*Review*

# The PEACE Model Canvas (PMC): Helping People Prepare for Change

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## A B S T R A C T

The PEACE Model Canvas (PMC), a mental framework that I developed, helps identify, understand, explain, predict, and address individual's problem behaviours, by capturing the essential features and relationships, within a simplified behaviour change roadmap framework.

The PEACE Model Canvas defines these different components on a single page. It contains five boxes that represent different fundamental elements leading to a lasting change, namely: (1) Problem identification, (2) Excavation of the behaviour's root causes, (3) Analysis of consequences, (4) Consideration of the prerequisites for change, and (5) Execution of the change plan.

Through its non-linear process, the PMC enables the creation of a visual system that is accessible, readable and easy to understand for everybody. The PMC brings several benefits to the field of behaviour change. Firstly, it provides individuals with a structured and systematic approach to understanding their thoughts, emotions, and actions. Secondly, the PMC enables individuals to challenge and reshape their existing beliefs and assumptions, fostering a more flexible and adaptable mindset. Thirdly, the PMC facilitates better communication and collaboration with others by promoting a shared understanding and language for discussing complex problem behaviours. Furthermore, the PMC empowers individuals to anticipate and navigate challenges more effectively, as it provides a framework for considering potential consequences of problem behaviours, analyzing alternatives solutions, and making informed choices. Lastly, the PMC supports continuous learning and personal growth, as individuals become more self-aware, reflective, and open to acquiring new knowledge and skills and change behaviour.

Overall, using the PEACE Model Canvas offers a transformative pathway to behaviour change, leading to improved well-being, enhanced problem-solving abilities, and greater overall success in various aspects of life.

**Keywords:** PEACE, Model, Canvas, Problem Behaviour, Behaviour Change, Excavation, Analysis, Consideration, Execution Technical Problems, Stem cell Problem

## Introduction

The world today faces a multitude of behavioural problems that demand urgent attention and innovative solutions.

One of the main challenges is the widespread prevalence of unhealthy lifestyles and habits, including addiction, sedentary behaviour, and poor nutrition. [7,9,12]. In workplace settings, individuals encounter various problem behaviours that negatively

impact their overall well-being and productivity, e.g. bullying, harassment, discrimination, and toxic work environments [32,75,91]. These behaviours heavily contribute to the global double burden of communicable and non-communicable diseases, and place immense strain on both the families and the healthcare systems [71].

Another significant issue is the rise of divisive and polarizing behaviours, fuelled by factors such as Social Media echo chambers - that allows information to circulate much more rapidly - and misinformation. This hampers the delivery of effective health education messages, erodes trust, and impedes collective problem behaviour solving [87]. Additionally, mental health disorders have reached alarming levels in our societies, with stress, anxiety, and depression affecting individuals of all ages [55]. These problems have cascading negative effects on the overall individual well-being, their productivity, and relationships.

Behaviour change has over the years been examined and explained in individual, as well as in contextual terms, from a social psychological and sociological perspectives, and from a wide range of different theories and models. This multiplicity models is similar to the metaphor of the six blind men around an elephant [25], a metaphor that Thayer-Bacon uses to approach the diversity within social and educational research [95]. In this poem, the six blind men examined an elephant from different positions and described it as either a rope, a tree, a fan, a snake, a wall, or a spear, depending upon which part of the elephant that each man touched. They argue bitterly until a wise man tells them all of their analyses are accurate, but incomplete. Without the big picture, one can easily come to a false conclusion. We have made substantial advances in understanding behaviour change, but the big picture escapes us. To address complex behavioural problems, there is an urgent need to find a better way of helping people solve them. This requires adopting holistic approaches that consider individual, social, cultural, structural, social capital transitions, and environmental factors [56].

In the following paragraphs, I argue that we have the potential to considerably reduce problem behaviours in our societies by shifting from a fragmented approach to a more holistic – see the whole elephant. The PEACE Model Canvas helps address this challenge of fragmented behaviour change models' system design [44].

The PEACE Model Canvas, a One-page mental framework, which combines collective efforts, interdisciplinary collaborations, and innovative strategies, paves the way for a better future in the field of behaviour change, and empowers individuals, families, and organizations to overcome these pressing behavioural challenges. The model is intended to helping people prepare for change, meaning helping them navigate through the process of anticipating, planning, and developing the necessary skills, resources, and mindset to navigate and adapt to upcoming changes or transitions in their lives. It involves assisting individuals with a mental model to help them identify the problem behaviour, recognize the need for change, addressing any barriers, and empowering them to take proactive steps towards successful change implementation.

In this article, I will propose and explain the PEACE Model Canvas, a framework that creates a dialogue between different theoretical perspectives and models, and that promotes the inclusive potential of the social-ecological framework to create a meeting point of the different theories, in order to develop a more comprehensive approach to behaviour change.

## What is the PEACE Model Canvas (PMC)?

The PEACE Model is a tool that helps identify, understand, explain, predict, and address individual's problem behaviours, by capturing the essential features and relationships within a simplified behaviour change roadmap framework.

