BIOGRAPHICAL QUESTIONNAIRE REPORT:
STUDENT BACKGROUND INFORMATION

2020

UNIVERSITY OF THE WITWATERSRAND, JOHANNESBURG

AIRU
Analytics and Institutional Research Unit

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STUDENT BACKGROUND INFORMATION

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UNIVERSITY OF THE
WITWATERSRAND,
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Contents

List of Figures

Acronyms and Abbreviations

BQ	Biographical Questionnaire
CLM	Commerce, Law and Management
EBE	Engineering and the Built Environment
HS	Health Sciences
HUM	Humanities
Intl	International
Pvt	Private
NSFAS	National Student Financial Aid Scheme
SCI	Science
Wits	University of the Witwatersrand

Executive Summary

The main aim of the student Biographical Questionnaire (BQ) is to obtain a comprehensive understanding of the incoming cohort of first year students. Over the past five cycles of the BQ (2016-2020), we have seen a significant change in the demographic composition of the first-year students; as a result the university needs to plan accordingly for the changes in the student population. Therefore, the BQ data is important for effective planning, informed student support and development of student success predictive modelling.

The 2020 student BQ was conducted concurrently with the registration process (January to February 2020), and achieved a 99% completion rate. Of the 5494 first-time, first-year students who registered in 2020, 5398 completed the BQ.

Student Demographic

- ***Gender:*** 57% of the students are female.
- ***Race:*** 69% of the first-year students are African while 14% are White.
- ***First-Generation Status:*** 37% of the students are first-generation students.

School Background

- ***School Quintile:*** 33% of Wits first-year students are from Quintile 5 schools while 20% are from international or private schools.
- ***School Facilities:*** 75% of students are from schools which had computers while 68% are from school which had libraries.
- ***Online Practice Sites:*** 51% of the students used online practice sites during high school.

University Information

- ***Study Choice:*** 64% of first-year students reported to be enrolled for their first choice of study.
- ***Accommodation:*** 33% of the students were intending to live in university residence.
- ***Distance from Campus***: 11% of students reported that they would be living more than 30km away from campus.
- ***Tuition Payment:*** 51% of the first-year students are relying on NSFAS for tuition payment.
- ***Part-Time Work:*** 28% of the first-year student population intends on working part-time.
- ***Fear and Concerns***: First-year students are generally concerned about being able to manage their time, workload, adapting to their new environment, academic performance and finances.

1. Introduction

Literature suggests that higher education institutions (HEIs) should ascertain any and all relevant information about their students before the commencement of the academic year (Bitzer & Troskie-de Bruin, 2004; Hundermark, 2018; Kuh et al., 2007; Tinto, 2014). Doing so means that institutions have a head-start in understanding exactly the types and levels of academic and/or non-academic support that will be required for different students throughout the year. Identifying at-risk students calls for reliable, consistent data on all the students entering the institution (Hundermark, 2018; Kuh et al., 2007; Tinto, 2014). This data gives the institution a greater understanding of academic and non-academic needs of students entering the system. Whilst pre-entry factors do not necessarily fall within the institution's direct control (Tinto, 2014), gaining insight into these aspects may assists HEIs in understanding how to serve their students in optimal ways to ensure success (Chetty & Pather, 2015).

The student BQ was established through the Kresge Foundation funded project known as the 'Siyaphumelela - We Succeed Initiative'. Student Success is at the centre of this project and one of the primary aims of the BQ project is to understand how students' background information can help the institution understand the factors contributing to the success of students, and thus help the university identify students who are likely to face academic difficulty in order to provide them with the necessary and appropriate support.

The BQ was first implemented in 2016 and has received buy in from varies departments at the University and this has resulted in the success of the BQ. The selection criteria for participation in the BQ is being a first-time, first-year and full-time student. The data collection process is part of the registration and while the BQ is not compulsory, students are encouraged to complete the questionnaire.

The main areas covered by the questionnaire are:

1. School Background – namely, language of instruction, average number of learners in matric classroom, location of school, infrastructure facilities available and the use of online practice sites, etc.
2. Home Background – namely, infrastructure and facilities available, first generation status information, location of home, general source of support, etc.
3. University Information – namely, motivation for the first choice of study, intended place of residence, intended payment plan for tuition, accommodation and living expenses, etc.

This report presents the results of the 2020 BQ.

2. Methodology

The BQ collects information on student background from all first-time first-year undergraduate students. The student BQ online platform was fully implemented for the first time at Wits in January 2016 during the student registration process with the approval of the University Registrar and Deputy-Vice Chancellor (DVC): Academic. The BQ data from the online platform is stored in the Student Information Management System (SIMS) together with the rest of the student information already existing in relation to student application and the registration processes.

The BQ online platform has been designed by the Wits ICT and Academic Information and Systems Unit (AISU) teams (in collaboration with the AIR unit) in such a way that when a student completes his/her online registration, by clicking the 'Complete/Submit' button, on the Wits Self-service portal, a link for the student BQ online platform appears immediately with further instructions on how to complete the questions and navigate the BQ online platform.

Alternatively, a student is able to complete the BQ questions at a later stage by signing into the University's Student Self-service Portal. The easy-to-use BQ online platform is located on the 'Additional Self-service' page with instructions and tips on how to complete the questions.

The design and implementation of the student BQ online platform at Wits has been described in detail according to the article produced by Masango and co-workers (Masango et al., 2020).

3. Response Summary

3.1 Completion Rate

The BQ had a 99% (N=5398) completion rate for the year 2020, the completion rate has been increasing annually since the inception of the project. This is largely due to the collaborative effort from different stakeholders such as the Registrar's office, the Student Enrolment Centre, Wits ICT, the Development and Leadership Unit and Wits marketing and various other departments. While efforts have increased the completion rate to 99% for both 2019 and 2020, there are still challenges which have prevented a 100% completion rate. We are currently working on sorting out these challenges.

