Student transition experiences and the agency of supportive campus environment in higher education

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Abstract

Worldwide changes in the demography of students and competition in meeting the knowledge and skills needs of students have led to emerging discourse on how universities can enhance the transition experiences of first year students. Consequent to this call, the current study examines the perceptions of first year students about their transition experiences in a university in South Africa. Data were gathered using a survey from a sample of first year students (n = 1538) and evaluated by way of multiple regression analysis. Results revealed that students' sense of belonging, intellectual engagement and supportive campus environment serve as strong predictors of the transition experiences of first year students. The study further highlights the importance of enhancing the transition experiences of first year students by means of strong institutional academic and social support systems and the maintenance of institutional culture that builds a sense of belonging among first year students.

Keywords: Transition experience, sense of belonging, intellectual engagement, first year students, supportive campus environment.

Introduction

Many scholarly studies have sought to explain the importance of the transition experience of first year students from high schools to higher education institutions (HEIs). Among the widely studied types of student transition experiences are Tinto's model (1987) of academic and social integration as well Gale and Parker's (2014) induction, development and becoming conceptualisation. While these scholarly studies on the transition of first year students from high schools to HEIs evolve, not much is known about the significance of supportive campus environment to the successful integration of first year students into HEIs. Using the term supportive campus environment, the current study examines how institutional structure, policies and culture interface with the academic and social integration of first year students in a public university in South Africa to give meaning to students' transition experience. The transition experiences of first year students can be analysed from three main perspectives – individual, institutional and national.

At the individual level, diversity in the backgrounds of students, changing student demography that include non-traditional and first-generation students (Briggs et al., 2012; Egege & Kutieleh, 2015) and students' economic background continue to shape enrolment patterns in HEIs. A more nuanced approach to categorising the transition experiences of first year students at the individual level is the suggestion that the experiences of non-traditional, first generation and second-generation students are not the same (MacFarlane, 2018). Furthermore, differences in the transition experiences of students are associated with the concept of habitus that is linked to the history of individuals (Bourdieu, 1993) and are permeable and responsive to the happenings around students and their adjustments to the university environment (Reay et al., 2009). Therefore, every student has a primary habitus that is pervasive and provides the basis for the development of other secondary explicit habitus (Threadgold, 2020; Wacquant, 2014) such as educational socialisation.

Previous studies on the integration of first year students into universities have resulted in deeper and better understanding of their sociocultural (Jenert et al., 2017) and academic (Bowman et al., 2019) adjustment to the university environment at the individual level. Other researchers have highlighted the importance of learner identity and success (Briggs et al., 2012; MacFarlane, 2018) to students' adjustment processes. Hence, whereas the conception of students' transition include induction, development and a process of becoming, the types of transitional change include inculcation, transformation and fluctuation (Gale & Parker, 2014). Although these processes may reveal possible transition scenarios, they also depict the realities of practical adjustment processes students undergo in universities and the challenges they face in coping with the academic demands of schooling. A corollary is possible feeling of alienation and isolation among first year students who are not properly integrated and who may have no sense of belonging in the university environment (MacFarlane, 2018; Egege & Kutieleh, 2015). In order to address these practical gaps, the current study examines the transition experiences of first year students and the effect of institutional support systems on their adjustments to the university environment.

At the institutional level, increasing competition among universities in attracting good students and the importance of producing highly qualified graduates for industry serve as indicators for enhancing the transition experiences of first year students. This development gives credence to growing interest among providers of education in establishing institutional support systems to enhance the transition experiences of first year students. In South Africa, the White Paper for Post-school Education and Training indicates that a lack of adequate support for students to adjust to academic and social life in the university among other factors affect student success (DHET, 2013). For instance, the Heher Commission Report explains that, academic support assumes different forms such as extended programmes, additional classes, Information Technology innovation, language support and summer/winter schools (Heher, 2017). Therefore, while transition perspectives such as social integration of first year students is linked with students' academic motivation (Noyens et al., 2019), the university support structures and systems are equally important to the social and academic adjustment of students.

At the national level, it has been argued that “improvement of undergraduate throughput rates is a key strategy for increasing graduate outputs, for providing the skills needed by the economy and, for ensuring that larger numbers of students are available for postgraduate study” (DHET, 2013). However, the improvement of throughput rates involves a process of enhancing both cognitive and affective perspectives of students’ development from the first year of their undergraduate programmes to the final year. Available statistics indicate that less than 50% of students who enrol in HEIs for degrees in South Africa (in either contact or distance mode of tuition) do not graduate (DHET, 2020). These statistics point to several underlying factors that affect the transition of students from high school to the university among which academic support and language support (Heher, 2017). Akin to different major life changing processes, enrolling in university for the first time requires a process of adjustment that is gradual and involves formal and informal interactions with others regarding academic and social activities (Fischer, 2007).

