

**Science Engagement Projects:
Talent Development Programme
Post-School Destinations of the 2018,
2019 and 2020 Cohorts**

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HSRC
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ABBREVIATIONS AND ACRONYMS

DSI	-	Department of Science and Innovation
DST	-	Department of Science and Technology
HSRC	-	Human Sciences Research Council
STEM	-	Science, Technology, Engineering and Mathematics
SUNCEP	-	Stellenbosch University Centre for Pedagogy
TDP	-	Talent Development Programme

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TRACKING THE 2018, 2019 and 2020 POST-SCHOOL COHORTS

What is the Talent Development Programme?

The Talent Development Programme (TDP) forms part of the Department of Science and Innovations' set of Science Engagement Projects and was initiated in 2005. The aim of the programme is to enhance youth's access to Science, Technology, Engineering and Mathematics (STEM) through identifying and supporting Grade 11 and 12 school-going learners that have shown talent and potential to excel in STEM areas. The focus is on improving learners' achievement in mathematics and science, encouraging them to take part in extra-curricular mathematics and science activities, and promoting their pursuit of STEM-based tertiary studies and career pathways. The TDP also strives to prepare participants for life in higher education and provides STEM related career guidance.

Since its inception, two implementation phases of the TDP have been completed (2005 to 2009, and 2011 to 2016). It is currently in its third phase: 2017 to 2022 (Figure 1).

Figure 1: TDP Phase 3



Since 2017, the target population of the TDP has been learners in their final two years of schooling (grades 11 and 12) from selected public schools across the nine South African provinces. The programme aims to benefit 3 440 learners during the third phase, equating to an average of 580 new entrants per year, over a six-year period (2017- 2022). The Stellenbosch University Centre for Pedagogy (SUNCEP) is responsible for the implementation of the programme and the recruitment of learners. They adopted a decentralised model with a centre in each province and the use of school hostels to house the learners for three week-long sessions during the year. In 2020, an online platform, the TDP Smart Classroom, was introduced due to the impact of the Covid-19 pandemic, and all TDP lessons were conducted virtually during the year.

The programme focuses on high performing beneficiaries that come from working class backgrounds and families with previously limited access to tertiary education. Learners are selected based on their previous mathematics and science performance¹.

The third phase of the programme has three focus areas:

- Enhancing participants' chances to access higher education;
- Preparing participants for higher education life;
- Enhancing well-informed career decision-making by participants.

¹ More information on the selection criteria used for the TDP can be found in Hannan, S., Arends, F. and Reddy, V. (2021). Science Promotion Projects: Talent Development Programme 2020 Cohort.

Evaluating the TDP and tracking the participants

The Human Science Research Council (HSRC) is the institution responsible for the ongoing evaluation of the implementation of the TDP. This evaluation occurs through conducting studies with the TDP participants² related to their background, and their experience and knowledge and skills gained through their participation in the programme, as well as tracking their post-school activities.

The HSRC administers surveys to all TDP participants over the two years that they participate in the programme, to collect demographic and experiential information. After completing Grade 12 and therefore exiting the programme, participants are tracked for two years, gathering information related to their post-school destinations and activities. The post-school survey asked participants about their post-school activities in 2020 and 2021: whether they were studying at a tertiary institution, working, or neither working nor studying. Based on their responses, participants were asked a set of questions about their 2020 and 2021 activities, and their plans for 2022.

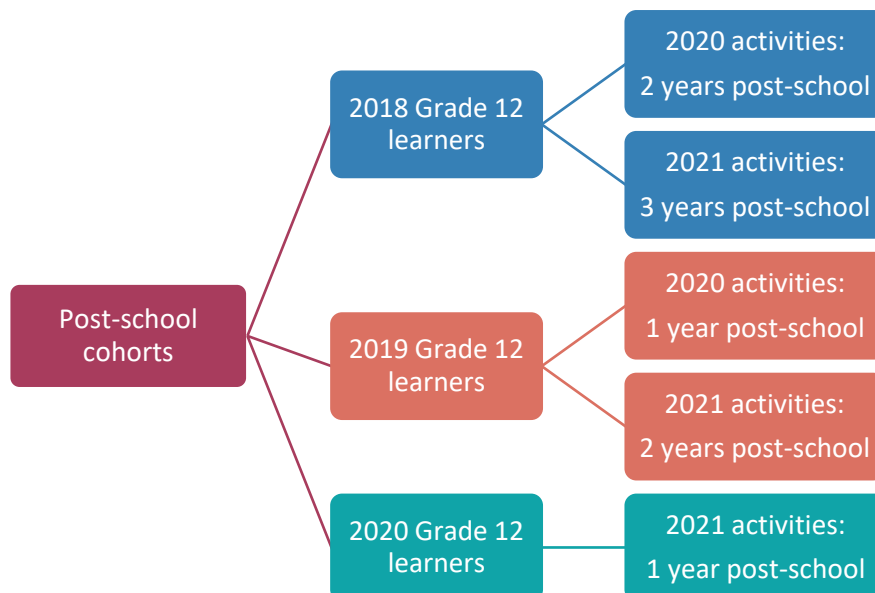
Methodology

The key research questions, which framed this study, are:

- Where were the 2018 TDP Grade 12 cohort in 2020 and 2021?
- Where were the 2019 TDP Grade 12 cohort in 2020 and 2021?
- Where were the 2020 TDP Grade 12 cohort in 2021?

Figure 2 outlines the tracking of each cohort.

Figure 2: Tracking of post-school TDP cohorts



² In this report, “participants” is used to refer to all those who participated in the TDP in 2018, 2019 and 2020; while “respondents” refers to those that completed the post-school surveys.

