3 UNDERSTANDING AND SUPPORTING STUDENTS ENTERING HIGHER EDUCATION

Michael Henn, Lana Hen-Boisen &
Hanlé Posthumus

There comes a point where we need to stop just pulling people out of the river. We need to go upstream and find out why they're falling in – Desmond Tutu

INTRODUCTION

Students in their first year of study face potentially sizeable academic and non-academic transitional challenges. According to Department of Higher Education and Training (DHET), attrition rates for first-year students in South Africa have been fluctuating between 33% and 25% in recent years (DHET 2016). Combined with other specified data such as the student engagement surveys, these statistics act as diagnostic indicators to where interventions are most needed. From a systemic South African perspective, there has been a significant shift towards evidence-based decision-making in an effort to bolster success rates, inform policy and identify strategic goals for higher education.

Building on this shift towards an evidence-based culture to help students succeed, this chapter argues for a more nuanced, data-driven approach to identify ways to support students and foster higher levels of engagement. This will be done through describing the Beginning University Survey of Student Engagement (BUSSE) and discussing the potential contributions this source of information can make to understand first-year students' experiences and expectations when entering higher education. This chapter also focuses on how institutions could better support these students if we have a better understanding of who entering students are and how their expectations align with the realities of undergraduate studies.

THE IMPORTANCE OF STUDENT SUCCESS IN THE FIRST YEAR OF UNIVERSITY

Identifying how students can be supported throughout their first year of study has been an important focus for higher education researchers in the United States for over 30 years and many valuable publications have resulted from this effort. While significant progress has been reported in these publications, retaining first-year students is still a global challenge. For example, a United States National Student Clearinghouse report (2014) shows that 69% of first-year students who enrolled in 2012 returned to any institution in 2013. That means that 31% of these students dropped out. Similarly, first-year dropout rates for Australian higher education range between 42% and 7.5% (Burke 2016), and the United Kingdom has reported dropout rates of between 19% and 7% for first-years (Paton 2014). In South Africa, first-year dropout rates vary between 33% and 25% (DHET 2016) and the Council on Higher Education (CHE) estimates that 60% of students who drop out of higher education do so during their first year of study (CHE 2013). Although many factors might impact students' decision to drop out, research suggests that failure to negotiate the transition between school and university makes a significant contribution to the high dropout rates in the first year (Parker, Summerfelt, Hogan & Majeski 2004).

Intensifying transitional challenges is a student's generational status, or whether they are the first in their families to attend higher education. Qualitatively exploring a group of first-generation students' transitional experiences entering higher education in Australia, O'Shea (2009) stresses the lack of legitimate information sources reaching students to help create a realistic view of what to expect. Instead, misconceptions and reflecting on their transitions as a 'learning curve' were prominent for this group of students. In fact, authors such as Pike and Kuh have found that for the most part, first-generation students are at a disadvantage in comparison to non-first-generation students and that "a disproportionately low number of first-generation students succeed in college" (Pike & Kuh 2005:276). However, transitional difficulties are not only limited to first-generation students. Of the 128 students qualitatively interviewed about transitional challenges in a South African study conducted by Wilson-Strydom (2015), most students, irrespective of their race, gender, and school background experienced a dissonance between what they thought university would be like, and the reality they found. Further, Wilson-Strydom found that students faced difficulty with developing an understanding of how the university system and culture works, including application processes, course selection, and qualifying for financial support. In a study of the psychometric properties of the contextualised BUSSE among other focus areas, Mentz (2012) also found that students tend to overestimate their preparedness for university.

First-year students having unrealistic and overoptimistic expectations about their experiences in higher education stretch as far back as the 1960s, which Stern (1966) identified as the "freshman myth". Students tend to enter higher education with overly positive expectations of themselves and of the university, which are often not well matched to their actual experiences during the first year. More recent studies (e.g. Gonyea, Kuh, Kinzie, Cruce & Nelson Laird 2010) have found that students' expectations for participation in a broad range of activities during the first year are not met – and that they systematically overestimate their levels of engagement (Davey 2010; Gonyea, Kuh, Kinzie, Cruce & Nelson Laird 2006). In addition, students tend to overestimate the amount of time they would spend studying, only studying approximately half the amount of time they had anticipated (Babcock & Marks 2010; Gonyea *et al* 2010; Kuh, Gonyea & Williams 2005). Studies in South Africa also reveal a general mismatch between students' high school experiences and university expectations, where students at lower levels of academic achievement in school tend to be over-confident in their ability to adjust to university and perform well academically (Bitzer & Troskie-De Bruin 2004; Nel, Troskie-De Bruin & Bitzer 2009).

There is hope though – studies in the United States have found that explicit interventions targeting student development in the first year of study have had a significant impact on key success indicators such as persistence, academic performance, and nurturing a sense of lifelong learning (e.g. Garza & Bowden 2014; Padgett, Keup & Pascarella 2013; Pike & Saupe 2002). These findings emphasise the importance of the nature and quality of the first-year educational experience as a contributor to students' success and are particularly promising because they highlight that regardless of a students' pre-university characteristics (Reason, Terenzini & Domingo 2006), institutions can intentionally design first-year programmes that meet the needs of diverse and vulnerable students.

