Who's Afraid of the Big Bad Bot? The American Fear of Technology in the 21st Century

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WHO'S AFRAID OF THE BIG BAD BOT?
THE AMERICAN FEAR OF TECHNOLOGY IN THE 21ST CENTURY

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"We cannot quite know what will happen if a machine exceeds our own intelligence, so we can't know if we'll be infinitely helped by it, or ignored by it and sidelined, or conceivably destroyed by it."

- Rollo Carpenter, AI Scientist & Creator of Cleverbot

HYPOTHESES

H1: The older a person is, the more likely they are to be afraid

H2: The lower a person's income is, the more likely they are to be afraid
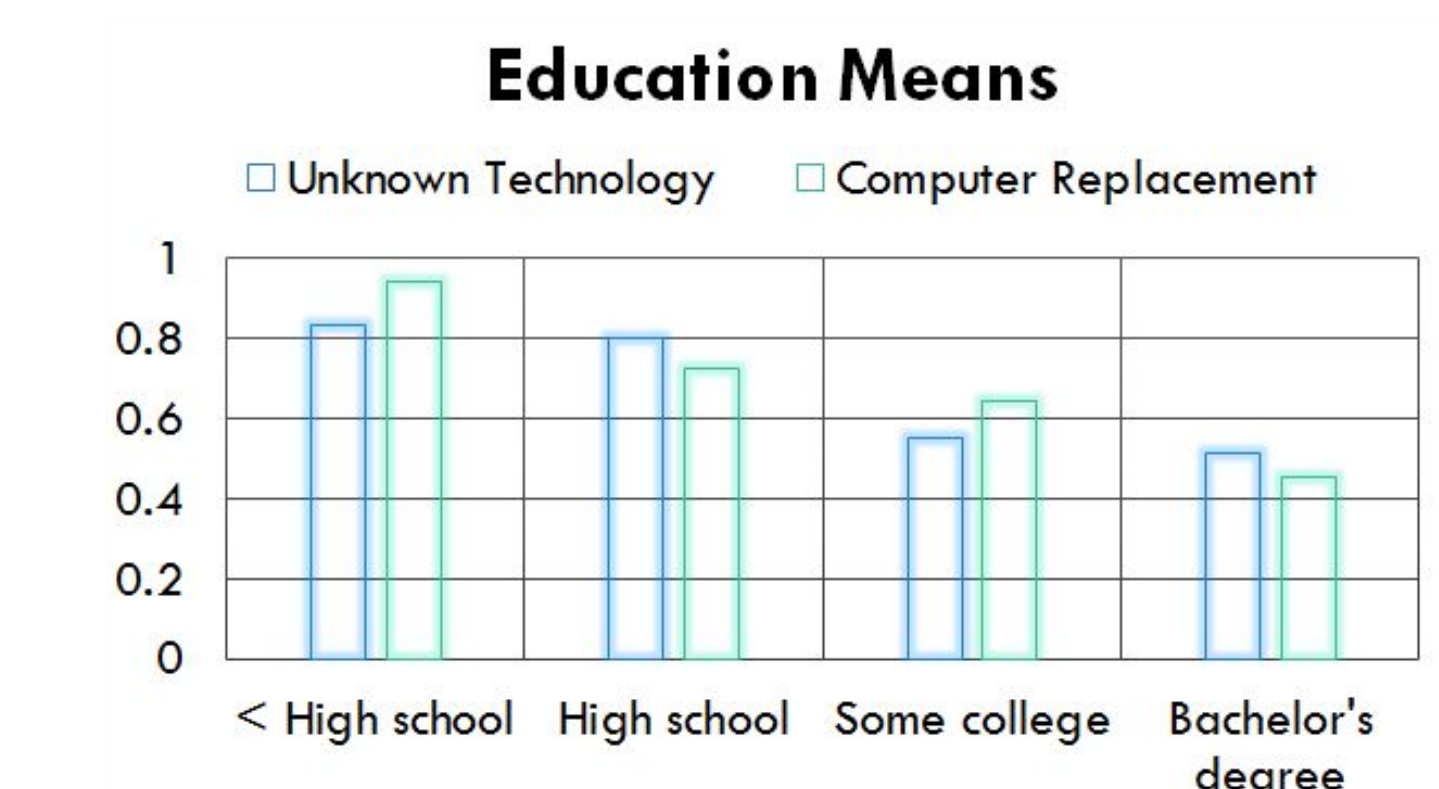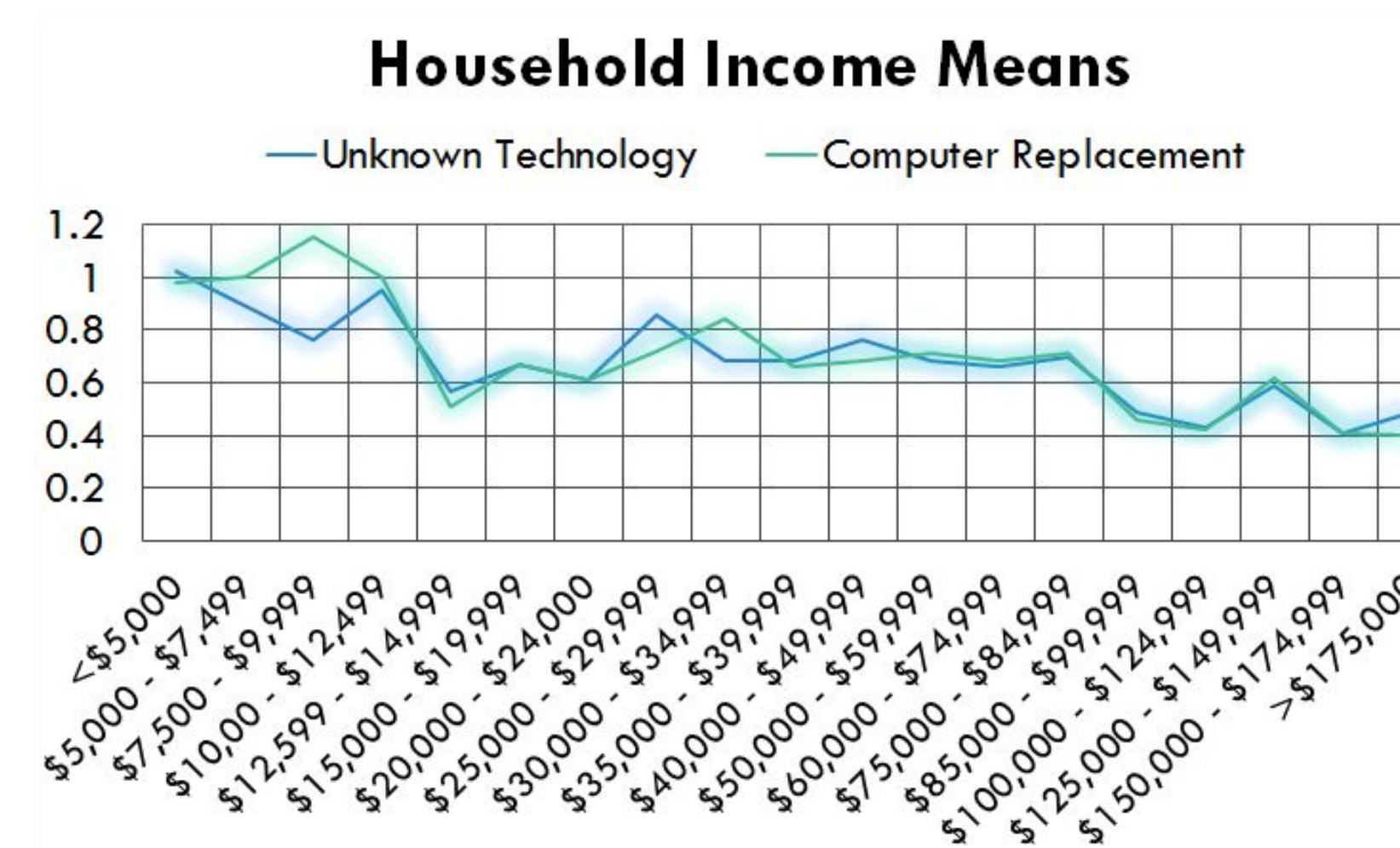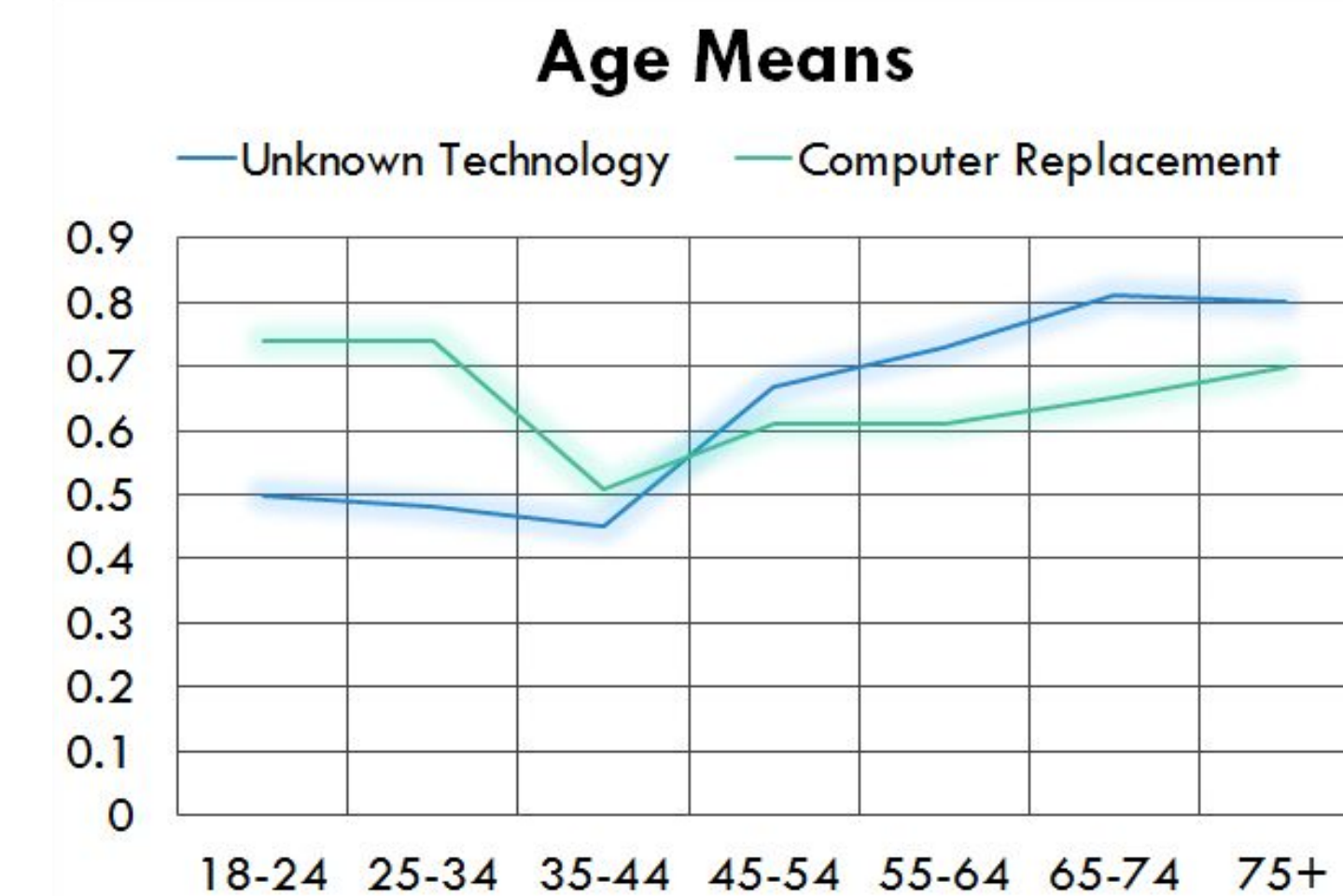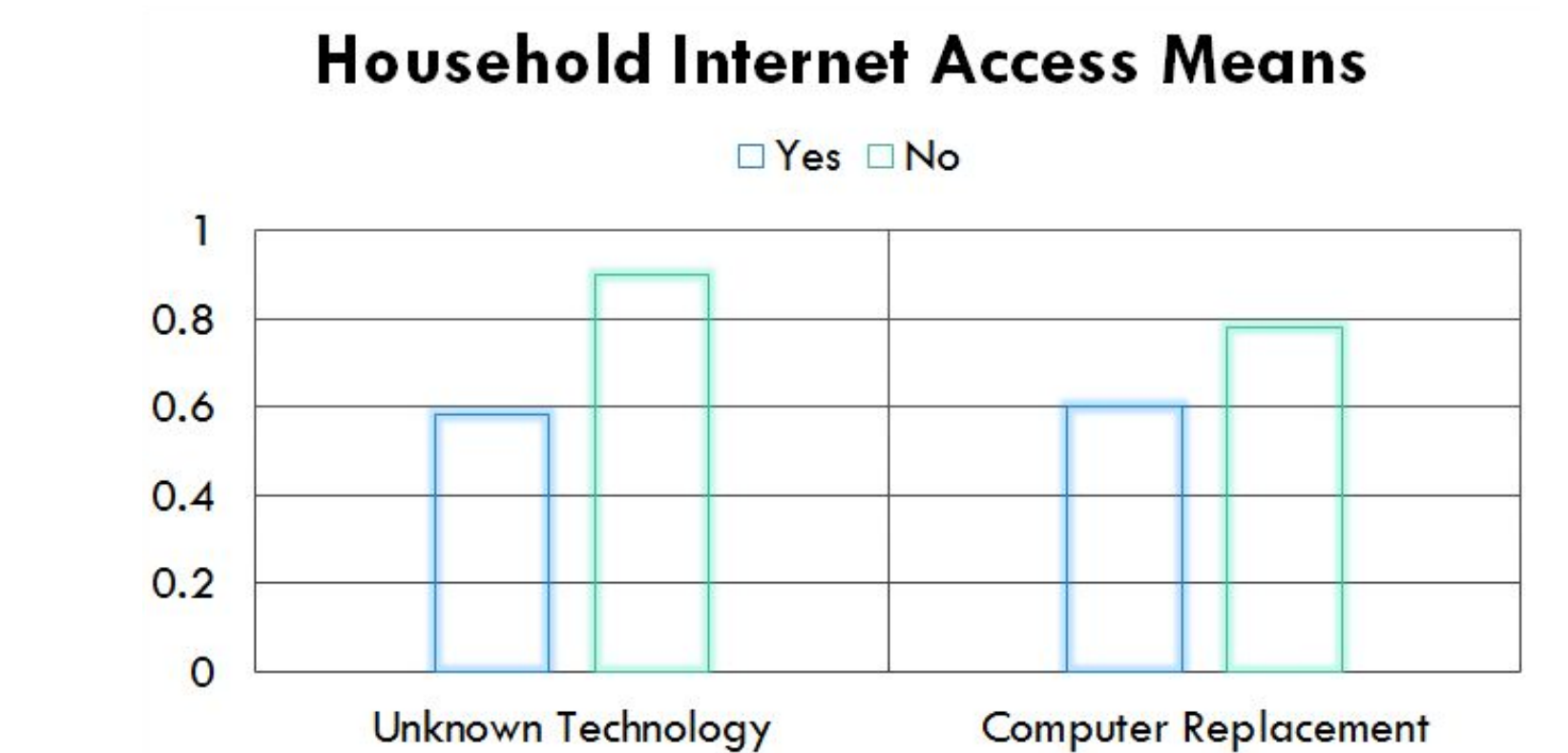
H3: The less education a person has, the more likely they are to be afraid

