Self-Reported Computer Criminal Behavior: A Psychological Analysis

By

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Agenda

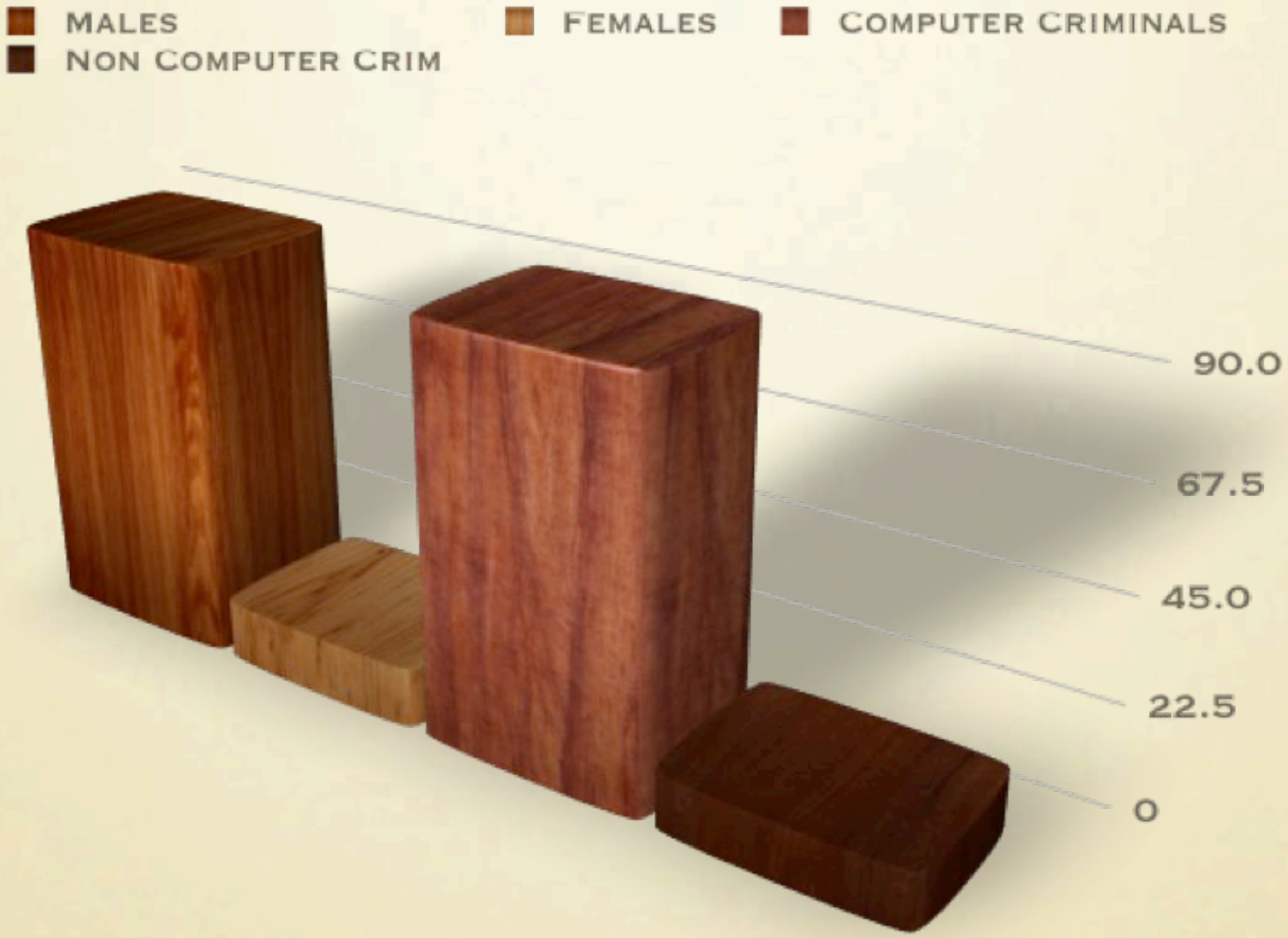
- Intro/Study
- Demographics
- Hypotheses
- Results
- Discussion/Implications

Study

- The current research study replicated a study by Rogers, Smoak & Jia (2006) - conducted in 2002
- It examined the psychological characteristics, moral choice, and exploitive manipulative behaviors of self-reported computer criminals and non-computer criminals

Demographics

- The participants for the study were 77 students from a mid-western university enrolled in courses at the college of technology.
- 87% of the respondents were male and 13% were female (see Table 1).
- The mean age was 21.
- 41% of the respondents were sophomores
- 92% were enrolled in the computer technology program



