



Risky actions & Risky places.

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11th Feb 2021.

SafePlaces Network

Seminar Series.

Key Questions:

- What is missing from many theories and studies of risky places?
- What kind of data is required to study person-environment interaction in crime causation?
- What kinds of methods can collect such data?
- What distinguishes the findings facilitated by such methods from those generated by more traditional methods of studying risky places?

Seminar outline:

- Introduction:
 - Person-Environment Interaction in Acts of Crime
 - Situational Action Theory (SAT)
- Measurement:
 - Peterborough Adolescent & Young Adult Development Study (PADS+)
 - Space-Time Budget (STB)
 - Example Data
- Explaining Risky Places: Person-Environment Interaction
 - Environment Level
 - Situational Level

Risky Places.
Risky Acts.
Risky People.

4

The screenshot shows the top of the SÄKRAPLATSER website. On the left is the logo for 'sp nätverket'. In the center is the title 'SÄKRAPLATSER'. On the right is the logo for 'KTH KTHNÄRINGS- OCH KONST'. Below the title is a navigation menu with links: 'OM SÄKRAPLATSER', 'SÄKERHET & TRYGGHET', 'RESURSER', 'TIDIGARE EVENEMANG', 'SÄKRAPLATSER PRIS', 'SIGN UP FOR OUR NEWSLETTER!', and 'ENGLISH'. Below the navigation menu is a search bar with the text 'Search ...' and a magnifying glass icon. Below the search bar is a banner for 'RISKY PLACES FOR CRIME - SAFEPLACES NETWORK SEMINAR SERIES | 21 JANUARY - 18 NOVEMBER 2021'. Below the banner is a quote in red text: '“Crime does not occur randomly; it tends to be concentrated in places that are ‘risky’”.

- Risky places are **CONCENTRATIONS** of crimes.
- A crime is an **ACT**.
- An act is committed by a **PERSON**.
- An act is committed by a **PERSON** in an **ENVIRONMENT**.

PEOPLE and **ENVIRONMENTS** are both crucial to explaining **AGGREGATIONS** of **ACTS** of crime

(in people or places)

Study of Risky Places: Missing People & Action.

RESEARCH DOESN'T OFTEN INTEGRATE.

- Fragmentation of psychological and sociological orientations in criminology.
 - Studies and theories of crime concentration in people (criminality) rarely integrate environmental factors.
 - Studies and theories of crime concentration at places rarely integrate individual factors.

Study of Risky Places: Missing People & Action.

ATTEMPTS AT INTEGRATION ARE MOST COMMONLY ADDITIVE.

- Sometimes level of study does not change such that
 - Environments added as a feature of people
 - People added as a feature of environments
- Study **WHICH** factors have influence & relatively, **HOW MUCH**.
- **ADDITIVE** integration of people & environments.
- **ADD** factors up to **PREDICT** crime distribution across people or places.

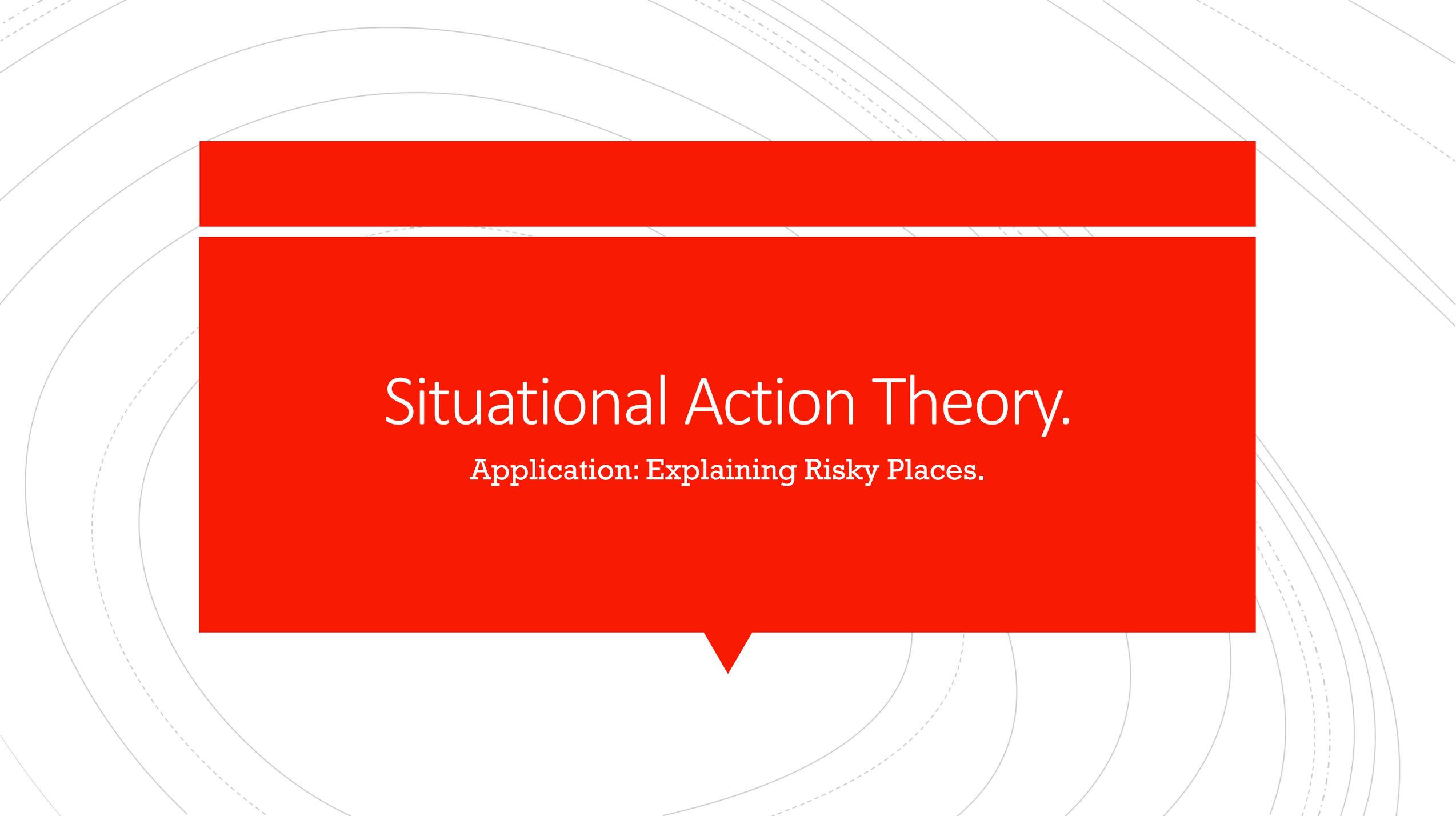
PREDICTING AN
AGGREGATE

Study of Risky Places: Missing People & Action.

NEED AN INTEGRATIVE MODEL OF ACTION.

- Which specific **FEATURES & CHARACTERISTICS** of people are relevant?
- What **INTERACTIVE PROCESSES** are involved?
- **HOW & WHY** does this result in crime?
 - (ACTS of crime can then be **AGGREGATED** to people or places)

