

## The Perceived Effects of Internet Usage on Academic Achievement Among Southeast Asian College Students Gabby Jed Catane Galgao

### Abstract

This study was conducted in a Southeast Asian University in Thailand to assess the extent of the effect of the perceived effect of internet usage of Southeast Asian college students on their academic achievement. The study involved the participation of students from eight of the ten countries that make up Southeast Asia. The results revealed that the participants in this study perceived that internet usage had little to no effect on their academic achievement.

**Keywords:** Internet usage, perceived effects, academic performance, Southeast Asian students

### Introduction

Asia is currently the largest internet-using continent on the planet. According to recent internet statistics (Internet world stats, 2013) Asia accounted for the world's highest internet usage, garnering 44.8% of internet usage in the second quarter of 2012 with the rest accounting for 55.2 % of internet traffic.

In terms of student demographic, it was found that undergraduate and graduate students were among the highest number of internet users in the U.S. with 95% of undergraduate students reporting internet usage and 93% of graduate students reporting internet usage out of 19-24 year olds of over 9,000 respondents (Smith, Rainie & Zickuhr, 2011). In Southeast Asia, the numbers are large as well. In 2013 alone, there was an estimated 190 million internet users in Southeast Asia (Anh-Minh, 2013), with the majority of online users in Southeast Asia under the age of 35 (Visconti, 2013). It would be safe to assume that this age group is the same age bracket where the majority of students (elementary-college) are in.

### Internet Usage

General internet usage can be classified, although not limited to four main areas: 1) Entertainment i.e. streaming movies or music online; 2) Searching for information i.e. using a search engine to look up terms, meanings, or general information; 3) Communication, i.e. instant messaging services (IM); and 4) Buying and selling products i.e. buying tickets or selling items online (Joiner, et al. 2012). This is consistent worldwide with the recent study by Zhou, Fong, and Tan (2014) involving 2,400 respondents ages 14-60. The study showed that in China, the most common activity on the internet was "watching online videos" with 59% of participants having done that in the previous week and 30% rating the activity as their favorite online activity. This was followed by accessing movies or songs via the internet (52.9% active use; 24.0% a favored activity); playing online games (40.7% active use; 24.6% favored activity); communication via chat and IM services (59.1% active use; 39.5% favored activity); email (40.5% active use; 16.5% favored activity); gathering information i.e. looking for news (50.5% active use; 27.4% favored activity); searching information via search engine (33.4% favored activity; 12.1% favored activity); business i.e. purchasing or exchanging items (27.6% active use; 9.1% favored activity).

In 2011, the Pew Research Center conducted a study in the United States involving 2,277 respondents, aged 18 years old or more where it was discovered that among adult internet users the top two uses of the internet were online searches and email; 92% of online adults said that they do online searches with 59% of

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them doing online search queries on an average day while 92% of online adults had email with 61% checking their email on an average day (Purcell, 2011).

## **Internet and Education**

In education, the internet assumes a crucial role in the areas of language study, research, resource center and retrieval and sharing of information (Bush, 2008; Chapelle & Jamieson, 2008; Garrett, 2009; Manoj & Jacob, 2008; Zickuhr, 2014). Internet usage in education deals mainly with the retrieval and sharing of data, research, and as a resource center for both teachers and students (Kumar & Kaur, 2006; Purcell, Heaps, Buchanan, & Friedrich, 2013; Simons, 2014).

In terms of the effects of internet use on academic achievement, several issues have been highlighted. For example, Kubey, Lavin, and Barrows (2001) have pointed out that students who used the internet excessively were found to stay up late at night, which led them to feel tired at class the next day, or missed classes. Nonetheless, they found that this behavior does not necessarily impair the students' academic achievement, even though they may have detrimental effects on the learning processes. Kubey, Lavin, and Barrows' (2001) study was corroborated by Anderson (2001), where the sample who used internet excessively perceived their academic work, social behavior, and sleep patterns as being negatively affected. These students who reported an excessive use of internet typically spent three consecutive hours on the internet, with only four hours spent on resting and sleeping. Students who excessively use the internet to support social networking have also reported a negative on their academic performance. Kirschner and Karpinski (2010) found that Facebook users and Facebook nonusers who reported a similar amount of time for Internet use were differentiated in terms of how often they logged into Facebook. Facebook users were found to have a lower mean GPA, and fewer hours studying per week. Some of the Facebook users were also found to report that Facebook activities distract them from their educational endeavors, even though they realized that their education is supposed to be their priority. Another detrimental effect of the internet is the use of it while in class, studying, or doing homework. These behaviors were found to negatively affect the learning experience (Jacobsen & Forste, 2011).