The 2021 surveys were administered to the participants online via Google forms during June and July 2022. We sent survey links to the 2018 Grade 12 cohort (358), 2019 Grade 12 cohort (394) and 2020 Grade 12 cohort (357)³. Table 1 sets out the responses received from each cohort.

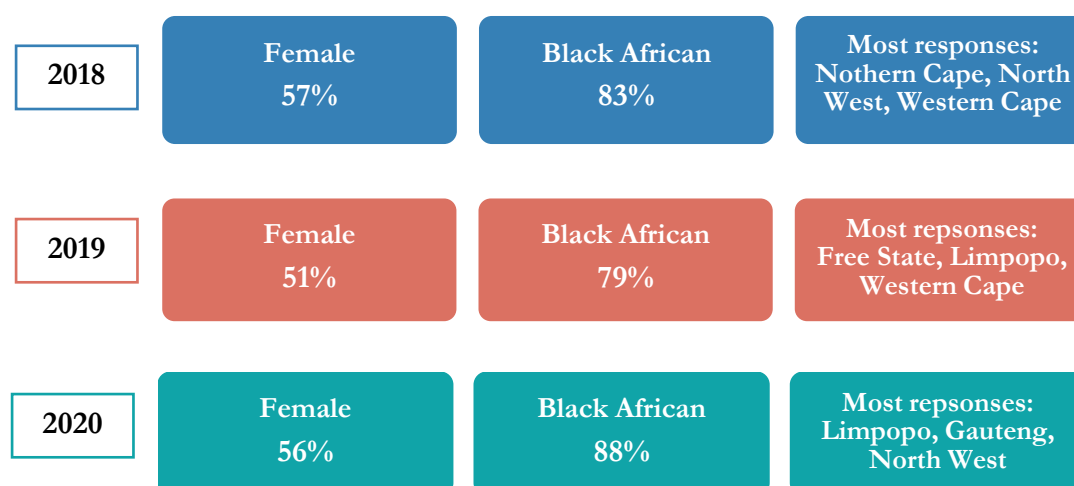
Table 1: Responses by cohort

	Records (Grade 12)	Valid e-mail addresses ⁴	Responses	Response rate
2018 cohort	358	275	119	43%
2019 cohort	394	294	134	46%
2020 cohort	357	336	169	50%

Who were the respondents?

At least half of each cohorts' respondents were female, and the majority from all three cohorts were Black African (Figure 3).

Figure 3: Characteristics of the respondents



The report

This report presents findings from the tracking of the 2018, 2019 and 2020 Grade 12 cohorts, presenting information on their post-school destinations and educational activities in 2020 and 2021.

In Part A, we report on the 2018, 2019 and 2020 respondents attending a university in 2020 and 2021, which constitutes the majority of the respondents in each cohort (2018 cohort: 98% studying at a university in 2020 and 99% in 2021; 2019 cohort: 92% in 2020 and 98% in 2021; 2020 cohort: 93% studying at a university in 2021). We also outline their Grade 12 performance, the institutions they were studying at, their field of study, and the specific qualifications they were pursuing. We also highlight their tertiary educational aspirations, and the impact of Covid-19 on their studies and their well-being. We also look at the extent to which they felt the TDP prepared them for higher education.

³ Reminder e-mails were sent to those TDP participants that had valid e-mail addresses but had not responded to the surveys.

⁴ Some e-mail addresses were incorrect, while some e-mails were unable to be delivered.

In Part B, we focus on the 2018, 2019 and 2020 respondents not in education or training, that is those who were employed, or neither studying nor working (unemployed), in 2020 and 2021. We similarly highlight their activities and provide occupation-related information for those who were working. For unemployed respondents, we report their sources of support, problems encountered finding employment, and the strategies they used to look for employment.

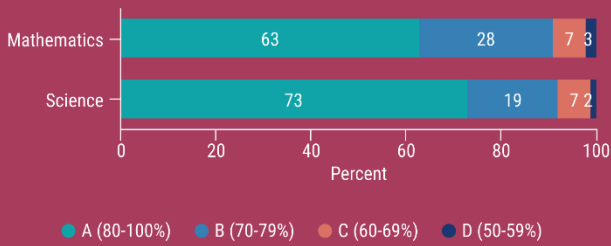
Part C presents key findings from the three cohorts.

PART A: RESPONDENTS IN EACH COHORT AT A UNIVERSITY IN 2020 AND 2021

2018 Cohort: Enrolled at a University

The majority of the 2018 cohort were enrolled at a University or University of Technology in 2020 (98%) and 2021 (99%)

Grade 12 marks



The 2018 Grade 12 TDP respondents performed well in the matric examinations, with just over 90% achieving a B or higher in mathematics and science, and more than 60% achieving an A in these subjects. This shows that dedication and high performance of the TDP learners are high performing and motivated.

This would have given them the marks needed to pursue STEM fields and to attend the top universities in the country.

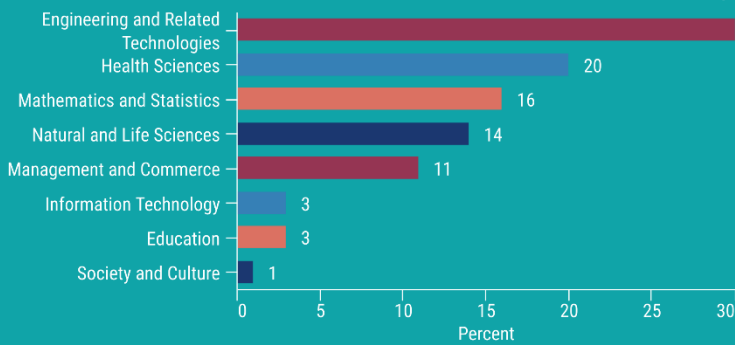
Institutions attended



The four most popular universities among the respondents were the University of the Witwatersrand, University of Cape Town, Stellenbosch University and the University of Pretoria. These are four out of the top five universities in the country.