That said, for institutions to counter unrealistic expectations and other transitional challenges entering students face, we need to understand who these students are and the challenges they face. Only then would we be able to align support and developmental interventions with students' needs. This is not an easy task though, with thousands of first-year students entering higher education each year. Thus, more large-scale surveys such as the BUSSE are needed in conjunction with institutional data to help us understand who our students are.

THE BEGINNING UNIVERSITY SURVEY OF STUDENT ENGAGEMENT

The BUSSE survey was designed to provide institutions with data about their first-year entering students early in the academic year. It provides actionable data that enable

institutions to identify and address the needs of students as a cohort as well as on an individual level. Through providing a better understanding of who students are and how they could be supported BUSSE provides the opportunity to intervene and support early on in the student journey (Kuh *et al* 2005).

The BUSSE consists of 110 items, contextualised from the Beginning College Survey of Student Engagement (BCSSE) used in the United States. BUSSE items are grouped into nine subscales or indicators (Table 3.1), which provide institutions with the opportunity to engage with the data in a structured form. Seven of the BUSSE indicators measure student expectations for their first year of study and two indicators measure the extent to which they feel their high school prepared them for university.

TABLE 3.1 Subscales comprising the BUSSE survey

Subscales	Description
High School Engagement	
Quantitative Reasoning (QR)	High school engagement with analysis and numerical information
Learning Strategies (LS)	Use of effective learning strategies in high school
First-year	
Collaborative Learning (CL)	Expectation to interact and collaborate with peers
Student-Staff Interaction (SSI)	Expectation to interact and engage with staff
Discussion with Diverse Others (DDO)	Expectation to engage in discussions with diverse others
Expected Academic Perseverance (PER)	Students' certainty that they will persist in the face of academic adversity
Expected Academic Difficulty (DIF)	Expected academic difficulty during the first year of university
Perceived Academic Preparation (PREP)	Students' perception of their academic preparation
Importance of Campus Environment (CAMP)	Student-rated importance that the institution provides a challenging and supportive environment

To explore how the BUSSE could help us understand first-year students' perceptions of their preparedness for higher education and their expectations for their first year of study, we examine aggregated data from the 2015 BUSSE administration of six universities (N=3055).

Figure 3.1 shows the plot of the nine BUSSE mean scale scores. For comparison purposes, the items forming part of each indicator are calculated to represent a value out of 60, and then averaged with the other items in the same scale. From a descriptive perspective, the scales provide some insight into the self-reported grouped competencies and expected experiences of students that enter the institution for the first time.

From an overview of the scales we see that for the most part, students feel that they have developed sufficient learning strategies throughout their high school years. In contrast, a much lower mean of 30 indicates that students are not as confident in their quantitative reasoning abilities developed in high school. Looking ahead to the first year of study, students seem to feel very positive about their academic preparation ($M=50$), their academic perseverance ($M=47$), and about the impact the campus environment could have on their studies ($M=46$). However, medium to lower mean scores show that students do not expect to have many discussions with diverse others, collaborative learning experiences, or interactions with staff members. Probably the most significant finding is the notable difference between how prepared students feel for university versus how difficult they think their first year at university will be (with mean scores of 50 and 25 out of 60, respectively). Considering that these scales are likely to reflect what students are familiar with and how they have previously experienced teaching and learning at school, the need to appropriately acculturate students and support them in managing academic and non-academic transitional challenges is clear.

