

UNDERGRADUATE STUDENT ENGAGEMENT IN BUSINESS STUDIES LEARNING ACTIVITIES AT A SOUTH AFRICAN PRIVATE UNIVERSITY

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ABSTRACT

Poor student success and retention remain significant problems in South African higher learning institutions. This cross-sectional study investigated the dimensions of activity-level student engagement in undergraduate Business Studies modules. The social determinant theory (SDT) of motivation frames the study on marginalised students at a private higher education institution who received 60 per cent to 100 per cent funding from a non-governmental organisation to support their educational studies. Two hundred and sixty-four students took part in the survey. Second-order structural equation modelling analysis indicated that in a lecturer autonomy-supportive environment, agentic engagement was the most important element of student engagement at an activity level, followed by cognitive, emotional and behavioural engagement. In addition, parametric analyses using the ANOVA indicated that being a first-generation student and higher student funding had statistically significant influences on agentic and emotional engagement. Findings will assist policymakers and university lecturers foster agentic engagement in learning environments by designing interventions to improve cognitive, emotional and behavioural engagement. The importance of proper funding for impoverished students is highlighted.

Keywords: Agentic engagement, autonomy-supportive environment, behavioural engagement, cognitive engagement, emotional engagement, SDGs, student engagement, student financial aid

INTRODUCTION

Since South African independence in 1994, admission to higher education has increased tremendously, with a notable rise in previously disadvantaged black and coloured students (Mtshweni 2022). However, this increase in access to higher education is unmatched by student academic achievement (Saidi 2020; Strydom et al 2012). Ramrathan (2013) reported dropout rates of up to 40 per cent among first-year undergraduates. Consequently, the high dropout numbers restrict the attainment of Social Development Goals (SDGs); goal 4 promotes inclusivity and equitable quality education, rendering dropouts a bleak future regarding employment.

Many authors (Ivala and Kioko 2013; Reeve 2013; Reeve and Shin 2020; Reeve et al 2021; Reeve 2012) have attributed the poor performance of the students mainly to a lack of student engagement. However, other authors (Ivala and Kioko 2013; Strydom et al 2012; Van Zyl et al 2012) have attributed poor performance to student under-preparedness, financial limitations, insufficient support systems, socio-economic inequalities, and inadequate fluency in the language of instruction. On the other hand, student engagement correlates positively with enhanced learning outcomes such as high student academic performance and satisfaction (Wang 2021; Hews et al 2022; Germain-Rutherford et al 2021; Bowden et al 2021; Montenegro 2017; Wawrzynski et al 2012; Schreiber and Yu, 2016; Reeve 2012; Reeve 2013; Reeve and Tseng 2011; Edwards et al. 2020; Reeve and Jang 2022; Ivala and Kioko 2013; Fredricks et al 2004; Manwaring et al 2017; Sinatra et al 2015). Furthermore, engaged students are said to be attentive, perform better, have low dropout rates, and show resilience when compared to disengaged students (Fredricks et al. 2004; Manwaring et al. 2017; Sinatra et al 2015; Ivala and Kioko 2013).

Numerous South African universities use the National South African Survey of Student Engagement (SASSE) to assess the general engagement of students in different areas, including academic challenges, peer learning, lecture experience and campus environment (Schreiber and Yu 2016; Strydom et al 2012). However, the SASSE institutional engagement surveys fail to capture engagement occurring at a course level, particularly at an activity level within a course. In addition, some authors (Halverson and Graham 2019; Manwaring et al. 2017) reported that activity-level engagement has received little attention compared to institutional and course levels. For this reason, this study explores the emergence of a four-factor activity-level student engagement (agentic, behavioural, cognitive and emotional), a derivative of Western thinking (Reeve and Jang 2022; Reeve and Tseng 2011; Manwaring et al. 2017) within an undergraduate Business Studies course in a marginalised community where the private learning institution

financially supported the students. It is within this context that this research aims to answer the following three research questions:

- How do students perceive engagement at an activity level in autonomy-supported teaching environments in undergraduate Business Studies modules at a private higher education institution?
- What is the applicability of the Western four-factor student engagement measurement model in a South African disadvantaged community?
- How do individual factors (such as age and gender) influence student engagement?

The study aims to quantify the engagement levels at an activity level. It proposes practical recommendations and approaches for enhancing engagement among undergraduate students at South African universities to improve their cognitive, behavioural, emotional, and agentic engagement, which are important for student success. This study is significant for several reasons. Firstly, engagement correlates well with improved long-term educational goals (Fredricks et al 2004; Manwaring et al. 2017; Sinatra et al 2015), so understanding engagement will unlock the potential for improved learning outcomes and increased student success and retention and this is in line with the United Nations' Sustainable Development Goals (SDGs) 4 and 5. The SDGs goals address inclusive and equitable quality education, particularly in marginalised communities that need upliftment and empowerment. Secondly, the study aims to find the applicability of the four-factor student engagement model, initially conceived in western countries, to the South African context. Lastly, the study intends to unravel the influence of demographic factors such as age and gender on student engagement.

