Teachers' Adversity Quotient Dimension of Control and Students Academic Performance in Secondary Schools in Kenya

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Abstract

Self-control has been related to positive student outcomes including academic performance of elementary students. However, the changing nature of learning organizational environments has become a threat for most teachers. The purpose of this paper is to investigate the teachers' adversity quotient and its effects on students' academic performance. The study adopted adversity quotient theory and correlation design. The study sample comprised of 441 secondary school teachers. Data was collected using the Adversity Quotient Profile Questionnaire for teachers. Validity was ascertained using Cronbachs' alpha and coefficient value of 0.7 was considered. Data was analyzed using t-test and Pearson's Product Moment correlation coefficient to test relationships between the variables. The findings indicate a significance difference between gender and teachers' adversity quotient value control dimension (t=148.4), Gender (t=62.7) (P=0.000). There is a positive significant relationship between adversity quotient dimension of control and students academic performance (r=.483), (P<0.01). The study recommends policy makers to recognize the importance of testing and assessing teachers' adversity quotient, devising appropriate and timely teacher support mechanisms and professional development programmes in order to improve teachers' adversity quotient in relation to students' academic performance in schools.

Keywords: Teachers' Adversity, Adversity Quotient Dimensions, Students' Academic Performance

1. Introduction

Research shows that adversity quotient dimension of control has numerous positive outcomes in relation to students academic performance (De Ridder, Lensvel-Mulders, Finkenauer, Stock, & Baumeister, 2012; Duckworth, Quinn, & Tsukayama, 2012) and productivity in

educational institutions (De Ridder, Lensvel-Mulders, Finkenauer, Stock, & Baumeister, 2012; Duckworth, Quinn, & Tsukayama, 2012). Self-control is referred to as self-regulation, self-discipline, and will power and fighting spirit (Duckworth & Kern, 2011). Usha and Praseeda (2014) states that adversity quotient is the capacity to adjust to adversities in life. Elizabeth (2007) defines adversity as a matter of trying hard enough in response to a given challenge, an ingredient closely related to commitment. Research shows the importance of adversity quotient dimension of control in students' academic achievement (Usha & Praseeda, 2014; Shen, 2014) and collaboration among communities, cultures, and organizations Phoolka & Kaur (2012). Teachers with high adversity quotient can manage challenges that confront them in their career (Cura & Gozum, 2011; Canivel, 2010; Pangma, Tayraukham, & Nuangchalerm, 2009). Other studies show that resilience, endurance, persistence, and response to change are predictors of a persons' adversity quotient (Phoolka & Kaur, 2012).

According Usha and Praseeda (2014); (Awan & Noureen, 2012; Kupari & Nissinen, 2013) adversity quotient is an aspect of self esteem, motivation, fighting spirit, creativity, positive attitudes, optimism and emotional stability (Saeid & Eslaminejad, 2017). Such qualities are important because, schools in the 21st century have become increasingly challenging than ever (Elizabeth, 2007; Musili, 2015; TSC, 2016). In addition, constant changes in educational institutions can lead to disappointments and frustrations (TSC, 2016; MOEST, 2012). Thus, (Elizabeth, 2007) identified three types of teachers; climbers, campers and the quitters. Quitters were characterized by minimal motivation, non innovativeness, lack of ambitious and inability to take risks and new responsibilities. Campers refer to teachers who have stopped moving forward towards career progression as a result of burn out, tend to settled in what they think is good enough and rarely venture into bigger challenges. Campers are satisfied with the current state of affairs in their stations, letting greater opportunities pass unnoticed. According to Elizabeth (2007) teachers require higher-level skills, commitment, competences and motivation to work towards students' academic achievement. Teachers with strong adversity quotient tend to be proactive and committed in adverse situations and are capable of turning adversity into opportunities (Hung & Chin, 2013; Phoolka & Kaur, 2012).

