

# Retention and turnover of staff undertaking degree studies: insights and evidence from South Africa

Judite A. Adriano

*Faculty of Commerce, Law and Management, School of Business Sciences,  
University of the Witwatersrand, Johannesburg, South Africa, and*

Christian Callaghan

*Faculty of Business and Law, School of Management, Anglia Ruskin University,  
Chelmsford, UK and*

*Faculty of Commerce, Law and Management, School of Business Sciences,  
University of the Witwatersrand, Johannesburg, South Africa*

## Abstract

**Purpose** – Social exchange theory predicts that perceptions of employee/employer exchange relationships may change as employees add educational qualifications. Literature also suggests that more innovative individuals, who are particularly important to organisations, may be more likely to change jobs. The purpose of this study is to test how the innovativeness of an individual differs in its contribution to retention when subjected to different mediating and moderating influences indicated in the literature, for a cohort of employees that are undertaking degree studies while working.

**Design/methodology/approach** – To test theory that suggests certain implications for employee turnover, the part-time studies unit of a large South African university offering degree studies by evening classes was sampled, yielding 323 useable responses, with a response rate of about 30%. Structural equation modelling (SEM) is used to test a theoretical model predicting certain mediating and moderating influences on the relationship between individual innovativeness and turnover intentions.

**Findings** – Individuals with higher innovativeness self-report higher turnover intentions, which seem to be reduced by the mediating effects of perceived supervisor support and job satisfaction. Perceptions of distributive justice and core self-evaluations, which may be associated with an individual's evaluation of the social exchange relationship, are found to directly enable retention.

**Originality/value** – A model of moderation and mediation relationships between employee innovativeness and turnover intentions is derived from the literature and tested, offering novel insights into how to retain valuable staff in this context.

**Keywords** Innovativeness, Turnover intentions, Job satisfaction, Perceived supervisor support, Core self-evaluations, Distributive justice

**Paper type** Research paper

## 1. Introduction and background to the study

Longstanding evidence suggests that the loss of staff from turnover is costly. For example, total turnover costs have been found to range from a minimum of one to a maximum of two year's pay and benefits for an individual employee (Fitz-enz, 1997). Recruitment costs in other instances have been found to amount to 50–60% of an employee's first year salary and up to 100% of it for those who are specialised or highly skilled (Hale, 1998). Other research suggests recruitment and



training costs can comprise 90–200% of a lost employee's yearly salary (Allen *et al.*, 2010). Voluntary exit can threaten inimitable tacit organisational knowledge stocks (Kinnear and Sudderland, 2000), thereby affecting competitive advantage in firms (Sarraf *et al.*, 2013; Omotayo, 2015). Other costs of turnover include lost productivity and decreased employee morale (Kantor and Crosser, 2016). Knowledge of what contributes to turnover intentions is therefore particularly important across contexts in today's competitive business environment.

Employee turnover may currently be the highest it has ever been in the global working context (Boss, 2018). Retaining knowledgeable employees may have become the primary challenge facing contemporary organisations (Levy, 2011). Hence, organisations need to discover and learn new ways to retain employees who possess critical knowledge, by reducing their turnover intentions (Khan and Du, 2014).

Despite literature that shows how to improve the retention of highly innovative knowledge workers, seemingly absent from this literature is a context-specific model of these relationships concerning the retention of a particular cohort of employees, namely those that are undertaking degree studies while working, in the South African developing country context. More specifically, addressing this deficiency in the literature may be particularly important as it relates to those of this cohort working in the Johannesburg region of South Africa. According to Rogerson (2004, p. 15), Johannesburg is often "likened to the New York of Africa, dominating the continent in terms of the scale and sophistication of its stock market, financial services, corporate vibrancy, media and culture". Employees studying degree courses in the city are expected to face workplace pressures associated with those of a leading commercial hub. The labour market for the skills of these employees is also expected to be one appropriate for a leading commercial centre in a developing country context.

This study therefore seeks to offer novel insights into how to improve retention of staff by extending the global literature on retention to consider certain important contextual differences. In doing so, it contributes to the global literature in different ways. First, although theory predicts relationships between turnover intentions and a host of different antecedents, the boundary conditions of such theory are less clear. This is particularly so when these boundary conditions relate to developing context workplaces that are experiencing substantial changes and that require the retention of innovative staff who expect that their value in the labour market will change on completion of their degree studies, thus affecting their social exchange relationships with their employers.

Given this importance, the objective of this paper is to test a context-specific theoretical model that predicts how the innovativeness of an individual contributes to turnover intentions directly, as well as indirectly, through certain mediation and moderating channels. In so doing, the paper seeks to contribute to the human resource literature on retention by extending this literature to explicitly consider the retention of highly innovative employees (Robinson and Beesley, 2010; Shih and Susanto, 2011), a characteristic of employees that has to date received scant attention to date in this context. For this cohort, the study contributes further by developing and testing a theoretical model that predicts how relationships between innovativeness and turnover intentions are mediated by job satisfaction and perceived supervisor support, and moderated by perceptions of distributive justice, core self-evaluations, age, gender and type of work. These interlinkages are derived from the literature in order to develop a context-appropriate model of the retention of staff in this cohort. The model is tested using structural equation modelling (SEM), and implications are derived for retention in this context. Having outlined the objective of the study, the remainder of the paper proceeds as follows: Section 2 reviews theory and appropriate contextual literature to derive the hypotheses that comprise paths of the theoretical model to be tested. Section 3 presents the methodology that is applied to test the model. Section 4 reports and discusses the results. Section 5 then concludes. Theory that relates the variables under study is now reviewed and discussed.

