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# PIRATES IN BINARY WATERS

ON COVERT GRIMES AND EDUCATED  
OFFENDERS

ALEXANDER KNUTSSON



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# INTRODUCTION

PURPOSE AND AIM

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BINARY LOGISTIC REGRESSION

HIGHLIGHTS

FUTURE

RECOMMENDATIONS



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# THE ROUTINE ACITIVITY THEORY



## Capable

Or lack thereof – are defined as objects or persons' who would prevent the crime.



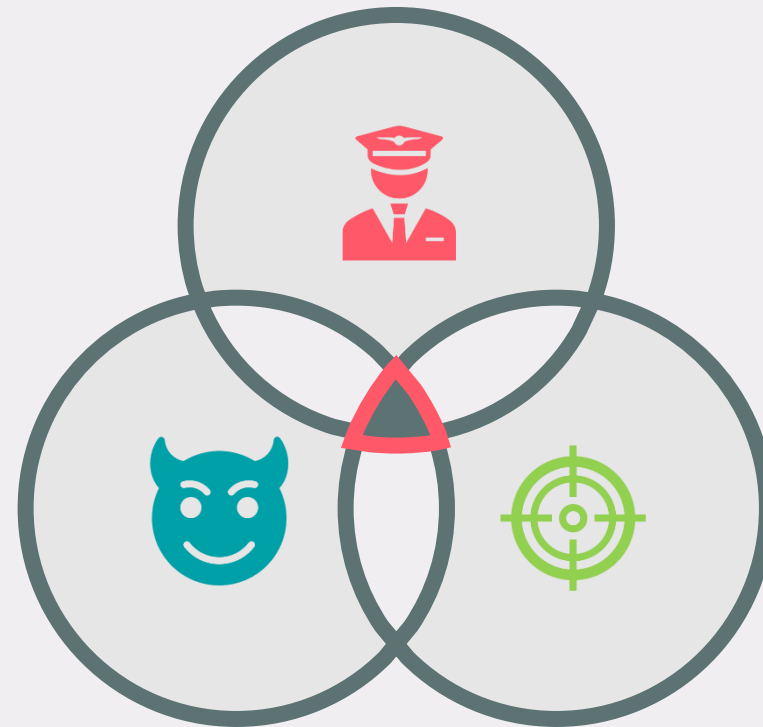
## Motivated

A likely offender is anyone who for any reason might commit a crime.



## Suitable Targets

People or objects who would put up a low level of resistance for the motivated offender.



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# RAT IN BINARY WATERS

STILL RELEVANT?



1979

**RAT**

GENERAL THEORY OF  
CRIME DEVELOPED  
BEFORE THE DIGITAL  
AGE



1991

**THE INTERNET**

THE INTERNET  
BECOMES PUBLICLY  
AVAILABLE



2016

**MODERN**

**CYBERCRIME**  
SOFTWARE Piracy  
PHISHING, FRAUD AND  
ONLINE HARRASMENT.



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SWEDISH INTERNET  
FOUNDATION  
THE SWEDES AND THE  
INTERNET  
RANDOMIZED SELECTION

3000 EACH YEAR  
3085 IN 2016

2016  
1

SOI

The Swedes and  
the Internet



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# BINARY LOGISTIC REGRESSION

BUT WHY?



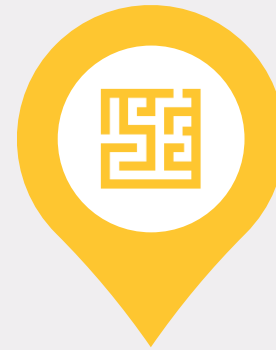
1

**DICHOTOMIZE**  
THE DEPENDENT  
VARIABLE CONSISTS  
OF TWO RESPONSE  
OPTIONS



2

**HIGHLY SKEWED**  
SOMETHING THAT  
REGULAR LINEAR  
REGRESSION  
STRUGGLES WITH TO  
DEAL WITH



3

**NO MULTIPLE  
LAYERS**  
VIGOROUS  
RANDOMIZATION OF  
PARTICIPANTS

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# INTRODUCING THE FOCAL RELATIONSHIP



## Software Piracy

The dependent variable of my thesis. Based on self-reported tendencies for piracy.



## Internet Activity

The focal independent variable of my thesis. Core idea of RAT.



## Motivation

Interest and activity outlook. Based on ones' self-reported activity of films and music at their computer.



## Legal Alternatives

Includes variables regarding streaming services such as Netflix and Spotify.