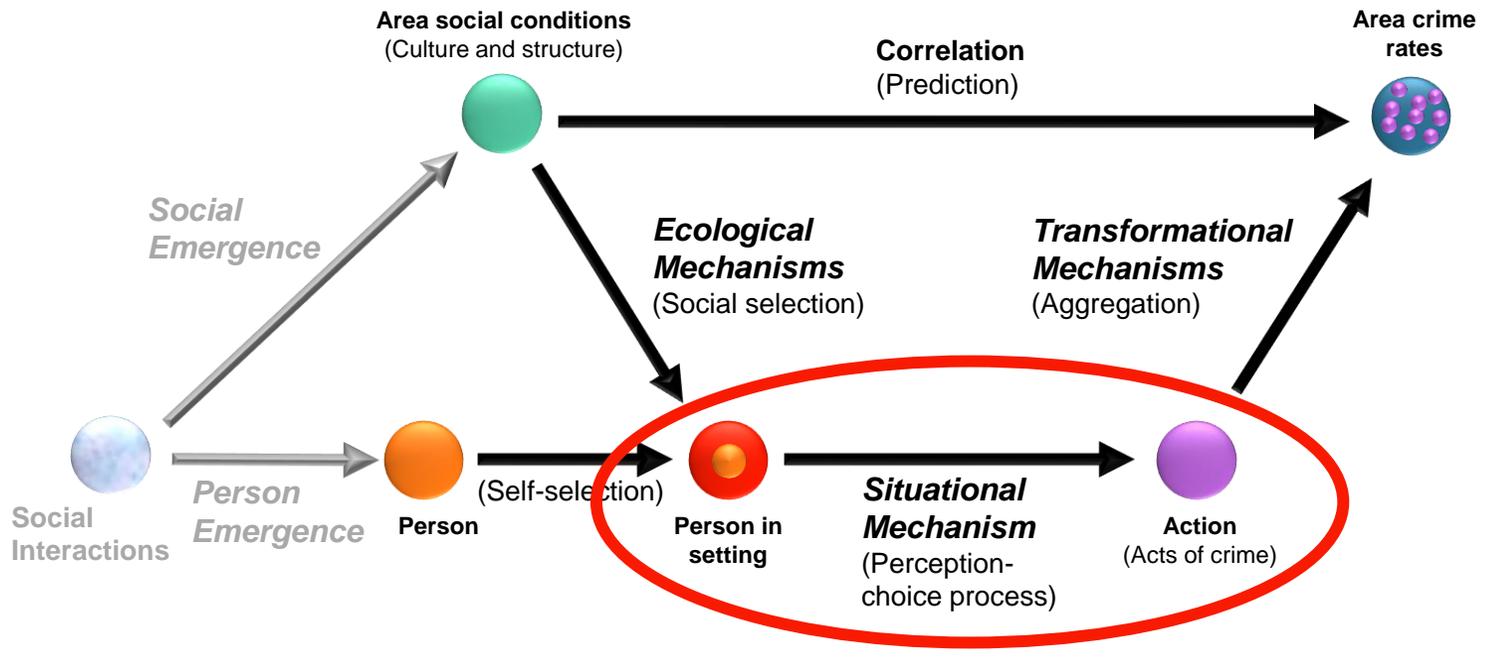
EXPLAINING
ACTS

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Situational Action Theory.

Application: Explaining Risky Places.

The Social and Situational models of SAT.



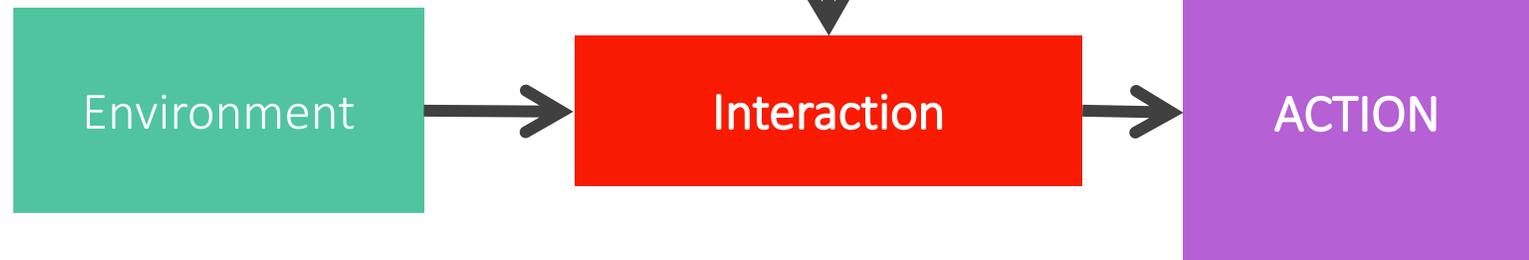
Risky places are concentrations of acts.

Acts of crime
result from
Person-Environment
INTERACTION

$$P \times E = A$$

Situational Model of
SAT.

PEA HYPOTHESIS.



Situational Interaction & SAT.

An expanded terminology for understanding risky places.

PERSON

- An entity with a biological & physiological make-up, experiences & agency.

ACTION

- Bodily movement (or sequence thereof) performed under the person's guidance.

SETTING

- The part of the environment that, at any given moment in time, is accessible to a person through his or her senses.

ENVIRONMENT

- All that lies outside the person.
 - Social environment includes social relations & events.
 - Physical environment includes non-human objects & their relations.

EXPOSURE

- **Convergence** (in a particular time & space) of a person (with particular characteristics) & a setting (with particular characteristics).
 - Ind'l-level.
 - Env'l-level.
 - Sit'l-level.

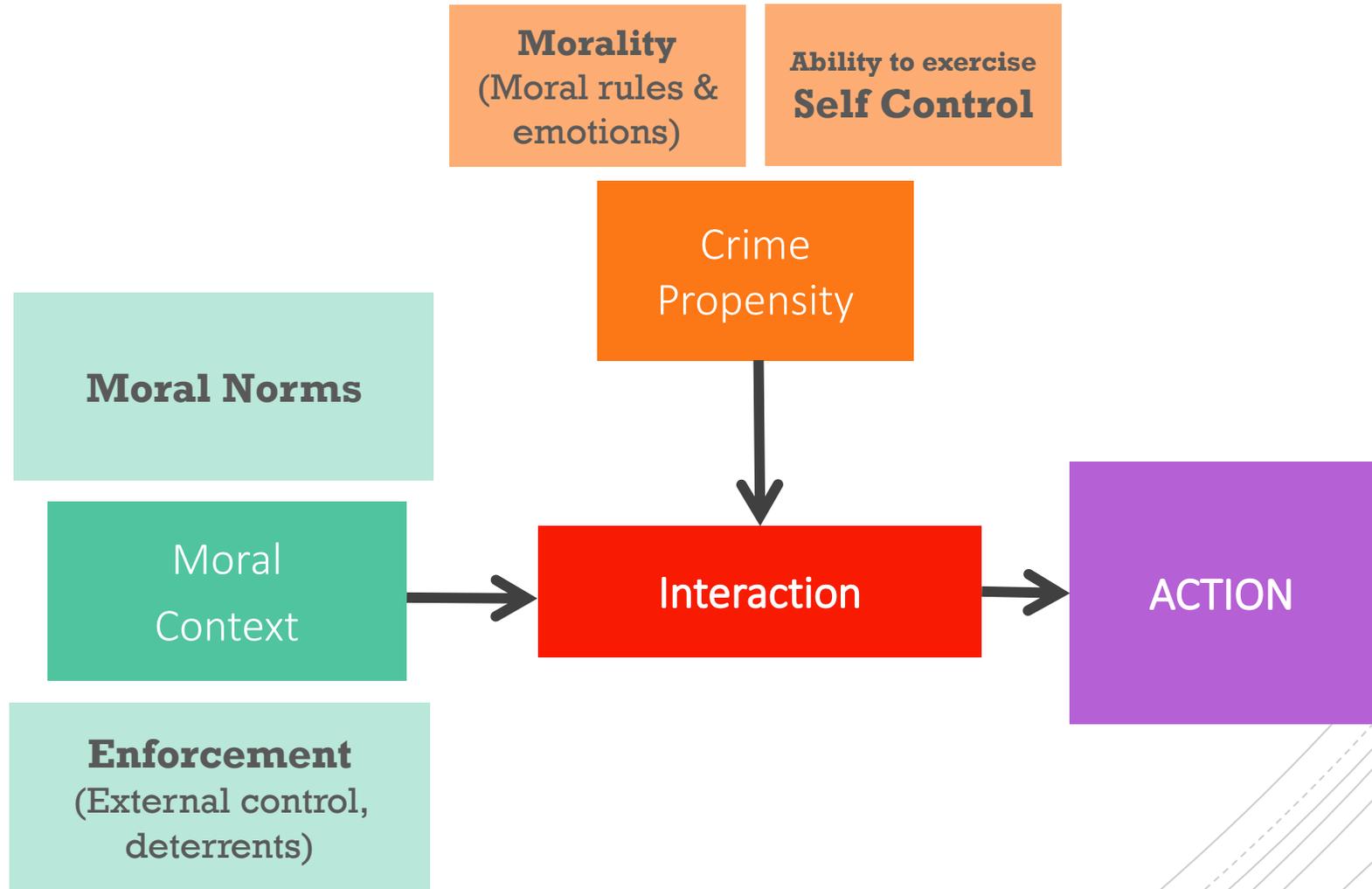
SITUATION

- Engagement of a person (with particular characteristics) & a setting (with particular characteristics) through the perception of alternatives and process of choice.

