Southern African Business Review
DHET accredited
ISSN: 1998-8125

Volume 21
2017

Organisational citizenship behaviour among railway employees in a developing country: effects of age, education and tenure

J. Mitonga-Monga, A. Flotman & F.V.N. Cilliers

A B S T R A C T

This study investigated the effect of differences in age, education and tenure on organisational citizenship behaviour (OCB). The purposive sample comprised 839 permanently employed staff in a railway organisation in the Democratic Republic of Congo. Participants completed the Organisational Citizenship Behaviour Questionnaire (OCBQ) and provided demographic data. Data were analysed using multiple regressions and an independent samples *t*-test to determine the effects of the demographic variables, namely age, education and tenure, on OCB. The results indicated they have significant effects on OCB and that age, education and organisational tenure respectively differed significantly in their effect on OCB. The findings provided evidence that the impact of demographic variables on employee behaviour should be considered in the context of cultural interventions and recruitment practices.

Keywords: Democratic Republic of Congo, organisational citizenship behaviour, extra-role behaviour, demographics, significant differences, railway organisation

Introduction

Personal factors seem to influence work participation behaviours. There appears to be growing curiosity about the effect of demographic characteristics on extra-role behaviour in the modern work setting, and hence there is an increasing focus on the significance of organisational citizenship behaviour (OCB) in the workplace

Dr J. Mitonga-Monga, Mr A. Flotman & Prof. F.V.N. Cilliers are in the Department of Industrial and Organisational Psychology, University of South Africa. E-mail: flotma@unisa.ac.za

(Borman & Motowidlo 1997; Chou & Pearson 2011; Organ 1997; Tambe & Shanker 2014). OCB refers to work behaviours that are discretionary and not directly linked to an organisation's rewards system (Organ 1997). The inclination to go beyond the minimum requirements of the formal contract, while always favourable, is an increasingly critical attribute in the current context of intensified competition in the global marketplace (Pavalache-Ilie 2014). Organisations strive for the improvement of job performance (Nasir, Mohammadi, Wan Shahrazad, Fatimah, Khairudin & Halim 2011). Researchers in the field have suggested that there are three broad performance-related work behaviours, namely task performance, OCB and counterproductive work behaviour (Rotundo & Sackett 2002; Spector 2006). Organisational researchers have discovered that some workers contribute to the welfare or effectiveness of the organisation by going beyond the requirements of their contract (Mitonga-Monga & Cilliers 2016). OCB reflects a pattern of voluntary behaviours performed in the interest of the organisation (Haider 2015). Task performance is perceived as the fulfilment of specific job requirements, including all activities that are directly related to the organisation's technical core (Borman & Motowidlo 1997). Counterproductive behaviour is voluntary, potentially destructive or detrimental acts that hurt co-workers or the organisation (Tambe & Shanker 2014). This study emphasises OCB because of the role it plays in enhancing organisational effectiveness, performance and efficiency (Nasir et al. 2011). OCB is beneficial to the functioning of an organisation and results in positive organisational performance (Podsakoff, Mackenzie, Paine & Bachrach 2010). Research also shows that line managers increasingly consider the display of OCB in the performance appraisal process (Li, Kung & Jan 2012), which points to a significant emphasis on attitudinal factors and individual differences such as organisational justice perception (Le Roy & Rioux 2013), self-esteem, personality, need for affiliation and empathy as predictors of OCB (Van Dyne, Cummings & McLean Parks 1995). Research provides mixed evidence on the effect of personal factors on OCB. The extent to which these effects are understood and studied in a developing work setting such as that in the DRC is still limited. Consequently, there is still much to learn about the effect of sociodemographic variables (age, education and tenure) as antecedents of OCB in a developing world context, and the effect of OCB on individual employees and the organisation as a whole. This study firstly contributes to the theoretical debate on the antecedents of OCB and, secondly, aims to enhance understanding of age-, education- and tenure-related participation in OCB. It also investigates the role of OCB in management decision-making, employees' adaptability, general work effectiveness and the effective handling of demographic-dependent organisational characteristics (Gyekye, Haybatollahi, Stokes & Stokes 2015).

The DRC work context

The DRC is situated in central Africa and has a population of more than 75 million, divided into 450 tribes (Mminele 2014). The country has an abundance of natural resources with a value estimated at 35 trillion US dollars. Despite these resources, the DRC remains one of Africa's poorest countries, mainly because of political conflict, hyperinflation, mismanagement, corruption and unethical behaviour (Gilpin & Boor 2012). At present, the country desperately needs to speed up institutional, economic, political and social reforms to ensure stability, peace and growth, and to reduce the high levels of corruption and unethical behaviour (African Development Bank Report 2013).

Like all other sectors in the country, the DRC's transportation sector faces economic challenges that can in part be overcome by a workforce willing and determined to display OCB. The transportation sector in the DRC provides railroads, waterways and roads across the country. Over the last three decades, the railroad services have deteriorated – locomotives are broken, rail beds are poor and commuter services are unreliable. Recent efforts by the World Bank and the African Development Bank to address human resource issues and to develop human capital in the DRC have achieved very little because of a lack of motivation and appropriate incentives (African Development Bank Report 2013).

Almost 50 per cent of Congolese citizens are under 15 years of age and perhaps ten per cent are wage earners (Gilpin & Boor 2012). Young people find it challenging to secure formal employment because of their low levels of critical employability skills and the slow rate of retirement among public employees (African Economic Outlook 2012). Those who experience the brunt of these realities are young people aged between 15 and 24. Access to basic education also remains poor; however, the number of young people with an undergraduate qualification is on the rise (Famba 2012). This observation is reflected in the number of graduates in the current study sample. According to a 2012–2013 health survey, 48% of women and 74% of men have secondary or higher education (Anonymous 2013; retrieved on 8 July 2015 from http://www.dhsprogram.com). However, well-educated young people tend to emigrate from the DRC (Gilpin & Boor 2012). It is believed that the challenges faced by employees also deter them from going beyond the requirements of the formal contract.

