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### **Surfin' with a Purpose: Examining How Spending Time Online is Related to Student Engagement**

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## Abstract

Considerable efforts have been made to get students to use information technology for educational purposes. This study uses data from the 2003 administration of the National Survey of Student Engagement (NSSE) to investigate the relationships between the proportion of time students spend online for academic purposes and several forms of student engagement. The results suggest that students who devote most of their online time to academics are more likely to engage in other effective education practices.

Students, faculty, and administrators are now frequently using computers, the Internet, and other forms of information technology for various educational and non-educational purposes. For example, the Institute for Higher Education Policy (1999) reported that using email for academic work grew from 8% in 1994 to 44% by 1998. The percentage of courses using the internet doubled from 15% in 1996 to 30% by 1998. A more recent national survey found that 84% of college students owned a computer and that 99% used the Internet, with 66% doing so daily (Student Monitor, 2003). Students appear to use the Internet primarily to communicate with others and to find materials and assistance with their coursework (Hu & Kuh, 2001; Student Monitor, 2003).

Studies suggest that there are educational benefits for students who use information technology for educational purposes. For example, a study on course redesign suggests that the use of technology in courses results in greater learning for students (Twigg, 2004). Other studies indicate that student use of information technology for educational purposes positively affects student outcomes such as self-reported gains in general education as well as personal and intellectual development (Hu & Kuh, 2001; Kuh & Hu, 2001; Kuh & Vesper, 2001). Additionally, evidence suggests that educational uses of information technology, such as emailing faculty members or other students about assignments, can promote collaboration among students (Alavi, 1994; Oblinger & Maruyama, 1996) as well as foster more frequent contacts between students and faculty (Hu & Kuh, 2001; Kuh & Hu, 2001; Wingard, 2004).

The educational benefits of technology use do not appear to apply equally to all students. Researchers have found that students use and benefit from information technology depending on socioeconomic background (Gladieux & Swail, 1999), ability levels (Dillon & Gabbard, 1998), and whether they attend a "wired" campus (Hu & Kuh, 2001). Differential use of information technology by different types of students has led to questions about the possible negative effects of information technology. For example, Reisberg (2000) suggests that uses of information technology may distract students from participating in empirically confirmed effective educational practices. Arguably, certain technologies, such as gaming machines like Nintendo or Xbox, and applications such as downloading music may have few educational benefits.

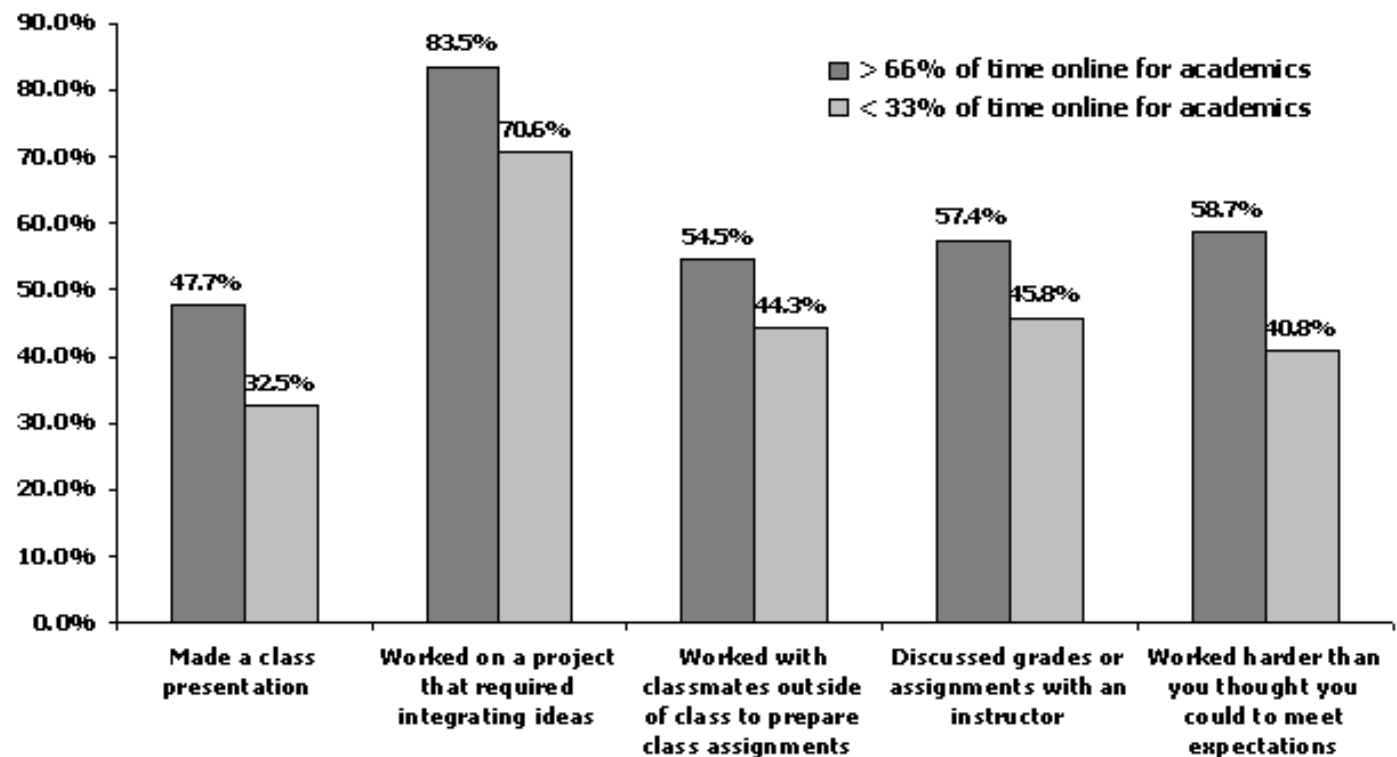
Using data from the 2003 administration of the National Survey of Student Engagement (NSSE), this paper examines how the percentage of time spent online for academic purposes (i.e., the amount of time spent online for academic purposes divided by the amount of time spent online for any purpose) is related to specific types of student engagement (e.g., discussing grades with an instructor or working on assignments with others outside of class). The results offer a glimpse into differences that exist between students who spend more of their time