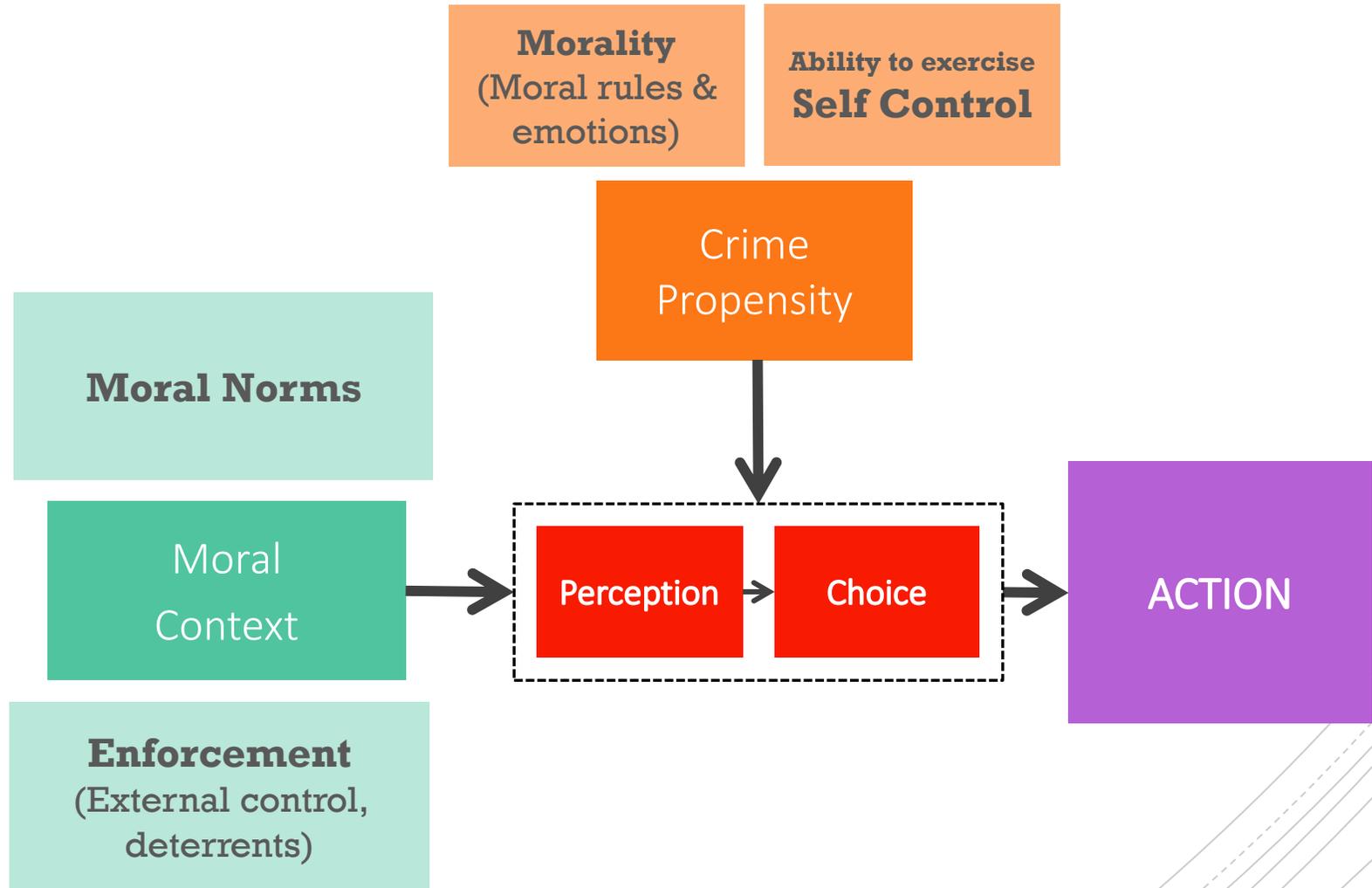
SITUATIONAL INTERACTION

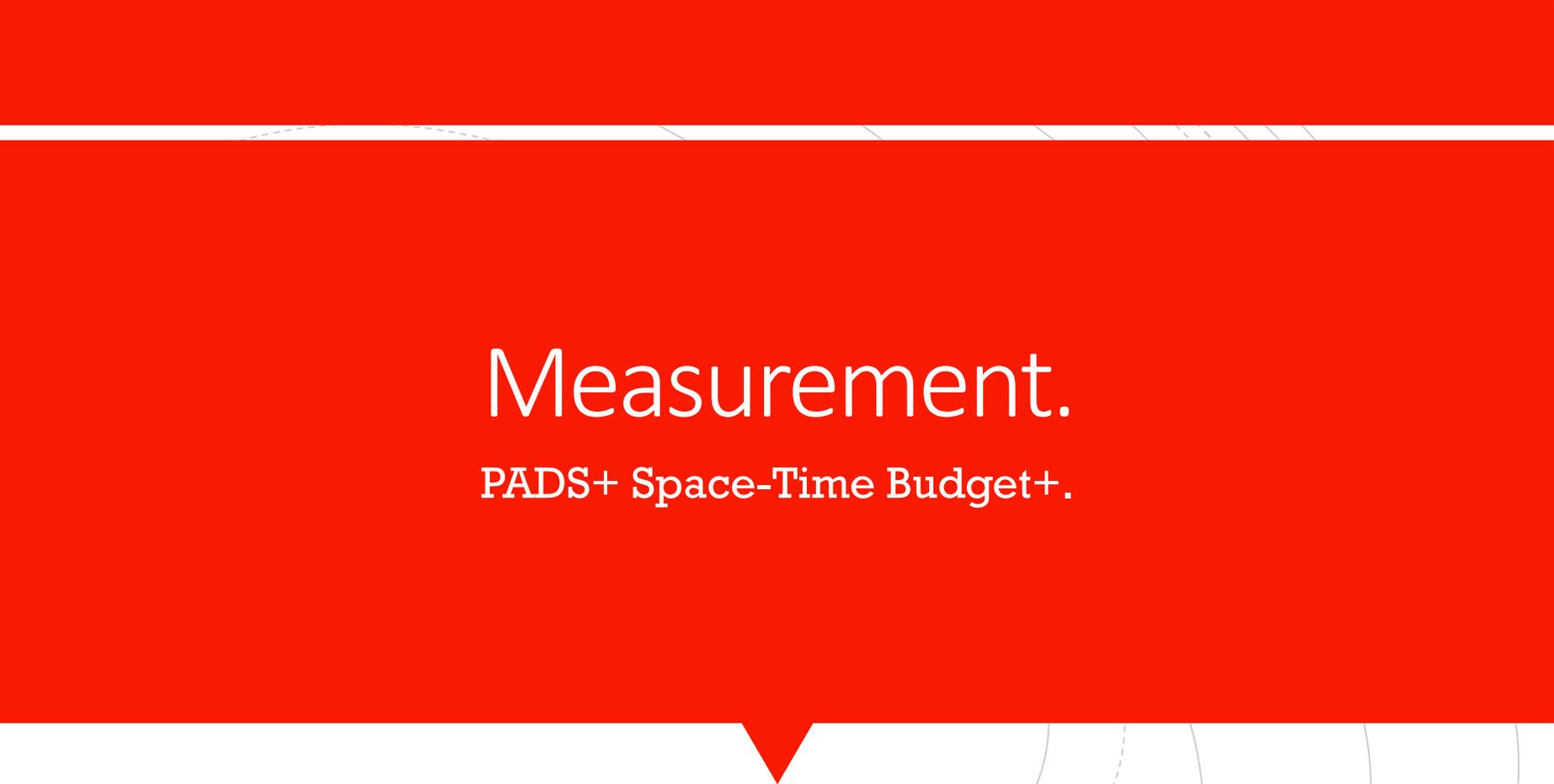
- The kind of interaction that is inherent in situations.

Situational Model of SAT. CONTENT.



Situational Model of SAT.
MECHANISM.



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Measurement.