Controlled internet users, on the other hand, seemed to have better relationships with others, better academic grades, and a higher level of academic satisfaction. On the contrary, heavy internet users are found to be more likely to get depressed, physically-ill, lonely, and introverted. Heavy internet users, though, were found to have a difficult time in their learning, but not necessarily in terms of their academic achievements (Chen & Peng, 2008). Nonetheless, the internet is not necessarily bad for students. Internet tools such as social media were found to enhance and facilitate offline social interaction (Jacobsen & Forste, 2011). Moreover, students who used internet purposefully to support and enhance their learning reported a higher academic achievement. These students frequented websites which offered subject practice. Another approach to learning on the Internet is the availability of constructive activities, such as publishing or programming (Lei & Zhao, 2007).

Aside from considering internet use as a determining variable, there are other variables that may glean other types of effects. Variables such as gender, age, learning approaches and strategies are variables which may have a bearing on use and perception (Hoskins & Hooff, 2005). For example, internet use may differ according to gender and culture. It has been reported that British women were more likely to view the Internet and online tools as a means for learning, compared to their male counterparts, who perceived the Internet as a tool for personal use. The study also highlighted the similar perceptions cross-culturally. For instance, British and Chinese women underestimated their ability to use computers and the Internet. The women sample were also found to be more willing to disclose difficulties they had when using the computer or the Internet (Li & Kirkup, 2007). Socio-economic status may be an important variable as well. Jackson, et al. (2006) found that low-income students who were given internet access improved in terms of their academic achievement. The reason being the sample was more conscientious about using a privilege that they would not be able to afford on their own. The following sections sum up some of the positive and negative effects of internet use.

## **Significance of Student Perception**

With the prevalent use of the internet among Southeast Asian university-age students, the issue of how these students perceive the effect of internet use on their academic achievement should be ascertained. Perception

is necessary as it reflect students' self-efficacy, which is a trait expected of university students (Chemers, Hu, & Garcia, 2001). Furthermore, understanding students' perception towards their learning environment, which includes resources found in their learning environment, could be pivotal in comprehending students' learning processes and academic achievement (Meece, Anderman, & Anderman, 2006). Finally, studies on students' perception on the Internet have been conducted in western contexts (see Kubey, Lavin, & Barrows, 2001; Kirschner & Karpinski, 2010) but little has been done in the Asian context. Looking at perception from a cultural perspective may yield different results, as illustrated in Li and Kirkup's (2007) study, where Chinese students were found to use online technology differently from their British counterparts.

Perception is a powerful construct that affects students' academic performance. Chemers, Hu, and Garcia (2001) have suggested that perception on the self, as well as on the learning experience are both positively correlated with their academic achievement. Perception affects self-efficacy as well. When students possess self-efficacious traits, they are able to regulate work performance in a positive manner. This also involves perceiving learning processes as a positively challenging educational experience (Chemers, Hu, & Garcia, 2001; Meece, Anderman, & Anderman, 2006). Nonetheless, having a positive perception towards the learning environment does not necessarily entail similar results. For instance, perception on workload was found to have no significant relationship with approaches or strategies used for studying. Another example is the perception towards teaching. A perception that a learning and teaching environment is good has been found to influence students to form deep and critical study habits. Furthermore, having a positive perception towards the teaching and learning environment may help develop generic academic and workplace skills necessary for students' professional future (Lizzio, Wilson & Simons, 2002).

## The Study

Aside from the need to understand the perceived effects of internet on academic performance, this research is significant for the context of this study because the institution involved is a boarding educational institution. This is especially true as Chemers, Hu, and Garcia (2001) pointed out that tertiary-level students who are living away from their homes may be susceptible to uncontrolled and negative use of the internet. Hence, this study may serve as a basis for programs aimed to help students understand proper ways to use technology and the internet.

## Methodology

The purpose of this study was to determine the Perceived Effects of Internet Usage on Southeast Asian College Students' (SACS). This study was conducted at Asia-Pacific International University (AIU) – an international Seventh-day Adventist Institution located in Thailand. This study was conducted during the 2<sup>nd</sup> Semester of the Academic year 2013-2014. The study involved the responses of 72 SEA university-level students. There was a 100% return-rate for the questionnaires; a total of 72 questionnaires distributed and 72 questionnaires were collected. A total breakdown of the number of participants from their respective Southeast Asian country is summarized in Table 1 below.