Other studies reveal that school adversities lead to negative workplace outcomes (Tian & Fan, 2014); lack of motivation, poor performance and high turnover (Topper, 2007; Robbins, 2013). Similarly, teaching methods (Abdelkarim & Abuiyada, 2016), feedback and reflections (James & Folorunso, 2012), and gender (Ismail & Awang, 2009) were predictors of students academic achievement. Moreover, studies show that teachers' gender is significant aspect to students' academic performance (Zubaidah, Risnawati, Kurniati, Prahmana, Rully, & Uin, 2017); Shen and Ven (2014). The foregoing discussion shows that teachers' adversity quotient dimension of control was an important aspect of students' academic performance. However; Wadesango, (2013); Mazandarani & Abedini (2015); Momanyi (2015); Ireri, (2015) report poor performance in secondary schools. Despite this, there is lack of empirical studies to support for the argument on teachers adversity quotient and students academic achievement in the area of study. Table 1 reveal down ward trend on KCSE performance in Nairobi and Kiambu counties over the last four years. Although the government has marked progress towards better academic performance, many teachers continue to face the challenge of posting poor performance in national examinations. The study therefore sought to answer the

question "Does teachers' adversity quotient dimension of control affect student's academic performance in Kiambu and Nairobi Counties in Kenya? This was done by use of a correlation design with the aim of establishing the real status quo of teachers' adversity quotient dimension of control and its effects student's academic performance. Hence, this study set out to establish the relationship between teachers adversity quotient dimension of control and students academic performance.

Table 1. KCSE Performance in 2014-2016 in Kiambu and Nairobi

	National KCSE index	**Nairobi KCSE index**	**Kiambu KCSE index**
2014	30.8% C+and above	30.48% C+and above	26.15% C+and above
2015	31.5% C+and above	31.85% C+and above	27.9% C+and above
2016	10.8 % C+and above	9.8% C+and above	8.4% C+and above

2. The Problem Statement

Research indicates that adversity is one of the major challenges in education today in relation to students academic perfomance (Zubaidah, Risnawati, Kurniati, Prahmana, Rully, & Uin, 2017); Rathee and Sharma (2018); Cura and Gozum, (2011); Tigchelaar & Khaled E. Bekhet (2015). There is evidence of poor academic performance, strikes, destruction of property, drugs and drug substances in most public secondary schools over the last decades affecting students academic performance negatively. The question is: What is the formula for improving students' academic achievement? Does adversity quotient dimension of control affects students' academic achievement in Nairobi and Kiambu Counties in Kenya? Therefore the study sought to establish the effect of gender and teachers' adversity quotient dimension of control on students' academic performance in Nairobi and Kiambu Counties in Kenya. The was guided by the following research hypothesis:

H_{O1}: *There is no significant difference between gender and teachers' adversity quotient dimension of control in public secondary schools in Kiambu and Nairobi counties.*

H_{O2}: *There is no significant relationship between teachers' adversity quotient dimension of control and students' academic performance in public secondary schools Kiambu and Nairobi counties.*

This study has both theoretical and practical implications. The theoretical benefits will contribute to the field of education, particularly educational administration. Regarding practical benefits school principals, counselors and teachers can use the findings in school administration to improve performance. This information is also important for the broader public as a reference for those who want to examine the issues related to teacher adversity quotient and learning achievement.

3. Methodology

This study adopted a correlation research design to show the relationship between the variables. Systematic random sampling technique was used to select a sample of 441 teachers

in public secondary schools in Kiambu and Nairobi Counties in Kenya. Data was collected using the five point adversity quotient profile questionnaire for teachers. Validity was ascertained using Cronbachs' alpha and coefficient value of 0.762 was considered. Kenya certificate of secondary education results for the years 2015 and 2016 were used as the standardized measure for students' academic performance. T-test and Pearson correlation coefficient was used in data analysis. The higher a person's adversity quotients score, the higher the ability to withstand adversity which in turn is thought to translate into increases in performance. The score of 48-50 was considered high, 43-47 above average, 46-42 average, 30-41 below average, and 10-29 below average. A person's level of adversity quotient is thus said to predict job performance fairly well.