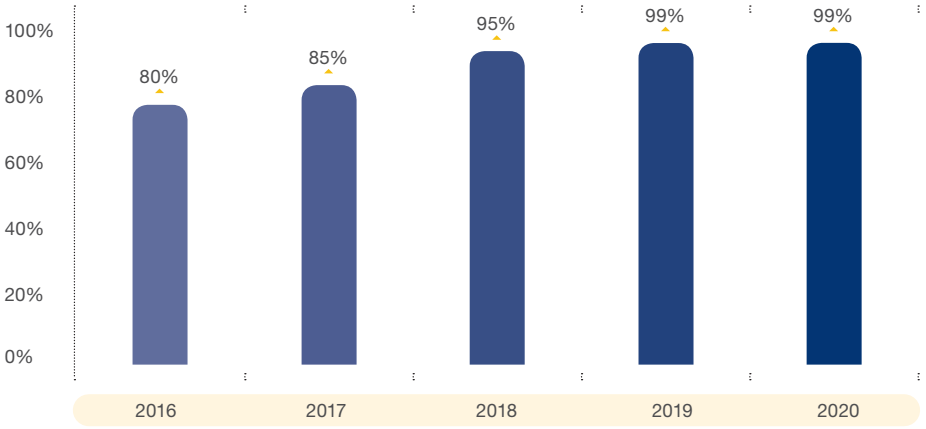

Figure 1: *BQ completion rate 2016-2020*

3.2 Faculty Completion Rate

Figure 2 below shows that the faculty of Health Sciences had the highest completion rate (100%) while the faculty of Engineering and the Built Environment had the lowest completion rate (97%).

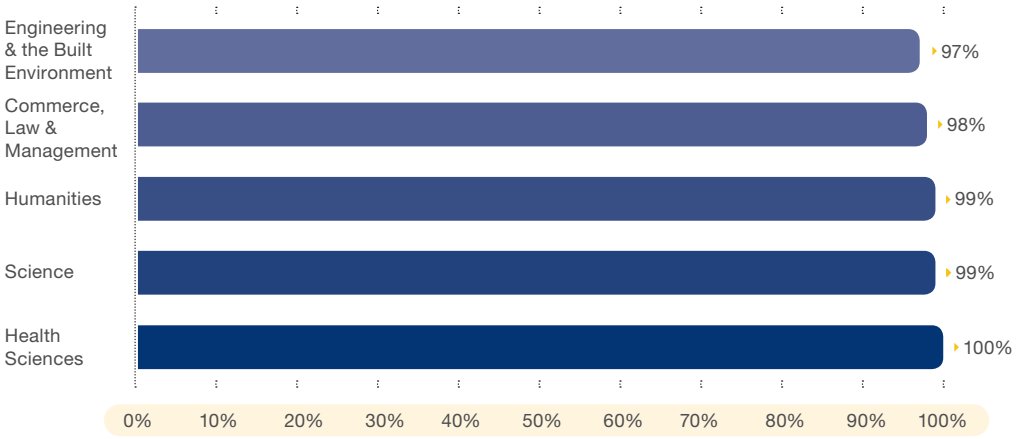

Figure 2: *Completion rate by faculty - 2020*

4. Demographic Profile of Students

The demographic profile section gives an overall view of the first-time first-year students' demographic characteristics. The section includes a description of the students' race, gender, citizenship status, special needs status, first generation status and home location.

4.1 Gender

As displayed in Figure 3 below, females make up more than half of the first-year students (57%) while males account for 43%. These results are consistent with the 2019 BQ results.

Figure 3: *Student distribution by gender*

4.2 Race

African students continue to make up the majority of the first-year student population. African students account for 69% of the first-year students which is an increase from 66% in 2019. White students account for 14% of the students which is a 1% decrease from 2019 (Figure 4).

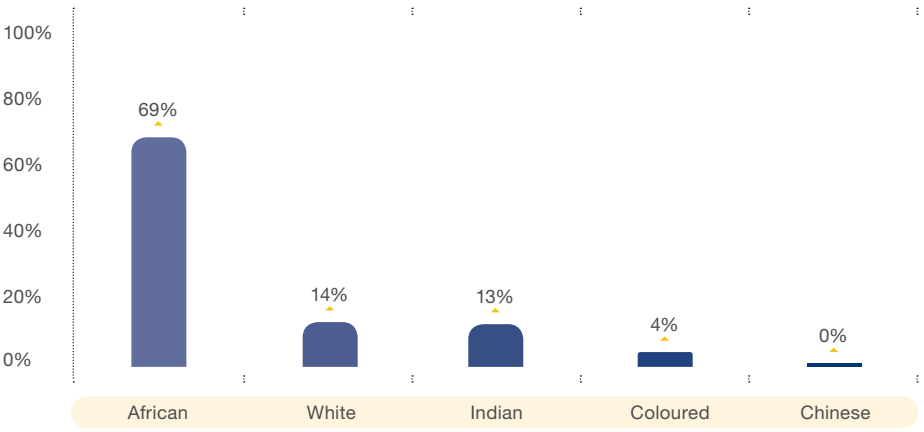

Figure 4: *Student distribution by race*

4.3 Citizenship

Consistent with the 2019 results, Figure 5 reveals that 96% of the first-year students are South African while 4% are international students.

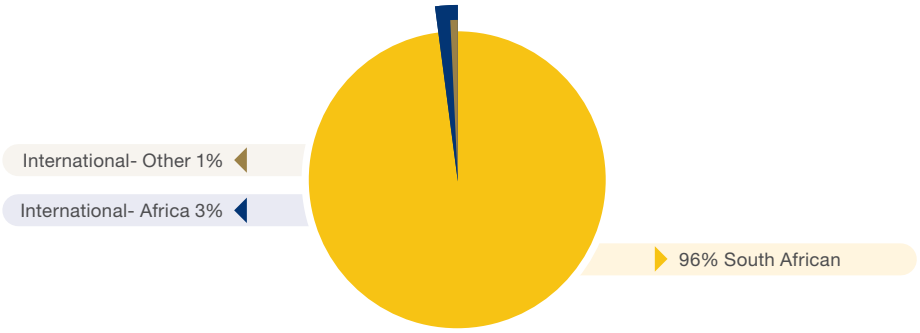

Figure 5: *Student distribution by citizenship status*

4.4 Special Needs

Consistent with the findings from 2019, the 2020 BQ reveals that 3% of the students reported to have special needs (Figure 6).