The PEACE Model Canvas (PMC) lets you define these different components on a single page. It's a one-page document containing five boxes that represent different fundamental elements leading to a lasting change. Through its non-linear process, the PMC enables the creation of a visual system that is accessible, readable and easy to understand for everybody (Diagram 1).

The PMC beats the traditional change models that are not holistic and span across several pages, by offering a much easier way to understand the different core elements of behaviour change.

This canvas is a medium that could be used by an individual trying to solve a problem behaviour, or people trying to resolve a behavioural conflict. Used by individual or groups, it helps them reflect on the problem behaviours, and peacefully construct their change plan by organising their ideas in the boxes of the template, in order to move more accurately, effectively and quickly to action.

Helping people prepare for change using a One-Page Model, the PEACE Model Canvas, is intended to helping them prepare for change, meaning helping navigate through the process of anticipating, planning, and developing the necessary skills, resources, and mindset to navigate and adapt to upcoming changes or transitions in their lives.

The PMC is a visual framework which offers an overview of the behaviour change plan, facilitates the clear identification of unhealthy behaviours and their root causes, the clear definition of priorities, and the creation of concrete behaviour change plans and mechanism of execution. The PMC also improves the relationship and boosts communication between individuals.

## What are the Benefits of using the PEACE Model Canvas?

Why do you need the PEACE Model Canvas?

The answer is simple. The PEACE Model Canvas offers several benefits for individuals, families, and organizations. Using the PMC to guide behaviour change offers numerous benefits.

Firstly, the PMC provides individuals with a structured and systematic approach to understanding their thoughts, emotions, and actions. By examining the underlying mental models that shape behaviour, individuals will gain insight into the root causes of their habits and will be able to identify areas for improvement. Secondly, the PMC enables individuals to challenge and reshape their existing beliefs and assumptions, fostering a more flexible and adaptable mindset. This allows for more effective problem-solving, decision-making, and the ability to embrace change. Thirdly, the PMC facilitates better communication and collaboration with others by promoting a shared understanding and language for discussing complex concepts. It enhances partnership, acceptance, compassion, evocation, empathy, encourages perspective-taking, and helps build stronger relationships.

Furthermore, the PMC empower individuals to anticipate and navigate challenges more effectively, as it provides a framework for considering potential bottlenecks, analyzing

alternatives, and making informed choices. Lastly, employing the PMC supports continuous learning and personal growth, as individuals become more self-aware, reflective, and open to acquiring new knowledge and skills.

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### # 5: Execution of The Change Plan

Is there any structured and strategic approach, that outlines the steps, strategies, and actions needed to address the problem behaviour effectively, that has been developed to facilitate behaviour change?

**Key Elements of Developing and Executing a Change Plan:**

Setting Clear Goals
Identifying Strategies and Interventions
Creating an Action Plan.

Implementing the Action Plan
Monitoring and Evaluation
Providing Support and Accountability
Sustaining Behaviour Change

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### # 4: Consideration of the Prerequisites for Change

What are the foundational factors or conditions that need to be in place for a successful and sustainable behaviour change to occur?

**Key Fundamental Factors:**

Motivation
Awareness and Understanding
Self-Efficacy and Confidence
Supportive Environment
Skills and Strategies
Personalized Approach

### # 3: Analysis of Consequences

What are the immediate, medium, and long-term consequences, that may result from the occurrence or manifestation of the problem behaviour (PB)?

**Key Aspects of Consequences:**

**Immediate Consequences:**
Emotional Reactions
Physical Harm or Injury
Social Consequences
Disruption of Activities
Attention or Reactions from Others
Immediate Relief or Escape
Reinforcement
Disruption of Functioning

**Medium-Term Consequences:**
Health and Well-being
Social Relationships
Academic or Occupational Performance
Legal and Financial Consequences
Emotional Well-being
Interpersonal Dynamics
Self-Efficacy and Motivation
Future Opportunities

**Long-Term Consequences:**
Physical Health Issues
Mental Health Disorders
Relationships and Social Functioning
Education and Career Opportunities

Legal Consequences
Financial Instability
Personal Devpt & Fulfilment
Overall Quality of Life

### # 2: Excavation of the Behaviour's Root Causes

What are the underlying factors, triggers, or conditions that contribute to the occurrence or persistence of the problem behaviour (PB)?

**Aspects of Excavation of the Root Causes:**

Analysis of Patterns of the PB
Exploration of Context in which the PB takes place
Structural Factors that contribute to the PB
Identification of Triggers that precede the PB
Examination of Beliefs and Attitudes that are associated with the PB
Historical and Developmental Factors that provide insights into the root causes of the PB
Emotional and Psychological Factors that influence the PB.

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### # 1: Problem Identification

What action or conduct is exhibited by the individual, that deviates from socially accepted norms, and causes harm or distress to themselves or others, and interferes with their functioning or well-being?