## 2. Theory and hypotheses

Social exchange theory predicts that organisational value is derived from exchanges within the employee–employer relationship and that the anticipated completion of degree studies may upset the balance of this reciprocal social exchange relationship. Reciprocity is key to the employee–employer relationship (Avanzi *et al.*, 2014). An individual's human capital resources can play an important role in a decision to leave the organisation (Hayes, 2015). Employee knowledge and skills generate income for employers (Ng and Feldman, 2010), and more educated and more innovative (Robinson and Beesley, 2010; Shih and Susanto, 2011) individuals will be in higher demand in the labour market, having more employment alternatives. Knowledge of how the retention of individuals in this cohort differs by employee innovativeness may therefore be especially important for organisations.

These individuals are typically highly prized in working contexts, particularly in developing countries with a shortage of resources and skilled employees. Although certain studies suggest that individuals with more innovative work behaviours (IWBs) may be more likely to leave (Robinson and Beesley, 2010; Shih and Susanto, 2011), other studies suggest the opposite (Kesen, 2016; Stradinger, 2016) or no significant relationship (Tongchaiprasit and Ariyabuddhiphongs, 2016; Eroğlu *et al.*, 2018). Employees may stay longer in organisations that encourage creativity and innovation, and also if they have complex jobs (Joo *et al.*, 2015). If more innovative individuals perform better in general, then they might be in higher demand and harder to retain. Hypothesis 1 is therefore:

*H1.* There is a significant association between innovativeness and turnover intentions.

In the sections that follow, further literature is reviewed that predicts how other influences act on the relationship between innovativeness and withdrawal intentions, and hypotheses are derived, to comprise paths of a theoretical model to be tested empirically.

### 2.1 Job satisfaction and perceived supervisor support

Literature suggests certain interventions can reduce the turnover of valuable staff, such as improving job satisfaction and ensuring that they have adequate supervisor support. These can be modelled as mediation relationships in an empirical model, as channels through which employee innovativeness transmits to turnover intentions for this cohort. Literature suggests that the level of satisfaction an individual has with a job or the support received from his or her supervisor are key contributors to retention (Cropanzano and Mitchell, 2005; Osman *et al.*, 2016). Studies have found full mediation, partial mediation or no mediation for both job satisfaction and perceived supervisor support in their relationships with turnover intentions (see Lekhuleng, 2016; Özbağ and Ceyhun, 2014; Shahpouri *et al.*, 2016; Froese *et al.*, 2019).

Employees taking degree studies by evening classes are advancing their careers, which makes it important for organisations to retain them. Job satisfaction and perceived supervisor support may be key mediators of the turnover intention relationship, and these may be particularly important areas for an organisation to focus on in order to improve retention. The following two hypotheses are therefore derived from this literature:

*H2.* Perceived supervisor support mediates the association between innovativeness and turnover intentions.

*H3.* Job satisfaction mediates the association between innovativeness and turnover intentions.

### 2.2 Distributive justice

It is important to understand interactions of different forces on the relationship between individual innovativeness and turnover intentions, and how these forces either strengthen or weaken this relationship in this cohort. The moderating effect of distributive justice on

this relationship is taken to be particularly important, given South Africa's history of distributional injustice.

The perceptions an employee has about distributive fairness, or the equitable distribution of resources within an organisation, may influence a relationship between innovativeness and turnover intentions. South African working contexts exhibit high levels of diversity – as well as high complexity associated with this diversity (Mazibuko and Govender, 2017; Naidoo, 2015). Given the injustices of the country's past, one would expect a heightened sensitivity on the part of employees to distributive fairness within an organisation, particularly to unfair distributions of resources.

Turnover intentions decrease when distributive justice is high within an organisation (Brashear *et al.*, 2005; Cohen-Charash and Spector, 2001; Nadiri and Tanova, 2010), and organisational justice has been found to be related to turnover intentions (Kang and Sung, 2019). Retention can be threatened in organisations in which employees have perceptions of low distributive justice (Hom *et al.*, 1984; Wong and Wong, 2017), and these perceptions might affect the social exchange relationship between an individual and his or her organisation. If more innovative employees are more difficult to retain, then lower perceptions of distributive justice might strengthen their withdrawal intentions. Hypothesis 4 is therefore derived:

- H4.* Innovativeness and perceptions of distributive justice interact, such that innovativeness relates positively and more strongly to turnover intentions when distributive justice is high.

### *2.3 Core self-evaluations and turnover intentions*

Much research on turnover intentions has failed to explicitly model an individual's subjective evaluations of the self. These self-evaluations may also be critically important in turnover decisions, given that these decisions entail subjective comparisons of the self with alternative employment opportunities.

Core self-evaluations can be a key differentiator of employee performance (Arshad, 2014; Kacmar *et al.*, 2009) and can have moderating influences in the prediction of turnover intentions (Chhabra, 2018; Javed *et al.*, 2014). Individuals with higher self-evaluations can have higher confidence in their abilities and may be more likely to leave an organisation under certain conditions (Chhabra, 2018).

Core-self evaluations are key to turnover decisions because they represent an individual's subjective evaluation of the self, which is a key input in the comparative evaluations of alternative employment opportunities. Core self-evaluations are defined as the important assessments that individuals make about themselves, and their competencies and abilities (Chang *et al.*, 2012). Meta-analytic results have also identified core self-evaluations as being negatively related to turnover intention (Chang *et al.*, 2012). On the basis of this literature, the following hypothesis is derived:

- H5.* Innovativeness and core self-evaluations interact, such that innovativeness relates positively and more strongly with turnover intentions when core self-evaluations are high.

