

Test Anxiety

Most students experience some degree of test anxiety.

Test anxiety refers to a combination of physiological, emotional, and cognitive components that are caused by the stress of taking exams and that may interfere with one's ability to think, reason, and plan.

For some students, test anxiety is an unpleasant experience but doesn't necessarily interfere with exam performance. For other students, test anxiety is not only an unpleasant experience but also seriously interferes with exam performance. We'll discuss the components of test anxiety, why students differ in how much test anxiety they feel, and, probably most important, how to decrease test anxiety.



What's Coming

In this module, we'll explore the goals of psychology, the major approaches that psychologists use to understand behavior and answer questions, the historical roots of psychology, current research areas, and possible careers in the broad field of psychology. Let's begin our exploration of psychology with its definition.

B. Modern Approaches

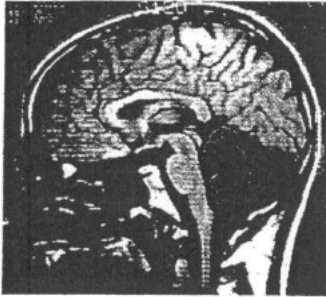
Why Do I Experience Test Anxiety?

Faced with answering difficult and complex questions, such as test anxiety, psychologists follow a general plan of attack. They divide the behavior into many subareas, study each subarea separately, and then combine information from all the subareas into an explanation of the total behavior. Psychologists generally use six or more subareas or approaches to understanding behavior.

Approaches to understanding behavior include the psychobiological, cognitive, behavioral, psychoanalytic, humanistic, and cross-cultural, each of which has a different focus or perspective that may involve a different method or technique of study.

We'll summarize these six commonly used approaches:

How do psychologists study different problems?



1 The *psychobiological approach* focuses on how our genes, hormones, and nervous system interact with our environments to influence learning, personality, memory, motivation, emotions, and coping techniques.



4 The *psychoanalytic approach* stresses the influence of unconscious fears, desires, and motivations on thoughts, behaviors, and the development of personality traits and psychological problems later in life.



2 The *cognitive approach* examines how we process, store, and use information, and how this information influences what we attend to, perceive, learn, remember, believe, and feel.



5 The *humanistic approach* emphasizes that each individual has great freedom in directing his or her future, a large capacity for personal growth, a considerable amount of intrinsic worth, and enormous potential for self-fulfillment.



3 The *behavioral approach* studies how organisms learn new behaviors or modify existing ones depending on whether events in their environments reward or punish these behaviors.



6 The *cross-cultural approach* examines the influence of cultural and ethnic similarities and differences on psychological and social functioning.

Psychologists can study a problem by using one or more of these six approaches. As we discuss each approach in more detail, you'll see how they answer our questions about autism and test anxiety from a different perspective.

Psychobiological Approach

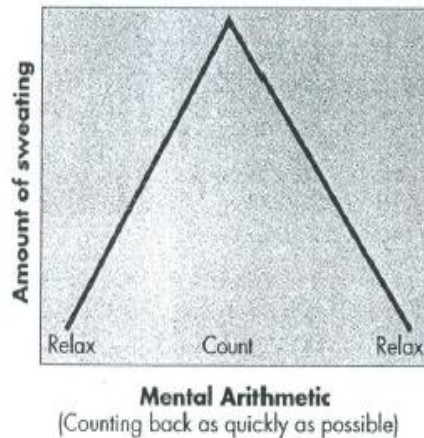
The psychobiological approach examines how our genes, hormones, and nervous system interact with our environments to influence learning, personality, memory, motivation, emotions, coping techniques, and other traits and abilities.

Test Anxiety

Why do my hands sweat during an exam?

You're probably familiar with one component of test anxiety, called the emotional component. This component includes a variety of physiological responses, such as sweaty palms, increased heart rate, dry mouth, and tense muscles. When you experience the emotional component it means that you are feeling stressed, which can interfere with processing information and increase the chances of making mistakes.

One measure of the emotional component is shown in the figure on the right. As subjects did mental arithmetic (counting backward from 2007 in steps of 7), there was a significant increase in sweaty hands. An interesting feature of this kind of sweating, called *palmar sweating*, is that it is caused by stressful feelings and is not related to fluctuations in environmental tempera-



ture (Kohler & Troester, 1991). In fact, palmar sweating is one of the measures used in the lie detection test, which we'll discuss in Module 16. If the simple task of counting backward produced increased palmar sweating, a sign of physiological and emotional arousal, imagine the increased arousal that occurs while taking an exam!

