



# ECAS7011

# The Psychology of Behaviour Change

MODULE INTRODUCTION

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# Session overview

- ▶ 9am – 9.30am: Module moodle overview
- ▶ 9.30 – 10.15: Introduction to behaviour change
  - ▶ What is behaviour change?
  - ▶ What are behaviour change interventions (BCIs)
  - ▶ Introduction to COM-B model and Behaviour Change Wheel
- ▶ 10.15 – 10.45: Class Discussion: applications of COM-B
- ▶ 11 – 11:30: Designing and evaluating BCIs: key considerations
- ▶ 11.30 – 12: Module Assessments



# 1. Module/Moodle Overview

# Introduction and Module Context

## Definition of Behaviour

Behaviour includes observable and measurable actions from simple acts to complex lifestyle patterns.

## Importance of Behaviour Change

Behaviour change addresses global challenges like chronic disease, climate change, and workplace productivity.

## Module Learning Focus

The module covers theories, determinants, and evidence-based strategies integrating psychology and multidisciplinary insights.

## Application and Outcomes

Learners will understand behaviour change complexity and apply knowledge in research, policy, and practice.





## 2. Introduction to Behaviour Change

UNDERSTANDING HOW ACTIONS AND HABITS CAN BE INFLUENCED



2. What is  
behaviour  
change?

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# Defining Behaviour and Behaviour Change

## Concept of Behaviour

Behaviour includes any observable action or response, voluntary or involuntary, influenced by internal and external factors.

## Types of Behaviour Change

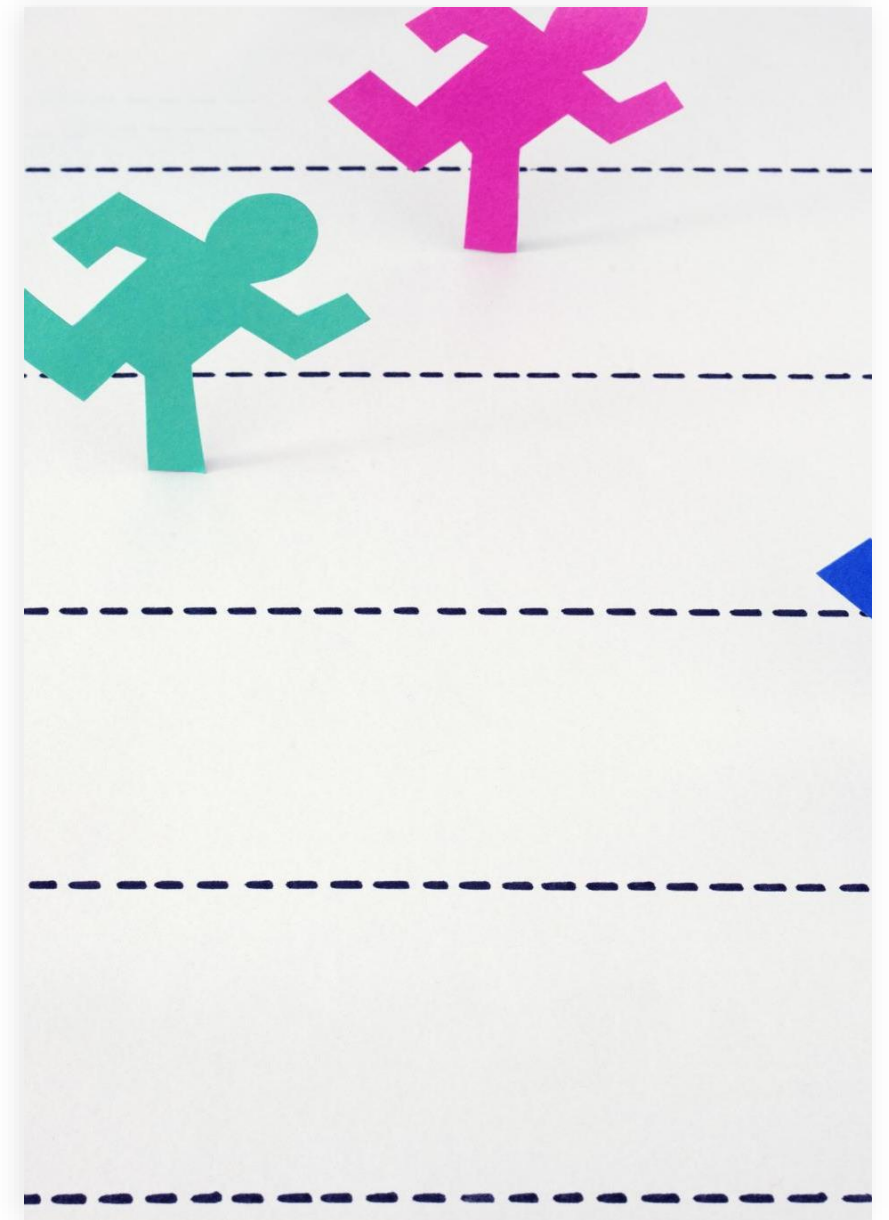
Behaviour change involves initiation, cessation, maintenance, and substitution of actions and habits over time.

## Habit Formation and Relapse Prevention

Repeated behaviours become automatic habits, reducing effort and relapse prevention ensures continued behaviour maintenance.

## Influences on Behaviour Change

Cognitive, emotional, social, and environmental factors shape behaviour change beyond individual willpower.





# Importance of Studying Behaviour Change

## **Health Behaviour Impact**

Poor lifestyle behaviours contribute to chronic diseases; effective interventions reduce health risks and costs.

