# **Test Anxiety in School Settings: Implication On Teachers**

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#### Abstract

Test anxiety is a combination of perceived physiological over-arousal, feelings of worry and dread, self-depreciating thoughts, tension, and somatic symptoms that occur during test situations. Researchers suggest that between 25 to 40 percent of students experience test anxiety. This is due to students are currently under increasing pressure to meet the achievement standards as high-stakes tests have become the dominant method for measuring student achievement. Hence, this preliminary study is conducted to investigate the level of test anxiety among 160 standard six stud ents from two primary schools in Johor Bahru using Children's Test Anxiety Scale (CTAS). Further investigation is on significant mean differences on test anxiety from gender perspective and three dimensionality of test anxiety; thoughts, off-task behavior and autonomic reactions. Descriptive and inferential statistics were used to analyzed the data. Findings shown that 28.1% (45/160) were categorized on severe anxiety level, 56.9% (91/160) on moderate level, 15% (24/160) on mild anxiety level and none for low anxiety level. T-test result indicated significant mean difference on gender while female students found to be at a higher level in three dimensionality of anxiety compared to male. As a conclusion, implications for management of test anxiety and educational practices are considered.

Keywords: Test Anxiety, Children's Test Anxiety Scale (CTAS), Achievement Standards, High-Stakes, Self-Depreciating Thoughts

## INTRODUCTION

As in many Asian countries, assessment and examinations are viewed as highly important in Malaysia. Often, public examination results are taken as important national measures of school accountability. Yet, too much emphasis on assessment and examination may constraint or distort the implemented curriculum and produce unintended consequences. Merdeka Centre for Opinion Research did a survey on the 'Education System Perceptions Survey' in December 2005 and one of the aspects surveyed was on whether Malaysian Education System is exam-oriented or not? 58 percent (%) of the 479 respondents with school going children answered "yes", 38% answered "balanced system" and 4% couldn't decide on the system. This shows that most parents are aware that their children are under the pressure of exams and very often, what they discussed with their children was how many A's they could get. It was reported in Xinhua paper on 6 March 2006 that the Malaysian Education Minister mentioned that his ministry is looking for best ways to overhaul the heavily examination-oriented system in schools. He doesn't deny that the examination system is a burden to some teachers and students alike. His ministry realized that the current system in schools is impractical, burdensome to students and fail to reflect on the capabilities of the students. Zollar and Ben-chain (1990) have the opinion that "the era in which we live is a testconscious age in which the lives of many people are not only greatly influenced, but are also determined by their test performance". Test and examination stress is thought to prevent some individuals from reaching their academic potential. It has been found that students consistently perceive examination as a source of increase in anxiety and a situation engulfed with uncertainty/unfairness in letting them demonstrate their true achievements (Zollar & Benchain, 1990; Spielberger et al., 1980). Such feelings among students' limit their potential performance during the test situation, resulting in higher text anxiety (Hill & Wigfield, 1984) directly causing drop in the student achievement. Therefore, it can be seen as a measurement error towards measuring student achievement as tests are not measure student achievement under intimidating situation but to know their level of achievement in an environment fair enough to let them demonstrate their abilities to the fullest.

Testing might trigger intense emotions (Pekrun et al., 2004) and one of these with debilitating effects on academic performance is test anxiety (Eum & Rice, 2010). Examining the impact of different testing regimes on pupils' reported levels of test anxiety contributes to the understanding of the influencing and developmental aspects in pupils' schooling (Lowe & Ang, 2012) and is therefore of great importance

#### TEST ANXIETY

Test anxiety is a very circumscribed condition (Beidel & Turner, 1988) and typically involves behaviours, feelings, reactions and thoughts (Wren & Benson, 2004) that occur at all academic levels (Birenbaum & Guvittz, 1993). Test anxiety is believed to be learnt in educational settings, typically evoked during the earlier school years (Pekrun,

