## EMPIRICAL RESEARCH

# Socioeconomic Status– and Gender-Based Differences in Students' Perceptions of E-Learning Systems

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## ABSTRACT

Many universities are pursuing increases in on-line course offerings as a means of offsetting the rising costs of providing high-quality educational opportunities and of better serving their student populations. However, enrollments in online courses are not always sufficient to cover their costs. One possible way of improving enrollments is through marketing campaigns targeted to specific demographic groups. In this study, we take a first look into how students' perceptions of e-learning systems, prior to their enrollment in an online course, vary across socioeconomic status and gender. Findings suggest that prior to taking an online course, working-class students perceive e-learning systems more positively than their middle-class peers but that little difference exists between genders. Armed with this knowledge, universities may improve online course enrollments by marketing online courses specifically to working-class students or through campaigns aimed at improving middle-class students' perceptions of e-learning systems.

*Subject Areas: E-Learning Systems, Gender, Online Learning, Socioeconomic Status (SES), and Student Perceptions.*

## INTRODUCTION

Universities around the country are adding online learning programs to meet the needs of the growing number of students seeking the convenience of online courses and to remain competitive in the rapidly changing market for educational services (Janicki & Steinberg, 2003). The term "online learning" covers a broad spectrum of pedagogical tools and approaches that continues to evolve to meet the needs of students and educators. Early online courses were largely instructor-driven, contained predominantly text-based content, and employed unidirectional asynchronous communication technologies (Alavi, 1994; Arbaugh & Rau, 2007).

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More recent e-learning systems, such as Blackboard, Desire2Learn, and Moodle, allow for the presentation of multimedia content, discussion-driven online courses, as well as multidirectional and synchronous communication. To do this, these programs integrate a variety of functionalities including content hosting, email, chat rooms, discussion boards, and grade books into a single, convenient interface (Klobas & Renzi, 2000; van der Rhee, Verma, Plaschka, & Kickul, 2007; Liaw, Huang, & Chen, 2007a). These functions enable instructors to offer a wide range of e-learning environments, from pure online courses offered entirely online to hybrid courses that incorporate aspects of online content delivery into traditional classroom settings (Ahmed, 2010). By incorporating online components, these courses provide numerous benefits over traditional, classroom only courses such as greater flexibility in scheduling, improved work/life/school balance, reduced commute times, and anytime access to learning (Helmi, 2002; van der Rhee et al., 2007; Sun, Tsai, Finger, Chen, & Yeh, 2008; Lee, 2008; Ahmed, 2010). As there are many possible levels of online support that instructors may choose to offer, for purposes of this study, we group together courses that offer the majority of their content and instruction online and refer to them as online courses herein.

Although e-learning is said to reduce the time and cost of education programs, this is not always the case (Zhang, Zhou, Briggs, & Nunamaker Jr., 2006; Liaw et al., 2007a). Purchasing the necessary technological infrastructure and providing training for instructors on these new technologies and on the unique pedagogical implications of teaching online is often more expensive than many institutions expect (Saade, He, & Kira, 2007; Smith & Mitry, 2008; Sun et al., 2008). Moreover, despite these heavy capital investments, online courses are often the last to fill or run below capacity as many students prefer to take traditional face-to-face courses over pure online courses (van der Rhee et al., 2007). Low enrollments in online courses may make recovering initial investments more challenging even as many universities are forced to do more with less (Helmi, 2002).

One way for universities to improve enrollments may be through tailored marketing campaigns directed at those students who stand to benefit most from taking online courses but who have thus far been hesitant to do so. Such tailoring requires a keen understanding of the wants and needs of different market segments and their perceptions of online learning. Some questions that may lead to better marketing efforts are: (1) Which demographic groups are best served by online courses?; (2) How do students' perceptions of online courses, in general, vary by individual demographic characteristics?; and (3) How do students' perceptions of the technologies used to support online courses vary across different demographic groups?