BACKGROUND

■ **Computer Phobia:** anxiety concerning future interactions with a computer as well as an negative attitude toward the societal impact of computers

■ **Internet Phobia:** anxiety specifically concerning interactions on the world wide web, includes a fear of viruses and scams

■ **Digital Divide:** The disparity in access to technology among demographic groups
  ‣ **first level:** Who has internet or phone access
  ‣ **second level:** Who has reliable and consistent access as well as the tech skills to make the most of their access. **Technology Maintenance Theory** refers to how low income people must work harder to access the internet

DATA REPRESENTATIONS

Scale: 0 - Not Afraid, 1 - Slightly Afraid, 2 - Afraid, 3 - Very Afraid

Household Internet Access Means
☐ Yes ☐ No

(bar chart: Unknown Technology, Computer Replacement)

Age Means
— Unknown Technology — Computer Replacement

(line chart, x-axis: 18-24, 25-34, 35-44, 45-54, 55-64, 65-74, 75+)

Household Income Means
— Unknown Technology — Computer Replacement

(line chart, x-axis: <$5,000, $5,000 - $7,499, $7,500 - $9,999, $10,000 - $12,499, $12,500 - $14,999, $15,000 - $19,999, $20,000 - $24,000, $25,000 - $29,999, $30,000 - $34,999, $35,000 - $39,999, $40,000 - $49,999, $50,000 - $59,999, $60,000 - $74,999, $75,000 - $84,999, $85,000 - $99,999, $100,000 - $124,999, $125,000 - $149,999, $150,000 - $174,999, >$175,000)

Education Means
☐ Unknown Technology ☐ Computer Replacement

(bar chart, x-axis: < High school, High school, Some college, Bachelor's degree)

Household Internet Access Interpretation

■ Average respondent *without* household internet access had *more* fear of Unknown Technology and Computer Replacement than the average respondent *with* household internet access

■ People *without* household internet access fear Unknown Technology slightly *more* than they do Computer Replacement.

Age Interpretation

■ On average, the *older* a person is the *more* likely they are to be afraid of Unknown Technology

■ The mean amount of fear reported by *younger* respondents is *lower* than the mean amount of fear reported by *older* respondents

■ When it comes to Computer Replacement, the young *and* the elderly are the *most* afraid while *middle aged* people are *least* afraid, but only by a small margin.