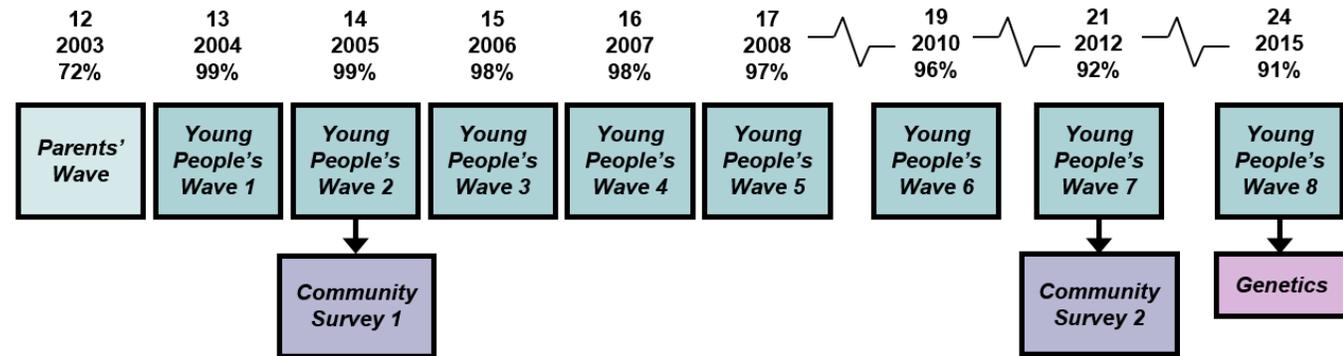
PADS+ Space-Time Budget+.



Peterborough Adolescent & Young Adult Development Study.

Reference age
Year
Response/retention

Data
Collection
Wave



■ Features of small areas.

- UK census Output Areas.
- Community Surveys.
- Census.
- Land Use.
- Space-Time Budget.

■ Personal characteristics & experiences.

- Interviewer-led questionnaire.
- Cognitive measures.
- Genetics.

■ Crime, 'ASB', rule-breaking.

- Self report.
- Official records.

Environment

Person

Exposure

ACTION

 Data & Methods.

- Space-Time Budget.

STB Interview.



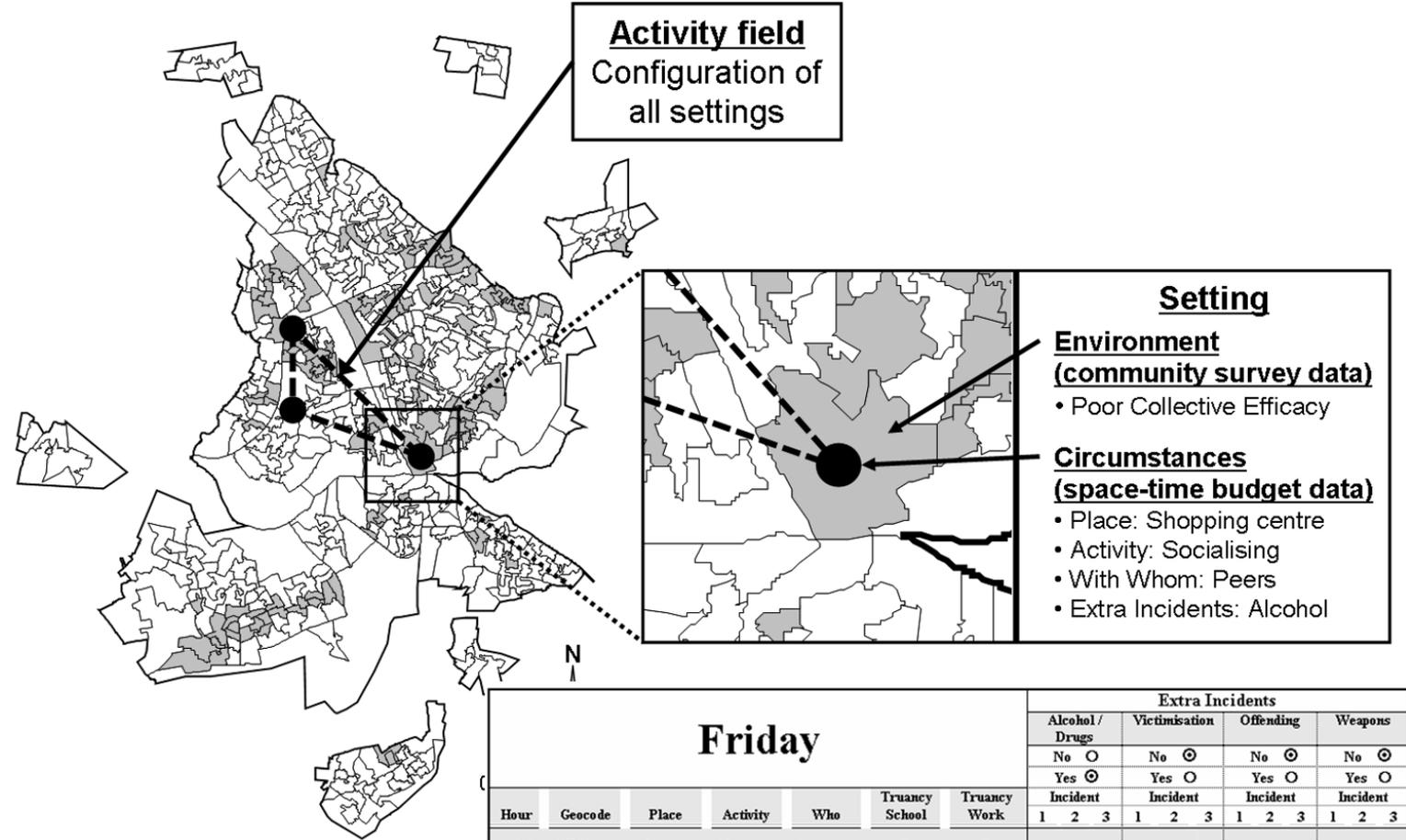
- High-quality intensive 1-to-1 interview.
- Highly specified spatially located time diary.
- 4 days in past 7.
 - Two most recent weekdays.
 - Friday & Saturday.
- 24 hours.
 - 6am-5am.
 - Not during holidays.

Time & Day.
 Geospatial Location.
 Functional Place.
 Activity.
 With Whom.
 Extra Incidents.

Friday

							Extra Incidents												
							Alcohol / Drugs			Victimisation			Offending			Weapons			
							No ☐			No ☑			No ☑			No ☑			
							Yes ☑			Yes ☐			Yes ☐			Yes ☐			
Hour	Geocode	Place	Activity	Who	Truancy School	Truancy Work	Incident			Incident			Incident			Incident			
							1	2	3	1	2	3	1	2	3	1	2	3	
6	NU19	10	22	23	☐	☐													
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Capturing Activity fields.



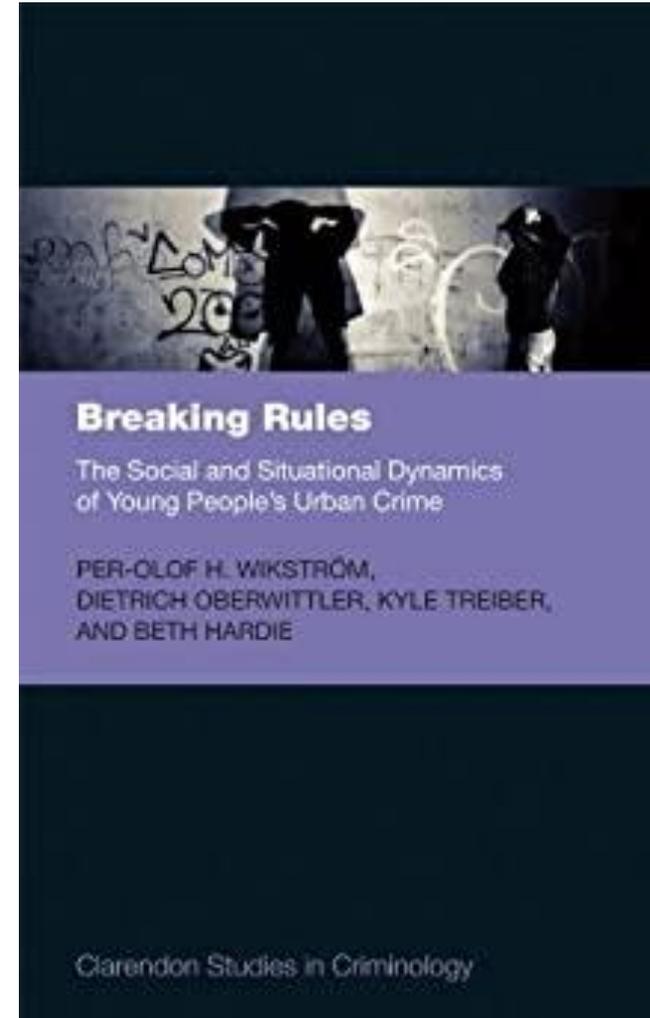
Friday							Extra Incidents												
							Alcohol / Drugs			Victimisation			Offending			Weapons			
Hour	Geocode	Place	Activity	Who	Truancy School	Truancy Work	No <input type="radio"/>			Yes <input type="radio"/>			No <input type="radio"/>			Yes <input type="radio"/>			
							Incident	Incident	Incident	Incident	Incident	Incident	Incident	Incident	Incident	Incident			
17	NED9	43	571	33	<input type="checkbox"/>	<input type="checkbox"/>													
18	NED9	43	571	33	<input type="checkbox"/>	<input type="checkbox"/>													
19	NED9	43	571	35	<input type="checkbox"/>	<input type="checkbox"/>	35												
20	NED9	43	571	35	<input type="checkbox"/>	<input type="checkbox"/>	35												
21	NED9	111	591	31	<input type="checkbox"/>	<input type="checkbox"/>													

Wikström, Ceccato, Hardie & Treiber, 2010;
 Wikström, Oberwittler, Treiber & Hardie, 2012;
 Wikström, Treiber & Hardie 2012.

