

# **Exploring public trust and police legitimacy using Structural Equation Modelling**

Ben Bradford

Scottish Centre for Crime and Justice Research

# Overview

- Key concepts and theoretical tools
- Measuring concepts – confirmatory factor analysis (CFA)
- Modelling relationships – structural equation modelling (SEM)

# Key concepts and theoretical tools

- 'Trust and confidence'
- Legitimacy
- Procedural justice model
- The police as representatives of nation, state and/or the established moral order
- Public perceptions of crime and disorder

# Trust

- Following Barber, we might suggest trust involves expectations that:
  - The world will continue more or less as it is - the behaviour of trustees will maintain and replicate the assumed natural and moral social order.
  - The trustee will be technically competent in the roles assigned to them.
  - The trustee will place the interests of others above their own in certain circumstances.
- Or Hardin:
  - 'To say we trust you means we believe you have the right intentions toward us and that you are competent to do what we trust you to do.' (Hardin, 2006: 17)

# 'Trust and confidence'

- 'Trust and confidence' is the generally used term to summarise public support for police in the UK.
- Classically, this has been measured by asking people "Taking everything into account, how good a job do you think the police in this area are doing?"
- Opinions of the police are usually depicted as having been in long term decline.

# 'Trust and confidence'

- Many police and government policies are aimed at halting or reversing this decline:
  - Reassurance policing.
  - Neighbourhood policing.
  - 'Confidence agenda'.
- Central to many such schemes is the that increasing trust and confidence will have many desirable ends, such as increasing cooperation with the police. Above all, perhaps the idea is to enhance the legitimacy of the police.

# Legitimacy

- “...a property of an authority or institution that leads people to feel that it is entitled to be deferred to and obeyed.” (Sunshine and Tyler 2003: 514)
- Political legitimacy grants the right to: “enforce commands which cannot be countermanded, and to have a monopoly of such legitimate enforcement”. (Barker 1990: 23)
- Beetham (1991): Legitimacy is always granted on the basis of common shared values. Three dimensions must be fulfilled for a power to be considered legitimate: its conformity to a set of rules; the justifiability of these rules in terms of shared beliefs; and the expressed consent of those governed or otherwise affected by the power.

# Linking trust and legitimacy

- So if enhancing trust and confidence the police is meant to lead to desirable ends in terms of legitimacy - in terms of cooperation, deference and compliance - what is the mechanism for this?
- What generates trust, why should it be linked to legitimacy, and why does legitimacy lead to compliance?
- The *procedural justice model* developed in the United States by Tom Tyler and colleagues provides a robust and empirically testable model of for these processes.

# Procedural justice

- In their dealings with legal authorities people value just and decent treatment, and transparent and fair decision making, over instrumental concerns and concrete outcomes.
- Fair and decent treatment promotes feelings of procedural justice and promotes motive-based trust. These in turn increase the legitimacy of the authority concerned.
- Enhanced legitimacy leads to:
  - Satisfaction with decision maker;
  - Decision acceptance;
  - Readiness to comply with instructions/orders; etc.
- Procedural justice expresses shared group membership. By and through the way in which they treat people, police officers talk to them about their inclusion and position within society.

# What do the police represent?

- So the police are 'proto-typical group representatives', their actions communicating group membership and status.
- But what is the group involved?
- A dominant theme in work on English policing is that the police represent the community, nation, state.
- Equally, the police represent/embody social order, stability, even respectability.

# The context in England (and Wales) (and probably Scotland)

- The police are heavily implicated in a particular version of English national identity.
- People's experiences of and ideas about the police connect with pre-existing 'dispositions towards, and fantasies of, policing' (Loader 1997) which are in turn drawn largely from a repertoire recalling a golden age of cohesiveness, stability and national efficacy – the immediate post-war years – which has subsequently been degraded by the changes arising from modernity, globalization, and mass immigration
- Dixon of Dock Green – the quintessential English policeman – conjures up the time before the fall, when the nation was cohesive, strong and at peace with itself.

