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# Factors Influencing a Learner's Decision to Drop-Out or Persist in Higher Education Distance Learning

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*Hannah Street*  
*Mississippi State University*  
[hstreet@aoce.msstate.edu](mailto:hstreet@aoce.msstate.edu)

## Abstract

Previous studies conducted on dropouts within online courses have found inconsistent factors affecting attrition. A literature review was performed, focusing on eight main studies. These studies were performed at both national and international universities. The methodology, participants, research question, and results varied by study. Overall, internal factors of self-efficacy, self-determination, autonomy, and time management along with external factors of family, organizational, and technical support were found to be significant. An additional variable of course factors, which includes course relevance and course design, was found to significantly impact learners' decisions to persist or drop an online course. These variables were incorporated into a modified version of Bandura's reciprocal causation theory, which states that each of these variables influences and is influenced by the decision of a student to persist or drop an online course. The model needs statistical testing within the context of an individual study. Further studies are also needed on course factors impacting an online student's decision to persist or drop an online course.

## Introduction

As distance learning continues to increase in popularity, more institutions are focusing on a common phenomena experienced among universities and colleges offering distance courses. Research has typically shown that attrition rates are often 10-20% higher for online courses than for traditional, face-to-face classrooms (Holder, 2007). Persistence, defined as continuation of one's studies in spite of obstacles, is often considered a measure of program effectiveness by higher education institutions (Rovai, 2002). However, attrition in online courses should be evaluated carefully as the demographics for online courses are different from the traditional classroom. Students tend to be older and have some factor prohibiting attendance on a traditional campus, such as family and work conflicts. Therefore, factors of attrition are unique for the online population of students, making it difficult to apply existing attrition models, designed for traditional classrooms, to the online population. Studies have found inconsistent results among significant factors relating to online course persistence and attrition, although the factors commonly identified are the same. The major factors are typically divided into two categories, internal and external factors. Internal factors include individual factors, such as motivation and self-efficacy. External factors typically include environmental influences, such as organizational support and level of family support. However, a lack of empirical research exists for online attrition as studies are typically performed at one university. Each university is likely to have its own unique factors influencing attrition in addition to commonly identified determinants, including the course structure, program design, faculty involvement, and level of support for students at-risk for dropping out of the distance education course. The purpose of this paper is to review the research literature on the factors influencing an online learner's decision to drop-out or persist in an online course or program within each university and to identify common themes among the research presented.

## Drop-Out Studies

Early studies of attrition in distance learning often focused on factors influencing drop-outs within a single online course. A study was conducted by Waschull on an online psychology course instructed and designed by the researcher for Athens Technical College in Athens, Georgia (2004). Waschull began the study by designing a psychology course for a traditional classroom and utilizing the same course content for an online section of the course. Waschull performed two comparison studies utilizing the traditional and online methods. In the first study, students were given the choice of whether or not to enroll in the online section. The attrition rate for the online section was 7% compared to 15% for the traditional section, although these frequencies were not found to be significant (2004, p. 146). Waschull also examined classroom performance and course evaluation for these two sections and found that there was not a significant difference in performance for the two different methods

of course delivery. The study did not address the issue of self-selection as students that chose to take the course may have been better suited for the online environment. To address self-selection factors, Waschull's second study followed the same set-up as the initial study with the exception that students were randomly assigned to either the traditional or the online section of the course. The attrition rate for the online section was 11.1% for the online section and 8.8% for the traditional classroom section (2004, p. 146). The differences were not judged to be significantly different. Consistent with the results of the first study, the performance and evaluation of the course between the two groups had no statistically significant differences. The importance of this study was the finding that persistence and success in an online course is not solely related to self-selection, which is often categorized as individual learner characteristics.

Another early study by Bocchi, Eastman, and Swift attempted to establish a profile of a successful online student within the context of the Georgia WebMBA program, a coalition between five universities in Georgia. The study gathered data from surveys taken by students who successfully completed the program, which is designed to function as a cohort group. From the study, persistent students shared a similar demographic background, with an average age of 30 to 35 and an undergraduate degree in a business-related field. The program also requires a minimum of 2 years of professional business experience for admission (2004, p. 248). Expectations of the WebMBA program most frequently involved unique course factors, such as ease of using courseware, faculty involvement, course relevance, and technical and customer support services (2004, p. 248). Although this study is limited to the Georgia WebMBA program, the findings of a similar demographic and educational background is inconsistent with later research conducted at other universities.