Space-Time Budget.

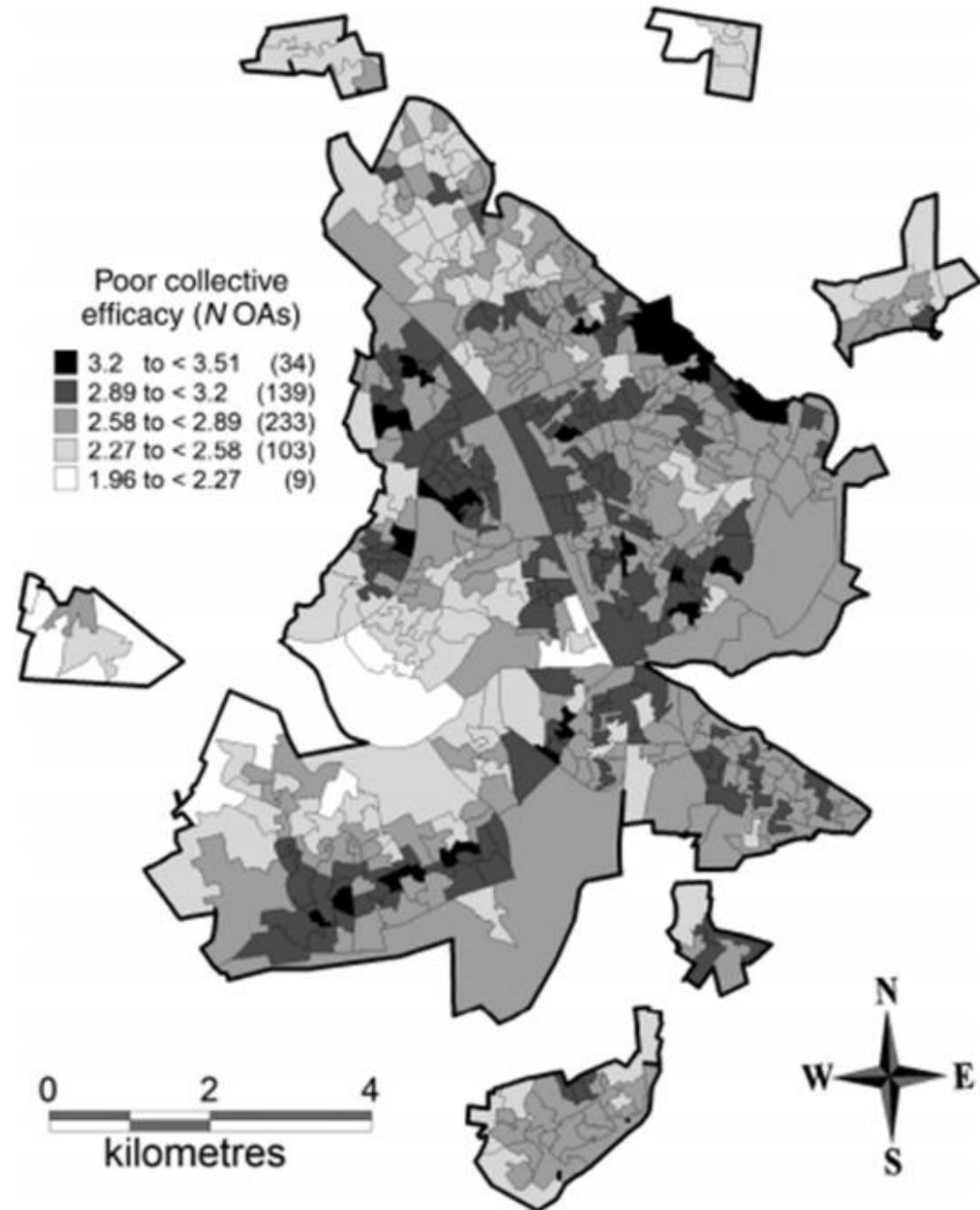
- Captures **EXPOSURE** of individuals to settings.
 - And the **FEATURES** of that **CONVERGENCE**.
- Multiple data sources: **SPATIALLY & TEMPORALLY LINKED**.
- Rich **DETAIL** about settings.
- **COMPLEX CONSTRUCTIONS**.
 - E.G. Unstructured, peer-oriented time (unsupervised, not work or school oriented), outside domestic settings, in areas of poor collective efficacy or city/local centres, spent by people with high crime propensity (weak moral rules and poor ability to exercise self control).
- **SITUATIONAL** level measure of **EXPOSURE**.
 - Can be **AGGREGATED** to **INDIVIDUAL** or **ENVIRONMENT** level.

Example PADS+ STB+ Data.

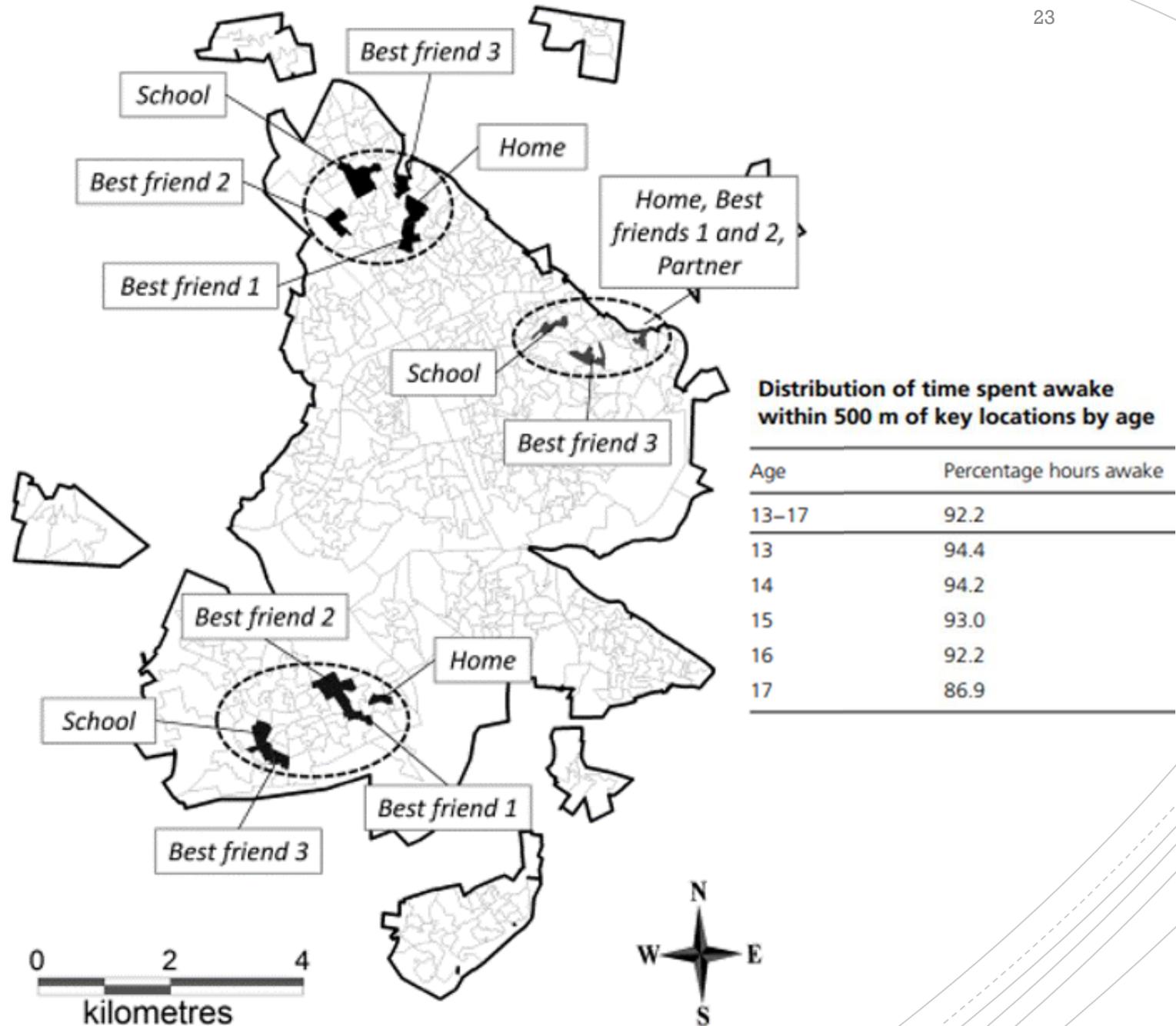


Social Environments Vary.