## **Environmental Behaviour Change**

Pro-environmental actions reduce climate change effects through energy saving, transport choices, and waste reduction.

## **Workplace and Digital Behaviour**

Safe workplace practices and responsible digital use enhance productivity, safety, and mental health.

## **Multidisciplinary Solutions**

Integrating psychology, policy, and technology creates effective behaviour change strategies for societal challenges.

# Multidisciplinary Foundations of Behaviour Change

## Psychological Insights

Psychology explains individual cognition, motivation, emotion, and learning processes behind behaviour change.

## Social and Cultural Context

Sociology and anthropology explore cultural norms, social identity, and collective behaviours influencing individuals.

## Economic Decision-Making

Behavioural economics shows how heuristics, biases, and choice architecture affect rational decision-making.

## Public Health Strategies

Public health focuses on population strategies, policies, and equity for scalable behaviour change interventions.



# Determinants of Behaviour

| DETERMINANT LEVEL | EXAMPLES                                  | INFLUENCE ON BEHAVIOUR              |
|-------------------|-------------------------------------------|-------------------------------------|
| Individual        | Knowledge, attitudes, identity, habits    | Shapes intentions and capabilities  |
| Social            | Norms, peer influence, cultural practices | Provides reinforcement and modeling |
| Environmental     | Accessibility, policies, incentives       | Creates opportunities or barriers   |

# Role of Theory and Frameworks

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## Importance of Theories

Theories explain why behaviours occur and guide how to modify them effectively through structured mechanisms.

## Types of Behaviour Theories

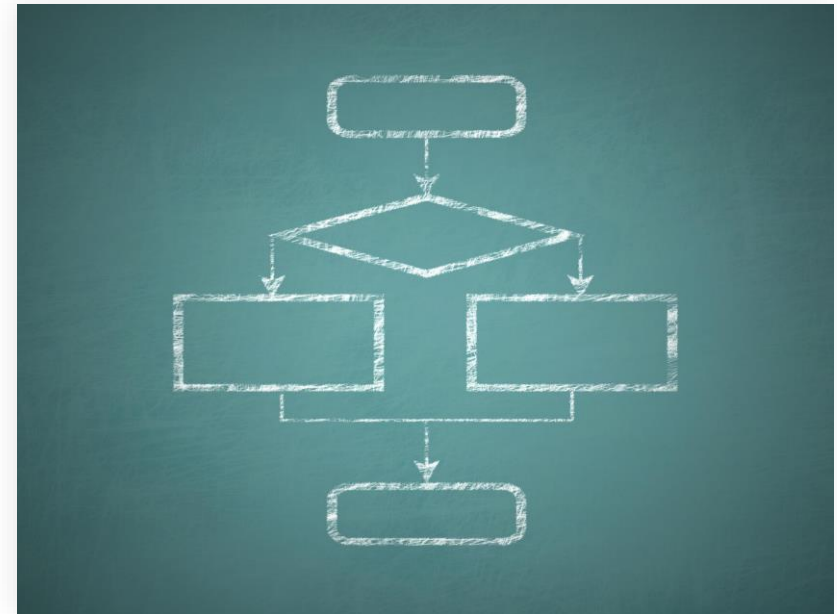
Motivational, volitional, dual-process, and social theories describe different processes influencing behaviour change.

## Role of Frameworks

Frameworks provide practical tools for applying theories in real-world interventions with systematic steps.

## COM-B Model and Behaviour Change Wheel

These models identify behaviour influences and link determinants to strategies, enhancing intervention success.



# Evidence-Based Interventions

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## **Tailored Behaviour Change Strategies**

Interventions use education, persuasion, and skills training to address specific behavioural determinants effectively.

## **Behavioral Economics Techniques**

Incentives, disincentives, and social modeling motivate desired behaviours using behavioral economics principles.

## **Digital and Habit Formation Tools**

Apps and gamification use nudges to sustain engagement, while cue-based repetition supports habit formation.

## **Sustaining and Evaluating Change**

Maintenance strategies and outcome evaluations ensure long-term behaviour change and theoretical alignment.





# Key Approaches

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## **Motivational Theories**

The module explores motivational constructs such as self-determination and expectancy-value models to understand behavior change.

## **Habits and Automaticity**

Students learn strategies for disrupting undesired habits and fostering new automatic behaviors for lasting change.

## **Social and Cultural Influences**

The course addresses social norms, identity, and collective action as key factors influencing behavior change.

## **Intervention Design and Ethics**

Focus is placed on designing behavior change interventions ethically, ensuring autonomy, equity, and fidelity.



# Challenges and Future Directions

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## **Contextual and Individual Variability**

Real-world application is difficult due to environmental differences and diverse individual traits affecting behaviour change success.

## **Sustaining Behaviour Change**

Maintaining behaviour over time is challenging as motivation decreases without continuous support or reinforcement.

## **Ethical and Measurement Challenges**

Interventions raise ethical concerns about autonomy and rely heavily on biased self-report measures needing objective data.

## **Future Directions**

Advances include tech-driven personalized interventions, ecological systems approaches, and interdisciplinary collaboration for equity.



