



Zulu Youth's Core Self-evaluations and Academic Achievement in South Africa: An Exploratory Study

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ABSTRACT The objective of this study was to explore the relationship between core self-evaluations and learning amongst Zulu students at a historically disadvantaged university. Core self-evaluations refer to the favourability with which an individual regards himself or herself. Core self-evaluations, in turn, relate to success in learning environments, where learning is the process of acquiring the knowledge, skills and attitudes needed for success in life. Using the Solomon four group experimental design, a systematic random sample of $N=151$ was drawn from Zulu youths in rural KwaZulu-Natal who completed the core self-evaluations scale and participated in a learning intervention. Zulu youths have generally positive evaluations of themselves, comparable with international norms for students of the same age. Students who held higher core self-evaluations tended to enjoy higher levels of academic success than those with lower levels of core self-evaluations.

INTRODUCTION

Shaffer (2009) describes heredity and environment as co-conspirators in the development of personality. Personality traits such as core self-evaluations [CSE] directly influence behaviour (Matthews et al. 2003). CSE is the favourability of a person's estimation of themselves. Here, linkages between CSE and learning in higher education are explored.

Background to the Study

The South African economic-context includes skills shortages (Daniels 2007) and transformation imperatives, requiring extensive human resources development. Those students with higher CSE may perform better in Outcomes-Based Education (OBE) and training today, through their ability to better mobilise their psychological resources and to persist in the pursuit of their goals (Robbins and Judge 2007). These students

are more likely to pursue goals for intrinsic reasons and for value congruent reasons than students with higher CSE (Judge et al. 2005).

There has been much research support for the relationship between CSE and a number of work, education, training and development related performance determinants (Judge et al. 2003). However, there is a gap in the literature in terms of CSE in South Africa, in particular the application of CSE amongst Zulu students.

In response to years of unfair labour practices in South Africa, the Employment Equity Act (55 of 1998) requires that suitably qualified individuals from disadvantaged backgrounds be considered first for vacancies. Suitably qualified, refers to those who are formally qualified, have experience, or have the capacity to acquire the relevant skills for the job in a reasonable amount of time. A reasonable amount of time is understood to be a time-frame that is economically feasible for the organisation (Du Plessis et al. 2001).

The acquisition of skills requires learning, which can be described as "any process that... leads to permanent capacity change and which is not solely due to biological maturation or ageing" (Illeris 2007: 3). The capacity to learn in a reasonable amount of time may be linked to CSE. In international studies, CSE have been linked

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to both academic and work performance (Judge et al. 2003).

Research Objectives

The study aimed to explore CSE in relation to learning achievements amongst Zulu students studying at the University of Zululand. The first objective of the study was to test CSE levels. The second objective of the study was to test, through experimental design, the link between CSE and learning.

Theoretical Basis of the Study

Core Self-Evaluations

CSE comprises of four sub-factors namely self-efficacy, locus of control, self-esteem, and neuroticism (Scott and Judge 2009). This trait may form the basis for much of the interaction between personality and the environment that influences human behaviour (Scott and Judge 2009).

Self-efficacy pertains to essentially the belief in one's capability, the belief that one can succeed (Bandura 1994). Locus of control refers to the belief that one is in control of the outcomes in one's life (Rotter 1954 in Cadinu et al. 2006). Self-esteem is the worth a person attributes to self, or the level to which an individual views themselves with affection (Mruk 2006). Finally, neuroticism is the extent to which an individual demonstrates emotional stability or instability (Cervera et al. 2002). These four aspects interact to form an individual's CSE and helps to determine how they react to challenges in life (Scott and Judge 2009).

Learning

South Africa's educational paradigm is outcomes-based. Outcomes are aimed at enabling learners to acquire competencies that they can use for the duration of their lives. Outcomes are what the learner must demonstrate during assessments (Jacobs et al. 2004). Learning is a change in behaviour, produced by experience (Hilgard and Marquis 1940), it prepares individuals for the future through general growth through learning (Noe 2005; Goldstein and Ford 2003).