### *2.4 Interactions of interpersonal determinants of turnover intentions with individual innovativeness*

Demographic characteristics of an individual can influence the relationship between individual innovativeness and turnover intentions. These influences may include age, gender and type of work. In including these effects for testing, the study builds on other research into age-related effects on turnover intentions (Bentley *et al.*, 2019) and gender-related effects associated with turnover intentions in international contexts (Callaghan, 2017; Kemper *et al.*, 2019).

Older employees may have lower turnover intentions (Karlsson, 2008; Perez, 2008; Hayes, 2015). According to Zaniboni *et al.* (2013), work outcomes can, however, have different results – depending on an individual's stage of life. The following hypothesis is therefore proposed:

*H6a.* Age moderates the relationship between innovativeness and turnover intentions, such that this relationship is weaker for older employees.

Various studies have found no significant relationships between gender and turnover intention (Joseph *et al.*, 2007; Martin and Roodt, 2008; Porter *et al.*, 1974). In a South African study by Dhanpat *et al.* (2018), male respondents were however found to have greater levels of turnover intentions. Du Plooy and Roodt (2013) found no moderating effects of gender on the relationship between work engagement, burnout and turnover intentions. On the basis of the literature, the following hypothesis is suggested:

*H6b.* Gender moderates the relationship between innovativeness of an individual and turnover intentions, such that this association is stronger for men.

Employees may stay longer in organisations that encourage creativity and innovation, and if they have complex jobs (Humphrey *et al.*, 2007; Joo *et al.*, 2015). The following hypothesis is therefore derived:

*H6c.* Type of work moderates the relationship between innovativeness of an individual and turnover intentions, such that this association is weaker when the complexity of work is higher.

Having derived the hypotheses to be tested, the research methodology is now introduced and explained.

### 3. Methods

The study applied a cross-sectional quantitative research design. Its population comprised about 1,100 registered students engaged in contact evening classes at a large South African university. These students undertake Bachelor of Commerce, Bachelor of Arts degrees or other degrees, which are mostly undergraduate. What these courses have in common is that they are career-oriented degrees related to the world of work. As such these are the types of studies that may be likely to change an individual's self-evaluation of his or her worth on the job market. A census sampling strategy was applied, and all potential respondents were invited to participate in the study. Students were invited to complete an online questionnaire. Hard copies were also used, in order to mitigate method bias. A total of 326 useable responses were obtained – an effective response rate of 29.6%. A sample size calculation (Binu *et al.*, 2014) was used to ensure that inferences could be made at the 5% level of confidence with this sample size.

#### 3.1 Scales and measures

The demographic section of the questionnaire sampled demographic characteristics. Scales were chosen on the basis of a theoretical rationale, and if they were found to meet strict requirements of content validity. These items needed to specifically match the theoretical constructs that were being tested. The included scales are outlined as follows.

Turnover intentions were measured using Mobley *et al.*'s (1978) scale, comprising three 5-point Likert-type scale items. An example is "I often think about quitting my present job". Adequate Cronbach's alpha values have been reported for this scale, such as 0.9 (Mobley *et al.*, 1978; Yin-Fah *et al.*, 2010), 0.81 (Abid and Butt, 2017), and 0.843 for this study.

The short version of the Minnesota Job Satisfaction Scale, with 20 5-point Likert-type items, was used (Weiss *et al.*, 1967). The scale requires respondents to select how satisfied they are with various aspects of their job – such as "the chance to do different things from time to time". Previous studies have reported Cronbach's alphas for this scale of 0.91

(George, 2013) and 0.86 in the South African context (Buitendach and Rothmann, 2009). A value of 0.857 was found here.

Janssen's (2000) 9-item IWB scale was used to measure individual innovativeness. The scale comprises three components: idea generation, idea promotion and idea implementation. The scale includes items such as "I create new ideas for difficult issues". Previous studies have reported Cronbach's alpha values for this scale of 0.91 (Hsiao *et al.*, 2011), 0.94 (Janssen, 2000), 0.96 (Khaola and Sephelane, 2013) and 0.917 for this study.

Distributive justice was measured using Moorman's (1991) scale. A 7-point Likert scale asked respondents to rate their level of agreement with statements, including, for example, the item: "My work schedule is fair". Moorman (1991) reported a Cronbach alpha of 0.90. A value of 0.856 was found here.

Perceived supervisor support was measured using Saunders *et al.*'s (1992) 7-item scale, a component of the larger Supervisor as Voice Manager scale, ranging from 1 = strongly disagree to 7 = strongly agree. An example is "My supervisor is open and fair when I submit an idea". The current study had a Cronbach alpha value of 0.97.

Judge *et al.*'s (2003) 12-item core self-evaluation scale was used. Its items measure an individual's self-regard by assessing self-esteem, self-efficacy, locus of control and neuroticism. Previous studies have found Cronbach's alpha values of 0.71 (Sheykhshabani, 2011), 0.88 (Sharma and Misra, 2017) and 0.678 for this study. This is on the threshold of 0.7 and is therefore used in further testing.

Lastly, job type was measured using a 4-item job complexity scale developed by Morgeson and Humphrey (2006) – the Work Design Questionnaire (WDQ). An example from these 5-point Likert scale items is "The job requires that I only do one task or activity at a time". An alpha of 0.92 was found for this scale. Testing for validity and reliability is discussed in the results section.

