

## Arousal, Stress and Anxiety



Success and failure in competitive sports can produce extreme anxiety, especially at high levels in sport competition. Some people can perform exceptionally well under pressure while others perform extremely bad. In this course we are going to discuss the causes and effects of arousal, stress and anxiety.



In sport psychology we distinguish the terms arousal, stress and anxiety. Arousal is a blend of psychological and physiological activity in a person. It is a continuum that varies from not aroused at all through completely aroused. Higher arousal means higher mental and physical activation. There can be an increased heart rate, respiration and sweating. Arousal isn't either positive or negative, it's just the state of your physical and mental activation.

## Anxiety

- Cognitive anxiety
- Somatic anxiety
- State anxiety
- Trait anxiety



Anxiety on the other hand is a negative emotional state characterized by nervousness, worry and apprehension with activation or arousal of the body. Although anxiety is perceived as negative or

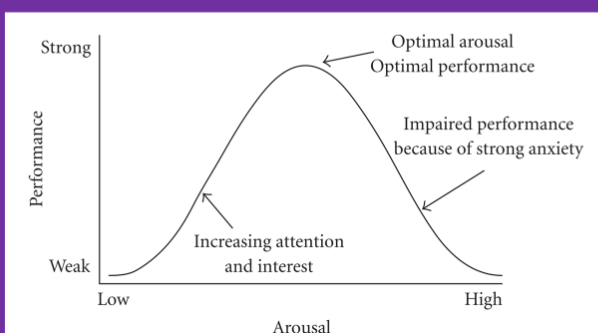
unpleasant, it does not necessarily affect performance negatively. Anxiety has a thought component, for example worry, which is called cognitive anxiety, and a physical component, which is called somatic anxiety. Anxiety can be seen as a stable personality trait. We are talking about trait anxiety. We can also use the term to describe an changing mood state, an reaction to a situation. Then we are talking about state anxiety. People with high trait anxiety perceive their environment as more threatening as necessary and can react with higher levels of state anxiety. People with high levels of trait anxiety usually have more state anxiety in important situations.

## Drive theorie (Spence & Spence, 1966)

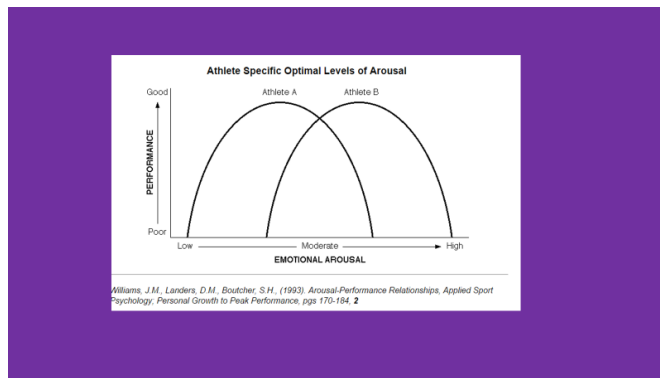


The drive theory says that as the arousal or state anxiety increases, so does performance. The more psyched up an person becomes, the better he performs. As the drive is stronger, the outcome will be better, because how stronger an negative stimulation is, the more energy is in the reaction and action. The more action and energy, the better the performance. But: the drive is non specific: all sorts of reactions become stronger, the good reactions and actions as well as the wrong one. This means that when a task isn't well developed, there can be mistakes in the action and those mistakes become also stronger. In this case an strong drive can have a negative effect on performance. This theory doesn't explain the whole relation between anxiety and performance because a lot of people perform way less in stressful situations.

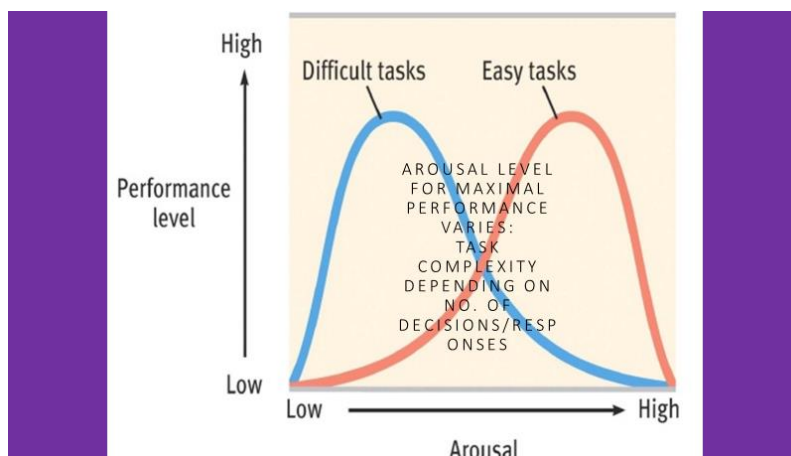
### Inverted U Hypothesis (Landers & Arent, 2010)