2000). Several factors can potentially affect the development of test anxiety. There are many students who suffer from the day of the exam. They have studied well and they have been taught well but they are as well afraid of

exam and they can't be successful as they expect themselves. A news taken from Harian Metro (20/11/2012), a student who thought he failed to get 5A's in the Primary School Achievement Test (UPSR) in 2012 when his name was not called by his teacher, fled before hiding in the hall about a mile from the school. He actually got 5A's for his UPSR test. This currently shows the two element contributed test anxiety which are worry and emotionality (Liebert & Morris, 1967). Students experiencing test anxiety do not approach a task such as a test with a positive outlook or expectation of success, but with dread regarding the potential for negative evaluation or failure (Cizek & Burg, 2006). Ohata's study (2005) proved that most of the learners told that they were afraid of taking tests, because test-taking situations would have them be worried about the negative result of getting a bad mark. But there might be another source of this anxiety which makes the students fear getting a bad grade. Most literature on test anxiety has been conducted with students in colleges and universities, with a relatively small number of studies conducted with elementary, middle, and high school students (Ergene, 2003). Since many students with test anxiety may not graduate high school or become enrolled in a college or university for a number of reasons, studies on test anxiety should focus on younger students in the public school systems, especially since test anxiety has been found to impact student performance in as early as fourth grade (Hembree, 1988). Identifying the pervasiveness of test anxiety in elementary students and introducing test anxiety prevention programs in the lower grades would be beneficial to students (Ergene, 2003).

## DIMENSIONS OF TEST ANXIETY

The generally agreed upon concept of test anxiety is a specific form of anxiety and has been defined as a set of phenomenological, physiological, and behavioral responses that accompany concern about possible negative consequences or failure of an exam or similar evaluative situation (Cizek & Burg, 2006; Sieber et al., 1977; Zeidner, 1998). These responses are produced when thinking about or being in a testing or similar situation where a person is being evaluated. When a person faces evaluative achievement- demanding situations, test anxiety can also be seen as an unpleasant state consisting of feelings of tension and apprehension, worrisome thoughts and activation of the autonomic nervous system (Spielberger, 1972). Based upon earlier and previous research, Wren and Benson (2004) believe test anxiety in children to be a situation-specific trait including cognitions, somatic symptoms, and test-irrelevant behaviours. Test anxious students tend to view general evaluative situations as threatening. They demonstrate anxious behaviors when their intellectual, motivational and/or social capabilities are exceeded by the demands of the testing situation. They also perceive that their performance on the test will most likely be low (Cizek & Burg, 2006; Zeidner, 1998).

# TEST ANXIETY ACROSS GENDER

Zeidner (1990), and Kessler et al (1995) found that females significantly have higher test anxiety than males. Gender were found correlates with test anxiety through Hembree (1988) research which came out the effect of test anxiety tend to be greatest for female across all elementary and secondary grades that is r = 0.43. Thus, women are said to be more sensitive to evaluative stimuli and consequently show more anxiety in the face of negative evaluation than men. Women are also believed to be more uncomfortable and self-conscious in testing situations than men (Zeidner, 1998). There is some research data to support the notion that female devalue and under predict their cognitive performance compared to men (Furst, Tenenbaum, & Weingarten, 1985; Gjesme, 1982; Wine, 1980) and cantly lower in perceived self-efficacy (Arch, 1987; Benson & Bandalos, 1989). These findings are of special interest in light of research indicating that low levels of self-efficacy are characteristic of persons who are highly test anxious (Hembree, 1988; Hunsley, 1985). Thus, evaluative situations may serve to increase efficacy and self- esteem in men, whereas in women they may lead to an increase in arousal, worry, or discomfort, and lowered test performance.

# METHOD

# Participants

The study uses a quantitative research approach aimed at examining the differences between gender factors of test anxiety among year 6 students in Johor Bahru, Johor. The sample comprised 80 females and 80 male elementary school students. The study used quota sampling as this method is less costly than any other sampling methods and quick and also satisfies the objective of the researcher (Rajamanickam, 2001) in selecting the 160 respondents of all year 6 students from two school that were selected (one female's school and one male's school) in Johor Bahru. The Children's Test Anxiety Scale (CTAS) were adapted to suite the student's culture and environment in this country and then were used to measure the studied variables. The adapted CTAS were given to two English specialist teachers to check the adapted CTAS for validity of the content and language that accordance with the student level. After being validated a pilot study was conducted to 30 respondent which are 15 male and 15 female students with the same characteristics from one of the school in Johor Bahru as to check the reliability of the instruments and it resulted 0.86 (Table 1). Even the reliability was lower than the actual

reliability of the 30-item CTAS which is 0.92, the reliability of the CTAS that had been adapted still considered as acceptable. These were supported by Kubiszyn and Borich, 2000 who determine the value of  $\alpha$ = .80- .90 reliability coefficients as an acceptable. Descriptive statistics, t-tests were conducted utilizing SPSS statistical software version 20.0.