# Who was Dixon of Dock Green?



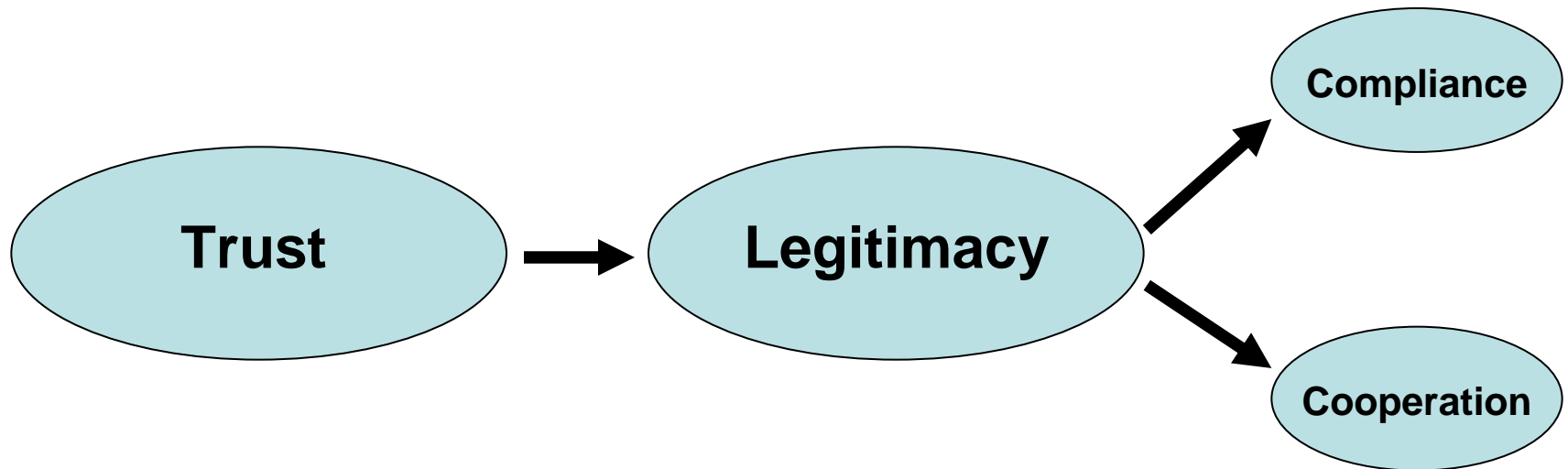
**Although let's not get carried away**



# Crime, disorder and social change

- Of course, policing is only about fairness, 'justice' or a particular sense of order.
  - In particular, ideas about crime and *disorder* should be important in some way.
- The 'fear of crime' and ideas about low level disorder are closely related to deeply-seated concerns about the nature and direction of social change.
- Ideas about crime are not that closely related to ideas about the police – although the link between disorder and policing is stronger. Furthermore, it seems that concerns about disorder 'drive' concerns about crime.
- Perhaps the most important idea is that opinions of the police are caught up in a complex web of ideas and emotions.