3. What is a behaviour change intervention (BCI)?<sup>2</sup>.

# What is an intervention?

- ▶ **interventions** are planned actions aimed at bringing about change
- ▶ A wide range of intervention strategies exist
- ▶ Often involves structured activities used to modify attitudes, behaviour, emotional state, or feelings

# Theory-based interventions

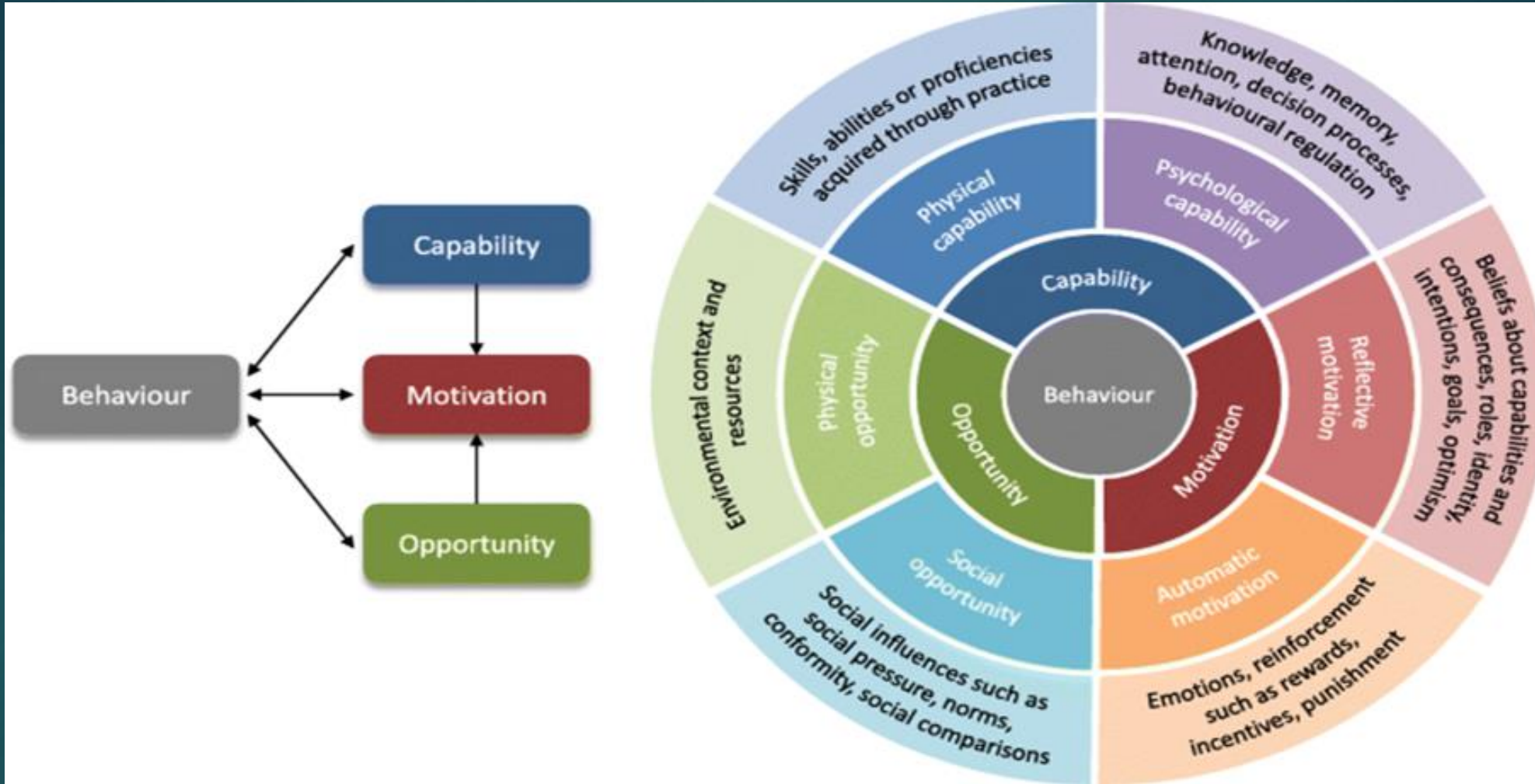
- ▶ Interventions must be based on sound empirical evidence
- ▶ Must be able to justify choice of intervention strategy and demonstrate that it is deliverable
- ▶ Evaluation often focused on understanding causal mechanisms of behaviour change (not just whether behaviour change occurs)

# What is a “complex” intervention?

“Complex intervention research goes beyond asking whether an intervention works in the sense of achieving its intended outcome—to asking a broader range of questions (eg, identifying what other impact it has, assessing its value relative to the resources required to deliver it, theorising how it works, taking account of how it interacts with the context in which it is implemented, how it contributes to system change, and how the evidence can be used to support real world decision making)”