Most respondents studied at the same institution in 2020 and 2021.

Field of study

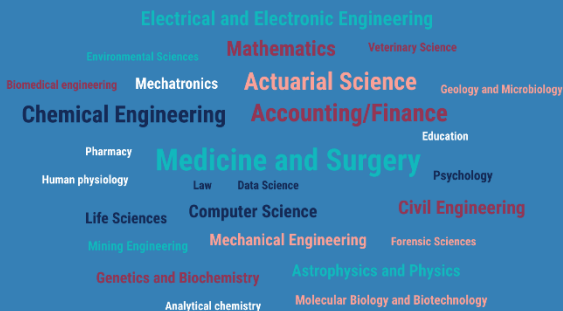


Eighty three percent of respondents were studying STEM fields, with the top three being Engineering and Related Technologies Health Sciences, and Mathematics and Statistics.

This highlights that TDP participants are registering for STEM fields, which is one of the goals of the programme.



Qualifications



Engineering and Related Technologies was the most common field, with respondents. Respondents were studying various other STEM degrees, including medicine, as well as specialisations in degrees such as Molecular Biology and Biotechnology, and veterinary science.

Six (of 119) respondents changed their degree between 2020 and 2021: 2 remained in STEM fields, 2 changed from Management and Commerce to a STEM field, and 2 changed from STEM to Management and Commerce, and Education.

Most of the TDP participants will enter STEM professions and occupations.

Minimum requirements:

At the end of 2020, 90% of learners met the requirements to proceed to the next year

At the end of 2021, 81% met these requirements

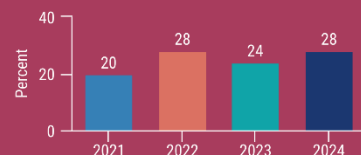
Year of study in 2021:

8% were in 1st year

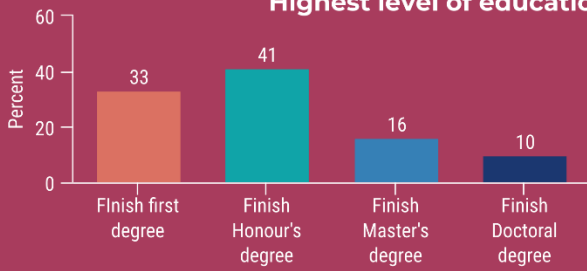
28% were in 2nd year

64% were in 3rd year

Expecting to complete qualification:



Highest level of education respondents expect to complete

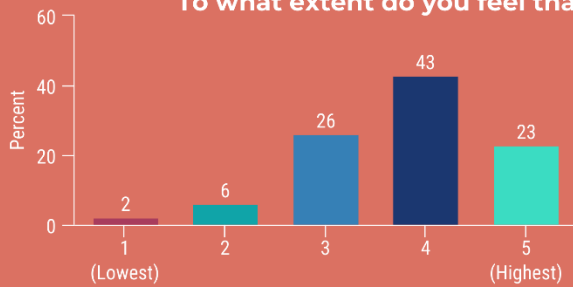


Three quarters of respondents intended to complete at least an Honours Degree (74%), with a quarter aiming to obtain a Master's or Doctoral degree.

This shows that TDP participants have high educational aspirations and motivation to succeed.



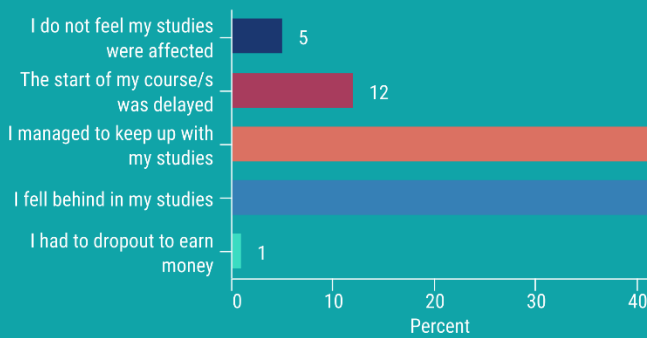
To what extent do you feel that the TDP prepared you for university life?



Two thirds of the 2018 respondents felt that they were well prepared for university life by the TDP, providing a rating of 4 or 5.

This suggests that the TDP is succeeding in preparing participants for higher education to an extent, but there are areas that require improvement.

How were your studies affected by the Covid-19 pandemic?



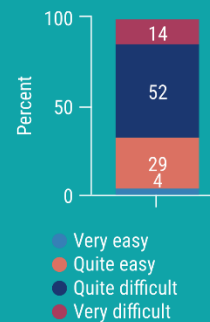
40% of the respondents fell behind in their studies and 12% had delayed start dates for their courses during the pandemic. A further 40% reported that they were able to keep up with their studies.

This underscores the impact of the pandemic and resultant university closures, and shows that TDP participants were also affected.

Format of courses during pandemic

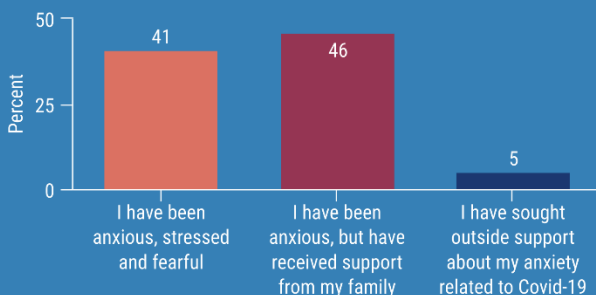
28% attended some lectures/tutorials etc in person and some online, while 72% attended all lectures/tutorials etc online

Online learning during university closures



Three quarters of respondents struggled with the online learning during the pandemic. Digital literacy is crucial in the modern world, and requires support and practice.