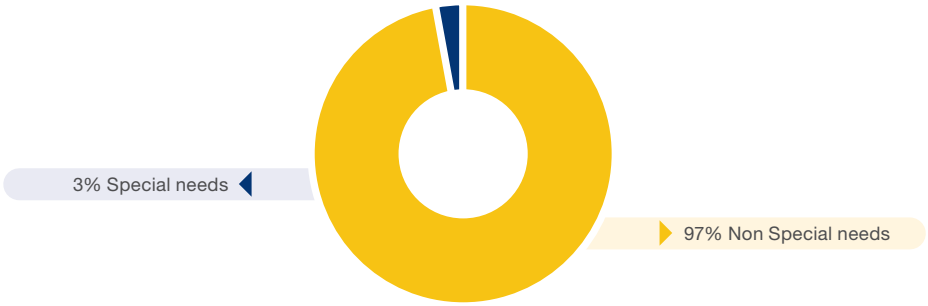

Figure 6: *Student distribution by self-reported special needs status*

4.5 First-Generation Status

Being a first-generation student means that you are the first in your family to attend university. These students usually have difficulty adjusting to the university environment as they do not have support from family members who have also gone through the higher education system. It is thus important to identify these students, as early as possible, in order to assist them with their transition.

The proportion of first-generation students being admitted into the university has been declining annually since 2016. The 2020 BQ shows that 37% of the students are first generation and this is a significant decline from 43% which was recorded in 2019.

Figure 7: *Student distribution by First-Generation status*

4.6 Family Members with Tertiary Education

The non-first-generation students reported on their family members who had gone through tertiary education. The results show that there are more mothers (29%) than fathers (27%) who had been to tertiary and that there were also more sisters (20%) than brothers (15%) who had been through tertiary education (Figure 8).

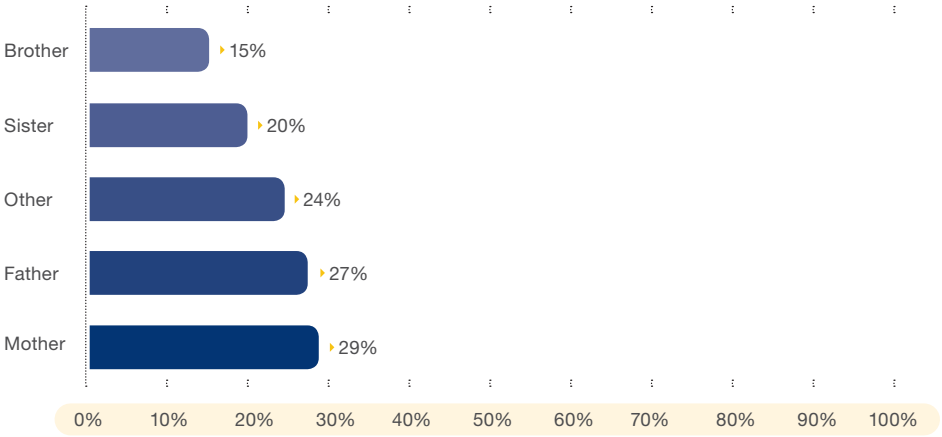

Figure 8: *Distribution of family member with tertiary education*

4.7 Home Location

A large proportion of the first-year students come from homes located in the suburbs (40%) followed by the township (30%). Informal settlements and farms account for the lowest proportion with 2% and 1%, respectively (Figure 9).

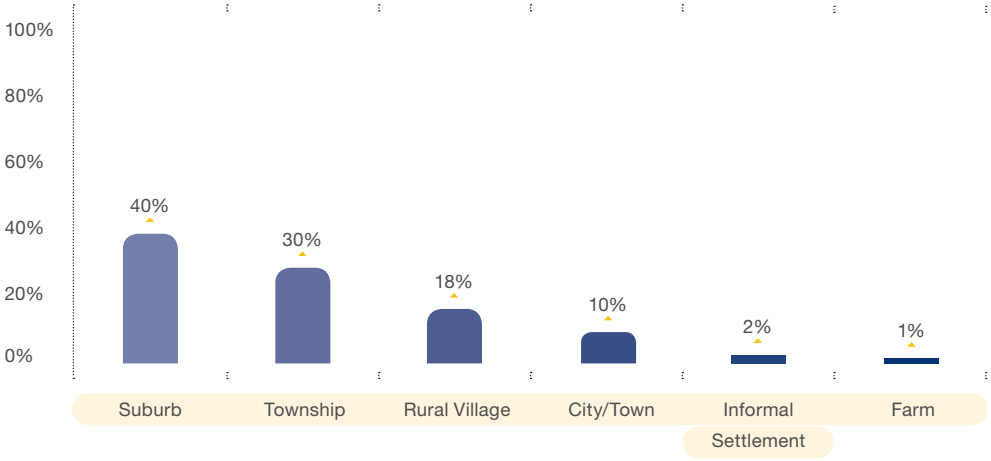

Figure 9: *Student distribution by home location*

5. School Background Information

This section of the report focuses on information related to the high school attended by the respondents. The aim of the section is to understand the type of schooling environment and facilities that the students were exposed to while in high school. This section covers the school location, school quintile, facilities available at school, the use of online practice sites and extra curriculum activities.

5.1 School Quintile

The South African public schools are categorised based on the socio-economic status of the school as determined by the average income, literacy level and employment rates of the schools' geographic location. Schools in Quintiles 1 to 3 categories are considered as non-fee-paying schools and receive more funding per learner from the government than schools in Quintiles 4 and 5 categories. This is based on the assumption that parents in Quintile 4 and 5 schools can afford to pay fees and require less governmental support than schools in lower quintiles (Ogbonnaya & Awuah, 2019).

Wits continues to enrol students who are largely from Quintile 5 and from international/private schools. As illustrated in Figure 10 below, 33% of first-year students are from Quintile 5 schools while 20% are from international or private schools.