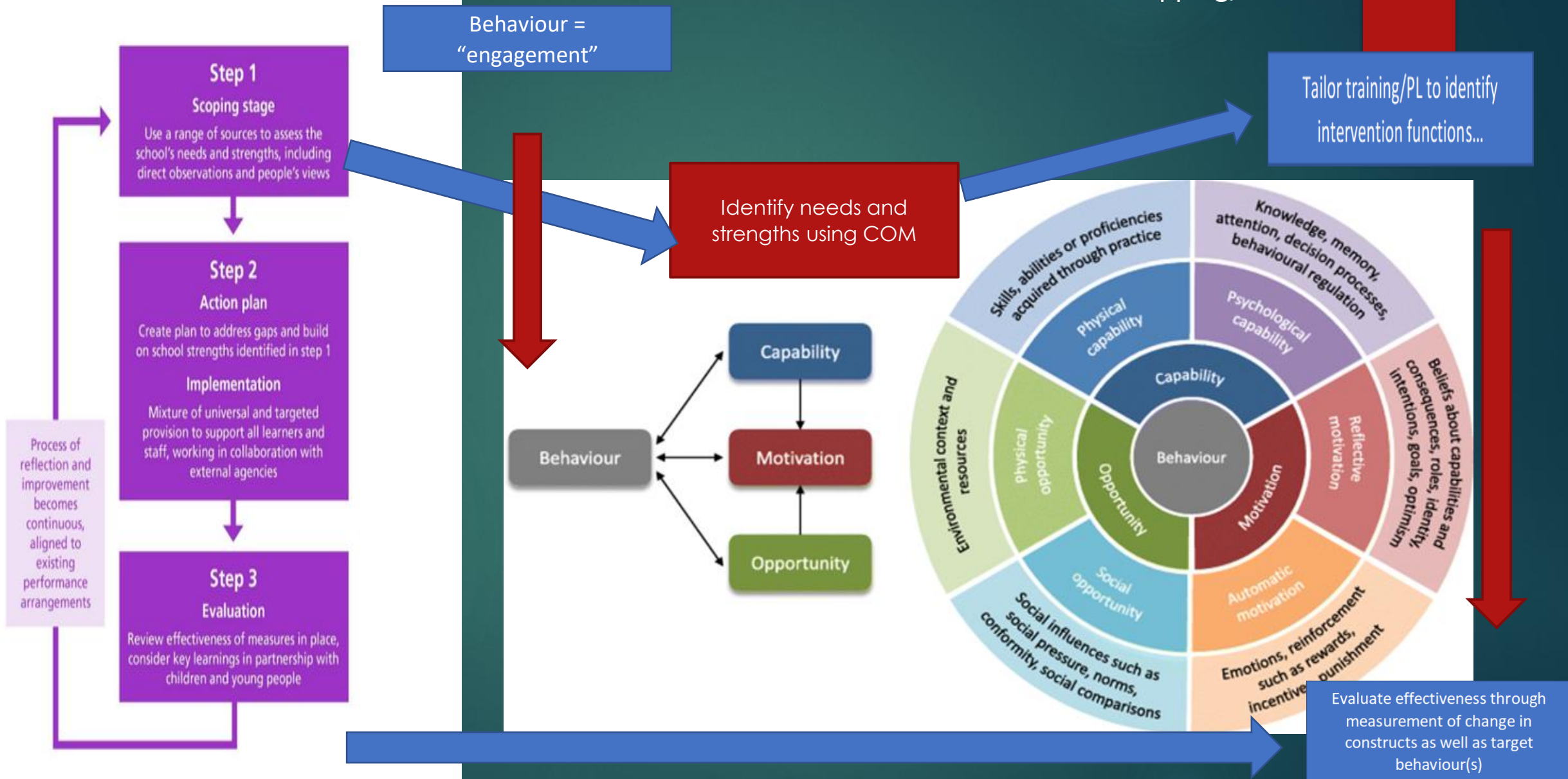
## 4. Introduction to the COM-B Model & the Behaviour Change Wheel

