

# Factors that influence transition from high school to higher education: A case of the JuniorTukkie programme

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**Background:** This article reports on the academic and non-academic factors that influence new students' successful transition from high school to higher education. The study was inspired by the universal concern about the low retention rates among students in higher education in general, and the high annual dropout rate of students from South African institutions in particular. In 2013, the dropout rate stood at 35%.

**Objective:** The objective of the study was to find out which factors, academically as well as non-academic factors influenced the JuniorTukkie group in their successful transition from high school to higher education.

**Method:** My research involved a case study of members of the JuniorTukkie (JT) empowerment initiative (between 2009 and 2013), and both quantitative (online questionnaires) and qualitative (focus group interviews) data was collected.

**Results:** The findings revealed that combinations of academic factors such as personal skills, academic skills, academic support, career counselling intervention, hard work, and perseverance to a large extent account for the successful transition from high school to higher education. Similarly, non-academic factors such as interpersonal relationship skills, positive emotions, religion, and peer acceptance contributed to students' successful transition. Financial affairs – from a student's financial status to various sources of financial backing – are other vital determinants in the transitioning endeavour.

**Conclusion:** The study illustrated that the specific challenges associated with new students' transitional experiences demand the strategic intervention of initiatives (such as JuniorTukkie), which assume responsibility for the implementation of programmes to address all academic and non-academic transitional factors.

**Keywords:** access; transition; academic factors; non-academic factors; high school; higher education; qualitative assessment; quantitative assessment; combined approach.

## Introduction

The matter of low retention rates amongst students in higher education is a universal concern (Crosling, Heagney, & Thomas, 2009). In South Africa, the annual dropout rate of students from local institutions was 35% in 2012 (Department of Higher Education and Training [DHET], 2013). Ndebele (2013, cited in Maree, 2015) highlights students' inadequate achievement in higher education in South Africa and reports that only approximately 25% of students at residential universities graduate within the minimum time allowed, and only 35% of the total number of students enrolling in any given year obtain their degrees within 5 years. The Department of Higher Education and Training lists in its 2013 White Paper (based on figures from 2012) a number of possible reasons for this inadequate success rate and states that insufficient student support, inadequate facilities and deficient student accommodation currently do not meet the high demands of higher education. Other factors that contribute to poor performances by students include inequalities in the schooling system, inadequate funding, high student-staff ratios and insufficient support for both academic and social adjustments to university life. School-leavers generally tend to be unprepared for the demands of tertiary studies because of poor academic standards prevailing at the school level.

Although local universities provide several kinds of intervention, the high dropout rate remains a major concern for South African government and higher education sector (Maree, 2015). Financial constraints often result in excluding students – even when they have obtained good

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marks – from further academic pursuits, exacerbating this dire situation (Steyn, Harris, & Hartell, 2014; Strydom, Kuh, & Mentz, 2010).

Unfortunately, most learning institutions attempt to address the poor schooling background only after students have entered higher education. Only a handful of institutions intervene proactively by attending to this problem already at high school level (Bangser, 2008). The problem of poor preparation of secondary school graduates who enter higher education is exacerbated in South Africa by the inheritance of apartheid education, which expressly underfunded the education of black people. This resulted in inequalities in educational provision and outcomes across various racial groups, with white students faring far better than black students. With the advent of democracy in 1994, the newly elected democratic government implemented reforms to address the legacy of apartheid. These included reforms with regard to education finance, curriculum content and the teacher rationalisation process. After the first democratic elections in 1994, several policy changes were implemented. This required universities to introduce innovative ways of helping students to successfully transition from high school to higher education (DHET, 2013). Numerous reasons have been advanced to explain why a relatively low Grade 12 pass rate of 74%, against a graduation rate of only 15% in higher education, was achieved in 2011 (DHET, 2013). Although the annual Grade 12 pass rate has since increased to exceed 82% in 2016, a corresponding increase in the retention rate (and thus a decrease in the dropout rate) of higher education students has yet to manifest itself. The concerns of the South African government and educational institutions about this matter have emphasised the importance of looking into ways of ensuring the effective and successful retention of students whilst enrolled in higher education.

Jansen (2008) states that there is considerable evidence that current preparation at schools is inadequate in securing a successful transition from high school to higher education. Most of the students find the transition difficult or simply lack the necessary skills and motivation to succeed in higher education. Coaching (intervention) programmes should target learners early on in their high school careers and inform them about the requirements of higher education enrolment (Klasik, 2012). Despite the high dropout rate in the first year and the lack of sufficient information provided to learners in high school, some high school students nevertheless manage to make a successful transition to higher education. This study therefore aimed to analyse the factors that account for such a successful transition. It used the JuniorTukkie (JT) initiative as a case study to study this phenomenon of transition from high school to university.