A study conducted by Holder at a growing university in the Midwest attempted to determine the predictors of persistence in higher education online programs (2007). It is important to note that the university utilized a cohort model that utilized the same assessments and assignments as the equivalent on-campus courses, with the only difference lying in the asynchronous discussion format. Holder included courses spanning across degrees (associate's, bachelor's, and master's levels) and various fields (accounting, business administration, information services, criminal justice, nursing, management, and education). Holder utilized findings and surveys from previous studies to develop a survey measuring factors related to academics, environment, motivation, hope, and compliant learning as potential predictors for persistence in an online course. Some of the scales utilized included the Motivated Strategies for Learning Questionnaire (MSLQ), Grasha-Riechmann Student Learning Styles Scales (GRSLSS), Learning Orientation Questionnaire (LOQ), and a questionnaire developed by Bernard, Brauer, Abrami, and Surkes to assess achievement outcomes (2007, p.251). From the scales measured, all scales showed differences, but only the environmental factor of emotional support, the motivation factor of self-efficacy, and the academic factor of time and study management showed a significant difference between persistent and non-persistent groups in the prediction model, which is consistent with prior studies. Learner autonomy also had a significant difference, but with a surprising negative relationship. A student was 1.93 times more likely to be a non-persistent learner if the student scored higher in the scale of learner autonomy as compared to low in learner autonomy (2007, p. 257). One possible explanation of this could be the cohort grouping model utilized by the university. Although online courses typically promote freedom and flexibility, this model may frustrate students with high autonomy. An important note by Holder was the additional 20% drop-out rate after the survey had been completed. It is also important to note that the 12-variable model utilized by Holder only accounted for 9% of the variance predicting retention of online learners (2007, p. 257).

An international study conducted at a university in central Taiwan investigated student's perceived satisfaction with e-learning relative to the use of the Blackboard system. This study is relative to attrition in that satisfaction has been previously linked to the decision of a learner to drop or persist in an online course. Liaw tested and created a model for developing effective e-learning that included three factors: learner's self-efficacy (self-directed behavior and autonomy), multimedia formats, and interaction environments (Liaw, 2008, p. 866). Statistical testing revealed that all three factors were significant, with perceived self-efficacy being the largest contributor in predicting student satisfaction with the e-learning system (2008, p. 870). Other important findings from Liaw's study was the finding that students often had many experiences with the Internet, but did not have much e-learning experience and that students' most positive attitude toward e-learning came in the form of perceived usefulness. The implications of this study are that a student needs to have high self-efficacy in order to be satisfied with e-learning. Some recommendations are designing training programs and orientations for e-learning systems and promoting the usefulness of the e-learning system.

Park and Choi performed a study at a large midwestern university within the United States on the factors influencing an adult learners' decision to drop out or persist in online learning (Park and Choi, 2009). The study examined whether dropouts were different in terms of individual characteristics (age, gender, and education level), external factors (organizational and family support), and internal factors (satisfaction and relevance as a part of motivation). These variables were utilized as they were the most frequently cited factors of attrition and

retention in previous studies. Park and Choi noted that one limitation of the study was that variables of academic and social integration and technology concerns could not be included in the study as the researchers did not have access to the contents of the course (2009, p. 209). All students included in the study were non-traditional adults who enrolled in a job-related online course. Park and Choi found that there was not a significant difference in individual characteristics between dropouts and persistent learners. There were significant differences between the two groups in terms of perceptions of support from both family and the work organization and within motivational factors of satisfaction and course relevance. It is important to note that Park and Choi found that these four variables were also able to predict drop-outs and persistent learners at this midwestern university at a rate of 89.8 percent (2009, p.214). Park and Choi found that organizational support and relevance had the highest predictability values. The implications of this study emphasize the importance of supporting students throughout their course when levels of family and organizational support are low. Course materials and course design should be relevant to the learner's unique needs.