### 3.2 Method bias

In addition to Harman's single factor test for common method bias, certain additional measures were included to explicitly control for it in the SEM model (Podsakoff *et al.*, 2003). To address social desirability bias, the 10-item version of the Marlowe Crowne Scale was used (Johnson *et al.*, 2002). Kercher's (1992) 10-item short form of the Positive and Negative Affect Schedule (Panas, included in Table 1) scale was used to control for negative affect. These items took the form of a 5-point Likert scale – with "not at all" being the lowest rating and "extremely" being the highest.

### 3.3 Assumptions of tests and processes

Outliers, linearity, homoscedasticity and multicollinearity were checked (Padenga, 2016). A confirmatory factor analysis was performed to test the fit of the measurement model

Structural paths	Final model Estimate	<i>p</i>
PSS ← Panas	-0.156	0.009
PSS ← CSE	0.199	***
PSS ← IWB	0.284	***
JS ← IWB	0.212	***
JS ← CSE	0.267	***
JS ← PSS	0.423	***
TI ← CSE	-0.308	***
TI ← PSS	-0.278	***
TI ← Panas	0.140	***
TI ← IWB	0.152	***
TI ← JS	-0.395	***

**Table 1.**  
Standardised  
regression path  
significance

(Ullman, 2006) and to verify the underlying aspects of the instrument and factor loadings. SEM was taken to be appropriate for the study, in that it allows for the testing of complex models that include various mediators, and because it provides different measures of model fit – unlike multiple regression analysis (Tomarken and Waller, 2005). It also allows for the testing of relationships among latent and other variables, doing so simultaneously, while explicitly modelling and correcting measurement error within the model (Castor, 2009).

Missing data were checked to see if they were missing randomly or systematically (De Leeuw and Hox, 2008). Showing no systematic relationships with other variables, and affecting cases comprising less than 10% of variables in the sample, the missing values were therefore treated as missing at random, and missing Likert-type variables were replaced with imputed median values. Continuous missing values were replaced by mean values.

To determine if respondents were insufficiently engaged during the completion of the questionnaire, standard deviations were calculated. Items with a standard deviation value of 0.5 should be removed (Gaskin and Lim, 2016). The lowest value in the data was 0.92, and the highest 2.76, and no observations were removed. All variables were within the acceptable limits of  $\pm 2$  for both skewness and kurtosis – exhibiting no extreme departure from normality (Field, 2000).

Further tests were used to check the normality of the data and to quantify the presence of outliers. Cooks' distance tests for outliers and influential points found no values greater than one. Although these tests supported the normality of the univariate data, nonetheless, bootstrapping was used to attain non-parametric results in the SEM analysis – given the potential for multivariate non-normality. Variance inflation factor (VIF) values were below 1.3 in value, suggesting that multicollinearity posed little threat to the interpretation of the results.

#### 4. Results

This section reports the results of the testing. Descriptive results are reported first, followed by those of inferential hypothesis testing.

##### 4.1 Descriptive results

As shown in Table 2, the overall sample comprised 122 (37.8%) men and 201 women (62.2%). The average age of respondents was 31.74 years. Respondents aged 30 or under comprised about half the sample. Participants comprised employees from various industries, the most represented being education, finance, banking, insurance and information technology, which together accounted for 30.5% of the sample. Most respondents had been with their company for three to five years (18.6%) and in their profession for the same period (18.9%). In addition, a matric (school leaving) certificate was the most reported highest qualification (27.6%). Most respondents were furthering their studies for personal reasons (69.7%) and performed a supervisory role (34.7%).

##### 4.2 Results of statistical tests

The SEM model was evaluated for fit. The minimum discrepancy value, which has degrees of freedom as its denominator (CMIN/d.f.), typically suggests that a model has a good fit if its value is less than 3 (Wheaton *et al.*, 1977). The root mean square error of approximation (RMSEA) index considers how complex the model is, also taking into account its degrees of freedom. A value of 0.08 indicates a close to good fit and a value less than 0.05 (Browne and Cudeck, 1992; Cangur and Ercan, 2015) or 0.06 (Hu and Bentler, 1999) have been considered to indicate a good fit. The greater the value of the Tucker–Lewis index (TLI), the better the fit (Cangur and Ercan, 2015), with values greater than 0.95 taken to indicate a good fit. A comparative fit index (CFI) value greater than 0.95 suggests an acceptable fit, and if it is

Demographic	Characteristics	N	Percent (%)
Gender	Female	201	62.2
	Male	122	37.8
Age	Below 25 years old	93	28.8
	26–30 years old	68	21.1
	31–35 years old	80	24.8
	36–40 years old	47	14.6
	41–45 years old	13	4
	Above 45 years	22	6.8
Race	African	204	63.4
	Indian	30	9.3
	Coloured	34	10.5
	White	48	14.9
	Other	6	1.9
Top Industry	Education	25	7.7
	Banking	19	5.9
	Insurance	16	4.9
	Finance	23	7.1
	Information Technology	16	4.9
	Government	10	3.1
	Other Industries	214	66.3
Years in Company	Less than a year	28	8.7
	1–2 years	33	10.2
	3–5 years	60	18.6
	6–10 years	52	16.1
	11–20 years	42	13
	Above 20 years	5	1.5
	Missing	103	31.9
Years in Profession	Less than a year	28	8.7
	1–2 years	23	7.1
	3–5 years	61	18.9
	6–10 years	58	18
	11–20 years	48	14.9
	Above 20 years	14	4.3
Marital Status	Missing	91	28.2
	Single	198	61.3
	Married	96	29.7
	Separated	4	1.2
	Widowed/Divorced	10	3.1
	Other	15	4.6

**Table 2.**  
Descriptive characteristics of the sample

greater than 0.97 then the fit is good (Schermelleh-Engel *et al.*, 2003). The goodness of fit index (GFI) and adjusted goodness of fit index (AGFI) values are good the closer they are to the value of 1.