OCB and age, gender and tenure

Age, education and organisational tenure tend to influence OCB in that older employees seem to have a predominant need for affiliation (Doering, Rhodes &

Schuster 1983). Highly educated staff seem to attach more value to activities that would result in career progression (Bergeron, Shipp, Rosen & Furst 2011) and tenured employees are inclined to find socially oriented activities more psychologically rewarding (Chou & Pearson 2011; Cohen 1997). Collectively, OCB significantly enhances the success and sustainability of an organisation (Islam, Khan, Ahmad & Ahmed 2014; Lee & Allen 2002; Organ, Podsakoff & Mackenzie 2006). OCB is perceived as individual activities that contribute to the maintenance and enhancement of the social and psychological contexts that support task performance (Bolino, Turnley & Niehoff 2004; Somech & Drach-Zahavy 2013; Tambe & Shanker 2014).

The theoretical construct of OCB was advanced by Dennis Organ and Ann Smith (Bateman & Organ 1983; Smith, Organ & Near 1983). These researchers described OCB as discretionary activities in the workplace that were essential for positive organisational functioning. Based on the meta-analyses of all relevant literature on OCB, Podsakoff and his colleagues identified 30 different types of such behaviour (Podsakoff et al. 2000). Taxonomies were subsequently proposed to classify these activities (Borman & Motowidlo 1997; Podsakoff et al. 2000; Van Dyne & LePine 1998). Podsakoff and his colleagues suggested a taxonomy that integrated contributions from a variety of scholars (Organ et al. 2006). These dimensions of OCB include the following: (1) *altruism,* which refers to a reflection of voluntary behaviours when an employee helps another colleague to solve a problem or to complete a task; (2) *courtesy*, which is reflected when one's co-workers are taken into consideration by engaging in activities that reduce potential conflict or prevent interpersonal problems from arising, thereby making life easier for everyone; (3) *conscientiousness*, which is exhibited through discretionary, accountable and dedicated behaviour in the form of obeying rules and regulations, conserving organisational resources, being punctual and working long hours; (4) *sportsmanship*, which refers to a reflection of an employee's willingness to accept the inconveniencies associated with organisational life; and (5) *civic virtue*, which refers to the behaviours displayed through constructive involvement in organisational processes and activities (Organ et al. 2006).

Age may influence how OCB is displayed: younger employees (compared to older employees) seem to have a greater need for achievement, as opposed to the need for affiliation (Doering et al. 1983; Gyekye et al. 2015). Thus, with an increase in age, employee behaviour tends to shift from competing to helping (Chou & Pearson 2011). This proposition is shared by numerous research studies; for instance, Ng and Feldman (2008) report a significant and positive relationship between age and OCB. Similar results have been found in a Chinese setting by Li and Wan (2007), who

report a positive relationship between age and employee perceptions of OCB. In a more recent study, Chou and Pearson (2011) indicated that age significantly predicts the OCB of IT professionals.

It has been reported that *education* is likely to impart work values. These values, when translated into work behaviours, often result in better performance and ultimately in job success (Darmanto 2015). Instilled work values are therefore likely to result in citizenship performance in the form of concern for others, responsibility and social relationships (Johnson & Elder 2002; Pennings, Lee & Van Witteloostuijn 1998). Years of education seem to be positively related to conscientiousness (Dudley, Orvis, Lebiecki & Cortina 2006; Goldberg, Sweeney, Merenda & Hughes 1998). Ng and Feldman (2008) support this view by contending that organisations often use educational achievements as a selection criterion, because a good education level reflects good values associated with citizenship behaviours (Berry, Gruys & Sackett 2006). According to Ng and Feldman (2008), highly educated employees seem to display greater levels of creativity and exhibit more citizenship behaviours than less educated employees. However, this finding has recently been contradicted in a study by Pavalache-Ilie (2014) in a Romanian context. In this study it was found that higher education levels seem to result in the exhibition of lower OCB. Bergeron et al. (2013) postulate that a possible reason for this dichotomy is that employees with higher-education degrees seem to focus more on those behaviours that are likely to result in promotion and career progression, for example task performance. However, the literature does, for the most part, seem to point to significant discrepancies (a negative correlation) between education level and OCB.

Organisational *tenure* refers to the length of time that the individual has worked for the organisation (Van Knippenberg, Van Prooijen & Sleebos 2015). Research indicates that tenure and OCB seem to be based on two pervasive assumptions (McEnrue 1988). Firstly, those employees with longer tenure should be more competent and perform at a higher level than their colleagues with shorter tenure. Secondly, the organisation at least implicitly expects these staff members who have accumulated more experience over the years to "socialise, help and guide" the more junior employees, and these "aging" staff tend to find socially oriented responsibilities more emotionally and psychologically fulfilling (Carstensen, Isaacowitz & Charles 1999; Cohen 1997). The literature predominantly seems to report a positive association between tenure and OCB (Chou & Pearson 2011; Ehigie & Otukoya 2005; Hunt 2002). However, in a more recent study, non-significant differences have been reported between tenure and OCB in a different cultural setting (Huei, Mansor & Tat 2014). Although previous research indicates a relationship between demographic

characteristics and OCB, it is still unclear how the demographic characteristics of age, tenure and education level influence OCB in the context of the DRC.

Goals of the study

The purpose of this study was to investigate the differences in the OCB of employees in the light of demographic variables (age, tenure and education levels) in a railway transport organisation in the DRC. The following question guided the investigation: *How do the demographic variables of age, tenure and education level affect employees' OCB in an organisation in the DRC?*

The findings of this study should add to the body of knowledge on socio-demographics and OCB in the developing world.

Method

Participants and setting

Participants (839) were obtained through a non-probability purposive sample, from a targeted population of 2500 employees in a railway organisation in the DRC. The sample included males (68.4%), participants with a university-level education (38%), and employees in early to middle adulthood (26–40 years). A majority of participants had six to ten years' work experience in this organisation (31%). Details are provided in Table 1 below.

