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E-Learning Student Perceptions on Scholarly Persistence in the 21st Century with Social Media in Higher Education

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The purpose of this quantitative analytic study is to evaluate and test the theoretical underpinnings of the Kember (1995) student progress model that examines the direct or indirect effects of student persistence in e-learning by identifying the relationships between variables such as student perceptions, performance, cost-benefit analysis, and student persistence. Thomson (1999), Houle (2004), Harlow (2006), and Porta-Merida (2009) verified the reliability and validity of the theory, yet their results are slightly dissimilar in the magnitude of influence on student persistence. Former studies indicate that it could be meaningful to reexamine the variables in more current studies. The online survey in this study explored the relationships among variables. The population of the sample of this study was 169 students at a public community college in Maryland that is offering online and hybrid degree programs. The logistic regression and multiple regression analysis were utilized to analyze the survey data. The findings of this study consistently indicated that negative external attribution was a significant factor for student persistence, degrading the student's work. Simultaneously, individual student grade point average (GPA) and academic integration were highly correlated to student persistence. The findings of this study convey the current phenomena and knowledge of e-learning regarding student persistence. Social media has been seen as a potential problem, but it could also be a solution if it increases social interaction on focused scholarly topics. Decreasing external attribution and encouraging higher GPA by increasing the academic integration help students continue to pursue their educational goals.

Keywords: Student Retention; Persistence; Perceptions; E-Learning; Higher Education; GPA; Social Integration; Academic Integration; External Attribution

Introduction

Student persistence is a critical issue for both students and institutions because it affects students' accomplishment of their education goals and financially sustains the institution's own goals. The purpose of this study is to evaluate and test the theoretical underpinnings of Kember's (1995) student progress model which examines the direct or indirect effects of student persistence on their successful completion of community college level e-learning programs. In the fall of 2006, almost 3.5 million students (nearly 20% of college students in the USA) were enrolled on at least one online course (Allen & Seaman, 2008; Griffin, 2008). This is compared to the more current information of over 6.7 million students (nearly 32% of college students in the USA) taking at least one online course in the fall of 2011, which increases 570,000 students from 2010 (Allen & Seaman, 2013). Individual student motivation is an important factor in evaluating persistence in successful completion of academic programs (Nichols, 2010).

The theoretical model of student persistence was developed by Spady (1971). Subsequently, Tinto (1975) modified Spady's model regarding dropout behavior in his study. Despite the validity and impact of the Tinto model, Bean & Metzner (1985) claim that the Tinto model (1975) is less relevant where social interactions with peers and faculty are limited to time in class such as in e-learning programs. The Bean & Metzner (1985) conceptual model states that non-traditional students are more affected by the external environment than by the social integration variables that affect traditional student attrition. Kember (1995) evolves his dropout model of student persistence by connecting a model of student progress as it relates to student social integration, academic integration, external attribution, and academic incompatibility. Thomson (1999), Houle (2004), Harlow (2006), and Porta-Merida (2009) verified that the reliability and validity of the theory, yet their results are slightly dissimilar in the magnitude of influence on student persistence. Former studies indicate that it could be meaningful to reexamine the variables in more current studies.

This quantitative analytic study is designed to identify the relationships among student perceptions defined as student progress factors, student performance, cost-benefits, and student persistence through the perspective of Kember's (1995) model of student progress. This study demonstrates whether the Kember model fits with current e-learning practice and findings from a community college in Maryland, USA.

Research Questions

1) Is there a statistically significant relationship between student perceptions of the academic experience a) social integra-

tion, b) academic integration, c) external attribution, and d) academic incompatibility with student persistence (within the online learning environment at the community college level)? Does the relationship statistically significantly vary with respect to student characteristics and learning style?

2) Is there a statistically significant relationship between student perceptions of the academic experience a) social integration, b) academic integration, c) external attribution, and d) academic incompatibility with student persistence mediated by student performance defined by GPA?

3) Is there a statistically significant relationship between student perceptions of the academic experience a) social integration, b) academic integration, c) external attribution, and d) academic incompatibility with student persistence mediated by cost-benefits?