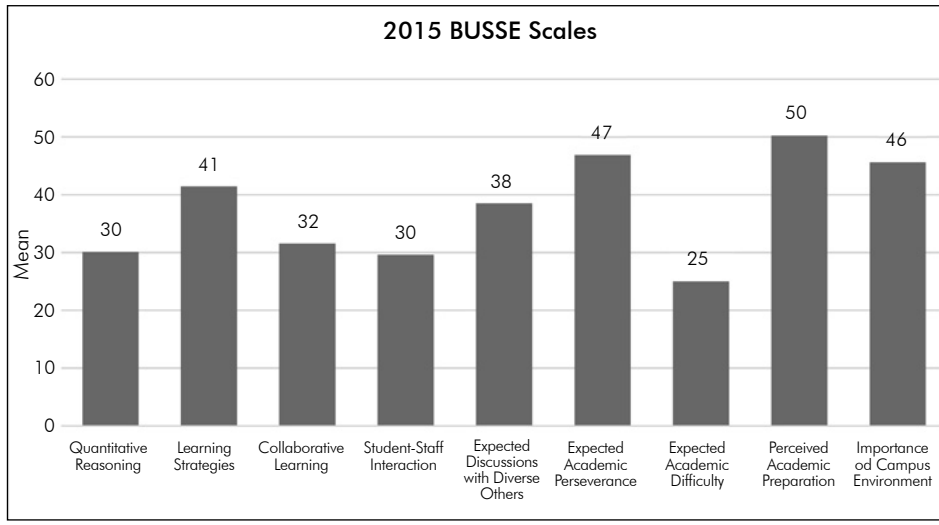

FIGURE 3.1 2015 BUSSE scale scores

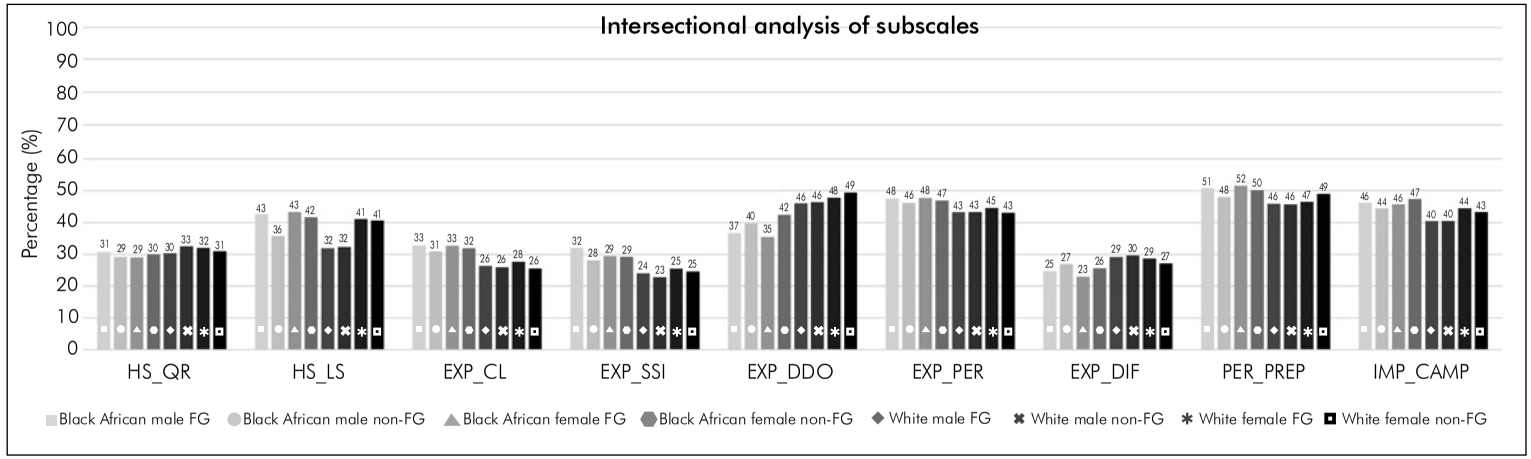

FIGURE 3.2 Intersectional analysis of subscales

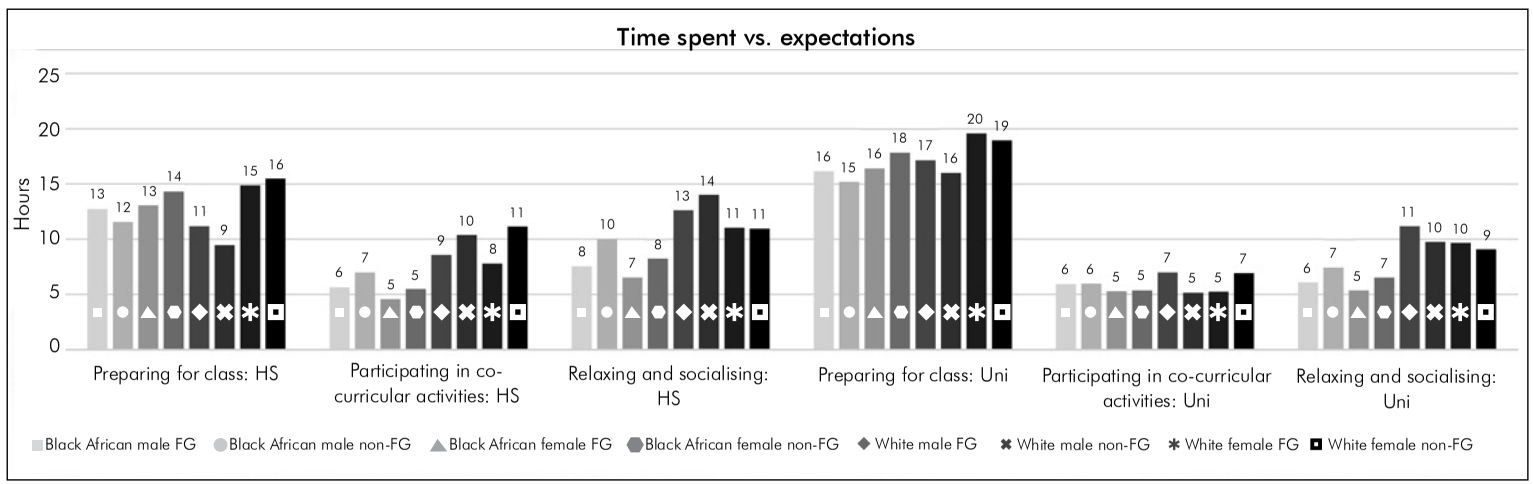

FIGURE 3.3 Hours per week spent on activities: high school vs. expectations for first year

Figure 3.2 shows the results of an intersectional analysis to probe a bit deeper into which students, based on generational status, race and gender, indicate higher or lower mean scores out of 60 on the subscales.