Small Area Community Survey.



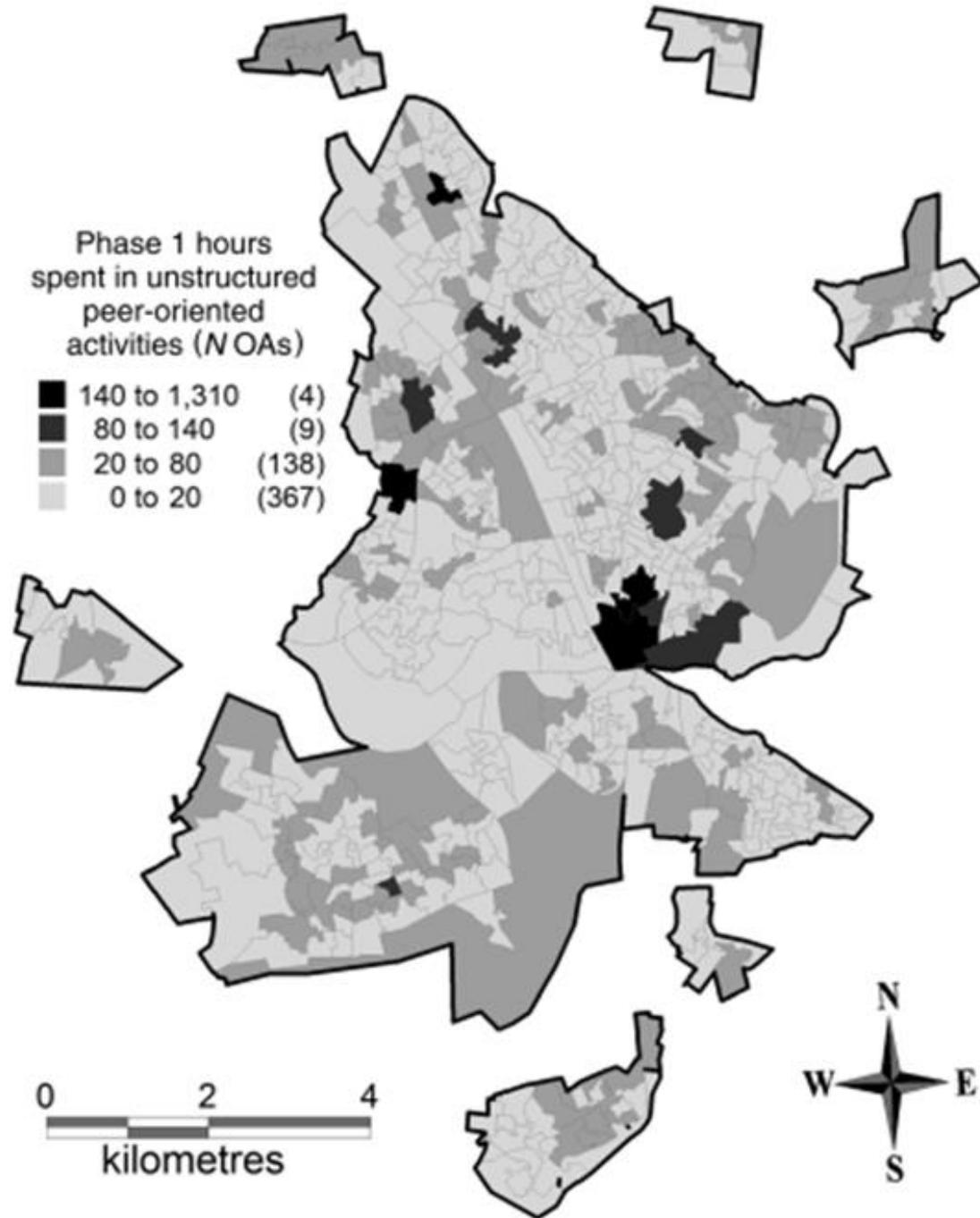
Individual-Level Spatial Concentration of Time Use.



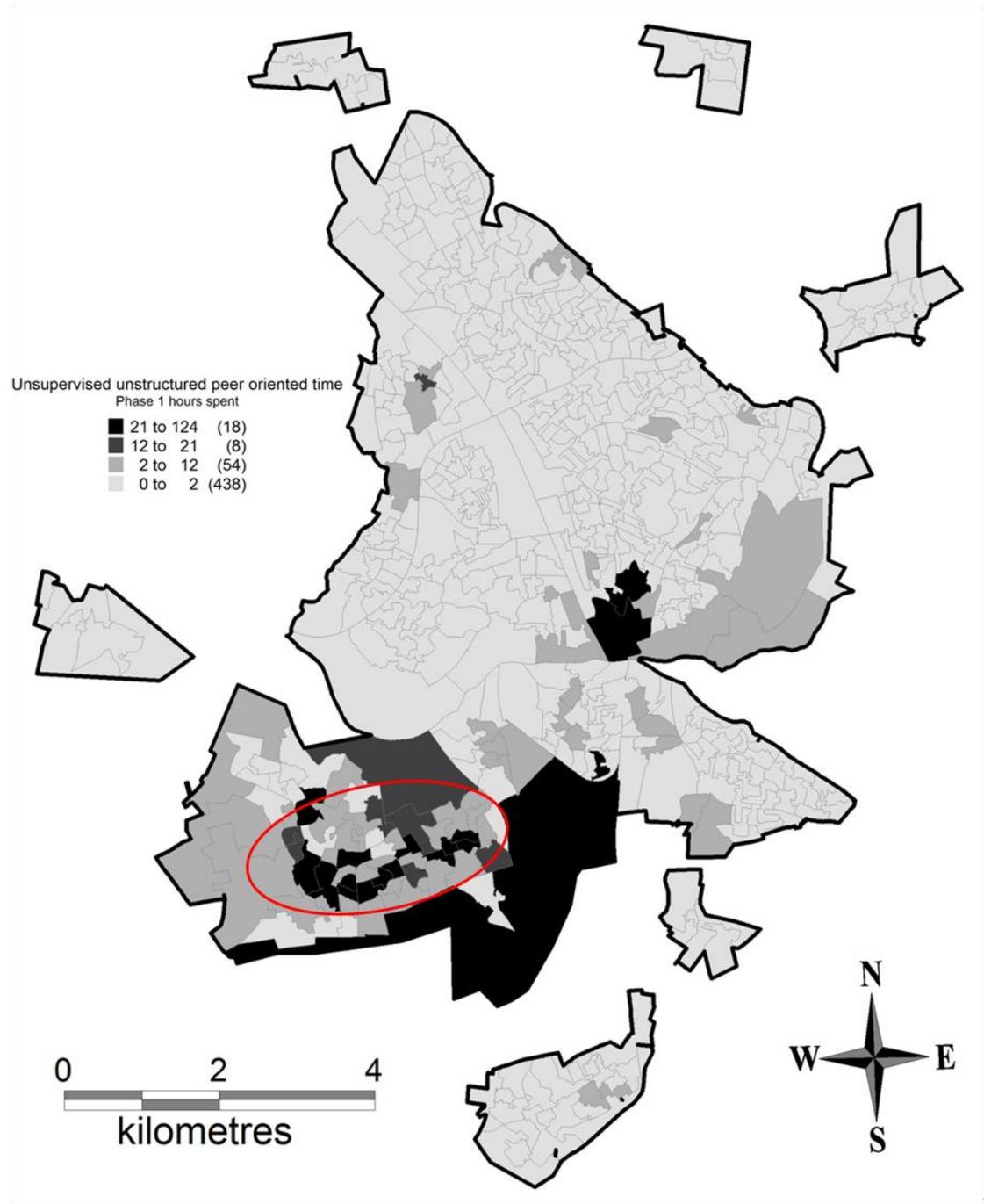
Environment- Level Spatial Distribution of Risky Time Use.