# A simple conceptual map

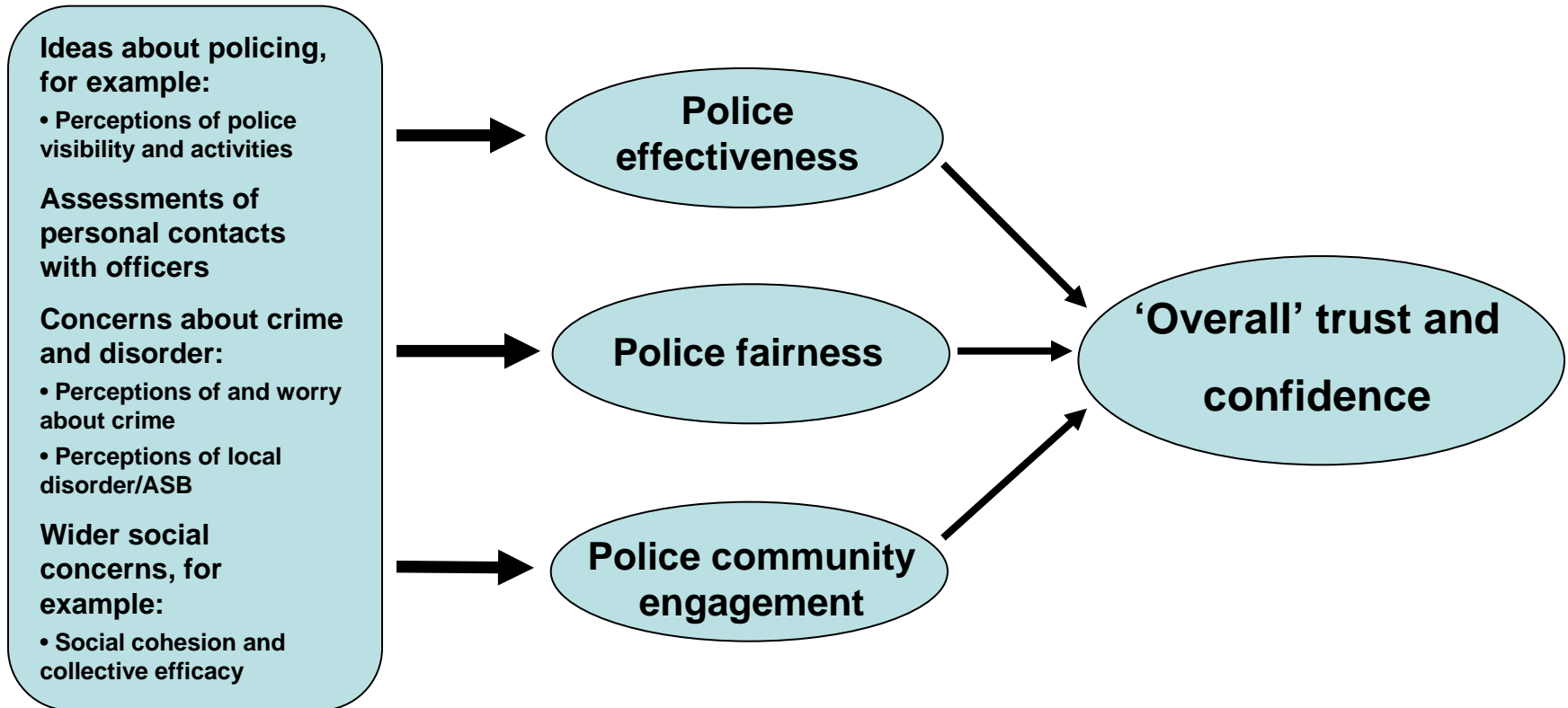


**Actually, just one possible map - there are many others**

# Measuring the key concepts

- I'll use trust in the police as an example.
- The Metropolitan Police (MPS) 'confidence model' is used as a diagnostic tool to help police managers better understand public attitudes in the areas they serve.
- Using data from the Metropolitan Police's Public Attitudes Survey (PAS) we can identify three components of 'trust and confidence' which relate to different aspects of police performance/behaviour:
  - The effectiveness of the police.
  - The fairness with which the police treats people.
  - The extent of the police's engagement with local communities.

# The 'MPS confidence model'



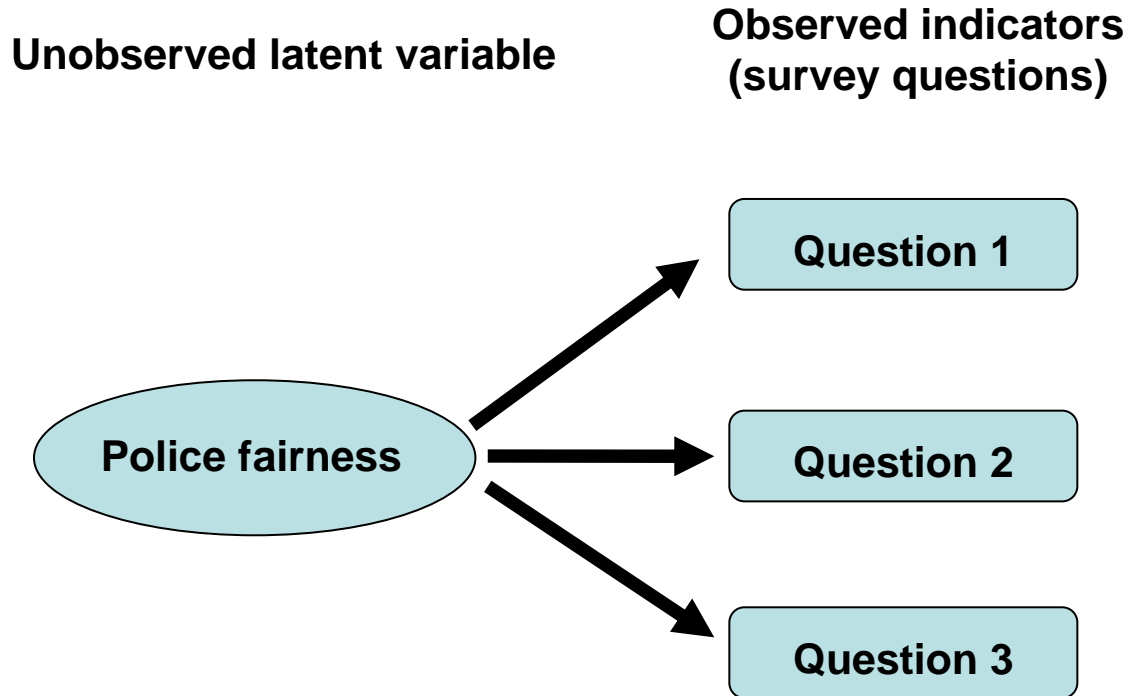
# Measuring trust

- We could just ask: “How much do you trust the police to be fair?”, with answers on a Likert-type scale (a lot; quite a lot; not a lot; not at all).
- But this would create many problems:
  - It introduces (an unknown amount of) measurement error - for example some people would answer ‘quite a lot’ when they really wanted or meant to say ‘between a lot and quite a lot’.
  - People have different understandings of words such as ‘fair’.
  - Respondents may not know the specific answer to a question, but will draw on an underlying attitude or orientation in order to provide an answer - and it is this we are usually more interested in.
- Single item questions are also some times difficult (and boring) to analyse.
- A better way is to use some kind of latent variable technique.

# Latent Variable Modelling

- The basic idea is that answers to a series of survey questions are used to build up a picture of an unobserved latent characteristic, orientation or 'factor' which influences the answers respondents give to different survey questions.
- Instead of asking "How much do you trust the police to be fair?", we might ask people to say how much they agree/disagree with a range of statements such as:
  - "The police treat everyone fairly"
  - "If I had contact with the police they would treat me with respect"
  - "The police in this area are helpful"
  - Etc.
- Answers to series of questions such as these can be used in a variety of ways to gain insight into the latent variables (or factors) which underlie them.
- These techniques – such as CFA and SEM – can give a much more accurate picture of people's views than would be provided by a single question.