The fit of the confirmatory factor analysis model was broadly deemed to be adequate (RMSEA = 0.053; CMIN/d.f. = 1.908; TLI = 0.932; CFI = 0.939; GFI = 0.845; AGFI = 0.817). Table 3 reports the Cronbach's alpha, composite reliability (CR) and average variance extracted (AVE) values for the tested constructs. The alphas are considered to be reasonable, indicating adequate construct reliability. All constructs have an AVE value of at least 0.5, suggesting acceptable convergent validity. CR values, with one exception, are all over 0.7, suggesting adequate reliability. Core self-evaluations have a CR value of 0.687, which is just under the 0.7 threshold. However, according to Fornell and Larcker (1981), if the AVE of a construct is below 0.5, but has a CR that is above 0.6, then its convergent validity can be

deemed to be adequate. The core self-evaluations construct meets this criterion, with a CR of 0.687 and an AVE of 0.431. As common method bias was not found in testing, the composite scores from the CFA were imputed to obtain a single score for each construct that was used in the modelling phase. Table 3 also reports the abbreviations of the names of the variables, which are used in the tables that follow. Innovativeness is referred to in all Tables and Figures as IBW, representing the innovativeness of an individual in a working context.

The structural model was taken to meet the minimum criteria for fit (RMSEA = 0.075; CMIN/d.f. = 2.797; TLI = 0.963; CFI = 0.998; GFI = 0.997; AGFI = 0.939). Table 1 reports the results of the standardised tests of path significance. Harman’s test results indicate that 23.29% of the variance is explained by a single factor, less than the 50% threshold (Podsakoff et al., 2003). A plugin was used to also explicitly model a common latent factor, to provide a more specific test of common method bias (Gaskin and Lim, 2018). The social desirability construct was used as a marker variable to test the null that there was no specific response bias. Results suggested the interpretation of the results was not compromised by response bias. Results of the tests of the hypotheses are now reported and discussed.

H1. There is a significant association between innovativeness and turnover intentions.

The standardised regression weight of the tested relationship between innovativeness and turnover intention is 0.152 and is highly significant (see Table 4). The null hypothesis is rejected. This result suggests that more innovative individuals have significantly higher turnover intentions.

H2. Perceived supervisor support mediates the association between innovativeness and turnover intentions.

A plug-in was used to obtain the specific indirect effects needed to test mediation for each appropriate path (Gaskin and Lim, 2018), applying the Hayes method. Bootstrapping was used to test the significance of specific indirect effects, as the results obtained using it are typically more robust than those obtained with Sobel’s z-test (Preacher and Hayes, 2008). Table 4 reports the significance of these indirect effects. Perceived supervisor support

**Table 3.**  
Final model validity  
statistics for constructs

Construct	Cronbach alpha	Composite reliability	Average variance extracted
Innovative Work Behaviour (IBW)	0.917	0.914	0.605
Perceived Supervisor Support (PSS)	0.966	0.968	0.814
Turnover Intentions (TI)	0.843	0.840	0.513
Core self-evaluations (CSE)	0.678	0.687	0.431
Job Satisfaction (JS)	0.857	0.859	0.505
Job Complexity (JC)	0.915	0.916	0.783
Distributive Justice (DJ)	0.856	0.864	0.617

**Table 4.**  
Estimates of indirect  
effects

Indirect path	Unstandardised estimate	Lower	Upper	p-value	Standardised estimate
IWB → PSS → JS	0.111	0.074	0.153	0.001	0.126***
IWB → PSS → TI	-0.102	-0.147	-0.065	0.001	-0.083***
IWB → JS → TI	-0.103	-0.153	-0.063	0.001	-0.084***
CSE → PSS → JS	0.147	0.095	0.209	0.001	0.120**
CSE → PSS → TI	-0.135	-0.199	-0.089	0.001	-0.079***
CSE → JS → TI	-0.182	-0.265	-0.121	0.000	-0.106***
PSS → JS → TI	-0.115	-0.148	-0.088	0.001	-0.168***

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significantly mediates the relationship between individual innovativeness and turnover intentions, improving retention. The null hypothesis is rejected.

*H3.* Job satisfaction mediates the relationship between innovativeness and turnover intentions.

Job satisfaction is found to mediate the effect of individual innovativeness on turnover intentions (Table 4). The null hypothesis is rejected.

*H4.* Employee innovativeness and perceptions of distributive justice interact, such that innovativeness relates positively and more strongly to turnover intentions when distributive justice is high.

Interaction terms were used to test for moderation. The direct effect of perceived distributive justice is significantly (negatively) related to turnover intentions ( $-0.273$ ;  $p < 0.0001$ ). Its interaction with distributive justice is however not significant ( $p = 0.470$ ). The effects of each of perceived distributive justice and individual innovativeness on turnover intentions do not seem to therefore differ in their strength due to the influence of the other. This hypothesis is not supported. The null is not rejected.

