The Effect of Internet Access & Usage on Reading and Math Achievement From A Global Perspective
Wesleyan University: Hughes Summer Fellowship
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Introduction
There is ongoing research in education being conducted worldwide in an effort to figure out what factors help students achieve, and what factors hinder their success. As our society becomes technological, the internet has become a topic of debate. While many people view the internet as a resourceful tool that should be ubiquitously utilized by students and teachers, others argue that it can be a harmful distraction in and out of the classroom. According to research conducted by Three-quarters of Advanced Placement (AP) and National Writing Project (NWP) teachers say that the internet and digital search tools have had a "mostly positive" impact on their students' research habits, but 87% say these technologies are creating an "easily distracted generation with short attention spans" and 64% say today's digital technologies "do more to distract students than to help them academically." (Purcell and Lee 2012).

Research Questions
- Are there some forms of internet activity that is more beneficial than others?
- What is the effect of internet technology on academic achievement?

Methods
Sample
This research is conducted using the PISA 2009 survey, which includes student, parent and school questionnaires in 65 countries examining about 470,000 15-year-old students’ academic achievement. The sample includes information on the parents’ backgrounds, students’ habits in schools, school resources, and much more useful information. PISA 2009 is an International, longitudinal study. A limiting factor was that there were more student responses than parent. After list wise deletion, there were 11,975 observations in the sample set.

Measures
Questions were answered using multiple choice options involving a rating scale. However, some questions on these questionnaires were yes/no questions.

Approach
This study will start first with an inductive study on each of the individual questions on achievement in the student survey, and then further explore one of those factors in much more detail.

Results
- After running OLS regressions for all variables on the student survey, these variables were among the top ten most significant based off of the beta values.
- According to the results, the factor that accounted for the most negative impact on achievement was having no computers in the home (num_comp_n).

Discussion
- While many people believe that digital technologies can be distracting, these results suggest that it is even more detrimental to not have a computer at all.
- This data suggests that a top priority for parents and administrators should be to provide every student with internet access as well as additional instruction for digital research.
- Students who communicate via email frequently are more engaged with digital technologies and provide them with a set of comprehension and communication skills that will help them achieve more in both reading and math.
- Additional research can be done to determine if social media has an influence on achievement in addition to Math and Reading.
- It would also be interesting to research difference in achievement between schools and households who block access to entertainment and non-education websites and places that don’t.
- Research has been on the unique characteristics of email technology. According to researchers, email communication has the following prominent features: “text-based features; multiple connections and easy transmission; asynchrony and synchrony; easy storage and manipulation; rapidity and cost-efficiency; and relative anonymity.” (Tao and Reinking 1996) Further investigation of these features can help us discover what is the most beneficial aspects of email technology.

References and Acknowledgements
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