Cognitive origins of depression

For Paper 2 you need to know cognitive arguments for two disorders. Once you learn the strengths and limitations of the arguments, then you can easily discuss research for any disorder. Below you will find two arguments for the origin or etiology of Major Depressive Disorder: negative schemas and rumination. You should know one study for each of the etiologies and be able to discuss the strengths and limitations of each of the arguments.

Aaron Beck's Theory of Depression

Aaron Beck argues that depression is rooted in what he called a patient's "automatic thoughts"- that is, personalized thoughts that are triggered by particular stimuli that lead to emotional responses.

Beck’s theory of depression has three components:

1. The Negative triad: depressed patients have negative views of themselves, the world and the future.
2. They have negative schemas triggered by negative life events.
3. They engage in cognitive biases - also referred to as "irrational thinking."

Remember from our study of the cognitive level of analysis that schema are developed through our interaction with our environment. Beck argues that negative schema can develop because of family problems, social rejection by peers, poor school experiences or by having depressed members of the family or close social circle. These schema are activated in depressed people whenever they are in a situation which in any way resembles the situations in which the schema were created. Beck describes three typical schema that are characteristic of depressed people: an ineptness schema - that is, I always fail; a self-blame schema - that is, it is my fault for anything that doesn’t work out; a negative self-evaluation schema - that is, I am worthless.

There are several cognitive biases that Beck describes. Three three most commonly discussed are:

- **Arbitrary inferences** are when we make conclusions without relevant evidence. This way of thinking tends to focus on the most negative possible outcome. It includes a behaviour referred to as "catastrophizing." For example, you pass one of your best friends in the hall. He is so anxious about his upcoming IB Chemistry exam that he doesn't even notice you. You jump to the conclusion that he is deliberately ignoring you and doesn't like you anymore.
- **Selected abstraction** is when you draw a conclusion about yourself based on an isolated incident. The total context of the situation is not assessed or understood. In selected abstraction, depressed patients tend to look at the negative moments and

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one parent is very angry and says that she "has no idea how I am allowed in the classroom." Perhaps this parent was having a bad night. Maybe I was the last of several rather difficult conferences for her. But instead of keeping that perspective, I don't focus on the 40 good conferences, I focus only on the negative one and think, "I am a terrible teacher."

- **Overgeneralization** is when you take a negative situation like the one that I have described above and then transfer that negative evaluation to other areas of your life. So, since this parent is angry with me as a teacher, I feel that I am also a bad partner, an unlovable friend, an academic failure, etc.

### Evaluation of Beck's theory

One of the strengths of the theory is that there is significant evidence that Beck has accurately described the thinking patterns of depressed patients. These include:

- Beck's own clinical observations.
- Self-report questionnaires given to depressed patients.
- Laboratory studies on memory bias

Studies of memory bias were carried out by Ruiz-Caballero & Gonzalez (1994) on depressed and non-depressed college students. They gave participants a word-stem completion task to see whether in solving the task they would recall words with a positive or negative connotation. The results indicated that depressed participants showed a memory bias for negative words. In general, research shows that when depressed individuals are given lists of words that vary in emotional content, they tend to recall more negative words than do non-depressed individuals.

Another strength of the theory is that highly successful therapy has been developed based on this theory which has led to improvement in a large number of patients.

One of the limitations of the theory is the problem of bidirectional ambiguity. Hammen argues that negative cognitions may be the result of rather than the cause of depressed moods. Beck himself argues that the relationship is bidirectional: depression can make thinking more negative, and negative thinking can probably cause and certainly worsen depression.

The best way to resolve this issue is to carry out prospective case studies. These, however, are difficult to organize. One study by Joiner et al (1999) gave a questionnaire to university students before mid-term exams. Those who had negative thoughts before the exam who ended up doing poorly showed an increase in depressive symptoms. However, those that did well, did not. This shows that cognition must also interact with environmental stimuli in order to result in depressive behaviour.