*H5.* Employee innovativeness and core self-evaluations interact, such that innovativeness relates positively and more strongly with turnover intentions when core self-evaluations are high.

Although core self-evaluations are significantly and negatively directly related to turnover intentions ( $-0.308$ ;  $p = 0.001$ ), when interacted with individual innovativeness they are not ( $0.007$ ;  $p = 0.832$ ). This hypothesis is therefore also not supported, and the null is not rejected.

*H6a.* Age moderates the association between innovativeness and turnover intentions, such that this relationship is weaker for older employees

Age is positively and significantly related to turnover intentions ( $0.085$ ;  $p = 0.009$ ). Age is also weakly significant ( $-0.053$ ;  $p = 0.095$ ) in its moderation of the effect of employee innovativeness on turnover intentions. The 5% level of significance has been criticised by various authors as being arbitrary (Cohen, 2016), and so this information is discussed here, and although the hypothesis is rejected at the 5% level, the results are discussed here, because it is not clear if a larger sample might have increased this level of significance.

*H6b.* Gender moderates the association between innovativeness and turnover intentions, such that this association is stronger for men.

Gender is significantly but weakly associated with turnover intentions ( $-0.056$ ;  $p = 0.082$ ), as is its moderating effect on employee innovativeness ( $0.06$ ;  $p = 0.061$ ). Although the hypothesis is formally rejected at the 5% level, the results are still discussed, given the sensitivity of this result to sample size (Cohen, 2016). Figure 1 illustrates these relationships.

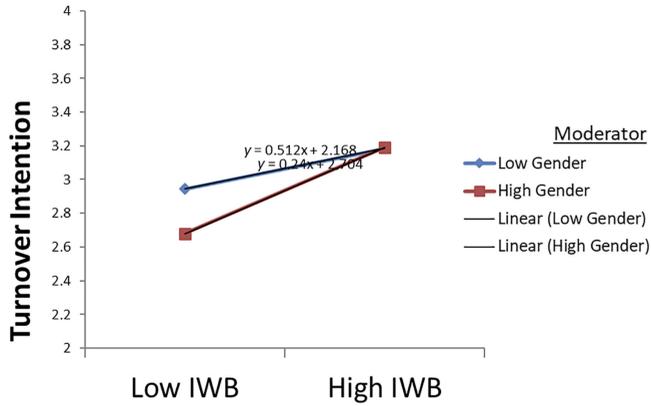
*H6c.* Type of work moderates the association between innovativeness of an individual and turnover intentions, such that this association is weaker when the complexity of work is higher.

Job complexity is not significantly associated with turnover intentions, either as a direct effect ( $0.002$ ;  $p = 0.960$ ) or as a moderator ( $0.006$ ;  $p = 0.867$ ) of the association between innovativeness and turnover intentions, and the hypothesis is not supported – the null is not rejected.

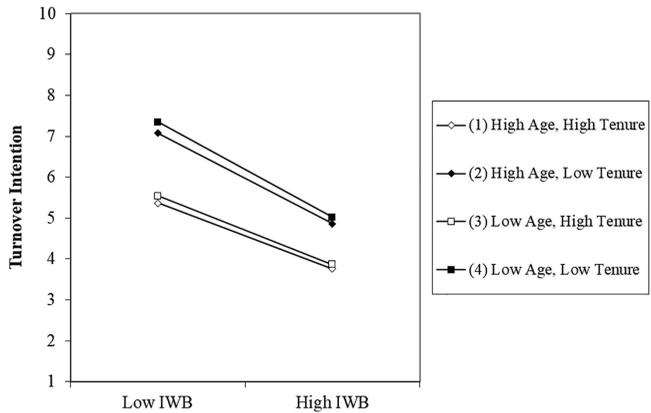
*4.2.1 Further testing.* Additional three-way interaction tests were performed to obtain further insights into the relationships under study.

Figure 2 shows that in cases of low innovativeness, those with low age and low tenure have a greater turnover intention when compared to those with high age and low tenure. In cases of high tenure, younger individuals have greater turnover intentions in cases of low innovative work behaviour. Figure 3 demonstrates that when tenure is low, in cases of low

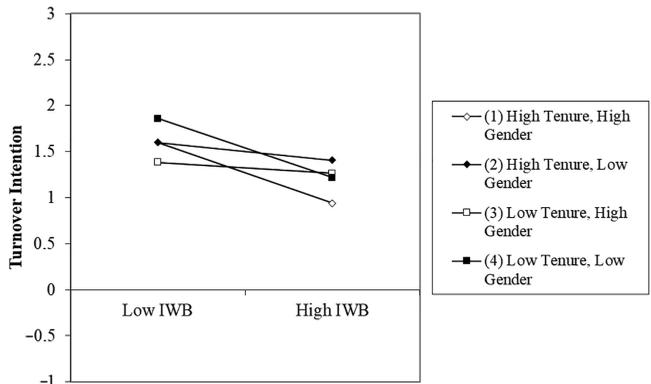
**Figure 1.**  
Gender as a moderator of the association between innovative work behaviour and turnover intentions (men: low gender)



**Figure 2.**  
Three-way interactions: Age, tenure and innovativeness



**Figure 3.**  
Three-way interactions: Tenure, gender and innovativeness



innovativeness, men have higher turnover intentions when compared to women. Similarly, in cases of high tenure, men and women's turnover intentions differ significantly when IWB is high, with men showing higher turnover intentions.