Prior research offers some answers for the first of these questions and has identified differences in how different demographic groups as determined by gender, major, age, year in school, etc., are served by online courses (e.g., Arbaugh, 2000; Sullivan, 2001; Ong & Lai, 2006; Arbaugh & Rau, 2007; Kellogg & Smith, 2009; Hung, Chou, Chen, & Own, 2010). However, socioeconomic status (SES) has not been well studied. This is a surprising omission given that the ratio of working-class students to middle/upper class students on college campuses has been increasing for some time (Markel & Frone, 1998). The second of these questions, regarding perceptions of online courses has also received some attention in the literature. However, most studies of demographic-based differences in

perceptions of online learning have focused on postcourse outcome variables, such as student success and student satisfaction with online courses, rather than the perceptions students hold about online courses and technologies prior to taking an online class (Clouse & Evans 2003; Eom, Wen, & Ashill, 2006; Sun et al., 2008; Ahmed, 2010). Regarding the third question, however, few studies have investigated students' attitudes toward the technologies used to support online courses that we term e-learning systems (Selim, 2007; Ong & Lai, 2006). Given that students' preconceived ideas of e-learning systems may well influence their decisions to enroll in their first online course, this gap in the literature should be addressed (Liaw, Huang, & Chen, 2007b). The present research provides an initial exploration of the relation between demographic characteristics (e.g., SES) and student perceptions of e-learning systems prior to ever participating in an online course. In presenting this pilot research, we begin to explore how students make the decision to take, or not to take, online courses, and how universities may tailor their marketing of these courses more effectively.

The remainder of the article is organized into three segments. The first section further reviews online learning literature as it pertains to students' perceptions of online courses and web-based technologies, after which study's hypotheses are developed. In the second section, we describe our experimental design and analysis strategies and results. Next, we discuss the implications and limitations of our study. The final section reviews the contributions of our article.

## LITERATURE REVIEW AND HYPOTHESES

Although the evolution of e-learning systems has broadened the range of methods available to instructors for delivering courses, online and traditional face-to-face courses are still viewed as offering very different learning environments. For example, online courses offer greater flexibility and convenience than traditional classes, and studies suggest that students may be more comfortable in initiating contact with their instructors in online courses, even to the point of being aggressive (Rea, White, McHaney, & Sanchez, 2000; Landry, Griffeth, & Hartman, 2006). Yet, communication within online courses has been typified as lacking the "richness, spontaneity and synergy of face-to-face communication" (Aggarwal & Bento, 2000, p. 12). This disparity between experience and perception may exist because the communication within online courses is sufficiently different from that of traditional courses in that some students require training in email or chat room etiquette in order to communicate effectively (Kemery, 2000; Howland & Moore, 2002).

Students' perceptions of the differences between online and traditional classes vary across demographic groups (Aggarwal & Bento, 2000; Rea et al., 2000; Tanner, Noser, & Totaro, 2009). These differences are a concern to educators as perceptions and attitudes greatly influence students' motivation and ability to learn as well as their comfort with online learning (Howland & Moore, 2002; Koohang & Durante, 2003; Smart & Cappel, 2006). One suggested cause for differences in students' perceptions of online learning are individual characteristics such as gender, Internet experience, major, first language, year in college, learning style, computer self-efficacy, online learning experience, and age (Tanner, Noser, Fuselier & Totaro 2004; Barakzai & Fraser, 2005; Smart & Cappel, 2006; Ong & Lai, 2006; Arbaugh & Rau, 2007; van der Rhee et al., 2007; Simmering, Posey &

Piccoli, 2009; Tanner et. al., 2009). Although the results vary across the courses and technologies assessed, there appears to be agreement that individual characteristics can and do play a role in students' perceptions of online learning. This is not surprising as research suggests that student characteristics influence perceptions of traditional classroom experiences as well (Tinto, 2006).

One such individual characteristic is SES, which represents a rapidly changing and important demographic in today's colleges and universities (Bowen, Kurzweil, & Tobin, 2005). Individuals from working-class and middle-class backgrounds may differ in terms of their lifestyle preferences, behavioral tendencies, and social norms (Liberatos, Link, & Kelsey, 1988). Factors that contribute to these differences may include parental educational background (Stephens, Markus, & Townsend, 2007), as well as personal income and personal educational attainment (Liberatos, Lin, & Kelsey, 1988). For the purposes of the present investigation, we relied upon subjects' self-identification as working or middle class. Given that all participants in this research were college students at a state university, personal level of educational attainment and personal income did not vary greatly and, thus, were inappropriate for determining differences in SES. In order to avoid invasive questioning, and given the exploratory nature of our investigation of how self-perceptions influence perceptions of e-learning systems, participant self-description of SES was deemed appropriate for this study (Bowen, Kurzweil, Tobin, & Pichler, 2005; Stephens, Markus, & Townsend, 2007).