# A latent variable structure



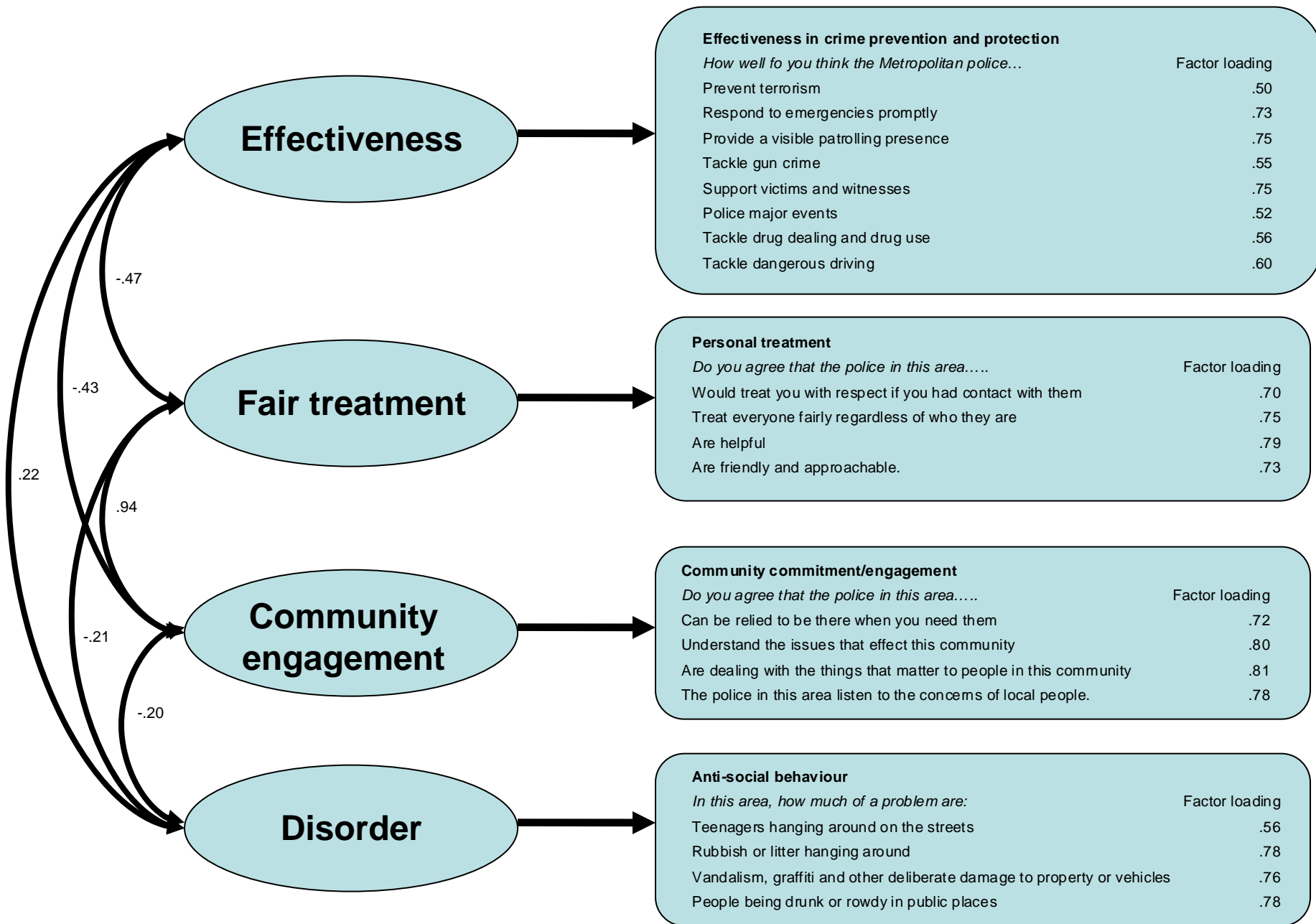
# Confirmatory Factor Analysis

- CFA is just one latent variable technique.
- It is similar to Exploratory Factor Analysis (EFA), in that we are looking for a underlying factor structure which explains some, a lot and preferably most of the variation in a particular set of questions.
- But EFA is descriptive, while CFA is inferential.
- In CFA the factor structure is specified *a priori*, and then confronted with the data. Various fit statistics tell us whether our specified model is a good fit to the data – whether it ‘works’ – and also whether it would generalise to the population from the which data are drawn.