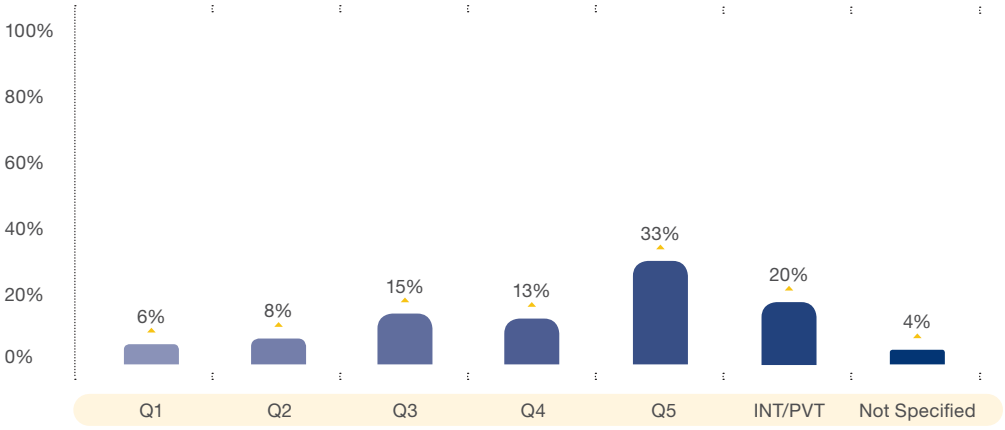

Figure 10: *Student distribution by school quintile*

5.2 High School Location

Students were asked about the location of their high school, 38% reported that their high school was located in the suburbs while 23% reported that their high school was located in the township (Figure 11). These results are in line with the school quintile distribution patterns.

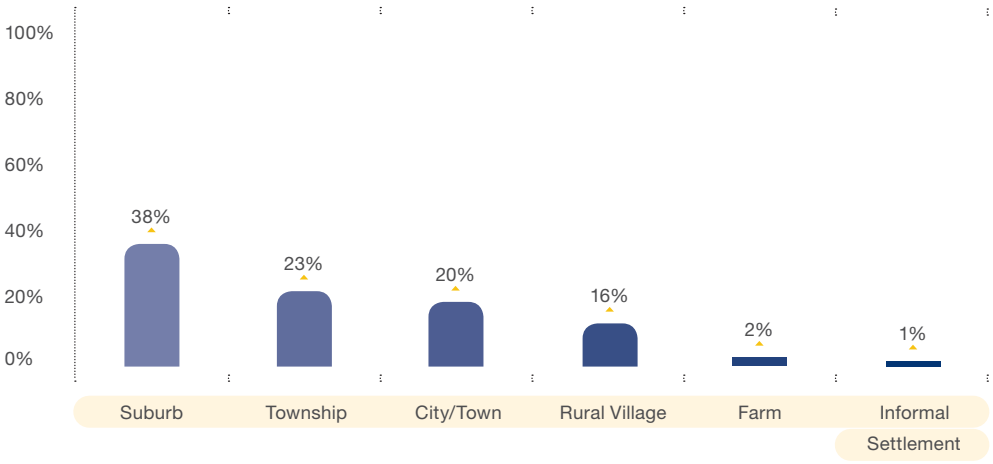

Figure 11: *Student distribution by location of high school*

5.3 School Facilities

School infrastructure has been linked to students' performance. Students who come from schools with poor school infrastructure tend to require more support to assimilate to their new learning environment and its learning demands. It is therefore important to know which students have not been exposed to certain technologies and facilities while in high school in order to provide them with the necessary support. Figure 12 below shows that 75% of first-year students had computers at school, while 68% had libraries and 76% had science labs.

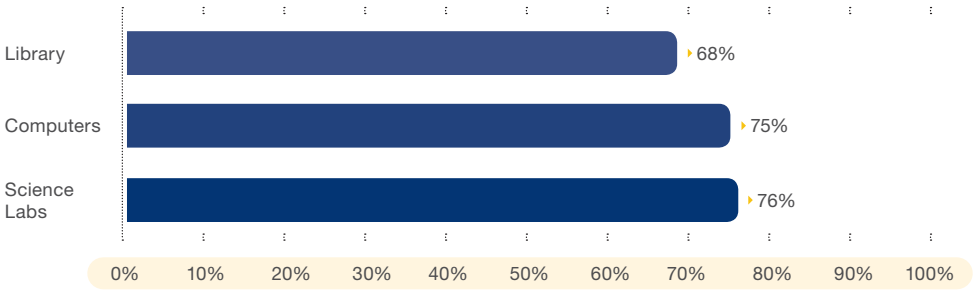

Figure 12: *Student distribution by school facilities*

5.4 Use of Facilities in High School

Table 1 below depicts a high usage of science labs (66%) across all faculties, with computers generally having a low usage (55%). Students from the faculty of Health Sciences generally had the highest usage of all the facilities while they were in high school, with 61% reporting to have used libraries, 80% for science labs and 66% for computers. The faculty of Engineering and the Built Environment generally had the lowest usage of facilities with 49% reporting to have used libraries, 72% for science labs and 50% for computers.

The use of all three facilities decreased when compared to the 2019 cohort. The usage of libraries decreased from 59% in 2019 to 57% in 2020, for science labs it decreased from 69% in 2019 to 66% in 2020 and for computers it decreased from 59% in 2019 to 55% in 2020.

Faculty	Library	Science Labs	Computers
Commerce, Law & Management	60%	78%	56%
Engineering & the Built Environment	49%	72%	50%
Health Sciences	61%	80%	66%
Humanities	62%	74%	56%
Science	53%	74%	51%
Overall	**57%**	**66%**	**55%**

***Table 1**: Student distribution by facilities used in high school*

5.5 Online Practice Site Usage

As blended learning becomes more prominent, more students are using online practice sites as part of their learning. Figure 13 below reveals that 51% of the students used online practice sites while they were in high school; a slight decrease from 53% in 2019. This may be a reflection of the socio-economic status of this cohort of students and is consistent with the decline in exposure to facilities such as computers.

***Figure 13:** Student distribution by use of online practice sites*

5.6 Leadership Activities

High school learners are often encouraged to participate in leadership roles as involvement in such activities has been found to have a positive effect on education outcomes. These leadership activities include school governance such as Schools Representative Council of Learners (RCL), school prefects or school head boy/girl. These activities also include participation in external leadership programmes such as Gordon Institute of Business Science (GIBS) and Rotary programmes. Half of the first-year students (51%) participated in leadership activities while they were in high school.

Figure 14: *Student distribution by leadership activity participation*

6. University Information

This section of the report focuses on the students' plans regarding their university studies, and it includes the choice of study they are enrolled for, their plans regarding accommodation, transportation, tuition and accommodation payment, part-time work as well as their fears and concerns regarding their first year of study.

