How burglars select their targets

Presentation ECCA conference
June 17, 2014

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June 17, 2014

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Today

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How burglars select their targets

- My research
- First (multi level) results
  - Security measures – house
  - Fences – house and direct environment
  - Maintenance – house, street and neighbourhood
- Questions

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My research

- The influence of environmental characteristics on the target selection process of burglars.
- GOAL: determine which environmental characteristics influence burglary
- Observational research
  - 1552 dwellings
    - 433 burgled in 2010
    - 168 attempt of burglary in 2010
    - 932 not burgled in 2010
  - 1168 streets
  - 152 neighbourhoods
- On all levels observational data on for example maintenance, litter and graffiti is gathered

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Choices

1. A burglar choses a target in his daily routine, he looks at the environment to find a target
   - Therefor only visible, observable characteristics are included
2. Target selection on multiple levels
   - 3 levels are included; neighbourhood, street and house
3. A burglar also selects on characteristics that can not be replicated in later research, like the presence of guardians.
   - Only stable factors are included

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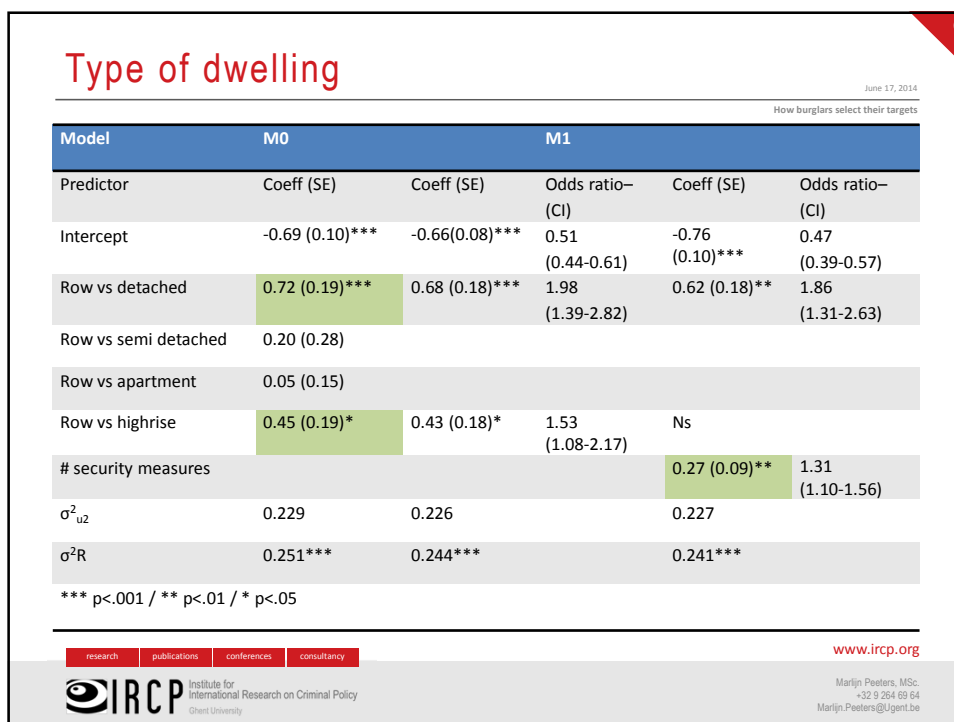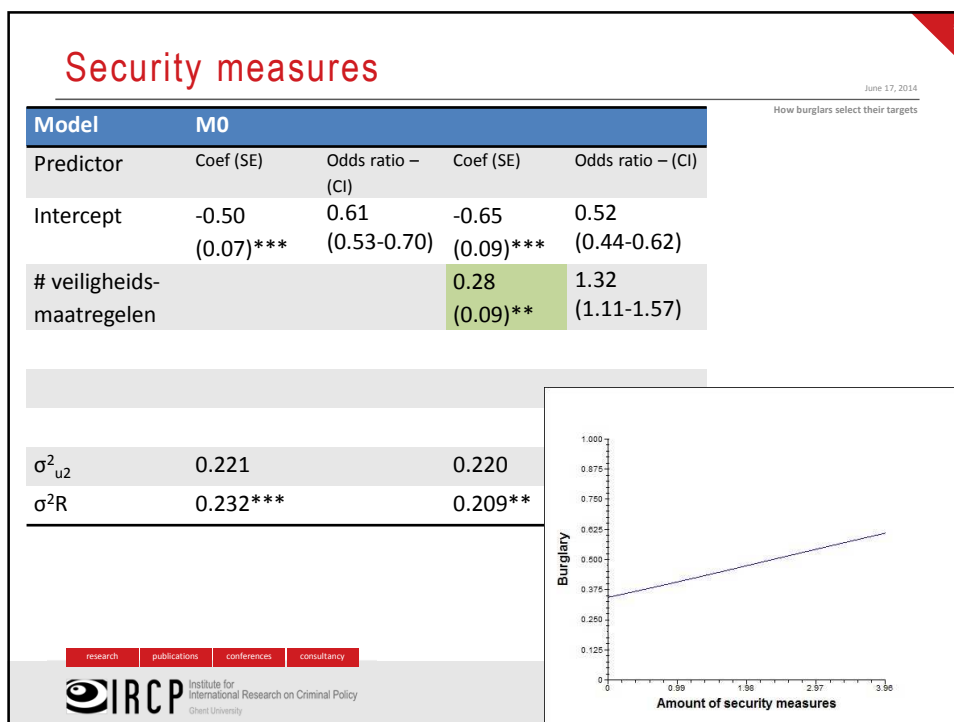Marlijn Peeters, MSc.
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Security measures