# A Basic CFA model - trust in police fairness



<i>Do you agree that the police in this area...</i>	Factor Loading
Would treat you with respect if you had contact with them	.70
Treat everyone fairly regardless of who they are	.75
Are helpful	.79
Are friendly and approachable	.73



Chi square=8319.42; df=152; p=<0.001

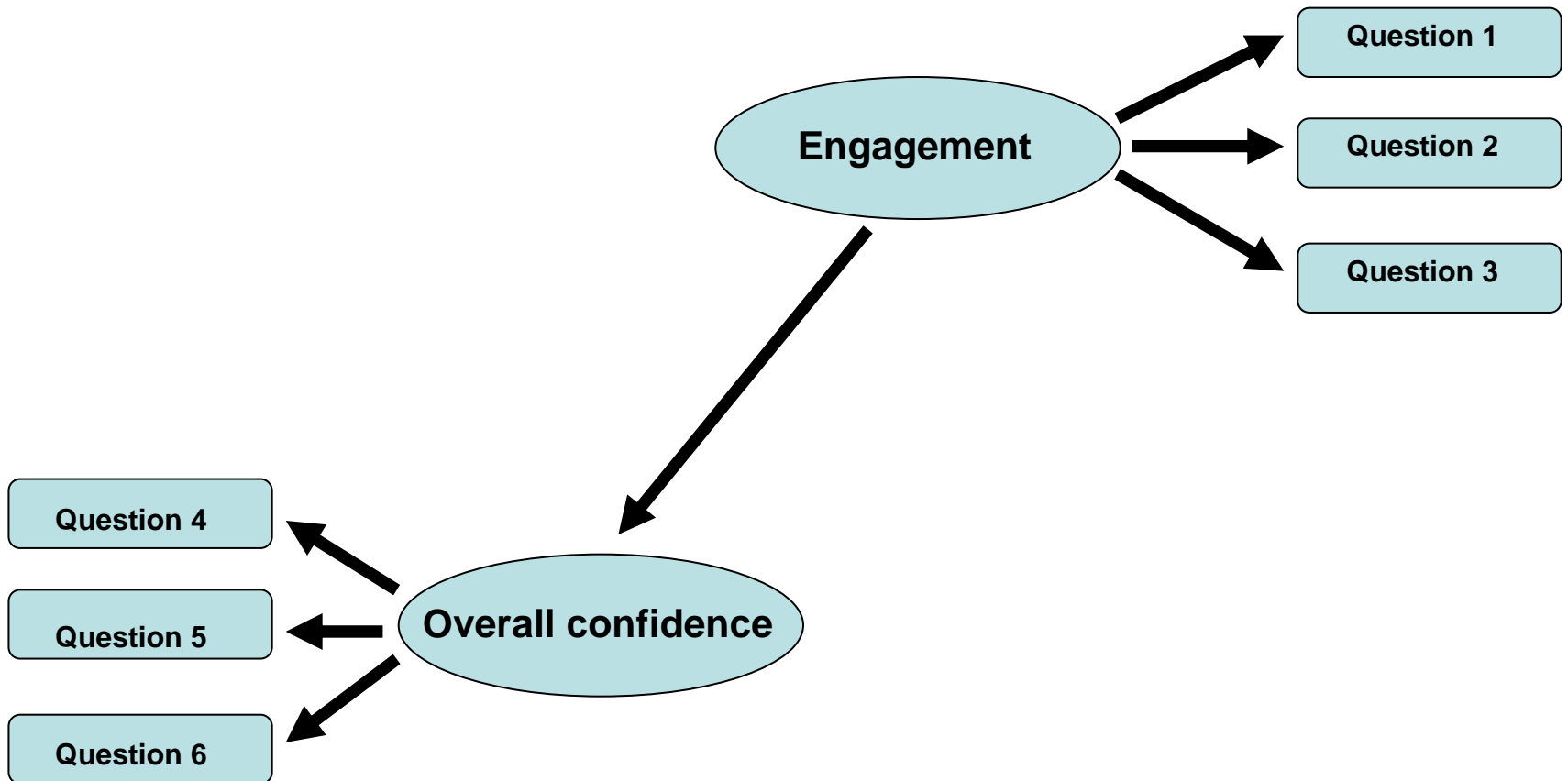
RMSEA=.051; CFI=.948; NFI=.947

Source: Metropolitan Police Public Attitudes Survey 2008/09

# Structural Equation Modelling

- SEM is in some ways an extension of CFA.
- It allows us to model complex structures and relationships.
- In its basic form it combines CFA models with traditional linear regression modelling (other variations are possible).
- SEM uses observed indicators to measure latent constructs – the measurement model - which are then regressed on each other in a pattern specified by the researcher – the structural model.
- As in CFA the model is specified *a priori*, based on theory, and then confronted with the data.
- For example, we might be interested in modelling the relationship between a ‘component’ of trust, such as trust in police *community engagement*, and ‘overall’ confidence (as measured by questions such as the British Crime Survey’s ‘taking everything into account, how good a job do you think the police in this area are doing?’).