Dissatisfied with the drive theory, most sport psychologists turned to the inverted U hypothesis too explain the relationship between arousal and performance. At low arousal levels, for example when you are in an 'Netflix mode', performance will be low. As arousal increases, so does performance. There will be an optimal point where best performance results. Further increase in arousal, however, causes performance to decline. Most people recognize the idea of underarousal, optimal arousal and overarousal.

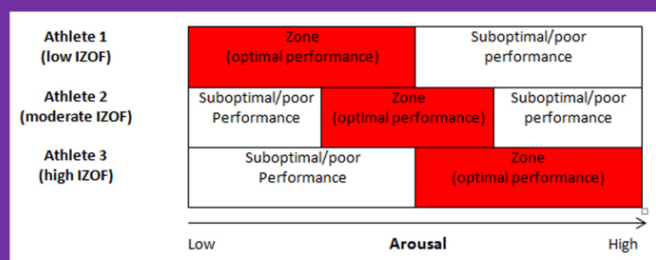


But: there can be individual differences in optimal arousal zone. One person needs more arousal than the other. And: we have to deal with our horses: with one horse you may need to be more psyched up than with another more sensitive horse.



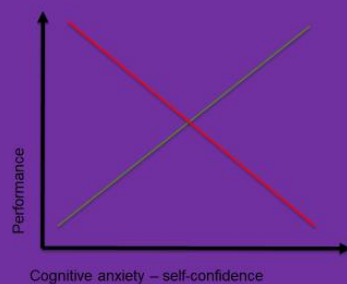
And: at difficult tasks, you need less arousal to perform well and at boring, easy tasks you need more arousal. There seems to be a difference in optimal arousal with different horses, from person to person and in different circumstances or riding disciplines.

### Individual zones of optimal functioning (Hanin, 1980, 1986, 1997)



The theory of Hanin says that every person has an zone of optimal state anxiety in which their best performance occurs. Outside this zone, poor performance occurs. An important difference with the inverted U hypothesise is that the optimal zone of functioning not always occur at the midpoint, but rather varies from person to person. So: a persons zone of optimal functioning may be at the lower, middle or upper end of the state anxiety continuum.

### SELF-CONFIDENCE AS A MODERATOR...



It seems that cognitive anxiety, worry, is negatively related to performance: increases in cognitive anxiety seems to lead to decreases in performance. Self confidence seems to be an moderator: people who have selfesteem worry less and experience less cognitive arousal. They experience somatic arousal as a sign of the body that it is ready to perform. People with a lack of self esteem worry a lot. They don't have faith, they are worrying about the possibility that they can't handle the situation. They look at their somatic arousal as an predictor of failure!! But: somatic arousal is a sign of youre body that it's ready to take some action!

When you are aroused there is a lot going on in your body. Chemical and hormonal processes make youre body ready for action: focus increases, your less tired, you can last longer, and so on and so on. So: why do you see your somatic anxiety as an sign that you cant handle the situation while it is actually a sign of your body that you are ready to take some action?

#### Tools to decrease arousal:

- Develop self esteem (selftalk and thoughtcontrol)
- Breathing techniques (to remain focus, stay calm, taking control of breathing, to centre)
- Progressive muscle relaxation (to decrease muscle tension)
- Music
- Focus
- Goalsetting
- Visualisation



In the beginning of this weblecture we were talking about perceiving an sitiation. How do you perceive the signs of your body?

But: it is important to find your optimal performance zone. Here are some tools to decrease arousal:

- First of all, develop some self esteem. We are going to talk about that next week. Learning to control the cognitive anxiety is a very important aspect in handeling the pressure.
- Use breathing techniques to remain focus, to stay calm, to take control of your breathing and to centre. You can find some exercises in the dashboard.

- Use progressive muscle regulation techniques to decrease muscle tension. You can find 2 exercises in the dashboard.
- Use music to calm down.
- Use focus techniques as we discussed in the other weblecture.
- Use goalsetting
- Or use visualisation techniques. We are going to discuss this topic later.

Tools to increase arousal:

- Music
- Breathing exercises
- Move!
- Selftalk
- Visualisation
- Goalsetting
- Focus

→ the other way around



Remember:

somatic arousal is a sign of your body  
that you are ready to rumble!