Motivation is a common factor of attrition within the context of online learning. Chen and Jang tested a model of self-determination theory developed by Deci and Ryan on two online certificate programs that lead to special education certification for a university in the southeast region of the United States. The self determination theory states that humans have three basic needs: autonomy, competency, and relatedness. The theory also views human motivation as containing three categories: intrinsic motivation, extrinsic motivation, and amotivation. Chen and Jang created a model testing "need support" on the variables of autonomy support and competency support which are contextual variables. "Need satisfaction" was measured with the variables of perceived autonomy, perceived relatedness, and perceived competency (Chen and Jang, 2010). The motivation and self-determination scale was designed as a composite of intrinsic motivation, and external, interjected and identified regulations (2010, p. 747). The learning outcomes scale including an engagement scale with two factors: hours per week studying and number of hits (2010, p. 747). The achievement scale was measured in terms of expected and final grade. The learning scale contained a variable of perceived learning. Satisfaction was measured in terms of course satisfaction. According to the results, autonomy was found to significantly support competency in the online environment. In turn, competency positively affected perceived autonomy, relatedness, and competency of the online student. The satisfaction of these needs positively affected the self determination of the online student (2010, p. 750). The study found that self-determination should be promoted in order to motivate students in an online environment. The researchers suggested that relevance of the course or program should be emphasized and that the interpersonal relationships should provide choice.

A study by Nistor and Neubauer considered dropout and participation in online courses from a quantitative standpoint, accounting only for observable variables within their research. The research was conducted in Munich, Germany and can be classified as an international study for purposes of the literature review. Nistor and Neubauer focused on ten variables related to online courses: personal introduction in the "yellow pages", participation in the presence session, email contact with the instructors after registration, email to instructor before the beginning of the course, email to the instructor in the first two weeks, total number of messages sent, length of messages sent, active participation in the online discussions, and course evaluation (Nistor and Neubauer, 2010). Within this study, 23.9% of the students dropped out of the course (2010, p. 666). Drop-outs occurred more frequently at the beginning of the course, although drop-outs did occur throughout the duration of the course. Nistor and Neubauer found that the dropout group had significantly less participation with regards to response to assignments and communication with the instructor. Dropouts also had a tendency to register for classes early. Three variables were found to be predictive of online dropouts: presence in the face-to-face session, self-introduction in the "yellow pages," and sending an email to the instructor in the first two weeks (2010, p.670). These factors are highly related to student relatedness and feeling a sense of connectivity with classmates and instructors.

A recent study conducted by Nichols in New Zealand at Laidlaw College sought to find the degree of influence targeted interventions in student support services had on retention in distance education. Nichols utilized a comparison study of retention before the targeted intervention and after the intervention was put into place. Nichols found that the main contributors to persistence after the intervention was in place were: contact with course tutor, course set-up or design encouraged continuation, and factors of the self, including self-determination (Nichols, 2010). Follow-up interviews with the post-intervention group found that students most often cited personal reasons as the most significant factor of retention. Nichols related this complex thought to Herzberg's motivation theory. In this comparison, student support is seen as a hygiene factor. Students tend to notice inadequate support systems and persistence rates will subsequently decline. However, if support is adequate, the effort of the support service is largely unnoted and students tend to attribute persistence in the course to personal motivation. Nichols's study provides evidence that student's persistence is affected by internal factors (self factors), course factors, and support services provided although they may not be aware of such effects.

## Summary and Conclusions

Within the research reviewed, it is clear that there is no single set of variables that is able to predict attrition in an online course. Several common themes have emerged across the research including significant external factors such as course factors and support, person factors such as self-efficacy and autonomy, and academic factors such as time and study management. Self-efficacy was most commonly noted in the research, along with course relevance and support. Important support functions can stem from faculty, family, and organizations. Although some of the variables mentioned in the study were listed as predictor variables, these variables were not empirically tested. A need exists for empirical testing of variables across universities offering online courses.

Course factors affecting student attrition are often difficult to measure across universities as each university offers online courses through different platforms, designs courses and programs uniquely, and provides different levels of faculty and student involvement. Some other issues involved in program design are cohort grouping and individual course design. From these studies, it is important to note that grouping into cohorts may negatively impact those students considered to have high autonomy. Instructional design choices often influence the level of student involvement and engagement. Online classes may require a high level of student interaction and involvement that varies even within a single university by course or department. A need exists for a study of various specific course factors relating to online student attrition.

Internal or person factors have long been considered as important factors for attrition within the traditional classroom setting. Self-efficacy is consistently mentioned as a motivational factor for dropping out or persisting in the online learning environment. Self-efficacy can be defined as “belief that one is capable of executing certain behaviors or achieving certain goals”(Ormrod, 2011, p.13). Both screening for and promoting self-efficacy within students is recommended.

The factors influencing drop-outs listed within this research can be placed into a model of reciprocal causation proposed by Bandura (Ormrod, 2011, p.354). According to Bandura’s model, a person’s behavior both influences and is influenced by personal factors and the environment. Within the online context, a student’s decision whether to drop-out or persist in an online environment influences and is influenced by personal factors such as self-efficacy, self-determination, and autonomy, and time management. A student’s decision whether to drop-out or persist in an online environment also influences and is influenced by environmental factors such as family support, organizational support, and technical support. A third, unique factor can be added for online attrition. Course factors of relevance and design influence a learner’s decision to persist or drop an online course.