6.1 Study Choice

More than two thirds (64%) of first-year students are enrolled for their first choice of study while 24% are enrolled for their second choice and 12% for their third choice (Figure 15). Students who are unable to get into their first choice of study programme find themselves having to enrol for a programme they may not necessarily be passionate about (may also lack motivation) and this can affect their academic performance.

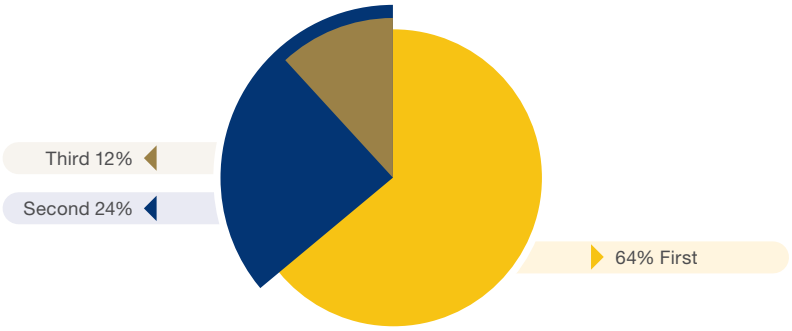

Figure 15: *Student distribution by choice of study enrolled for*

6.1.1 Choice of Study by Faculty

The faculty of Commerce, Law and Management has the highest proportion of students who are enrolled for their first choice of study (69%), while the faculty of Health Sciences has the lowest proportion of students who are enrolled for their first choice (57%). This may be a reflection of the competitiveness of the Health Sciences programmes, such as Medicine, which accepts a limited number of students. This in turn, may force students to enrol for their second choice of study within the same faculty, with the hope of changing programmes in the subsequent year (Figure 16).

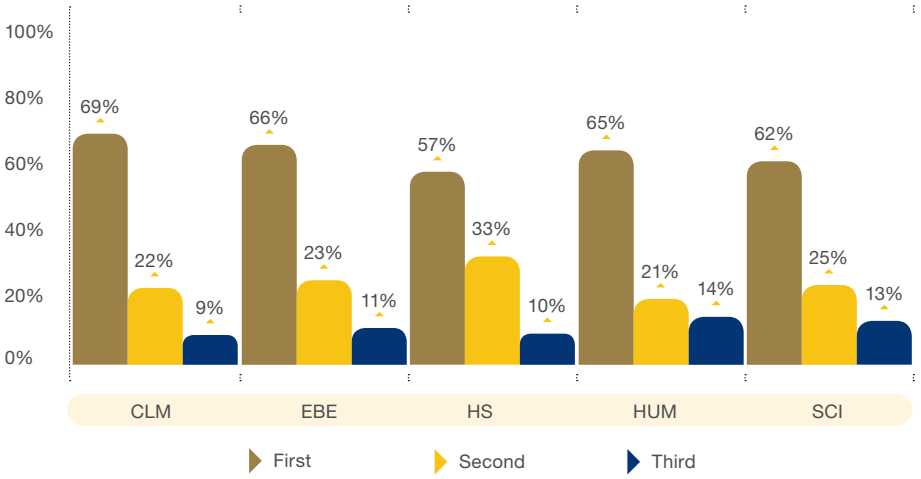

Figure 16: *Student distribution by choice of study enrolled for and faculty*

6.2 Choice of Study Influences

The main influences for choice of study referenced by the 2020 first year cohort of students are presented thematically below with supporting verbatim quotes. The main influences driving the choice of study include passion and love; future career prospects; the influence of family and friends; role model and teachers; and the desire to make a difference.

The themes are presented in the order of most frequently referenced:

Themes	Verbatim Quotes
Love, Passion, Interest	"I was tutoring high school learners from my school then I realized i have teaching passion."
	I really love anything that has to do with science and mechanics. I would watch shows on TV that were all about science and mechanics to see how a lot of things are done and how they are designed and how they get to work to improve people's lives."
Future Career Prospects	"The direction in which society and technology is moving is what motivated me to apply for a degree that will be relevant in the future" "Seeing the global trends I decided it would be best for me to study computer science. – future career prospects (4IR)"
	"The fact that it makes logical sense to study since it will secure my future financially and provide valuable life experience in that it will teach me discipline and work ethic."
Family and Friends	"My first choice was actually architecture, but I missed the application deadline. My grandfather was an engineer and my great grandfather was an architect and they have both influenced me in the past."
	"My parents, my physiotherapist and friends because I want to be able to help people who are injured."
	"My cousin influenced my first choice."

Role Models, Teachers	"I am deeply motivated by Phathutshedzo Makwarela and Fergusons family. They are responsible for the best TV shows in the country. I want to be like them one day and fulfil my dream of conquering the Film and TV world."
	"Mark Zuckerburg"
	"My physical sciences teacher."
Desire to make a Difference	"The urge to be any form of help towards people by not only healing them but giving them courage and hope to live on and not take life for granted."
	"I am passionate about helping other people so it's the inner voice in myself that keep pushing me."

6.3 Accommodation Plans

The university continuously aims to accommodate more first-year students into residence to provide them with the needed support for their transition. At the time of registration, 33% of the students reported that they intended on living in university residence while 34% said they would be living in off-campus private accommodation (Figure 17).

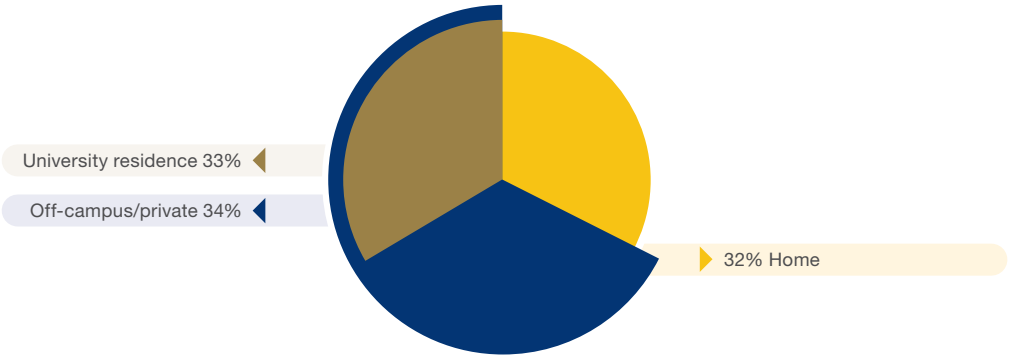

Figure 17: *Student distribution by place of accommodation*

6.3.1 Residence Placement

Of the 1800 students who had indicated that they intended to stay on university residence, 71% were placed in university residence while 29% of these students were not placed. These figures are similar to the 2019 BQ data.