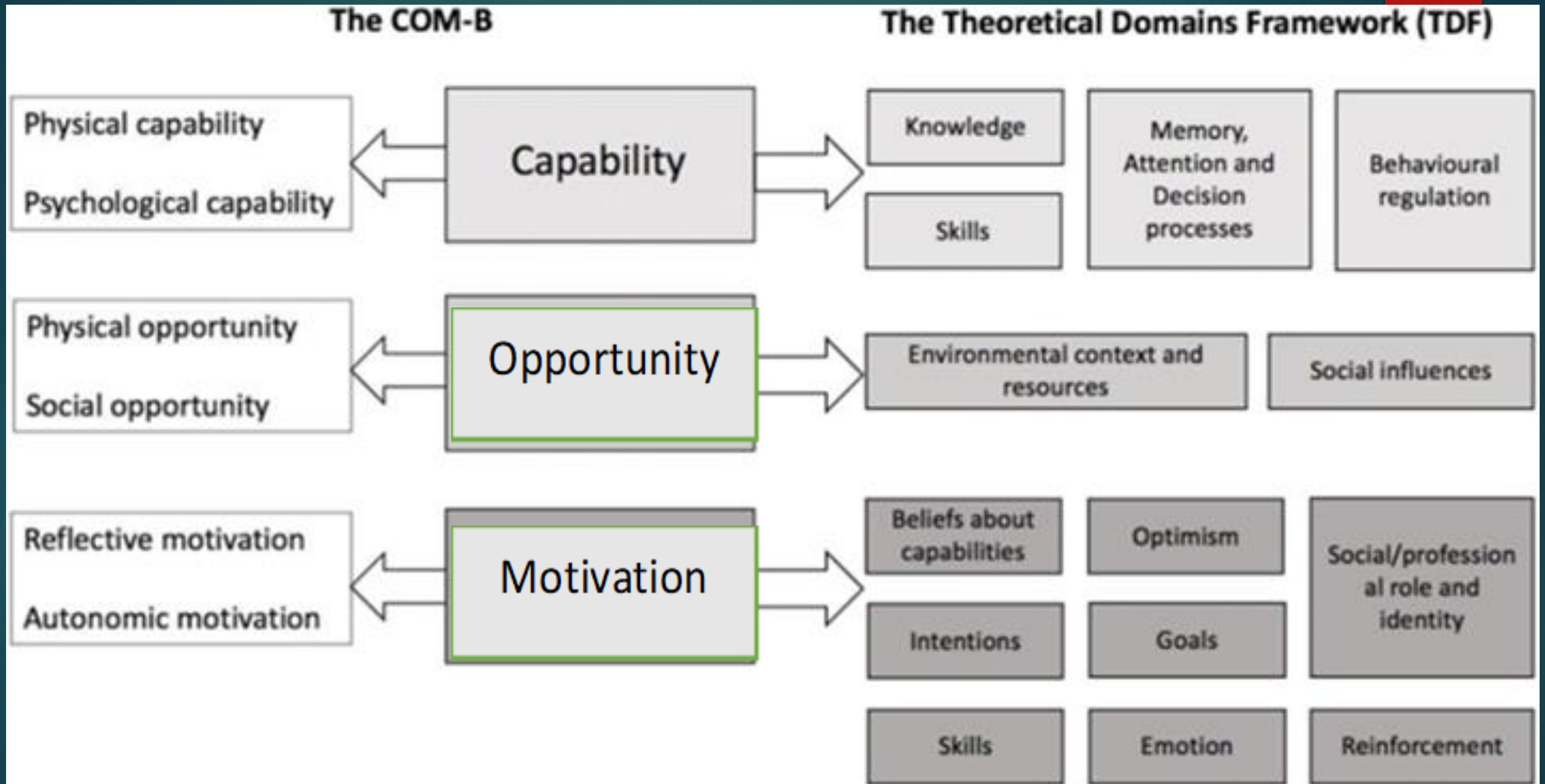


Michie, S., Atkins, L., & West, R. (2014). *The behaviour change wheel. A guide to designing interventions*. 1st ed. Great Britain: Silverback Publishing, 1003, 1010.

## COM-B Model

## Intervention Mapping/Content

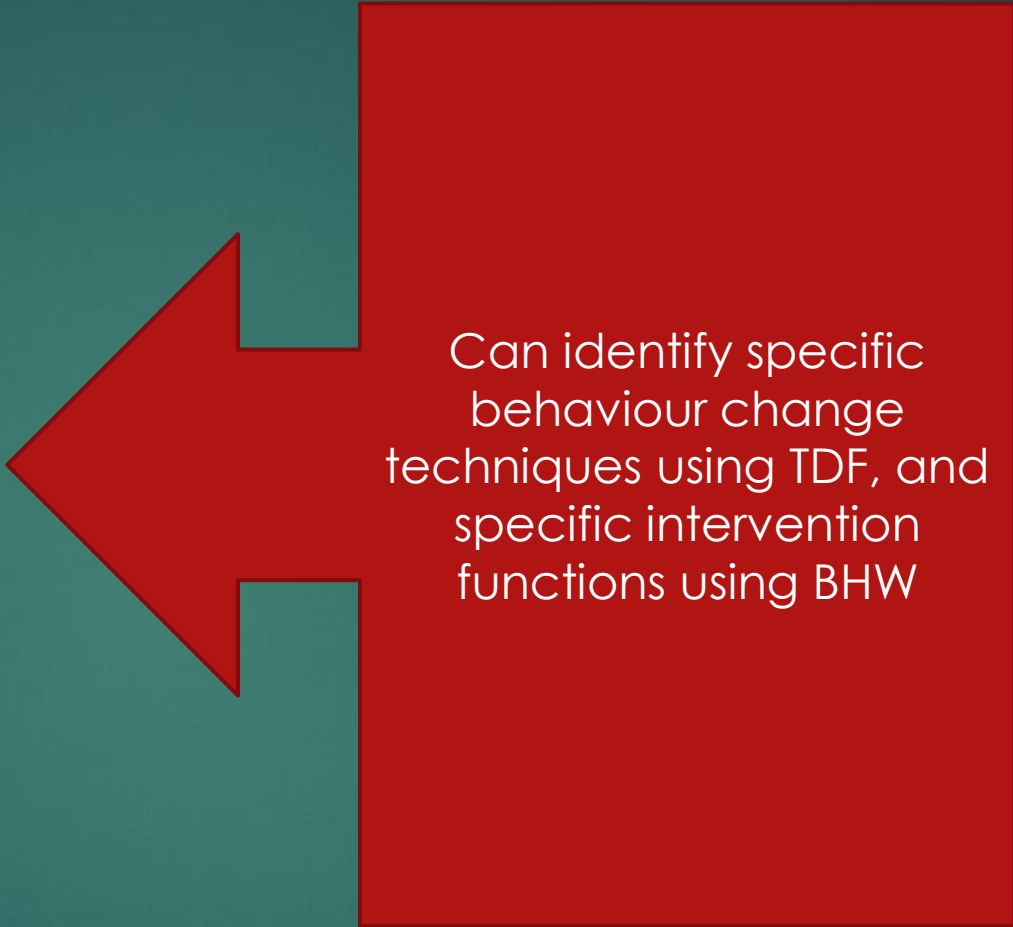




## BCW Stage 1: defining behaviour

- Why is the behaviour important?
- Who needs to perform the behaviour?
- What does the person need to do differently to achieve the desired change?
- When will they do it?
- Where will they do it?
- How often will they do it?
- With whom will they do it?

|                                                                                              |
|----------------------------------------------------------------------------------------------|
| In order for behaviour change to occur, the individual, group or organisation would need to: |
| <b>BCW constructs and how assessed:</b>                                                      |
| <u>Capability</u>                                                                            |
| Know more about why it is important                                                          |
| Know more about how to do it                                                                 |
| Have better physical skills                                                                  |
| Have better mental skills                                                                    |
| Overcome physical limitations                                                                |
| Overcome mental obstacles                                                                    |
| Have more physical stamina                                                                   |
| Have more mental stamina                                                                     |
| <u>Opportunity</u>                                                                           |
| Have more time to do it                                                                      |
| Have more money                                                                              |
| Have the necessary materials                                                                 |
| Have it more easily accessible                                                               |
| Have more people around me doing it                                                          |
| Have more triggers to prompt me                                                              |
| Have more support from others                                                                |
| <u>Motivation</u>                                                                            |
| Feel that you want to do it enough                                                           |
| Feel that you need to do it enough                                                           |
| Believe that it would be a good thing to do                                                  |
| Develop better plans for doing it                                                            |
| Develop a habit of doing it                                                                  |
| Something else (please specify): _____                                                       |