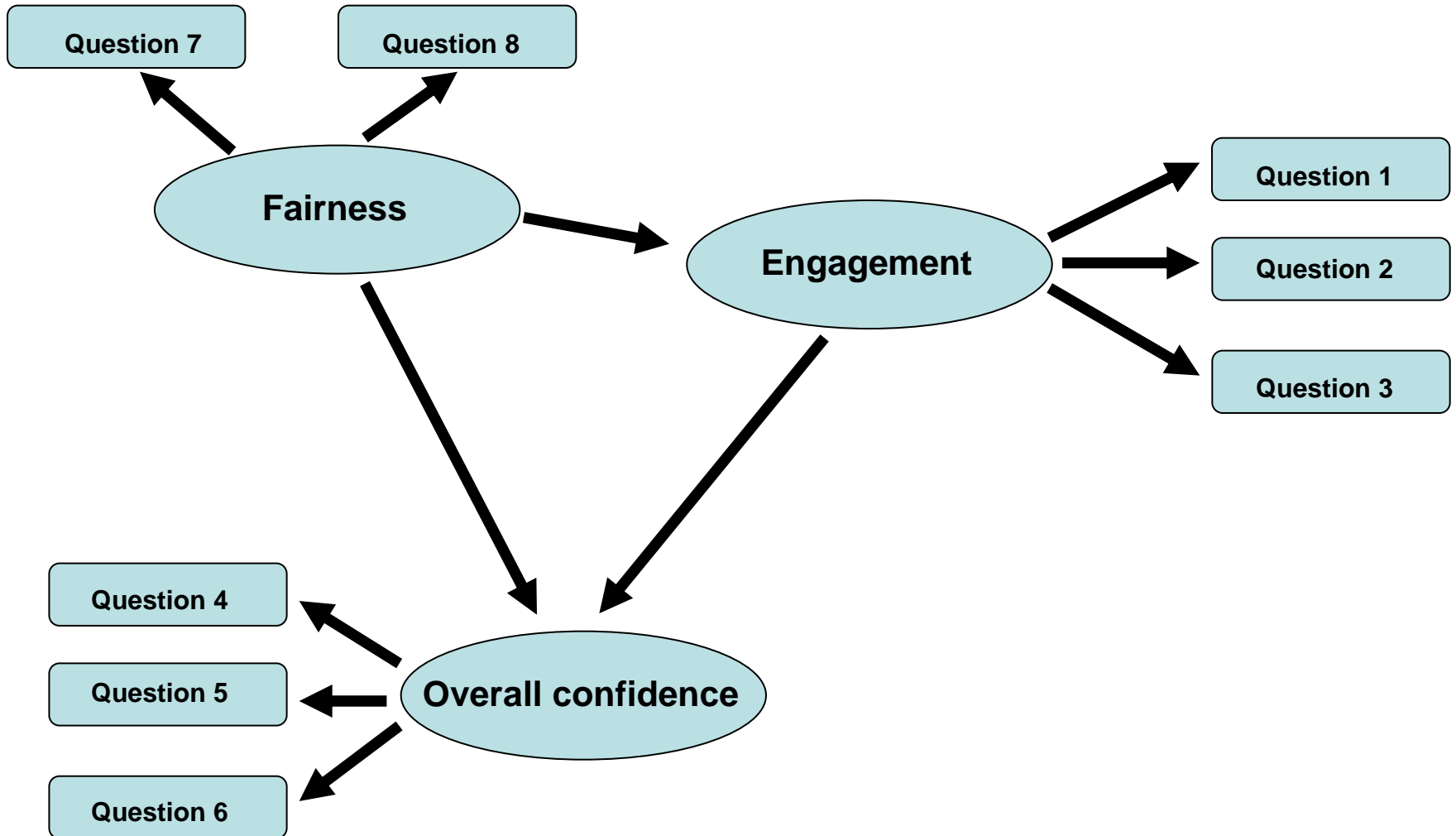
# A (very) simple SEM



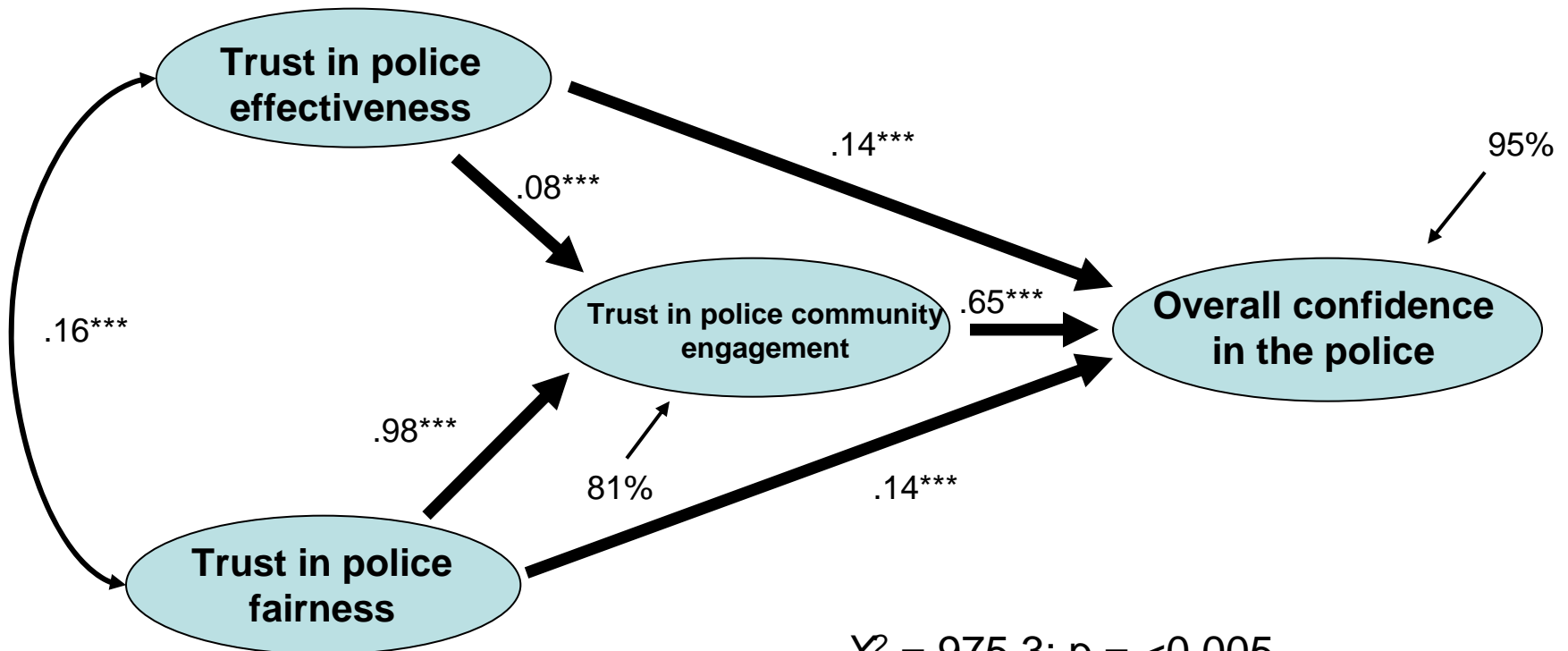
# Structural Equation Modelling

- But how do people know that the police are 'engaged' with the their community?
- According to the procedural justice model, the fairness with which police treat people communicates to them that the police have their best interests at heart and are 'on their side' - that is, listening to and doing the things they think are important.
- So we should find that trust in police fairness is linked to trust in police community engagement.
- But trust in fairness might also be linked directly to overall confidence.
- SEM allows us to unpick relationships such as this.

# Another simple SEM



# With some real data



$\chi^2 = 975.3; p = <0.005$

CFI = .96; TLI = .95; RMSEA = 0.06

# 'Trust and confidence' - a summary of the evidence

**Views about and orientations toward the police are influenced more by expressive concerns than by instrumental or other matters.**

- During personal contacts fair treatment and 'reassurance' are valued over material outcomes.
- Views about effectiveness, fairness and community engagement are also influenced more by expressive factors.
  - Fear of crime is less important than concerns about social change, perceived disorder, and questions of value/moral alignment.
- Trust in the police is linked to cooperation, which you can see as either flowing from police legitimacy or as constitutive of police legitimacy.

# Public Cooperation and Support for the Police

- Cooperation with the police is the propensity among the public to call upon and assist officers. It is, in Beetham's terms, an act expressing consent, and is therefore intimately linked to legitimacy.