**Types of Problem Behaviours:**

Aggression
Substance Abuse
Self-Harm
Impulsivity

Disruptive Behaviour
Addictive Behaviours
Eating Disorders

Compulsive Behaviours
Avoidant Behaviours
Destructive Behaviours

Diagram 1: The PEACE Model Canvas

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Overall, using the PMC offers an innovative and transformative pathway to behaviour change, leading to improved well-being, enhanced problem-solving abilities, and greater overall success in various aspects of life.

**How to Make a PEACE Model Canvas**

Here's a step-by-step guide on how to create a PEACE Model Canvas. These steps are to be used during a behaviour change brainstorming session.

*Step 1: Gather Your Team and the Required Material.* Bring a team or a group of people with problem behaviour together to collaborate. The team could emanate from the family, school, church, workplace, etc... It is better to bring on the platform people who could help address the different aspects of the problem behaviour.

Looking at the nature of this task, it is recommended that the meeting takes place in a good and calm environment, with very minimal disruptions. Create your PEACE Model Canvas with A4 papers, pencils and pens, or with a whiteboard, sticky notes,

and markers. For rural communities, the PMC could even be drawn on the ground, using a stick.

*Step 2: Set the Context.* Clearly define the purpose and the scope of what needs to be mapped out and visualized in the PEACE Model Canvas.

During the meeting, leverage the collective expertise, insights, and diverse perspectives to generate ideas that can potentially create meaningful and lasting behaviour change. Encourage everyone to actively participate, share their thoughts openly, and embrace a spirit of collaboration and compassion.

The following are the key considerations that could guide the PMC brainstorming session:

- Focus on the Target Behaviour: Identify the specific behaviour you aim to change, and clearly define the desired outcome. This clarity will help you direct your efforts towards achieving tangible results.

- Understand the Audience: Develop a deep understanding of the individuals or groups whose behaviour you seek to influence. Consider their motivations, needs, challenges, and the factors that currently drive their behaviours. Deep feeling of empathy and sympathy towards your target audience will be crucial in designing effective strategies.

- Explore Multiple Perspectives: Encourage diverse thinking, and welcome a range of ideas. Different viewpoints can lead to breakthrough insights, and creative solutions. Embrace a supportive environment where all contributions are valued.

- Leverage Existing Research and Best Practices: Draw upon existing knowledge, research findings, and evidence-based practices related to behaviour change. You can learn from successful interventions in similar contexts and adapt those principles to your unique situation.

- Encourage an Iterative Approach: Behaviour change is often a gradual process. Ask team members to keep in mind that their initial ideas may evolve and be refined, as the team members gather feedback and insights. You should embrace an iterative approach that allows you to learn, adapt, and improve your strategies over time.

*Step 3: Draw the PEACE Model Canvas.* Divide the workspace into five sections, to represent the five building blocks of the PEACE Model Canvas (Diagram 2).

*Step 4: Identify the Key Building Blocks.* Label each section as (1) Problem identification, (2) Excavation of the behaviour's root causes, (3) Analysis of consequences, (4) Consideration of the prerequisites for change, and (5) Execution of the change plan (Diagram 2).

*Step 5: Fill in the PEACE Model Canvas.* Work with your team to fill in each section of the canvas, using sticky notes to quickly get a lot of participants' ideas and relevant information out at once. You can use data, keywords, diagrams, and more to represent ideas and concepts.

*Step 6: Analyze and Iterate.* Once your team has filled in the PEACE Model Canvas, analyze the relationships to identify strengths, weaknesses, opportunities, and challenges.

Discuss improvements and make adjustments as necessary.

*Step 7: Finalize.* Finalize and use the model as a visual reference to inform, guide and monitor your behaviour change roadmap.

**Key Building Blocks of the PEACE Model Canvas**

There are five building blocks in the PEACE Model Canvas (Diagram 2), and they are:

1. **Problem** Identification,

2. **Excavation** of the Behaviour's Root Causes,

3. **Analysis** of Consequences,

4. **Consideration** of the Prerequisites for Change, and

5. **Execution** of the Change Plan.