While various studies have focused on the transition experiences of first year students at the individual and institutional levels, not much is known about the combined relative effect of institutional support systems, sociocultural, psychological and academic perspectives that enhance the transition experiences of first year students. Significantly, increased enrolment coupled with low throughput rates and low graduate outputs adversely affect the development of a strong workforce that is essential for the development of countries. This study therefore provides insight into the transition experience of first year students in a South African university by examining how supportive campus environment interfaces with three other perspectives - sociocultural, psychological and academic.

Theory of students’ transition and the development of hypothesis

The theory of student transition in HE is grounded on the assumption that providers of higher education (HE) are expected to create conducive learning environments for students (Locks et al., 2008) to adjust to academic, social and cultural settings. Previous

study by Tinto (1987) has demonstrated the importance of the transition of first year students into university setting and the role educational institutions could play to ensure that students achieve success. However, Tinto's (1987) model has been critiqued on the basis that it was developed along a sociological approach with very minimal attention paid to the psychological processes that support the integration of students (Schaeper, 2020). A recent study by Gravett et al. (2020) has shown that students' transition is undertheorised especially in relation to providing explanation to what transition means (Gravett et al., 2020). Notwithstanding the challenges associated with the transition theory, other researchers have emphasised the relationship between the social, cultural and, academic perspectives of students' integration and the structures put in place by universities to integrate first year students (Briggs et al., 2012). In conceptualising this study, the researcher focuses on four perspectives that shape the transition experience of students from high school to university: academic; sociocultural; supportive campus environment and; students' sense of belonging.

Academic perspective of students' transition

In the context of this study, three main elements are discussed in relation to the academic transition of students: student engagement (Zepke, 2018) learner identity and student success (Briggs et al., 2012; MacFarlane, 2018). These three elements provide cogent explanation to the relationship between the intellectual engagement of first year students and their academic transition experiences. First, student engagement has gained acceptability due to its role in embracing significant notions of the purpose of HE, knowledge, performativity and accountability that is supported by government and the society (Zepke, 2018). Previous studies have revealed three widely known perspectives of student engagement - cognitive, emotional/psychological, and behavioural (Fredricks et al., 2004; Kahu & Nelson, 2018; Lawson & Lawson, 2013). All the three engagement perspectives are important to the transition process of students from high school to the university. However, the concept of engagement has been criticised on the basis that, it is widely under-theorised (Kahn 2014) and lacks consensus about its meaning and measures (Baron & Corbin, 2012; Buckley, 2018).

Secondly, learner identity and success (Briggs et al. 2012; MacFarlane, 2018) do not only lead to the creation of a smooth transition process for students from high schools into universities but also explain how learners adapt to the university environment and work towards their academic goals. As shown in a previous study, learner identity is positively associated with the academic and social context of learning as well as students' engagement and students 'sense of belonging (MacFarlane, 2018). Consequently, students who demonstrate high self-efficacy are likely to develop their identities faster when they enrol in universities (Jenert et al., 2017) while those who adapt to the challenges of autonomous learning in the university are driven by self-efficacy (Macaskill & Denovan, 2013). On the other hand, student success is a process that starts prior to the enrolment of students in schools (Kinzie & Kuh, 2017) and it is linked to the teaching and learning activities that include assessment feedback, collaborative learning and formulation of individual learning goals (Briggs et al., 2012; Macaskill & Denovan, 2013). These factors can only contribute to the successful and smooth adjustment of first-year students into university system. Drawing from the literature reviewed, this study hypothesises that intellectual engagement influences students' transition experiences.

H1: Intellectual engagement is positively associated with the transition experiences of first year students.

Psychological perspective of transition

Transition into university by students involves a process of uncertainty and varied expectations (Briggs et al. 2012) that should be addressed by providers of education to ensure that first year students have a sense of belonging. There exists a relationship between students' sense of belonging and their adjustment processes into the HEI setting (Bowman et al., 2019; Egege & Kutieleh, 2015). Furthermore, a sense of belonging is reinforced by self-determination theory which explains that, for individuals to be motivated to perform at optimum level, some psychological needs (autonomy, competence and relatedness) must be maintained (Reeve et al., 2004). At the individual level, belonging involves a process of satisfying the psychological needs of individuals

through the intrinsic and utility value of education as well as lower depressive symptomatology (Gray et al., 2018). In practice, students' sense of belonging is synonymous with being accepted, involved, respected and encouraged by peers and lecturers in a learning environment (Cook-Sather, 2018; Masika & Jones, 2016; Kahu & Nelson, 2018; Thomas 2012). Other narrative suggest that sense of belonging represent an outcome of institutional and student factors that shape students' adjustments based on their background, personality and experience (Kahu & Nelson, 2018). Notwithstanding these nuanced explanations, the elements of belonging and connectedness enhance the emotional security of first year students that enable them to cope with the academic and social demands of enrolling in HE. Consequently, this study postulates that students' sense of belonging will have a positive influence on the transition experiences of first year students.