Proponents of CSE have argued that the trait is positively associated with success in work and

life (Judge 2009). However, this relationship may not always be positive because of the Dunning-Kruger effect, a bias, causing individuals to either under-estimate or over-estimate their ability through inaccurate self-appraisal. The rationale is that incompetence deprives individuals of their meta-cognitive ability to realise their incompetence, negating any benefit from constructive feedback (Miller et al. 2010).

Less competent individuals will assume others have lesser or equal competence to their own, causing them to rate themselves more positively than they should. Conversely, highly competent individuals assume others have similar levels of ability, causing illusory inferiority (Miller et al. 2010). Dunning and Kruger (1999: 5) state that, "the skills that engender competence in a particular domain are often the very same skills necessary to evaluate competence in that domain—one's own or anyone else's". Effective skills development and learning relies heavily on the efficacy of feedback (Noe 2005), which may be adversely affected by the Dunning-Kruger effect.

The impostor phenomenon or syndrome was first defined by Clance (1985 in Sakulku and Alexander 2011) and is characterised by feelings of inadequacy and the fear of being found an intellectual fraud (Sakulku and Alexander 2011). The experience of the impostor phenomenon is accompanied by anxiety and fear. Impostorism is known to affect both genders when studying (Bussotti 1990; Harvey 1981; Langford 1990, in Sakulku and Alexander 2011).

Impostorism may be indicated through low levels of CSE accompanied by high levels of learning achievement. The impostor phenomenon may weaken the relationship between CSE and learning, through distorting the CSE of those affected. In this study, impostorism is not directly measured; instead, it may be inferred through the nature of the relationship between learning and CSE. Impostorism is often associated with self-handicapping, or with defensive pessimism (Jarrett 2010). A learner may procrastinate and engage in avoidance behaviour when preparing for an assessment, so that they can excuse their failure on a lack of preparation (self-handicapping), or they may study to the point of excess to avoid failing because they believe that they are likely to fail (defensive pessimism). Rosenthal and Jacobson (1968) described the opposite of this occurrence as the Pygmalion effect, claiming that increased expectations placed upon an individual will result in increased performance.

In summary, CSE has been described as a person's estimation of themselves (Judge et al. 1998; Kammeyer-Mueller et al. 2009; Tsaousis et al. 2005; Bono and Judge 2002; Judge et al. 2003; Robbins and Judge 2007). Previous international research shows that there is a relationship between CSE and academic performance (Tsaousis et al. 2007). International research also indicates that academic ability without positive CSE does not necessarily translate to academic achievement (Rosopa and Schroeder 2009). General mental ability has both indirect and direct influences on income but these are mediated by educational attainment and CSE (Judge et al. 2009). Learning may consequently be affected by CSE.

Aim of the Research

The aim of the study was to quantitatively explore the relationship between CSE and learning.

METHODOLOGY

Research Questions and Corresponding Research Hypotheses

Research Question: Is there a relationship between CSE and learning?

Research Hypothesis: There is a relationship between CSE and learning.

Research Method

This study was exploratory, experimental and quantitative. The goal of the study was to explore the potential relationships between learning and CSE and to identify future directions for research.

Population

The population for this exploratory study comprised young adults in KwaZulu-Natal who speak Zulu as a home language, and were studying human resources management at the University of Zululand. Zulu speakers form the largest population group in South Africa (Statistics South Africa 2010) and are therefore worthy of specific attention. The Zulu group has its own rich ethnic and cultural identity. The population in this study was specifically Zulu students at a historically disadvantaged university.

Sampling

A systematic random sample was drawn ($N=151$). In the context of survey research, the sample may appear small. However, the sample size is comparable with similar experimental research undertaken where sample sizes ranged from 51 to 181 (Bretz and Thompsett 1991; Dijkman 2009; Berthold et al. 2007; Scharfenberg et al. 2006; Wambugu and Changeiywo 2007; Linde and Stuart 2002; Lievens and Sanchez 2007; Dickey 2003).