Students from working-class backgrounds represent 30% of the student body at public universities (Nunez & Cuccaro-Alamin, 1998). Moreover, these students are more likely than their middle-class peers to be part-time students while working. Additionally, the types of employment held by the working-class may allow for less autonomy in terms of hours, schedule, flexibility, and paid vacation days than jobs held by the middle class and, thus, place greater limits on the ability of working-class students to pursue their educational goals. In recognition of these demands on working-class students, many universities are offering more flexible degree programs and online courses employing e-learning systems that allow working-class students to access content from work or home on a schedule that fits their lifestyle (Kemery, 2000; van der Rhee et al., 2007). Thus, the convenience created by e-learning systems is likely to be of greater value to working-class students than to their middle-class counterparts who may possess more slack time and resources to devote to scholastic endeavors. Therefore, we suggest that prior to taking an online course, working-class students will perceive e-learning systems more favorably than middle-class students.

> *H1:* Prior to ever taking an online class, working-class subjects will have more positive views of e-learning systems than middle-class subjects.

In addition to SES, we also investigate gender differences in perceptions of e-learning systems. Results of prior studies on gender effects in perceptions and satisfaction with online learning are mixed; some find no differences between genders (Hill & Chidambaram, 2000; Koohang & Durante, 2003; Smart & Cappel, 2006), and others find that gender does play a role in students' perceptions of online courses (Sullivan, 2001; Womble, 2008; Tanner et. al., 2009). Differences have been found in attitudes and use of computers and online technologies, with males reporting greater comfort and interest in computers in general and possessing

a greater self-efficacy and experience in Internet use than females (Compeau & Higgins, 1995; Reinen & Plomp, 1997; Schumacher & Morahan-Martin, 2001; Torkzadeh & Van Dyke, 2002; Ong & Lai, 2006). Despite these findings, these same studies also found that attitudes toward technology and actual use skills did not vary greatly between genders and that the differences that do exist appear to be lessening over time (Schumacher & Morahan-Martin, 2001; Hargittai & Shafer, 2006).

However, significant and persistent differences between males and females in their perceptions of web-based technologies, such as email, have been found. Specifically, females have been shown to perceive a higher degree of social presence in online contexts (Gefen & Straub, 1997; Richardson & Swan, 2003) and are more positively influenced by information presented by online technologies (Venkatsubramanyan & Hill, 2009). Greater social presence is often viewed as a positive feature of a technology. Therefore, if females possess similar initial attitudes toward web-based technologies as males but also attribute greater social presence and influence to online technologies and information than do males, there is reason to believe that females will also hold more positive views of e-learning systems than do males.

> *H2:* Prior to ever taking an online class, female subjects will have more positive views of e-learning systems than male subjects.

In the next section, we describe the experiment designed to test the above hypotheses and the subsequent data analysis.


## METHODOLOGY AND ANALYSIS

Our experimental design involved upper division and transfer business students who completed an online survey containing questions regarding SES, gender, computer use experience, and perceptions of e-learning systems. In order to ensure that we were capturing preconceived views of e-learning systems, subjects were prescreened to select only those who had never before taken an online course that depended heavily upon an e-learning system for class interaction, instruction, and delivery of course content. SES was measured by self-report. Students were asked to indicate their SES by selecting one of the following options: working class, middle class, middle to upper class, and upper class. Of the 44 subjects, 24 described themselves as working-class and 20 selected middle-class. None of the subjects described themselves as middle to upper or upper class. The sample included 27 males and 17 females. Subjects were also asked to indicate their use of a variety of software programs and activities (e.g., "posting on a public forum" and "posting a photo on Facebook"). Their responses to these items were used as a measure of computer use experience and used as a control variable in all analyses. All subjects in the sample reported using Blackboard in support of their face-to-face courses and, thus, were aware of e-learning systems in general, in spite of not having taken an online course. Survey items were drawn from a survey created to assess student satisfaction with e-learning systems following their use in an online course (Wang, 2003). The survey was then modified to capture subjects' preconceived views about e-learning systems (please refer to Appendices A and B for a list of survey items). The following prompt was provided to subjects:

"You may have some familiarity with e-learning systems through your other classes. Please think about the kinds of e-learning systems (software and programs) that might be used in an online class while you answer the following questions."