4. Literature Review

4.1 Concept of Control Dimension

The Control dimension of adversity quotient seeks to refer to the extent to which a person is able to influence a difficult situation positively. It is how much control a person perceives to have over the adverse events. People who respond to adversity as temporary, external and limited are optimistic and tend to enjoy life's benefits (Canivel, 2010). People with high adversity quotient tent to handle overwhelming situations compared to those with low adversity quotient who usually give up (Cura & Gozum, 2011). In addition, the more control a person has, the more likely to take positive action (Canivel, 2010). According to Stoltz as cited by Cornista & Macasaet (2013), control is the most crucial ingredient of the four CORE dimensions of adversity quotient because it is directly related to a person's inclination to try hard in response to a given challenge. Since its impact lies within empowerment as to whether any meaningful action will take place, the control dimension has a strong influence on all other CORE dimensions (Elizabeth, 2007). This implies that focusing on things that can be improved rather than what cannot is what Stoltz calls Response Ability (Stoltz, 2000; Elizabeth, 2007). Theories of motivation link control aspect of adversity quotient to job performance (Elizabeth, 2007) and sheds lights on the reasons behind performance deficits (Judge & Bono, 2001). In addition, it is likely that beliefs of uncontrollability will lead to non-action as a person under such beliefs can see no ways to improve the situation. In work related situations, beliefs of uncontrollability leads to performance deficits (Stoltz, 2010).

4.2 Gender and Teachers' Adversity Quotient Dimension of Control

Amy and Alison (2015) carried out a study on the relation between self-regulated Learning and students' academic achievement. The study focuses on meta cognitive processes and students' use of cognitive strategies. Overall correlations were small metaco cognitive processes (r=0.20), cognitive strategies (r=0.11), but there was systematic variation around both of them. Five moderator analyses were conducted to explain this variation. Average correlations significantly differed based on the specific process or strategy, academic subject, grade level, type of self-regulated learning measure, and type of achievement measure. Follow-up tests explored the nature of these differences and largely support the hypotheses.

Nora and Patricia (2013) carried out a study on self-control, academic ability, and academic performance for a cohort of freshman engineering students. The study adopted structural

equation modeling analysis. The findings revealed that lack of self-control in high school, as measured by the frequency of illegal and irresponsible behaviors, had an inverse relationship with first semester grade point average (GPA), whereas academic ability, as measured by ACT scores, had a positive relationship with college GPA. The correlation between the residual error for one of the indicators of self-control, homework behaviors in high school, and the residual error for first semester GPA was also significant.

Zubaidah, Risnawati, Kurniati, Prahmana, Rully, and Uin (2017) carried out a study in Pekanbaru on students' adversity quotient in mathematics in relation to gender. The study focused on dimension of control, origin, ownership, reach and endurance. Data was collected from a sample of 75 girls and 63 boys and analyzed using test-t. The findings shows a significant relationship between the two groups, but analysis of test-t shows that there was no difference relationship in adversity quotient for two group of gender. Through variance test, students' mathematical AQ in two groups was homogeneous. The indicator of adversity quotient for boys was high in endurance and reach dimension while for girls it was high in respect to control dimension.

Shen and Ven (2014) carried a study on the effect of demographic variables on adversity quotient in Taiwan enterprises. The study used convenience sampling technique to select a sample size of 307 respondents. Data was analyzed using ANOVA. The study results showed that, age and seniority had a significant effect on adversity quotient, while gender and educational background did not have a significant effect on adversity quotient.

Rathee and Sharma (2018) carried out a study to determine adversity quotient among high school students with respect Gender. A sample of 400 students was collected from one district each from five zones of Haryana State using multistage random sampling. Descriptive survey method was employed. A self developed adversity quotient assessment Likerts scale was used in data collection. The results revealed that adversity quotient was not found to be influenced by Gender.

4.3 Teachers' Adversity Quotient Dimension of Control and Students' Academic Performance

The work of Cura and Gozum, (2011) carried out a study on adversity quotient and the Mathematics Achievement of Sophomore Students of College of Engineering and Technology. A correlation design was applied in a sample of 398 students. The findings showed that that the dimensions of control, ownership and endurance had a significant effect on students' achievement. The level of adversity quotient among the highest percentage of respondents was below average. Further it was revealed that adversity quotient of the respondents was not influenced by gender, course, academic status, scholastic status, scholarship grant and the type of high school they graduated.