- Cooperation is related to trust in the police and concerns about neighbourhood breakdown and moral decline.
- Propensities to invoke the police to deal with problems are linked:
  - to public assessments of police values adjudged by assessments of police procedural justice and community engagement; and
  - to perceptions of local disorder, threats to social order, and levels of informal social control and cohesion.
- People mobilise mechanisms of formal social control – the police – when they have confidence in them, when they see threats to social order, and when they enjoy group resources of social cohesion, trust and collective efficacy.

# Modelling Public Cooperation: linear regression model

## Partial results from a linear regression<sup>1</sup> predicting stated propensities to assist the police

(High scores = greater propensity)

	Standardised regression coefficients
<b>Victim of crime</b> (ref: no)	
Yes	-0.05 *
<b>Contact with the police</b> (ref: none)	
Satisfactory contact	0.05 *
Unsatisfactory contact	0.01
<b>'Objective' condition of local area</b> (high=more)	
Interviewer coded disorder	0.04
<b>Opinions of the police</b> (high=better)	
Procedural justice and community engagement	0.11 ***
Effectiveness	0.08 ***
<b>Perception of local area</b> (high=more)	
Crime problems	-0.06 **
Worry about crime	0.12 ***
Disorder	0.06 **
Social cohesion and collective efficacy	0.11 ***
<b>Assessment of social moral decline</b> (high=more)	
Perception of moral decline	0.29 ***
<b>R<sup>2</sup></b>	0.17