Figure 4 demonstrates little difference between individuals with high and low age levels at different levels of tenure. However, at low tenure and high age, individuals have a greater propensity to leave when innovativeness is low in comparison to those with high age and high tenure. However, when innovativeness is high, there are no major differences in the various groups when it comes to turnover intentions.

Having reported the results of the study, they are now discussed as follows.

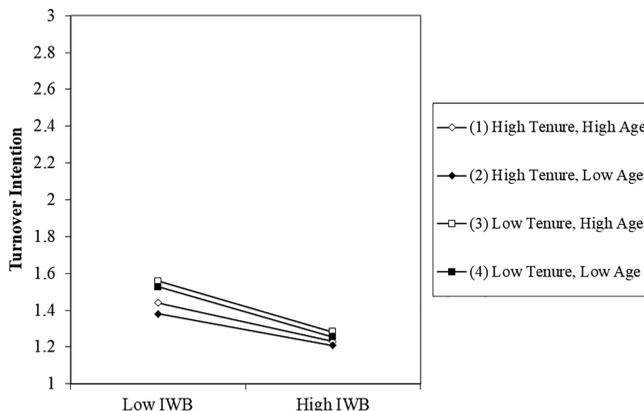
## 5. Discussion

The findings suggest that workplace relationships in this context share certain important characteristics of other contexts in general, but that certain important differences exist. These differences should be borne in mind by organisations in this and similar contexts that employ staff who are studying while working.

The finding that innovativeness is positively related to turnover intentions (Hypothesis 1), is in line with previous findings, that more creative individuals typically have higher turnover intentions (Li *et al.*, 2018; Robinson and Beesley, 2010), but differs from other studies in different contexts that have found this relationship to be not significant (Elmaci and Yalçin, 2012; Kesen, 2016; Tongchaiprasit and Ariyabuddhiphongs, 2016; Eroğlu *et al.*, 2018).

It bears noting, however, that the effect size for this association is small (below 0.2), and when included in a supplementary regression model, innovativeness merely increases its R-squared value from 0.65 to 0.67. Although it might be more difficult to retain more innovative individuals, there are other factors that an organisation should consider to improve their retention – some of which are also tested in this model that together explain about two-thirds of the variance in intent to quit for individuals in this cohort.

The finding that perceived supervisor support mediates the relationship between innovativeness and turnover intentions (Hypothesis 2) is in line with other studies (Firth *et al.*, 2004) suggesting that perceived supervisor support can serve as a mediator to reduce the effect of stressors on turnover intentions, and that supervisor support may contribute to enhanced employee commitment and may lower turnover intentions (Cropanzano and Mitchell, 2005). To improve the retention of innovative staff undertaking degree studies, organisations should pay particular attention to the support they receive from supervisors, as the findings here suggest these individuals seem to be sensitive to this effect.



**Figure 4.** Three-way interactions: Tenure, age and innovativeness

Job satisfaction is also found to mediate the relationship between innovativeness and turnover intention (Hypothesis 3). If innovative individuals of this cohort are more satisfied, they will typically have lower turnover intentions. This result concurs with other studies that have found job satisfaction to be a significant mediator in certain relationships predicting turnover intentions of employees (Kuo *et al.*, 2014; Yin-Fah *et al.*, 2010) and that job dissatisfaction typically results in higher levels of turnover intention (Martin and Roodt, 2008; Yin-Fah *et al.*, 2010).

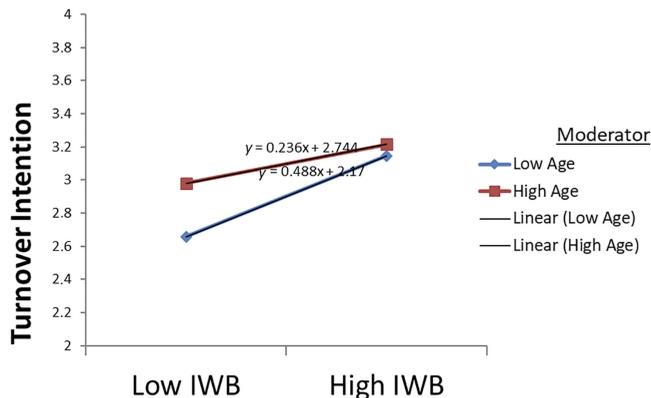
Other studies have found distributive justice to be a negative moderator of the relationship between innovative work behaviour and turnover intentions (Shih and Susanto, 2011). Although a moderator effect is not found here (Hypothesis 4), the results support other studies finding a direct negative effect of distributive justice on turnover intentions (Brashear *et al.*, 2005; Cohen-Charash and Spector, 2001; Nadiri and Tanova, 2010). Perceptions of distributive justice seem to be important for the retention of staff that are members of this cohort. Given the country’s history, this effect may be a direct one that persists in a way that is largely unrelated to how innovative an individual is.

In terms of a direct effect, individuals with higher core self-evaluations are therefore found to have lower turnover intentions – in line with other research (Haynie *et al.*, 2016). Individuals with high core self-evaluations tend to have a positive perception of their work, which can translate into higher job satisfaction (Haynie *et al.*, 2016). Those with higher levels of core self-evaluation may have a stronger ability to deal with adversity, resulting in lower turnover intentions (Cadiz, 2010). Whereas individuals with higher self-evaluations might value themselves (and their potential to find new employment) more highly, this does not differ by an individual’s levels of innovativeness (Hypothesis 5), and the retention channel of core self-evaluations seems to dominate overall.

