4c. Biopsychosocial - Development of Specific Phobia

Biopsychosocial model:

- In contemporary psychology, internal and external factors tend to be organised within a framework called the biopsychosocial model.
- The biopsychosocial model is a way of describing and explaining how biological, psychological and social factors combine and interact to influence a person's mental health.
- The model is based on the idea that mental health is best understood by considering specific factors from within each domain (areas) and how these factors may combine and interact to influence our wellbeing.

- **The biopsychosocial model is a holistic model about how psychological, biological and social factors combine and interact.** Holistic view of mental health — the individual is considered as a 'whole person' functioning in their unique environment.

  The 4P factor model describes four types of influences that contribute to the development and progression of mental health disorders including:

  - predisposing risk factors
  - precipitating risk factors
  - perpetuating risk factors
  - protective factors.
  - Sometimes described as a subset of the biopsychosocial approach when analysing a mental disorder.

- **Risk factors: are any characteristic or event that increases the likelihood of the development or progression of a mental disorder. This may be a biological, psychological or social factor.**

- **Protective factors: are any characteristic or event that reduces the likelihood of the occurrence or recurrence of a mental disorder.** Common protective factors include those associated with resilience (e.g. positive outlook, ability to regulate emotions), supportive family relationships and access to social support.

- Risk factors make it more likely that mental disorder symptoms will emerge and protective factors make it less likely that symptoms will emerge.
- Both risk and protective factors may include aspects of a person's biology (biological factors), personal attributes (psychological factors), and/or environment (social factors).

1. **Predisposing risk factors:**

- **A predisposing risk factor increases susceptibility to a specific mental disorder. For example, a family history of schizophrenia is a predisposing risk factor for developing schizophrenia.**
- A predisposition increases the likelihood of the development of a disorder but it does not mean that an individual will inevitably develop the relevant disorder at some time in their life - so it is not a '*causal*' factor.

2. **Precipitating risk factors:**

- **A precipitating risk factor: increases susceptibility to and contributes to/triggers the occurrence of a specific mental disorder.**
- Precipitating factors are the immediate factors or events that have caused the individual to experience symptoms 'now'.

- E.g. A major stressor or the experience of acculturative stress or a catastrophic event may trigger onset of a disorder.

3. **Perpetuating risk factors:**

- **A perpetuating risk factor: maintains the occurrence of a specific mental disorder and inhibits recovery.**
- These are the factors that are causing a person's symptoms to continue or progressively worsen.
- E.g. Continuing to use a particular substance may perpetuate an associated substance use disorder and also prevent recovery from the disorder.

Other perpetuating risk factors could be:

- Unresolved predisposing or precipitating factors,
- Ongoing bullying,
- An abusive marital relationship
- Physical illness
- Social withdrawal
- Insomnia
- Personal characteristics such as poor coping abilities or low resilience

4. **Protective factors:**

- **A protective factor reduces or prevents the occurrence or recurrence of a mental disorder.**
- These factors typically vary in relation to a specific disorder.
- E.g. Lack of substance use would help prevent occurrence (or recurrence) of a substance use disorder.

Some of the more generic protective factors that tend to be relevant to many disorders include:

- Having good relationships with family and friends,
- Access to social support

- Personal characteristics such as resilience, high self-esteem and average or above average intelligence.

Specific phobia - Biological factors

A specific phobia is a disorder characterised by significant anxiety provoked by exposure to a specific feared object or situation, often leading to avoidance behaviour.

- Characterised by excessive or unreasonable fear of a particular object or situation. The fear response tends to be out of proportion to the actual danger posed.
- Diagnosable medical phobia (specific category compared to phobia)

Symptoms:

- Acute stress response – involving physiological changes like those of the fight-flight response.
- Panic attacks – a period sudden onset of intense fear or terror that may be expected (has an obvious cue or trigger) or unexpected (occurs in a calm state)
- Anticipatory anxiety – a gradual rise in anxiety as a person thinks about or 'anticipates' being exposed to a phobic stimulus in the future.

Integration of the 4P factor and biopsychosocial model for a specific phobia:

4P factor model	Biological factors	Psychological factors	Social factors
Predisposing risk factors	Neurotransmitter dysfunction (GABA)		
Precipitating risk factors	Role of the stress response	Classical conditioning (behavioural model)	Specific environmental triggers

Perpetuating risk factors	Long-term potentiation (biological association through constant pairing of CS/fear stimulus and CR/fear response)	Operant conditioning (behavioural model). Cognitive bias including memory bias and catastrophic thinking (cognitive model).	Stigma related to receiving treatment
Protective factors	Use of GABA agonists, controlled breathing and physical exercise	CBT strategies and graduated exposure to phobic stimuli (systematic desensitisation)	Psychoeducation for families/supporters - challenging unrealistic or anxious thoughts, not encouraging avoidance behaviours

Biological factors:

1. **The role of GABA (predisposing):**
   Gamma-amino butyric acid (GABA):

- Primary inhibitory neurotransmitter in the CNS
- Works throughout the brain to make post-synaptic neurons less likely to fire (inhibitory)
- Counterbalances the excitatory activity of glutamate, the primary excitatory neurotransmitter
- One of its roles is to fine-tune neurotransmission in the brain and maintain neurotransmission at

an optimal level.