How were you personally affected by the Covid-19 pandemic?



Respondents indicated a high level of anxiety and stress associated with the pandemic: 41% felt anxious stressed and fearful, and 46% reported being anxious but receiving help from their family.

Stress management is a key skill for young people to learn, as well as being able to identify a support system that can be relied on during difficult times.



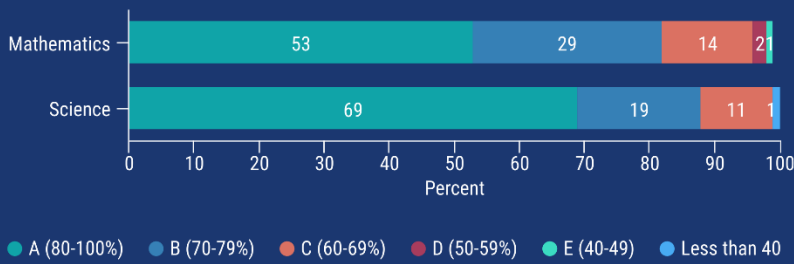
What are you doing in 2022?

77% were studying the **same qualification** at a University and **16%** were studying a **different qualification** at a University
2% were **working**, and **5%** were **not studying or working**

2019 Cohort: Enrolled at a University

The majority of the 2019 cohort were enrolled at a University or University of Technology in 2020 (92%) and 2021 (98%)

Grade 12 marks



The 2019 Grade 12 TDP respondents performed well in the matric examinations, with close to 90% achieving a B or higher in mathematics and science, and more than half achieving an A in these subjects. This shows that the TDP participants are motivated and high performing learners.

This would have given them the marks needed to pursue STEM fields and to attend the top universities in the country.

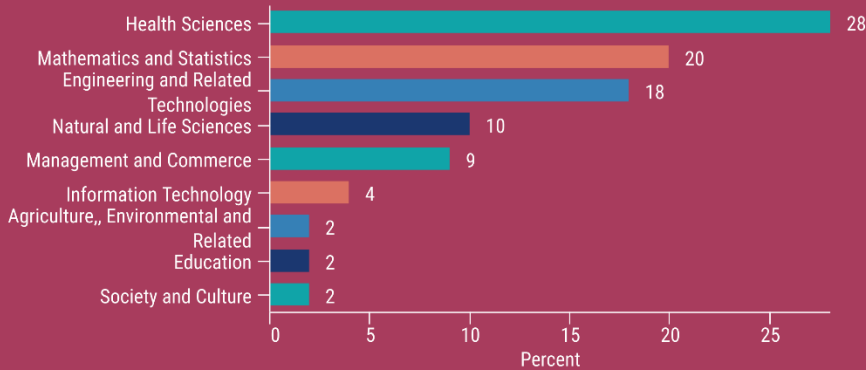
Institutions attended



The University of the Witwatersrand, University of Cape Town, Stellenbosch University and the University of Pretoria, were the most popular universities. These are four out of the top five universities in the country.

Most respondents studied at the same institution in 2020 and 2021.

Field of study



More than eighty percent of respondents were studying STEM fields, with Health Sciences, Mathematics and Statistics, Engineering and Related Technologies being the top three fields of study.

This highlights that TDP participants are registering for STEM fields, which is one of the goals of the programme.



Qualifications



A high percentage of learners were studying medicine and surgery. Respondents were studying various other STEM degrees, including different strands of Engineering as well as specialisations in degrees such as Genetics and Biochemistry, and Astrophysics and Physics.

Nine (of 134) respondents changed their degree between 2020 and 2021: 5 remained in STEM fields, 2 changed from Management and Commerce to STEM, and 3 changed from STEM to Management and Commerce or Creative Arts.

The TDP participants are likely to enter high profile STEM professions and occupations.

Minimum requirements

At the end of 2020, **88%** of learners met the requirements to proceed to the next year

At the end of 2021, **80%** met these requirements.

Year of study in 2021:

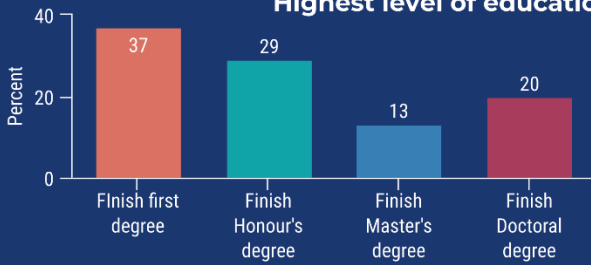
23% were in 1st year

77% were in 2nd year

Expecting to complete qualification:



Highest level of education respondents expect to complete

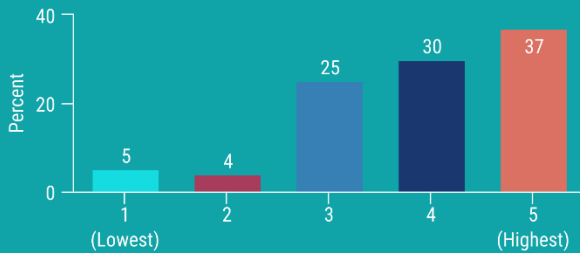


Two thirds of respondents intended to complete at least an Honours Degree (66%), with the remaining third aiming to progress further to obtain a Master's or Doctoral degree.

