Information Security Awareness:
What do home users need to know?

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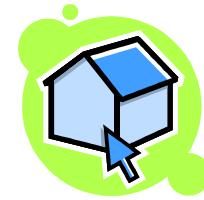**University of West Georgia**

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Identification of information security competencies in home users can help develop programs that promote secure behavior and create conscientious cybercitizens

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Agenda

- InfoSec Issues for Home User
- List of Concerns for Home users
- Relevant Models of InfoSec
- Directions for further research
- Discussion/Comments

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Home User Characteristics

- Not governed by organizational policies
- Access to "always on" connections
- Admin privileges on home network
- Wireless mobile devices
- Conduit to corporate networks
- Personal records (health, financial) stored without encryption

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Education vs. Training

Education	Training
¡ Curriculum based	¡ Practical implications
¡ Broader Approach	¡ Short sessions
¡ Integrates with other topics	¡ Task oriented
¡ Development of intellect for broader understanding	¡ Skills Development for economic/social reasons

Review of Literature

Academic Journals

- Information Systems Research
- Journal of Organizational and End User Computing
- Communications of ACM
- Information & Management Journal
- MIS Quarterly
- Information, Management & Computer Security

Trade Magazines
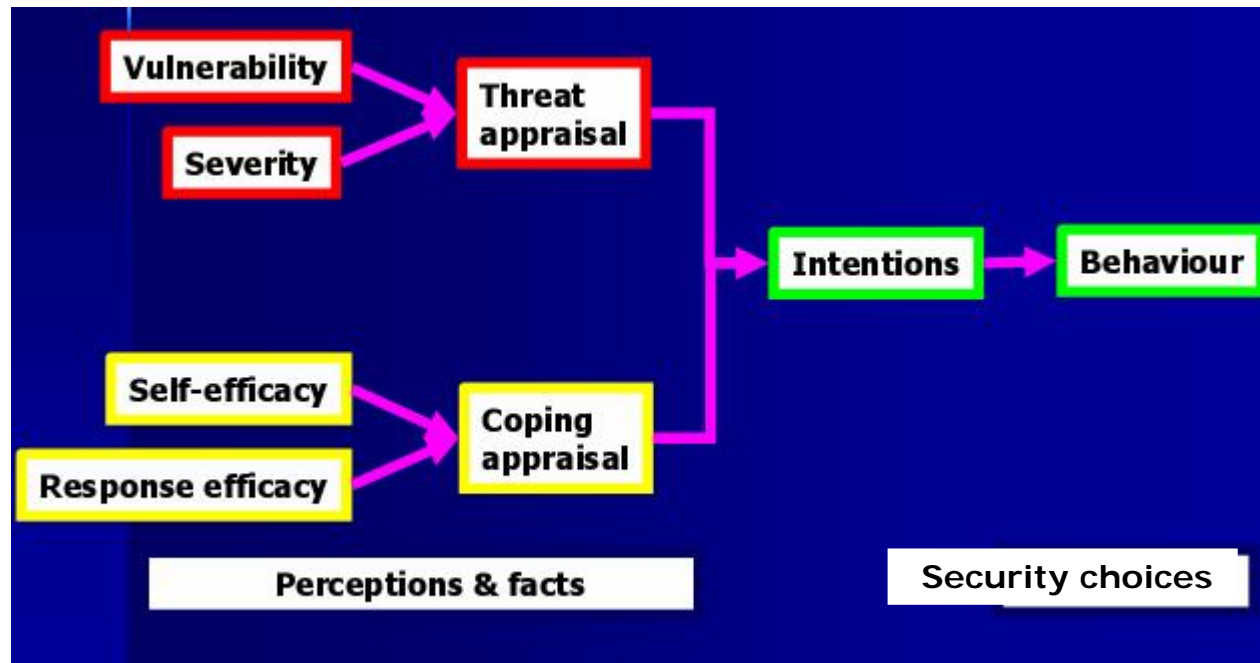
- Network World, CIO, eWeek

Relevant Theories/Models

Motivation/behavior theories

¡ Detterence Theory
(Theoharidou, 2005; Straub & Welke, 1998; Parker, 1998)
Punishment and sanctions may deter criminals from committing illegal acts

¡ Theory of Planned Behavior *(Ajzen, 1998)*
Attitude, subjective norms, and perceived behavioral controls explain behavior of computer misuse