Research Hypotheses

The study engages three null hypotheses and three alternative hypotheses based on three research questions.

Review of the Literature

Persistence in E-Learning

The development of distribution technologies has spurred many institutions to offer online education (Kay, 2009). Diverse factors related to student persistence have been discussed by researchers in the field. Tinto (1999) argues that higher educational institutions need to retain existing students. It is reported that between 20 and 50 percent of online students drop their studies (Farmer, 2009; "Academic Retention Indicators," 2005; Wojciechowski & Palmer, 2005). Nichols (2010) points out that a number of reasons for withdrawal are usually given by students, including the effectiveness and quality of online courses (Perantoni, 2010). The highest rate of student withdrawal is in the first one or two years of college (Barefoot, 2004). An additional tool for the study of persistence is the identification of predictors for college student achievement and retention (Davis, 2010).

Relationship of Social and Academic Integration, External Attribution, and Academic Incompatibility to Persistence

With the increase in the number of online courses, there is also an increase in the number of students who do poorly in the courses or drop out, resulting in a waste of the student's time and finances (Angelino, Williams, & Natvig, 2007). Tinto's (1993) classic model of student departure provides a solid foundation of attrition. Students may complete programs at a higher rate if they feel a connection with their institutions (Heyman, 2010; Herbert, 2007; Soen & Davidovitch, 2008) and students who are socially integrated feel less isolated (Senhouse, 2008). Academic integration and social integration positively affect retention and academic integration positively influences a grade point average (Woosley, 2009). Due to an increasing appreciation of the internet environment, there are many diverse methods of social integration. Kord (2008) stresses the possible positive and negative influence of online social networking on college students' academic experiences, and which will continue to offer more traditional support to students through a less traditional medium (Heyman, 2010). The interaction with faculty and social networking with peers are important factors for academic success (Vuong, Brown-Welty, & Tracz, 2010). If students are kept engaged in their academic programs (Dizik, 2010), this elicits students' stronger positive opinions for e-learning environments (Lei & Gupta, 2010; Riffell & Sibley, 2005).

The Relationship between the Grade Point Average (GPA) and Persistence

E-learning has become a mainstream educational methodology, thus it demands new and hybrid methods for evaluating its impact (Mandinach, 2005). New methodology for evaluation can increase the credibility of students' accomplishments and persistence. The GPA on student persistence is significantly related to continued enrollment (French et al., 2003) and student retention (Porta-Merida, 2009). Higher levels of social integration are more likely to be associated with slightly lower GPAs than academic integration (Woosley, 2009), thus distraction from social networking may influence student academic performance (Blashak, 2010). College GPA accounted for 25% of variance in predicting persistence (Davis, 2010; Weidman, 1985).

Theoretical Orientation and Conceptual Framework

Kember's (1995) student progress model is the fundamental theory used in this study. Additionally, Tinto's model (1975) discusses non-traditional students' dropout and Bean & Metzner's (1985) conceptual model suggests seven variables of direct, indirect effects, and a possible effect on dropout rates. Kember et al. (1991) develop the Distance Education Student Progress (DESP) Inventory and Kember (1995) modifies his dropout model by connecting a model of student progress which encompasses student entry characteristics, social integration, academic integration, external attribution, and academic incompatibility. This study tests Kember's (1995) student progress model considering a strong integration environment and student background in association with student learning styles, student performance, and persistence (**Figure 1**). This conceptual framework shows the direction of the operational flow by presenting various paths among the variables in the model in an attempt to answer each research question and show how the detected variables affect Student Persistence.

Research Methodology

Research Design

The relationships among student perceptions, course performance, cost-benefit analysis, and student persistence, associated with student characteristics and learning styles, were detailed. The extended research questions and the hypotheses relevant to the research questions were developed from gaps in the scholarly literature. The researcher exercised a post-positivist worldview to identify and assess the causes that influence outcomes (Creswell, 2009).