Model	M0			
Predictor	Coef (SE)	Odds ratio – (CI)	Coef (SE)	Odds ratio – (CI)
Intercept	-0.50 (0.07)***	0.61 (0.53-0.70)	-0.65 (0.09)***	0.52 (0.44-0.62)
# veiligheids-maatregelen			0.28 (0.09)**	1.32 (1.11-1.57)
σ^2_{u2}	0.221		0.220	
$\sigma^2 R$	0.232***		0.209**	

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Type of dwelling

Model	M0			M1	
Predictor	Coeff (SE)	Coeff (SE)	Odds ratio– (CI)	Coeff (SE)	Odds ratio– (CI)
Intercept	-0.69 (0.10)***	-0.66(0.08)***	0.51 (0.44-0.61)	-0.76 (0.10)***	0.47 (0.39-0.57)
Row vs detached	0.72 (0.19)***	0.68 (0.18)***	1.98 (1.39-2.82)	0.62 (0.18)**	1.86 (1.31-2.63)
Row vs semi detached	0.20 (0.28)				
Row vs apartment	0.05 (0.15)				
Row vs highrise	0.45 (0.19)*	0.43 (0.18)*	1.53 (1.08-2.17)	Ns	
# security measures				0.27 (0.09)**	1.31 (1.10-1.56)
σ^2_{u2}	0.229	0.226		0.227	
$\sigma^2 R$	0.251***	0.244***		0.241***	

*** p<.001 / ** p<.01 / * p<.05

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Fences – territoriality vs natural surveillance

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How burglars select their targets

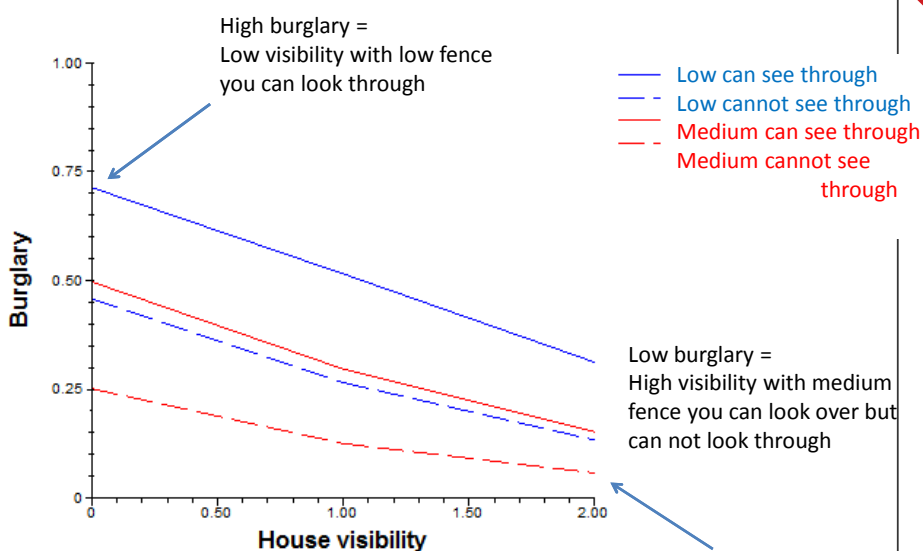| Model	M0		M1		M2	
Predictor	Coef (SE)	Odds ratio – (CI)	Coef (SE)	Odds ratio – (CI)	Coef (SE)	Odds ratio – (CI)
Intercept	-0.01 (0.24)	1.00 (0.63-1.57)	-0.44 (0.26)	1.55 (0.93-2.06)	0.74 (0.29)*	2.11 (1.19-3.78)
Low vs medium	-0.76 (0.25)**	0.47 (0.28-0.77)	-0.68 (0.26)**	0.51 (0.30-0.84)	-0.92 (0.28)**	0.40 (0.23-0.67)
Low vs fortressing					-1.04 (0.43)*	0.35 (0.15-0.82)
See through vs winter	1.43 (0.34)***	4.22 (2.16-8.25)	1.49 (0.36)***	4.44 (2.21-8.95)	1.43 (0.36)***	4.16 (2.06-8.43)
See through vs cannot see through	-1.00 (0.28)**	0.36 (0.22-0.64)	-1.08 (0.29)***	0.34 (0.19-0.60)	-1.08 (0.29)***	0.34 (0.19-0.60)
Visibility			-0.76 (0.17)***	0.47 (0.33-0.66)	-0.85 (0.18)***	0.43 (0.30-0.61)
σ^2_{u2}	0.109		0.204		0.165	
$\sigma^2 R$	0.051		0.026		0.028	