When filling out a PEACE Model Canvas, brainstorm and conduct research, on each of these elements. The collected data can be placed in each relevant section of the canvas.
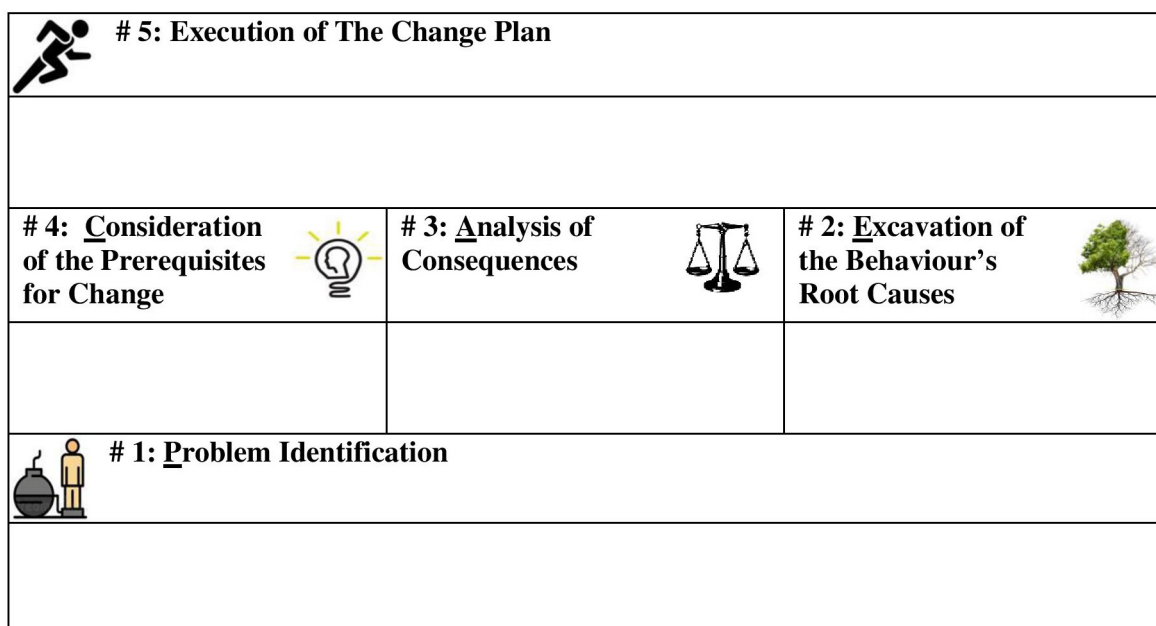
Diagram 2: The PEACE Model Canvas Template

Let's now examine in more details, what the five components of the PEACE Model Canvas, are.

**Building Block #1: Problem Identification**



A problem behaviour refers to any action or conduct exhibited by an individual that deviates from socially accepted norms, causes harm or distress to themselves or others, and interferes with their functioning or well-being [26,43,54].

Problem behaviours can manifest in various contexts, such as personal relationships, family setting, work settings, educational institutions, or communities [24,41,73,74]. These behaviours, on their nature, may occur sporadically or persistently, and their severity can range from mild to severe.

Without a precise definition of the problem behaviour, efforts to address it may fall short, resulting in temporary or ineffective solutions.

The first building block, Problem Identification, speaks to the recognition and definition of a specific issue or challenge that requires attention or resolution. It involves understanding and articulating the nature of the problem. Recognition of a specific issue involves acknowledging, through ambivalence reduction, of the existence of a problem or the gap between the desired state and the current state [80]. This recognition can stem from observations, experiences, feedback, or evidence that highlights an issue or discrepancy [46,80,98].

The definition of a specific issue, once a problem is recognized, includes describing the problem in specific terms, outlining its boundaries, and articulating its scope [81]. Problem behaviours can be classified into *Technical* and *Stem Cell Problems*. A well-defined problem statement helps focus efforts towards finding effective solutions [31,81,89].

*Technical Problems* have known solutions that can be implemented by current knowhow [82]. *Technical Problems* can be resolved through the application of authoritative expertise and through the current structures, procedures, and ways of doing things [82]. Most behaviour problems are what I call *Stem Cell Problems*. Like stem cells which are defined as precursor cells that have the capacity to self-renew and to generate multiple mature cell types [15]; a behaviour problem is categorized as a Stem Cell Problem when it becomes a precursor to additional mature emotional and/or physical problems, affecting both the individual and the people in the ecological spheres.

A *Stem Cell Problem* is a particular kind of problem where the gap between values and circumstances (the ideal and the current situations) cannot be closed by the application of current technical know-how or routine behaviour [82], and it finds its root causes in the individual's socio-cultural and structural context they grew in, their biological transformations, and their social capital transitions [36,56]. The best way of finding out if a problem is a *Stem Cell* one, is by examining its mutations or the additional problems that it generates (Table 1) [36].

**Table 1:** Stem Cells Problems' Characteristics. Adapted from Gottman John, 1999.

| | |
|---|---|
| 1. | The conflict makes the individual feel rejected by others. |
| 2. | The individual keeps talking about the problem but makes no headway. |
| 3. | The individual becomes entrenched in their positions and is unwilling to move. |
| 4. | When they discuss the subject, the individual ends up feeling more frustrated and hurt. |
| 5. | Their conversations about the problem are devoid of humour, amusement, or affection. |
| 6. | The individual becomes even more unbudgeable over time, which leads them to vilify each other during these conversations. |
| 7. | This vilification makes the individual all the more rooted in their position and polarized, more extreme in their view, and all the less willing to compromise. |
| 8. | Eventually the individual disengages from each other emotionally. |

It's important to note that the problem behaviours don't come neatly labelled as either '*Technical*' or '*Stem Cell*'. Most of them come as a 'mixed grill', with the *Technical* and *Stem Cell* elements intertwined. Sometimes, a *Stem Cell Problem* may be beyond the individual capacity, and in that case, they simply cannot do anything about it! One way to identify *Technical Problems* is that they seem less painful, gut-wrenching, or intense than *Stem Cell* ones [36]. That is because when arguing over a *Technical Problem*, the focus is only on a particular dilemma or situation. There is no underlying conflict that is fueling the dispute [36].