Kuhnle, Hofer, and Kilian (2011) carried out a study on self-control, procrastination, motivational interference, and regret are regarded as determinants academic achievement. The study focused on Dealing with tasks in the academic field and in various other life arenas is typical for adolescents. The predictors are regarded as relevant for handling multiple alternative activities. Self control is seen as a resource associated with positive outcomes in people's lives. The other variables are seen as tightly associated with handling multiple

alternative activities in goal conflicts. The sample consisted of 348 tenth graders who completed a questionnaire during regular school lessons. Results of regression analyses showed that self-control was a significant predictor of school grades and life balance, while procrastination was only related to school grades, and that motivational interference as well as regret was associated with life balance. The significance of this differential pattern for adolescents' lives is discussed.

Nora, Patricia and Thomas (2016) carried out a study on the relationship between freshmen engineering students and academic performance. Scores on the Brief Self-Control and first semester GPA. The study adopted a correlation design. The results showed the measure of self-control explained on average 4.2% of the residual variability in first semester GPA, after accounting for the variability explained by ACT scores. Based on results of this study, self-control predicted between 27%-42% as much of the variance in first semester GPA as did ACT scores, a much-used high stakes measure frequently used for decisions such as program admittance or mathematics course placement. Thus self-control is a nontrivial predictor of academic performance. Based on post hoc analysis, relevant self-control behaviors might manifest themselves in time and study management since there was a significant correlation between self-control scores and scores on the MSLQ time and study management measure. These results have implications for both how much of an impact positive self-control may have on freshmen engineering academic performance, while also offering potential avenues to support students in bolstering aspects of this personality trait through a focus on strengthening time and study management skills.

Napire (2013) conducted a study to determine the leadership styles and adversity quotient of the elementary school principals in Camarines Sur. The study resulted that Leadership styles were not significantly related to the Adversity Quotient dimension of control, ownership, reach, and endurance. The study results also showed that majority of elementary school principals demonstrated the democratic style of leadership and the adversity quotient dimension of control, ownership, reach, and endurance dimensions scores was below average.

In Indonesia Bambang and Teguh (2017) carried out a study on students' adversity quotient on students achievement. The study adopted survey method. The sample size of 140 students was selected using probability sampling technique. A self-efficacy scale and an adversity quotient scale were used to collect the data. Students' performance in mathematics was determined based on school test results. The data were analyzed using multiple regressions. The findings reveal significant effects of self-efficacy and the adversity quotient but no significant effects of gender on students' academic mathematics achievement. The study recommended teacher profession and in-services courses as a strategy to improve students' self-efficacy and adversity quotient in mathematics.

A study by Lo Tigchelaar & Khaled E. Bekhet (2015) investigated on the relationship between the adversity quotient and transformational and transactional leadership in Egyptian enterprise. The findings shows that among the four dimensions of control, ownership, reach and endurance (CORE), it was endurance which scored the-lowest average and all the rest got average scores. Adversity quotient dimension of was found to have effects on individualized

consideration.

Usha and Praseeda (2014) carried out a study on relationship between adversity quotient and academic challenges among teachers in Kerala state in India. The study used a questionnaire. The reliability of the instruments was tested using test-retest method. A sample of 300 student teachers from Kerala state in India was selected randomly for the study. Karl Pearson's product moment correlation was used to establish the relationship between adversity quotient and academic problems. The study used a sample of 300 student teachers from. The findings show a significant relationship between academic problems and adversity quotient among student teachers in Kerala (r= -0.52, significant at 0.01 level).

4.4 Theoretical Frame Work

This study is underpinned in the Adversity quotient theory. This is the discipline concerned with human elasticity or toughness. According to (Stoltz, 1997), individuals who effectively apply Adversity Quotient when faced by challenges do not only learn from such challenges, but they encounter them better and quicker. Studies in business organizations indicated that high-adversity quotient personnel are competent, productive, innovative, committed and motivated employees (Stoltz, 1997). Stoltz found that several individuals had a high intelligence quotient and all characteristics of Emotional Intelligence, however, their performance were below their potential. According to Stoltz, success in work and life is largely determined by adversity quotient more than other human characteristics. Schools in the 21st century are faced with many adversities which teachers must handle and therefore the theory can help teachers increase their abilities to handle adversities and improve their students' academic performance.