This shows the high educational aspirations and motivation to succeed of the TDP participants.



To what extent do you feel that the TDP prepared you for university life?



Two thirds of the 2019 respondents felt that they were well prepared for university life by the TDP, giving a rating of 4 or 5.

This highlights that the TDP is succeeding in preparing participants for higher education to an extent, but there are areas that require improvement.

How were your studies affected by the Covid-19 pandemic?



Half of the respondents fell behind in their studies and 17% had delayed start dates for their courses during the pandemic. A quarter were confident that they had managed to keep up with their studies.

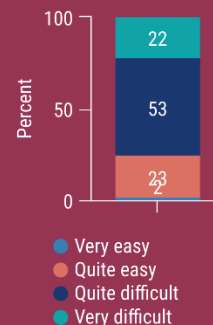
This emphasises the impact of the pandemic and resultant university closures, and shows that TDP participants were also affected.

Format of courses during pandemic

2% of respondents continued to attend lectures/tutorials in person full time, 31% attended some lectures/tutorials etc in person and some online, 68% attended all lectures/tutorials etc online

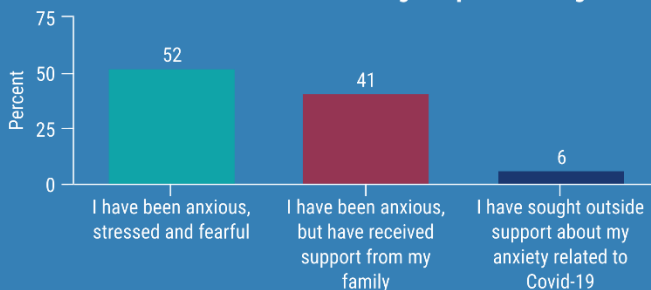


Online learning during university closures



Respondents struggled with the shift to online learning during the pandemic. Digital literacy is crucial in the modern world, and requires support and practice.

How were you personally affected by the Covid-19 pandemic?



Respondents indicated a high level of anxiety and stress associated with the pandemic: more than half felt anxious stressed and fearful, and 41% reported being anxious but receiving help from their family.

Stress management is a key skill for young people to learn, as well as being able to identify a support system that can be relied on during difficult times.

What are you doing in 2022?

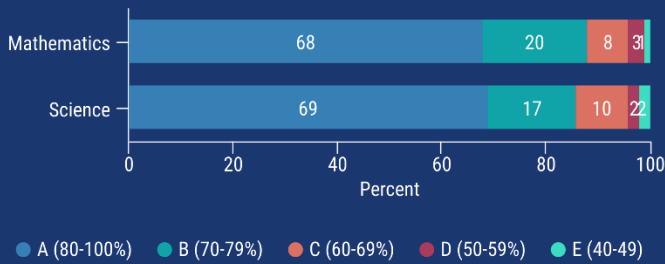
91% were studying the same qualification at a University and 7% were studying a different qualification at a University

2% were not working or studying

2020 Cohort: Enrolled at a University in 2021

The majority (93%) of the 2020 cohort were enrolled at a University in 2021

Grade 12 performance



The 2020 Grade 12 TDP respondents performed well in the matric examinations, with close to 90% achieving a B or higher in mathematics and science, and around 70% achieving an A in these subjects. This shows that the TDP learners are high performing and motivated.

This would have given them the marks needed to pursue STEM fields and to attend the top universities in the country.

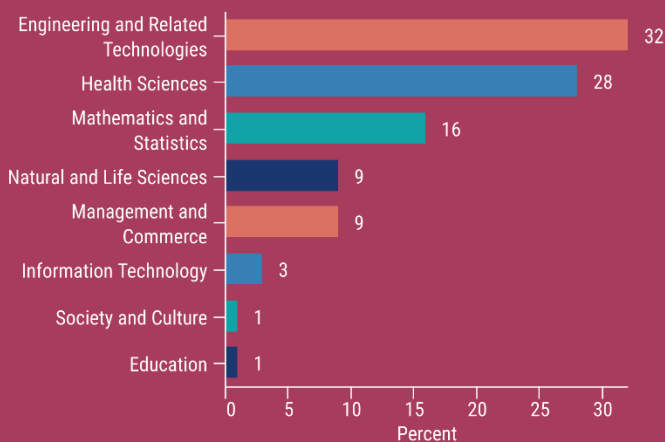
Institutions attended



The University of Cape Town, University of the Witwatersrand, the University of Pretoria and Stellenbosch University were attended by the highest number of respondents in 2021.

These are four out of the top five universities in the country.

Field of study



Eighty eight percent of respondents were studying STEM fields, with Engineering and Related Technologies, Health Sciences, Mathematics and Statistics, and Natural and Life Sciences being in the top five fields of study.

It is positive to note that many TDP participants are registering for STEM fields, as encouraging learners to pursue these areas is one of the goals of the programme.



Qualifications

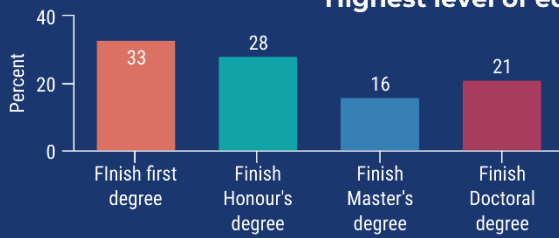


Engineering was the most common field pursued - respondents were pursuing specializations in mechanical, civil, chemical, and electrical and electronic engineering among others.

Respondents were studying various other STEM degrees, including Medicine, Pharmacy, and Life Science, as well as specializations in degrees such as Analytical Chemistry, Mechatronics, and Aeronautical Engineering.