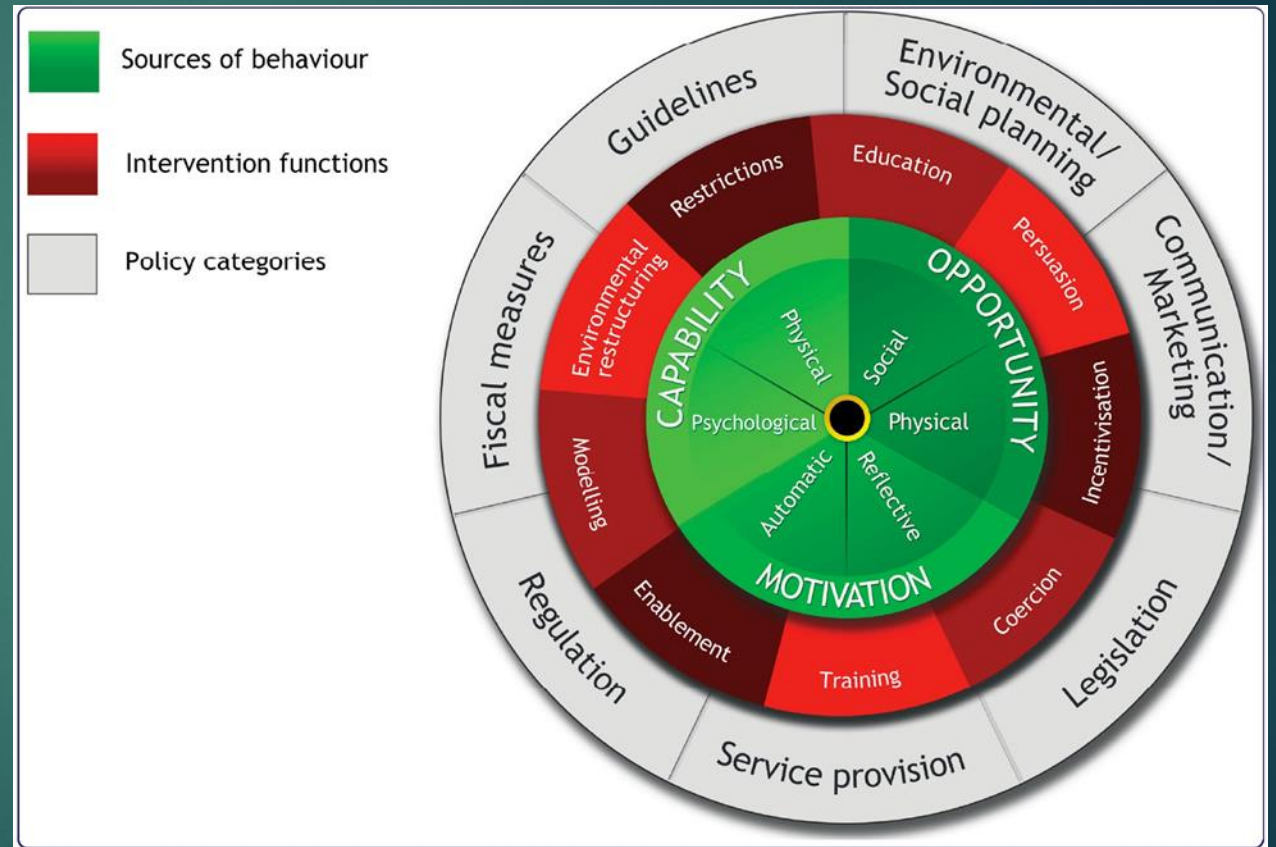


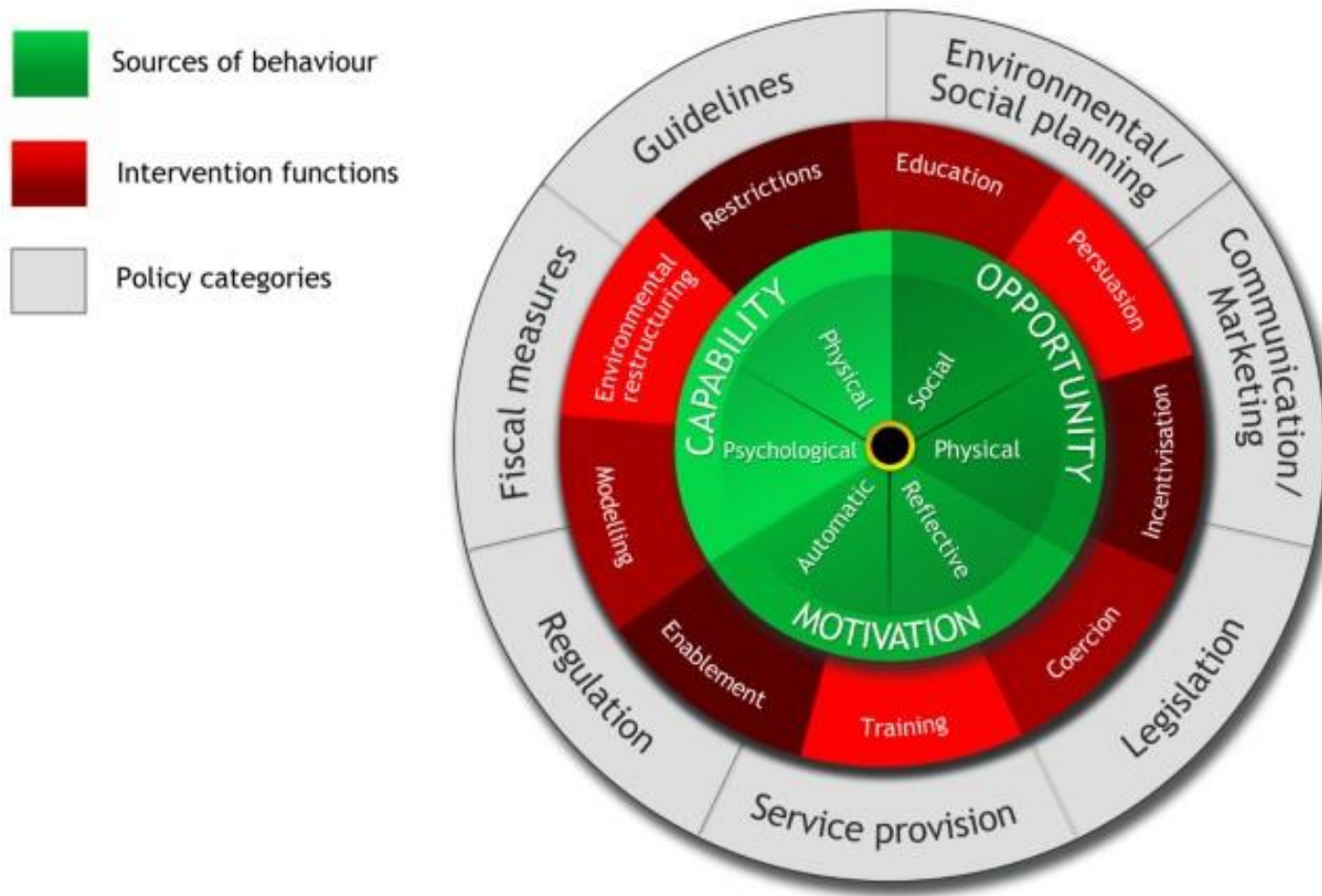
Can identify specific behaviour change techniques using TDF, and specific intervention functions using BHW

Michie S, Johnston M, Abraham C, Lawton R, Parker D, Walker A, on behalf of the 'Psychological Theory' Group: Making psychological theory useful for implementing evidence based practice: a consensus approach. Qual Saf Health Care. 2005, 14: 26-33. 10.1136/qshc.2004.011155

# The Behaviour Change Wheel

- ▶ The COM-B model (Michie et al., 2011) lies at the core of the BCW
- ▶ Identifies different intervention strategies that can be applied to any of those components of the COM-B
- ▶ Provides general intervention strategies/categories that can be linked to





| COM-B                                                 | Intervention functions                                                                                  |
|-------------------------------------------------------|---------------------------------------------------------------------------------------------------------|
| <b>Influencing capability</b>                         |                                                                                                         |
| <b>Knowledge</b>                                      | Educate about ways of enacting the behaviour                                                            |
| <b>Skill</b>                                          | Train in cognitive, physical or social skills                                                           |
| <b>Strength</b>                                       | Train or enable development of mental or physical strength                                              |
| <b>Stamina/Endurance</b>                              | Train or enable development of mental or physical strength                                              |
| <b>Influencing opportunity</b>                        |                                                                                                         |