**Table 1.** Countries and Number of Participants

| Countries                           | Number of Participants                  |
|-------------------------------------|---|
| Cambodia                            | 10                                      |
| Indonesia                           | 10                                      |
| Laos                                | 10                                      |
| Malaysia                            | 10                                      |
| Myanmar                             | 10                                      |
| Philippines                         | 2                                       |
| Thailand                            | 10                                      |
| Vietnam                             | 10                                      |
| <i>Total number of Countries: 8</i> | <i>Total number of participants: 72</i> |

## Instrument

This study employed the use of a questionnaire for data collection. The questionnaire was used because it offered a means of gathering data from a large population quickly and simply as well as being relatively inexpensive (Jack & Clarke, 1998). The reason behind using the questionnaires as opposed to using interviews was that questionnaires offered a more straight-forward manner because respondents had to choose between a set of given scales and it was cost-effective. The questionnaire was composed of mostly Likert-scale questions with one open-ended question and seven demographic questions. Likert-scales offer reliable and valid results especially in instances where specific responses are intended by researchers (Tsang, 2012). Table 2 details the distribution and focus of questions in the questionnaire is below:

**Table 2.** Distribution of Questions in the Questionnaire

| Sections         | Section I.  | Section II.  | Section III.  |
|------------------|-------------|--|---|
| Question Types   | Demographic | General questions about internet usage; focus was on: importance of internet usage, effects of internet usage, effects of internet usage on relationships and effects of internet usage on physical health; use of Likert-scale values | Open-ended question explaining why the internet is important to the respondent(s) |
| No. of Questions | 7           | 21   | 1   |

The questions in the questionnaire has four main categories which help to address the research objective of this study. These categories include:

1. the importance of internet usage to the respondents,
2. the perceived effects internet usage has on academic performance, and
3. the perceived effects internet usage has on inter and intra-personal relationships.

## Findings

The following sections highlights the findings from the completed survey.

**Table 3.** Frequency of Logged Hours and Hours Spent on Internet

| Statistics     |         |                             |                             |
|----------------|---------|-----------------------------|-----------------------------|
|                |         | Times Logged on to Internet | Hours Spent on the Internet |
| N              | Valid   | 72                          | 72                          |
|                | Missing | 0                           | 0                           |
| Mean           |         | 2.62                        | 2.43                        |
| Std. Deviation |         | 1.119                       | .853                        |

*Note.* Times Logged on to Internet Daily - Scale: 1 = 0-2 times, 2 = 3-5 times, 3 = 6-8 times,

4 = 9-11 times, 5 = Over 12 times

Hours Spent on Internet Daily - Scale: 1 = 0-2 hours, 2 = 3-5 hours, 3 = 6-8 hours, 4 = 9-11 hours, 5 = Other

**Table 4.** Daily Times Logged-On and Spent on Internet

| Times Logged on to Internet |               |           |         |               |                    |
|-----------------------------|---------------|-----------|---------|---------------|--------------------|
|                             |               | Frequency | Percent | Valid Percent | Cumulative Percent |
| Valid                       | 0-2 Times     | 6         | 8.3     | 8.3           | 8.3                |
|                             | 3-5 Times     | 37        | 51.4    | 51.4          | 59.7               |
|                             | 6-8 Times     | 15        | 20.8    | 20.8          | 80.6               |
|                             | 9-11 Times    | 6         | 8.3     | 8.3           | 88.9               |
|                             | Over 12 Times | 8         | 11.1    | 11.1          | 100.0              |
|                             | Total         | 72        | 100.0   | 100.0         |                    |

**Table 5.** Hours spent on the Internet daily

| Hours Spent on the Internet |            |           |         |               |                    |
|-----------------------------|------------|-----------|---------|---------------|--------------------|
|                             |            | Frequency | Percent | Valid Percent | Cumulative Percent |
| Valid                       | 0-2 Hours  | 7         | 9.7     | 9.7           | 9.7                |
|                             | 3-5 Hours  | 36        | 50.0    | 50.0          | 59.7               |
|                             | 6-8 Hours  | 21        | 29.2    | 29.2          | 88.9               |
|                             | 9-11 Hours | 7         | 9.7     | 9.7           | 98.6               |
|                             | Other      | 1         | 1.4     | 1.4           | 100.0              |
|                             | Total      | 72        | 100.0   | 100.0         |                    |

Frequency analysis revealed that most of the respondents logged on to the internet 3-5 times a day (51.4%) followed by 6-8 times a day (20.8%), over 12 times a day (11.1%), 0-2 times a day (8.3%), and 9-11 times a day (8.3%). Furthermore, frequency analysis indicated that half of the respondents spent 3-5 hours online daily (50%). This was followed by 6-8 hours daily (29.2%), 0-2 hours (9.7%), 9-11 hours (9.7%), and other (1.4%).