Problem behaviours (Stem Cell Problems) can encompass a wide range of actions, and some common examples include: aggression, substance abuse, self-harm, impulsivity, disruptive behaviour, addictive behaviours, eating disorders, compulsive behaviours, avoidant behaviours, destructive behaviours [52,67,88,97].

**Guiding Questions:**

The following questions will guide you in updating your PMC:

*Main Question:* "What action or conduct is exhibited by the individual, that deviates from socially accepted norms, and causes harm or distress to themselves or others, and interferes with their functioning or well-being?"

*Subset Questions:*

1. Is there any gap between the desired state and the current state?

2. Is there something that you have observed or experienced in your life, that deviates from socially accepted norms?

3. Have you received a feedback from a person in your surrounding concerning an attitude or action that deviates from socially accepted norms?

4. Now that you have recognized the problem, can you clearly and precisely define it, by describing the it in specific terms, outlining its boundaries, and articulating its scope?

**Populating the PMC**

Visualize, assess, and update your PMC.

**Building Block #2: Excavation of Root Causes**

Behaviour does not exist in a vacuum, and it is profoundly influenced by the context in which it occurs [72,86,93].

In this section, you need to 'excavate' the root causes of the identified problem behaviour. It means to dig deep and uncover the underlying factors, triggers, or conditions that contribute to the occurrence or persistence of that behaviour. It involves delving beyond the surface-level manifestations of the behaviour, to understand the deeper drivers and influences that give rise to it [30,49,93,94]. This process is made easier by exploring the different sides of the Behaviour Triangle Model (BTM) [56].

Here are key aspects of the excavation of the root causes of the problem behaviour:

- *Analysis of Patterns*: It requires examining patterns, trends, and repeated occurrences of the problem behaviour. Identifying when, where, and under what circumstances the behaviour tends to occur can provide valuable clues about its root causes [85].

- *Exploration of Context*: Understanding the broader context in which the problem behaviour takes place is essential. This involves considering various environmental, social, cultural, and situational factors that may contribute to the behaviour. Factors such as family dynamics, peer influence, societal norms, or specific triggers can shed light on the root causes [48].

- *Systemic Factors*: Recognizing the broader systemic or structural factors that contribute to the problem behaviour is important. Socioeconomic disparities, institutional barriers, or systemic inequalities can have an impact on individual behaviours [11].

- *Identification of Triggers*: Uncovering the specific triggers or stimuli that precede the problem behaviour is crucial. Triggers can be external events, internal states, or a combination of both. Examining these triggers helps identify the immediate antecedents that activate or prompt the behaviour [28].

- *Examination of Beliefs and Attitudes*: Exploring the individual's beliefs, attitudes, and thought patterns that are associated with the problem behaviour is important. Negative or maladaptive beliefs, cognitive biases, or distorted thinking patterns can contribute to the perpetuation of the behaviour [4].

- *Historical and Developmental Factors*: Investigating the individual's personal history, experiences, family of origin, developmental trajectory, biological transformations, social capital transitions (family, school, community, Internet, etc.) can provide insights into the root causes of the problem behaviour. Past traumatic events (wounded child in you), learned behaviours, or unmet needs during crucial developmental stages may play a role [64].

- *Emotional and Psychological Factors*: Examining the individual's emotional and psychological well-being is critical. Emotional regulation difficulties, underlying mental health conditions, or unresolved psychological issues can influence the problem behaviour [22].

**Guiding Questions:**

The following questions will guide you in updating your PMC:

*Main Question*: "What are the underlying factors, triggers, or conditions that contribute to the occurrence or persistence of the problem behaviour?"

*Subset Questions*:

1. Behaviour Patterns: When, where, and under what circumstances the behaviour tends to occur?

2. Exploration of Context: What are the environmental, social, cultural, and situational factors that contribute to the behaviour, e.g. family dynamics, peer influence, societal norms, or specific triggers?

3. Systemic Factors: Are the socioeconomic disparities, institutional barriers, or systemic inequalities having an impact on the individual behaviours?

4. Identification of Triggers: What are the external events, internal states, or a combination of both that activate or prompt the behaviour?

5. Examination of Beliefs and Attitudes: What are the negative or maladaptive beliefs, cognitive biases, or distorted thinking patterns that contribute to the perpetuation of the behaviour?

6. Historical and Developmental Factors: Are there past traumatic events (wounded child in you), learned behaviours, or unmet needs during crucial developmental stages that may play a role the development and sustenance of the behaviour?

7. Emotional and Psychological Factors: Is the individual having emotional regulation difficulties, underlying mental health conditions, or unresolved psychological issues that can influence the problem behaviour?

**Populating the PMC**

Visualize, assess, and update your PMC.