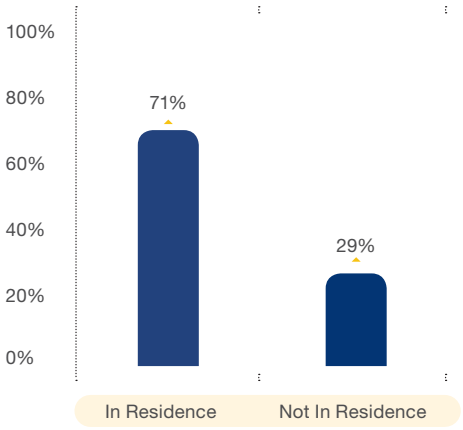

Figure 18: *Distribution of students' intent on staying on campus by residence placement*

6.4 Accommodation Payment Plans

The students who indicated that they would be staying in university residence or off-campus private accommodation were asked how they intended to pay for their accommodation. A large proportion of the students indicated that they would be relying on NSFAS (46%) for payment while 16% reported that they would be relying on their parents. Of most concern is the 11% of the students who reported that their accommodation payment plans were not yet finalised at the time of registration.

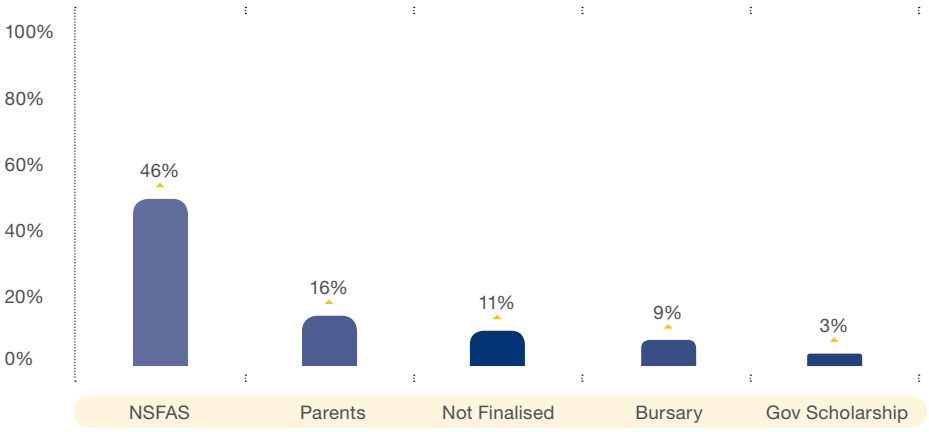

Figure 19: *Student distribution by top five accommodation payment plans*

6.4.1.1 NSFAS Approval

At the time of data analysis, 65% of the students who reported that they would be using NSFAS for their accommodation payment had been approved for funding (Figure 20).

Figure 20: *Distribution of students who intended to pay for accommodation using NSFAS based on NSFAS approval*

6.5 Distance from Campus

Students who do not live on campus and have to travel daily were asked how far they lived from campus, almost a third (29%) indicated that they live less than 5km away. However, 24% the of students indicated that they live 20km or more away from campus (Figure 21).

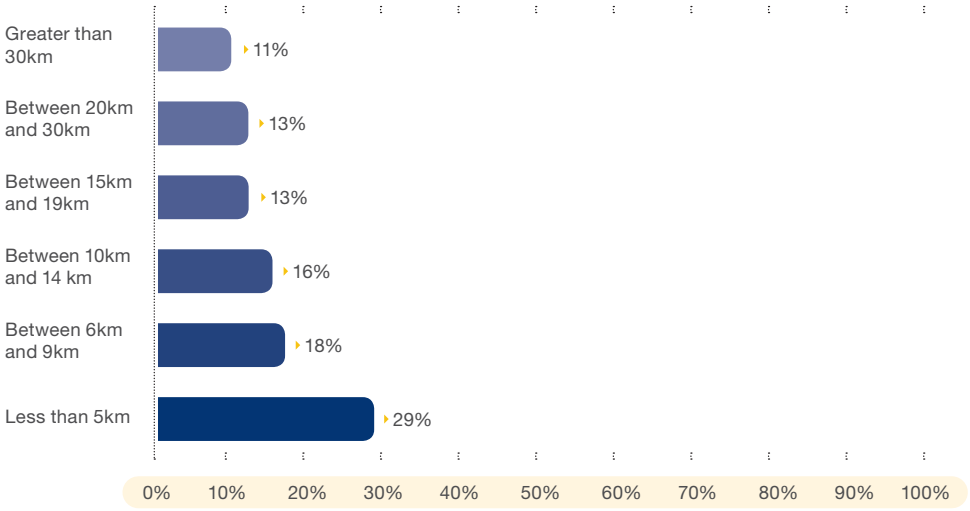

Figure 21: *Student distribution by distance from accommodation to campus*

6.6 Mode of Transport

As illustrated in Figure 22 below, the most used form of transportation by students who reside off-campus is public transport (25%), followed by walking (21%) and using their own car (18%). The proportion of students who use public transport increased by 1% when comparing the 2019 BQ data, while the proportion of students who use the university bus services increased from 11% in 2019 to 15% in 2020. The proportion of students who walk to campus was 23% in 2019. These changes suggest that an increased number of students were unable to secure accommodation closer to the university and this has planning implications for the university since there is an increased number of students who will be using the bus services to travel to campus.