STUDENT ENGAGEMENT AS DESCRIBED IN THE LITERATURE

Student engagement is multifaceted (Jimerson, Campos and Greif 2003), and authors define it differently. For Reeve (2012) and Reeve (2013), student engagement is the active participation of students in learning activities. For Kuh (2009, 683), it is "the time and effort students devote" to learning tasks. Student engagement comprises cognitive, emotional, and behavioural dimensions (Fredricks et al 2004; Trowler 2010; Halverson and Graham 2019). Several authors have recently classified student engagement as behavioural, cognitive, emotional, and agentic (Reeve 2022; Reeve 2021; Reeve 2020; Reeve 2016; Manwaring et al. 2017). However, the lecturer's chosen pedagogy and other strategies, including course design/activity design, mode of content delivery, teaching environment, technology innovations, and autonomy support,

mediate student engagement and academic performance (Manwaring et al. 2017; Al Mamun and Lawrie 2023). The following sections discuss the various elements of student engagement.

Behavioural engagement is the observable social, cognitive, emotional and agentic involvement in the learning process (Bowden, Tickle, and Naumann 2021), and it refers to the effort, attention and persistence that students put into an activity (Reeve 2013; Montenegro 2017; Reeve and Tseng 2011). One example of student behavioural engagement is good attendance (Bowden et al 2021; Montenegro 2017). In learning activities, behavioural engagement is lecture-initiated (Reeve 2012). Andersen and Feldstein (2021) report that bad behavioural attitudes, such as absenteeism and disruptive classroom behaviour, lead to disengagement and poor academic achievements.

Cognitive engagement demonstrates and applies higher-order thinking skills (Andersen and Feldstein 2021; Bowden et al 2021; Reeve 2013). Cognitive engagement includes metacognition, self-regulation and reflection, time spent on tasks, problem-solving, creativity and critical thinking application (Parker and Wilkins 2018; Montenegro 2017). In learning activities, cognitive engagement is sometimes lecturer-initiated (Reeve 2012).

Emotional engagement demonstrates positive emotions such as pride and enthusiasm towards learning activities (Andersen and Feldstein, 2021; Bowden et al 2021; Montenegro 2017; Reeve, 2013). Emotionally engaged students derive meaning and purpose from their academic and social learning (Fredricks et al 2004). In learning activities, emotional engagement is sometimes lecturer-initiated (Reeve 2012).

Students' deliberation and positive input to knowledge construction depict *agentic engagement* (Reeve 2013; Reeve 2012; Kaplan et al. 2021; Reeve and Tseng 2011; Reeve and Shin 2020; Montenegro 2017). Agentic engagement creates a shared relationship between the student and the lecturer, resulting in a continuous dialectical transaction between the lecturer and student (Andersen and Feldstein 2021; Reeve and Shin 2020; Reeve 2013; Kaplan et al. 2021). Consequently, this student-lecturer collaboration creates a learning environment with greater autonomy support, which leads to student motivation and achievement (Reeve et al. 2021; Reeve and Shin 2020; Patall et al. 2019). Unlike other components of engagement, agentic engagement is student-initiated (intentional), proactive and collaborative and leads to student success and motivation (Reeve and Jang 2022; Reeve and Tseng, 2011). In autonomy-supportive environments, students will agentially engage by personalising their learning experience, offering suggestions, asking questions, and communicating their preferences (Montenegro 2017; Reeve et al. 2021).

For agentic engagement to work, the lecturer and the learning environment must be responsive to the student's initiative, input, and suggestions (Kaplan et al. 2021). Consequently, the mutual relationship between the lecturer and student will support the greater achievement of learning outcomes in a learning activity (Andersen and Feldstein, 2021; Kaplan et al. 2021; Reeve and Shin 2020).

Lecturers respond to students' agentic engagement by providing autonomy, support, indifference, or control. According to numerous authors (Reeve 2013; Reeve and Shin 2020; ten Cate, Kusurkar and Williams 2011; Reeve et al. 2021; Kaplan et al. 2021), autonomy and support include lecturers taking the perspective of the students, inviting students to provide input, allowing students to express a preference and offer a suggestion/contribution, and providing learning that is challenging and interesting – and at the right learning level. Autonomy-supportive learning leads to high engagement levels (Andersen and Feldstein 2021; Reeve et al. 2021; Reeve 2013; Jiang and Zhang 2021; Montenegro 2017). Indifferent lecturers pay little attention to students' needs and goals. Controlling lecturers deliver lessons from their own point of view with little regard for the point of view of students resulting in disengagement and many behavioural, emotional, and cognitive problems in class (Jiang and Zhang 2021; Reeve 2012).