- Without the effects of GABA activation of post-synaptic neurons might get out of control — can

lead to seizures similar to epilepsy

➔ Consequently, GABA plays an important role in regulating CNS arousal and is believed to play a role in **anxiety**

- GABA also plays a role in anxiety because it acts like a calming agent or 'brake' to the excitatory neurotransmitters that lead to anxiety.
- In addition, their flight—flight—freeze response may also be more easily triggered by a variety of stimuli, which in turn may predispose them to developing a specific phobia when compared with people who do not have a low level of GABA

- GABA dysfunction can therefore result in low levels of GABA in the brain, as shown by studies of people with a specific phobia (and other anxiety disorders) who are more likely to have a significantly lower GABA level than control group placebo participants with no specific phobia.
- The level of GABA in a person's brain may be affected by a wide range of factors.
- For example, research studies have implicated factors such as genetic inheritance, central nervous system damage, exposure to prolonged stress, nutritional deficiencies in vitamin B6 and citric acid, and high caffeine intake

2. The role of the stress response (precipitating):

- This is considered to be the psychological component of the response to a phobic stimulus. Underlying and interacting with this component is a physiological component that is like the physiological response to a stressor.
- Perceived threat or impending harm at the sight or thought of the phobic stimulus activates the fight-flight response, which accounts for the symptoms associated with phobic anxiety: heart palpitations, sweating, feeling dizzy, etc...
- Physiological stress response can be severe and persist at a high-level for a long time

3. **The role of LTP (perpetuating):**

- Long-term potentiation is believed to play an important role in the learning and memory of fear by strengthening synaptic connections in the neural pathway formed during the learning process, resulting in enhanced or more effective synaptic transmission within that pathway.
- Long-term potentiation can therefore neurologically strengthen the association between a phobic stimulus and a fear or anxiety response through its activity at the synapse.
- The more that the connection is activated through each encounter with a phobic stimulus, the more the connection is strengthened.
- The more the connection is strengthened, the more the relevant neural pathway is strengthened, increasing the efficiency in transferring fear information along the pathway and decreasing the likelihood that what has been learnt will be forgotten.

Specific phobia - Psychological factors

Social and Psychological:

	Social	Psychological
Predisposing		
Precipitating	Specific environmental trigger (phobic stimulus)	Classical conditioning (e.g. Little Albert forming phobia of white fluffy things) → refer to NS, UCS, UCR, CS, CR etc.

Perpetuating	Stigma	Operant conditioning • Positive reinforcement by getting comfort for being scared • Negative reinforcement by avoiding fear response Cognitive bias • Memory bias (we remember scary things/memories when amygdala signals to the hippocampus) • Catastrophic thinking (thinking the worst)
Protective	Psychoeducation • Challenging unrealistic thoughts • Stopping catastrophic thinking • Educate out of avoidance behaviour	Cognitive behavioural therapy (CBT) - Cognitive component: changing biases in thought process while Behavioural component: changing maladaptive behaviours then link to scenario. Systematic desensitisation/graduated exposure: - Box breathing technique, colouring etc. • Fear hierarchy, relaxation techniques

		e.g. explain how Systematic desensitisation: "This essentially classically conditions the person to not fear the snake" refer to→ (NS, UCS, UCR, CS, CR)

Behavioural model:

- According to the behavioural model, phobias are learned through experience and may be acquired, maintained or modified by environmental consequences such as rewards and punishment.
- Fears are typically acquired through classical conditioning ('Little Albert'). In this way classical conditioning becomes the precipitating factor.
- Fears are typically *maintained* through operant conditioning. In this way operant conditioning acts as a perpetuating factor.
- E.g. receiving comfort (positive reinforcement) when demonstrating a fear response increases the likelihood of that fear response reoccurring.
- E.g. avoidance behaviour leads to reduced fear response (negative reinforcement) increasing the likelihood of avoidance behaviours continuing.

Cognitive model:

- In explaining how a specific phobia may be *acquired* and *persist*, a cognitive model focuses on how the individual processes information about the phobic stimulus and related events.
- E.g. How people with phobias tend to think about a phobic stimulus and its context, and their perceptions, memories, beliefs, attitudes, biases, appraisals, expectations and other cognitive processes that may be relevant.

- E.g. a person with Aquaphobia (fear of water) may engage in catastrophic thinking and imagine the worst possible outcome when confronted by water. Like “If I go near that pool, I will definitely fall in and drown”.

Cognitive bias:

- A cognitive bias is a tendency to think in a way that involves *errors of judgment* and *faulty decision-making*. It involves a ‘mistake in thinking’, which is why it is also sometimes referred to a *cognitive distortion*.
- **Memory bias: occurs when recall or recognition is better for negative or threatening information than for positive or neutral information.**
- **Catastrophic thinking: is a type of negative thinking in which an object or event is perceived as being far more threatening, dangerous or insufferable than it really is and will result in the worst possible outcome.**

Specific phobia - Social factors

Overview of social contributing factors:

1. **Specific environmental triggers:**

- **Specific phobias can develop after having a negative and traumatic experience with an object or situation at some point in the past.**
- E.g. a phobia of dogs may result from being bitten by a dog
- E.g. a phobia of driving may result after a serious car accident.

- What factor makes it more likely that a specific phobia could develop by having a negative and traumatic experience with an object?
- The severity of the negative and traumatic experience.
- Using dogs as an example, explain why one person may develop a specific phobia after a single negative experience with a dog and another might not.

- Because of each individual's prior experience. And also due to subsequent (positive) exposures to the object or situation after the negative experience.

2. **Stigma around seeking treatment:**

- **Stigma around seeking treatment: embarrassment or shame about symptoms and concerns about being negatively judged by others may discourage people with a phobia from seeking treatment.**
- Individuals with a phobia are particularly vulnerable to experiencing stigma, which in turn affects their willingness to tell family and friends, let alone to seek treatment from a professional.