The TDP participants are likely to enter high profile STEM professions and occupations.

Highest level of education respondents expect to complete

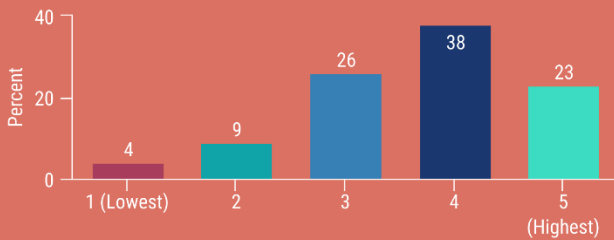


Three quarters of respondents intended to complete at least an Honours Degree (67%), with a quarter aiming to progress further to obtain an Master's or Doctoral degree.

This shows the high educational aspirations and motivation to succeed of the TDP participants.



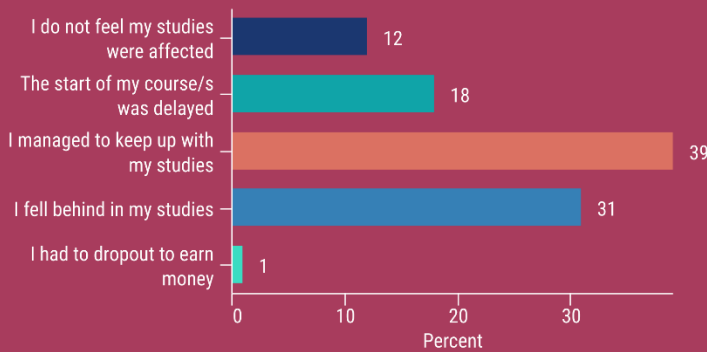
To what extent do you feel that the TDP prepared you for university life?



Two thirds of the 2018 cohort respondents felt that they were well prepared for university life by the TDP, providing a rating of 4 or 5.

This highlights the need to re-examine the ways in which the TDP prepares school learners for their tertiary education.

How were your studies affected by the Covid-19 pandemic?



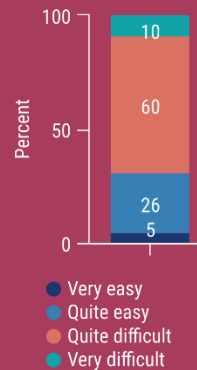
The 2020 Grade 12 cohort were in their first year of study in 2021, and therefore experienced the impacts of Covid in their last year of school and their first year in higher education.

31% of the respondents fell behind in their studies and 18% had delayed start dates for their courses. However, almost 40% were confident that they were able to keep up with their studies.

Format of courses during pandemic

3% continued to attend lectures/tutorials in person full time, 43% attended some lectures/tutorials etc in person and some online, and 54% attended all lectures/tutorials etc online

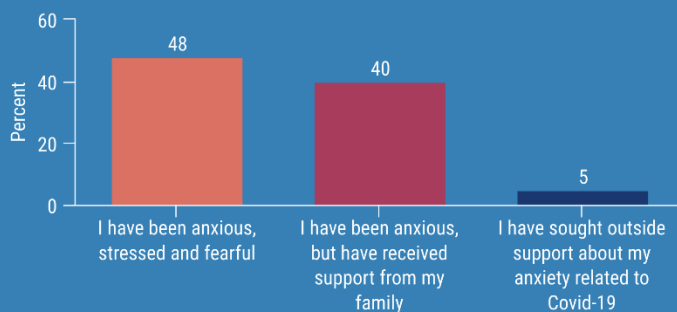
Online learning during university closures



Despite having participated in the TDP fully online in 2020 and having had some experience with online learning at school, the respondents found the online learning at university difficult.

This highlights the importance of face-to-face engagement, particularly in a new and more challenging setting.

How were you personally affected by the Covid-19 pandemic?



Of the respondents, almost half felt anxious stressed and fearful, and 40% felt anxious but received help from their family.

These respondents would have completed their matric year during Covid and entered higher education under these circumstances, leading to high levels of stress.

It is important to provide support and guidance on stress management.



What are you doing in 2022?

90% were studying the same qualification at a University and 7% were studying a different qualification at a University

2% were working and 1% were not studying or working

PART B: RESPONDENTS WORKING, OR NOT WORKING OR STUDYING

2018 Cohort

2020: working, or neither working nor studying

Of the 2018 cohort, only one person was working in 2020 and 2021. They were employed as an educator in a permanent position earning more than R25 000 per month.



Their employment was not affected by the pandemic. They had been anxious about the pandemic but received support from their family.

- Two respondents were neither studying nor working in 2020, one of who was not able to work due to ill health/disability.
- The first relied on donations of cash/food/clothing from family/friends and the Covid relief fund, while the second was supported by a pension in their family.
- Both were looking for employment and both tried answering job advertisements in newspapers and contacted friends or relatives about a job. The second also pursued other avenues in search of employment.
- When asked what problems they had finding employment, the first said there were no jobs to find and the second said they did not have the necessary experience.



In 2021 (and 2022), they were both studying at a university.

The first was studying ND Analytical chemistry and intended to finish their degree. They felt they managed to keep up with their studies during the pandemic, attending some lectures/tutorials etc in person and some online and finding it quite easy to continue with online studies.

The second was pursuing a BEng in Mechatronics and planned to finish an Honour's degree. They felt they fell behind in their studies, attending all lectures/tutorials etc online in 2021, and finding this very difficult. They were anxious about the pandemic but had received support from their family



2021: working, or neither working nor studying

In 2021, one respondent who had been studying in 2020 was neither working nor studying. They were involved in casual work for payment in kind and relied on this as their source of income. They were unable to find a job due to a lack of experience and had to take odd jobs to make some money during Covid. This respondent was again studying at a university in 2022.