The effect of gender on engagement

Engagement contributes to academic success irrespective of the student's gender, as lecturers create autonomy-supportive structures and motivationally satisfying environments to support agentic engagement (Parker and Wilkins 2018). Santos et al. (2021) claim that females have higher engagement levels than males since females have better-developed self-regulatory skills. However, Manwaring et al. (2017) and Ebede (2018) claimed that gender does not significantly influence cognitive engagement for males and females.

The influence of age on student engagement

Naiker et al. (2022) and Covas and Veiga (2021) reported that mature students had a higher and statistically significant influence on all engagement dimensions than younger students. Likewise, Santos et al. (2021) reported that student engagement was higher and statistically significant between the youngest and oldest groups than the middle groups.

Considering the engagement elements separately, Covas and Veiga (2021) reported that older students had a higher and statistically significant influence on agentic, behavioural and cognitive engagement than younger students. In contrast, Santos et al. (2021) reported that younger students had a higher and more statistically significant influence on behavioural and cognitive engagement than older students.

The Influence of first-generation students on student engagement

The influence of being a first-generation or non-first-generation student on student engagement has had mixed results. First-generation students had lower cognitive and agentic engagement levels than non-first-generation students (Pike and Kuh 2005). On the contrary, first-generation students had higher engagement levels than non-first-generation students (Ebede 2018). However, there were no significant differences in cognitive and emotional engagement between first-generation and non-first-generation students (Manwaring et al. 2017).

THE THEORETICAL AND CONCEPTUAL FRAMEWORK UNDERPINNING THIS STUDY

The self-determination theory (SDT) of motivation frames this study (see Deci and Ryan 2000; Ryan and Deci 2000). The theory is based on autonomous motivation (intrinsic and internalised extrinsic), controlled motivation, and three principles (autonomy, relatedness, and competence). The basis of the SDT is that the need for autonomy (the need to act out of volition), relatedness (the need to be cared for and caring for others) and competence (the need to feel adequate in one's behaviour) drives human motivation (Jiang and Zhang 2021; ten Cate et al. 2011). Consequently, creating autonomy-supportive environments by lecturers correlates with positive learning outcomes (Patall et al. 2019; Jiang and Zhang 2021; Shin and Reeve 2020). For this reason, lecturers must foster learning environments that satisfy relatedness, competencies, and autonomy through agentic engagement (Shin and Reeve, 2020; Mehdipour Maralani, Shalbah and Gholamali Lavasani 2018). Agentic engagement captures the essence of the SDT and helps to explain the creation of intrinsic motivation and internalisation of external

motivations that result in positive learning outcomes (Mehdipour Maralani et al 2018). The SDT was chosen as the theoretical framework because student engagement mediates student motivation and learning outcomes (Reeve 2012; Reeve 2013; ten Cate et al. 2011).

Reeve's (2013) and Manwaring et al.'s (2017) *conceptual model of student engagement at an activity level* was used as the conceptual framework. The framework comprises four engagement dimensions: behavioural, cognitive, emotional and agentic. Figure 1 shows the elements of student engagement.

