

Understanding mind brain relations

Fundamental

- 1) How to tease apart different types of brain-behaviour causality?
- 2) How should neuroimaging bridge the inter-intra individual divide?
- 3) How can we use neuroimaging to decide between:
 - formally equivalent models (e.g. diffusion/LBA/g factor)?
 - phenotypic heterogeneity in disease (e.g. depression)?

Applied

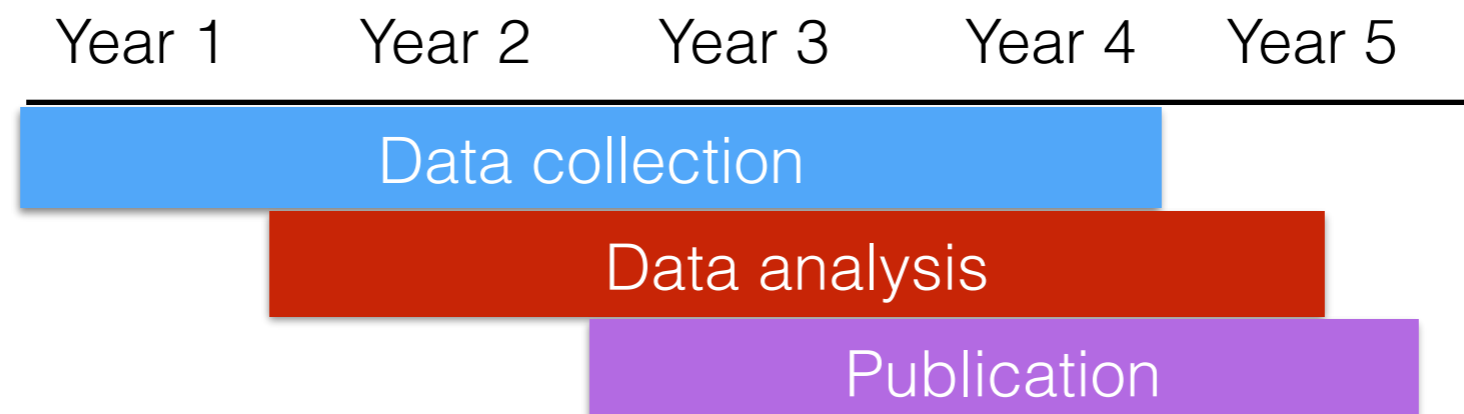
- 1) How do top-down and bottom-up modelling approaches mutually inform each other?
- 2) How to develop ecologically valid translations of real world relevant behaviour?
- 3) What is the shape of a 'neurotypical' brain-behavioural relationship?
- 4) How to reconcile subjective/objective measurements?

SMBP cohort (Solving the Mind Body Problem)



- 4 year longitudinal cohort study
- Developmental, real life measurements
- N=1236 (power=90%)
 - €18.900.740
 - £29.644.200

Data type	Measure	Frequency
Neural	Portable MEG	One full day a week
	structural/task fMRI	Twice a year
Behavioural	Psychometric tasks	Jittered experience sampling (average weekly)
	Mood/symptoms	Jittered experience sampling (average weekly)



Fundamental

Addressed?

- 1) How to tease apart different types of brain-behaviour causality?
- 2) Can neuroimaging help bridge the inter-intra individual divide?
- 3) How can we use neuroimaging to decide between:
 - formally equivalent models (e.g. diffusion/LBA)?
 - phenotypic heterogeneity in disease (e.g. depression)?



Applied

- 1) How do top-down and bottom-up modelling approaches mutually inform each other?
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