2019 Cohort

2020: working, or neither working nor studying

Of the 2019 cohort, 1 person was working in 2020 and 8 were neither studying nor working.



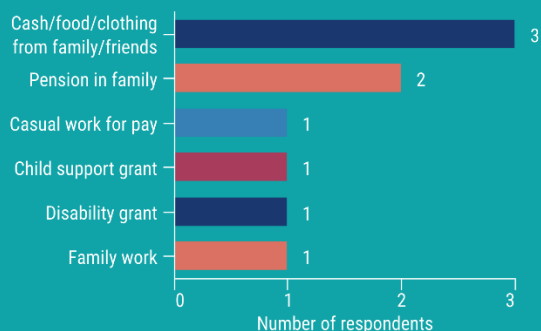
The one that was working was self-employed in sanitation.

In 2021, they were studying a BSc Agriculture at a university and planned to finish the degree. They were studying the same qualification in 2022.

At university, they attended some lectures/tutorials etc in person and some online, and found it quite easy to continue with studies online. They were anxious, stressed and fearful because of the pandemic, but had received support from family.

Of the 8 that were neither studying, nor working, 2 were doing unpaid volunteer or other community work, 1 was taking care of home/family full-time, 1 was taking care of home/family full-time and looking for work, 1 was doing casual work for payment in kind, 2 were doing nothing, and 1 was not able to work due to ill health or disability.

Sources of support



Activities undertaken to find a job

- 6 contacted friends or relatives about a job
- 2 had made enquiries at workplaces
- 3 used additional methods such as enquiring about jobs or registering with a private recruitment company or a Labour Centre/ DoL employment office, answering job advertisements in newspapers/on the internet, checking workplace notice boards; writing to or phoning an employer about a job, and asking a training institution or another organisation for advice

Reasons for not finding employment

7 felt they were unable to find employment due to a lack of experience, 2 said it was too costly to search/apply for a job, and 1 said there were no jobs to look for.

7 of the 8 were studying in 2021

- Biomedical Science
- Medicine and Surgery
- Mechanical Engineering
- Radiography in Diagnostics
- Industrial and Systems Engineering
- BEd FET Phase
- Humanities



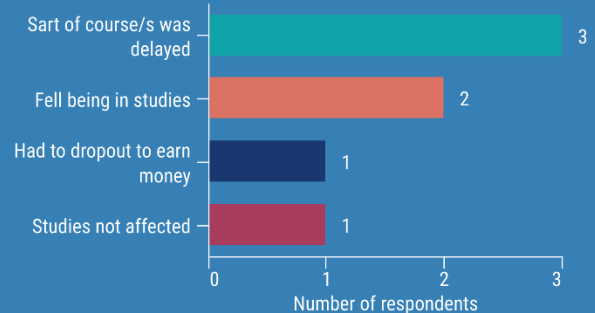
1 intended completing their diploma, 3 planned to pursue their Honour's., 1 their Master's, and 2 a PhD



They were all studying the same degree in 2022

All experienced fear and anxiety related to the pandemic, with some receiving support from family

Impact of Covid



6 respondents attended all lectures/tutorials etc online at some point during Covid, and 1 attended some online and some in person



4 found it difficult or very difficult to continue with their studies online, while 3 found it easy or quite easy

2021: working, or neither working nor studying

In 2021, 1 respondent who had been studying at a university in 2020, was studying Business Studies at a Public TVET College. They were continuing with their studies in 2022.

Another was working as an Administrative Assistant in the Private Sector on a contract basis. In 2022 they were studying at a university again.

Both did not meet the criteria to pass their first year at university in 2020.

2020 Cohort

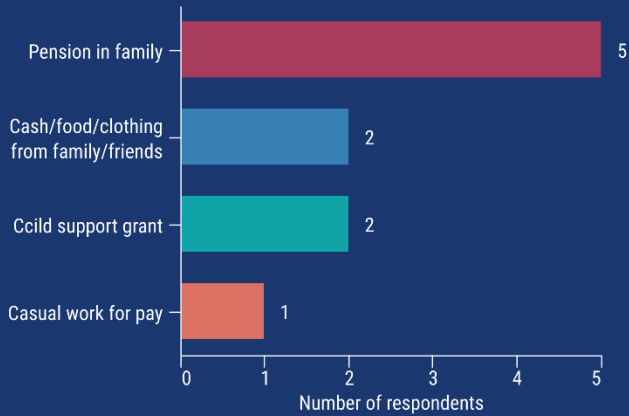
2021: working, or neither working nor studying

1 respondent was working as a Teaching Assistant, on a contract basis, earning between R1 000 and R3 000 per month. They were studying at a university in 2022.

10 respondents were neither working nor studying:

- 2 were doing unpaid volunteer or other community work
- 1 was doing casual work for payment in kind
- 1 taking care of home/family full-time
- 3 were looking for work
- 4 were doing nothing

Sources of support



Reasons for not finding employment

All respondents felt they were unable to find employment due to a lack of experience, 2 also said it was too costly to search/apply for a job, and 4 said there were no jobs to look for.

Activities undertaken to find a job

- 4 contacted friends or relatives about a job
- 3 made enquiries at workplaces
- 4 answered job advertisements on the internet
- 2 checked workplace noticeboards
- 1 Answered job advertisements heard on the radio
- 3 used additional methods such as answering job advertisements in newspapers, writing to or phoning an employer about a job, advertising for work on the internet, asking a training institution or another organisation for advice, and enquiring about jobs or registered with a private recruitment company

Impact of Covid

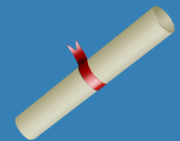
5 of the respondents reported struggling financially during the pandemic and 3 were supported financially by their families, 1 felt that the pandemic made it more difficult to find employment.

