# Effect of Perceived Job-Related Stress on Teacher Job Satisfaction in a High-Stakes Testing Environment

Kenneth Asamoah-Gyimah[1], Isaac Amoako[1]

[1]Department of Education and Psychology, University of Cape Coast, Ghana

Correspondence: Isaac Amoako, Department of Education and Psychology, University of Cape Coast, Ghana

## Abstract

Public demand for high scores in the nationwide high-stakes test, that is, Basic Education Certificate Examination places Ghanaian teachers in a position to experience high amount of stress since they are to work harder to ensure that the demand is realized. The main aim of the study was to investigate effect of teachers perceived job-related stress on their job satisfaction. Using public Junior High School teachers in the Kwahu South District as the target population, 120 of them from public 20 schools were selected using proportionate stratified sampling technique with a common ratio of 4:10 (0.4). An adapted high-stakes testing questionnaire was used to collect data from the respondents. Variance based Structural Equation Modeling (SEM), specifically, Partial Least Square (PLS) model was used to validate the instrument and to test the study hypothesis 1. Independent samples t-test as well as means and standard deviations were used in the analysis of the data to test the hypothesis 2 and answer the research question respectively. Findings revealed teacher Job-related stress as a significant predictor of job satisfaction in a high-stakes testing environment. Implications are provided for policy and practice.

**Keywords:** high-stakes testing, job-related stress, accountability

## 1. Introduction

For about three decades now, the education sector worldwide has witnessed transformational efforts directed at coming up with various high-stakes test(s) purposely to serve as watchman for educational reforms with the expectation of improving standards of education (Taubman, 2009). In this line, an empirical study has shown that policies centered on test with stakes affect routine pedagogical procedures of school instructors (Plank & Condliffe, 2013). As some studies firmly accept that test accountability policies affect routine activities of the classroom, some kind of argument also exist with regards to enormity of influence that high-stakes tests exerts on learners and instructional procedures (Amoako, 2018; Hannaway & Hamilton, 2008). Critics of accountability testing share the opinion that tests with great stakes have adverse outcome for the education enterprise (Bracey 2003; Segall, 2003). They contend that these tests 'minimize' an instructor's capacity to execute productive teaching procedures in the classroom. Another criticism is that, these tests with great stakes also lower the standards of education to instructors teaching to the test rather than providing learners with detail instruction needed to solve societal problems (Amoako, 2018; Anane, 2010). On the contrary, there are studies that seem to see positive side of high-stakes testing. To those researchers, when tests with great stakes are used, the standard of education automatically improves. Again, high-stakes testing also serve the purpose of increasing access to quality education for both privileged and underprivilege learners (Buck, Ritter, Jensen, & Rose, 2010; Segall, 2003).

Even, in the 21st century, the argument over state-mandated testing is as strong as previous years. Recently, studies have focused attention on effect of high-stakes testing on teachers' feelings about their work and what they do in the classroom. In this case, the job stress of the teacher has become an important subject of investigation since stress level of teachers equally affect classroom interaction. What is the case like in developing countries, especially, Ghana? Formal education in Ghana has gone through several and substantial metamorphosis since independence. In Ghana, Basic Education Certificate Examination (B.E.C.E) has being adopted as a high-stakes test at the basic level that has the attention of the entire nation. The test (i.e. B.E.C.E) is conducted by West African Examination Council (WAEC) every year, however, teachers are obliged to prepare students adequately for the test as far as from grade 7 to grade 9 where they would finally sit for the test. In this case one would not be far from right to ask, is there any possibility that teachers might feel highly stressed in the event of preparing students because of the heightened demand of stakeholders

for higher performance in the country? This investigation examines whether B.E.C.E. as a state-mandated test predict the kind of stress teachers experience in Ghana basic schools.

## 2. Theoretical Perspectives

### 2.1 Job Demands Resources Model

Job demands-resource (JD-R) model indicates that people can escape adverse impact of stress when the right amount of resources are available (Hakanen, Bakker, & Schaufeli, 2006). The JD-R model helps scholars to comprehend stress issues within the teaching industry. The model preaches that if resources are there in its rightful amount to meet high demands of test policies, then instructors would have less amount of work stress. Consequently, job demand in itself does not bring stress or burnout if enormous amount of resources are available to meet the needs of the demand. This model helps us to weigh the psychological cost that teachers would have to bear in high-stakes testing environment because society demands high scores with less regards to the resources at the disposal of the teachers in question.