#### Materials

The CTAS (the Children's Test Anxiety Scale: Wren & Benson, 2004) that were used in this research is a refined and modernised 30-item version of the most widely used measure of this construct, the 30-item TASC (the Test Anxiety Scale for Children: Sarason et al., 1958). The scale was purposefully developed for measuring the construct of test anxiety in children. Based upon earlier and previous research, Wren and Benson (2004) believe test anxiety in children to be a situation-specific trait including cognitions, somatic symptoms, and test-irrelevant behaviours. The CTAS assesses an individual's level of apprehension or anxiety about testing on a 1-4 Likert scale, asking for participants' response about how anxious they would feel in response to various settings and experiences; it is a self-reported pen-and-paper instrument for measuring test anxiety in children. Since its target group is very young children, it fills a need that is unmet by others method assessing the anxiety (Cizek & Burg, 2006), The CTAS is one of several widely used test anxiety inventories that have satisfactory reliability coefficients and high practicality in naturalistic field settings (Zeidner, 2007). Wren and Benson (2004) report good internal consistency for the original sample ( $\alpha$ =.92) and their cross-validation sample ( $\alpha$ =.92). An individual's overall score is equal to the sum of their responses to each item of the instrument; respondents are asked to respond to a series of questions with four response options: 1 = almost never; 2 = some of the time, 3 = most of the time; and 4 = almost always. The test has three dimensions : thoughts, with 13 items, (eg "While I am taking test, I worry about failing"); autonomic reactions, with 9 items, (eg "While I am taking tests, my belly feels funny"); and off-task behaviours, with 8 items, (eg "While I am taking test, I check the time").

#### Procedure

All the participants in this study were year 6 students of elementary school in Johor Bahru, Johor. The researcher administered the assessment instruments during one free period on the examination week. Before the test, they were giving the measures to respond to. The researcher gave each person a 2 page document containing demographic information such as gender, age and CTAS test anxiety inventory. Researcher explained to the students to answer honestly as this assessment could help them to know their level of test anxiety. They were able to work on the materials in a large hall, with seats well-spaced between each person in the hall. They completed the responses within 30 minutes and the researcher collected the materials immediately.

# RESULTS

# **Overall Test Anxiety Result**

The level of test anxiety among students were shown in Table1. 57% of students are at moderate level of test anxiety, followed by 28.1% of students in the severe test anxiety and found 15% had mild level of test anxiety while none of the student had low level of test anxiety. Here we can conclude that most of the students were having moderate test anxiety.

Overall Test Anxiety Level				
	Frequency	Fercent	Valid Percent	Cumulative Percent
Severe Test Anxiety	45	28.1	28.1	28.1
Moderate Test Anxiety	91	56.9	56.9	85.0
Mild Test Anxiety	24	15.0	15.0	100.0
Total	160	100.0	100.0	

# Test Anxiety Based on Gender Result

As for table 2 below, the result of the independent samples T- test between gender shows that F=32.868, p>0.05, therefore, as the variance are not significantly different, we can accept the equal variances assumption and use the top line values. This report the test statistic (*t*) as *t*(158)=20.346, *p*<0.001. As our difference in means of 25.288 is 20.443 times bigger than the standard error of difference, then our mean difference is large enough to be significant at the p<0.001 level. As conclusion, we can reject Ho as there is significant difference in the mean of test anxiety level between male and female students.