One way to reduce the emotional and physiological component of test anxiety is through stress-reducing activities. For example, students who completed a stress-reduction program that included relaxation exercises and soothing imagining reported less test anxiety than students who were on a waiting list for the program (Register et al., 1991). In Module 25, we'll discuss several methods of reducing stress that will be especially useful in reducing test anxiety.

Cognitive Approach

The cognitive approach is interested in how we process, store, and use information and how this information influences what we attend to, perceive, learn, remember, believe, and feel.

Psychologists use the cognitive approach to investigate the amazing and puzzling abilities of savants as well as almost every aspect of human behavior, including reasoning in children and adults, test anxiety, stereotypes, learning, memory, intelligence, creativity, and emotions. The status and popularity of the cognitive approach in psychology has increased substantially in the past ten years (Friman et al., 1993).

Test Anxiety

What happens if you worry too much?

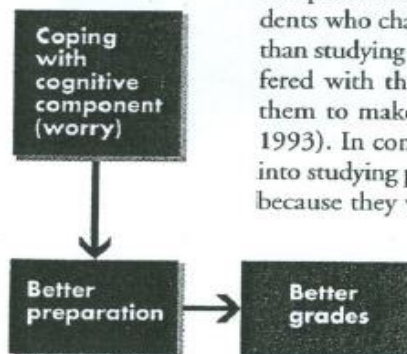
Researchers have found that there are two components to test anxiety. We have already described the *emotional component*, which includes increased physiological arousal, such as sweaty palms, increased heart rate, and rapid breathing. There is a second component of test anxiety, called the *cognitive component*, which has to do with excessive worry about performance, such as doing poorly on an exam.

Researchers found that excessive worrying about performance interfered with the ability of students to read accurately, grasp the meaning of the material they were reading, and identify what they needed to know

(Everson et al., 1994). In this study, in other words, excessive worry interfered with performance.

In related studies, researchers found that the cognitive component could either help or hinder performance. Students who channeled their worry into complaining rather than studying performed poorly, because their worry interfered with their reading the exam material and caused them to make more reading errors (Calvo & Carreiras, 1993). In contrast, students who channeled their worry into studying performed better and achieved higher grades, because they were better prepared (Endler et al., 1994).

These studies indicate that the cognitive component of test anxiety—excessive worry—may either help or hinder cognitive performance, depending on how students channel their worries.



Behavioral Approach

The behavioral approach analyzes how organisms learn new behaviors or modify existing ones depending on whether events in their environments reward or punish these behaviors.

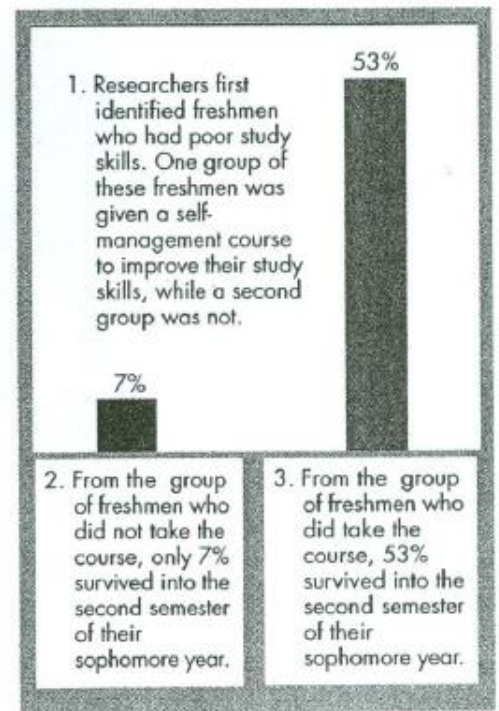
Test Anxiety

How can I channel worry into studying more?

We discussed how excessive worry, which is the cognitive component of test anxiety, can improve test performance if you can channel your worry into studying for exams. One method to channel worry into studying more is to use a system of self-management based on a number of behavioral principles.

Researchers found that the following self-management practices are related to increasing studying time and achieving better grades: (1) select a place that you use exclusively for study; (2) reward yourself for studying; (3) keep a record of your study time; (4) establish priorities among projects; (5) specify a time for each task; (6) complete one task before going on to another (Long et al., 1994). Notice that each of these self-management practices derives from our basic behavioral principle: events in your environment can modify your behaviors through rewards and punishments. As the figure on the right shows, 53% of freshmen who learned and used self-management practices survived into their sophomore year compared to the survival rate of only 7% of freshmen who did not learn self-management practices.