### 2.2 Job-Related Stress

Kyriacou (2001) sees stress as unwanted adverse emotions emanating from some facet of work. Feelings we are talking about here includes; anxiety, tension, anger, depression and frustration. He further contended that, the negative perceptions that teachers have about their work to large extent trigger negative feelings which tend to even affect them psychologically and physiologically. Several empirical studies have reported influence of test-based accountability on instructors job-related stress. For example, Richards (2012) opined that among the first five causal factors of stress in the education industry, the prominent two, are; teaching learners who are at risk without adequate logistics available and test accountability demands. Brackenreed (2011) also divided stress that teachers encounter into three, thus administrative, classroom based, and interpersonal stress. The classroom-based stress was particularly linked to stress experience in the course of teacher adequately preparing students for nationwide mandated high-stakes test. Furthermore, Butt and Lance (2005) pointed out that stress that relate to test accountability system such as, teachers seeing to it that their students get higher scores are more common. Kyriacou (2001) added that adequate time to effectively teach students so that they can best be prepared for a test is reported to be a type of stressor for teachers. For most teachers, the enormity of the content of the curriculum does not simply allow teachers with enough time to teach. In this case, they would have to device strategies to drill their students on past test items so that they can perform well in the nationwide examination. In this way, teachers experience a lot of stress. Jones and Egley (2007) also found teachers not to be happy with their job because of inadequate time available for them to teach course content adequately.

### 2.3 High-Stakes Testing and Teacher Job Satisfaction

McCabe's (2008) explored instructors' explanations assigned to moving to low-poverty schools from high-poverty school in New York City. McCabe discovered that nationwide test policy practices, which concerns; instructors' salaries, daily pressure of test preparation, administrative support, challenges of learners were the contributing factors that caused them to move to a low-poverty school. Jackson (2008) also discovered similar finding whereby instructors' morale and job satisfaction declined due to accountability policies of high-stakes testing. A factor that also tend to affect instructors' satisfaction is the manner in which they feel they are being handled by their superiors. Whenever, instructors have the feeling that they are being handle well as professionals in test-based accountability situation, that is to say that they are involved in decision-making process, they may have a great sense of satisfaction (CSRI, 2007).

## 3. Research Questions

The research questions below guided the study:

1.  What is the perception of junior high school teachers about the effects of BECE as a high-stakes test in terms of the stress that it poses on them?

Hypothesis

$H_0$: Job stress does not significantly predict job satisfaction of junior high school teachers.

$H_1$: Job stress significantly predict job satisfaction of junior high school teachers.

Ho: There is no statistically significant difference between male and female junior high school teachers in the stress that they experience as a result of preparing students for B.E.C.E.

$H_1$: There is a statistically significant difference between male and female junior high school teachers in the stress that they experience as a result of preparing students for B.E.C.E.

## 4. Research Methods

Descriptive design, specifically, the cross-sectional type was adopted in this investigation. Three hundred and three (303) public Junior High School (JHS) instructors in the Kwahu South District served as the population targeted for the study. However, 120 instructors from 20 public JHS were accessible to the researcher. Selection of 120 instructors from 20 schools were done in two phases. In phase one, proportionate stratified sampling procedure was used to select 20 schools from all the public JHS in the district which numbers 50. The process involves the picking of four schools out of Circuit 1, two schools out of Circuit 2, three schools out of Circuit 3, 4, 6 and 7 whereas two schools were taken out of Circuit 5. Common Ratio for selection of the schools was 4:10 (0.4). Phase two, census approach was adopted to engage all the 120 instructors in the investigation. Teachers high stakes testing survey (THTS) scale produced by Hope, Brockmeier, Lutfi, and Sermon (2006) was adapted and used as the study instrument. The instrument was made up of 13 items with two sub-sections on a 4-point Likert kind of scale, with 1 signifying strongly disagree and ends at 4 which signifies strongly agree. The scale was validated using Structural Equation Modeling, specifically, PLS measurement (CFA) model. In the model, 5000 bootstrap samples were used and it was observed that all the items significantly loaded on the construct to be measured (latent variables) (refer to Figure 1). The reliability of the instrument was also adjudged using the composite reliability. An overall reliability coefficient of .80 and .50 were attained for the two subscales respectively. Before the data gathering exercise, relevant authorities were consulted and the needed permission were taken. All ethical protocols (confidentiality, anonymity, inform consent etc.) were strictly adhered to. After the entire data collection exercise, response rate was 91%. The remaining percentage that was not realized was due to teacher absenteeism. Mean and standard deviation as well as independent samples t-test were used in the analysis of the data to answer the two research questions. The structural model of the SEM was used in the testing of the hypothesis.
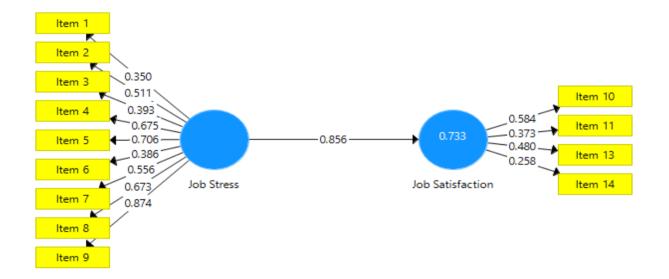
Pre-analysis



