

How anxiety affects tennis performance.

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ABSTRACT

This article describes how anxiety affects all three systems of psychological functioning: how we feel, how we think, and how we behave. The interaction between these three systems is explained in terms of a negative cycle of anxiety, which often inhibits tennis performance, particularly in the competition setting.

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INTRODUCTION

Anxiety is a universal phenomenon (Somers et al., 2006). Depending upon the situation, anxiety may be a helpful emotion. In sport, anxiety might motivate us to do things we might not do otherwise – e.g. practice more in order to play better tennis. However, whilst anxiety is at times useful, on occasions it may become dysfunctional – that is, it may interfere with our ability to behave in helpful ways.

THE THREE SYSTEMS: BODY, MIND AND BEHAVIOUR

It is important to understand that anxiety affects our bodies, our minds, and how we act (Seligman et al., 2001); and that there is a complex and ever-changing interplay between those three systems – the somatic, cognitive and behavioural: how we feel, how we think, and what we do when we are anxious.

Somatic anxiety

When we are anxious, we experience physical changes or feelings in our bodies. These feelings are triggered by the production of adrenaline in order to meet the demands of the 'fight or flight' response. The effects of adrenaline on the body's organ systems are many (van Zijderwald et al., 1991), but include: changes in respiration and heart rate, increased muscle tension, alterations of temperature, and general overarousal of the nervous system.

Cognitive anxiety

Cognitions are thoughts. An individual's cognitive style is the way in which they typically think about themselves, others, and the world. Certain cognitive styles and ways of thinking are strongly associated with anxiety (Riskind & Williams, 2005). The central idea behind the cognitive model of anxiety is that it is not events in the external world which cause us to be anxious;

it is our perception of those events which produces anxiety as an emotional reaction. For example, if we have played badly and lost all of our recent matches, then the next tournament we enter is likely to trigger memories of our earlier feelings, leading to anxious cognitions, including thoughts of selfdoubt.

When we feel anxious, our cognitions tend to relate to perceptions of danger – either physical (the threat of actual bodily harm) or psychosocial (for example, the loss of self-esteem). Anxious cognitions commonly include thoughts of self-doubt, worry, danger and threat.

These anxiety-related perceptions typically lead to negative automatic thoughts – thoughts which enter our heads without being reasoned through and are associated with unpleasant emotional feelings. Negative automatic thoughts commonly begin with statements such as, 'I can't.....I won't be able to...' They are often underpinned by dysfunctional assumptions about oneself or certain situations, such as: 'Anything other than 1st place means I am a failure'. Dysfunctional assumptions may become particularly prevalent at times of stress.

'Stress' is defined as the difference between our perception of the demands placed upon us and our perceived ability to cope with those demands (McGrath, 1970). This definition recognises the importance of the situation but also of the individual and their beliefs about that situation. That is why the same situation might be seen as stressful by one person but as a challenge by another.

If we feel able to cope with the demands placed upon us, then we are unlikely to feel much stress. Anxiety arises when we perceive the demands placed upon us to be greater than our perceived ability to cope with those demands. This mismatch typically produces fear and anxiety. When both somatic and cognitive anxiety is excessive, they will inhibit performance.

Performance expectations

In a tennis match, it is unlikely that we are going to be under much physical threat; but we are likely to be exposed to psychosocial threat, for example threat to our self-image from fear of performing badly. If we play an opponent whom we perceive to be far below us in ability terms, then we expect to win easily and we are unlikely to feel much anxiety as a result. Similarly, if we play an opponent whom we perceive to be far above us in ability terms, then our expectations of success will be low – we expect to lose and so we are likely to feel less anxiety. Anxiety is more of a problem when we play someone we perceive to be close to us in terms of ability. These matches should, by definition, be close, and therefore a likely cause of tension.

Arousal and muscular tension

High levels of arousal and anxiety lead to increased muscular tension. As sporting success depends heavily on muscle coordination, high levels of anxiety can impede physical performance and cause a player to tighten up and become over-tense. Muscular tension, even at low levels, can interfere with co-ordination (Weinberg & Hunt, 1976), resulting in poor performance.

Muscular tension can make our legs feel heavy, resulting in slow reactions and poor or clumsy footwork. Muscular tension can cause tightness of breath as our breathing becomes too rapid and shallow, meaning that we tire easily. If the match is close and goes to a tie break or a third set, we may have expended so much unnecessary energy through nervous tension in our muscles that we tire and fall at the crunch points.

All of us have experienced at least some of these difficulties. Every player, regardless of ability, will have felt tension in their shoulders and arms whilst serving, especially at important points in the match, leading to a poor serve, or the dreaded double fault.



Have you noticed how double faults seem most likely to occur at crucial and deciding moments in a match, and that one double fault in a game can so often lead to two or three in succession? Muscular tension is a major contributor to this sudden performance decline. The serve is technically the most difficult skill to learn and is often the difference between winning and losing, especially in a game between two evenly matched players. Like any skill under pressure, that which is most difficult, least mastered or most recently learnt is the first to fail.

