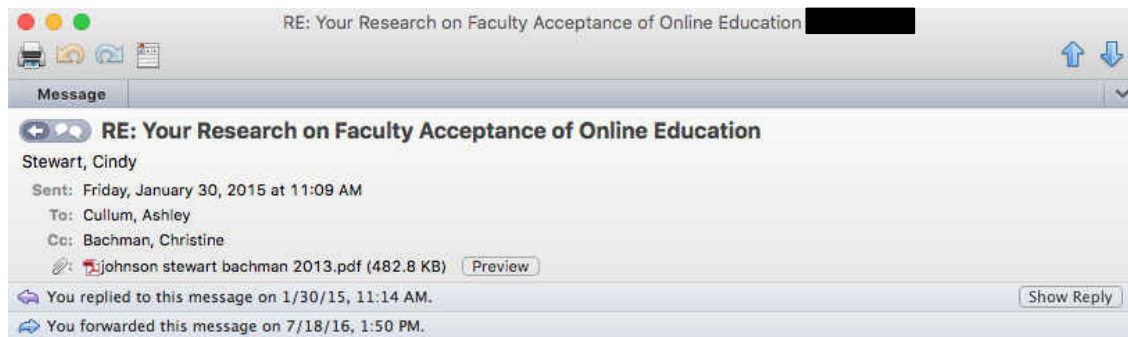
- 0
- 1
- 2
- 3
- 4 or more

How many online courses have you previously completed?

- 0
- 1
- 2
- 3
- 4 or more

## Appendix G

### Permission to Use Motivation Orientation Scale – Student Version



Hi Ashley,

Attached you will find the journal article that provides you with the psychometric properties of the faculty and student versions of the motivation orientation scales. The appendix provides you with the items and scales of measurement.

Best wishes on your upcoming research!  
Cindy Stewart and Christine Bachman

Hi Ashley,

It would be my pleasure! Dr Christine Bachman and I developed those scales, and I validated them. I will send you the information you need later this morning!

Have a great day!  
Cindy

Cindy Stewart, PhD  
Associate Professor of Psychology  
University of Houston-Downtown  
Houston, TX 77002  
713-221-8173

## Appendix H

### Motivation Orientation Scale – Student Version Survey Questions

Using the scale below, please rate how motivated you are by the following reasons for taking an online course. Not Motivated (1) Somewhat Motivated (2) Motivated (3) Very Motivated (4)

	Not Motivated (1)	Somewhat Motivated (2)	Motivated (3)	Very Motivated (4)
Time constraints due to work responsibilities	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Time constraints due to family responsibilities	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
My courses are not scheduled at convenient times and locations	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Commuting related issues such as wear and tear on car, gas, and mileage	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Enjoy taking online courses	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
I make better grades in online courses than in face-to-face courses	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
I am more responsible in online courses	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
I am more motivated in online courses	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
I prefer online interaction with my professor and other classmates	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
I find online courses easier than face-to-face	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>



Using the scale below, please rate how motivated you are by the following reasons for taking a face-to-face course. Not Motivated (1) Somewhat Motivated (2) Motivated (3) Very Motivated (4)

	Not Motivated (1)	Somewhat Motivated (2)	Motivated (3)	Very Motivated (4)
My schedule is flexible enough to afford me to take face-to-face courses	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
I have a reliable car and do not mind driving to the university	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
I am scheduled to take courses at times and locations that are convenient for me	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
I enjoy face-to-face courses	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
I prefer face-to-face courses because of the interaction with my professor and other classmates	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
I make better grades in face-to-face courses than online courses	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
I am more responsible in face-to-face courses	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
I am more motivated in face-to-face courses	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
I find face-to-face courses easier than online courses	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>

## Appendix I

### Permission to Use UTAUT



Thanks for your interest. I am sorry for the delayed response which is due to a hectic travel schedule.

You will find the paper(s) you requested and other related papers at:

<http://vvenkatesh.com/Downloads/Papers/fulltext/downloadpapers.htm>. Various of the papers do have the instruments that you can adapt for your use.

You may also find my book (that can be purchased for a significant student discount and faculty member discount) to be of use:

<http://vvenkatesh.com/book>

Hope this helps.

Sincerely,

Viswanath Venkatesh

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IS Research Rankings Website: <http://vvenkatesh.com/ISRanking>





## Appendix K

### List of Acronyms

AIC	Akaike Information Criterion
BI	Behavioral Intent
BIC	Bayesian Information Criterion
FC	Facilitating Conditions
IDT	Innovation Diffusion Theory
IRB	Institutional Review Board
LMS	Learning Management System
MPCU	Model of Personal Computer Utilization
MO-SV	Motivation Orientation Scale – Student Version
PBC	Perceived Behavioral Control
PE	Performance Expectancy
PEU	Perceived Ease of Use
SCT	Social Cognitive Theory
SI	Social Influence
TAM	Technology Acceptance Model
TAM2	Technology Acceptance Model Version 2
TPB	Theory of Planned Behavior
TRA	Theory of Reasoned Action
UTAUT	Unified Theory of Acceptance and Use of Technology