5. Findings

The data were analyzed using t-teat and Pearson Correlation in accordance with the research hypothesis.

5.1 The Effect of Gender on Control Dimension of Adversity Quotient

T-test test was conducted to establish the differences between gender the teachers adversity quotient dimension of control. This is as presented in Table 2.

Table 2. One Sample t-test on gender and control dimension of adversity

					95% Confidence Interval of the Difference	
One-Sample t-test						
			Test Value=0			
	t	df	Sig. (2-tailed)	Mean Difference	Lower	Upper
Control dimension	148.378	439	.000	3.81409	3.7636	3.8646
Gender	62.658	440	.000	1.62812	1.5770	1.6792

Table 2 shows a significance difference between gender and the teachers adversity quotient dimension of control (P=0.000), control dimension (t=148.4), Gender (t=62.7). This means

that the hypothesis which stated that there is no significant deference between gender and the teachers' adversity quotient dimension of control, was rejected. Thus, it is understood that the gender affected the teachers' adversity quotient. These findings are in agreement with previous study by Awan, Noureen, and Naz (2012) found significant gender differences in favor of girls. A study by Else-Quest, Hyde, and Linn (2010) in the United States also showed gender gap in academic performance. One possible explanation for gender difference in the present study could be because females have different norms, cultures, traditions, and expectations and therefore the way females interact with each other could be different such that gender differences is significant in adversity quotient dimension of control. Male teachers in this study were found to be better in self control compared to female teachers.

5.2 The Effect of Adversity Quotient Dimension of Control on Students' Academic Performance

Pearson's correlation was calculated to establish the relationship between head teachers' adversity quotient dimension of control and students' performance in examinations. This is as shown in Table 3.

Table 3. Correlation between adversity quotient dimension of control and students' performance

	Control score	Subject mean
Correlation score Pearson correlation	1	.483**
sig.(2-tailed)		.000
Subject mean Pearson correlation	.483**	1
sig.(2-tailed)	.000	

**Correlation is significant at the 0.01 level (2-tailed)

Table 3 shows a significant and positive relationship between teachers dimension of control and students academic performance (r=.483, P<0.01). There is a positive correlation between adversity quotient and students academic performance. This result implies that the dimension of control influences students' academic performance. High score in adversity quotient control leads to improvement in students' academic performance while low score implies low academic performance. These results support studies by Amalia (2011), and Fadhila (2010), who found a significant relationship between the adversity quotient and students' academic achievement. The same results were found in a study by Utami and Hawadi (2006), who found that the control variable of adversity quotient contributes significantly to students' achievement in mathematics and natural sciences. Thus, it can be understood that self-control can be linked to self-confidence because students who have self-control in the learning process will have self-confidence in their ability to succeed. Therefore, teachers with adversity quotient are able to influence students to work hard to improve academic performance. Teachers who perceive themselves as having little or no control which leads to poor performance in KCSE. Teachers with adversity quotient have characteristics such as self

esteem, motivation, fighting spirit, creativity, sincerity, positive attitude, optimism and good emotional health.

6. Conclusion and Recommendations

The results of this study support the idea that teachers' response to adversity is an important factor in students' academic performance. Students of teachers with high self control have high mean scores and grades in KCSE than those of teachers with lower control concept. There was a significant and strong correlation between students academic performance in KCSE and teachers' adversity quotient dimension of control (r=0.483, P<0.01).

Given the prominence of accountability and the reliance on empirical evidence to inform policy decisions on students' success in academic performance, the findings of this study are critical to teachers in understanding the importance of adversity quotient dimension of control on students' achievement. The results may lay emphasis on the importance of teachers' adversity quotient dimension of control in handling school adversities. Head teachers and Kenya Education management Institute should focus on improving the teachers' adversity quotient in order to equip teachers with skill to handle adversities. The study recommended that the teachers' employer should consider including adversity quotient in teacher recruitment and appraisal as a means of maintaining highly effective teachers in schools. The curriculum developers should consider including adversity quotient in teacher training curriculum.

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