Regarding the two scales representing high school preparedness, all groups, irrespective of generational status, gender or race, indicate moderate to low perceptions of quantitative preparedness. Interestingly, white first-generation (FG) and non-first-generation (non-FG) males indicated significantly lower scores in the frequency of applying certain learning strategies. Both these groups of white males also indicated the lowest means in their expectations of collaborative learning ($M=26$ respectively), interactions with staff (FG $M=24$; non-FG $M=23$), and having a supportive campus environment ($M=40$ respectively). In general, white students, particularly females, expect to have more discussions with diverse others during their first year of study, while black African students in general expect to persevere more. Black African students in general see themselves as more prepared for the upcoming academic year, and do not expect it to be as difficult as their white counterparts do. The gap between expected difficulty of the year ahead and perceived preparedness is at its widest for black African, first-generation students (both male and female).

TRANSITIONING FROM HIGH SCHOOL TO UNIVERSITY

Students face certain difficulties regarding their transition to from high school to university. The BUSSE data are especially helpful in determining whether students feel prepared for the transition process, and how they expect their behaviour regarding academic and non-academic activities will change. This section considers some selected factors impacting on transition challenges and how students expect to engage with them, namely time management, student-staff interaction, perceived preparedness, and expected difficulties.

Time management is one of the main priorities that a first-year student faces (Figure 3.3). Students are asked to report how much time they spent during their last year of high school preparing for class (studying, reading, writing, doing homework, rehearsing, and other academic activities), participating in co-curricular activities (organisations, school publications, student government, sports, etc.), and relaxing and socialising (time with friends, video games, watching TV or movies, sport, mobile and online chatting, etc.). Students are then also asked to estimate how much time they expect to spend on these activities during their first year of study.

When comparing first-generation students, black African men and women expect to spend three hours more than they had spent in high school preparing for class, while white male and female students expect to spend six and five hours more respectively.