Phase 1 hours
spent in unstructured
peer-oriented
activities (NOAs)

■ 140 to 1,310	(4)
■ 80 to 140	(9)
■ 20 to 80	(138)
■ 0 to 20	(367)



Intersecting Risky Time Use & Activity Fields.



Risky time use clusters in time and place.

(Unsupervised unstructured peer oriented time: % by setting and time/day).

Day/time	Key settings								
	Private indoor		Public indoor				Public outdoor		
	Home	Others ' home	School	Work Place	Shop locale	Pub/ Nightclub	Street	Park	Moving
Weekday day	1.4	2.8	0	0	2.3	0.1	1.7	1.0	0.8
Weekday evening	1.6	5.6	0	0	2.8	1.0	6.0	4.2	1.8
Weekend day	0.5	2.3	0	0	5.5	0.1	2.2	1.9	0.3
Weekend evening	3.9	14.7	0	0	4.6	4.7	10.1	8.5	2.3

Person-Environment Interaction.

Aggregated Environment Level.

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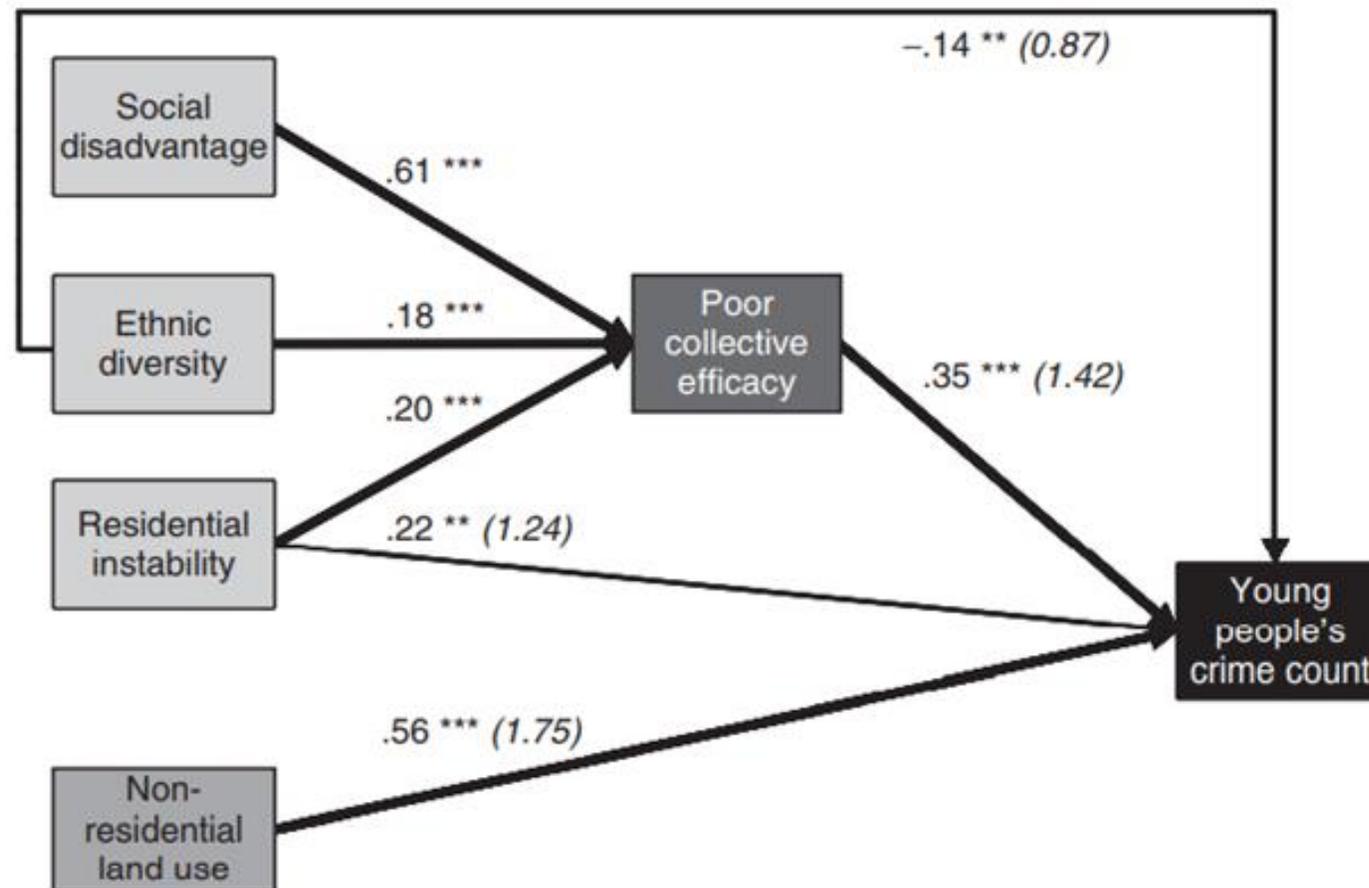
Studying Risky Places.

Aggregated Environment Level.

Step I: Environment effects (Output area level)

Odds ratios in brackets; paths to poor collective efficacy in metric scale; paths to crime in logarithmic scale.
Significance level: *** $p < .001$, ** $p < .01$, * $p < .05$.

Structural features (census),
Land use,
Collective efficacy (com. surv.)
Police recorded youth crime.



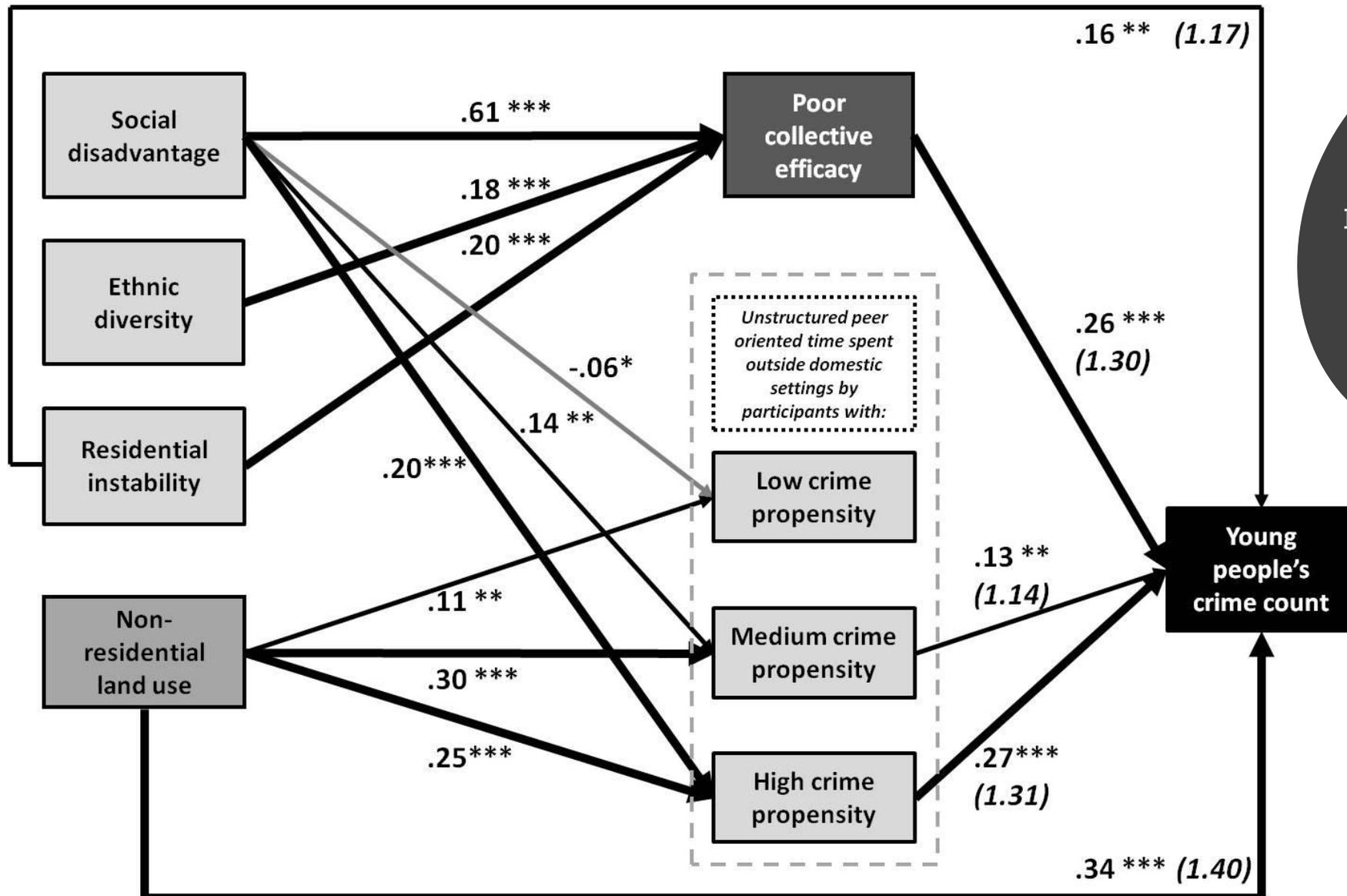
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Studying Risky Places: Person-Environment Interaction.