## Regression Analysis

### Model Summary

| Model | R                 | R Square | Adjusted R Square | Std. Error of the Estimate |
|-------|-------------------|----------|-------------------|----------------------------|
| 1     | .095 <sup>a</sup> | .009     | -.006             | .999                       |

a. Predictors: (Constant), Perceived Level of Internet Addiction

Regression analysis was used to help determine the effects of the perceived effect of Internet Usage on the Academic Achievement of Southeast Asian college students? The details are presented in the tables that follow below.

**Table 6.** Model and Coefficients – Respondents' Perceived Level of Internet Addiction on CGPA

| Coefficients <sup>a</sup> |                                       |                             |      |                           |       |      |
|---------------------------|---------------------------------------|-----------------------------|------|---------------------------|-------|------|
| Model                     | B                                     | Unstandardized Coefficients |      | Standardized Coefficients | t     | Sig. |
|                           |                                       | Std. Error                  | Beta |                           |       |      |
| 1                         | (Constant)                            | 2.047                       | .423 |                           | 4.836 | .000 |
|                           | Perceived Level of Internet Addiction | .108                        | .141 | .095                      | .766  | .446 |

a. Dependent Variable: Cumulative Grade Point Average

According to Sykes (1993) regression analysis is used to determine the effect of one variable upon another. Simple linear regression analysis was used to test if the Perceived Effect of Internet Use significantly predicted Cumulative Grade Point Average (CGPA). The results indicated that the Perceived Level of Internet Addiction explained 0.9% of the variance in CGPA ( $r^2 = 0.009$ ,  $f = 0.587$ ,  $\beta = 0.095$ ,  $t = 0.766$ ,  $p = 0.446 > 0.05$ ). This means that the respondents' Perceived Level of Internet Addiction does not significantly predict CGPA.

**Table 7.** Model and Coefficients – Respondents' Perceived Effect of Internet Usage on Emotions and CGPA

| Model Summary   |                              |                             |                   |                            |       |      |
|---|------------------------------|-----------------------------|-------------------|----------------------------|-------|------|
| Model   | R                            | R Square                    | Adjusted R Square | Std. Error of the Estimate |       |      |
| 1   | .103 <sup>a</sup>            | .011                        | -.005             | .998                       |       |      |
| a. Predictors: (Constant), Perceived Effect on Emotions |                              |                             |                   |                            |       |      |
| Coefficients <sup>a</sup>                               |                              |                             |                   |                            |       |      |
| Model   | B                            | Unstandardized Coefficients |                   | Standardized Coefficients  | T     | Sig. |
|   |                              | Std. Error                  | Beta              |                            |       |      |
| 1   | (Constant)                   | 2.048                       | .391              |                            | 5.231 | .000 |
|   | Perceived Effect on Emotions | .105                        | .126              | .103                       | .835  | .407 |
| a. Dependent Variable: CGPA                             |                              |                             |                   |                            |       |      |

The regression analysis shows that the Perceived Effect of Internet Use on Emotions explains 1.1% of the variance in CGPA and that the Perceived Effect of Internet Use on Emotions insignificantly predicts CGPA ( $r^2 = 0.011$ ,  $\beta = 0.019$ ,  $t = 0.155$ ,  $p = .88 > 0.05$ ).

**Table 8.** Model and Coefficients – Respondents' Perceived Effect of Internet Use on Social Life and CGPA

| Model Summary  |                                 |                             |                   |                            |       |      |
|--|---------------------------------|-----------------------------|-------------------|----------------------------|-------|------|
| Model  | R                               | R Square                    | Adjusted R Square | Std. Error of the Estimate |       |      |
| 1  | .118 <sup>a</sup>               | .014                        | -.001             | .996                       |       |      |
| a. Predictors: (Constant), Perceived Effect on Social Life |                                 |                             |                   |                            |       |      |
| Coefficients <sup>a</sup>                                  |                                 |                             |                   |                            |       |      |
| Model  | B                               | Unstandardized Coefficients |                   | Standardized Coefficients  | T     | Sig. |
|  |                                 | Std. Error                  | Beta              |                            |       |      |
| 1  | (Constant)                      | 2.037                       | .357              |                            | 5.707 | .000 |
|  | Perceived Effect on Social Life | .127                        | .133              | .118                       | .956  | .343 |
| a. Dependent Variable: Cumulative Grade Point Average      |                                 |                             |                   |                            |       |      |

As for the respondents' Perceived Effect of Internet Use on Social Life, the simple linear regression analysis indicates that it explains 1.4% of the variance on CGPA and insignificantly predicts CGPA ( $r^2 = 0.014$ ,  $f = 0.914$ ,  $\beta = 0.118$ ,  $t = 0.956$ ,  $p = 0.343 > 0.05$ ).