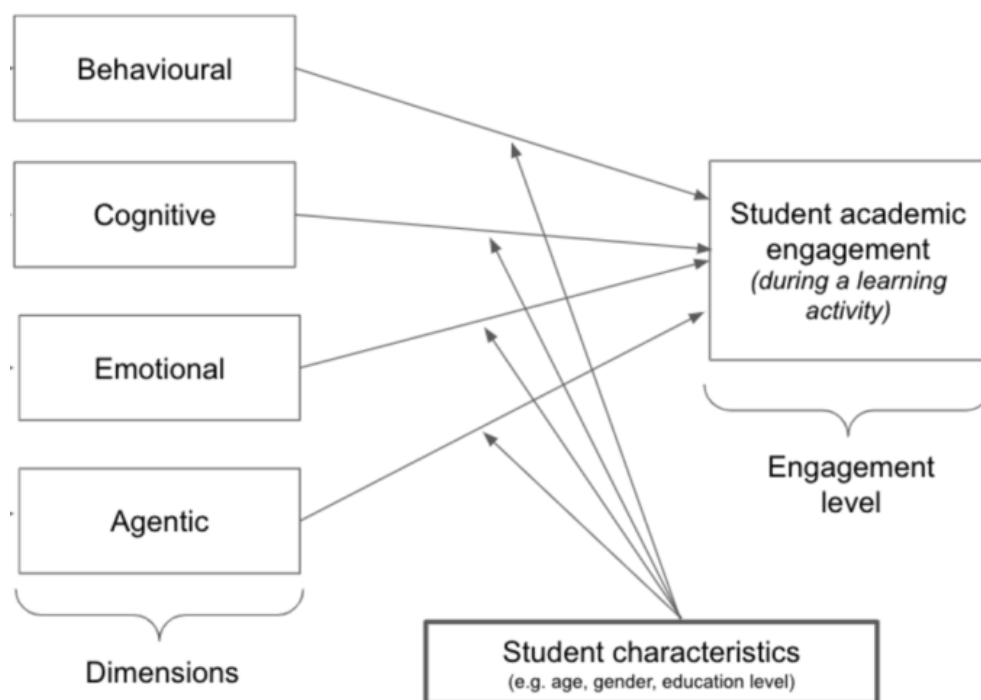


Figure 1: Conceptual model of student engagement at an activity level (Reeve 2013; Manwaring et al. 2017)

Figure 1 shows that the four dimensions of behavioural, cognitive, emotional and agentic engagement influence student academic engagement and are moderated by student characteristics such as age and gender.

METHODOLOGY

The higher education institution where this study took place is a private and non-governmental organisation that provides funding to impoverished students who fail to qualify for public university places but qualify for higher education. The private university offers business entrepreneurial undergraduate courses, and after graduation, the students commit to work in the

same communities they came from, setting up business ventures. The study followed a quantitative approach using an instrument adopted and modelled on Reeve's (2013) and Manwaring et al. (2017) activity-level student engagement questionnaires. Purposive sampling was undertaken. Data was collected using an online Google form. The respondents provided answers to each construct on the Likert-type agreement scale starting from (1) not at all, (2) slightly, (3) moderately, (4) much, and (5) a great deal.

Ethical clearance was sought and approved by the university research ethics committee (REC) and the institution where the study occurred. The participants provided written informed consent and had the power to withdraw from the study at any time.

Two hundred and sixty-five students participated in the study, of which 25.3 per cent were males and 74.7 per cent were females. Then 55.8 per cent of the participants were in the 18-20 age group, 28.7 per cent in the 21-25 age group, 14.0 per cent in the older 26-30 age group and 1.5 per cent in the senior 31-36 age group. Regarding population groups, 60.4 per cent were black, and 39.6 per cent were coloured. Besides, 77.7 per cent of the participants were first-generation students, 17.7 per cent were non-first-generation students, and 4.5 per cent were unsure. Also, 73.9 per cent of the participants were in their first year, 18.9 per cent were in their second year, and 7.2 per cent were in their third year. Of the first years, 46.4 per cent were studying the Higher Certificate in Business Administration, and 27.5 per cent were studying the Bachelor of Business Administration (BBA). The BBA second-year and third-year modules had 18.9 per cent and 7.2 per cent students, respectively. Moreover, 58.1 per cent of the participants received 100 per cent funding, 16.2 per cent received 80 per cent, 14.7 per cent received 60 per cent, and 10.9 per cent were unsure.

Data analysis

Exploratory and confirmatory factor analyses were employed to validate the adapted questionnaire using SPSS and AMOS version 28. Besides, we employed structural equation modelling to find the structural relationships among agentic, cognitive, emotional, cognitive, and behavioural engagement variables. For instrument validation, we used Exploratory Factor Analysis (EFA) with the Principal Factor Axis (PFA) technique and the oblique rotation method to check for unidimensionality. Table 1 shows the factor loadings for agentic engagement (AE), behavioural engagement (BE), cognitive engagement (CE) and emotional engagement (EE)

The factor loadings are significant and greater than 0.5, demonstrating that the items measured the intended construct strongly (Field 2018).

Table 1: Factor loadings of construct items

Factor loadings (λ)			
AE	BE	CE	EE
0,742			
0,672			
0,793			
0,733			
0,691			
0,673			
	0,776		
	0,810		
	0,779		
	0,633		
	0,698		
		0,639	
		0,704	
		0,717	
		0,639	
			0,748
			0,779
			0,724

Note: AE = agentic engagement; BE = behavioural engagement; CE = cognitive engagement; EE = emotional engagement

The Measure of Sampling Adequacy

We used the Kaiser-Meyer-Olkin (KMO) to determine whether factor analysis was plausible.

Table 2: KMO values of the constructs

Construct	KMO
AE	0.872
BE	0.848
CE	0.777
EE	0.708

Note: AE = agentic engagement; BE = behavioural engagement; CE = cognitive engagement; EE = emotional engagement

The constructs' KMO values were greater than 0.7, thus demonstrating middling sampling adequacy (Backhaus et al. 2016). Table 2 shows the KMO values for all constructs.