Table 1: Summary of frequency distribution: biographical profile of sample

	Categories	Frequency	%	Valid %	Cumulative %
Gender	Males	574	68.4	68.4	68.4
	Females	265	31.6	31.6	100.0
	Total	**839**	**100.0**	**100.0**	
Age	25 and younger	212	25.3	25.3	25.3
	26–40 years	529	63.1	63.1	88.3
	41–55 years	83	9.9	9.9	98.2
	56 and older	15	1.8	1.8	100.0
	Total	**839**	**100.0**	**100**	

	Categories	Frequency	%	Valid %	Cumulative %
Education	National Diploma	186	22.2	22.2	22.2
	Bachelor	236	28.1	28.1	50.3
	Honours	322	38.4	38.4	88.7
	Master's	90	10.7	10.7	99.4
	Doctorate	5	.6	.6	100.0
	Total	**839**	**100**	**100.0**	
Tenure	1 year and less	76	8.8	8.8	8.8
	1–2 years	57	9.7	9.7	18.5
	3–5 years	149	24.9	24.9	43.4
	6–10 years	510	30.5	30.5	73.9
	11–15 years	27	21.2	21.2	95.1
	16–20 years	16	4.4	4.4	99.2
	21 years and more	4	.8	.8	100.0
	Total	**839**	**100.0**	**100.0**	

Note: N = 839

Measures

The employees completed a demographic survey (see Table 1 for details), as well as the Organisational Citizenship Behaviour Questionnaire (OCBQ) (Organ et al. 2006). The OCBQ is a 20-item self-report measure of the dimensions of altruism, conscientiousness, sportsmanship, courtesy and civic virtue. The response format consisted of a five-point Likert scale (1 = strongly disagree; 5 = strongly agree). Example items from the measure included: "Helps make other workers productive"; "Always completes his/her work on time"; "Always finds fault with what the organisation is doing"; and "Attends and participates in meetings about the organisation". Organ et al. (2006) report internal consistency indices of 0.81 to 0.85 for the OCBQ. For the present study, Cronbach alpha internal consistency coefficients of 0.66 to 0.93 were reported.

Procedures

Permission to conduct the research was obtained from the University of South Africa's research committee and the management of the organisation. The study made use of purposive sampling, whereby data are purposively collected from a readily available and accessible population (Tredoux & Durrheim 2013). Each member of the sample received a package consisting of hard copies of the following:

an invitation letter indicating the aim of the study; management's approval; confirmation of the safekeeping and confidentiality of participants' responses; a separate form explicating the individual's consent and voluntary participation in the research project, requiring his or her signature; instructions for completing the sociodemographic information; and the actual questionnaire to be completed. Each individual was requested to sign the consent form and include this with the completed instrument in an envelope to be submitted to the researcher.

Data analyses

Data were analysed using the Statistical Package for Social Sciences (SPSS) version 24 for Windows software (SPSS 2016). Descriptive and inferential statistics were used to analyse the data. The first stage involved determining the means, standard deviations, Cronbach alpha coefficients and correlations. The second stage of data analysis entailed the hierarchical regression analysis. For the purpose of this study, R^2 values larger than .13 (medium effect) at $p \leq .05$ (Cohen 1997) were regarded as practically significant. Prior to conducting the various regression analyses, collinearity diagnostics were applied to ensure that the zero-order correlations were below the level of concern ($r \geq .80$), that the variance inflation factors did not exceed 10, and that the tolerance values were close to 1.0 (Hair, Black, Babin & Anderson 2010). In the third stage, the independent samples *t*-test was applied for age, education and job tenure as independent variables and OCB variable as dependent variables. Dummy variables were created for age: 1 = early career < 40; 2 = late career > 40; education level: 1 = undergraduate < 4; 2 = postgraduate > 5, and job tenure: 1= less experience < 5; 2 = more experience > 6. In terms of statistical significance, it was decided to set the cut-off value at the 95% confidence interval level ($p \leq .005$).

Results

Descriptive statistics: means and standard deviations

The means, standard deviations and internal consistency reliability coefficients of the measuring instruments are reported in Table 2. In terms of the OCB (OCBQ) variables, Table 2 shows that the total sample scored the highest on *conscientiousness* (M = 4.14; SD = .55) and *altruism* (M = 4.13; SD = .51), followed by *courtesy* (M= 4.02; SD = .62), *sportsmanship* (M = 4.01; SD = .64), *civic virtue* (M = 3.98; SD = .68) and *total OCB* (M = 4.06; SD = .53). All five components imply a relatively high level of OCB in this sample.

Correlations analyses

Overall, OCB was significantly and positive related to the dimensions of altruism, conscientiousness, sportsmanship, courtesy and civic virtue ($.66 \leq r \leq .90$; large effect; $p \leq .001$). Age, education and organisational tenure were significantly and positively related to OCB ($.15 \leq r \leq .23$; small effect; $p \leq .001$) (see Table 2).

Table 2: Descriptive statistics: mean, standard deviations and internal consistency reliabilities

Variables	M	SD	α	1	2	3	4	5	6	7	8	9	10
Overall OCB	4.07	.52	.93	–									
Altruism	4.14	.51	.66	.87***	–								
Conscientiousness	4.15	.55	.68	.85***	.66***	–							
sportsmanship	4.03	.63	.74	.89***	.70***	.72***	–						
Courtesy	4.03	.61	.76	.90***	.77***	.83***	.83***	–					
Civic virtue	3.99	.67	.75	.88***	.73***	.76***	.76***	.74***	–				
Gender	.31	.46	n/s	n/s	n/s	n/s	n/s	n/s	n/s	–			
Age	.11	.32	–	.21***	.17*	.23*	.20*	.21*	.20	.21	–		
Education level	.12	.32	–	.19*	.14*	.19*	.17*	.19*	.17	.19*	.20	–	
Job tenure	.57	.50	–	n/s	n/s	n/s	n/s	n/s	n/s	n/s	n/s	n/s	–