H2: Students' sense of belonging is positively associated with the transition experiences of first year students.

Sociocultural perspectives of transition

The sociocultural integration represents the third transition perspective of this study. While changes in global culture have had a profound and direct effect on educational policies and practices (Sahlberg & Brown, 2017), the expectations of society on universities to create a more welcoming environment for students remains a priority for providers of education. Previous study has shown that personal and contextual features of students' transition into HEIs is central to the sociocultural perspective of student transition experiences (Jenert et al., 2017). Importantly, social and cultural integration extends interaction among peers to include building networks, seeking feedback and gathering information that are important to the successful transition of first year students from high school to university (Mostert et al., 2017).

When students develop a feeling of acceptance in the school environment through healthy relationship with peers and lecturers, it triggers change in their belief about their potential to succeed academically (Yeager & Walton, 2011) and socially. Conversely,

when a habitus enters an unfamiliar social setting and is not given adequate support, it could result in disjuncture that could generate insecurity, uncertainty and disquiet ambivalence (Reay, 2005). Therefore, a sense of social connectedness increases the achievement motivation of individuals (Walton et al., 2012) while peer mentoring could enhance students' sense of belonging (Egege & Kutieleh, 2015). Drawing from the literature reviewed, this study hypothesises that cross-cultural interaction influences students' transition experiences.

H3: Cross-cultural interaction is positively associated with the transition experiences of first year students.

Supportive campus environment

Institutional support systems are essential for enhancing institutional culture, values and procedure (Jenert et al., 2017) for first year students. A supportive campus environment involves the development of ancillary structures and interventions (Mostert et al., 2017) that assist first year students to identify their strengths and weaknesses through a learning process while adapting to the university culture. To this end, the adjustment process includes the development of programmes that enhance students' engagement through student-centred teaching and learning activities with high-quality learning outcomes (Jenert et al., 2017; Krause & Coates, 2008). Other support systems at the university level include retention programmes to address students' social and academic needs and providing students with opportunities to acquire relevant knowledge and skills (Briggs et al. 2012; Tinto, 1987). Lastly, a supportive campus environment does not identify students as mere receivers of knowledge but more importantly, as partners in academic, social and governance processes of the university (Kahu & Nelson, 2018; Healey et al., 2014). Consequently, this study hypothesises that supportive campus environment will have a positive influence on the transition experiences of first year students.

H4: A supportive campus environment is positively associated with the transition experiences of first year students.

The study context

Policy development and implementation in HEIs in South Africa are often discussed in relation to global context. The public HE system in South Africa is hierarchical with research intensive universities at the apex, followed by comprehensive universities that focus on mass HE and, universities of technology (UoTs) that train students to acquire technology-based qualifications (Leibowitz et al., 2015). According to Bozalek and Boughey (2012), the weightiest HE policy document of the 1990s was the 1997 White Paper on higher education that sought to find solutions to South Africa's development needs by way of increased access and the massification of HE. While participation rates continue to increase, universities are expected to improve student success and throughput rates that are currently seen as a serious challenge for the university sector and a priority for national policy (DHET, 2013). In terms of the statistical outlook, the total student enrolment in 150 public and private HEIs in 2018 was 1,283,466 million students, with 84.6% enrolled in 26 public universities (DHET, 2018). Compared to the total number of student enrolment in 2009 that was 837,776, the current number of students enrolled in public higher education institution that is 1,085,568 represent an increase of 22.83%. Additionally, the national cohort studies indicate that, the number of first time entering (FTEN) students in South Africa increased from 98,095 in 2000 to 150,768 students in 2017 (DHET, 2020). The increasing enrolment figures calls for institutional support systems that address the adjustment and retention challenges confronting all category of students in the universities including those from low socioeconomic background and first-generation students. The adjustment process is important because inequality in the schooling system in terms access for the poor, lack of proper preparation for school leavers for the university, and inadequate early-warning systems and academic support systems for students negatively affect students' performance (DHET, 2013) and persistence.

The history of the current study context akin to other historically white universities in South Africa has evolved through several years of transformation. Originally established in 1904 as a predominantly white university with Afrikaans as the medium of instruction,

the university has grown to become a racially diverse institution with three campuses spread in two cities. There are currently, seven faculties with different academic programmes offered at the degree, honours, masters and doctoral levels. With a total student population of 40,558, the university has students from diverse local and international backgrounds. The current study therefore examines the transition experiences of first year students in the university and the effect of institutional support systems as well as other sociocultural and psychological features on their adjustments to the university environment. In the context of the current study, the Gateway Orientation programme for first year students; Academic Student Tutorial Excellence Programme (A-STEP) and; other psychosocial support programmes represent some of the institutional arrangement that are designed to support the transition of first year students.