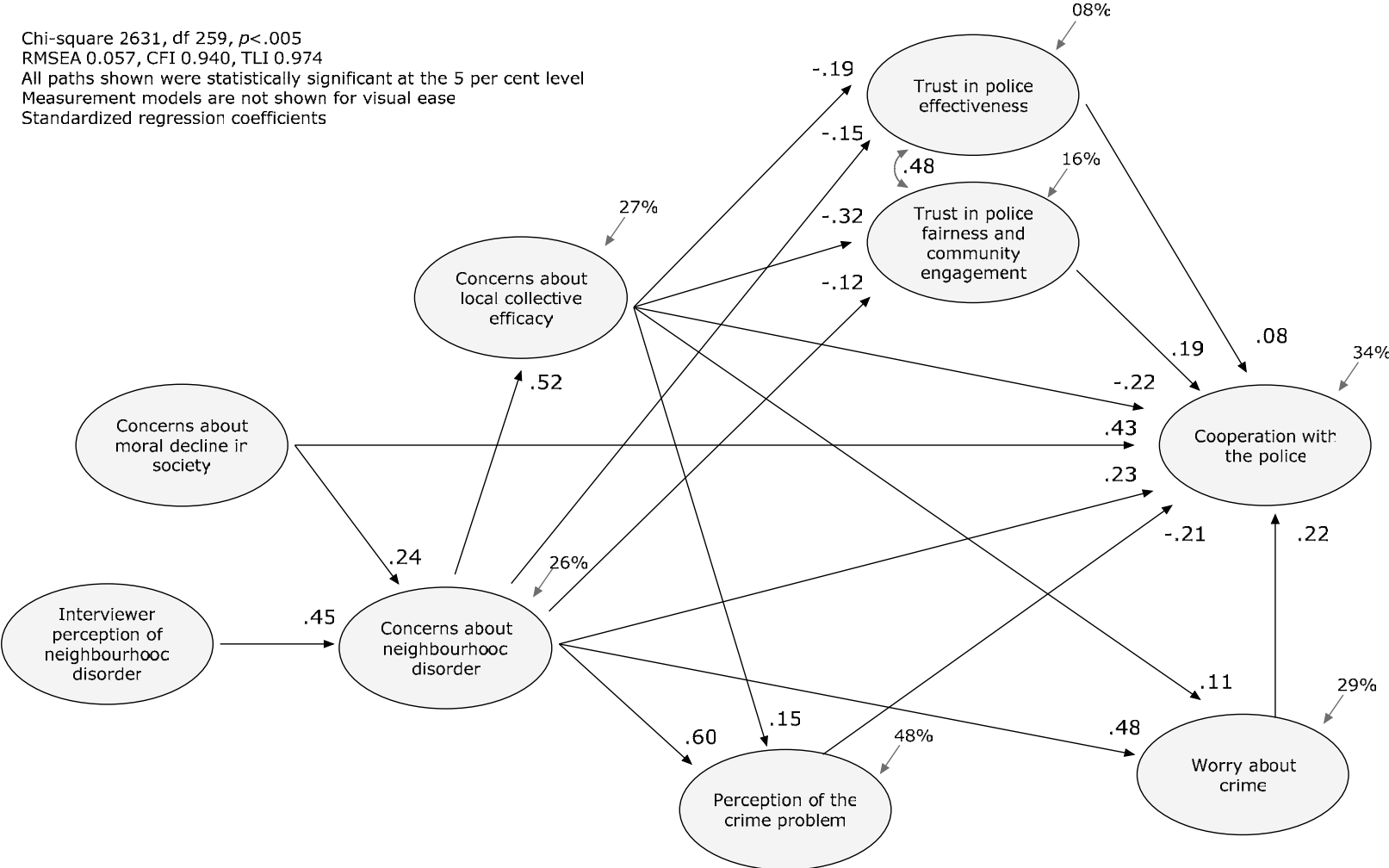
\* = p<0.05; \*\* = p<0.01; \*\*\* = p<0.001

<sup>1</sup> With robust standard errors, clustered by ward.

**Source: London Metropolitan Police Safer Neighbourhoods Survey 2007/08**

# Modelling cooperation with the police with an SEM model

Chi-square 2631, df 259,  $p < .005$   
 RMSEA 0.057, CFI 0.940, TLI 0.974  
 All paths shown were statistically significant at the 5 per cent level  
 Measurement models are not shown for visual ease  
 Standardized regression coefficients



# 'Effects decomposition'

## Effect decomposition from structural equation model

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	Moral decline	Neighbourhood disorder	Collective efficacy
<b>Cooperation with the police</b>			
Total effects	0.32	-0.05	-0.3
Direct effects	0.43	0.23	-0.22
Indirect effects	-0.1	-0.28	-0.08

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*Source: London Metropolitan Police Safer Neighbourhoods Survey 2007/08*

# Issues with SEM

- SEM is NOT causal modelling, although some people refer to it as such.
- Some packages assume observed indicators are interval/ratio variables - this is often not the case.
- Models rarely fit according to the exact fit statistics:
  - Although the approximate fit statistics are usually considered good enough.
- There is usually much space for fudging and adjusting your model to fit the available data.

# SEM software

## AMOS

- Comes as an add on to SPSS
- Can be used for both CFA and SEM
- Advantages are nice graphical interface and integration into SPSS (e.g. extraction of factor scores)
- Disadvantage is that observed indicators are treated as interval/ratio measures

## Mplus

- Stand alone package
- Much more flexible than AMOS
- For example observed indicators can be treated as ordinal measures.
- Disadvantage is that the package is less user friendly.

**Any questions?**

**ben.bradford@ed.ac.uk**