Figure 1. Measurement model: Confirmatory Factor Analysis (CFA)

Table 1. Validity and Reliability for Constructs

| Construct | Items | Loadings | Average Variance Extracted (AVE) | Composite Reliability |
|---|---|---|---|---|
| Job Stress | Item 1 | 0.350 | 0.4 | 0.8 |
| | Item 2 | 0.511 | | |
| | Item 3 | 0.393 | | |
| | Item 4 | 0.675 | | |
| | Item 5 | 0.706 | | |
| | Item 6 | 0.386 | | |
| | Item 7 | 0.556 | | |
| | Item 8 | 0.673 | | |
| | Item 9 | 0.874 | | |
| Job Satisfaction | | | 0.2 | 0.5 |
| | Item 10 | 0.584 | | |
| | Item 11 | 0.373 | | |
| | Item 12 | 0.480 | | |
| | Item 13 | 0.258 | | |

The results of the confirmatory factor analysis show that all the loadings for each of the construct were appropriate using a cut-off point score of .25 (Pallant, 2011). The composite reliability estimates for each of the construct of interest in this study was acceptable (i.e. .8 for Job Stress and .5 for Job Satisfaction). The composite reliability (CR) scores helped in explaining the internal consistency of the items on the questionnaire. The CR also helps in the estimation of the true score variance of the two-construct relative to their total variance. Average Variance Extracted values were .4 and .2 for teacher job stress scale and job satisfaction scale respectively. Even though not in line with the prescription index of "above 0.5", the AVE scores were used because the researcher had no intention of using the composite scores of each of the construct, instead inferences were based on the individual items of the scale. After the determination of a sound measurement model, the researchers progressed in the calculation of the structural model (see Table 4).

## 5. Results

**Research Question 1**: What is the perception of junior high school teachers about the effects of BECE as a high-stakes test in terms of the stress that it poses on them? Four-point Likert kind of scale instrument assisted in the data collection and responses were analysed using Means and Standard deviations with cut-point scores as (1-1.9 = Strongly Disagree, 2.0-2.4 = Disagree, 2.5-3.4 = Agree; more than 3.4 = Strongly Agree). Tables 1, shows the summary of the analysis.

Table 2. Means and Standard Deviations of the perceived effect of BECE on Teachers Stress level

| Statements | N | Mean | Std. |
|---|---|---|---|
| BECE leads to competition among me and other teachers. | 109 | 3.0 | .90 |
| My stress level increases when the students in the school receive failing grade. | 109 | 3.3 | .70 |
| My stress level increases when the school's general performance in the BECE declines. | 109 | 3.2 | .80 |
| Punitive measures (e.g. head teacher's reprimands) associated with BECE results increase my stress level. | 109 | 2.9 | .91 |
| My stress level increases when the public (e.g. the media) begins to talk about BECE results of schools in the district. | 109 | 2.9 | .89 |
| My anxiousness to get good grades in the BECE for my students sometimes makes me advise the students to help each other in the final examination hall. | 109 | 2.4 | 1.1 |
| Circuit supervisors' pressure to improve BECE scores increases my stress level. | 109 | 2.9 | .88 |
| Head teachers' pressure to improve BECE scores increases my stress level. | 109 | 2.9 | .98 |
| I have thought of leaving the teaching profession because of the level of stress related to BECE. | 109 | 2.5 | 1.1 |
| **Mean of Means** | | **2.90** | **.92** |

Source: Field survey (2019)

Table 1, mean of mean score of 2.90 compared to the cut-off point mean score of 2.5, shows that respondents agreed that BECE has effect on the level of stress that they experience as teachers on their job. This is to say that, B.E.C.E as a high-stakes test is perceived to have posed a lot of stress on basic school teachers. This situation most definitely has implication for teachers' job satisfaction and commitment to work.