Measuring Instruments

The Core Self-Evaluations Scale [CSES]

The CSES comprises 12 items on a Likert scale. It is a brief, reliable instrument which measures the trait directly, and all items load onto a unitary factor (Judge et al. 2003). The developers based the twelve items on multiple valid measures of self-esteem, self-efficacy, neuroticism, and locus of control (Tsaousis et al. 2007: 1444). The mean indicates CSE levels of each respondent. The CSES had a Cronbach's alpha of 0.63, which is acceptable for exploratory research (Baars et al. 2005). The scale was piloted on a group of Zulu students to ensure that the items were easily understood by the respondents. Factor analysis was also used for validation purposes.

Measurement of Learning

Assessments are used to measure the extent to which learners have acquired the capacity to demonstrate the specified outcomes, in a formative, developmental and transparent manner, with explicit assessment criteria (Jansen and Christie 1999). Assessments were written under controlled-test conditions. The assessment tools in this study were developed using OBE training principles. The assessment in this instance comprised items that required selection from fixed responses. A learning gains score was calculated to ensure that the learning intervention and assessment were valid. The learning gains score isolates learning achieved from other environmental and testing influences. Solomon's four-group design was used to validate the learning scores according to Braver and Braver's suggested protocol (1988). This an exact method of

experimental research as it controls for pre-test sensitisation. The learning intervention did produce a statistically significant ($\alpha = .05$) change in behaviour independent from the sensitisation that occurred due to pre-testing. Behaviour change was directly attributed to the learning intervention.

Statistical Analysis

Both descriptive and inferential statistics were calculated. These included Mean (M), Standard Deviation (SD), Minimum (MIN) and Maximum (MAX), Quartiles (Q), Frequency Distribution, Pearson Product Moment Correlations (r), Chi Square and Analysis of Variance (ANOVA). Descriptive statistics were used to present the findings. Thereafter, Pearson product-moment correlations were used to examine the relationships between the variables, with a confidence interval level of 95% ($p < 0.05$). Analysis of Variance was used to test whether there were significant differences in the CSE of achieving, moderately achieving and under-achieving learners. Chi square analysis was also used to test the relationship between learning and CSE.

RESULTS AND DISCUSSION

More females than males were represented in the sample and all respondents may be categorised as being students, in terms of South Africa's conceptualisation of the term (South African Regional Poverty Network 2011) (Table 1).

The mean score for CSE was 3.33 (Table 2), which is identical to the score found by Broucek (2005), who surveyed students at university in the United States of America. These scores are lower than those found by Judge et al. (2003), who found scores ranging from 3.78 to 4.03 when using the measure in the United States of America. In comparison, managers in Botswana

scored an average of 3.37 ($N=167$, $SD 4.3$) (Gbadamosi 2006), which is within a similar range. Government workers in South Africa were found to have a slightly lower mean of 3.15 with a standard deviation of 0.66 ($N=297$) in a study conducted by Maree (2005). Learning scores indicated that most learners managed to learn at least half of the material provided, with a large spread between the minimum and maximum scores.

Table 1: Demographic profile of the sample (N=151)

		Count	Percentage
Gender	Male	41	27.20%
	Female	110	72.80%
	Total	151	100.00%
Age	<20	65	43.05%
	21-35	86	56.95%
	Total	151	100.00%

Table 2: Summary statistics for core self-evaluations and learning (N=151)

	Core self-evaluations	Learning
Mean	3.33	54.73
Median	3.33	54
Standard Deviation	0.51	13.15
Minimum	2	23
Maximum	4.44	88

A one way Analysis of Variance was conducted, using quartiles one and three to divide learning into low, moderate and high levels of learning achievement (Table 3). CSE scores were then compared between these groups to determine whether learners with different levels of achievement displayed different levels of CSE. ANOVA results (Table 4) showed a significant difference between the CSE levels of those with low, moderate and high levels of achievement in the learning intervention ($p = .014$).