| <b>Time</b>                                           | Train or restructure the environment to reduce time demand or competing time demands                    |
| <b>Resources</b>                                      | Restructure the environment to increase social support and cultural norms                               |
| <b>Location/Physical barriers</b>                     | Train or restructure the environment to provide cues and prompts                                        |
| <b>Interpersonal influences/cultural expectations</b> | Restructure the social environment or use modelling to shape people's ways of thinking                  |
| <b>Influencing motivation</b>                         |                                                                                                         |
| <b>Plans</b>                                          | Educate, train to form clearer personal rules/action plans, and train to remember and apply these plans |
| <b>Evaluations</b>                                    | Educate or persuade to create more positive beliefs about the behaviour                                 |
| <b>Motives</b>                                        | Persuade, incentivise, coerce, model or enable to feel positively about the behaviour                   |
| <b>Impulses/Inhibition</b>                            | Train or enable to strengthen habitual engagement with behaviour                                        |
| <b>Responses</b>                                      | Model desired behaviour to induce automatic imitation                                                   |



## 5. Designing and evaluating interventions: overview of key considerations

# Glanz (2016)

- ▶ The choice of a suitable theory or theories should begin with identifying:
  - ▶ the problem,
  - ▶ goal
  - ▶ units of practice,

“Choice should not be based on selecting a theoretical framework because it is intriguing, familiar, or in vogue. One should start with a logic model of the problem and work backwards to identify potential solutions”

<http://www.esourceresearch.org/eSourceBook/SocialandBehavioralTheories/8ChoosingtheRightTheory/tabid/743/Default.aspx>

