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**Examination stress and test anxiety**

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## **Exam anxiety: What is it and how can we reduce it?**

*Exam anxiety is a serious issue affecting a significant number of students across the globe. Recent changes to the GCSE curriculum and modes of assessment in England have coincided with concerning findings regarding associated increases in exam anxiety in secondary school students, which itself is linked to detrimental effects on mental health, learning and achievement. Dr Laura Nicholson and Prof Dave Putwain provide an overview of exam anxiety, its effects and what psychologists can do to help reduce it.*

Although the existence and detrimental effects of exam anxiety have been well-known for well over fifty years, the issue has again been plunged into the spotlight following the recent GCSE reforms. These comprise changes to the GCSE curriculum, including (a) a move to terminal exams, (b) an increase in the content and difficulty of exams, and (c) the removal of controlled assessment and coursework (Department for Education, 2015). Regardless of these changes, high-stakes exams are designed so that a substantial proportion of students fail to meet the expected level (Hutchings, 2015). The result is that a significant number of students experience and become aware of their own failure which negatively affects their learning orientations and self-esteem. Moreover, GCSE students are aware that their exam results have real and important consequences for their life trajectory. Some students experience this as a threat and experience a debilitating form of anxiety.

GCSE reforms have coincided with numerous reports about the well-being and mental health of children. For instance, ChildLine reported a 200% increase in the number of requests for counselling sessions with children aged 14-16, and school and exam pressures were identified as one of the greatest causes of stress and anxiety among children and young people (NSPCC, 2014, 2015). In their 2013-14 annual review, the NSPCC (2015) found that exam pressures affected young people's ability to sleep and triggered anxiety attacks, depression and eating disorders. In some cases, it caused or exacerbated self-harm and suicidal feelings. Sadly, over a 15-month period in 2014-15, 15% of adolescent suicides in England were identified by coroners as being due to exam pressures (Rodway et al., 2016). Despite not constituting a mental health condition, it is important that exam anxiety is not trivialised. One study found that 94% of students with high exam anxiety met the clinical criteria for at least one other psychological disorder, most commonly social anxiety (Herzer et al., 2014).

### **What is exam anxiety?**

Exam, or test, anxiety refers to the tendency of students to perceive evaluative situations in which their performance will be judged, such as a high-stakes exam, as highly threatening. These threats could be to their sense of self-worth or self-esteem, fears of being judged negatively by others (e.g., teachers, peers or parents), or of not being able to achieve their

educational or career aspirations. Exam anxiety manifests itself in a number of ways and the indicators generally fall into three categories, namely cognitive, affective and physiological. Cognitive signs of exam anxiety include negative thoughts of being overwhelmed by, and not in control of, the exam situation, the experience of 'going blank' and not being able to recall previously learnt material, and excessive thoughts focused on failure. Affective signs include feeling panic, fearful and anxious about the exam itself or the consequences of failure. Physiological signs include a racing heart, an upset stomach, wobbly or jelly-like legs, and trembling and sweating, before or during an exam.

### **How common is exam anxiety?**

This is a difficult question to answer. There is no single commonly agreed definition of what constitutes 'high' exam anxiety; remarkably few studies have set out to address this issue, and the different methods and samples used from one study to another make a definitive judgement hard to reach. So what can we gauge from two relatively recent studies? In a review of 10 studies of English secondary school students aged 11-19 years published from 2005-2012, Putwain and Daly (2014) found an average of 15.1% of students reported scores on standardised measures in the upper 66<sup>th</sup> percentile. In a sample of 1,133 11<sup>th</sup> grade secondary school students in the United States, von der Embse et al. (2014) used latent profile analyses to classify 30.4% of students as being highly exam anxious. Taken together, these studies would suggest that exam anxiety is an issue for a sizable proportion of secondary school students but it is hard to pin down an exact figure. It would be extremely valuable, both practically and theoretically, to establish norms and cut-scores for high exam anxiety in UK samples of students of all ages using standardised measures.