Ho: There is no statistically significant difference between male and female junior high school teachers in the stress that they experience as a result of preparing students for B.E.C.E. The hypothesis was tested using independent samples t-test. Details of the analysis is shown in Table 2.

Table 3. Independent Sample t-test of teachers' job-related stress based on Gender

| Group | N | Mean | SD | t | df | p-value |
|---|---|---|---|---|---|---|
| Male | 70 | 105.09 | 9.10 | .333 | 107 | .740 |
| Female | 39 | 104.38 | 12.76 | | | |

Source: Field survey (2018); $\eta^2 = .001$

The independent samples t-test for equality of means shows no statistically significant difference, $t(107) = .333$, p=.740. This implies that there was no statistically significant difference between male and female teachers with respect to stress experience on the job as result of B.E.C.E as a high-stakes test. In other words, teachers who prepare students for B.E.C.E experience stress irrespective of their gender.

$H_0$: Job stress does not significantly predict job satisfaction of junior high school teachers.

The hypothesis sought to investigate whether stress that teachers experience in a high stakes test context predicts their job satisfaction. Variance based Structural Equation Modelling approach was used to test the hypothesis. Details of the results is shown in Table 4.

Table 4. PLS Structural Estimates (Hypothesis testing)

| Hypothsis | Beta | t-value | Decision | p-value |
|---|---|---|---|---|
| H$_0$:Jstress   ⟶<br>Jsatisfaction | .856 | 11.925 | Rejected | .000 |

Alpha= .05 (2-tailed)    R$^2$=.733

The purpose of the hypothesis was to investigate whether stress experience by teachers in a high-stakes testing environment significantly explains their satisfaction for the teaching job. In line with this, results show that job stress significantly predict job satisfaction (B= .856, t= 11.925, p<.005). Further analysis shows that job stress explains 73.3 percent of the variance in job satisfaction of teachers. By implication, the amount of stress experienced when one is preparing his/her candidates for B.E.C.E tells to large extent (approximately 73%) the kind of satisfaction one would have for the teaching profession.

## 6. Discussion of the Results

The findings of the study revealed that junior high school teachers perceived the Basic Education Certificate Examination (B.E.C.E.) as a phenomenon that posses a lot of stress on them. In order words, B.E.C.E happens to give basic teachers in Ghana educational context a lot of stress because of its stakes been high. The respondents indicated that their stress level increases when it happens that substantial number of their students fail in the annual exam. In the course of preparing students for the BECE, teachers spend a lot of time drilling students on test items of past exams. In the event that the school's general performance declines, or even when the media (both social and traditional) and parents' attention are focused on BECE results, teachers get stressed up. Clearly, the thought of teachers being accountable to the public (parents, media, government etc) for an increased performance in the BECE, it triggers stress. This is in line with Richards (2012) who reported that accountability measures imposed by state high-stakes test poses a lot of stress to teachers. The increased stress level of teachers possibly might be due to the limited time at their disposal to prepare students adequately for the exam. Brackenreed (2011) found teachers increased stress to be rooted in inadequate time for preparing students for nationwide mandated high-stakes test. Moreover, Blatchford (2001) found out that time constraints happened to be one of the top three stressors associated with teacher work-related stress.

Again, findings indicated that teachers who prepare students for B.E.C.E experience stress irrespective of their gender. In this case, the study did not discover any calculable difference between male and female teachers when it comes to the level of stress they experience as a result of the nationwide exam. This finding is in conformity with Thompson and Harbaugh (2012) who also found no discernable interaction between teacher gender and perception about high-stakes test and stress.