Aggregated Environment Level.

Step II: Person-Environment Interaction (Output area level)

Odds ratios in brackets; paths to poor collective efficacy in metric scale; paths to crime in logarithmic scale.
 Significance level: *** $p < .001$, ** $p < .01$, * $p < .05$.



Spatial concentrations of crime occur at places where crime prone people and criminogenic settings regularly converge

Includes STB env't-level exposure data by individual crime propensity

Table 6.31 Comparison of odds ratios^a for models predicting area counts of young people's crime including and excluding time use variables by propensity groups

	Non-residential land use			Poor collective efficacy		
	Model excluding time use variables by propensity groups ^b	Model including time use variables by propensity groups ^c	Percentage reduction in odds ratio	Model excluding time use variables by propensity groups ^b	Model including time use variables by propensity groups ^c	Percentage reduction in odds ratio
All crime	1.75***	1.40***	20.0	1.42***	1.30***	8.5
Violence	1.82***	1.44***	20.9	1.39***	1.32***	5.0
Vandalism	1.70***	1.52***	10.6	1.27*	<i>n.s.</i>	
Serious property	1.21**	1.18*	2.5	1.17*	1.17*	0.0
Shoplifting	7.24***	2.63**	63.7	<i>n.s.</i>	<i>n.s.</i>	

^a Significance levels: *** $p < .001$, ** $p < .01$, * $p < .05$.

Person-Environment Interaction.

Environment Level of Analysis.

- Independent, aggregated data.
- Dependency effect
- Assumption of co-occurrence or convergence.
 - an example of an **ECOLOGICAL FALLACY**.

Interactions revealed in data captured at or aggregated to the environment level:
“do not demonstrate that a particular person (with a particular crime propensity) *is actually in* a particular setting (with particular criminogenic features) when he or she commits an act of crime”

Wikström et al. (2012, p. 407)

Person-Environment Interaction.

Appropriate Level of Analysis.

- Level of **measurement & analysis** must match level of **study & conclusions** (ACTION).
- Actions result from **SITUATIONS**.
- **Individual** and **environmental** component parts cannot be decomposed.
- Person **IN** environment; not person **AND** environment.

Person-Environment Interaction in Action.

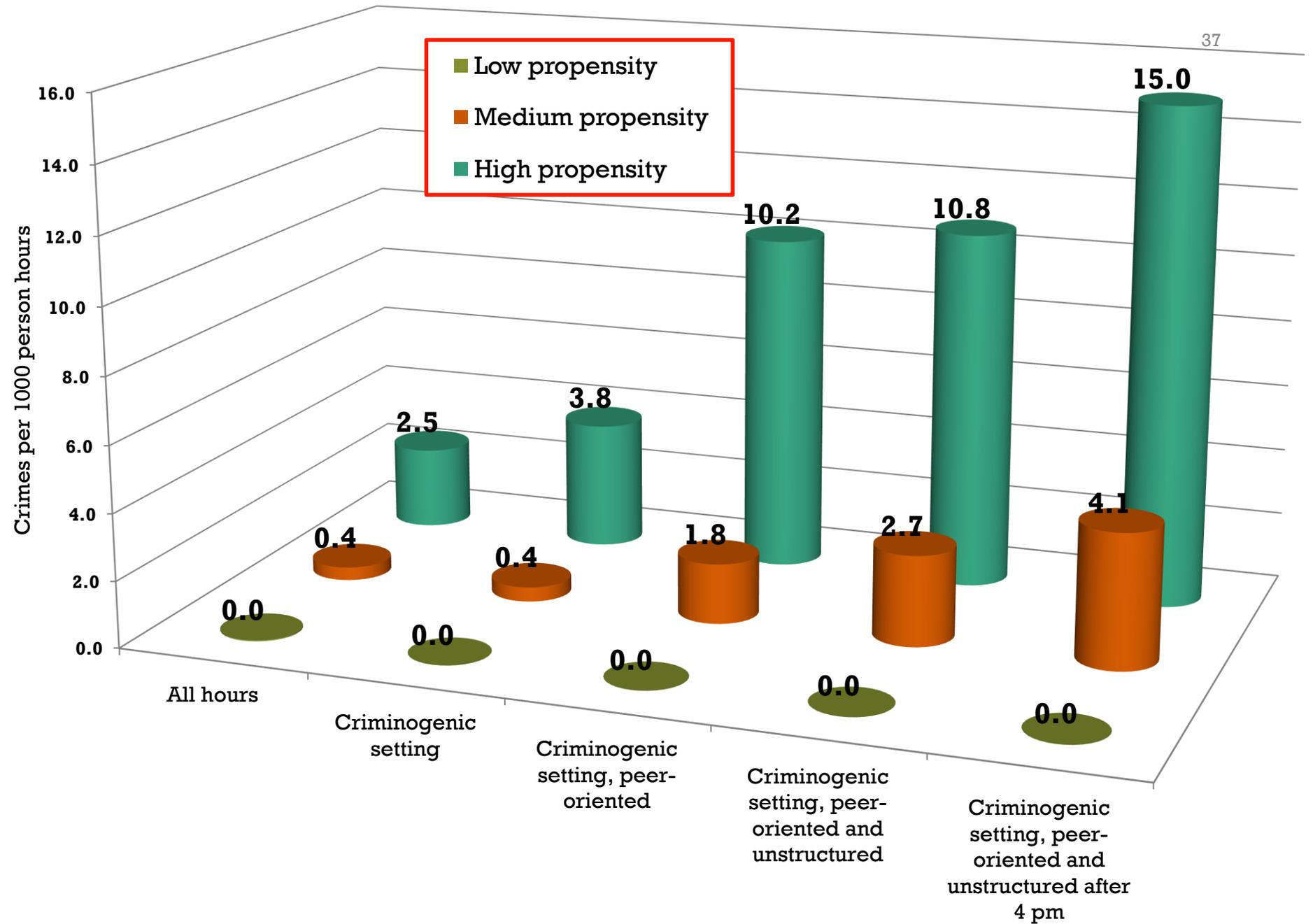
A different approach to studying risky places.

Act. Place. Who.
 Area & Individual Features.
 Crime Outcome.

Friday							Extra Incidents											
							Alcohol / Drugs			Victimisation			Offending			Weapons		
Hour	Geocode	Place	Activity	Who	Truancy School	Truancy Work	No ☐			No ☐			No ☐			No ☐		
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							Incident			Incident			Incident			Incident		
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SPATIALLY &
 TEMPORALLY
 LINKED

**Person-Environment
Interaction.**
(situational, action,
event level)



Conclusions.

- Crime concentrations are **AGGREGATIONS OF ACTS**.
- **PEOPLE CARRY OUT ACTS**.
- Study of risky places should be done at the **LEVEL OF ACTS** not places.
- Need adequate **MEASURES OF EXPOSURE** of **KINDS OF ENVIRONMENTS** to **KINDS OF PEOPLE** at the situational level of action.

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- **Hardie, B. (2020). *Studying Situational Interaction: Explaining behaviour by analysing person-environment convergence*. Springerbriefs in Criminology; Springer.**
- **Hardie, B., & Wikström, P.-O. H. (2021). Space-Time Budget methodology: Facilitating social ecology of crime.** In J. C. Barnes & Forde D (Eds.), *Encyclopedia of research methods and statistical techniques in Criminology and Criminal Justice*. Wiley.
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