Multicollinearity

Multicollinearity exists if the constructs are highly correlated. Table 3 shows that the correlations are less than 0.8, indicating no multicollinearity in the data (Shrestha 2020).

Table 3: The inter-correlations of the constructs

Construct	AE	BE	CE	EE
AE	1			
BE	0,592*	1		
CE	0,457*	0,616*	1	
EE	0,688**	0,570**	0,643**	1

Note: AE = agentic engagement; BE = behavioural engagement; CE = cognitive engagement; EE = emotional engagement

Reliability

We used Cronbach's alpha to measure the internal consistency of the items in a construct (see Venkatesh, Brown, and Bala 2013). Cronbach's alpha values went from 0.770 to 0.862, signifying some good measurements of internal consistency (Sarmiento and Costa 2019; Tavakol and Dennick 2011). Table 4 shows the Cronbach's alpha values for all the constructs.

Table 4: Cronbach's alpha values for all the constructs

Construct	Cronbach's Alpha
AE	0.862
BE	0.857
CE	0.770
EE	0.794

Note: AE = agentic engagement; BE = behavioural engagement; CE = cognitive engagement; EE = emotional engagement

Construct Validity

Construct validity comprises convergent and discriminant validity. Convergent validity is how strongly items in the construct correlate, and discriminant validity is how distinct the constructs are from each other (Hair et al. 2021). Construct validity evaluates whether questionnaire items measure the intended construct (Venkatesh et al 2013). We measured convergent and discriminant validity by calculating the Composite Reliability (CR), which has more accuracy

than Cronbach's Alpha, for measuring the internal consistency of the constructs (see Venkatesh et al 2013). Average Variance Extracted (AVE) was used to measure convergent and discriminant validity, where AVE is the mean of all the factor loadings squared and measures common variance (Hair et al. 2021). The CR and AVE values for each construct were higher than 0.7 and 0.5, respectively, demonstrating good convergent validity (Hair et al.1998). Except for Agentic engagement, the square roots of the other constructs were greater than the inter-construct correlations, representing good discriminant validity for the constructs (Fornell and Larcker, 1981). The square roots of AVE values are bolded along the diagonal. Table 5 shows the CR and AVE values for all the constructs.

Table 5: Composite Reliability and AVE of Constructs

Construct			AE	BE	CE	EE
	CR	AVE				
AE	0.865	0.457	0.676			
BE	0.859	0.551	.592*	0.742		
CE	0.770	0.564	.457*	.616*	0.751	
EE	0.795	0.517	.688**	.570**	.643**	0.719

Note: AE = agentic engagement; BE = behavioural engagement; CE = cognitive engagement; EE = emotional engagement; CR = composite reliability; AVE = average variance extracted; * = $p < 0.05$; ** = $p < 0.01$

Measurement model

We used AMOS version 28 to undertake a confirmatory factor analysis to verify the measurement model. Figure 2 below shows the confirmatory factor analysis model.

The factor loadings exceeded the 0.6 threshold, demonstrating that the items are strongly related to the latent construct (see Field, 2018). We used the chi-square fit statistics/degree of freedom, comparative fit (CFI), Tucker-Lewis (TLI) and incremental fit (IFI) indices, root mean square error of approximation (RMSEA) and standardised root mean square residual (SRMR) to evaluate the model fit.

The ratio of CMIN to degrees of freedom was equal to 2,511, within the required range between 1 and 3 (see Hu and Bentler 1999). The CFI, TLI and IFI were equal to 0,917, 0,901, and 0,918, respectively, values greater than the threshold values of 0.90 but less than 0.95, making them acceptable (see Hu and Bentler 1999).