¡ Technology Acceptance Model *(Davis, 1989)*
Perceived Usefulness (PU) is degree to which the system enhances performance; Perceived Ease of Use (EOU) is degree of software that is free from effort

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Protection Motivation Theory
(Rogers 1975, 1983)

- Studied mostly in context of health and environment
- Assessment of threat is based on perception of severity of the threat, and probability of occurrence
- Evaluation of threat and response to threat, will result in particular behavior

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List of home user concerns

- Viruses/Worms
- Spam
- Privacy/ID Theft
- Spyware/Keyloggers
- Phishing/Pretexting
- Network security
- Child safety on Internet

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Competencies for Home User

- Personal Firewall configuration
- Wired Router configuration
- Wireless security
- Operating system service pack management
- Patch management
- Spam filtering
- Email configuration
- Computer forensics
- Networking issues
- Spyware management
- Web security
- Java/Active X control management

- Web security
- Pop up blocking
- Instant messaging
- Anti-virus program configuration
- Disk/File Encryption
- Biometric authentication
- Online fraud detection
- Denial of Service attacks awareness
- Backups
- Disaster recovery planning
- Backup/Image hard drive
- Malware
- Spoofing
- Spam control

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Corporate Strategies for Mitigating risk

- Education
- Privacy policy on web
- Unique authentication models

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Security

Spyware/Virus Prevention

In-depth information for protecting your system from hackers, viruses, and spyware.

→ Go

Security Tutorials

A beginner's guide to spyware, viruses, phishing, and other security threats.

→ Go

Remove Spyware & Viruses

A step by step guide to removing viruses and spyware.

→ Go

Dell Community Forum
Ask questions and get answers about viruses and spyware
More Details

Expert Help with Viruses and Spyware
Dell on Call agents are ready to help. Purchase your plan today.
More Details

Fix Security Problems	**Prevent Security Problems**	**Software Tutorials**	**Additional Resources**
▸ Scan Your PC for Viruses ⇨	▸ Learn about Virus/Spyware Prevention	▸ Security Software FAQs	▸ McAfee Support Site ⇨
▸ Guide to Removing Viruses & Spyware	▸ Purchase Security Sofware		▸ Symantec (Norton) Support Site ⇨
	▸ OnGuard Online ⇨		▸ Trend Micro Support Site ⇨

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Microsoft

Security At Home | Microsoft At Home | Microsoft At Work

Protect Your PC
Security Essentials
Updates & Maintenance
Viruses & Worms
Spyware
Protect Yourself
Personal Information
Online Activities
E-Mail & Spam
Protect Your Family
Child Safety

Resources
Videos
Quizzes
Downloads
Support
Community
Worldwide Sites

security at home : resources

security videos

Watch these short videos to learn more about the top security issues that affect home users like you. If you're new to learning about protecting your computer and your information online, you can start with the basics.

Note: All videos require Macromedia Flash Player 8.0.

▶ **Security basics for beginners**
Get started learning about how to improve your security

- **3 things you can do to prevent spyware**
  300k (broadband) | 100k (2:56 minutes)

- **What you should know about phishing scams**
  300k (broadband) | 100k (3:32 minutes)

- **Defending against viruses and worms**
  300k (broadband) | 100k (3:44 minutes)

- **Keeping your computer up to date**
  300k (broadband) | 100k (3:18 minutes)

- **Dealing with spam e-mail**
  300k (broadband) | 100k (3:13 minutes)

- **Protecting your privacy and personal information online**
  300k (broadband) | 100k (3:14 minutes)

- **Using online newsgroups**
  300k (broadband) | 100k (3:26 minutes)

- **Teaching your kids about online safety**
  300k (broadband) | 100k (3:54 minutes)

- **Download Security at Home videos for educational or training purposes**

Delphi Study

Structured approach for collecting and distilling knowledge from groups of experts interspersed with controlled opinion feedback (Adler & Ziglio, 1996)

- Experts from Banking, Government, Education identified
- (Looking for experts in other industries)
- Goal is to achieve consensus about core competency information security requirements for home users

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Empirical Study

- Development of standardized instrument to determine current competencies of home users from different demographics

- Based on results, develop understanding of risk profile, and strategies for informing/educating home users
  (Also called for in "National Strategy to Secure Cyberspace" document, 2002)

- Results should be useful to policy makers, management, computer vendors

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Questions/Comments

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