online for non-academic purposes and those that spend more of their time online for academic purposes.

In 2003, those students who completed NSSE online were asked a series of questions about their uses of information technology (see NSSE website, [www.iub.edu/~nsse](http://www.iub.edu/~nsse), for more information). Two of the items asked students how much time they spent online for any reason and for academic purposes. Their responses to these two items were divided and multiplied by 100 to get the percentage of time spent online for academic purposes. Over 50% of student respondents devote greater than 40% of their online time to academics. And, of those students who spend more than 10 hours per week online for academic purposes, none spend 33% or less of their time online for non-academic purposes. Like the Time Spent Online For Academics variable itself, the percentage variable is positively associated with various forms of student engagement. However, among those students who spend less than 100% of their time online for academic purposes, the relationships are consistently stronger for the percentage variable.

To illustrate the relationships between percentage of time spent online and forms of student engagement, I created two groups of students based on the percentage variable: students that spend 33% or less of their time online for academic purposes (i.e., students who spend most of their time online for non-academic purposes) and those that spend 66% or more of their time online for academic purposes (i.e., students who spend most of their time online for academic purposes). Of the over 60,000 students who answered these items, 15,364 (about 24%) spent most of their time online for non-academic purposes and 25,348 (about 40%) spent most of their time online for academic purposes.

**Figure 1.**  
**Percentage of Students Who Frequently Engage in Effective Educational Practices by the Proportion of Time They Spend Online for Academics**



In general, those students who spend most of their time online for academic purposes engage more frequently in effective educational practices (as measured by NSSE) than those students who spend most of their time online for non-academic purposes. This point is illustrated with five examples in Figure 1. In particular, almost 50% of those students who spend most of their time online for academic purposes also frequently (often or very often) make class presentations. The comparable percentage for those students who spend most of their time online for non-academic purposes is 33%. Similarly, students who spend most of their time online for academic purposes are more likely to have frequently worked on a project that required them to integrate ideas from multiple sources (83.5% versus 70.6%), worked with classmates outside of class (54.5% versus 44.3%), discussed grades or assignments with an instructor (57.4% versus 45.8%), and worked harder than you thought you could to meet an instructors expectations (58.7% versus 40.8%).