Study Sampling and Population

The target participants of this study were 800 community college students who were taking online or hybrid courses from a community college for fall 2010 in Maryland. All 800 were

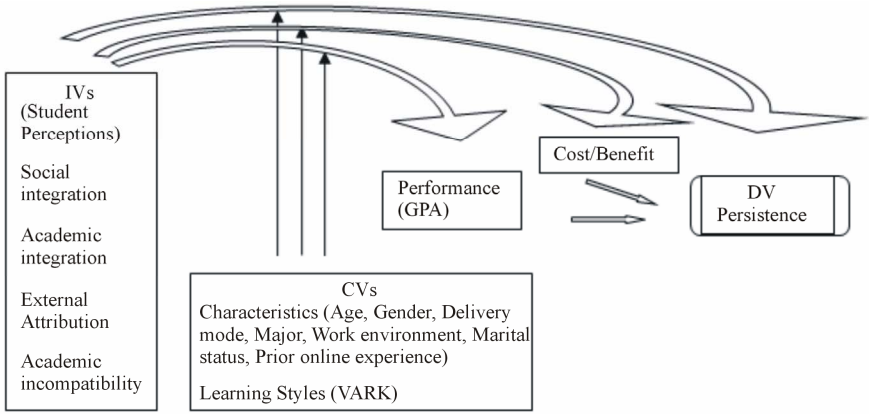

Figure 1.
Conceptual framework.

invited to take an online survey for this study. Of the 800 students and 169 students participated in the survey, which was 21.1% return rate to the survey. This study had a set of four independent variables and two covariates; the minimum required sample size for a group is 97 ($\alpha = .05$) as indicated by Cohen power (1992, 1988) analysis.

Data Collection

Students who enrolled for the fall 2010 online or hybrid session were invited to participate and needed to respond to the invitation to indicate their consent to be surveyed. The survey explored the relationship among student demographic characteristics, student perceptions (Distance Education Student Progress) refined into four factors, course performance, cost-benefits, and student persistence in association with student learning styles at a public community college in Maryland to verify Kember's (1995) model in relation to this environment. The students' privacy was carefully protected and the students' name and identification were not asked. The online survey was operated via a virtual platform, Survey Monkey. The survey link was sent to 800 students via the Survey Monkey website and the link for the survey was uniquely tied to each individual student. This allowed customization of the survey approach to individual participants, such as being able to send a second and final email to students who did not participate on the first and second survey attempt.

The data were logged and assessed, with data from respondents who did not meet the criteria for the study being removed to provide consistency and accuracy. The dataset was exported to Microsoft Excel and filtered to ensure a good fit against the defined research questions. Second level filtering provided detail in relation to the exogenous variables of student characteristics: age, gender, class delivery mode, major, work environment, marital status, and online course experience, and student learning styles. Finally the refined dataset was imported into a Statistical Package for the Social Science (SPSS) 16.0 database to allow calculation of the mean and standard deviation for each variable and create correlation matrices.

Instrumentation

A survey comprised of three sections (Appendix A of Lint, 2011) was used as an instrument to answer the research questions to support definition of the hypotheses in this study. In Section I, variables of age, gender, major, delivery mode, work environment, marital status, e-learning experience, and learning styles (items 1 - 8) were explored. Student Performance (GPA), Cost-Benefit analysis (items 10 - 12), and Student Persistence (items 13, 14, & 16) measured by intent to continue enrollment or transfer or graduation were investigated in Section II. The intent to withdraw or not to continue enrollment in the next semester was used to measure the reliability of the negative aspect of student persistence (item 15). Section III of the survey used the DESP inventory.

Distance Education Student Progress (DESP) Inventory

The DESP inventory delves into four factors of social integration, academic integration, external attribution, and academic incompatibility. The DESP inventory was developed by Kember et al. (1995, 1994, &1991) and modified to use of 64 items for this study as described in Lint study (2011). Higher scores are connected to higher progress factors in this study because of opposite arrangement of the 5-point Likert scale. Permission to use the DESP inventory was purchased from the "Copyright Clearance Center".