**Building Block #3: Analysis of Consequences**



This building block is to examine and understand the outcomes or effects that result from the occurrence or manifestation of the behaviour. It involves looking at both the immediate, medium, and long-term consequences, to gain insight into the impact and significance of the behaviour [19,40,45,96,100].

Here are key aspects of analyzing the consequences of a problem behaviour:

**Immediate Consequences:**

Immediate consequences of problem behaviours refer to the immediate effects or outcomes that occur directly following the occurrence or manifestation of the behaviour. These consequences are typically more immediate and short-lived in nature [13,35].

Understanding these immediate consequences helps inform interventions and strategies aimed at addressing the behaviour and minimizing its negative effects.

Here are some key points highlighting the immediate consequences of problem behaviours:

- *Emotional Reactions*: Problem behaviours can elicit immediate emotional reactions in both the individual exhibiting the behaviour and those who witness it. These emotions may include anger, frustration, fear, sadness, confusion, or distress [37].

- *Physical Harm or Injury*: Some problem behaviours may result in immediate physical harm or injury to the individual or others involved. This can include self-injury, aggression towards others, accidents, or risky behaviours that lead to physical consequences [8].

- *Social Consequences*: Immediate social consequences can occur due to problem behaviours. These may include strained relationships, social rejection, isolation, or conflicts with family members, friends, peers, or colleagues [20,53,68].

- *Disruption of Activities*: Problem behaviours can disrupt ongoing activities or routines. They may interrupt or interfere with tasks, responsibilities, or events, causing delays, cancellations, or inconveniences for oneself and others [6].

- *Attention or Reactions from Others*: Problem behaviours can draw immediate attention or reactions from others. This may include attempts by others to intervene, provide assistance, or establish boundaries. It can also result in increased attention or scrutiny from peers, authority figures, or the general public [27].

- *Immediate Relief or Escape*: Problem behaviours may provide immediate relief or escape from aversive situations, emotional distress, or uncomfortable thoughts or feelings. In the short term, individuals may engage in the behaviour as a coping mechanism or to seek temporary gratification [70].

- *Reinforcement*: Some problem behaviours may receive immediate reinforcement in the form of attention, tangible rewards, or sensory stimulation. This reinforcement can inadvertently contribute to the persistence or escalation of the behaviour [89].

- *Disruption of Functioning*: Problem behaviours can disrupt an individual's immediate functioning in various domains, such as academic performance, work productivity, personal hygiene, or social interactions. They may hinder one's ability to engage in desired activities or meet responsibilities effectively [77].

**Medium-Term Consequences:**

Medium-term consequences of problem behaviours refer to the effects or outcomes that occur over an intermediate period following the occurrence or manifestation of the behaviour. These consequences are not immediate, but are also not as long-lasting as the long-term consequences.

Understanding these medium-term consequences helps inform interventions and strategies aimed at addressing the behaviour and mitigating its negative effects.

Here are some key points highlighting the medium-term consequences of problem behaviours:

- *Health and Well-being*: Problem behaviours can have medium-term impacts on an individual's physical and mental health. For example, substance abuse may lead to deteriorating physical health, increased risk of chronic illnesses, or the development of mental health disorders [27].

- *Social Relationships*: Problem behaviours can strain social relationships in the medium term. The individual may experience conflicts, alienation, or strained interactions with family, friends, romantic partners, or colleagues [1].

- *Academic or Occupational Performance*: Problem behaviours can impact academic or occupational performance in the medium term. They may lead to declining grades, decreased productivity, or disruptions in employment due to absenteeism or conflicts with supervisors or peers [10].

- *Legal and Financial Consequences*: Some problem behaviours, such as criminal activities or financial mismanagement, can result in medium-term legal and financial consequences. These may include legal charges, fines, damaged credit, loss of employment, or financial instability [17].

- *Emotional Well-being*: Medium-term consequences of problem behaviours can have significant impacts on an individual's emotional well-being. This may include increased stress, anxiety, guilt, shame, or low self-esteem resulting from the ongoing effects of the behaviour [53].

- *Interpersonal Dynamics*: Problem behaviours can disrupt interpersonal dynamics in the medium term. Trust may be eroded, communication may be strained, and individuals may experience decreased support or social isolation due to the consequences of their behaviour [20].

- *Self-Efficacy and Motivation*: Medium-term consequences of problem behaviours can negatively affect an individual's self-efficacy and motivation. They may perceive a reduced sense of control, diminished belief in their ability to change, or experience a lack of motivation to pursue personal goals or make positive changes [3].

- *Future Opportunities*: Problem behaviours can limit medium-term future opportunities. This may include missed educational or career advancement prospects, reduced chances for personal growth or development, or limited access to resources and support systems [38].

**Long-Term Consequences:**

Long-term consequences of problem behaviours refer to the enduring effects or outcomes that occur over an extended period following the occurrence or manifestation of the behaviour. These consequences have a lasting impact on various aspects of an individual's life [51,66].