*** $p<.001$ / ** $p<.01$ / * $p<.05$

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High burglary =
Low visibility with low fence you can look through

Low can see through
Low cannot see through
Medium can see through
Medium cannot see through

Low burglary =
High visibility with medium fence you can look over but can not look through

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Maintenance and affluence

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Model	M0		M1		M2		M3	
Predictor	Coef (SE)	Odds ratio– (CI)	Coef (SE)	Odds ratio– (CI)	Coef (SE)	Odds ratio– (CI)	Coef (SE)	Odds ratio– (CI)
Intercept	-0.49 (0.07)***	0.61 (0.53-0.71)	-0.49 (0.07)***	0.61 (0.53-0.71)	-0.47 (0.07)***	0.62 (0.54-0.72)	-0.48 (0.07)***	0.62 (0.54-0.72)
House Paintwork	-0.30 (0.04)***	0.74 (0.68-0.81)					-0.46 (0.08)***	0.63 (0.53-0.75)
House Maintenance			-0.19 (0.05)***	0.83 (0.76-0.91)			0.51 (0.10)***	1.67 (1.31-2.15)
House Affluence					-0.35 (0.05)***	0.71 (0.64-0.78)	-0.36 (0.07)***	0.69 (0.58-0.83)
σ^2_{u2}	0.222		0.207		0.210		0.250	
$\sigma^2 R$	0.203		0.222		0.210		0.190	

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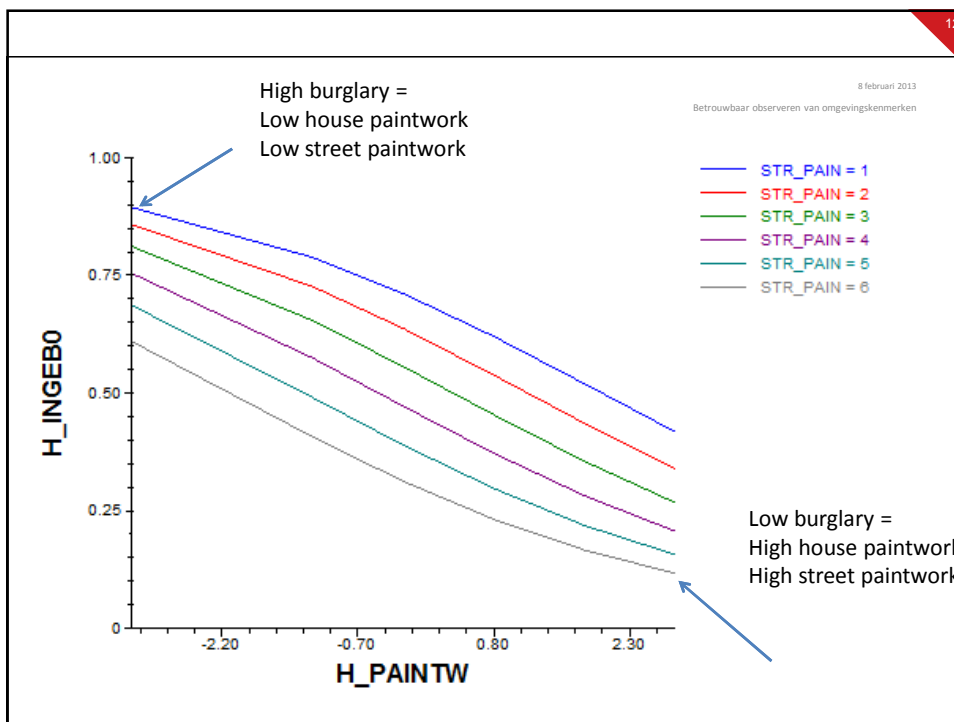IRCP Institute for International Research on Criminal Policy
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Maintenance and affluence – house, street and nbh