CSE scores were categorised by quartile one and three into low, moderate and high levels,

Table 3: Mean levels of core self-evaluations by learning achievement

	Low learning achievement	Moderate learning achievement	High learning achievement
N	38	74	39
Mean core self-evaluations	3.35	3.22	3.36
95% confidence level	3.188 - 3.508	3.112 - 3.341	3.361 - 3.676
SD	0.45	0.54	0.46
Maximum	4.11	4.44	4.33
Minimum	2.22	2.00	2.00
Median	3.44	3.22	3.56

Table 4: ANOVA results for learning and core self-evaluations

	<i>Sum of squares</i>	<i>Df</i>	<i>Mean square</i>	<i>F</i>	<i>Sig.</i>
Between groups	2.192	2	1.096	4.425	<i>p</i> 0.014
Error	36.65	148	0.2477		
Total	38.84	150			

where 3.00 was the cut-point for low scores, and 3.67 was the lowest cut-point for high levels of CSE. Those with low levels of learning achievement had predominantly moderate levels of CSE (67.57%). Those with moderate levels of learning achievement had predominantly low (33.78%) and moderate (45.95%) levels of CSE. The learners who had high levels of learning achievement had moderate (56.41%) to high (33.33%) levels of CSE (Table 5).

Those with lower levels of learning achievement tended to have higher levels of CSE than those with moderate levels of achievement, which could indicate that Dunning-Kruger effect exists in the sample. Although the group with the highest levels of learning achievement also had the highest concentration of respondents with high CSE, only one third had high levels of CSE. This finding could point towards impostorism. Chi square analysis revealed that there are statistically and practically significant differences between the CSE levels of learners with varying levels of achievement in learning $\chi^2 (4, N = 151) = 11.69, p = 0.05$ Hypothesis one is accepted (Table 5).

Further data analysis revealed a weak positive correlation between CSE and learning ($r = 0.24, p = 0.01, N = 151$). The strength of the correlation may be undermined by respondents' inability to accurately assess their CSE owing to the Dunning-Kruger effect and impostor syndrome. The weakness of the relationship between CSE and learning may be because of the Dunning-Kruger effect, which would cause low achievers to overestimate themselves (high CSE) and impostorism, which would cause high achievers to underestimate themselves.

Table 5: Cross-tabulation of core self-evaluations and learning

<i>Learning</i>	<i>Core self-evaluations</i>						<i>Total</i>
	<i>Low</i>	<i>%</i>	<i>Moderate</i>	<i>%</i>	<i>High</i>	<i>%</i>	
Low	8	21.62%	25	67.57%	5	13.51%	37
Moderate	25	33.78%	34	45.95%	15	20.27%	74
High	4	10.26%	22	56.41%	13	33.33%	39
Total	37	24.67%	81	53.33%	33	22.00%	151

($\chi^2 (d.f. = 4, N = 154) = 11.69; p < 0.05, V 0.20$)

CONCLUSION

CSE is linked to learning achievements ($r = 0.24, p < 0.01$), however by a weak, but statistically significant relationship. Chi square analysis revealed that there is a tendency for those with lower levels of learning achievement to rate themselves favourably, whereas not all those with high levels of learning achievement rate themselves favourably $\chi^2 (4, N = 151) = 11.69, p = .05$.

RECOMMENDATIONS

South Africa is experiencing acute skills shortages. In order for South Africa to develop, the skills deficit must be addressed, in a manner which is sensitive to the psychological factors which may constrain learning. Any barriers to learning must be addressed. Learners must therefore receive accurate feedback about their abilities to form realistic levels of CSE.

Owing to the exploratory nature of the research described in the study, there is scope for future research. There is little existing research into this area in South Africa. It is a relevant area to focus on in South Africa because of its utility in human resources development in South Africa. A broader study should be undertaken to compare different generations' levels of CSE. Cross-cultural comparisons may also yield valuable information. The research was aimed at being as objective and quantitative as possible. Another approach that may have yielded richer data is the grounded theory approach, where theory is formulated based upon the data as it is collected.

LIMITATIONS

The homogeneity of the population studied is a limitation. A broader cross-section of society should have been studied. Further to this, a larger sample should have been drawn. A mixed-method approach should have been applied to a larger sample, drawn from a broader population.

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