Understanding these long-term consequences helps emphasize the importance of early intervention, prevention, and the implementation of appropriate strategies to address problem behaviours and mitigate their long-lasting effects.

Here are some key points highlighting the long-term consequences of problem behaviours:

- *Physical Health Issues*: Problem behaviours can lead to long-term physical health consequences. For example, chronic substance abuse can result in organ damage, increased risk of diseases such as liver or heart disease, compromised immune function, or other long-term health conditions [2].

- *Mental Health Disorders*: Problem behaviours can contribute to the development or exacerbation of long-term mental health disorders. This may include conditions such

as anxiety disorders, depression, substance use disorders, personality disorders, or other psychiatric conditions [16].

- *Relationships and Social Functioning*: Long-term problem behaviours can have significant impacts on relationships and social functioning. They can result in strained family relationships, damaged friendships, social isolation, difficulty forming and maintaining healthy relationships, and reduced overall social support [65].

- *Education and Career Opportunities*: Problem behaviours can impede long-term educational and career opportunities. They may lead to academic underachievement, limited job prospects, impaired job performance, and reduced chances for advancement in educational or professional settings [39].

- *Legal Consequences*: Some problem behaviours, such as criminal activities or repeated legal infractions, can have long-term legal consequences. These may include a criminal record, restricted employment opportunities, limitations on obtaining licenses or certifications, or difficulty securing housing or financial assistance [76].

- *Financial Instability*: Long-term problem behaviours can contribute to financial instability. This may result from ongoing financial mismanagement, excessive debt, loss of employment or income, legal fines or fees, or limited access to resources due to the consequences of the behaviour [42].

- *Personal Development and Fulfilment*: Problem behaviours can hinder personal growth, self-actualization, and overall life satisfaction in the long term. They may prevent individuals from achieving their goals, pursuing meaningful relationships or hobbies, or experiencing a sense of fulfilment and contentment [47].

- *Overall Quality of Life*: Long-term consequences of problem behaviours can significantly impact an individual's overall quality of life. This can manifest as a reduced sense of well-being, diminished life satisfaction, compromised physical and mental health, strained relationships, limited opportunities, and a general sense of dissatisfaction or regret [14].

**Guiding Questions:**

The following questions will guide you in updating your PMC:

*Main Question:* "What are the immediate, medium, and long-term consequences, that may result from the occurrence or manifestation of the problem behaviour?"

*Subset Questions:*

- What are the immediate consequences of problem behaviours?
- What are the medium-term consequences of problem behaviours?
- What are the long-term consequences of problem behaviours?

You can identify the probability of occurrence of the consequences of the problem behaviour through a Consequences Probability Occurrence Map (CPOM) (Table 2). It will help you determine the probability of occurrence for the immediate, medium-term, and long-term consequences of the problem behaviour, through the assessment of the likelihood or chance that these consequences will actually manifest.

**Populating the PMC**

Visualize, assess, and update your PMC.

**Building Block #4: Consideration of Prerequisites for Change**

Considering the prerequisites for behaviour change, when planning to address a problem behaviour means taking into account the foundational factors or conditions that need to be in place for successful and sustainable behaviour change to occur. These prerequisites create a supportive environment and increase the likelihood of individuals being able to modify their behaviour effectively. By considering these prerequisites, you can develop comprehensive and targeted interventions that address the underlying factors influencing the problem behaviour. This holistic approach increases the chances of successful behaviour change and helps individuals maintain the desired changes over the long term [29,58,60,84].

Here are some key aspects to consider:

- *Motivation*: Motivation is a crucial prerequisite for behaviour change. Individuals must have a desire or willingness to change their behaviour. It involves recognizing the need for change, understanding the benefits of change, and having a personal drive to make the necessary efforts. Assessing motivation levels and understanding the underlying reasons for change or resistance is important in planning effective interventions [18].

- *Awareness and Understanding*: Individuals need to be aware of the problem behaviour and have a clear understanding of its impact on their lives and the lives of others. This includes recognizing the consequences of the behaviour, understanding the reasons behind it, and acknowledging the need for change. Providing education, information, and raising awareness about the behaviour and its effects can help lay the foundation for behaviour change [57,78].

- *Self-Efficacy and Confidence*: Self-efficacy refers to an individual's belief in their ability to successfully change their behaviour. It is important to assess individuals' confidence levels in their capacity to change and identify any barriers or challenges they perceive. Building self-efficacy through skill development, goal setting, and providing support and resources can enhance the likelihood of successful behaviour change [5].

- *Supportive Environment*: The environment in which the behaviour occurs plays a significant role in behaviour change. Creating a supportive environment involves identifying and addressing factors that may enable or reinforce the problem behaviour. This can include modifying physical surroundings, social influences, and social norms. Additionally, providing access to resources, support networks, and appropriate interventions can facilitate behaviour change [61,62,92].