8 reported feeling some fear and anxiety as a result of the pandemic, and some were provided with support by their families.



Activities in 2022

- 8 were studying at a university
- 1 was working
- 1 was neither working nor studying



PART C: KEY FINDINGS

This section presents key findings from the 2018, 2019 and 2020 Grade 12 cohorts, related to where they were in 2020 and 2021⁵.

Grade 12 performance

- Around 90% of learners in each cohort achieved a B or higher in mathematics and science in their Grade 12 examinations, with at least 60% (except for the 2019 cohort with 53%) achieving an A in mathematics and around 70% achieving an A in science.

Post school activities

- The majority of learners were studying at a university, and the highest attendance for each cohort was at the University of Cape Town, the University of Pretoria, the University of Stellenbosch and the University of the Witwatersrand, four of the top five South African universities.
- Most of the 2018 and 2019 cohort had attended the same university in 2020 and 2021.
- Of the 2018 cohort, 1 person was working as an educator in 2020 and 2021; and 2 were neither studying nor working in 2020, but both were attending university in 2021.
- Of the 2019 cohort, 1 person was working in 2020 and 8 were neither studying nor working. Of these, 8 were studying in 2021.
- Of the 2020 cohort, 1 person was working as a Teaching Assistant and 10 were neither studying nor working. In 2021, 8 were studying at a university, 1 was working and 1 was neither studying nor working.

STEM fields

- More than 80% of the respondents in each cohort were studying STEM fields, with the highest numbers enrolled in Engineering and Related Technologies, Health Sciences, and Mathematics and Statistics. There were a small number that were studying degrees in Management and Commerce, or Human/Social Sciences, as well as Accounting or Finance.
- The field choices of the TDP participants will lead to them being employed in high profile STEM professions, and thus contributing to the goal of developing STEM human capital in the country.

Educational aspirations

- Around three quarters of learners in each cohort planned to complete at least an Honour's degree. A further quarter or more planned to progress further, and obtain a Master's or Doctoral qualification. These individuals have high aspirations in relation to their tertiary education.

TDP preparation for university life

- When asked to what extent they felt that the TDP had prepared them for university life, around two thirds of each cohort rated the extent as a 4 or 5, on a 1 (small extent) to 5 (large extent) scale. This is an area which requires some examination in relation to the way the TDP prepares participants for university life.

Impact of Covid-19

- Between 26% (2019 cohort) and 41% (2020 cohort) of learners felt they were able to keep up with their studies despite the pandemic.
- However, others indicated that their studies were impacted by the pandemic, with the start of courses being delayed: 12%, 17% and 18% for the 2018, 2019 and 2020 cohorts respectively; and around a third or more learners falling behind in their studies: 41%, 50%, 31%.
- Seventy two percent of the 2018 cohort attended all lectures and tutorials etc online at some point during the pandemic. The case was the same for 68% of the 2019 cohort and 54% of the 2020 cohort.
- For those who participated in online learning, between two thirds and three quarters of learners found the online learning during university closures either Quite or Very difficult.
- More than 40% of learners in each cohort reported feeling anxious, stressed and fearful as a result of the pandemic, and a further 40% said they had been anxious, but had received support from family.

⁵ It must be considered that TDP participants who were working, or not working or studying, may have been less likely to respond to the survey.

CONCLUSION

This report has presented information on the post-school trajectories of the 2018 (two and three years post-school), 2019 (one and two years post-school) and 2020 (one year post-school) Grade 12 TDP cohorts. This data provides an idea of where at least some of the TDP participants are going after finishing Grade 12. The findings show that TDP participants are highly likely to pursue tertiary education, with more than 90% of the respondents in each cohort enrolling at a University/University of Technology post-school. More than 80% of respondents were pursuing studies in STEM fields. The majority were enrolled in degrees which would enable them to pursue Science, Engineering and Technology careers, with a smaller percentage enrolled in degrees that would lead to Mathematics related careers.

The participants of the programme come from largely working-class backgrounds and a high number attend no-fee schools (Hannan and Arends, 2021), and it is therefore encouraging that these learners are performing well in Grade 12, gaining access to tertiary education at renowned institutions, and pursuing STEM careers. Promoting STEM literacy among young people, nurturing learners with talent and the potential to excel in STEM careers and increasing participation in STEM subjects at the school and tertiary level, is essential for developing a critical public that can actively engage and participate in the science and technology discourse.

Both the Department of Basic Education and the Department of Science and Innovation are committed to increasing participation and performance in STEM subjects and promoting a scientifically literate society (DBE, 2016; DBE, 2020; DSI, 2019). Although sustained effort has been made to improve STEM (Kahn, 2014) and several initiatives have been implemented to promote mathematics and science (Tikly et al., 2018), South African performance in these subjects remains low as evidenced by studies such as the Trends in International Mathematics and Science Study (TIMSS) (Reddy et al., 2022) and the results of the National Senior Certificate examinations (Parliamentary Monitoring Group, 2021). Furthermore, despite increasing numbers of students enrolling in and graduating from SET programmes (DHET, 2021), the pool of students with the capacity to access tertiary science-based programmes is small in comparison to the country's demand for skills (DSI, 2019). It is therefore important that programmes such as the TDP continue to play a role in enhancing STEM performance and encouraging the pursuit of STEM studies and careers.

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