***Note**: N = 839; ***, p ≤ .001; ** p ≤ .01; p ≤ .05; r ≤ .29 (small practical effect size); r ≤ .49 (medium practical effect size); r ≥ .50 (large practical effect size); gender: 1 = male; 2 = female; age: 1 = early career < 40; 2= late career > 40; education: 1 = undergraduate < 4; 2 = postgraduate < 5; tenure: 1 = less experience <5; 2 = more experience <6; n/s means not significant.*

Hierarchical regression analyses: age, education and tenure as predictors of OCB

Table 3 shows that statistically significant regression models were produced in terms of the overall OCB variable. The hierarchical multiple regressions revealed that at step one, the age variable contributed significantly to the regression model $F(1.838) = 15.54$, $p < .001$, and accounted for 3.3% of the variation in OCB. Introducing the education biographical characteristic explained an additional 11.1% of variation in OCB and this change in R^2 was significant, with $F(2, 837) = 34.78$, $p < .001$. Adding tenure to the regression model explained an additional 13.8% of the variation in the OCB and this change in R^2 was also significant, with $F(3,836) = 33.36$, $p < .001$.

Table 3: Hierarchical multiple regressions: the biographical characteristics of age, education and tenure (independent variables) versus OCB (dependent variable)

Variables	β	t	Sr^2	R	R^2	R Change
Step1 Age	 .18	 .36***	 .03	.19	.03	.03
Step2 Age Education	 .14 .28	 4.06*** 8.41***	 .02 .09	.33	.11	.08
Step3 Age Education Tenure	 .15 .26 –.17	 4.55*** 7.96*** –5.10***	 .02 .07 –.03	.37	.14	.03

Note: *N =839; *p < .05, **p < .01, ***p < .001*
+ $R^2 \leq .12$ (small practical effect size), ++ $R^2 \leq .25$ (moderate practical effect size)

Inferential statistics: independent samples t-test

The independent samples *t*-test was performed to assess whether there was a significant difference between age, education level and job tenure in respect of OCB. The test revealed that there was no significant difference between female and male participants regarding their OCB. These results are therefore not reported.

Table 4 contains the findings of an independent samples *t*-test that was conducted to compare the overall OCB, altruism, courtesy, conscientiousness, sportsmanship and civic virtue scores for the age groups of early career < 40 and late career > 40 respectively. There was a significant difference in the scores for the age groups early career < 40 (M = 4.02, SD = .54) and late career > 40 (M = 4.37, SD = .27); t (215.14) = –10.27, $p \leq .05$, 95% CI [-.41, -.28], $\eta^2 = .14$ for overall OCB. A significant difference in scores was also found for the age groups early career < 40 (M = 4.10, SD = .51) and late career > 40 (M = 4.36, SD = .40); t (143.64) = –5.93, $p \leq .05$, 95% CI [–.35, –.18], $\eta^2 = .44$ for altruism OCB.

Table 4: Independent samples t-test for age and OCB

Variables	Equal variances (assumed or not assumed)	Levene's test for equality of variances		t-test for equality of means							
		F	Sig.	t	*df*	Sig. (two-tailed)	Mean difference	SE difference	95% CI		Eta squared
									Lower	Upper	
Overall OCB	Assumed	60.878	.000	–6.296	837	.002	–.3475	.0552	–.4558	–.2392	
	Not assumed	–	–	–10.268	215.137	.003	–.3475	.0338	–.4142	–.2808	0.14***
Altruism OCB	Assumed	18.539	.000	–4.882	837	.023	–.2637	.0540	–.3697	–.1577	
	Not assumed	–	–	–5.931	143.642	.010	–.2637	.0445	–.3515	–.1758	0.44***
Courtesy OCB	Assumed	39.688	.000	–5.823	837	.003	–.3785	.0650	–.5060	–.2509	
	Not assumed	–	–	–.8.759	186.645	.020	–.3785	.0432	–.4637	–.2932	0.38***
Conscientiousness OCB	Assumed	18.844	.000	–4.315	837	.004	–.2507	.0581	–.3647	–.1367	
	Not assumed	–	–	–5.582	153.005	.001	–.2507	.0449	–.3394	–.1620	0.13**
Sportsmanship OCB	Assumed	71.497	.000	–6.548	837	.002	–.4364	.0666	–.5672	–.3056	
	Not assumed	–	–	–9.736	183.276	.010	–.4364	.0448	–.5248	–.3480	0.10**
Civic virtue OCB	Assumed	31.650	.000	–6.122	837	.002	–.4359	.0712	–.5756	–.2961	
	Not assumed			–9.168	185.315	.003	–.4359	.0475	–.5297	–.3421	0.11**

Note: *F, F-value; Sig., significance; t, t-value; df, degrees of freedom; SE, standard error; Eta squared, where the partial eta-squared of the variance strength is indicated as .001 (small*), .06 (moderate**) and 14 (large***) effects*; $p \leq .05$. The researchers followed the guidelines as proposed by Cohen (1988).

There is a significant difference in the scores for the age groups early career < 40 (M = 3.98, SD = .63) and late career > 40 (M = 4.36, SD = .36); t (186.65) = –8.76, p ≤ .05, 95% CI [–.46, –.29], η^2 = .38 for courtesy OCB. Table 4 further shows a significant difference in the scores for age groups early career < 40 (M = 4.11, SD = .56) and late career > 40 (M = 4.36, SD = .40); t (153.01) = –5.58, p ≤ .05, 95% CI [–.34, –.16], η^2 = .13 for conscientiousness OCB. There is also a significant difference in the scores for age groups early career < 40 (M = 3.96, SD = .65) and late career > 40 (M = 4.40, SD = .38); t (183.28) = –9.74, p ≤ .05, 95% CI [–.52, –.35], η^2 = .10 for sportsmanship OCB. Table 4 further shows a significant difference in the scores for age groups early career < 40 (M = 3.93, SD = .69) and late career > 40 (M = 4.36, SD = .40); t (185.32) = –9.17, p ≤ .05, 95% CI [–.53, –.34], η^2 = .11 for civic virtue OCB.