Negative automatic thoughts

Increased anxiety also influences an individual's ability to concentrate, and think clearly and positively (Williams & Elliott, 1999). In a tennis match, an anxious player may be prone to a whole series of negative automatic thoughts aroused in the specific on-court situation which predispose them to feel anxious. Such thoughts might include: 'I missed that serve, therefore I am a rubbish player', or 'Don't double fault again!'

Choking

Professional sportspeople are not immune to negative automatic thoughts, somatic arousal, tension and underperformance. In golf, it is called the'yips'; in other sports, it is sometimes termed the 'jitters; but in tennis, it is referred to as 'choking'. Choking under pressure occurs when a player fails to perform, typically in important situations (Weinberg & Gould, 2003).

Rituals

Many sportspeople engage in superstitious behaviours or rituals (Schippers & Van Lange, 2006). Amongst tennis players, some like to wear their 'lucky' socks; male professionals sometimes do not shave whilst they are on a winning streak; some players like to continue serving using the ball with which they won the previous point.

At the extreme but not that uncommon level, some players engage in rigid routines throughout their entire pre-match preparation – staying in the same hotel; everyday eating the same meal at the same seat in the same restaurant; listening to the same music whilst being driven by the same driver to the tournament - and so on.

On court, if you look closely you will see players' highly developed rituals for the use of the towel between points; bouncing the ball a set number of times before serving; and in the chair between games adjusting items of clothing, such as tying and retying their laces.

Whilst these superstitious behaviours may help with focus and concentration and take the player's mind off external distractions, one of the major reasons why players engage in

these and other superstitious rituals is in order to ward off anxiety. Whilst at surface level they may seem harmless, the difficulty with these rituals and superstitions is that, for some players, if for any reason they are prevented from engaging in their rituals, their levels of anxiety rise higher and higher and can interfere with their ability to focus upon what really matters and the only thing over which they have any actual control the game.



Adaptive rituals do have an important place in tennis; they may assist the player manage anxiety by giving them an increased sense of control over their pre-match preparation; they may also allow the player greater control over what they do on court, and even some control over the behaviour of their opponent (e.g. in slowing down or speeding up the match). Rituals are also especially useful in focussing concentration in the present by distracting the player from unhelpful thoughts, or by shutting out external distractions.

Self-fulfilling prophecies

How often have you known in your heart that you are going to double- fault on your second serve? How often have you doubted your abilitly when serving for the match, that you would not be able to hold to your serve and your opponent would get back into the match and beat you? These are examples of so called 'self-fulfilling prophecies' – variations of negative self-talk that can contribute toward muscular tension, inhibit coordination and produce mistakes. They can cause the player to focus so much on what not to do that they somehow almost forget what they have to do – for example, they become so focused on avoiding double- faulting that they lose all sense of where they should serve.

Avoidance

Because anxiety is typically felt as uncomfortable, it commonly leads to certain behaviours, usually involving avoidance, which act in the short-term to reduce unpleasant feelings – for

example, 'I will avoid playing him/her again because I was too anxious during the game' or 'I won't play in anymore league matches because I was too anxious'. In the short-term, avoidant behaviours reduce anxiety; but avoidance breeds more avoidance, and in the longer-term simply reinforces and strengthens the likelihood of anxiety occurring again in a similar situation. Avoidance is therefore unhelpful. To conquer our fears we need to face up to them in order to learn that they can be overcome and that we have control over our feelings and behaviours. The table below summarises some of the somatic, cognitive and behavioural consequences of anxiety.

THE BODY	THOUGHTS	BEHAVIOUR
Breathlessness	Apprehension	Fight
Palpitations	Doubt	Flight
Dizziness	Worry	Freeze
Light headedness	Fear	Avoidance
Muscular tension	Impending danger	Poor co-ordination
Chest pains	Threat	Poor technique
Cramps	Negative thoughts	Clumsy footwork
Headache	-I can't	Easily tired
Nausea	-I won't be able to	Double faults
Perspiration	-I will never	Choking
Hot and cold flushes	-I always fail	

Table 1. How anxiety affects the body's thoughts and behaviours.

The negative cycle



Heightened bodily arousal, negative automatic thoughts and avoidant behaviour can then set up a 'vicious cycle' in which being on-court can trigger bodily sensations of anxiety, negative thoughts and images, leading to an increased perception of psychosocial threat, resulting in heightened autonomic arousal and more negative thoughts, therein physically and mentally inhibiting one's ability to play the game effectively. This is why so many club players under-perform in competitive situations – they play freely and brilliantly in a 'knock' or social game; but in a ladder or league match always seem to lose to players with much less technical ability.

BREAKING THE CYCLE

In order to break free from the cycle of anxiety, so that the player may approach their optimal performance level, it is important to differentiate between helpful and unhelpful anxiety. Unhelpful anxiety in the form of negative automatic thoughts and rituals which

hinder performance should be clearly identified and challenged before they become deeply embedded and resistant to change. Players should instead be helped to build up a set of flexible routines that they can implement in different match situations, as well as practice and apply appropriate, constructive thoughts patterns to reduce anxiolytic effects. E.g. "I'm nervous because this is where I want to be, if I wasn't nervous it would mean I didn't care!" Anxiety that motivates should be encouraged; players should approach situations e.g. competition, as frequently as possible so that they become accustomed to match pressure and tackle performance anxiety head on.

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