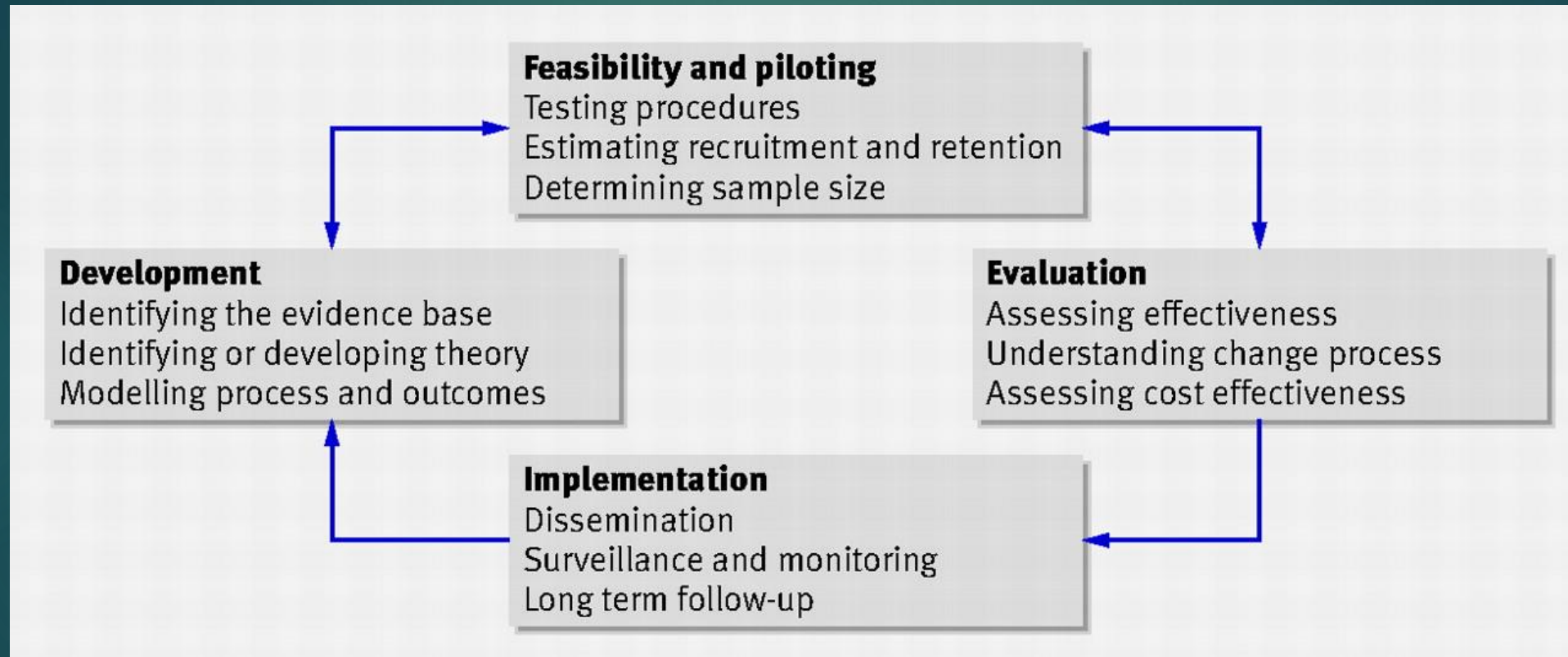
# Developing and evaluating complex interventions

Six core elements should be considered to answer the following questions:

- How does the intervention interact with its context?
- What is the underpinning programme theory?
- How can diverse stakeholder perspectives be included in the research?
- What are the key uncertainties?
- How can the intervention be refined?
- What are the comparative resource and outcome consequences of the intervention?

Skivington, K., Matthews, L., Simpson, S. A., Craig, P., Baird, J., Blazeby, J. M., ... & Moore, L. (2021). A new framework for developing and evaluating complex interventions: update of Medical Research Council guidance. *bmj*, 374.

# Key Stages of Intervention development



# Design considerations for intervention studies

- ▶ Interventions require pre and post measures in order to show change
- ▶ Often require a control group
- ▶ Short-term versus long-term follow-up?

# Design considerations for intervention studies

- ▶ Use validated scales
- ▶ Appropriate for target population
- ▶ Strong psychometric properties
- ▶ Other data?
  - ▶ Physiological measures?
  - ▶ Behaviours
  - ▶ Demographics

# Key ethical considerations in intervention research

- ▶ Written **informed** consent – at appropriate levels
- ▶ Clarity and comprehension of research materials
  - ▶ Appropriate for target audience?
- ▶ No potential coercion
- ▶ Right to withdraw
- ▶ Debriefing
- ▶ Potential for harm/discomfort/distress
- ▶ Confidentiality/Data Protection

## 6. Module Assessments

## Key references:

Christmas, S., Michie, S., & West, R. (Eds.). (2015). *Thinking about behaviour change: an interdisciplinary dialogue*. Silverback Publishing.

De Leo, A., Bayes, S., Bloxsome, D. *et al.* Exploring the usability of the COM-B model and Theoretical Domains Framework (TDF) to define the helpers of and hindrances to evidence-based practice in midwifery. *Implement Sci Commun* 2, 7 (2021). <https://doi.org/10.1186/s43058-020-00100-x>

Hesketh, I., & Cooper, C. (2019). *Wellbeing at work: how to design, implement and evaluate an effective strategy*. Kogan Page Publishers.

Kwak, L., Toropova, A., Powell, B. J., Lengnick-Hall, R., Jensen, I., Bergström, G., ... & Björklund, C. (2022). A randomized controlled trial in schools aimed at exploring mechanisms of change of a multifaceted implementation strategy for promoting mental health at the workplace. *Implementation Science*, 17(1), 1-16.

Michie, S., Atkins, L., & West, R. (2014). The behaviour change wheel. *A guide to designing interventions*. 1st ed. Great Britain: Silverback Publishing, 1003, 1010.

Michie, S. F., West, R., Campbell, R., Brown, J., & Gainforth, H. (2014). *ABC of behaviour change theories*. Silverback publishing.