An independent samples t-test was conducted to compare the overall OCB, altruism, courtesy, conscientiousness, sportsmanship and civic virtue scores for the education level undergraduate < 4 and postgraduate > 5 respectively. The results are summarised in Table 5. There was a significant difference in the scores for the education level undergraduate < 4 (M = 4.03, SD = .53) and postgraduate > 5 (M = 4.35, SD = .37); t (148.16) = –7.55, p ≤ .05, 95% CI [–.41, –.24], η^2 = .007 for overall OCB.

Table 5: Independent samples t-test for education and OCB

Variables	Equal variances (assumed or not assumed)	Levene's test for equality of variances		t-test for equality of means							
		F	Sig.	t	*df*	Sig. (two-tailed)	Mean difference	SE difference	95% CI		Eta squared
									Lower	Upper	
Overall OCB	Assumed	28.749	.000	–5.755	837	.001	–.3231	.0562	–.4334	–.2129	
	Not assumed			–7.553	148.163	.007	–.3231	.0423	–.4077	–.2386	0.07**
Altruism OCB	Assumed	12.452	.000	–4.061	837	.002	–.2233	.0550	–.3312	–.1154	
	Not assumed			–5.182	143.876	.002	–.2233	.0431	–.3085	–.1381	0.03**
Courtesy OCB	Assumed	16.396	.000	–5.247	837	.004	–.3469	.0661	–.4767	–.2171	
	Not assumed			–6.432	138.445	.010	–.3469	.0539	–.4536	–.2403	0.04**
Conscientiousness OCB	Assumed	13.924	.000	–4.834	837	.007	–.2838	.0587	–.3991	–.1686	
	Not assumed			–6.043	141.016	.002	–.2838	.0470	–.3767	–.1910	0.07**
Sportsmanship OCB	Assumed	50.525	.000	–5.804	837	.013	–.3941	.0679	–.5274	–.2609	
	Not assumed			–8.075	158.526	.001	–.3941	.0488	–.4905	–.2977	0.05**
Civic virtue OCB	Assumed		.000	–5.821	837	.002	–.4209	.0723	–.5629	–.2790	
	Not assumed	20.628		–7.824	152.148	.005	–.4209	.0538	–.5272	–.3146	0.07**

Note: *F, F-value; Sig., significance; t, t-value; df, degrees of freedom; SE, standard error; Eta squared, where the partial eta-squared of the variance strength is indicated as .01 (small*), .06 (moderate**) and 14 (large***) effects; $p \leq .05$.* The researchers followed the guidelines as proposed by Cohen (1988).

There is a significant difference in the scores for education level undergraduate < 4 (M = 4.11, SD = .52) and postgraduate > 5 (M = 4.33, SD = .38); t (143.88) = –5.18, p ≤ .05, 95% CI [–.31, –.14], η^2 = .003 for altruism OCB. There is also a significant difference in the scores for education level undergraduate < 4 (M = 3.98, SD = .62) and postgraduate > 5 (M = 4.33, SD = .48); t (138.45) = –6.43, p ≤ .05, 95% CI [–.45, –.24], η^2 = .004 for courtesy OCB. Table 5 shows a significant difference in the scores for education level undergraduate < 4 (M = 4.11, SD = .55) and postgraduate > 5 (M = 4.39, SD = .41); t (141.02) = –6.04, p ≤ .05, 95% CI [–.38, –.19], η^2 = .007 for conscientiousness OCB. Table 5 also shows a significant difference in the scores for education level undergraduate < 4 (M = 3.97, SD = .64) and postgraduate > 5 (M = 4.36, SD = .42); t (158.53) = –8.08, p ≤ .05, 95% CI [–.49, –.30], η^2 = .005 for sportsmanship OCB. Table 5 further shows a significant difference in the scores for education level undergraduate < 4 (M = 3.93, SD = .68) and postgraduate > 5 (M = 4.35, SD = .46); t (152.15) = –7.82, p ≤ .05, 95% CI [–.53, –.31], η^2 = .007 for civic virtue OCB.

Table 6 shows the result of an independent samples t-test that was conducted to compare the overall OCB, altruism, courtesy, conscientiousness, sportsmanship and civic virtue scores for the job tenure groups with less experience < 5 and more experience > 6 respectively. There was a significant difference in the scores for job tenure groups with less experience < 5 (M = 4.01, SD = .55) and those with more experience > 6 (M = 4.10, SD = .50); t (735.38) = –2.56, p ≤ .05, 95% CI [–.17, –.02], η^2 = .001 for overall OCB.

Table 6: Independent sample t-test for job tenure and OCB

Variables	Equal variances (assumed or not assumed)	Levene's test for equality of variances		t-test for equality of means							
		F	Sig.	t	*Df*	Sig. (two-tailed)	Mean difference	SE difference	95% CI		Eta squared
									Lower	Upper	
Overall OCB	Assumed	13.921	.000	–2.594	837	.010	–.0946	.0365	–.1661	–.0230	0.01*
	Not assumed			–2.557	735.379	.011	–.0946	.0370	–.1672	–.0220	
Altruism OCB	Assumed	1.691	.194	–1.514	837	.130	–.0537	.0355	–.1233	.0159	Not sig
	Not assumed			–1.508	769.441	.132	–.0537	.0356	–.1235	.0162	
Courtesy OCB	Assumed	8.230	.004	–2.098	837	.036	–.0899	.0429	–.1740	–.0058	0.01*
	Not assumed			–2.075	745.734	.038	–.0899	.0433	–.1750	–.0048	
Conscientiousness OCB	Assumed	2.710	.100	–2.142	837	.033	–.0813	.0380	–.1558	–.0068	0.01*
	Not assumed			–2.128	761.075	.034	–.0813	.0382	–1563	–.0063	
Sportsmanship OCB	Assumed	12.591	.000	–2.244	837	.025	–.0991	.0441	–.1857	–.0124	0.01*
	Not assumed			–2.212	735.023	.027	–.0991	.0448	–.1870	–.0112	
Civic virtue OCB	Assumed	10.497	.001	–3.178	837	.002	–.1490	.0469	–.2410	–.0570	0.01*
	Not assumed			–3.127	727.986	.002	–.1490	.0476	–.2425	–.0554	

Note: *F, F-value; Sig., significance; t, t-value; df, degrees of freedom; SE, standard error; Eta squared, where the partial eta-squared of the variance strength is indicated as .01 (small*), .06 (moderate**) and 14 (large***) effects; p ≤ .05.* The researchers followed the guidelines as proposed by Cohen (1988).