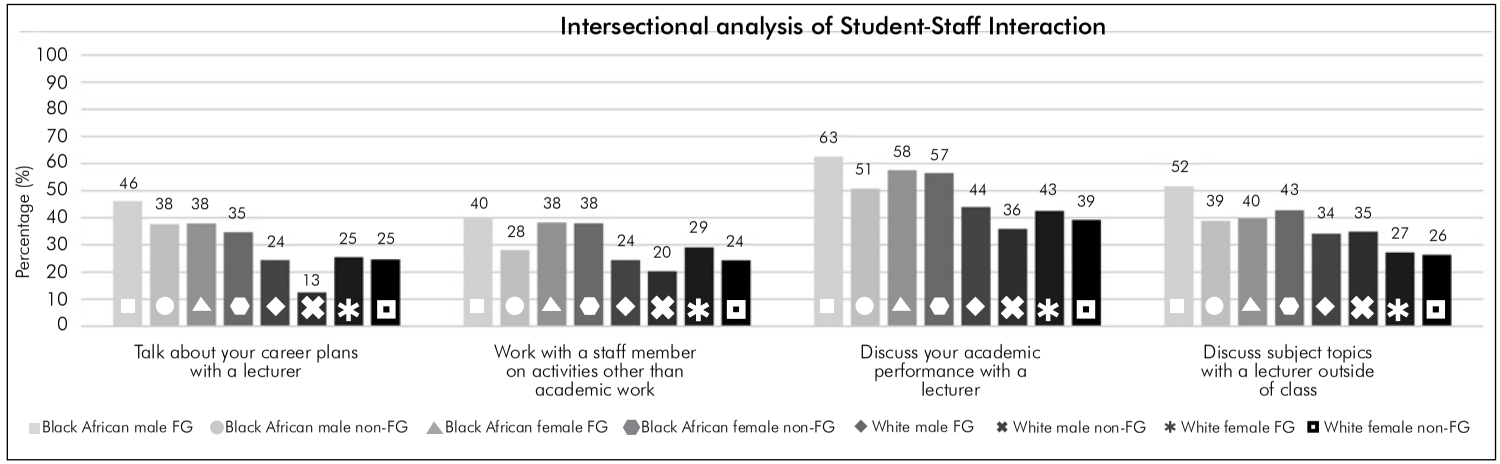

FIGURE 3.4 Student-staff interaction: generation status split

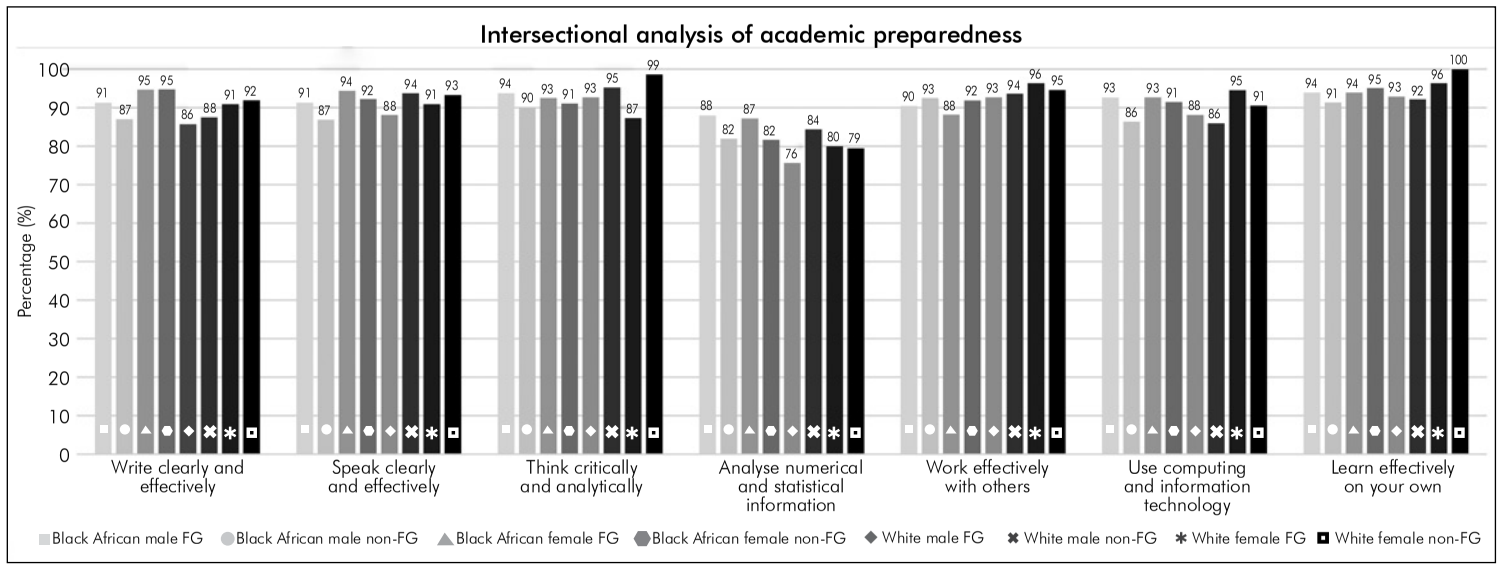

FIGURE 3.5 Perceived preparedness

Black African male non-first-generation students expect to spend three hours more on preparing for class, while white non-first-generation men expect to spend seven hours more. Black African non-first-generation women expect to spend four hours more, while white non-first-generation women expect to spend three hours more. However, all female groups spent more time preparing for class during high school and expect to spend more time than the male groups preparing for class during their first year of study.

Male and female white, non-first-generation students show the most difference in time they expect to spend on co-curricular activities, with males expecting to spend five hours per week less on these activities, and females four hours less. Black African non-first-generation male and female groups expect to spend the same amount of time on co-curricular activities that they spent during high school. While all students expect to spend less time on social activities, black African and white non-first-generation males show the biggest difference in time they expect to spend socialising, with three and four hours less respectively. In general, white students, irrespective of generational status or gender, expect to spend two to six hours more than black African students on social activities.

The student-staff interaction items included for this chapter are: how often do you expect to talk about your career plans with a lecturer, work with a staff member on activities other than academic work (committees, projects, student groups, etc.), discuss your academic performance with a lecturer, and discuss subject topics, ideas, or concepts with a lecturer outside of class (Figure 3.4). Results are shown as the percentage of responses indicating expectations of engaging in such behaviours "Often" and "Very often".

In general, students do not expect much interaction with staff members during their first year of study and black African students, as well as first-generation students seem to expect to interact slightly more with staff. White males, particularly non-first-generation white males, expect least interaction with staff in terms of discussions about career plans, working with staff on projects, and discussing academic performance with a lecturer. White female students of both first and non-first-generational status show the least expectation to interact with lectures outside of class.

Regarding perceived preparation, students were asked how prepared they are to write clearly and effectively, speak clearly and effectively, think critically and analytically, analyse numerical and statistical information, work effectively with others, use computing and information technology, and learn effectively on their own. Figure 3.5 shows that all students, irrespective of gender, race, or generational status believe that they are very well prepared to master their first year of study. In fact, all (100%) white female non-first-generation women indicated that they are completely prepared to learn effectively on their own. Slightly less confident responses are seen