### The Role of Rumination

Nolen-Hoeksema has proposed that differences in coping styles may underlie the gender differences in depression. She has found that men are more likely to distract themselves when they feel depressed, whereas women are more likely to amplify depression by ruminating about their feelings and their possible causes - that is, they think a lot about how they feel and try to understand the reasons they feel the way they do. Rumination is not, of course, limited to women. In one study, Nolen-Hoeksema (2000) found that both men and women who ruminate more following the loss of loved ones or when feeling sad are more likely to develop depression than those who ruminate less.
Nolen-Hoeksema & Girgus (1994) have outlined three risk factors for depression in adolescence. They argue that girls are more likely than boys to have these risk factors for depression. The risk factors are:

- Girls are less assertive than boys and score lower than boys on questionnaires that assess leadership ability.
- Girls are more likely than boys to engage in ruminative coping. An eighteen month longitudinal study has shown that this coping style predicts onset of depression and is associated with more severe symptoms (Just & Alloy, 1997).
- Girls are less likely than boys to be physically and verbally aggressive and are less dominant in group interactions. Research by Sapolsky has shown the effects of power hierarchies on stress levels and health.

Recent brain research seems to support Nolen-Hoeksema’s theory. In a study carried out by the University of Toronto (Farb et al, 2011), they found that brain responses can predict onset of depression. Farb and his team showed 16 formerly depressed patients sad movie clips and tracked their brain activity using an fMRI. Sixteen months later, nine of the 16 patients had relapsed into depression. The researchers compared the brain activity of relapsing patients against those who remained healthy and against another group of people who had never been depressed.

Faced with sadness, the relapsing patients showed more activity in a frontal region of the brain, known as the medial prefrontal gyrus. These responses were also linked to higher rumination: the tendency to think obsessively about negative events and occurrences. The patients who did not relapse showed more activity in the rear part of the brain, which is responsible for processing visual information and is linked to greater feelings of acceptance of experience.

This study suggests that there are important differences in how formerly depressed people respond to emotional challenges that predict future well-being. Ruminating in order to analyze and interpret sadness may actually be an unhealthy reaction that can perpetuate the chronic cycle of depression.

**Evaluation of Nolen Hoeksema’s theory**

As you can see above, there appears to be both biological support (Farb et al's study) and socio-cultural correlates - that is, Sapolsky's research on social hierarchies and stress.

In addition, Nolen-Hoeksema’s research does help us to understand gender differences in the prevalence of depression.

However, Nolen Hoeksema's theory also has the problem of bidirectional ambiguity. She has also been criticized for arguing that it is because of women's focus on relationships is the reasons for rumination. Her research became popular about thirty years ago, so there is a question whether the theory has temporal validity, or whether society and culture have changed over time and thus made this theory less valid. However, more modern research that shows links between depression and anxiety - which is characterized by rumination - as well as the brain research above, seems to argue that the theory is still highly relevant.
A schema is a mental representation that helps us to predict and interpret our environment. They are based on past experiences. They are the "filters" through which we see and interact with the world. It makes sense that this would have an effect on depression; if we have negative schema about ourselves or our world, then we will interpret our daily experiences through this negative filter.

2. What is meant by memory bias when discussing depressed individuals?

Memory bias is the tendency to recall negative information. In the case of testing done on depressed individuals, it is found that they tend to remember words with negative connotations better than those with positive connotations.

3. To what extent can we determine if negative automatic thinking leads to depression?

It is not possible to establish a true cause and effect relationship. We cannot be sure if negative thinking leads to depression or whether depression leads to negative thinking. Prospective studies are difficult to carry out - and it is not really possible to separate other variables - for example, biological or social vulnerabilities.

4. How can rumination be measured?

There are primarily two ways in which rumination has been measured. First, Nolen-Hoeksema's theory is based on extensive work with depressive patients. Through self-reporting, she has determined that this is a common characteristic of depressed patients. In addition, research like that carried out by Farb et al indicates that there are biological indications that rumination, which takes place in the frontal lobe, may play a role in depression.