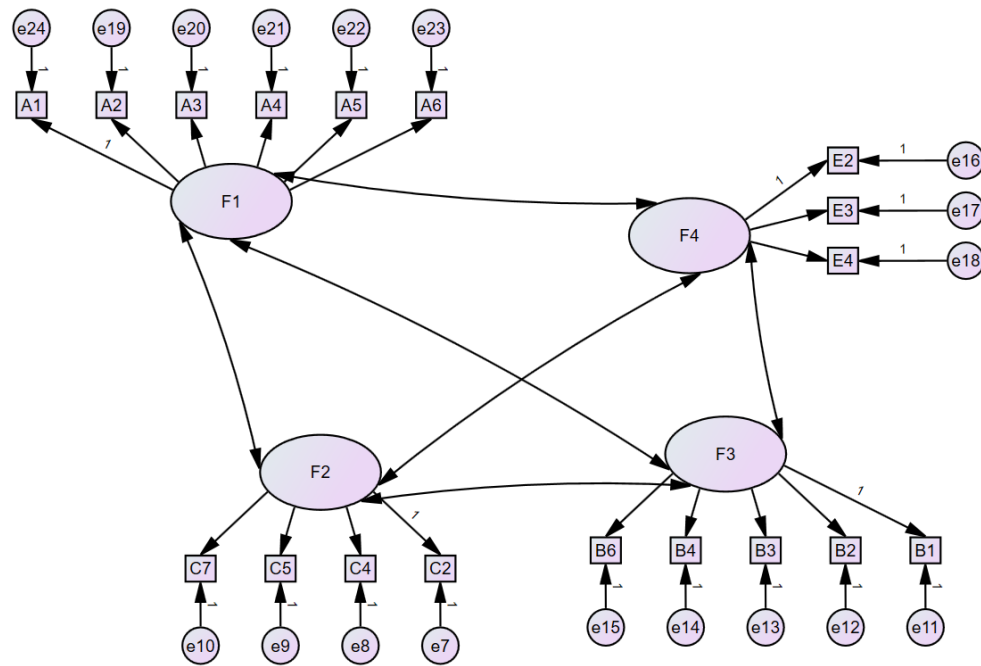


Figure 2: Confirmatory factor analysis model

The RMSEA and Standardised SRMR were equal to 0,076 and 0,0542, respectively, and these values are excellent since they are less than the threshold of 0.08 (see Hu and Bentler 1999).

Second-order confirmatory factor analysis

Factors F1, F2, F3 and F4 are somehow "moderately" correlated, indicating that they can be accounted for by a second-order latent factor that we named "Engagement" (see Brown 2006). Figure 3 shows the second-order confirmatory factor analysis.

The factor loadings of the F1, F2, F3 and F4 sub-constructs loaded highly and significantly on the second-order latent factor, Engagement. The CR and AVE values for F1, F2, F3 and F4 exceeded 0,7 and 0,5, respectively, demonstrating good convergent validity (Field, 2018). F1 (agentic engagement) loads highest with a factor loading of 0,926, followed by F2 (cognitive engagement) with a factor loading of 0,869, and F4 (emotional engagement) with a factor loading of 0,826. Finally, F3 (behavioural engagement) loads the last with a factor loading of 0.788. Table 6 shows the proposed student engagement relationships within the hypothesised model.

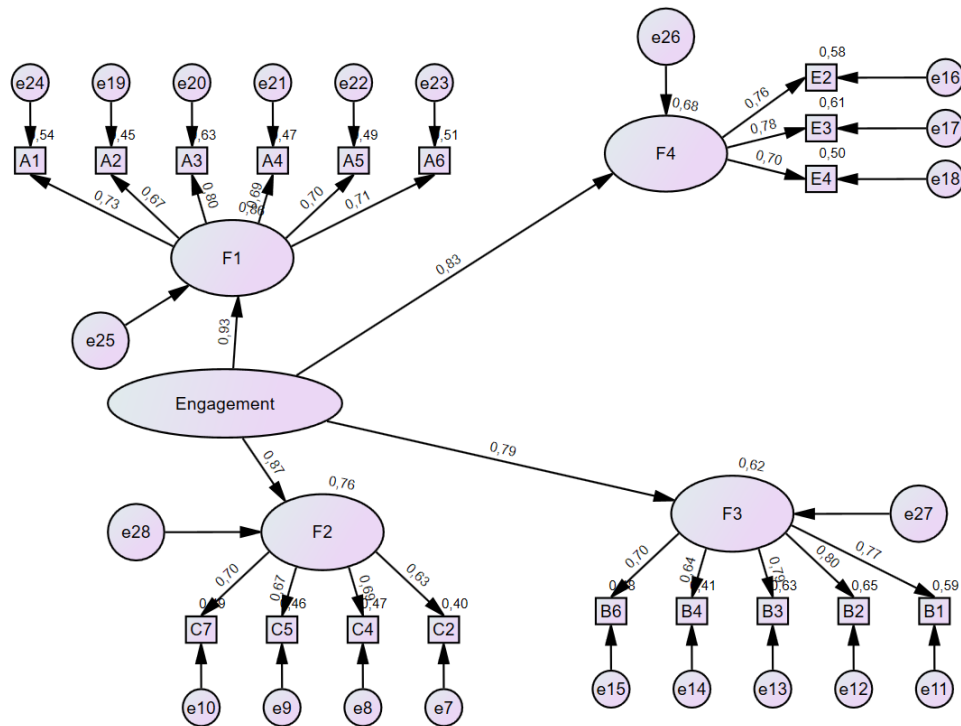


Figure 3: The second-order confirmatory factor analysis model

Table 6: Factor loadings of subconstructs F1, F2, F3 and F4

			Std. Estimate	SE.	CR.	P	Result	CR	AVE	Rank
								0,915	0,729	
F1	<---	Engagement	0,926				Reference point			1
F4	<---	Engagement	0,826	0,084	9,241	***	significant			3
F2	<---	Engagement	0,869	0,092	8,259	***	significant			2
F3	<---	Engagement	0,788	0,070	9,191	***	significant			4