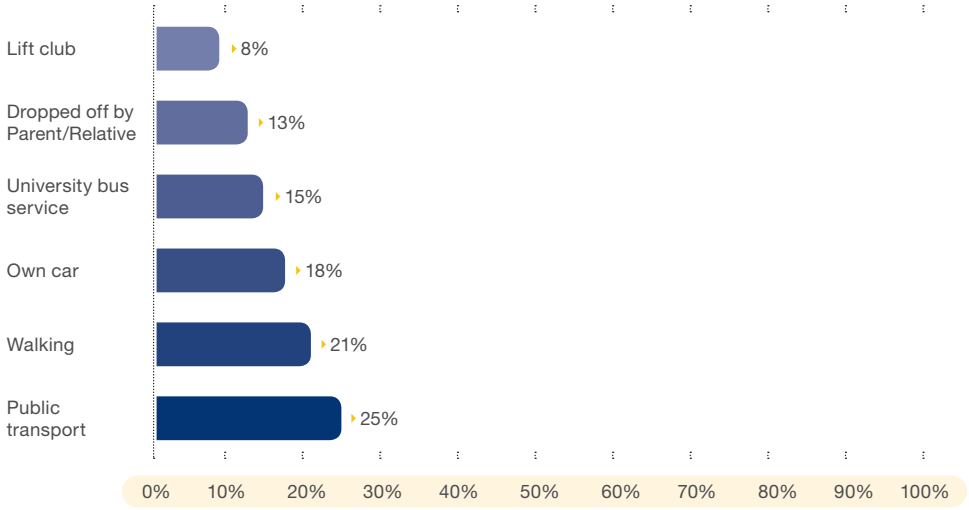

Figure 22: *Distribution of students residing off campus by mode of transportation*

6.7 Travel Time

As portrayed in Figure 23 below, about half of the students (51%) who do not reside on campus travel for less than 30 minutes while 37% travel for 31 minutes to an hour. The amount of time that students travel to reach campus is important as it can impact their class attendance.

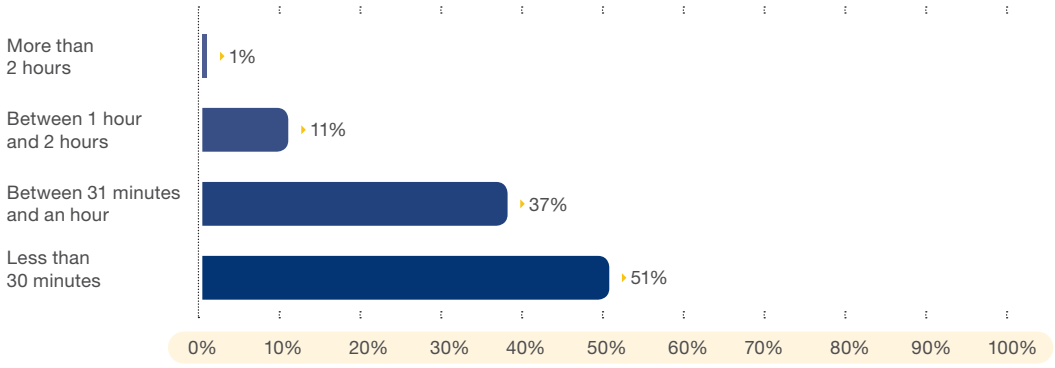

Figure 23: *Distribution of students who live off campus by time it will take them to arrive at an 8AM lecture*

6.8 Top Five Tuition Payment Plans

Students were asked how they intended to pay for their tuition, 51% of the students reported that they would be using NSFAS to pay for their tuition; this is a significant increase from 42% in 2019. A significant proportion of the students (38%) reported that they would be depending on their parents for tuition payment, this is a 2% decrease from 2019. Of most concern is the 6% of the students who indicated that their tuition payment plans were not finalised, this is a 1% increase from 2019 (Figure 24). The data shows that an increasing number of students are dependent on NSFAS and dependence on other sources of funding has been gradually decreasing every year.

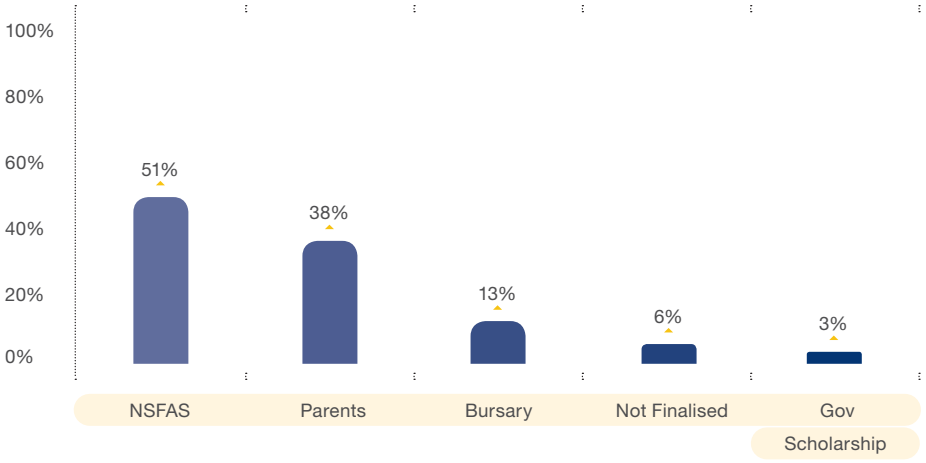

Figure 24: *Student distribution by top five tuition payment plans*

6.8.1 NSFAS Approval

At the time of analysis, 62% of the students who reported that they would be dependent on NSFAS for tuition payment have been approved. However, 38% of the students had not been approved for NSFAS funding at the time of registration. This is a significant increase from 29% in 2019 of the proportion of students who did not receive NSFAS (Figure 25).

Figure 25: *Distribution of students who intended to pay for tuition using NSFAS based on NSFAS approval*

6.9 General Source of Support

Students often require some form of support structure to assist them with their transition to higher education. Figure 26 below shows that 50% of the first-year students would be relying on both parents for general support while 27% would be relying on a single parent. A concerning 4% of the students reported that they would not be relying on anyone for general support.

