

A pilot study on college student's attitudes toward computer virus

Eric Zhi-Feng Liu

Address for correspondence: Graduate Institute of Learning & Instruction, National Central University, No.300 Jung-da Road, Chung-Li City, Taoyuan, Taiwan 320.

Email: totem@cc.ncu.edu.tw

Introduction

In the past, there are a few studies on college students' attitudes toward computer virus. To construct a computer virus attitude scale, author interviewed twenty students and classified three types of attitude toward computer virus. These three types of attitude composed of fear of computer virus, curious about computer virus, and hated computer virus. As a result, the initial pool of items in the scale included a total of eighteen items. These eighteen items were then presented using a five-point Likert scale to a group of Taiwan college students for item analysis. All of the items were presented in Chinese. The translation between English and Chinese in this study was completed by the author, and two external reviewers were hired to validate the translation. In this study, 360 questionnaires were dispatched to students and then collected only 301 valid questionnaires. To analyze the reliability and validity, author employed Cronbach's alpha and principal components analysis with varimax rotation. The results of data analysis showed computer virus attitude scale is reliable and valid.

Fear of computer virus subscale

Students have expressed that they are fear of computer virus, because the computer virus would destroy their operating system, documents, and so forth. Author has concluded several items (referred to Table 1) from students' opinions and related studies (Silberschatz and Galvin, 1994; Tanenbaum, 1992).

Table 1: Items of fear of computer virus subscale (hereinafter referred to as FR)

Item No.	Question
FR1	I fear of computer virus, because the computer virus would destroy my operating system
FR2	I fear of computer virus, because the computer virus would destroy my documents
FR3	I fear of computer virus, because I just know a little about computer virus
FR4	When I using the CD-ROM of unknown origin, I worry that the computer virus would attack my computer
FR5	When I using the floppy of unknown origin, I worry that the computer virus would attack my computer
FR6	I do not fear of computer virus ^a

^a Scored in a reverse way.

Curious about computer virus subscale

Students have expressed that they are curious about computer virus. Author has constructed several items (referred to Table 2) from students' opinions and related studies (Silberschatz and Galvin, 1994; Tanenbaum, 1992).

Table 2: Items of curious about computer virus subscale (hereinafter referred to as CY)

Item No.	Question
CY1	The topic of computer virus always attract my attention
CY2	For more understanding, I read the books related with computer virus
CY3	For more understanding, I search the web sites related with computer virus
CY4	For more understanding, I ask the experts about computer virus
CY5	For more understanding, I discuss the computer virus with classmates
CY6	I do not curious about computer virus ^a

^a Scored in a reverse way.

Hated computer virus subscale

Students have expressed that they hate computer virus and people who created the computer virus. Author has constructed several items (referred to Table 3) from students' opinions and related studies (Silberschatz and Galvin, 1994; Tanenbaum, 1992).

Table 3: Items of hated computer virus subscale (hereinafter referred to as HE)

Item No.	Question
HE1	I hate the computer virus
HE2	The computer virus has attacked my computer, I hate it
HE3	I hate the people who created the computer virus
HE4	When I know the people who created the computer virus will be put into jail, I will be very happy
HE5	If I am a justice, I will punish people for creating computer virus
HE6	I do not hate the computer virus ^a

^a Scored in a reverse way.

Factor analysis

Attitudes toward computer virus were measured by a pilot questionnaire, computer virus attitude scale included eighteen items with following choices: "I strongly agree (5)," "I agree (4)," "no opinion (3)," "I disagree (2)," or "I strongly disagree (1)." Using exploratory factor analysis, author has reduced seven unnecessary items according to the magnitude of their factor loading and then found the computer virus attitude scale consisted of three subscales (referred to Table 4), fear of computer virus, curious about computer virus, and hated the computer virus.

Table 5 further demonstrated the inter-correlation matrix among three computer virus attitude subscales. Because all the correlations were significant, the three subscales

measure computer virus attitude in a coherent manner.

Table 4: The exploratory factor analysis of computer virus attitude scale

Item	FR	CY	HE
FR4	.85	-	-
FR5	.85	-	-
FR1	.66	-	-
FR2	.59	-	-
CY3	-	.78	-
CY2	-	.76	-
CY4	-	.75	-
CY1	-	.74	-
HE3	-	-	.83
HE4	-	-	.73
HE1	-	-	.64
Eigen value	3.57	2.04	1.1
Percent of variance	32.47	18.59	10.02
α	.79	.76	.68

Overall alpha is .79, K.M.O. measure of sampling adequacy is .77, and total variance explained is 61.08%.

Table 5: Inter-correlation matrix of three computer virus attitude subscales

Subscales	1	2	3
1. FR	--		
2. CY	.22**	--	
3. HE	.50**	.14*	--

* $p < .05$, ** $p < .01$

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