Student Online Academic Persistence (SOAP) Inventory

Section II of the survey employed items 22, 23, and 25 of Strevy's (2009) SOAP inventory for the cost-benefit analysis and item 40 of the SOAP for student persistence. Cost-Benefit analysis (items 10-12 of Section II) and modified Student Persistence (items 14, 15 of Section II). Permission to use the SOAP inventory items was granted by Dr. Strevy.

Data Analysis and Presentation of Results

The Examined Variables in This Study Are Listed Below

- Independent Variables: Social integration, Academic integration, External attributions, and Academic incompatibility.
- Mediator variables: Student Performance and Cost-benefit analysis.
- Covariate: Student Characteristics and Student learning

styles.

- Dependent Variable: Student Persistence (three scores: measured by the intent to continue enrollment in the next semester, Q13; intent to continue enrollment including transfer to another institution or graduation, Adjusted Q13 (Ad. Q13); and extent of intent to continue enrollment in the next semester, Q14).

Descriptive Statistics

All 800 eligible online and hybrid class students at a public community college in Maryland were invited to take an online survey for this study in the fall of 2010. The return rate was 21.1%. Of the 800 students, 169 students participated in the survey. The majority of the sample was female (78.4%) while male participation was 21.6%. The majority of the sample was single/divorce (66.0%) and the rest (34.0%) were married. The majority of the sample was taking online classes (75.3%) and the rest (24.7%) were taking hybrid classes. The average number of the online course experiences was 3.43.

Bivariate Analyses

Academic integration and external attribution and student persistence Q13 were significantly correlated. External attribution and student persistence Ad. Q13 were significantly correlated. Social integration, academic integration, and external attribution were significantly correlated with student persistence Q14. External attribution and academic incompatibility and cost-benefit analysis were significantly correlated. GPA and student persistence Q13, Ad. Q13, and Q14 were significantly correlated. Age and Q13, and prior online experience and student persistence Q13 and Q14 were significantly correlated.

Multivariate Analyses of Student Persistence

The two main analyses of this study used logistic regression analysis and multiple regression analysis to examine the relationships among student progress factors and student persistence. To answer the first research question, this study employed logistic regression analysis for dichotomous variables Q13 and Ad. Q13 to verify the relationships among student perceptions, student characteristics, and learning styles and student persistence. For Q14, this study used the multiple regression analysis to identify the level of relationship.

For the question of Q13, the intent of enrollment for online course next semester, "Yes" was coded as 1, "No" was coded as 0. The independent variables were social integration, academic integration, external attribution, and academic incompatibility. External attribution was significant predictor for predicating student persistence by a factor of .159. Academic incompatibility also was significant predictor for predicating student persistence by a factor of .796. Ad. Q13 was re-coded from "No" to "Yes" if participants answered the reason to withdraw the next online courses as "transfer and graduation". For Ad. Q13, the model was significantly reliable (chi-square = 10.416, df = 4, $p = .034$, $p < .05$). Overall 75.0% of predications were accurate, and 96.6% of predications for the student persistence were accurate. External attribution (OR = .213) was significant predictors for predicating student persistence. As shown in **Table 1**, the null hypothesis of "there is no relationship between student perceptions and student persistence Q13" was partially rejected. External attribution and academic incompatibility were the predicators for student persistence of intent to enroll. For Ad. Q13, only external attribution was the significant predicators for student persistence of intent to enroll.

Table 1.
Logistic regression analyses for student perceptions and student persistence (Q13 & Ad. Q13).

	Q13		Ad. Q13	
	OR	95% CI	*OR*	95% CI
Social Integration	2.106	[.868, 6.110]	.971	[.378, 2.494]
Academic Integration	3.225	[.956, 10.892]	1.78	[.506, 6.269]
External Attribution	.159**	[.047, .545]	.213*	[.060, .763]
Academic Incompatibility	3.796*	[1.259, 11.408]	2.763	[.895, 8.531]
Constant	0.011		2.065	

Note: *OR* = odds ration; CI = confidence interval; *$p < .05$; **$p < .01$.