There is a significant difference in the scores for job tenure groups with less experience < 5 (M = 3.97, SD = .64) and those with more experience > 6 (M = 4.06, SD = .56); t (735.73) = –2.08, p ≤ .05, 95% CI [–.18, –.01], η^2 = .01 for courtesy OCB. Table 6 shows a significant difference in the scores for job tenure groups with less experience < 5 (M = 4.09, SD = .56) and more experience > 6 (M = 4.17, SD = .57); t (761.08) = –2.13, p ≤ .05, 95% CI [–.16, –.01], η^2 = .01 for conscientiousness OCB. There is also a significant difference in the scores for job tenure groups with less experience < 5 (M = 3.95, SD = .67) and those with more experience > 6 (M = 4.05, SD = .60); t (735.02) = –2.21, p ≤ .05, 95% CI [–.19, –.01], η^2 = .01 for sportsmanship OCB. Table 6 further shows a significant difference in scores for job tenure groups with less experience < 5 (M = 3.89, SD = .71) and more experience > 6 (M = 4.04, SD = .64); t (727.99) = –3.13, p ≤ .05, 95% CI [–.24, –.06], η^2 = .01 for civic virtue OCB. No significant difference was found between altruism and conscientiousness in respect of the job tenure groups.

Discussion

The main objective of the present study was, firstly, to examine the effects of age, education and organisational tenure on OCB and, secondly, to identify significant differences between personal factors (age, education and organisational tenure) and OCB. Overall, the results suggested that age, education and organisational tenure influenced the participants' level of OCB positively. The research supports previous findings that individuals' personal characteristics of age, education and organisational tenure have a significant influence on their levels of OCB (Chou & Pearson 2011; Darmanto 2015; Ng & Feldman 2008; Pavalache-Ilies 2014; Singh & Singh 2010). For instance, Singh and Singh (2010) and Van Knippenberg et al. (2015) have found that older individuals tend to show higher levels of OCB than younger individuals do. This implies that with increasing age, individuals are more likely to lower their needs for achievement and are likely to have a higher need for affiliation than younger individuals do. In other words, age progression could shift an individual's behaviour from competing to cooperation and helping (Chou & Pearson 2011). These findings concur with those of Meister and Willyerd (2010) and Myers and Sadaghiani (2010), which indicate that five generations will be working side by side in the workplace by 2020.

The participants' level of education influenced their level of OCB. Participants who were more educated displayed more OCB. This result can be linked to similar findings by Okpara (2004) and Pavalache-Ilie (2014), namely that employees with high levels of education are likely to be more concerned about performance and productivity than less educated employees are. This view is supported by Gyekye et

al. (2015), who assert that the level of engaging in OCB increases when education increases. Highly educated employees also tend to demonstrate higher levels of helping behaviour, conscientiousness, sportsmanship, courtesy and civic virtue than their less educated counterparts (Dalal 2005).

In addition, the results show that late-career and early-career, postgraduate and undergraduate, and more experienced and less experienced participants differ significantly in their levels of OCB. These results corroborate the findings of Chou and Pearson (2011), Darmanto (2015), Gyekye et al. (2015), Pavalache-Ilie (2014), and Singh and Singh (2010), which indicate that late-career participants who are educated and tenured tend to align closely with the goals of the organisation, thereby raising their performance through higher levels of individual motivation than in their early career, and more so than their less educated and less tenured counterparts.

Limitations and future research

Some limitations have been identified, which should be considered when interpreting the results of this study. The respondents were limited to employees employed in one transport organisation who were prepared to participate in the study – this can make it difficult to generalise the findings of the study to employees in other industries. In addition, generalisability to employees in other occupational industries or regions could also be restricted because the self-reported nature of the data could lead to bias in the form of common method variance. It is assumed that disparate contexts would yield different research findings. It is proposed that a similar study (with the identified variables and relationships) be conducted in different cultural contexts in order to enhance the generalisability of the research findings. Longitudinal studies could also be undertaken. Notwithstanding these limitations, the authors believe that the insights derived from this study have deepened our understanding of the effect of demographic variables such as age, tenure and education level on employees' organisational citizenship behaviours.

Conclusions and implications for practice

The current study was aimed at determining the effect of demographic variables (age, education level and tenure) on the organisational citizenship behaviour (OCB) of public officials in a railway organisation in the DRC. The results indicate that age, education level and tenure result in significant differences in OCB. Human resource professionals in particular, and organisations in general, could nurture and manage OCB by being aware of the dynamics and unique impact of demographic variables on employee behaviour. The results can therefore be a source of practical

guidelines for employment and recruitment practices, and serve to highlight the role that more experienced and better qualified personnel could play in the mentoring and coaching of younger, less experienced and less qualified employees. The study also concentrated on an understudied population, thereby enriching the literature on OCB and human resource management. These research findings yield valuable new knowledge about the impact of demographic variables on OCB in the context of a volatile developing economy, such as that of the DRC.

References

African Development Bank Report. 2013. *Annual report*. ADB-ADF/BG/AR/2013.

African Economic Outlook 2012. Promoting youth employment. [Online] Available at: http://www. *africaneconomicoutlook.org/sites/default/files/content-ppdf/AEO2012_EN.pdf.*

Bateman, T.S. & Organ, D.W. 1983. 'Job satisfaction and the good soldier: the relationship between affect and employee "citizenship"', *The Academy of Management Journal,* 26(40): 587–595.