Note: F1 = agentic engagement; F2 = cognitive engagement; F3 = behavioural engagement; F4 = emotional engagement

Moderating effects of independent variables

The Analysis of variance (ANOVA) tests were used to check whether gender, age, population group, first-generation student, and scholarship amount affected agentic, behavioural, cognitive and emotional engagement.

- Effect of Gender – The females had greater and statistically significant engagement levels than males for cognitive engagement only ($p = 0.014$).
- Effect of Age – The older students had a greater and more statistically significant influence on agentic, behavioural and cognitive engagement than younger students.
- Effect of the population group – No statistically significant influence on the engagement dimensions.
- Effect of being a first-generation student – First-generation students only had greater and statistically significant means than their counterparts for agentic engagement ($p = .001$) and emotional engagement ($p = .031$).
- The effect of percentage of scholarship funding – The students who received higher scholarship amounts had greater and statistically significant engagement levels for agentic ($p = 0.041$) and emotional engagement ($p = 0.040$) than those who received less.

DISCUSSION

The purpose of the study was to measure the perceptions of student engagement in Business Studies at an activity level of undergraduates who came from impoverished communities at a private higher education institution in Western Cape, South Africa. The main finding of the study was that agentic engagement is the strongest factor influencing student engagement (factor loading of 0.926), followed by cognitive (factor loading of 0.869), emotional (factor loading of 0.826), and behavioural engagement (factor loading of 0.788). The prominence of agentic engagement is consistent with findings from several authors (Wang 2021; Hews et al 2022; Germain-Rutherford et al 2021; Bowden et al, 2021; Reeve 2013; Reeve et al. 2012; Reeve et al. 2020; Reeve 2021; Reeve and Jang 2022; Reeve and Tseng 2011; Manwaring et al. 2017; Edwards et al. 2020; Fredricks et al 2004) who posited that agentic engagement was important in improving student learning outcomes.

The learning activities used by the lecturer in this study are consistent with a rich autonomous-supportive learning environment where the students take responsibility for their learning (Reeve et al., 2021; Reeve and Shin, 2020; Reeve and Tseng, 2011; Reeve, 2013). Therefore, the prominence of agentic engagement over the other elements supports that the lecturer's autonomous motivating style fosters agentic engagement (Reeve et al. 2020; Reeve 2021; Reeve and Jang 2022). However, there is a need to conduct the study in non-autonomy-

supportive environments to be sure whether agentic engagement solely depends on such environments. Cognitive, emotional, and behavioural engagement played second fiddle to agentic engagement. This result is consistent with the findings of several authors (Reeve 2013; Reeve et al. 2012; Reeve et al. 2020; Reeve 2021; Reeve and Jang, 2022; Reeve and Tseng, 2011; Manwaring et al. 2017; Shin and Reeve, 2020) who indicated that cognitive, emotional, and behavioural engagement emerge from agentic engagement.

The second focus of the study was to verify the applicability of the Western four-factor student engagement measurement model in this disadvantaged community. The confirmatory factor analysis demonstrated that the measurement model was a four-factor one comprising emotional, behavioural, agentic, and cognitive elements. This result is consistent with findings from several authors (Reeve et al., 2020; Reeve 2021; Reeve and Jang, 2022; Reeve and Tseng 2011; Manwaring et al. 2017). The model had acceptable model fit values, thus cross-culturally validating the applicability of this Western-derived student engagement measuring instrument in this impoverished cultural setting in a developing economy.

The third question investigated the moderating impact of gender, age, population group, first-generation student, and funding source on student engagement dimensions at an activity level. The results are discussed in the following sections.

In this study, females exhibited higher levels of cognitive engagement than males, aligning with Santos et al.'s (2021) findings, which suggested that females generally had higher engagement scores. However, Santos et al. (2021) did not indicate the specific type of engagement. Regarding agentic, behavioural, and emotional engagement, our findings are consistent with numerous other authors' findings (Manwaring et al. 2017; Parker and Wilkins 2018; Ebede, 2018), who indicated that gender does not significantly influence student engagement.

Age had a statistically significant effect on agentic, behavioural, and cognitive engagement, with the means of mature students being greater than those of young students. This result is consistent with findings from several authors (Santos et al. 2021; Naiker et al. 2022; Covas and Veiga, 2021) who reported that student engagement was higher among mature students.