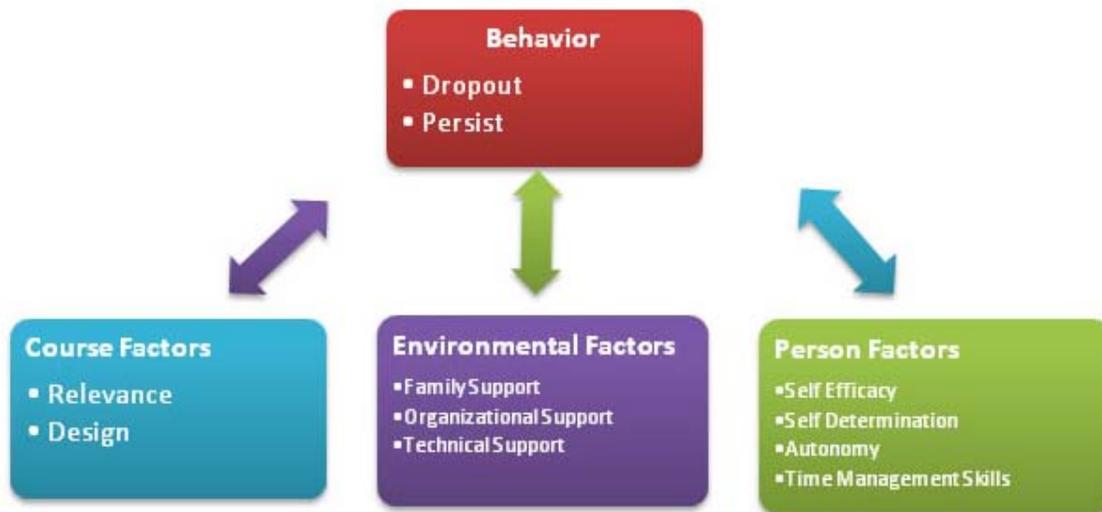


Figure 1 Adapted from Bandura’s Reciprocal Causation Theory

The proposed model should undergo statistical testing to ensure all factors are reliable and a good fit for testing online student attrition. However, the factors included in this model are consistently cited in research on online attrition factors.

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## References

- Bocchi, J., Eastman, J., & Swift, C. (2004). Retaining the online learner: profile of students in an online MBA program and implications for teaching them. *Journal of Education for Business*, 79(4), 245-253. Retrieved from Academic Search Premier database.
- Chen, K., & Jang, S. (2010). Motivation in online learning: Testing a model of self-determination theory. *Computers in Human Behavior*, 26(4), 741-752. doi:10.1016/j.chb.2010.01.011.
- Holder, B. (2007). An investigation of hope, academics, environment, and motivation as predictors of persistence in higher education online programs. *Internet & Higher Education*, 10(4), 245-260. doi:10.1016/j.iheduc.2007.08.002.
- Liaw, S. (2008). Investigating students' perceived satisfaction, behavioral intention, and effectiveness of e-learning: A case study of the Blackboard system. *Computers & Education*, 51(2), 864-873. doi:10.1016/j.compedu.2007.09.005.
- Nichols, M. (2010). Student perceptions of support services and the influence of targeted interventions on retention in distance education. *Distance Education*, 31(1), 93-113. doi:10.1080/01587911003725048.
- Nistor, N., & Neubauer, K. (2010). From participation to dropout: Quantitative participation patterns in online university courses. *Computers & Education*, 55(2), 663-672. doi:10.1016/j.compedu.2010.02.026.
- Ormrod, J.E. (2011). Social cognitive views of learning. In Smith, P.A. *Educational psychology: developing learners* (pp.352-354). Boston, MA: Pearson Education, Inc.
- Park, J., & Hee Jun, C. (2009). Factors influencing adult learners' decision to drop out or persist in online learning. *Journal of Educational Technology & Society*, 12(4), 207-217. Retrieved from Academic Search Premier database.
- Rovai, A.P. (2002). In search of higher persistence rates in distance education online programs. *The Internet and Higher Education*, 6, 1-16.
- Waschull, S. (2001). The online delivery of psychology courses: attrition, performance, and evaluation. *Teaching of Psychology*, 28(2), 143-147. Retrieved from Academic Search Premier database.