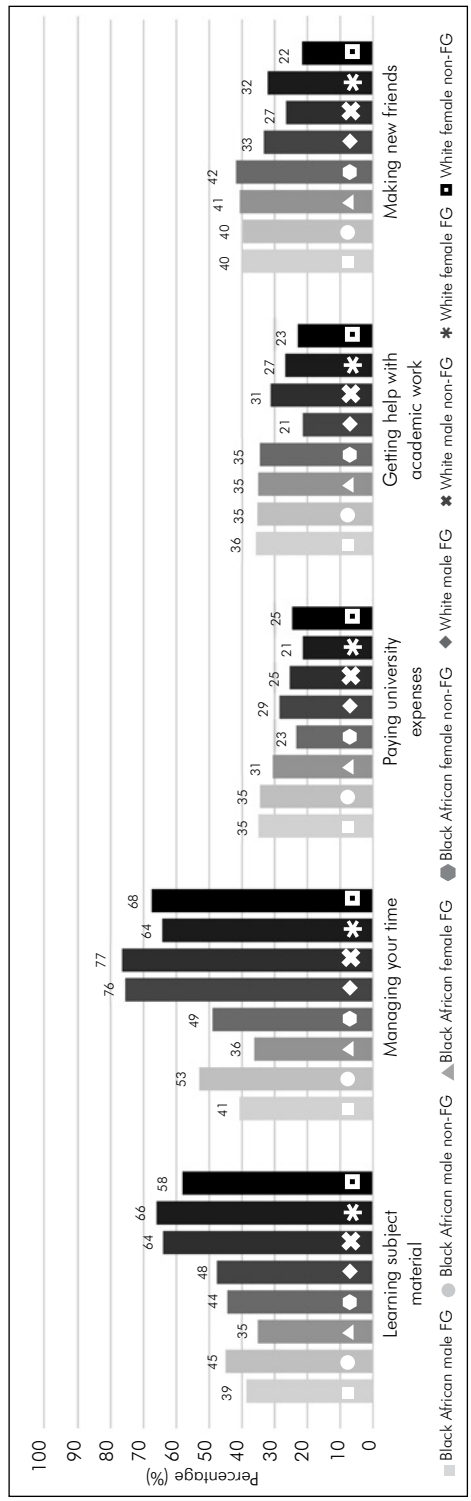

FIGURE 3.6 Expected difficulties

regarding preparedness to analyse numerical and statistical information, with 76% of white male first-generation students being the least prepared group.

Students were asked to indicate on a six-point scale how difficult they think certain scenarios will be during their first year of university, ranging from "Not difficult at all", to "Very difficult". These items include learning subject material, managing your time, paying university expenses, getting help with academic work, and making new friends. Figure 3.6 only presents responses between 3 and 6, representing the higher end of difficulty on the scale.

Less than 40% of respective first-generation black African male and female students feel that learning subject material is going to be difficult during their first year of study. These two groups also stand out as not expecting that managing their time would be very difficult, with 41% of black African first-generation males and 36% of black African first-generation females indicating as such. While none of the student groups attribute particular difficulty to getting help with academic work and making new friends, white female non-first-generation students seem to attribute the least difficulty to these items.

INFLUENCE OF FINANCIAL STRESS ON FIRST-YEAR SUCCESS

An important national focus of higher education in South Africa since 2015 has been student frustration about university fees being unaffordable, with widespread #FeesMustFall protests shutting down many universities for periods of time. To give due attention to students' challenges with fees, which impact significantly on retention, dropout and success, we add some first-year findings from the 2016 administration of the South African Survey of Student Engagement (SASSE), which included a subscale on financial stress.

The BUSSE data in Figure 3.6 show us that black African males, irrespective of their generational status expect most difficulty to pay university expenses, followed by black African female first-generation students, and white male first-generation students.

The Financial Stress Scale (FSS) asks students to what extent they worry about paying for university. Figure 3.7 shows that financial concerns over paying university fees are common to most students, except for almost half of white male and female non-first-generation groups, who report that they never worry about paying fees. The groups most affected by worrying about how they are going to pay for studies are black African male and female first-generation students, of whom half indicate that they worry every day. In general, black African students worry more than white students, and first-generation students worry more than non-first-generation students.

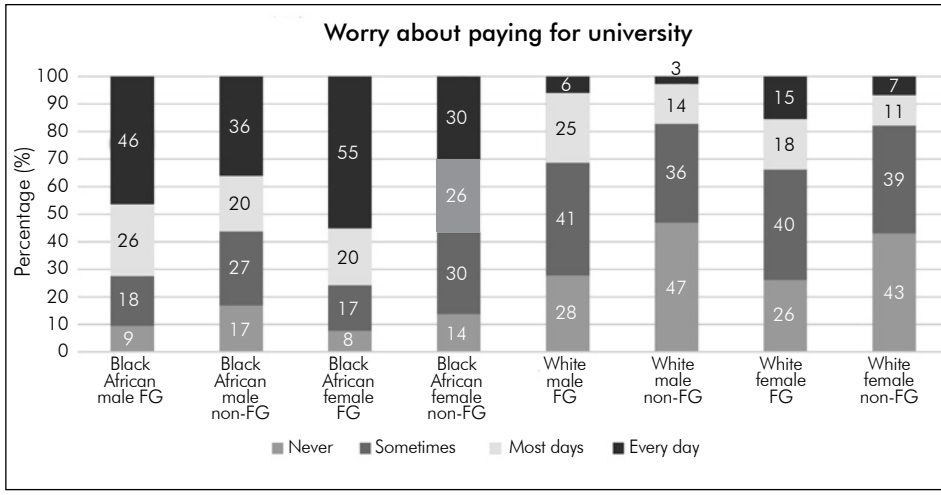

FIGURE 3.7 Intersectional analysis of first-year students worrying about paying for university

Students were asked about food security by indicating whether they have run out of money and are unable to buy more food. Analysing what the first-year students reported, Figure 3.8 shows that most of the students who indicated "Sometimes", "Most days", and "Every day" fall into the black African male first-generation and black African female first-generation groups. Notably, 36% of black African male first-generation students and 34% of black African female first-generation students indicate that they run out of food and cannot afford to buy more on most days or every day. Also noteworthy is the difference between black African students in general, as well as between first and non-first-generation students, where black African and first-generation students report higher incidences of running out of food without being able to buy more.