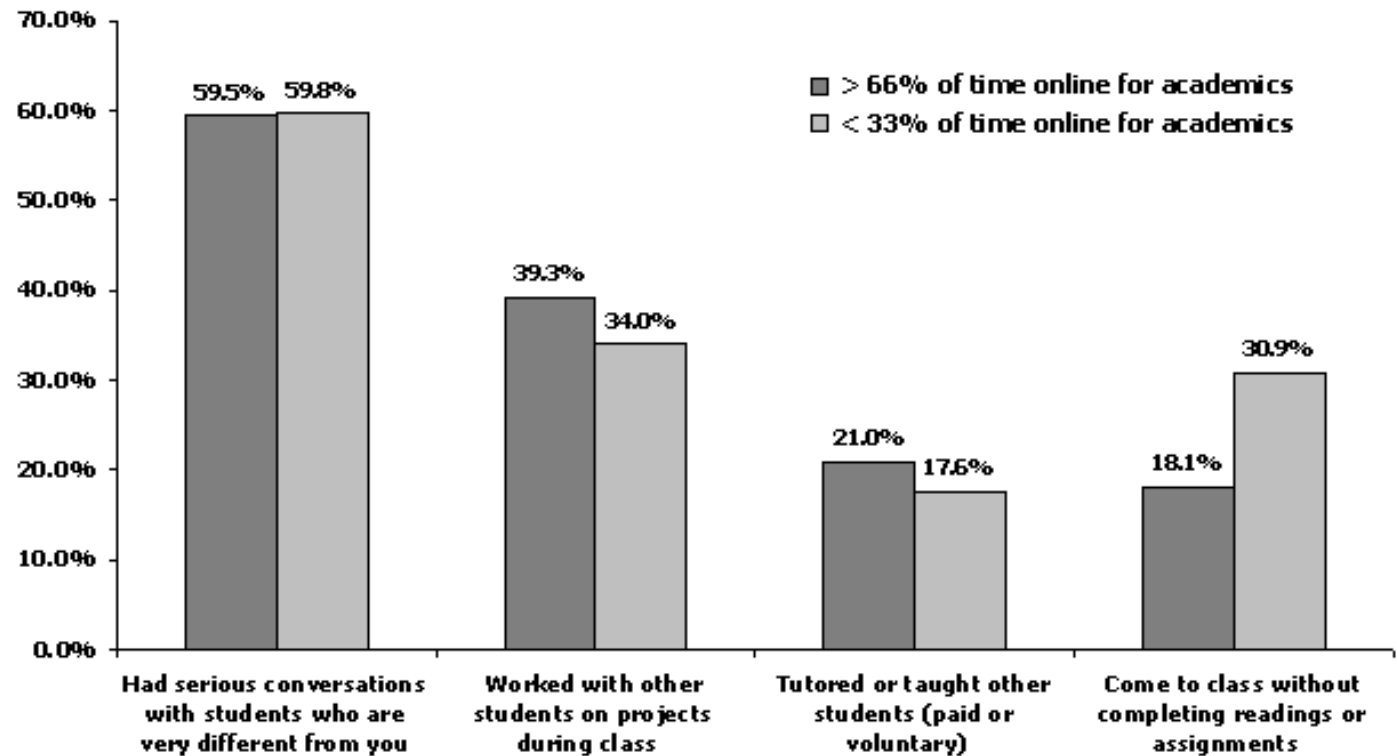
Although there are differences between the two groups, the results also show that many (between 32.5% and 70.6% for the items in Figure 1) of those students who spend most of their time online for non-academic purposes still frequently engage in effective educational practices. This raises questions about how and for whom spending

most of one's time online for non-academic purposes affects engagement and educational outcomes, questions that will be pursued in additional analyses on this data and for which additional research is warranted.

For most items on the survey the differences between the two groups mirror those in Figure 1. There are, however, a couple of areas where the differences are not as large (with the exception of the first example in Figure 2, the small differences are still statistically significant due to the large sample size). Figure 2 illustrates three areas where this is the case. Among the two groups, about the same percentage of students had serious conversations with people from different backgrounds, worked with other students on projects during class, and taught or tutored another student.

The last item depicted in Figure 2 illustrates the negative side of what is illustrated in Figure 1. Specifically, students who spend most of their time online for non-academic purposes are more likely to come to class unprepared than those who spend most of their time online for academic purposes. Like spending most of one's time online for non-academic reasons, coming to class unprepared is a concern, but probably not, in and of itself, the determinant of student success in college.

**Figure 2.**  
**Percentage of Students Who Frequently Engage in Effective and Non-Effective Educational Practices by the Proportion of Time They Spend Online for Academics**



NSSE was developed to document student participation in activities that prior research has shown lead to numerous desirable educational outcomes (Kuh, 2001, 2003). This, coupled with the results described above, suggests that those students who spend more of their time online for academic purposes are likely to benefit to a greater degree from their collegiate experience than other students. It is also plausible that students who spend more of their online time surfin' the web for cocktail recipes, playing games, or downloading music rather than for academic reasons (surfin' with a purpose) may do so to the detriment of their learning. This plays into concerns that students can be distracted by different forms of information technology (Reisberg, 2000). However, the results suggest that plenty of students go online and are still engaged in their academic pursuits regardless of the proportion of their online time they spend on academically purposeful activities. Consequently, it is probably safer to say that online activities are one of many ways that students can choose to be distracted or "disengage" from college learning. In fact, a little distraction or disengagement may not be problematic for most students. The students that likely deserve attention are those that disengage a lot and in multiple ways (e.g., spending too much of one's online time doing non-academic activities and coming to class unprepared).

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