In **Table 2**, the outcome between student perceptions and student persistence of extent of intent to enroll was analyzed by multiple regression analysis. The result of multiple regression showed that 14.1% of variance could be explained by $F(4,114) = 5.824$, $p = .000$, $p < .01$. The model was significant. As shown in **Table 2**, only academic integration was a significant predicator. For the second question of research Question 1, prior online experience and external attribution were significant predictors for predicating student persistence. Marital status, auditory learning style, and external attribution were significant predictors for predicating student persistence.

To answer the research Question 2, the researcher measured mediation effect to the relationship among student perceptions and student persistence. For measuring the meditated effect of GPA, the researcher applied Baron and Kenny (1986) four steps. As shown **Table 3**, after controlling student perceptions, GPA had a significant relationship with all three student persistence Q13, Ad. Q13, and Q14. External attribution, academic incompatibility, and academic integration were still significant, but reduced after controlling GPA that implied there was a partial meditation effect.

To answer the research Question 3, the researcher measured mediation effect by cost-benefit to the relationship among student perceptions and student persistence. External attribution and academic incompatibility had a significant initial relationship with student persistence Q13. After controlling student perceptions, there was no significant relationship between cost-benefits and student persistence Q13, Ad. 13. The outcome indicated that no relationship among student perceptions and student persistence were influenced significantly by the inclusion of cost-benefit analysis.

Discussion and Suggestions of the Research

The purpose of this study was to evaluate and test the theoretical underpinnings of Kember's (1995) student progress model in order to examine the direct or indirect effects of student persistence in successful completion of community college level e-learning programs. The model for this study focused on three measures of student persistent along with mediation of

Table 2.
Multiple regression analysis for student perceptions and student persistence (Q14).

	B	β	t	95% CI
Constant	−.891		−.499	[−4.423, 2.642]
Social Integration	.426	.167	1.936	[−.010, .863]
Academic Integration	.895	.269**	2.85	[.273, 1.516]
External Attribution	−.54	−.187	−1.878	[−1.109, .029]
Academic Incompatibility	.445	.15	1.602	[−.105, .996]
R^2				
F	5.824***			
ΔR^2				
ΔF	5.824***			

Note: CI = confidence interval; **$p < .01$; ***$p < .001$.

Table 3.
Regression analyses for student perceptions and student persistence (Q13) mediated by GPA.

DVs/MV / IVs	Q13		GPA		GPA + Q13		Sobel Test	
	B	SE	*B*	SE	*B*	SE	*B*	*p*
Social Integration	.745	.452	−.18	.166	.851	.469	−1.001	.317
Academic Integration	1.171	.62	.395	.247	1.047	.664	1.364	.173
External Attribution	−1.837**	.628	.226	.22	−1.930**	.648	.956	.34
Academic Incompatibility	1.334*	.563	−.135	.213	1.406*	.591	−.616	.538
GPA					.744**	.285		
Constant	−4.489	3.416	2.049	1.365	−6.646	3.723		

Note: Q13 = Dichotomous variable of student persistence; Logistic regression analysis was used; SE = Standard error; *B* = Regression coefficient; *$p < .05$; **$p < .01$.

GPA and cost-benefits on the relationship between student perceptions and student persistence.

Study Findings

The findings of the study indicated that external attribution had a significant negative relationship with student persistence Q13 and Ad. Q13. The findings of the study also indicated that academic incompatibility and academic integration had a significant relationship with student persistence Q13 and Q14, respectively. External attribution had a significant relationship with Q13, Ad. Q13, and Q14 after controlling student characteristics. GPA had a partial indirect effect, while cost-benefits did not have any indirect effect on relationship between student perceptions and student persistence. Prior online experience was significant for student persistence Q13 and Q14. Single and auditory learners were significant for student persistence Ad. Q13.

Discussion and Suggestions for Research Question 1

External attribution was a significant predictor for two measurements of student persistence Q13 and Ad. Q13. External pressures in a student's life may prevent a student from finishing a course or a plan of study (Kember, 1995). Based on the outcome, lowering external attribution should be managed to increase student persistence. This negative attribution is a distraction, reducing students' learning time, and so hindering study. Also, students entering college directly from high school have grown up surrounded by social networking during their life. Therefore, if E-Learning institutions replicate that norm to increase persistence, it is possible to convert this to a positive influence. Academic incompatibility and academic integration were also significant predictors for student persistence Q13 and Q14, respectively. Academic integration can be reinforced to motivate students, such as improving the quantity and quality of postings in online discussions (Jiang & Ting, 2000), focused feedback (Filimban, 2008), and providing tailored student programs to increase academic integration.