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Model	M0		M1	
Predictor	Coef (SE)	Odds ratio– (CI)	Coef (SE)	Odds ratio– (CI)
Intercept	0.81 (0.25)***	2.25 (1.37-3.70)	0.10 (0.34)	1.10 (0.56-2.18)
House Paintwork	-0.41 (0.09)***	0.67 (0.56-0.79)	-0.41 (0.09)***	0.66 (0.56-0.79)
House Mainten.	0.53 (0.10)***	1.70 (1.39-2.07)	0.54 (0.10)***	1.71 (1.40-2.09)
House Affluence	-0.40 (0.08)***	0.67 (0.57-0.79)	-0.42 (0.08)***	0.66 (0.56-0.78)
Street Paintwork	-0.32 (0.05)***	0.73 (0.66-0.80)	-0.34 (0.05)***	0.71 (0.64-0.78)
Street Affluence	0.18 (0.04)***	1.20 (1.11-1.30)	0.17 (0.04)***	1.18 (1.09-1.28)
Nbh Paintwork			0.20 (0.07)**	1.22 (1.07-1.40)
σ^2_{u2}	0.243		0.237	
$\sigma^2 R$	0.198		0.170	

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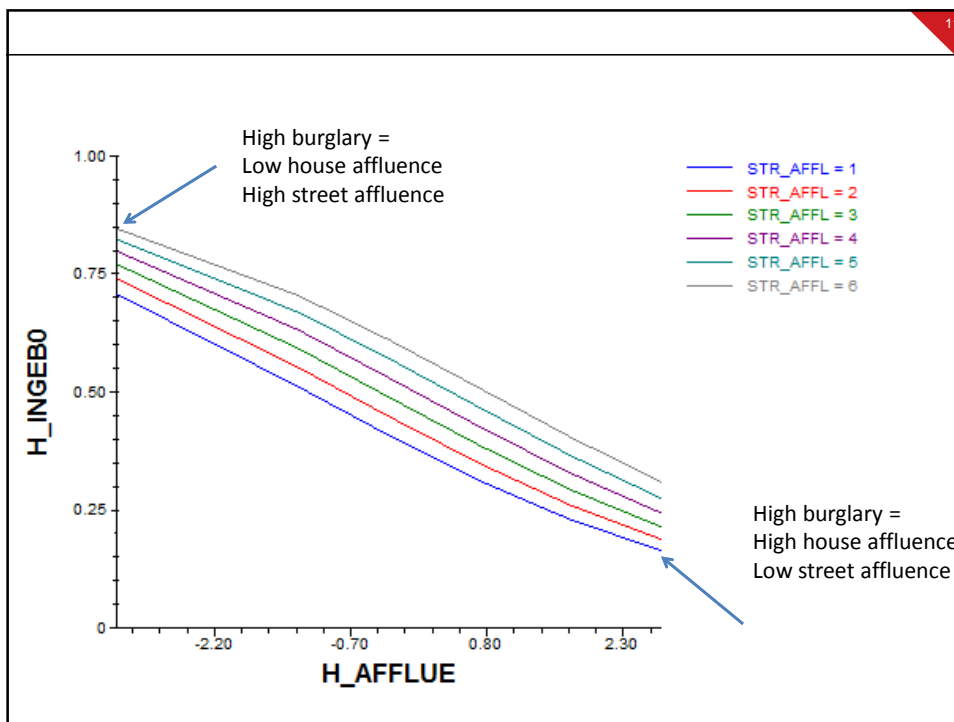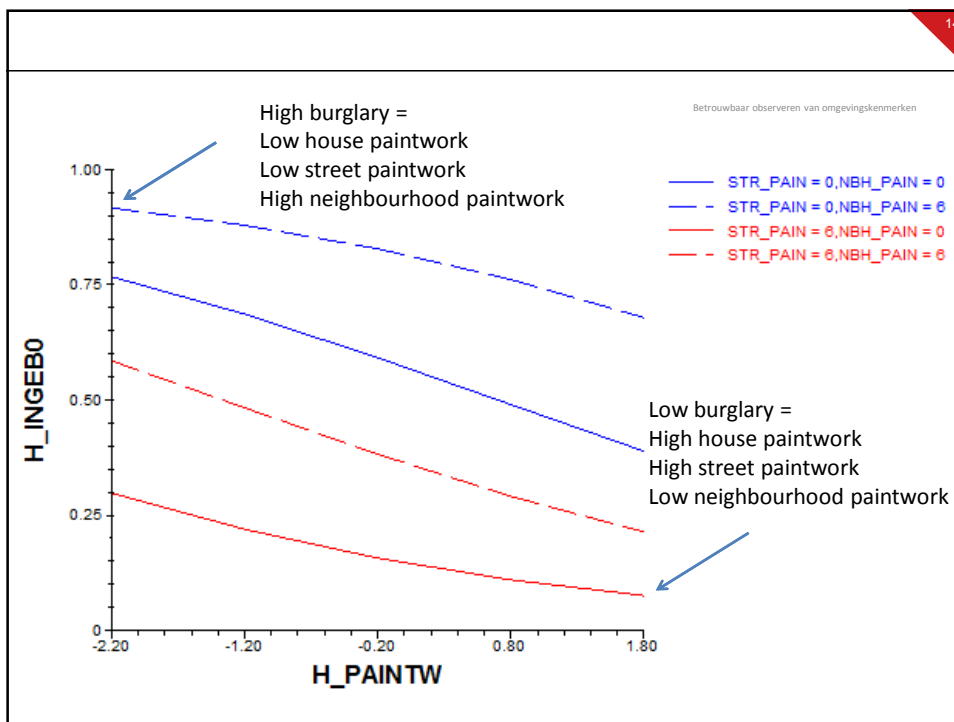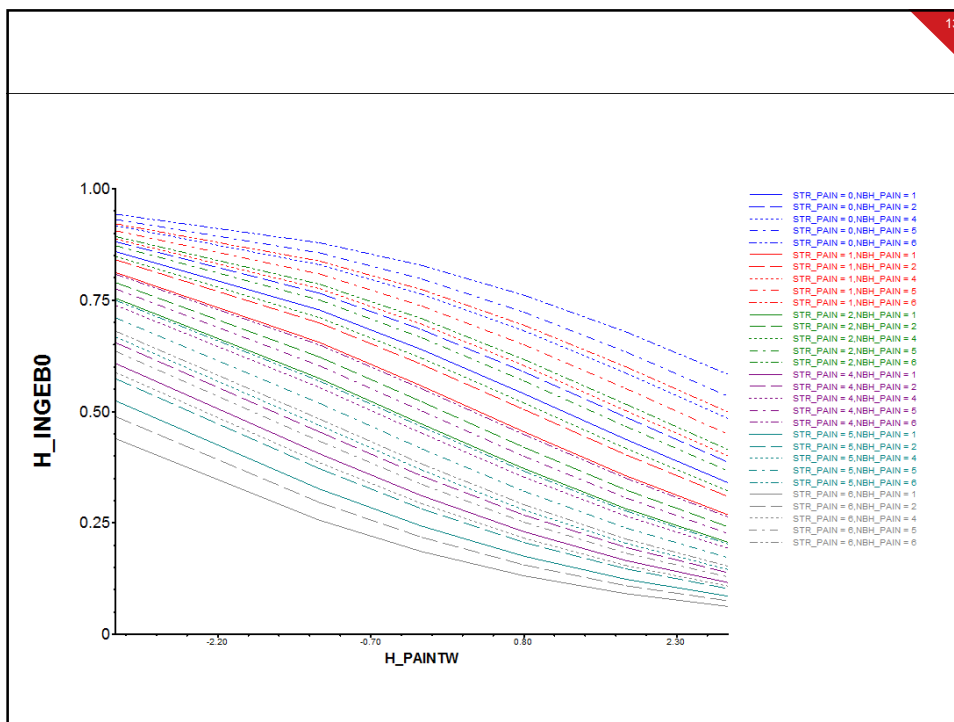
Questions?

To be continued…

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