Job related stress was found to be a significant predictor of job satisfaction. This is to say that the amount of stress that teachers experience in the course of preparing their students for the nationwide exam (B.E.C.E) was found to have explained to appreciable degree, teachers job satisfaction. In this case the heightened desire of teachers to raise scores of students due to accountability pressures directly affect their (teachers) level of satisfaction for the teaching job. In the literature, Black (2003) discovered that stress has become common among teachers because of test based accountability. To further appreciate the possible effects that stress tied to accountability pressures have on teachers, Jansen (2008) opined that teachers' morale and job satisfaction have decreased substantially due to high-stakes testing and accountability policies.

## 7. Conclusions

Based on the findings, the study can confidently conclude that Junior High School teachers experience a lot of stress due to the accountability pressures attached to Basic Education Certificate Examination. Male and female teachers who teach in the Junior High Schools in Ghana experience relatively equal amount of stress so far as he or she is involved in preparing students for national exam (B.E.C.E). Finally, it can be concluded that basic school teachers job-related stress significantly explains their satisfaction on the job.

## Recommendation

Ghana Education Service should provide workshops and in-service training programs for teachers on stress management techniques. These programs should also be segmented to meet the unique needs of individual teachers.

**References**

Amoako, I. (2018). What's at stake in high-stakes testing in Ghana: Implication for curriculum implementation in basic schools. *International Journal of Social Sciences & Educational Studies, 5*(3), 72-82. https://doi.org/10.23918/ijsses.v5i3p72

Anane, E. (2010). Effects of high-stakes testing on instruction in senior high school. International. *Journal of Research in Education, 2*(1) 58-66.

Black, S. (2003). Stressed out in the classroom. *American School Board Journal, 190*(9), 14-16.

Bracey, G. W. (2003). The 13th Bracey report on the condition of public education. *Phi Delta Kappan*, *85*(2), 148. https://doi.org/10.1177/003172170308500211

Brackenreed, D. (2011). Inclusive education: Identifying teachers' strategies for coping with perceived stressors in inclusive classrooms. *Canadian Journal of Educational Administration and Policy, 122*, 1-37.

Buck, S., Ritter, G. W., Jensen, N. C., & Rose, C. P. (2010). Teachers say the most interesting things – an alternative view of testing. *Phi Delta Kappan, 91*, 50–54. https://doi.org/10.1177/003172171009100613

Butt, G., & Lance, A. (2005). Secondary teacher workload and job satisfaction: Do successful strategies for change exist? *Educational Management Administration and Leadership, 33*, 401-422. https://doi.org/10.1177/1741143205056304

Hakanen, J., Bakker, A., & Schaufeli, W. B. (2006). Burnout and work engagement among teachers. *Journal of School Psychology, 43,* 495-513. https://doi.org/10.1016/j.jsp.2005.11.001

Hannaway, J., & Hamilton, L. (2008). *Performance-based accountability policies: Implications for school and classroom practices*. Washington, DC: Urban Institute and RAND. https://doi.org/10.1037/e722482011-001

Jansen, J. (2008, Dec. 18). *South Africa's experience of large-scale assessment.* The Times (No. 132) p.4.

Jones, B., & Egley, R. (2007). Learning to take tests or learning for understanding? Teachers' beliefs about test-based accountability. *The Educational Forum, 71*, 232–248. https://doi.org/10.1080/00131720709335008

Kyriacou, C. (2001). Teacher stress: Directions for future research. *Educational review*, *53*(1), 27-35. https://doi.org/10.1080/00131910120033628

Plank, S., & Condliffe, B. (2013). Pressures of the season: An examination of classroom quality and high-stakes accountability. *American Educational Research Journal, 50*, 1152-1182. https://doi.org/10.3102/0002831213500691

Richards, J. (2012). Teacher stress and coping strategies: A national snapshot. *Educational Forum, 76*, 299-316. https://doi.org/10.1080/00131725.2012.682837

Segall, A. (2003). Teachers' perceptions of the impact of state-mandated standardized testing: The Michigan educational assessment program (MEAP) as a case study of consequences. *Theory and Research in Social Education, 31*, 287-325. https://doi.org/10.1080/00933104.2003.10473227

Taubman, P. (2009). *Teaching by numbers: Deconstructing the discourse of standards and accountability in education*. New York, NY: Routledge.

Thompson & Harbaugh (2012). *The effects of NAPLAN: Teacher perceptions of the impact of NAPLAN on pedagogy and curriculum*. Paper presented at Joint AARE/APERA Conference. Sydney.