### **What effects do exam anxiety have on learning and achievement?**

In the longer term, those that are highly anxious about exams can become demotivated and disaffected from education. Indeed, high exam anxiety is associated with a range of negative educational outcomes. Detriments have been demonstrated at all phases of the learning cycle, including lower study skills in the preparatory stage, higher levels of emotionality during the exam and more helplessness attributions afterwards. Anxiety and the associated worry intensify as exams approach. Furthermore, many studies have established a negative relationship between exam anxiety and exam performance. Anxiety is associated with a desire to avoid threat. While students in compulsory secondary education cannot avoid taking GCSEs, avoidance can manifest as a mental disengagement from lessons, and exam practice, resulting in superficial learning. During exams, anxiety, and specifically the cognitive component, can disrupt attentional focus and interfere with working memory functions to undermine performance. One study estimated that the detriment associated with high exam anxiety was one GCSE grade lower per subject than what would have been achieved if anxiety was low (Putwain, 2008). In a system focused around the notion of a

minimum pass grade (such as Grade C, or a Grade 4/5 in the new English grading system), this could result in either passing or failing a high-stakes exam.

### **How do certain teacher practices relate to exam anxiety?**

Perhaps in response to the accountability pressure that they themselves feel and a wish to alert students to the harsh realities of life after school, many teachers attempt to motivate their students by highlighting the negative consequences of failing one's GCSEs (Putwain et al., 2016). What might be the effects of such messages and might they contribute to additional exam anxiety? The issue is complex as students can interpret and respond to such messages in very different ways. Some students ignore the messages because they are either so confident in passing that they think the messages do not apply or because they have more or less disengaged from school already. Some students respond to these messages in a positive way and view them as challenging and motivating. Other students (as highlighted in the quotation below), however, find these kinds of messages really intimidating. For these students, teacher messages about the importance of avoiding failure are related to higher exam anxiety, and lower motivation, engagement, and achievement. These are students who value their education and want to succeed, but have low expectations of success or their ability to cope with exam pressures.

“...every time a teacher tells me exams are near or if you fail you risk not getting a good job I get so scared and sometimes I get so scared and stressed I feel like crying. We should just be told to try our best and work hard and if we don't listen to that information then it's our fault because pressurising a student can stress them and so they end up doing worse than their best.” (Putwain & Roberts, 2009).

### **What can psychologists do to help?**

Schools are largely taking a proactive approach to supporting wellbeing around GCSEs. Some offer yoga, mindfulness, pet therapy, and all other kinds of weird and wonderful stress-busters. On the one hand, it is good to see something being done. However, by and large psychological expertise is being under-utilised by schools. Although there are some exceptions (such as the Beating Exam Anxiety Together programme offered by Kent Educational Psychology Services), our concern is that schools may be using approaches to support students without an established evidence base and that may be less than effective.

There is a significant role for psychologists in helping to diminish exam anxiety and ensuring that performance is reflective of true academic ability. Educational psychologists are experts in the education system in testing, measurement and mental health and have the skills and training required to act as leaders in the assessment and treatment of exam anxiety. They can help to identify highly anxious students in need of intervention via psychometrically

sound tools (in conjunction with other indicators such as underperformance on exams) and provide individualised, intensive teacher training in the evidence-based exam anxiety intervention techniques that have shown promise in the literature.

### **Possible interventions**

Behavioural, cognitive, cognitive behavioural and skill-building approaches have all been found to be useful group-based interventions for reducing exam anxiety (von der Embse et al., 2013). For instance, a programme developed by Putwain et al. (2014) which focused on strategies that secondary school students can use to tackle exam pressure and anxiety has proved beneficial. The intervention, which combines cognitive behavioural therapy with study-skill training over six sessions, can be delivered by a trained facilitator or used as a self-help tool. It has been shown in quasi-experimental evaluations and randomised control trials to reduce exam anxiety (Putwain & Pescod, 2018; Putwain et al., 2014). The central finding is that students feel more in control after taking the programme and control is critical in combating anxiety.

Experimental studies have also investigated the relatively simple technique of having students write down their thoughts and feelings about the exam immediately beforehand. The theory was that this would allow students to get the worrying thoughts 'out of their system' to allow them to perform at their best in the exam. Promising results have been found, including higher exam performance for those classified as habitually anxious over test taking and lower pre-exam depressive symptoms, compared to control groups (Ramirez & Beilock, 2011). Expressive writing, which can be practiced at any time in a classroom setting, seems to improve the performance of exam-anxious students.

### **To conclude**

The overall message is that exam anxiety has debilitating effects, not only on academic self-beliefs and performance, but also on the mental health of our young people. It is important for psychologists working with young people and in school settings to help identify highly anxious students in need of intervention. School-based intervention programs are available and have shown promise in reducing the anxiety associated with taking high-stakes exams.

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