In later modules, we'll give many examples of how behavioral principles can be used to modify a wide range of behaviors and thought patterns.



Psychoanalytic Approach

The psychoanalytic approach stresses the influence of unconscious fears, desires, and motivations on thoughts and behaviors and also the impact of childhood experiences on the development of later personality traits and psychological problems.

Test Anxiety

Is test anxiety related to procrastination?

Researchers estimate that as many as 70% of students procrastinate—that is, purposely delay completing assignments or studying for exams (Ferrari et al., 1992). Researchers also found that students with high test anxiety are much more likely to procrastinate than students with low test anxiety (Milgram et al., 1992a). According to the psychoanalytic approach, procrastinators may be unable to explain exactly why they habitually delay completing assignments, because their reasons may lie deep in their unconscious.

Since unconscious reasons for procrastination are difficult to uncover, researchers have studied the conscious reasons by asking students to answer questions on personality tests. As the boxes on the left show, students say that they procrastinate because they lack confidence, feel pessimistic about completing tasks, or are poor at time management.

We know that ingrained personality characteristics, such as procrastination, remain relatively stable and persist across time unless we make a deliberate effort to change them. We'll discuss several effective methods that psychologists have developed to change personality characteristics in Modules 23, 28, and 30.

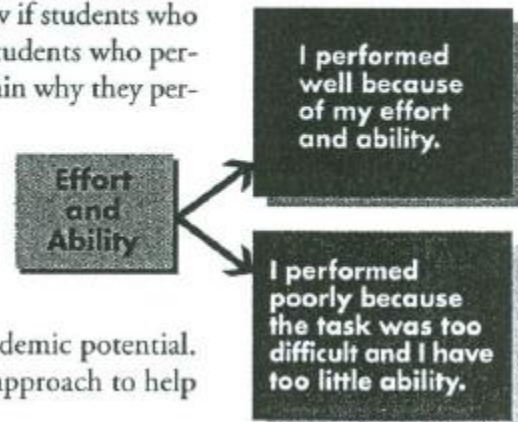
Humanistic Approach

The humanistic approach emphasizes that each individual has great freedom in directing his or her future, a large capacity for achieving personal growth, a considerable amount of intrinsic worth, and enormous potential for self-fulfillment.

Test Performance

How do students explain performance, good or bad?

We've all had the experience of getting an exam back, looking at the grade, and then explaining why we got that particular grade. Researchers wanted to know if students who performed well on exams gave different reasons for their success than students who performed poorly or failed. For example, researchers asked children to explain why they performed well or poorly on reading and math exams. Children who performed well said that their good performance resulted from their effort and ability. Children who performed poorly said it was primarily because the task was so difficult and they lacked ability (Bell et al., 1994). Based on these findings, researchers suggested that teachers be especially encouraging and supportive to children who do poorly, so that they will not give up but rather try to develop their academic potential. This advice to teachers is a good example of applying the humanistic approach to help individuals reach their highest potential.



Cross-Cultural Approach

The cross-cultural approach studies the influence of cultural and ethnic similarities and differences on psychological and social functioning.

Test Anxiety

In several studies on test anxiety, researchers found that Mexican, Chilean, and African American inner-city grade school children report higher levels of test anxiety than do white American students (Guida & Ludlow, 1989). Researchers suggest that higher test anxiety in black inner-city children results from their special educational problems and that higher test anxiety in Mexican and Chilean students results from having fewer educational opportunities than do their white American counterparts.

Researchers also discovered that how students evaluate success depends on their cultural values. For example, students in Chile admired successful students, whether or not they thought the success resulted from expending great effort or having natural ability. In contrast, students in America admired successful students much more if they thought the success resulted from expending great effort rather than having the natural ability

(Betancourt & Lopez, 1993). This study shows how the cross-cultural approach provides different and interesting answers to the same question.

Of the six approaches that we have discussed, the cross-cultural approach is the most recent, beginning in the early 1970s with the publication of the *Journal of Cross-Cultural Psychology* (Lonner, 1994). In each module, we will highlight a cross-cultural study, which will be indicated by the symbol of the world.

Why So Many Approaches?

As psychologists study complex human behaviors, such as autism, test anxiety, procrastination, performance on exams, or perceptions of successful students, they have four goals: describe, explain, predict, and control. To reach these four goals, psychologists use one or more of six approaches—psychobiological, cognitive, behavioral, psychoanalytic, humanistic, and cross-cultural. Each approach provides different information and gives psychologists a better chance of reaching their four goals.



Watch for this symbol wherever cultural diversity topics occur.