Materials and methods

This study examines the effect of institutional support arrangements, sociocultural and, academic perspectives that enhance the transition experiences of first year students in a South African university. Although previous study on the adjustment of first year students to the university environment has focused on a longitudinal approach (Bowman et al., 2019), this study adopts a cross-sectional approach that gathers data from first year students of different races, campus location and gender.

Participants

Participants for this study were recruited from first year students who self-identified as African (74.2%), Indian (0.8%), Coloured (4.2%), White (16.1%), Foreign national - African (3.9%) and, Foreign national - Other (0.8%). The total number of first year contact students who were contacted for information on their perception on their transition experience and sense of belonging at the university was 7701 out of which 1560 consented to participate. However, the valid responses was 1538 that represent approximately 20% of the total number of first year students who were contacted. The 20% participation rate falls within the acceptable percentage (Shih & Fan, 2009). Out of the 1538 participants, 41.5% of the sample identified as men while 58.5% identified as

women while 0.9% did not indicate their gender. The age group with the highest number of participants in the survey was 18 – 22 years (54.70% of the total participants). The distribution of participants based on campus was as follows: BL – 75.3%; QQ – 17.7% and SC – 7.0%. Additionally, 20.5% of the participants indicated that they resided on campus while 79.5% of participants indicated that they resided off-campus.

Measures

The measures for the quantitative instruments consist of five constructs: students' sense of belonging; supportive campus environment; cross-cultural interaction among students; academic experience factors (intellectual engagement) and transition experience factors.

Independent variables

The Supportive Campus Environment scale was obtained from the supportive campus environment scale by Zhao and Kuh (2004). Sample item is, "the university environment provides the support I need to help me succeed academically" (α=0.918). The cross-cultural interaction scales consisted of seven items. Five items were derived from the cross-cultural interaction scales by Maramba and Museus (2013), two items from the Socialization across backgrounds scales (Elkins et al., 2011). Sample item was, "There are opportunities to interact with people from different backgrounds at the UFS" (α=0.839). The students' sense of belonging scale consisted of seven items. Three of the seven items were derived from the sense of belonging scale by Locks et al. (2008) and a further four from the open environment scale by Cheng (2004) (α=0.915). The intellectual engagement was obtained from the academic experience factors of Krause and Coates (2008). The scale consisted of six items with sample item as, "I enjoy the intellectual challenge of subjects I am studying" (α=0.865).

Dependent variable

The transition experience scale was derived from the transition engagement scale (TEF) by Krause and Coates (2008). Sample TEF items were, "I was given helpful advice when

choosing my subjects" and "the university Gateway orientation program helped get me off to a good start" (α=0.878).

Demographic variables

The demographic variables consisted of age, gender, race, residence and campus. The demographic variables have been associated with the transition experience of students in higher education in different literature (Fischer, 2007). For the purposes of the regression analyses indicator variables (dummy codes) were created with reference categories as – age (20 years), gender (females), race (Black), residence (on-campus) and campus (BL).

Procedure

The online survey was administered between May and September 2019 through an online portal called Evasys. Before the final instruments were administered and, in order to make the instrument very comprehensible, a draft instrument was circulated among a team of researchers and professional staff to peruse and provide their comments and feedback. The comments of the researchers and professional staff were incorporated in the revised instrument. In line with the institutional policy on research ethics, approval was secured from the university's ethics committee. The email addresses of participants were formally obtained from the university after which participants were invited to participate in the study. Follow-ups by way of bi-weekly reminders was sent to students to complete the questionnaire. Importantly, participants were required to consent to their participation in the study before they completed the questionnaire. The quantitative data gathered was analysed using statistical software - Statistical Package for the Social Sciences (SPSS) and AMOS version 26.

Data analysis

The first process in analysing the data was the use of confirmatory factor analysis (CFA) to evaluate the structure of the measurement models that also sought to explain the transition experiences of first year students in a university. The CFA was carried out to

gauge the factor structure of the observed variables and to test the measurement model. Prior to carrying out the CFA preliminary analysis of the data using box plots and Mahalanobis distance revealed no univariate or multivariate outliers. Seeing that the data was normally distributed, the maximum likelihood estimation method was chosen to determine the parameters of the data distribution. The quantitative data consisted of five constructs: transition experience of first year students (TEF); Students' sense of belonging (BEL); Supportive Campus Environment (SCE); Cross-cultural interaction (CCI) and Intellectual engagement (INE). The model demonstrated an acceptable model fit: $\mathcal{X}^2$ = 5060.509(454), comparative fix index (CFI) = 0.954, Tucker-Lewis fit index (TLI) = 0.930, and the root mean square error of approximation (RMSEA) = .06. Furthermore, the standardized factor loadings exceeded the threshold of 0.50 (Hair et al., 2014) and was significant at 0.05 as shown in table 1.