**Table 9.** Model and Coefficients – Respondents’ Perceived Effect of Internet Usage on Morals and CGPA

| Model Summary   |                   |          |                   |                            |  |
|---|-------------------|----------|-------------------|----------------------------|--|
| Model   | R                 | R Square | Adjusted R Square | Std. Error of the Estimate |  |
| 1   | .199 <sup>a</sup> | .040     | .025              | .990                       |  |
| a. Predictors: (Constant), Perceived Effect on Morals |                   |          |                   |                            |  |

  

| Coefficients <sup>a</sup>                             |                            |                             |      |                           |       |      |
|---|----------------------------|-----------------------------|------|---------------------------|-------|------|
| Model   | B                          | Unstandardized Coefficients |      | Standardized Coefficients | T     | Sig. |
|   |                            | Std. Error                  | Beta |                           |       |      |
| 1   | (Constant)                 | 2.041                       | .233 |                           | 8.771 | .000 |
|   | Perceived Effect on Morals | .156                        | .096 | .199                      | 1.626 | .109 |
| a. Dependent Variable: Cumulative Grade Point Average |                            |                             |      |                           |       |      |

Finally, the Perceived Effect of Internet Use on Morals insignificantly predicts and explains 4.0% of the total variance on CGPA ( $r^2 = 0.040$ ,  $f = 2.643$ ,  $\beta = 0.199$ ,  $t = 1.626$ ,  $p = 0.109 > 0.05$ ).

## Discussion

From the demographic information gathered, the internet appears to be an integral part of the respondents’ lives. Perhaps similar to the other studies mentioned, respondents use the internet as a tool to connect socially, on top of for information search. In terms of students’ perception on how the internet affects their academic performance, the respondents appear to perceive that the internet usage has little to no effect on their academic achievement. This was also the same for the effects of internet usage on inter- and intra-personal relationships, which were measured through social life and morals.

That there were no statistically significant perceptions regarding respondents’ internet usage on their academic achievement gave rise to several assumptions. The first is that this finding may indeed indicate that college students may very well have become adapted to today’s technological era, as illustrated in the findings of Junco, Heiberger, and Loken (2011), and Mehmood and Taswir (2013), especially when the social aspect of internet usage is taken into account. This would help to confirm the Visconti (2013) report that outlined most of Southeast Asian internet users to be below 35 years of age. In addition, it would give aid to the findings of studies that showed that internet usage was a boost to education rather than a detriment (Kumar & Kaur, 2006; Simons, 2014). Although it was revealed that most of the respondents logged on to the internet 3-5 times a day and spent 3-5 hours online, it seems likely that the respondents had not spent enough time online to be adversely affected academically as 3-5 hours online is in sharp contrast to the Nielsen (2011) consumer group report which stated that individuals in the top six Southeast Asian countries (Singapore, Philippines, Malaysia, Thailand, Vietnam and Indonesia) spent an average of 16.3 hours online daily.

## Limitations

There were a number of limitations to this study. First, this study only looked at the perceptions of the respondents regarding their perceptions about internet usage and its effects on their academic achievement. It did not reveal whether or not the perceptions of the respondents were consistent with their reality. It would be beneficial to the university and other educational institutions to discover whether or not the respondents’ perceptions of the effects of internet usage on academic achievement are reflective of the reality of the respondents’ academic achievement.

Second, due to the small sample size ( $n = 72$ ) the results of the study may not be applicable to the general student body at AIU. Nevertheless, the results of the study do imply that SACS may not perceive themselves to be academically affected by their internet usage which could therefore indicate that SACS have adapted to

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the technological era and are not affected academically by internet usage. However, their perception may not be necessarily reflected when it comes to the reality.

## Conclusion

In summary, this study revealed that the respondents did not perceive that internet usage affected their academic achievement. For the stakeholders at AIU – teachers, administrators, staff, sponsors and student –this study reveals that many students do not think that they are affected academically by their internet usage habits. However teachers, administrators, dormitory deans and even students must be aware of this and keep in mind that the students' perceptions may not necessarily be accurate. What could be explored is to teach students how the internet could be used in a beneficial manner to aid them in their studies. For future endeavors on students' use of the internet could be done by looking at links between perceived effects of the Internet, or objects within the learning environment with the goals of students and their academic achievement (Meece, Anderman, & Anderman, 2006).

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