## **Dimensionality of Test Anxiety Result**

Table 'Independent Samples Test between Dimensionality of Test Anxiety' (Levene's test for equality of variances) reported that the dimensions of thoughts, the F = 19.251 with a value of P = .000 (<.05) and the dimensions of off-task behaviours, the F = 10.169 with the P = .002 (<.05). This means that the null hypothesis which states that the variance of the group of males is equal to the variance of the females is rejected. In other words, there are significant differences in the variance of these male and female students for the dimension thoughts and offtask behaviours. As for the dimension of autonomic reaction, the (Levene's test for equality of variances) reported that the F=1.798 with the P=.182 (>.05). This means that the null hypothesis which states that the variance of the group of males is equal to the variance of the females is accepted and this conclude that there are no significant differences in the variance of these male and female students for the dimension of autonomic reaction. Thus, the results of t-test for comparison of the mean of the two groups, independent samples with the same population variance is accounted for (equal variances assumed). However, if the Levene test for equality of variance reported value of p <.05, this means that the results of t-test comparing the mean of the two groups, independent samples with different population variances are taken into account (equal variances not assumed). Equality of variance assumptions will affect the calculation of the standard error of the mean difference (standard error of the mean difference), t value, degrees of freedom, and confidence intervals for the mean difference. Table of 'Independent Samples Test' (t-test for equality of means) demonstrated that the thoughts dimensions of the value t = 10,948 with degrees of freedom (df) = 120.043. The probability distinction of mean to obtain the dimensions of thoughts (7.563) is .000. Confidence interval of 95% for the differences between mean is (6.195, 8.930). For dimensions of off-task behaviours as well, the value of t = 17.195 with degrees of freedom (df) = 137.70. Probability distinction of mean to obtain the dimensions of off-task behaviours (8.750) is .000. Confidence interval of 95% for the differences between mean is (7.742, 9.758). Lastly, the dimensions of autonomic reaction, the value of t =17.560 with degrees freedom (df) = 158. Probability distinction of mean to obtain the dimensions of autonomic reaction (8.975) is .000. Given the probability value obtained from SPSS 20.0 for Windows (.000) is less than the specified alpha value (.05 / 2 = 0.25), the null hypothesis is rejected. There is strong evidence to conclude that  $\mu 1 \neq \mu 2$ . This means that there are significant differences in the mean dimensions of thought, off-task behaviors and autonomic reaction to the group of boys and girls. Female students earn dimensional mean thoughts, off-task behaviors and autonomic reaction higher than male students. This conclusion was made at a significant level,  $\alpha = .05$  (5%) or the level of confidence (95%) which we can rejects Ho as there are significant difference in the mean of test anxiety thoughts, off-task behavior and autonomic reaction dimension between female and male students.



#### DISCUSSION

Comparing the results of test anxiety among groups showed that the test anxiety level of male and female students resulted in achieving female students higher test anxiety level rather than male students. This finding supports the results of Zeidner (1990), and Kessler et al (1995) who's found that females significantly have higher test anxiety than males. Other than that, girls exhibited higher levels of test anxiety as judged by autonomic reaction as the difference between mean is the highest from the other two dimension which is 8.975. This results was supported by Nyroos et. all (2012) research and suggested that girls would experience higher levels of test anxiety in this domain. This result hold some implications for future studies. Relatively large mean differences were observed between both genders for 12 years old students. In conclusion, an early identification of highly testanxious students is difficult, as test-anxious responses may not manifest until high stake examinations such as UPSR in Malaysia. Teacher should look out for signs such as procrastination and loss of interest in student academic work. Currently, the education department ignores several crucial issues and one of them is maintaining the urbanrural educational balance, which is opposed to the education department's chief responsibility of guaranteeing educational equity. The Ministry of Education should focus on making reasonable educational policies and monitoring the performance and efficacy. In other words, it must not interfere any more on anything other than the operations of the entire education system. This is benefit students and teachers in several ways by changing the existing "standard answer-style" system and bringing in more options for an all-round development in students, especially by recognizing special, individual talents and creativity. By unfolding the information and the evidence in terms of the validity and consistency of the test, teachers, as the major guide and organizer of the classroom, could reach a relatively sufficient level to assist student varied aspects : learning styles correction, motivation enhancement, learning guiding, learning attitude fostering and self-assessment.

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