The assessment of measurement model consists of Cronbach's alpha and composite reliability - to evaluate internal consistency, average variance extracted (AVE) - to gauge convergent validity and the Fornell-Larcker criterion - to examine discriminant validity. In order to obtain an estimate of the reliability based on the inter correlation of the observed indicator variables, Cronbach's alpha was used to evaluate internal consistency reliability. The study applied another layer of measurement by way of composite reliability to assess the internal reliability of the variables including the different outer loading.

Tables

Table 1: Confirmatory Factor Analysis results for students' transition experience

Paths	Standardized factor loadings	Standard error	95% confidence intervals	R^2 values	CA (α)	CR	AVE
BEL1<--BEL	0.839	0.027	[0.786, 0.892]	0.704			
BEL2<--BEL	0.820	0.025	[0.771, 0.869]	0.672			
BEL3<--BEL	0.638	0.025	[0.589, 0.687]	0.407			

BEL4<---BEL	0.851	0.027	[0.798, 0.904]	0.724	0.915	0.916	0.611
BEL5<---BEL	0.828	0.027	[0,775, 0.881]	0.686			
BEL6<---BEL	0.755	0.026	[0.704, 0.806]	0.570			
BEL7<---BEL	0.715	0.027	[0.662, 0.768]	0.511			
CCI1<---CCI	0.906	0.023	[0.861, 0.951]	0.821			
CCI2<---CCI	0.942	0.022	[0.899, 0.985]	0.887			
CCI3<---CCI	0.635	0.021	[0.594, 0.676]	0.403	0.839	0.854	0.508
CCI4<---CCI	0.542	0.025	[0.393, 0.491]	0.294			
CCI5<---CCI	0.551	0.025	[0.402, 0.500]	0.304			
CCI6<---CCI	0.582	0.023	[0.437, 0.527]	0.339			
INE1<---INE	0.727	0.024	[0.680, 0.774]	0.530			
INE2<---INE	0.686	0.025	[0.637, 0.735]	0.471			
INE3<---INE	0.775	0.024	[0.728, 0.822]	0.601	0.865	0.894	0.518
INE4<---INE	0.828	0.023	[0.783, 0.873]	0.686			
INE5<---INE	0.663	0.026	[0.612, 0.714]	0.440			
INE6<---INE	0.619	0.023	[0.574, 0.664]	0.383			
SCE1<---SCE	0.725	0.024	[0.678, 0.772]	0.526			
SCE2<---SCE	0.734	0.027	[0.681, 0.787]	0.539			
SCE3<---SCE	0.784	0.026	[0.733, 0.835]	0.615			
SCE4<---SCE	0.822	0.024	[0.775, 0.869]	0.676	0.918	0.920	0.622
SCE5<---SCE	0.849	0.024	[0.802, 0.896]	0.721			
SCE6<---SCE	0.828	0.024	[0.781, 0.875]	0.686			
SCE7<---SCE	0.769	0.025	[0.720, 0.818]	0.591			

TEF1<--TEF	0.695	0.028	[0.640, 0.750]	0.483			
TEF2<--TEF	0.694	0.027	[0.641, 0.747]	0.482			
TEF3<--TEF	0.701	0.026	[0.650, 0.752]	0.491	0.878	0.889	0.519
TEF4<--TEF	0.720	0.029	[0.663, 0.777]	0.518			
TEF5<--TEF	0.740	0.026	[0.689, 0.791]	0.548			
TEF6<--TEF	0.768	0.027	[0.715, 0.821]	0.590			

Notes: Goodness-of-fits statistics: X^2 (454) = 5060.509, P=0.001; RMSEA = 0.61; CFI = 0.954, TLI = 0.930.
*P< .05. CA - Cronbach's Alpha; CR - Composite Reliability; AVE - Average Variance Extracted

As shown in table 1, reliability test by way of Cronbach's Alpha (α) was performed on all the five constructs. All the five measurement constructs demonstrated high internal consistency among the items (αBEL = 0.915, αCCI = 0.839, αINE = 0.865, αSCE = 0.918, αTEF = 0.878). Secondly, composite reliability values were computed and compared to the recommended threshold of 0.70 (Hair et al., 2014). As shown in table 1, all Cronbach Alpha coefficients and composite reliability values were above the acceptable value of 0.7 $(\mathrm{CR} => 0.84, \alpha => 0.84)$ as indicated by Hair et al. (2014). Consequent to the computation of the CR and α and in other to obtain a confirmation of convergent validity, the average variance extracted (AVEs) was computed (see table 1). The AVEs demonstrated values above the 0.5 threshold (Hair et al., 2014). In order to evaluate the extent to which the constructs were distinct from each other based on empirical standards, discriminant validity by way of Fornell-Larcker criterion was applied (Fornell & Larcker, 1981). As displayed in table 2, the square root of the AVEs of each construct demonstrated values greater than its highest correlation with any of the other constructs while table 1 shows that, each construct shares more variance with its related indicators than with any other construct (Hair et al., 2014).