Bergeron, D.M., Shipp, A.J., Rosen, B. & Furst, S.A. 2013. 'Organisational citizenship behaviour and career outcomes: the cost of being a good citizen', *Journal of Management,* 39(4): 958–984.

Berry, C.M., Gruys, M.L. & Sackett, P.R. 2006. 'Educational attainment as a proxy for cognitive ability in selection: effects of levels of cognitive ability and adverse impact', *Journal of Applied Psychology,* 91: 696–705.

Bolino, M.C., Turnley, W.H. & Niehoff, B.P. 2004. 'The other side of the story: re-examining prevailing assumptions about organisational citizenship behaviour', *Human Resource Management Review,* 14(2): 229–246.

Bond, T. & Fox, C. 2007. *Applying the Rasch model: fundamental measurement in the human sciences* (2nd ed.). Mahwah, NJ: LEA.

Borman, W.C. & Motowidlo, S.J. 1997. 'Task performance and contextual performance: the meaning for personnel selection research', *Human Performance*, 10(2): 99–109.

Burgess, J. 2008. *Managing the new workforce, generation Y (millennials)*. *Red fusion*. [Online] Available at: http://www.redfusion.com/arc_managing_generation_Y_millennials.htm

Carstensen, L.L., Isaacowitz, D. & Charles, S.T. 1999. 'Taking time seriously: a theory of socioemotional selectivity', *American Psychologist,* 54: 165–181.

Chiu, S. & Chen, H. 2005. 'Relationship between job characteristics and organizational citizenship behaviour: the mediating role of job satisfaction', *Social Behaviour and Personality*, 33: 523–540.

Chou, S.Y. & Pearson, J. 2011. 'A demographic study of information technology professionals' organisational citizenship behaviour', *Journal of Management Research,* 3(2): 1–15.

Cohen, J.W. 1988. *Statistical power analysis for the behavioural sciences* (2nd ed.). Hillsdale: Lawrence Erlbaum.

Cohen, J.W. 1997. 'Quantitative methods in psychology: a power primer', *Psychological Bulletin*, 112(1): 155–159.

Cohen, L., Manion, L. & Morrison, K. 2013. *Research methods in education*. New York: Routledge.

Dalal, N. 2005. 'Histograms of oriented gradients for human detection', *CVIU*, 73(1): 82–98. [Online] Available at: http://lear.inrialpes.fr.

D'Amato, A. & Herzfeldt, R. 2008. 'Learning orientation, organizational commitment and talent retention across generations: a study of European managers', *Journal of Managerial Psychology,* 23(8): 29–953.

Darmanto, S. 2015. 'Mediating role of jobs satisfaction among organizational commitment, organizational culture and organizational citizenship behavior (OCB): empirical study on private higher education in central Java, Indonesia', *Journal of Research in Marketing,* 4(1): 289–296.

Doering, M., Rhodes, S. & Schuster, M. 1983. *The aging worker*. Beverly Hills, CA: Sage.

Dudley, N.M., Orvis, K.A., Lebiecki, J.E. & Cortina, J.M. 2006. 'A meta-analytic investigation of conscientiousness in the prediction of job performance: examining the inter-correlations and the incremental validity of narrow traits', *Journal of Applied Psychology,* 91: 40–57.

Ehigie, B.O. & Otukoya, O.W. 2005. Antecedents of organizational citizenship behaviour in a government-owned enterprise in Nigeria, *European Journal of Work and Organizational Psychology*, 14: 389–399.

Famba, M. 2012. OOSC-DRC Report 2012 – Global initiative on out-of-school children. Ministry of Primary, Secondary and Vocational Education. [Online] Available at: http://www.DRC_OOSCI_Full_Report_ (En).pdf.

Gilpin, R., & Boor, B. August 8, 2012. Instability in the DRC. United States Institute of Peace. [Online] Available at: http://www.usip.org/publications/instability-in-the-drc.

Goldberg, L.R., Sweeney, D., Merenda, P.F. & Hughes, J.E. 1998. 'Demographic variables and personality: the effects of gender, age, education, and ethnic/racial status on self-descriptions of personality attributes', *Personality and Individual Differences,* 24: 393–403.

Gyekye, S.A., Haybatollahi, M., Stokes, P. & Stokes, P. 2015. 'Organizational citizenship behaviour: an empirical investigation of the impact of age and job satisfaction on Ghanaian industrial workers', *International Journal of Organizational Analysis,* 23(2): 285–301.

Haider, S.N.A. 2015. 'The relationship between emotional intelligence and OCB: the moderating role of Islamic work ethic (IWE)', *ASEAN Journal of Psychiatry*, 16(1).

Hair, J.F., Black, W.C., Babin, B.J. & Anderson, R.E. 2010. Multivariate data analysis. A global perspective (7th ed.). Upper Saddle River, NJ: Pearson.

Huei, T.Y., Mansor, N.N.A. & Tat, H.H. 2014. 'Role of OCB and demographic factors in the relationship of motivation and employee performance', *Omnia Science,* 10(3): 425–447.

Hunt, S. 2002. 'On the virtues of staying "inside the box": does organisational citizenship behaviour detract from performance in Taylorist jobs?', *International Journal of Selection and Assessment,* 10: 152–159.

Islam, T., Khan, S.R., Ahmad, U.N.U. & Ahmed, I. 2014. 'Exploring the relationship between POS, OLC, job satisfaction and OCB', *Procedia Social and Behavioural Sciences,* 114: 164–169.

Johnson, M.K. & Elder, G.H. 2002. 'Educational pathways and work value trajectories', *Sociological Perspectives,* 45: 113–138.

Lee, K. & Allen, N.J. 2002. 'Organisational citizenship behaviour and workplace deviance: the role of affect and cognitions', *Journal of Applied Psychology*, 87: 131–142.