The FSS also asked students whether they have considered dropping out because of financial reasons. Figure 3.9 shows an analysis of whether students who indicated that they worry about whether they will be able to pay day to day expenses; whether they will be able to pay for university; and whether they have run out of food without being able to buy more on most days or every day, have considered dropping out because of financial reasons. Too few white students were in the study to be included in this analysis. While black African female non-first-generation students show the highest frequency of consideration to drop out (63%), first-generation students show the lowest consideration of drop out. This means that even in the face of hunger and constant stress about finances, students are determined to persist in higher education.

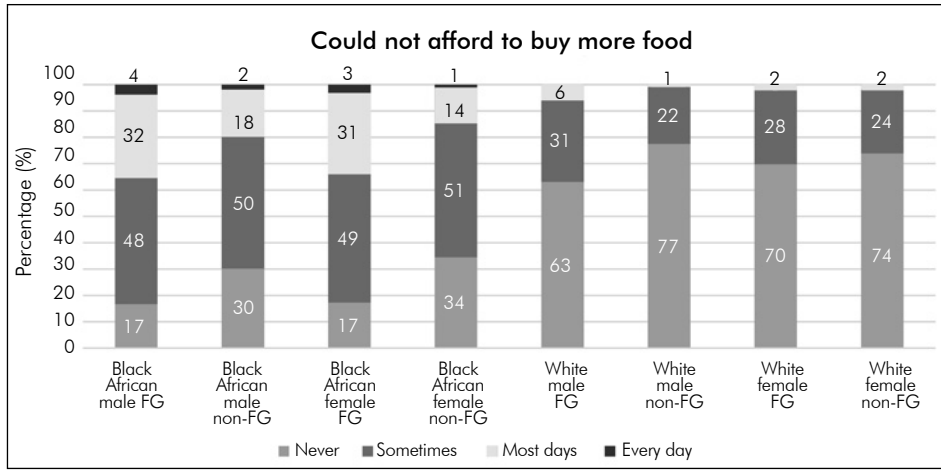

FIGURE 3.8 First-year students who ran out of money and could not afford to buy more food

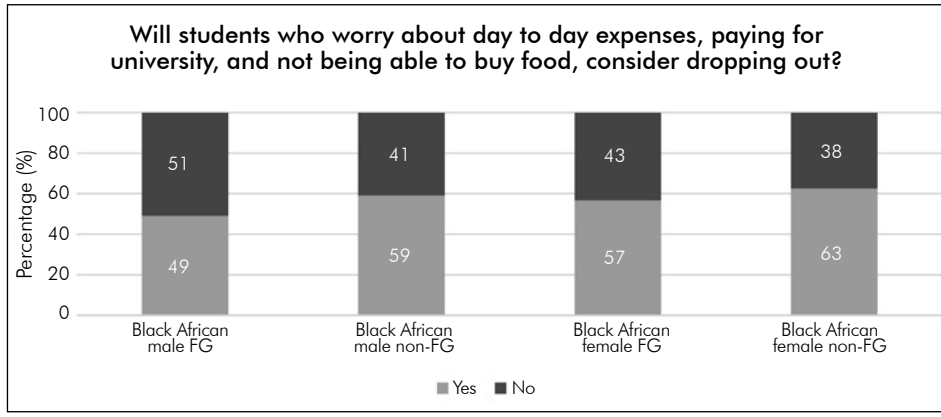

FIGURE 3.9 Students who worry about fees, paying day-to-day expenses and who run out of food and consider dropping out

DISCUSSION

The data presented here help us to better understand the students entering higher education. The intersectional findings show us that white males are (or expect to be) less engaged, have fewer expectations to work with others, to interact with staff, and expect less of the campus environment to contribute to their success. Mentz (2012) reported similar findings, where white males engaged at significantly lower levels than all other groups at high school and expected to engage at significantly lower levels than all other groups during their first year. Mentz's findings, as with this chapter's findings, seem to confirm the "freshman myth", referring to the unrealistic

underestimation of expected difficulties students perceive, combined with an overestimation of their preparedness for university. If then, as authors such as Garza and Bowden (2014), Padgett *et al* (2013), and Pike and Saupe (2002) have found that experiences in the first year can counter some pre-university characteristics and impact development towards success, we need to find out which experiences work in our context to try and level the very unequal playing field students find themselves on when entering university.

This does not mean that we do not have to take the expectations of students lightly. The data presented here regarding black African male and female first-generation students are particularly troublesome. These students show the widest gap between perceived preparedness and expected difficulty; expect time management and learning subject material specifically to be less difficult; expect to spend more time on academics, but still less than other groups; and expect more interactions with staff. More importantly, these groups show the most vulnerability when it comes to financial stress – about paying for university fees – but also about where their next meal is going to come from. The data tell us that black African students, and particularly first-generation students who worry about paying day to day expenses, who worry about paying university fees, and who experience food insecurity are more determined to stay in university. The promise of what a better life higher education brings seems to be a very strong motivating factor for these students.