Table 2: Correlation Matrix with Mean, Standard Deviation and AVE SQRT

	MEAN	STDEV	AVE SQRT	BEL	CCI	INE	SCE	TEF
BEL	3.547	0.838	0.782	**1**				

CCI	3.781	0.652	0.713	0.453**	**1**			
INE	3.786	0.692	0.720	0.470**	0.481**	**1**		
SCE	3.582	0.800	0.789	0.652**	0.485**	0.570**	**1**	
TEF	3.649	0.763	0.720	0.586**	0.429**	0.542**	.636**	**1**

Notes: *p < .05, **p < .01, ***p < .001. STDEV - Standard Deviation;
AVE SQRT – Square Root of AVE

In order to measure the linear relation between the five constructs, the study applied Pearson product–moment correlations as shown in table 2. The correlation matrix and the correlation coefficients revealed a strong relationship between TEF and SCE (r =0.64, p <0.01), BEL (r =0.59, p <0.01) and INE (r =0.54, p <0.01). The result suggests that the transition experience of first year students is strongly associated with a supportive campus environment, students' sense of belonging and, intellectual engagement. The results further demonstrates that 41% (R^2=0.41) of the variance in the transition experience of first year students could be explained by their perception of having a supportive campus environment. Similarly, 35% (R^2=0.35) of the variance in the transition experience of first year students could be explained by their perception of having a sense of belonging. A statistically significant association was observed between SCE and BEL (r =0.65, p <0.01) and INE (r =0.57, p <0.01). The result shows that 42% (R^2=0.42) of the variance in the association between supportive campus environment and students' sense of belonging. Likewise, 32% (R^2=0.32) of the variance in the association between supportive campus environment and students' intellectual engagement could be explained by the results. Markedly, all the five variables (BEL, INE, SCE, CCI and, TEF) demonstrated positive statistically significant relationships as displayed in Table 2. The mean values and the standard deviation of the constructs are displayed in table 2 with INE (M=3.79, SD=0.69) indicating highest mean values with BEL (M=3.55, SD=0.83) showing the least mean values.

Results

A hierarchical multiple regression analysis was performed to test the hypothesis and also examine the unique effect of intellectual engagement, students' sense of belonging,

cross-cultural interaction and supportive campus environment on the transition experience of first year students. Before conducting the hierarchical multiple regression analysis, the independent variables (BEL, INE, SCE and, CCI) were gauged for incidence of multicollinearity by means of variance inflation factors (VIFs) and collinearity tolerance. Significantly, all the VIFs confirmed satisfactory values (Hair et al., 2010) with the highest value revealing 2.13 (SCE) and the least value, showing 1.34 (INE). The tolerance domain also demonstrated values above the expected threshold of 0.20. What the results suggest is that the estimated β values were established in the regression model.

The variables were entered in three steps: (a) the demographic variables - age, gender, race, campus and type of residence; (b) INE and BEL (individual variables) – to test hypothesis H1 and H2 and (c) SCE and CCI (institutional variables) – to test hypothesis H3 and H4. Prior research by Fischer (2007) demonstrates the plausibility of evaluating the transition experiences of students by way of individual and school level characteristics.

Table 3: Hierarchical regression analysis predicting scores on perceived students' transition experience

	Model 1			Model 2			Model 3		
	SE	β	t	SE	β	t	SE	β	t
Demographic variables									
Age (20years)	0.010	0.043	1.616	0.008	-0.080***	-3.858	0.007	-0.063**	-3.164
Gender (F)	0.040	-0.038	-1.468	0.030	0.002	-0.079	0.029	-0.001	-0.004
Campus (BL)	0.034	0.101***	3.790	0.026	0.052**	2.563	0.024	0.049**	2.557
Race (Black)	0.015	-0.103***	-3.921	0.011	-0.014	-0.711	0.011	0.003	0.170
Residence (O.C)	0.051	-0.053**	-1.977	0.038	-0.031	-1.557	0.036	-0.030	-1.578
R		0.178							
R^2		0.032							
F		9.774							
Predictive									

variables						
INE	0.025	0.362***	16.263	0.026	0.233***	9.729
BEL	0.021	0.412***	18.300	0.023	0.247***	9.772
CCI				0.026	0.050*	2.217
SCE				0.025	0.318***	11.909
R		0.669			0.709	
R^2		0.448			0.502	
ΔR^2		0.416			0.054	
ΔF		163.219			80.466	

Notes: β refer to standardized regression coefficients; *p < .05, **p < .01, ***p < .001. Demographic variables: O.C – On campus; F- Female; BL – Bloemfontein. Age 20 represents the age category, 18-22 years.