Le Roy, J. & Rioux, L. 2013. 'The mediating role of workplace attachment in the relationship between organizational commitment and organizational citizenship behavior', *International Review of Social Psychology,* 25(3-4): 211–233.

Li, W. & Wan, W. 2007. 'A demographic study on citizenship behaviour as in-role orientation', *Personality and Individual Differences,* 42: 225–234.

Li, Y.M., Kung, Y.H. & Jan, Y.Y. 2012. 'Studying the effect of hospitality interns' personality traits and their emotional labour over organisation citizenship behaviour', *Pakistan Journal of Statistics,* 28(5): 673–686.

McEnrue, M.P. 1988. 'Length of experience and the performance of managers in the establishment phase of their careers', *The Academy of Management Journal,* 31(1): 175–185.

Meister, J.C. & Willyerd, K. 2010. *The 2020 workplace: how innovative companies attract, develop, and keep tomorrow's employees today*. London: Harper Business.

Mitonga-Monga, J. & Cilliers, F. 2016. Perceived ethical leadership in relation to employees' organisational commitment in an organisation in the Democratic Republic of Congo, *Journal of Psychology in Africa* 26(4): 326–333.

Mminele, M. 2014. *DTI: Statement by Lubumbashi-based Consul-General of South Africa in the Katanga Province of DRC, on DRC opportunities will not last forever* (18/09/2014). [Online] Available at: http://www.polity.org.za.

Myers, K. & Sadaghiani, K. 2010. 'Millennials in the workplace: a communication perspective on millennials' organizational relationships and performance', *Journal of Business Psychology*, 25(2): 225–238.

Nasir, R., Mohammadi, M.S., Wan Shahrazad, W.S., Fatimah, O., Khairudin, R. & Halim, F. 2011. 'Relationship between organizational citizenship behaviour and task performance', *The Social Sciences,* 6: 307–312.

Nekuda, J. 2011. 'What millennials want', *Human Capital Lab*. [Online] Available at: http://www.humancapitallabe.org/blog/?p=256.

Newman, C. 2010. March 31. 'Managing millennials in the workforce', *Young Money*. [Online] Available at: http://www.youngmoney.com/entrepreneur/managing-millennials-in-the-workforce.

Ng, T. & Feldman, D. 2008. 'The relationship of age to ten dimensions of job performance', *Journal of Applied Psychology,* 93: 392–423.

Nunnally, J.C. & Bernstein, I.H. 2010. *Psychometric theory*. (3rd ed.). New York: McGraw-Hill.

Okpara, J.O. 2004. 'Personal characteristics as predictors of job satisfaction', *Information Technology & People,* 17(3): 327–338.

Organ, D.W. 1988. 'Personality, satisfaction, and organizational citizenship behavior', *Journal of Social Psychology,* 135: 339–350.

Organ, D.W. 1997. 'Organisational citizenship behaviour: it's construct clean-up time', *Human Performance,* 1085–97.

Organ, D.W., Podsakoff, P.M. & Mackenzie, S.B. 2006. *Organisational citizenship behaviour: its nature, antecedents, and consequences.* Thousand Oaks, CA: Sage.

Pavalache-Ilie, M. 2014. 'Organizational citizenship behaviour, work satisfaction and employees' personality', *Social and Behavioral Sciences,* 127: 489–493.

Pennings, J.M., Lee, K. & Van Witteloostuijn, A. 1998. 'Human capital, social capital, and firm dissolution', *Academy of Management Journal,* 41: 425–440.

Podsakoff, P.M., Mackenzie, S.B., Paine, J.B. & Bachrach, D.G. 2010. 'Organizational citizenship behaviours: a critical review of the theoretical and empirical literature and suggestion for future research', *Journal of Management,* 26: 513–563. [Online] Available at: http://dx.doi.org/10.1177/014920630002600307.

Rotundo, M. & Sackett, P.R. 2002. The relative importance of task, citizenship, and counterproductive performance to global ratings of job performance: a policy capturing approach. *Journal of Applied Psychology*, 87(1): 66–80.

Singh, A.K. & Singh, A. 2010. 'Role of stress and organizational support in predicting organizational citizenship behavior', *The IUP Journal of Organizational Behavior,* IX(4): 7–25.

Smith, C.A., Organ, D.W. & Near, J.P. 1983. Organisational citizenship behaviour: its nature and antecedents, *Journal of Applied Psychology*, 68(4): 653–663.

Somech, A. & Drach-Zahavy, A. 2013. 'Organisational citizenship behaviour and employee's strain: examining the buffering effects of leader support and participation in decision-making', *European Journal of Work and Organisational Psychology*, 22(2): 138–149. DOI: 10.1080/1359432x.2011.633702.

Spector, P.E. 2006. Method variance in organisational research: truth or urban legend. *Organisational Research Methods*, 9(2): 221–232.

SPSS. 2016. *SPSS for Windows*. Chicago, IL: SPSS Incorporated.

Tambe, S. & Shanker, M. 2014. 'A study of OCB and its dimensions: a literature review', *International Research Journal of Business and Management*, 1: 67–73.

Tredoux, C. & Durrheim, K. 2013. *Numbers, hypotheses, and conclusions* (2nd ed.). Cape Town: UCT Press.

Van Dyne, L., Cummings, L.L. & McLean Parks, J. 1995. 'Extra-role behaviors: in pursuit of construct and definitional clarity', *Research in Organizational Behavior*, 17: 215–285.

Van Dyne, L. & LePine, J.A. 1998. 'Predicting voice behavior in work groups', *Journal of Applied Psychology,* 83(6): 853–868.

Van Knippenberg, D., Van Prooijen, J. & Sleebos, E. 2015. 'Beyond social exchange: collectivism's moderating role in the relationship between perceived organizational support and organizational citizenship behaviour', *European Journal of Work and Organizational Psychology,* 24(1): 152–160.

Zhou, M. & Tian, J. 2014. 'From ethical leadership to dual-level OCB: a cross level model', *Human Resource Development Quarterly*, 20: 331–351.