After using covariate of student characteristics and learning styles, external attribution was a significant predictor for all three measurements of student persistence, Q13, Ad. Q13, and Q14. It was evident that student persistence was diverted by strong negative social impact. Interestingly, social integration was not a significant predictor for student persistence. In fact, social integration in e-learning has been highly touted in current online education arena. Finally, prior online experience and auditory learning style could affect student persistence. Therefore, students experienced in online coursework should be nurtured, and students new to online coursework may need thorough orientation in online tools and how to build on the successes of online study. While learning styles did not seem to have a major influence on student persistence, auditory learners showed significance with Q13. This illustrates that embedded video or audio may increase student persistence.

Discussion and Suggestions for Research Question 2

After controlling student perceptions, GPA had a significant relationship with all three measurements of student persistence,

Q13, Ad. Q13, and Q14. After controlling the GPA, external attribution and academic incompatibility were significant with student persistence Q13. External attribution and academic integration were significant with student persistence Ad. Q13 and Q14, respectively. The outcome implied that there was a partial meditation effect of GPA on the relationship between student perceptions and student persistence Q13, Ad. Q13, and Q14. The GPA itself, however, had a direct relationship with student persistence. The research question two partially rejected the null hypothesis of meditation of GPA on relationship between student perceptions and student persistence. This study did not support the Kember (1995) model regarding the relationship between student perceptions and GPA, yet supported the relationship between GPA and student persistence. There was a statistically significant relationship between the GPA and student persistence to the next academic year (Davis, 2010). In this study, the GPA was a direct factor to predict student persistence. Therefore, the leaderships of e-learning colleges need to encourage students to achieve higher performance with academic advice and contact.

Discussion and Suggestions for Research Question 3

Academic integration and academic incompatibility were significant predictors for cost-benefits. After controlling student perceptions, cost-benefits had a no significant relationship with student persistence. After controlling cost-benefits, external attribution and academic incompatibility were still significant with student persistence Q13 and Q14. There was no meditation effect of cost-benefits on the relationship between each student perceptions and student persistence. This study did not support the Kember (1995) model for the relationship between cost-benefits and student persistence, yet there was a significant relationship among academic integration, academic incompatibility, and cost-benefits. Students compare the benefits they expect to receive by attending college to the costs they will incur (Stuart, 2010). Based on this outcome, e-learning colleges need to understand student motivation for the education to improve persistence. A more comprehensive understanding of student motivation as it relates to a student's decision to persist is necessary (Savage, 2010).

Implications and Interpretation

The findings of this study show how the current phenomena of student perceptions reflected on student persistence. Kember (1995) included the negative sources of external attribution and academic incompatibility as harmful factors for student persistence. One of the issues with Kember is that it does not take into account the modern social media phenomena. It can be extrapolated that the same negative sources of family and external attribution should include social media interaction, because the interaction is with the same factors that Kember mentioned. In this study, external attribution was the major factor to influence student persistence. Academic incompatibility and academic integration were significant factors for one score of student persistence. Overall, lower external attribution contributed higher student persistence detected by the study results. The negative attribution distracts students from learning associated with insufficient time or other factors hindering study. Lowering external attribution such as the amount of social distractions between family and peers or time management between work and study should be managed to increase student persistence. Cutting edge IT development of online programs at colleges has been focused on social and academic integration for guiding and eliciting student motivation that has led to a successful e-learning environment. E-learning institutions need to move from reinforcing interaction with students to transforming negative integration to positive integration by developing recognized friendly approaches with current technology. Students should be given additional instruction or mentoring on time management procedures to cut distractions. Reinforcing the students' version of normal in an academic environment will increase student persistence to degree completion.