Household Income Interpretation

■ On average, the *greater* a person's household income is the *less* likely they are to fear Unknown Technology or Computer Replacement

■ The mean amount of fear reported by *lower* income respondents is *greater* than the mean amount of fear reported by *higher* income respondents

■ *Lower* income individuals have a *greater* fear of Computer Replacement than Unknown Technology.

Education Interpretation

■ On average, the *more* education a person has obtained the *less* likely they are to fear Unknown Technology or Computer Replacement

■ There doesn't appear to be a difference when it comes to fearing one more than the other.

Interpretation of Unknown Technology

■ The estimated slope values for Household Internet Access, Age, and Education are *significantly different* from zero

■ Age has the greatest absolute value for standardized coefficient, or the slope. This indicates that Age is the *most* important factor when it comes to a fear of unknown technology

■ Education and Household Internet Access appear *equally* important, and Household Income appears *least* important

Regression Table

	Unknown Technology Beta	Unknown Technology Significance	Computer Replacement Beta	Computer Replacement Significance
Household Internet Access	0.103	0	0.028	0.002
Age	-0.128	0	0.031	0.226
Household Income	0.046	0.128	0.094	0.319
Education	0.109	0	0.12	0

Interpretation of Computer Replacement

■ The estimated slope values for Household Internet Access and Education are *significantly different* from zero

■ Education is the *most* important factor when it comes to fear of Computer Replacement

■ The slope for Household Income is again *not* statistically significant, and Age isn't either this time

DISCUSSION

■ **H1:** Age was the greatest factor contributing to fear of Unknown Technology
  ‣ Possibly due to recent rapid development of technology
  ‣ Less fear of Computer Replacement from a lack of personal interest from retirement possibly
  ‣ Younger people having more fear of replacement due to career hunt

■ **H2:** Income was overall the least important factor contributing to fear
  ‣ The difference in fear is most pronounced when comparing the households that make under $12,499 to the households that make over that amount
  ‣ Possibly shows where the digital divide cuts off

■ **H3:** Education was the most important factor contributing to fear of Computer Replacement
  ‣ Due to the skills part of computer and internet phobias, second level digital divide
  ‣ More prevalent technology use in higher education
  ‣ Linked to income potentially through school funding coming from property taxes

■ **Household Access:** having technology in the home normalizes it. Simple yes/no responses only cover the first level digital divide

■ **Implications:** Distrust changes in voting technology, fear of and willingness to believe hacking claims, distrust of elites

REFERENCES

Blank, Grant, and William H. Dutton. "Age and Trust in the Internet: The Centrality of Experience and Attitudes Toward Technology in Britain." *Social Science Computer Review* 30.2 (2012): 135-51. Print.

Cellan-Jones, Rory. "Stephen Hawking Warns Artificial Intelligence Could End Mankind." *BBC News.* BBC, 2 Dec. 2014. Web. 2 May 2017.

Gonzales, Amy. "The Contemporary US Digital Divide: From Initial Access to Technology Maintenance." *Information, Communication & Society* 19.2 (2016): 234-48. Print.

"Internet/Broadband Fact Sheet." *Pew Research Center.* Pew Research Center, 12 Jan. 2017. Web. 2 May 2017.

Joiner, Richard, Mark Brosnan, Jill Duffield, Jeff Gavin, and Pam Maras. "The Relationship between Internet Identification, Internet Anxiety and Internet Use." *Computers in Human Behavior* 23 (2007): 1408-420. Print.

Kim, Jinsook, and Jennifer Gray. "Qualitative Evaluation of an Intervention Program for Sustained Internet Use Among Low-Income Older Adults." *Ageing Int* 41 (2016): 240-53. Print.

McIlroy, David, Carol Sadler, and Nadine Boojawon. "Computer Phobia and Computer Self-efficacy: Their Association with Undergraduates' Use of University Computer Facilities." *Computers in Human Behavior* 23 (2007): 1285-299. Print.

Mokyr, Joel, Chris Vickers, and Nicolas L. Ziebarth. "The History of Technological Anxiety and the Future of Economic Growth: Is This Time Different?" *Journal of Economic Perspectives* 29.3 (2015): 31-50. Print.

Roseman, Gary H., Jr., and Frank Stephenson. "The Effect of Voting Technology on Voter Turnout: Do Computers Scare the Elderly?" *Public Choice* 123 (2005): 39-47. Print.

Thatcher, Jason Bennett, Misty L. Loughry, Jaejoo Lim, and Harrison McKnight. "Internet Anxiety: An Empirical Study of the Effects of Personality, Beliefs, and Social Support." *Information & Management* 44 (2007): 353-63. Print.