## Knowledge

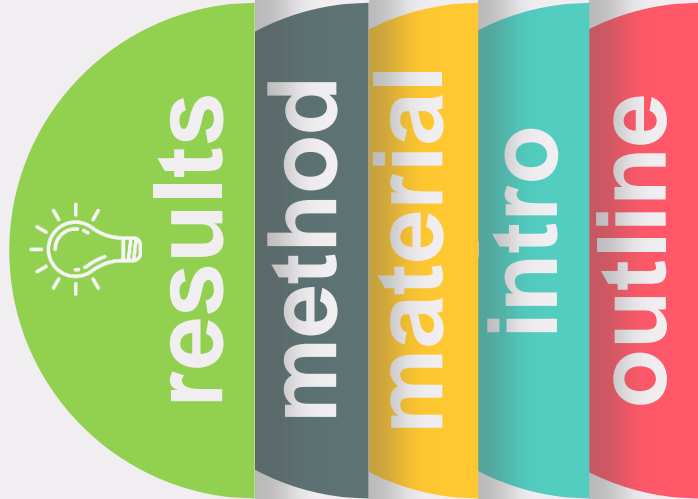
Related to ability. Based on ones' self-reported knowledge of computers and the virtual world.



## Usual Suspects

Includes variables that are common in similar studies; **Education, Sex, Age** and **Income**.

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Variable	B (S.E.)	Exp(B)	95% C.I. for Exp(B)	
			Lower	Upper
Internet Activity	0.391*** (0.106)	1.478	1.201	1.820
Motivation Film	0.282*** (0.046)	1.326	1.210	1.452
Motivation Music	0.025 (0.041)	1.025	0.946	1.110
Legal Alternatives Music (1)	-0.048 (0.134)	0.953	0.733	1.239
Legal Alternatives Film (1)	0.009 (0.127)	1.009	0.787	1.294
Knowledge	0.691*** (0.127)	1.995	1.637	2.431
Education	0.167** (0.053)	1.182	1.064	1.312
Sex (1)	-1.454*** (0.133)	0.234	0.180	0.303
Income	-0.116*** (0.032)	0.891	0.838	0.948
Age	-0.037*** (0.005)	0.963	0.955	0.972
Constant	3.167*** (0.578)	0.042		

N=2547



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# PROBABILITIES

The three variables Internet activity, motivation film and knowledge is particularly impactful when determining ones' probability for piracy

29%

**INTERNET  
ACTIVITY**

The discreet difference  
is ~ 27%

64%

**MOTIVATION FILM**

The discreet difference  
is ~ 57%

41%

**KNOWLEDGE**

The discreet difference  
is ~ 39%

Pearson's R = 0.531\*\* // ROC-Curve = 0.847\*\*\*



**results**

Variable	B (S.E.)	Exp(B)	95% C.I. for Exp(B)	
			Lower	Upper
Internet Activity	<b>0.364***</b> (0.113)	1.438	1.152	1.795
Motivation Film	<b>0.200</b> (0.041)	1.222	0.944	1.582
Motivation Music	0.024 (0.041)	1.024	0.945	1.109
Legal Alternatives Music (1)	-0.047 (0.134)	0.954	0.733	1.241
Legal Alternatives Film (1)	0.011 (0.127)	1.011	0.788	1.298
Knowledge	<b>0.619***</b> (0.148)	1.857	1.390	2.480
Education	0.169** (0.054)	1.184	1.066	1.315
Sex (1)	-1.456*** (0.133)	0.233	0.180	0.302
Income	-0.115*** (0.032)	0.891	0.838	0.948
Age	-0.037*** (0.005)	0.963	0.955	0.972
Interaction	<b>0.007</b> (0.011)	1.007	0.986	1.029
Constant	2.874*** (0.721)	0.056		

N=2547



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# HIGHLIGHTS

THE TWO REGRESSIONS

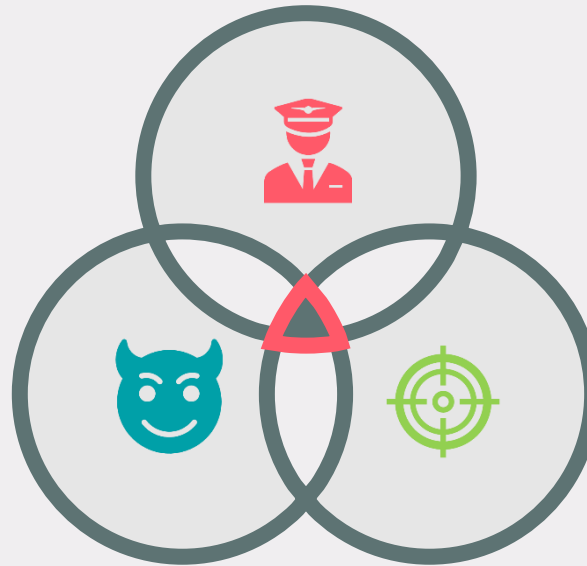
RAT IN BINARY WATERS

THE IMPACT OF KNOWLEDGE

# STUDY LIMITATIONS

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# FUTURE RECOMMENDATIONS

RAT

KNOWLEDGE AND ABILITY

# CYBERCRIME IN THE FUTURE

INCREASED DIGITAL  
DEPENDENCY



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# THANK YOU!

FULL ARTICLE AVAILABLE HERE

<http://hdl.handle.net/2077/57969>