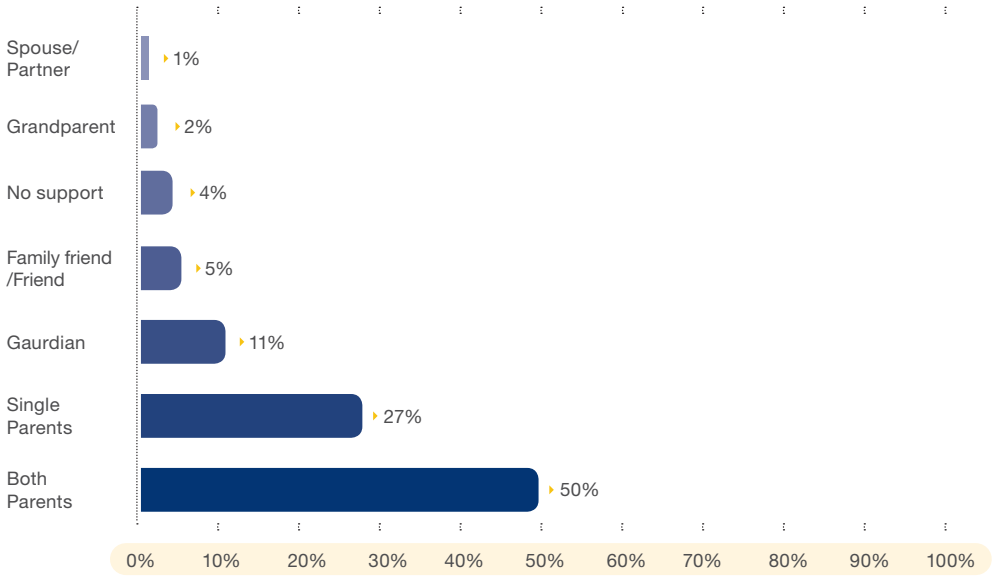

Figure 26: *Student distribution by their general source of support*

6.10 Intention to Work Part-Time

Students often find themselves having to work in order to support themselves financially to get through their studies and this usually results to students taking up part-time work. Figure 27 below shows that 28% of first-year students intended on working part-time, this is a 2% decrease when compared to 2019.

Figure 27: *Student distribution by intention to work part-time*

6.11 Weekly Working Hours

Figure 28 below shows that 47% of the students reported that they intended to work less than five hours a week while 3% intended to work more than 15 hours weekly.

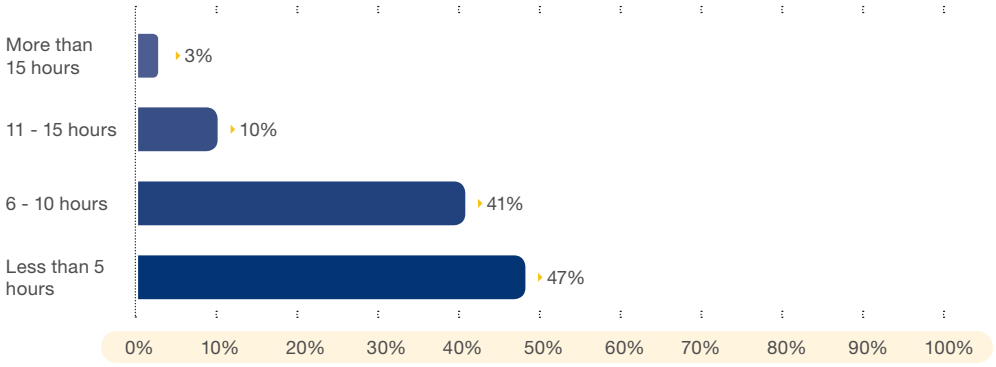

Figure 28: *Distribution of students who intend on working part-time by the numbers of hours they intend to work weekly*

6.12 Fears and Concerns

Students were asked to report on their fears and concerns regarding their first year of study, and the data was analysed thematically with verbatim quotes from the students. Students' fears included lack of time management, workload, not performing academically and adapting to their new environment. These fears and concerns are primarily similar to those raised by students in 2019. The themes are illustrated below in the order of reference frequency:

Themes	Verbatim Quotes
Time Management	"I have the fear that I might not manage my time adequately enough or I will miss use it on very - frivolous activities."
	"My biggest fear is not meeting the deadlines for assignments."
Workload	"I fear that I might struggle to cope with the workload of university and not being familiar with the lecturers."
	"I have a fear of being overwhelmed with work and not being able to cope with the stress that comes along with it."
Adapting to New Environment	"I also fear the fact that I will be starting a whole new life, in a whole different environment and with new people."
	"Adjusting to varsity life and doing things differently."
Safety	"My safety. We are living with criminals we hear stories everyday about females/ students being raped or murdered. I have never been in Johannesburg before so that alone scares me a lot. Also sharing with someone a room is scary. People are not to be trusted."

Finance	"I am anxious about meeting up with the financial demands of the university."
	"My biggest fear is not getting the Fundza Lushaka bursary, therefore not being able to pay my fees and being kicked out of school in my first year."
Poor Academic Performance	"Not passing all my subjects with flying colours."
	"My worst fear is failing my modules."
	"Not reaching the academic standards I have set for myself."
	"Not being able to become top of the class."

7. Limitation

The analysis presented is based on self-reported information by the students and some of it has not yet been validated and verified. Some of the reported intended plans for accommodation and fees might have changed following the collection of the information. However, the analysis will still help the university to understand some of the prominent features regarding the current cohort of first-year students and allow for proper planning.

The BQ online platform is able to capture the students' circumstances as reflected by the students at the time of registration or beginning of the academic year. It is a known fact that students' circumstances undergo continuous changes and can be very unpredictable. Therefore, innovative ways are required to ensure that the BQ online platform is able to update the changes in circumstances of the students as they go through the various stages of the university to completion of their studies.

8. Conclusion

Student characteristics are no longer homogeneous; as a result, HEIs are increasingly subjected to a diverse student population from various regions and backgrounds, with markedly different academic, social, emotional, cultural and financial experiences. Knowing relevant information about the students entering the higher education (HE) system can assists institutions to better prepare for the incoming students by providing them with the necessary support they may need to succeed.

The results of the 2020 student BQ analysis and that of the last couple of years, show that the Wits first-year student population is largely African, and that the University has consistently admitted more female students than males. It is also important to note that while the percentage of first-generation students admitted to the institution is declining, this percentage is still significant. Additionally, the incoming students are becoming more dependent on government funding (NSFAS) for their tuition and accommodation payment. The University is also admitting more students who have not used facilities such as labs and computers at high school level and this is important for planning particularly with the shift towards blended learning. The changes in student demographic highlight the importance of the student BQ and the need for continuous improvement and data validation of the tool.

9. Project plans

Some of the possible future research projects envisaged from the BQ data include using statistical analysis to rigorously test and validate the reliability of the BQ questions (and data thereof), identifying potential predictors for students at risk of failing and/or dropping out, and developing an evaluation framework to assess the impact of the support interventions provided to the students identified as being at risk of failing and/or dropping out.

Notes

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