HOW WE CAN USE DATA TO BETTER SUPPORT OUR STUDENTS TOWARDS SUCCESS

Using data/evidence to inform practice is at the core of the student engagement surveys. Thus, for institutions to optimally align the use of BUSSE and other data sources with support structures, the first step would be to identify what we are aiming for. In other words, what do we mean by first-year student success. Upcraft, Gardner and Barefoot (2005:8-9) state that most institutions would define first-year student success as including one or more of the following:

- Developing intellectual and academic competence (including critical thinking, problem solving, and reflective judgement).
- Establishing and maintaining interpersonal relationships (particularly to help them with transitional challenges).
- Exploring identity development.
- Deciding on a career.
- Maintaining health and wellness.
- Considering faith and the spiritual dimensions of life.
- Developing a multicultural awareness.
- Developing civic responsibility (a sense of citizenship in a democratic society).

While this comprehensive definition is ideal, to do these developmental milestones justice means that measuring and tracking success would rely primarily on qualitative interpretations of the extent to which these milestones have developed throughout the first year of study. However, considering the complexities first-year students face with transitions, the developmental phase most of them are in, and how professional identities are shaped through interactions with knowledge, we need to find ways to move beyond measuring persistence to the second year of study and academic achievement as the sole quantifiable indicators for success.

If our definition of success for students in their first year of study is broadened to include development in personal, social, cultural, and academic spheres, we can consider the following interventions to support them:

- The disconnect between students' expectations about their abilities and the difficulties they can expect in their first year of study prompt us to reconsider how the institutional culture and campus environment could be used to facilitate the transition between expectations and realities.
- Factors which might be inhibiting engagement during the first year need to be identified in order to establish a more facilitating teaching and learning culture (Howard 2005). Research in this area can in turn inform staff development initiatives aimed at the renewal of teaching and learning practices that meet the needs of modern day student populations within the classroom context (Mentz 2012).
- Data obtained from the BUSSE early in the students' career can form part of a comprehensive early warning system to identify students at-risk and to design customised interventions. Through disaggregating data, institutional researchers can identify groups of students within faculties who report high or low expectations to engage at university and link these with other institutional data. The data could then be used to reach out to students and provide necessary referrals to support structures.
- By identifying these trends and communicating the results through to teaching and learning structures the BUSSE results can be used to inform the type of support provided to targeted groups of students. For example, informing high-impact practices, such as first-year seminars, or forming learning communities.
- BUSSE results could inform individualised support, such as generating academic advising profiles to help guide students toward reaching their academic and career goals.
- Analysis of BUSSE data could also be used to inform academic and non-academic staff development. If staff are aware of the expectations and difficulties students enter higher education with, they might be more understanding when planning lecturers or explaining financial aid options.

- BUSSE data could also play a central role in planning first-year orientation programmes, student pathway programmes and academic support programmes.
- When examining student retention, the focus should not only be on identifying the reasons why students drop out, but also on the reasons why some students chose to persist in their studies and how this persistence and engagement is enacted at an individual level (O'Shea 2009).
- We still know very little about how student finances (or lack thereof) impact retention, dropout and success. A recent national report on the relationship between financial support on access and success in England, found that "students receiving financial support have comparable non-continuation rates with students who do not receive financial support. Yet ... students in receipt of financial support report that it has enabled them to stay on course and that they consider withdrawing less than their peers" (Nursaw Associates 2015:4). Challenges related to student poverty are often not solely solved through money. Much more research is needed to try and understand what students are going through financially for institutions, private organisations, and government to assist them.

Each of these trends identified in the BUSSE data offer some information to institutions to answer the question "Who are our students?", which can be meaningfully used to design teaching and learning environments that are conducive to success. Aggregated BUSSE data provide us with a deeper understanding of what certain groups of students expect when they enter higher education as well as how prepared they feel to manage these expectations. BUSSE also has the potential to contribute to personalised learning and support. From an equity perspective, looking at each individual student within their unique context can provide valuable insight into their lives, desires and expectations. Through focusing on the student as a unique person, the institution can better understand the challenges that students regularly face and customise directed intentional support structures to help these students overcome their challenges. To achieve this there must be institutional commitment towards data-driven decision-making.

CONCLUSION

Student engagement data provide the institution with a broader context of the students it serves. For first-year students, the BUSSE data enable an overview of which groups need more support, as well as a more nuanced approach to individualised decision-making. Integrating student engagement data with institutional data can enable the institution to act instead of reacting, further building on the notion that the ever-changing student perspective can be appreciated by focusing on the individual student's needs in an effort to optimise the learning experience of

each student. The BUSSE scale analysis elucidated the differentiation in response characteristics amongst particular students and by exploring these characteristics it enables the institution to better understand its first-year entering students. The implications of student engagement data add to the knowledge of the field and is even more powerful when combined with other information about students collected at application and registration.

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