Self-evaluations are a multi-faceted trait. The results here suggest that an employee’s subconscious evaluations of their traits such as locus of control, self-efficacy, self-esteem and neuroticism may influence their behaviours as well as their perceptions and that the results of positive self-evaluations may be a key determinant of retention, rather than reducing it.

As shown in Figure 5, although individuals with lower innovativeness typically have lower levels of turnover intentions if they are younger, there is less of a difference in turnover intentions by age for those that have higher levels of innovativeness.

What is interesting here is that for those undertaking evening classes to upskill their qualifications, it seems to be those who are older that are more likely to have higher turnover intentions, even if the moderation effect is weak (Hypothesis 6a). Most studies on turnover



**Figure 5.**  
Age as a moderator of the association between innovative work behaviour and turnover intentions

intentions have however reported younger employees to be more likely to leave their employer (Hayes, 2015; Karlsson, 2008; Maheshwari *et al.*, 2015; Tanova and Holtom, 2008). Further research should explore whether this is an isolated effect.

As shown above in Figure 1, whereas at low levels of innovativeness women seem to have lower turnover intentions than men, at high levels of innovativeness, their levels are similar (Hypothesis 6b). Thus, gender differences seem to disappear at higher levels of individual innovativeness, as do age differences – as discussed previously.

Whereas in the South African context, Du Plooy and Roodt (2013) found no moderating effects of gender on the relationships between work engagement, burnout and turnover intentions, other studies in different contexts have found gender to act as a moderator across a range of different predictors of turnover intentions (Igbaria and Guimaraes, 1993; Karatepe *et al.*, 2006; Maheshwari *et al.*, 2015). In the South African context, Dhanpat *et al.* (2018) found male respondents to have higher levels of turnover intentions than women. The results here suggest, however, that there may be fewer differences between the genders in their turnover intentions when they have higher levels of innovativeness.

The finding that type of work does not moderate the innovativeness–turnover intentions relationship (Hypothesis 6c) is surprising, given findings that job complexity is typically associated with lower turnover intentions, and higher intrinsic motivation, job satisfaction and job involvement (Humphrey *et al.*, 2007). An alternative interpretation of this result is that the relationship between innovativeness and turnover intentions is robust to differences in types of work that it holds across different types of jobs in this context.

The further analysis of these relationships using three-way interactions seems to highlight the importance of tenure. It would seem that by successfully enabling the retention of staff, a virtuous circle might be set in motion, whereby the longer staff are retained, the more important their years of tenure become in helping to retain staff undertaking evening classes to improve their qualifications.

## 6. Conclusions and managerial recommendations

The objective of this study was to test a context-specific theoretical model predicting different effects on the turnover intentions of individuals that differ by levels of innovativeness. What differentiates this cohort from others in the workplace is that their turnover decisions may be more likely to change due to their attainment of anticipated degree qualifications. Certain implications and recommendations derive from these findings.

*First*, highly innovative individuals are typically highly prized in the workplace, given the competitive pressures faced by organisations. Results suggest that these individuals seem to have significantly higher turnover intentions, and might therefore be harder to retain. This effect is statistically small, however. Organisations should therefore also pay attention to the other significant effects found here, as the tested model explains over two-thirds of the variance associated with turnover intentions for this type of employee.

*Second*, the results demonstrate that perceived supervisor support and job satisfaction mediate the relationship between innovativeness and turnover intentions. This suggests that this cohort is relatively typical of other employees, in that investments in supervisor support and job satisfaction may be particularly effective in improving the retention of highly innovative employees in this category.

*Third*, the results suggest that perceptions of distributive justice and self-evaluations do not have a moderating or interactive effect with innovativeness in their contributions to turnover intentions. Nevertheless, they do have a direct and negative effect on turnover intentions. Organisations should seek to ensure high standards of distributive justice, as this may improve retention.

Surprisingly, those in this cohort that are younger seem to have lower turnover intentions, suggesting that older individuals seem to be planning to make bigger life changes, perhaps due to the upgrading of their degree qualifications. All else being equal, men have higher turnover intentions, but this gender difference seems to disappear at high levels of innovativeness. The complexity of work does not seem to have an effect – either as a moderator or directly on turnover intentions.

The final message that these results seem to convey is the importance of tenure itself. Retaining those particularly innovative individuals that give up evenings to improve their skills and knowledge might reward the organisation itself, as a virtuous circle might result. Three-way interaction results suggest that tenure might itself have a positive interactive effect on other influences, thereby strengthening retention further.

Certain societal implications arise from these findings. First, in a context of resource scarcity, these findings may help organisations to retain staff who are improving their lives through study. This might have societal benefits as the costs of disruption of employment are not limited to organisations. Improvements in the management of retention can improve organisational success and profitability, contributing to tax revenues and the potential to increase hiring. Such benefits might reduce the chances of business failure in marginal cases. Although these benefits are not certain to accrue in all instances, knowledge that contributes to more effective retention may benefit society on the whole.

## 7. Limitations

Certain limitations need to be acknowledged. This research, in using SEM, is based on correlations, and is not causal. It can therefore only be used to test theory, and cannot provide information on the causes of the relationships under study. It is also cross-sectional and cannot provide information on trends in the variables over time. Notwithstanding its limitations, extensive testing was performed to ensure that the results are interpretable and are not threatened by various biases that are well considered in the literature.

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**Corresponding author**

Christian Callaghan can be contacted at: [chris.callaghan@wits.ac.za](mailto:chris.callaghan@wits.ac.za)