A hierarchical regression analysis with TEF as the criterion variable demonstrated an overall adjusted R^2 of 0.50, $F(9, 1489) = 166.77$, p = 0.001: revealing that 50% of the variance in TEF was explained by the predictor variables - BEL, INE, SCE and, CCI. The adjusted R^2 obtained for the variables in the first step as shown in table 3 was 0.03, $F(5, 1493) = 9.77$, p = 0.001: indicating that 3% of the variance in TEF was explained by the demographic variables. A significant increment was obtained in the second step, R^2 0.45, $F(7, 1491) = 172.993$, p = 0.001.

The result could therefore be explained as, the inclusion of the intellectual engagement and students' sense of belonging variables accounted for an additional 42% of the variance in the transition experience of first year students. However, even though INE and BEL were associated (r=0.47), BEL was a strong predictor of TEF as compared to INE, $\beta = 0.41$, $t(1491) = 18.30$, $p = 0.001$. A marginal increment was recorded after the cross cultural interaction and supportive campus environment variables were added to the equation as the third step, ΔR^2=0.05, $F(9, 1489) = 166.774$, $p = 0.001$ which demonstrates that the inclusion of CCI and SCE to the model accounted for an additional 5% of the variance in TEF. Summarily, "intellectual engagement" (β = 0. 233, ρ < 0.001), "students' sense of belonging" (β = 0. 247, ρ < 0.001), "cross cultural interaction" (β = 0. 050, ρ < 0.05) and "supportive campus environment" (β = 0.318, ρ < 0.001) served as predictors of "student transition experience". Additionally, campus location, race and residence were the only demographic variables that served as predictors of TEF. Contrastingly, age and gender did not serve as predictors of TEF. Particularly, students' campus location $\beta = 0.10$, $t(1493) = 3.79$, $p = 0.001$ demonstrated a positive and

significant effect on TEF. However, although race β = -0.10, t(1493) =-3.92, p = 0.001 and students' residence β = -0.053, t(1493) =-1.98, p = 0.01 served as significant predictors of TEF, they were negatively associated.

Discussion

The current study examined how the agency of supportive campus environment enhance the transition experiences of first year students in a university in South Africa. The data from the from the current study illustrate how institutional support systems, sociocultural, psychological and academic perspectives jointly give meaning to the transition experiences of first year students in the university. In particular, findings of the current study show that supportive campus environment serve as the strongest predictor of the transition experiences of first year students in the university setting. By highlighting supportive campus environment as the strongest predictor of the transition experiences of first year students, the current study reveals how institutional structure, policies (academic and others), practices and culture are important to the integration of first year students into the university. For instance, in the context of the current study, the Gateway programme for first year students seek to enhance their integration into the university. Previous studies have shown that supportive institutional arrangements enable the development of ancillary structures and interventions (Locks et al., 2008; Mostert et al., 2017) through a strong relationship between the social, cultural and academic elements of transition (Briggs et al., 2012).

Secondly, results of the current study expand the narratives of previous researchers on the significance of sociocultural factors (Jenert et al., 2017; Maramba & Museus, 2013) to include the importance of cross-cultural interaction to students' transition experiences. This means that the transition process of first year students involves an interface between institutional ethos that support students' adjustment process and individual experiences that include interaction with students from diverse cultures. As a multicultural university, the current study context like many public universities in South Africa admit new students every year from diverse cultures and socioeconomic

backgrounds from within and outside the country. When these students arrive in the university, they anticipate an institutional environment and culture that welcomes them and make them feel belonged to the university community. Furthermore, the transition experiences of first year students are associated with individual habitus that respond to happenings in the university environment (Reay et al., 2009) and are transformed through secondary explicit habitus (Threadgold, 2020; Wacquant 2014).

The data analysed revealed that age and gender were the only demographic variables that were not associated with the transition experiences of first year students as compared to the other variables - campus location, race and, students' residence which demonstrated significant relationships. Conversely, the campus location of students served as a better predictor of students' transition experiences than race and students' residence – revealing the importance of sub-cultures in a multi-campus university. All the independent variables – INE, BEL, CCI and SCE served as strong predictors of the transition experiences of first year students. This finding also supports all the four hypotheses developed to examine the study – H1, H2, H3 and H4. First, results revealed a positive relationship between intellectual engagement and the transition experiences of first year students. Through transition engagement programmes, students receive advice on the following: their subject choices; development of learner identity and enhancing their sense of belonging (Krause & Coates, 2008). However, while learner identity is positively associated with academic involvement and students' sense of belonging (MacFarlane, 2018), academic perception factors such as students' feeling of classroom success is significantly associated with their positive well-being (Bowman et al., 2019). Therefore, students who experience a positive sense of belonging are likely to approach their peers in the academic environment with positive attitudes, develop healthy relationships and provide others with a strong assurance that they are welcome within the school environment (Yeager & Walton, 2011).