Subjects were then asked to rate their agreement with statements using seven-point Likert-type scale, with anchors of ''strongly disagree,'' "disagree," "somewhat disagree," "neither agree nor disagree," "somewhat agree," "agree," and "strongly agree.'' Responses were recorded as values from 1 (strongly disagree) to 7 (strongly agree). After examining subjects' overall expectations of online courses, we examined their perceptions of e-learning systems. Specifically, we examined different subscales of the measure: perceptions of user control (Cronbach's alpha = .88); ease of using e-learning systems (Cronbach's alpha = .90); quality of the content provided by e-learning systems (Cronbach's alpha = .90); perceptions of user friendliness (Cronbach's alpha = .87); and content available on e-learning systems (Cronbach's alpha = .85).

Table 1 provides the basic descriptive statistics for subjects' responses by SES while Table 2 illustrates the items within each of the subscales, as well as the results of the comparisons of means, using analysis of covariance, between self-reported working-class and middle-class subjects.

The descriptive statistics presented in Table 1 reveal that, on average, both working-class and middle-class students perceive e-learning systems somewhat positively; the means for all scales were greater than 4.0 (neither agree nor disagree) and many were greater than 5.0 (somewhat agree). As can be seen in Table 2, SES does not influence students' perceptions of the content that e-learning systems are believed to provide. Neither perceptions of the type of content nor of content quality differed significantly between students of different SESes. However, supporting our hypothesis, working-class and middle-class subjects did differ in their perceptions of the ease of using e-learning systems. Working-class students view e-learning systems more positively than middle-class students in terms of granting users control over the content they want and their learning progress, ease of use, and user friendliness.

**Table 1:** Means and standard deviation by SES.

| Scale | SES | Mean | Standard Deviation |
|---|---|---|---|
| User control | Working class | 5.027 | 1.39031 |
| | Middle class | 4.017 | 1.64317 |
| Ease of use | Working class | 4.9833 | 1.31865 |
| | Middle class | 4.1143 | 1.33052 |
| Content quality | Working class | 5.1458 | 1.29572 |
| | Middle class | 5.0119 | 1.05023 |
| User friendliness | Working class | 5.0972 | 1.22565 |
| | Middle class | 4.3810 | 1.46168 |
| Content available | Working class | 5.2716 | .8917 |
| | Middle class | 5.2549 | 1.10258 |

**Table 2:** SES differences in preconceived views of e-learning systems.

| Scale | α | Survey Items | F | df | Significance (Two-Tailed) | Mean Difference |
|---|---|---|---|---|---|---|
| User control | .88 | E-learning systems enable you to choose what you want to learn | 4.96 | 42 | .031* | 1.01 |
| | | E-learning systems enable you to control your learning progress | | | | |
| Ease of use | .90 | E-learning systems make it easy for you to discuss questions with your teachers | 4.48 | 42 | .04* | .87 |
| | | E-learning systems make it easy for you to discuss questions with the other students | | | | |
| | | E-learning systems are easy to use | | | | |
| | | E-learning systems make it easy for you to find the content you need | | | | |
| | | E-learning systems make it easy for you to share what you learn with the learning community | | | | |
| Content quality | | E-learning systems provide content that exactly fits your needs | .107 | 42 | .745 | .13 |
| | | E-learning systems provide sufficient content | | | | |
| | | The content provided by e-learning systems is easy to understand | | | | |
| | | E-learning systems provide useful content | | | | |
| User friendliness | .87 | E-learning systems are user friendly | 2.99 | 42 | 09** | .24 |
| | | The operation of e-learning systems is stable | | | | |
| | | E-learning systems make it easy for you to access the shared content from the learning community | | | | |
| Content available | .85 | E-learning systems provide up-to-date content | .14 | 42 | .71 | .09 |
| | | E-learning systems enable you to learn the content you need | | | | |
| | | E-learning systems record your learning progress and performance | | | | |

*indicates significance at the $p \leq .05$ level; **indicates significance at the $p \leq .10$ level.

Specifically, these findings suggest that, more so than their middle-class peers, working-class students believe that e-learning systems make it easier for students to interact with each other, with their instructors, and with the course learning community. One explanation for this finding is that working-class students are often employed and, therefore, may have difficulty meeting their classmates and instructors in traditional college-level courses. E-learning systems provide an additional, more flexible means of communicating that enables working-class students to interact easily with others involved in the course. Similarly, e-learning systems enable students to access course content any time and from any location with Internet access. This gives students more control over their learning experience, enabling them to gather the materials they need and study when they have time to do so. For more traditional, middle-class students, this additional flexibility and control may be less important as they often possess more time devote to their studies than do working-class students. Working-class students also view e-learning systems more favorably in terms of user friendliness, again perhaps because of the value these students place upon the convenience of their learning experience. Thus, our study finds some support for H1 that working-class students view e-learning systems more positively than middle-class students.