In addition, academic incompatibility predicted one score of student persistence. This can be attributed to students identifying the problem areas, and using flexible online scheduling capability to work on the key points that caused the incompatibility, tailoring the due. Flexibility shows caring by the institution and builds more loyalty to the institution by the student. With the give and take of setting flexible due dates dependent on external factors the student's loyalty increases to the point of having a strong desire for course completion. Loyalty can translate into student persistence. Academic integration was another predictor for the degree of intent to enroll in the following semester. This implies that academic interaction and peer interaction linking to academic exchange is still a major solution for student persistence. Instructors must give focused feedback on course assignments to increase academic integration. The result of the study indicated that prior online experience could affect student persistence. M-learning as a new field may enhance student flexibility and use of time. Finally, other than student perceptions, GPA was a significant predictor for student persistence. It can be concluded that the managing of online programs at college level needs to focus students to achieve higher performance through academic advice and contact.

Limitations and Recommendations for Future Research

This study mainly focused on the relationship among student perceptions and student persistence by developing insights concerning different variables that may affect student persistence, where sample pools were not randomly assigned to the classes, but were self-selected. The primary scope was to investigate the relationship between individual traits pertaining to student persistence, over which the institution typically has no control. Additionally, the subjects of this study were students who were taking online and hybrid courses at a community college. Therefore, caution must be used when desiring to attain conclusions about other types of students and institutions. In this case, responses are representative of e-learning students who are deliberately taking the online courses to meet their educational goals within the USA community college environment. However, it is possible that this study can provide a starting point for understanding what aspects may be generalizable to other e-learning students in other locations or having other values for their education across a variety of campus contexts.

Conclusion

This study evaluated and tested Kember's (1995) student progress model in order to examine the direct or indirect effects

of student persistence in successful completion of adult e-learning programs. Social integration has both a slightly negative effect on GPA as well as a positive effect on retention (Woosley, 2009). There is an ample social integration because of current social networking environment. Seventy seven percent of academic leaders rate learning outcomes for online courses same with or superior to face to face classes (Allen & Seaman, 2013). With that tendency, the results showed the negativity of external attribution, which cannot be determined as the positive of social integration. Furthermore, the majority of e-learning students have two or more obligations such as work, family, and study that cause additional external influences which interfere in persisting with their studies. Lowering external attribution helps students continue to pursue their educational goal based on the results of the study. A possible solution would be for academic institutions to develop social media platforms to continue study and interaction. Finally, student performance, GPA, and academic integration were significant factors for student persistence. These two results connect the single point of how student performance is an important role for student persistence because the relationship between the cumulative GPA and student persistence was significant (Davis, 2010). It is determined that increased focus of social media as a tool to integrate scholarly actions and learning could increase student GPA, and result in continuation of the scholarly journey with improved student retention.

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Appendix 1

Definition of Terms

1) Student perceptions: Kember (1995) identifies these four constructs (social integration, academic integration, external attribution, and academic incompatibility) as four elements of student progress. In this study, it is defined as student perceptions.

2) Persistence: Three scores of student persistence will be measured by the intent to continually enroll in the upcoming semester and elements including the transfer to other institute and graduation. Hegedorn (2006) defined student persistence by including transfer to other college and graduation.

3) Cost-benefits analysis: The continual process of weighing the emotional, fiscal, and social costs against the expected benefits in order to choose the best option for the student—continue or drop out (Kember, 1995).

4) Social integration: The extent to which the employer, family, and friends support the student's decision to enroll and persist in the course and the extent to which they provide moral support (Houle, 2004).

5) Academic integration: The academic integration encompasses all elements of contact between an institution and the students (Kember, 1995).

6) External Attribution: The negative social integration. The external causes in the student's life such as insufficient time, work, family, friends, social networking, and unexpected events that might prevent the student from finishing a course or a plan of study (Kember, 1995).

7) Academic Incompatibility: The academic incompatibility and course performance will be defined as not receiving a passing grade in a course.

8) Student Characteristics: Gender, age, preference of delivery mode, major, work environment, marital status, e-learning experience, and learning styles.