The data analysed further revealed the importance students' sense of belonging to the transition experiences of students as well as their academic adjustment. Among the many reason's students may struggle in a university or be less motivated in achieving their aims is their doubt about their belongingness in the university (Harackiewicz &

Priniski, 2018). When first year students develop a feeling of isolation and a lack of interaction in the university environment, it could lead to a negative sense of belonging. An earlier study has shown that while relationship has a strong effect on students' sense of belonging (Gray et al., 2018), the academic adjustment of students in the university is enhanced by a sense of belonging (Petersen et al., 2009). Conversely, the absence of a sense of belonging could lead to stress and depression symptoms (Choenarom et al., 2005) and impede the cognitive performance of students (Baumeister & DeWall, 2005).

At the institutional level, the findings revealed that cross-cultural interaction among students and a supportive campus environment enhance the transition experiences of first year students with SCE serving as a stronger predictor of students' transition experience. Furthermore, by organising sociocultural activities for first year on-campus and off-campus students, the university can enhance students' sense of social connectedness. This result is consistent with the findings of previous research that show that a supportive campus environment enhance interaction among students from diverse backgrounds (Noyens et al., 2019) and facilitate their integration into the sociocultural context of the university (Jenert et al., 2017). Through institutional programmes, students develop genuine interest and understanding of other cultures and care for excluded groups within and outside the university by cultivating a cosmopolitan identity (Sahlberg & Brown, 2017). Similarly, when universities address the sociocultural needs of students, they (universities) avoid possible feeling of alienation and isolation especially among students from low socio-economic backgrounds and first-generation students (MacFarlane, 2018; Egege & Kutieleh, 2015).

While the academic, psychological and sociocultural interventions put in place by the university have been very helpful, it is important for a periodic review of these interventions to ensure that all first-year students adjust to the university environment. For instance, the growing students' community outside the university campus will require sociocultural activities within specific geographical zones to ensure that students develop a sense of social connectedness at their residences. Contrastingly, the absence of individual and institutional strategy to support students to successfully adjust to the academic demands of university environment through effective feedback systems and

student-centred teaching approaches (Briggs et al., 2012; Jenert et al., 2017) could impede students' academic development. Summarily, the integration of new students into the university environment involves a gradual process of formal and informal interactions regarding academic, social (Fischer, 2007) cultural and, psychological perspectives. Kinzie and Kuh (2017) assert that a challenging coherent first-year experience if well managed could lead to desired outcomes. Therefore, when students experience social, cultural or academic challenges in the first year, intervention by the university through supportive programmes become very important in creating a welcoming space for them.

Limitation and implications for future research

The findings of this study ought to be interpreted in the light of some limitations. First is that the use of online survey approach to gather quantitative data means that the researcher could not provide further explanation to the items that may require clarification from participants. Secondly, the use of a cross-sectional design rather than a longitudinal approach to measure the transition experiences of first year students meant that the findings of this study could not infer causality. Future research may focus on the causal relationship between students' perception of their transition experiences and the other factors by way of a longitudinal approach. However, I must indicate that a longitudinal approach would not necessarily evidence causality. Notwithstanding the study's limitations, I must state that individual and institutional factors are necessary in examining the transition experiences of first year students.

Conclusion

The purpose of the current study was to examine how the agency of supportive campus environment enhance the transition experiences of first year students in a university in South Africa. While the demography of students who enrol in HEIs continuously evolve, the adjustment of first year students to the university environment has become very important. Central to this discourse is the role universities play as well as the

sociocultural and psychological factors that enhance the transition of first year students from high school to the university. Findings of the current study contribute to the ongoing debate on student transition experience by emphasising that the adjustment processes of students to the university environment is enhanced by a strong supportive campus environment. The results further lead the researcher to challenge the appropriateness of examining the transition experiences of first year students from only a single dimension such as psychological or sociocultural perspective.

Results of the data analysed show that supportive campus environment serve as a strong predictor of the transition experiences of first year students in the university setting. A supportive university environment should also include the development of learner identity as part of the integration process. Secondly, findings of the current study pointed to the strong association between students' sense of belonging and the transition experiences of first year students. What the result suggest is that when students develop a sense of belonging, it enhances their transition experiences. The outcome of the current study points to the importance of three demographic factors - campus location, race and, students' residence to the transition experiences of students. Thirdly, the current study has shown that students' anticipation of adequate support from the university and their transition experiences is highly associated to their intellectual engagement. Undoubtedly, the main aim of students is to be successful in their academic pursuit and so, any institutional intervention that focuses on their academic achievement and success will enhance their transition experience. Conclusively, this study argues that when providers of higher education focus on institutional support systems, psychological, sociocultural and academic perspectives of students' transition, they will minimise the challenges students face in adjusting to the university environment.

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