The population group did not affect agentic, emotional, behavioural, and cognitive engagement. This result is consistent with findings from Ebede, (2018).

First-generation students had greater and statistically significant engagement means than non-first-generation students for agentic and emotional engagement. This result is consistent with findings from Ebede (2018) and Manwaring et al. (2017) but inconsistent with findings

from Soria and Stebleton (2012) and Pike and Kuh (2005), who reported that first-generation students had lower engagement levels compared to their counterparts.

The percentage of scholarship funding significantly influenced agentic and emotional engagement with students who got higher scholarship amounts (80% and 100%) with higher and statistically significant engagement than those with lower scholarship amounts. The finding confirms that agentic engagement is important regardless of socio-economic background, provided the students are well-funded for their learning. This finding is significant in South Africa, where high levels of economic inequality exist. With financial support the students will achieve academically and probably lift their families out of poverty in line with the United Nations' Sustainable Development Goals (SDGs) 4 and 5. The implication is that alternative funding models must be implemented to support poor students in private universities since they are ineligible to access a government subsidy such as the National Student Financial Aid Scheme (NASFAS). (It is worth noting that engagement is associated with positive student achievement (see Wang 2021; Hews et al 2022)).

THEORETICAL CONTRIBUTIONS

The study contributes to the literature on student engagement in South Africa and worldwide. The study resulted in a cross-cultural validation of the engagement instrument and confirmed that agentic, behavioural, emotional, and cognitive engagement were fundamental elements of student engagement. The findings support the theory of self-determination, which posits that people are motivated and engaged in activities when they have autonomy, competence, and relatedness. It is this autonomy that breeds agentic engagement associated with positive learning outcomes.

PRACTICAL IMPLICATIONS OF THE FINDINGS

The findings have several implications for lecturers and universities. Firstly, lecturers must create autonomy-supportive learning environments such as student-centred strategies that support student self-regulation through opportunities to reflect on their learning journey, plan and monitor their work, set goals, and enable a supportive and collaborative classroom environment where students feel comfortable asking questions and sharing ideas. Consequently, this will foster agentic engagement, leading to improved learning outcomes, which are currently poor in higher education. However, creating autonomy-supportive environments is time-consuming. Therefore, the scholarship of teaching must also be rewarded

on par with research to motivate the lecturers to invest time in teaching and help students pass and graduate on time.

Secondly, the study shows that adequately funded students had greater agentic and emotional engagement. Nevertheless, the South African government does not fund students at private universities unless they are enrolled in public institutions. The government must reconsider private university funding. Funding will help deserving students who cannot afford to pay tuition but qualify to enrol at private universities, thus satisfying their agentic and emotional needs. In turn, agentic engagement will lead to positive educational outcomes (see Wang 2021; Hews et al 2022; Germain-Rutherford et al 2021; Bowden et al 2021), hence meeting the United Nations Sustainable Development Goals 4 and 5 of providing inclusive and equal education to all.

RECOMMENDATIONS

The study must be replicated in different subjects and contexts in South Africa and other African countries to validate the engagement findings for both undergraduate and postgraduate students in the non-western world. In this study, the lecturer provided autonomous teaching strategies. However, to determine the effectiveness of autonomous teaching strategies, an experimental study must be conducted where autonomy is provided as an intervention and a non-autonomous teaching class as the control to precisely determine the influence of the autonomous teaching strategy on student engagement. In addition, the relationship between types of engagement and academic performance needs investigation to validate the Western literature, which predicts a strong relationship between agentic engagement and academic performance.

LIMITATIONS OF THE STUDY

The survey was based on subjective student self-reports, which do not always tell the true story since the students are likely to display social desirability bias in answering questions. In addition, students may fail to accurately report their own experiences or feelings due to their lack of self-awareness and memory. A cross-sectional study was used, but students' motivation/engagement is dynamic and accumulates with time; thus, a longitudinal study would have been desirable. A quantitative approach was employed in this study, but this may fail to capture all the available data, unlike a mixed-method approach, where a qualitative approach

provides more profound insights than a quantitative approach alone. In addition, teacher-reported methods/measures should also have been used to provide a comprehensive understanding of engagement. The study can be extended to other institutions of higher learning. In addition, a larger sample size may improve reliability.

CONCLUSIONS

The findings from this study suggest that agentic engagement is the most important factor in student engagement, followed by cognitive engagement, emotional engagement, and behavioural engagement. In addition, well-funded students in autonomy-supportive environments have more agentic and emotional engagement than those who were not, implying the importance of proper funding in private universities which do not get government subsidies.

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