In addition to SES, we also examined the effects of gender on students' perceptions of these technologies. Tables 3 and 4 below present the descriptive statistics and results of a comparison of preconceived views of e-learning systems between male and female subjects, controlling for SES and computer use experience.

**Table 3:** Means and standard deviations by gender.

| Scale | Gender | Mean | Standard Deviation |
|---|---|---|---|
| User control | Male | 4.1852 | 1.58811 |
| | Female | 5.0588 | 1.47778 |
| Ease of use | Male | 4.3778 | 1.21571 |
| | Female | 4.7765 | 1.57303 |
| Content quality | Male | 5.0741 | 1.03500 |
| | Female | 5.0735 | 1.43278 |
| User friendliness | Male | 4.6790 | 1.32524 |
| | Female | 4.8235 | 1.49126 |
| Content available | Male | 5.2716 | .89173 |
| | Female | 5.2549 | 1.10258 |

**Table 4:** Gender differences in preconceived views of e-learning systems.

| Scale | *F* | df | Significance (Two-Tailed) | Mean Difference |
|---|---|---|---|---|
| User control | 3.80 | 40 | .06* | .87 |
| Ease of use | 1.11 | 40 | .297 | .40 |
| Content quality | .001 | 40 | .977 | .00 |
| User friendliness | .125 | 40 | .725 | .15 |
| Content available | .000 | 40 | .986 | .02 |

*indicates significance at the $p \leq .10$ level.

In Table 3, we see that both genders, on average, view e-learning systems somewhat positively, with females viewing several factors slightly more positively than males. As Table 4 illustrates, however, we find no significant differences between males and females on four of the five scales. Of particular interest is the similarity of scores between the genders for ease of use, as this factor includes items related to interactions with fellow students and the instructor. It appears that in this case, females do not attribute greater levels of social presence to e-learning systems than males, as they do for other web-based modes of communication. In fact, it seems that neither gender sees or values the ability of these systems to foster communication between class participants. These findings are similar to those of Ong and Lai (2006) that suggested little difference between genders' views of an e-learning system's ease of use and their behavioral intensions to continue to use that system.

In Table 4, we also see that there is some difference in how males and females view e-learning systems in terms of user control. This finding suggests that females perceive e-learning systems as providing more control in their learning progress and over the materials they wish to learn than do males. This suggests some support for H2 but contradicts prior research that proposes that males possess greater self-efficacy and, thus, are more comfortable with online technologies, than are females. Based on these studies, one might infer that males would feel a greater sense of control over e-learning systems than females (Schumacher & Morahan-Martin, 2001; Hargittai & Shafer, 2006). One explanation for our finding may be that males attribute feelings of control to their own experience and knowledge and, thus, feel somewhat limited by the structure imposed by e-learning systems. If females do possess less self-efficacy than males, then they may instead attribute feelings of control to the technology and see it as a benefit of e-learning systems. This may be good news for universities seeking to increase the number of females enrolled in their online courses as marketing efforts aimed at females may be used to highlight the benefits of online courses and e-learning systems rather than on dispelling any fears they may have of e-learning systems. However, many universities may find this one difference alone insufficient cause to target marketing specifically to one gender or the other.

## IMPLICATIONS AND LIMITATIONS

The results of our study have practical implications. The findings of this pilot study suggest that working-class students do hold more positive views of e-learning systems prior to enrolling in their first online course than do middle-class students. This suggests two potential strategies for improving enrollments in online courses. The first of these is to capitalize on working-class students' positive views of e-learning systems by directing marketing efforts toward increasing their awareness of current or future online-learning opportunities or expanding the number of online course offerings that accommodate working-class students' schedules. For example, experiences at our own university suggest that synchronous online courses offered during the lunch hour are quite popular with working-class students.

A second approach would be to use marketing campaigns to improve middle-class students' perceptions of e-learning systems. By dispelling middle-class students' less favorable perceptions of these technologies and highlighting their

benefits, universities may be able to increase the appeal of online courses to this student demographic. There are implications too in the minimal differences in perceptions of e-learning systems between males and females, as this suggests that universities need not tailor their campaigns to one gender in particular but rather should focus their efforts on improving the perceptions of e-learning systems in other demographics.