Demographics

Table 1: Respondent Demographics

Participants	Percentage (Frequency) Computer Criminals	Non-Computer Criminals
Gender		
Male	86.8 (59)	88.9 (8)
Female	13.2 (9)	11.1 (1)
Total	100 (68)	100 (9)
Age		
18-20	51.4 (35)	33.3 (3)
21-23	39.7 (27)	44.4 (4)
24-27	7.4 (5)	22.2 (2)
28 or older	1.5 (1)	0
Total	100 (68)	100 (9)
Year in College		
Freshman	7.4 (5)	0
Sophomore	45.6 (31)	33.3 (3)
Junior	10.3 (7)	11.1 (1)
Senior	36.8 (25)	55.6 (5)
Total	100 (68)	100 (9)
Ethnicity		
White	85.3 (58)	77.8 (7)
Asian American	8.8 (6)	11.1 (1)
African American	1.5 (1)	0
Indian	1.5 (1)	0
Asian	1.5 (1)	11.1 (1)
Asian (India)	1.5 (1)	0
Total	100 (68)	100 (9)
Major		
Comp. Tech	91.2 (62)	100 (9)
Comp. Graphics	1.5 (1)	0
Comp. Science	1.5 (1)	0
Other	5.9 (4)	0
Total	100 (68)	100 (9)

Hypotheses

- The hypotheses were that individual's self-reporting deviant computer activities (classified as computer criminals for this study) would be:
    - More introverted;
    - More open to experience;
    - More neurotic;
    - More exploitive and manipulative; and
    - Score lower on social moral choice
- than those individuals self-reporting no deviant/computer criminal behavior.

Instruments

- Computer Crime Index (CCI; Rogers 2001) [.71]
- Big-Five Factor Questionnaire (Goldberg 1992) [.88]
- Exploitive Manipulative Amoral Dishonesty Scale (EMAD; Altemeyer 1995) [.90]
- Moral Decision Making Scale (MDKS; Hladkyj 2002) [.72]

Results

- 88% of respondents were classified as computer criminals (see Table 1)
- A zero ordered correlation analysis indicated that computer criminal classification was negatively correlated with Extraversion Total ($r = -0.29$, $p < .01$; see Table 2).

Table 2: Zero Ordered Correlation

	Class	Open	Agree	Consc	Neur	IV	SV	HED	Emad	Ext
Class	1	0.151	-0.105	-0.133	-0.037	-0.036	-0.161	0.181	0.146	-0.291**
Open		1	0.503	0.476	0.518	0.272	0.057	-0.065	-0.211	0.234
Agree			1	0.332	0.313	0.190	0.146	-0.104	-0.149	0.590
Consc				1	0.464	0.038	-0.056	-0.314	-0.172	0.219
Neur					1	0.212	-0.026	-0.237	-0.204	0.143
IV						1	0.554	0.113	-0.609	0.112
SV							1	0.303	-0.394	0.228
HED								1	0.214	-0.056
Emad									1	-0.193
Ext										1

Note: Class = criminal classification, Open = Openness, Agree =Agreeableness, Consc = conscientious, Neur = Neurotic, IV= I
Moral Choice, SV = Social Moral Choice, HED = Hedonistic moral choice, Emad =EMAD Total, Ext = Extraversion Total
**p < .01

Results

- ANOVA
  - Criminal group scored significantly lower on Extraversion Total than the non-computer criminal group ($M = 40.81$ and $M = 50.22$, $F(1,75) = 6.96$, $p < .01$; see Table 3)

Table 3: Analysis of Variance – Extraversion Total

Source	*df*	*SS*	*MS*	*F*
Extraversion Total				
Between Groups	1	704.29	704.29	6.96**
Within Groups	75	7586.36	101.15	
Total	76	8290.36		

** $p < .01$

Results

- Logistic Regression Analysis
- Due to the explorative nature of the study, a forward stepwise Wald procedure was used.
- Extraversion Total, was significant in predicting computer criminal behavior ($W = 5.70$, $p < .05$) (see Table 4).
- In addition, Extraversion Total reduced the classification error by 43% ($tp = 0.43$).

Table 4: Logistic Regression - Forward Stepwise Wald

						95% C.I for *Exp(B)*	
	B	*S.E*	*Wald*	*df*	*Exp(B)*	*Lower*	*Upper*
Step 1							
Extraversion Total	-0.14	0.06	5.70*	1	0.87	0.78	0.98
Constant	8.31	2.84	8.60	1	4079.06		

*p < .05

Discussion

- The results indicated that only extraversion total was significant in relation to deviant/criminal computer behavior, none of the other hypotheses were supported.
- The finding that low extraversion (introversion) was a significant predictive variable is contrary to previous research (c.f., Rogers, Smoak, & Jia, 2006).
- The logistic regression analysis also confirmed that extraversion total was a significant risk factor in determining deviant/criminal computer behavior.
- A **one standard deviation increase** in extraversion total scores would **decrease** the risk of the individual engaging in the deviant/criminal behaviors (Exp(B) = .87).

Discussion

- The finding that moral reasoning was not a significant variable is also contrary to other studies that concluded that a lack of internalization of societal norms was a significant factor in unethical and aberrant computer behavior.
- In the current study, there was no significant difference between self reported computer criminals and non-computer criminals in relation to exploitive/manipulative behaviors.
- Again this is contrary to [17] where exploitive/manipulative behavior was found to be a significant factor; respondents self-reporting computer criminal behavior scored higher on exploitive/manipulative than non-computer criminals

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