- *Skills and Strategies*: Individuals need to develop the necessary skills and strategies to change their behaviour effectively. This may involve learning new coping mechanisms, problem-solving skills, communication skills, or acquiring specific knowledge or techniques related to the behaviour change goal. Providing skill-building opportunities and evidence-based strategies can enhance

individuals' ability to initiate and sustain behaviour change [59].

- *Personalized Approach*: Recognizing that behaviour change is a highly individual process is essential. Tailoring interventions and strategies to meet the unique needs, preferences, and circumstances of individuals increases the likelihood of success. Taking into account factors such as age, culture, personal values, personality traits, and life circumstances can help create personalized plans for behaviour change [99].

**Guiding Questions:**

The following questions will guide you in updating your PMC:

*Main Question:* "What are the foundational factors or conditions that need to be in place for a successful and sustainable behaviour change to occur?"

*Subset Questions:*

1. Motivation: Is the individual motivated to successfully initiate, implement and maintain the desired changes over the long term.

2. Awareness and Understanding: Is the individual aware of the problem behaviour and have a clear understanding of its impact on their lives and the lives of others

3. Self-Efficacy and Confidence: Is the individual confident in their capacity to change and identify any barriers or challenges they may perceive.

4. Supportive Environment: Is the environment in which the individual lives supportive for a behaviour change?

5. Skills and Strategies: Does the individuals have the necessary skills and strategies to change their behaviour effectively?

6. Personalized Approach: Does the individual know their dominant personality trait?

**Populating the PMC**

Visualize, assess, and update your PMC.

**Building Block #5: Execution of The Change Plan**



This building block, which speaks to the development and execution of a change plan, when addressing a problem behaviour, involves the creation of a structured and strategic approach to facilitate behaviour change. It is a proactive and intentional process that outlines the steps, strategies, and actions needed to address the problem behaviour effectively [63,83,101].

Developing and executing a change plan requires collaboration among relevant stakeholders, including the individual, family members, professionals, support systems, and community resources. It is an iterative process that involves continuous assessment, adjustment, and reinforcement to support successful behaviour change [69,102].

Here's an overview of the meaning and key elements of developing and executing a change plan:

- *Setting Clear Goals*: Clearly define the desired outcome of the behaviour change process. Establish specific, measurable, achievable, relevant, and time-bound (SMART) goals that align with the individual's needs and aspirations.

Goals provide direction and serve as a benchmark for progress [50].

- *Identifying Strategies and Interventions*: Determine the strategies and interventions that are most appropriate for addressing the problem behaviour. This may involve drawing from evidence-based practices, established behaviour change models, or expert recommendations. Consider interventions that target the underlying causes, provide alternative coping skills, and support sustainable change [58].

- *Creating an Action Plan*: Develop a detailed action plan that outlines the specific steps to be taken to achieve the desired behaviour change. Break down the process into smaller, manageable tasks or milestones. Assign responsibilities, set timelines, and identify necessary resources or support systems to facilitate implementation [34].

- *Implementing the Plan*: Put the action plan into motion by executing the identified strategies and interventions. This may involve engaging the individual in therapeutic interventions, providing education and skills training, fostering social support, or creating environmental modifications. Regularly monitor progress and make adjustments as needed [33].

- *Monitoring and Evaluation*: Continuously assess and evaluate the effectiveness of the change plan. Monitor the individual's progress, gather feedback, and measure outcomes against the established goals. Make data-driven decisions and modify the plan if necessary to ensure its relevance and effectiveness [79].

- *Providing Support and Accountability*: Offer ongoing support and guidance to the individual throughout the behaviour change process. This can include regular check-ins, counselling sessions, support groups, or access to resources and tools. Establish mechanisms for accountability, such as progress tracking, self-monitoring, or involving trusted individuals who can provide support and encouragement [62].

- *Sustaining Behaviour Change*: Develop strategies to help the individual maintain the desired behaviour change over the long term. This may involve relapse prevention planning, identifying triggers and coping mechanisms, reinforcing positive behaviours, and providing ongoing support and resources [23].

**Guiding Questions:**

The following questions will guide you in updating your PMC:

*Main Question:* "Is there any structured and strategic approach, that outlines the steps, strategies, and actions needed to address the problem behaviour effectively, that has been developed to facilitate behaviour change?"

*Subset Questions:*

1. Setting Clear Goals: What is the desired outcome of the behaviour change process?

2. Identifying Strategies and Interventions: What are the most appropriate strategies and interventions that are needed for addressing the problem behaviour?

3. Creating an Action Plan: Has the individual developed a detailed action plan that outlines the specific steps to be taken to achieve the desired behaviour change?

4.  Implementing the Plan: Has the individual put the action plan into motion by executing the identified strategies and interventions?

5.  Monitoring and Evaluation: Is the individual continuously assessing and evaluating the effectiveness of the change plan?

6.  Providing Support and Accountability: Who will be offering ongoing support and guidance to the individual throughout the behaviour change process?

7.  Sustaining Behaviour Change: Has the individual developed strategies to help maintain the desired behaviour change over the long term?

**Populating the PMC**

Visualize, assess, and finalize your PMC.

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