It is important to note that the generalizability of our findings is limited by our sample, both in terms of its size and in its sole inclusion of upper division business students. Our understanding of students' perceptions of e-learning systems could be expanded with studies that employ larger, more diverse samples and with further investigations of the roles demographic characteristics play in the formation of these perceptions. Additionally, studies that examine the how students' preconceived views on e-learning systems impact actual enrollments in online courses, and how perceptions of e-learning systems change following participation in an online course, are encouraged.

## CONCLUSION

Many universities are looking for new ways to support the educational goals of their diverse student populations. Although online courses have enabled schools to accommodate a wider range of students, such programs are costly to develop and support. Unfortunately, some universities have been forced to scale back their online course offerings due to these high costs and to insufficient student demand. Our preliminary study of students' perceptions of e-learning systems suggests that universities may do well to target their marketing efforts at working-class students as this demographic already holds more positive views of these technologies than do middle-class students. Offering more classes at times that help working-class students balance their family, work, and school demands, such lunch-hour courses, may further increase these students' interest in taking online courses. Meanwhile, increasing enrollments of middle-class students may entail educating this group on the benefits offered by both online courses and the technologies used to support them. Our study contributes to the literature on online learning in two main ways. First, our study goes beyond the traditional outcome variables of student success and satisfaction with online learning to provide a first exploration of students' perceptions of e-learning systems prior to their enrollment in an online course. In doing so, we gain a better understanding of factors that may influence students' willingness to enroll in online courses. Second, by identifying differences in these perceptions between working-class and middle-class students, we begin to illuminate the importance of including this little studied demographic in future studies of online learning. It is our hope that this study will encourage other researchers to investigate SES and additional individual characteristics that may influence students' perceptions of both e-learning systems and online learning in general.

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## APPENDIX A

## PERCEPTIONS OF E-LEARNING SYSTEMS

### Prompt

"You may have some familiarity with e-learning systems through your other classes. Please think about the kinds of e-learning systems (software and programs) that might be used in an online class while you answer the following questions."

Items (adapted from Wang, 2003)

(1) E-learning systems provide up-to-date content

(2) E-learning systems enable you to learn the content you need

(3) E-learning systems record your learning progress and performance

(4) E-learning systems are user-friendly

(5) The operation of e-learning systems is stable

(6) E-learning systems make it easy for you to access the shared content from the learning community

(7) E-learning systems provide content that exactly fits your needs

(8) E-learning systems provide sufficient content

(9) The content provided by e-learning systems is easy to understand

(10) E-learning systems provide useful content

(11) E-learning systems make it easy for you to discuss questions with your teachers

(12) E-learning systems make it easy for you to discuss questions with the other students

(13) E-learning systems are easy to use

(14) E-learning systems make it easy for you to find the content you need

(15) E-learning systems make it easy for you to share what you learn with the learning community

(16) E-learning systems enable you to choose what you want to learn

(17) E-learning systems enable you to control your learning progress

## APPENDIX B

### Computer Experience and Demographic Items.

| Prompt | Items | Response Options |
|---|---|---|
| Which of the following websites/technologies have you used in your personal life? | Google Apps, Yahoo Groups, Facebook/MySpace, Blogspot, Twitter, LinkedIn, Video Conferencing (e.g., Skype/Oovoo), Wikis (e.g., Wikipedia), Online discussion forums, Online photo hosting (e.g., Flickr) | Have used/ Have never used |
| Which of the following websites/technologies have you used in a course? | Google Apps, Yahoo Groups, Facebook/MySpace, Blogspot, Twitter, LinkedIn, Video Conferencing (e.g., Skype/Oovoo), Wikis (e.g., Wikipedia), Online discussion forums, Online photo hosting (e.g., Flickr) | Have used/ Have never used |
| Please indicate how frequently you have done the following activities. | Read a blog; posted to a blog; commented on a story posted on-line; updated your Facebook status; commented on someone else's Facebook status; posted a photo on-line posted a link on-line; posted a question on-line, seeking advice or information; posted to a blog; use your phone for texting or instant messaging; used a program on your computer for instant messaging; used a program to video conference on your personal computer | Never; less than once a month; once a month; 2–3 times a month; once a week; 2–3 times a week; daily |
| What was your overall GPA at the end of the last semester? | | |
| What is your gender? | Male, Female | |
| How would you describe your racial background? | | |
| How would you describe your SES? | Working-class, Middle-class, Middle to Upper-class, Upper-class | |

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