## The JuniorTukkie initiative

The JT initiative was launched in 2004 with the vision of developing academic achievers from disadvantaged backgrounds (regardless of whether they eventually applied for study at the University of Pretoria) and generically

increasing the number of new first-year applicants from previously disadvantaged communities. The name is derived from 'Tuks', which is an informal moniker of the University of Pretoria (UP). The first formal JT initiative was when two school learners were sent to the National Aeronautics and Space Administration (NASA) Agency in Houston, Texas, and accumulated a membership of 7 000 learners (grades 10–12) in Southern Africa by 2014. Since the beginning of 2016, Grade 9 learners have also been included in the JT initiative to assist them in their selection of career options for Grade 10.

On average, 65% of the JT learners become students at the UP. Learners who do not proceed to study at UP do so owing to various factors, which include exclusion from selection for their chosen courses (even when they qualify for selection), a preference to study closer to home, financial considerations or being awarded attractive bursaries and scholarships for studying at other institutions.

Participants in the JT initiative were initially identified in Grade 10, and from 2017 in Grade 9. They have to maintain their academic standards to remain members of the programme, and they must re-register annually to update their personal information. In summary, the JT initiative adopts a holistic approach to empower and prepare prospective students for the academic, emotional and social challenges that may await them in the tertiary environment.

For Grade 9 learners, the focus is on assisting them to make sound subject choices for Grade 10 as well as for their future career path. Grades 10–12 learners benefit from several empowerment projects that aim to equip them for a smooth transition to higher education life. These projects involve courses that provide guidance regarding career options, emotional intelligence (Clarke, 2005; Norton, 2010; Zepke & Leach, 2010), mathematical reasoning (Pasensie, 2012), computer skills, and reading and comprehension skills (including a free eye test and prescription glasses). Accordingly, the JT initiative incorporated the following interpersonal skills as focal points in its approach: verbal communication, listening, problem-solving, decision-making and assertiveness.

One of the benefits of JT is that qualifying learners become eligible for bursaries once they register at UP. The bursaries are funded by UP, as well as by outside companies as part of their corporate social responsibility for education. The benefits also include sponsorships by external companies for selected black (equity) learners and the provision of social activities designed to foster networking and relationship building (Carter, Swedeen, & Kurkowski, 2008).

## The JuniorTukkie Empowerment Programme

As part of a UP initiative to recruit black learners from disadvantaged communities, JT developed an empowerment programme for students in Grade 11 who are already part of the JT club – within South Africa, as well as from countries in

the Southern African Development Community (SADC). For participation in the JuniorTukkie Empowerment Programme, learners must obtain a minimum mark of 60% in English, Mathematics and Physical Science in their Grade 10 final examination. Their enrichment is extended to Grade 12 by allowing them to participate in the Grade 12 Preparation conference. The participants are part of a specific intervention programme over 2 years, which includes 2 weeks of intensive training, online reading, psychometric testing, visits to faculties, Mathematics and Physical Science enrichment classes and motivational sessions. The JT programme also assists those students who register at UP in their first year (and who want to participate) in extra classes in Calculus Maths, Statistics, Chemistry and Statistics. JuniorTukkie also offers support to those students who need help.

To align the JT programme with the university's strategic vision, the following specific objectives and expectations were formulated:

- generically increase the number of new first-year applicants from previously disadvantaged communities for studies in 2008 and beyond
- give hope to learners from previously disadvantaged communities for a successful study and career future
- ensure that quality students are empowered and attracted according to the university's strategic objectives
- increase the reading speed of new first-year applicants based on the high correlation between reading speed and academic success
- fulfil the need to disseminate general and specialised information on the university to all attendees
- use the JuniorTukkie Empowerment Programme for Grade 11 learners as an opportunity to establish a long-term, client-centred approach as part of the recruitment process
- embark on a holistic approach to develop and prepare prospective students for the challenges that await them in a tertiary environment – on an academic, emotional and social level (Wood & Olivier, 2004).

As a research focus, the various interventions that were implemented to support these learners in their transition from high school to higher education were all investigated. From 2009 to 2013, certain factors that influenced successful transition were researched and incorporated into the JT initiative for grades 10–12 learners. As the programmes were developed over 5 years, the project led to a higher number of learners from the disadvantage community who applied at UP, whilst more registrations were also received for first-year students. During this period, more than 73% of participants in the JuniorTukkie Empowerment Programme and those who took part in the research managed to successfully move over from their high schools to UP and also completed their first academic year successfully within 1 year.

As project manager of the JT Programme, my experience has convinced me that the traditional methods of student recruitment, when the university only engages with students'

transition from high school once they start their first academic year, should be reviewed. For many students, it might be a case of 'too little too late', considering the amount of attention and support that new first-year students really need.

## Theoretical overview and conceptual framework

Tinto's (1993) longitudinal model of student departure provides a conceptual framework for this research. The information above serves as background of my use of Tinto's (1975) student integration model in this research project. The model suggests that a match between the academic abilities and motivations of students on the one hand, and the social and academic qualities of an institution on the other hand, will strengthen the academic and social integration of students into the university system. The model was adapted and has been used in the case of JT students who have made successful transitions from high school to higher education.

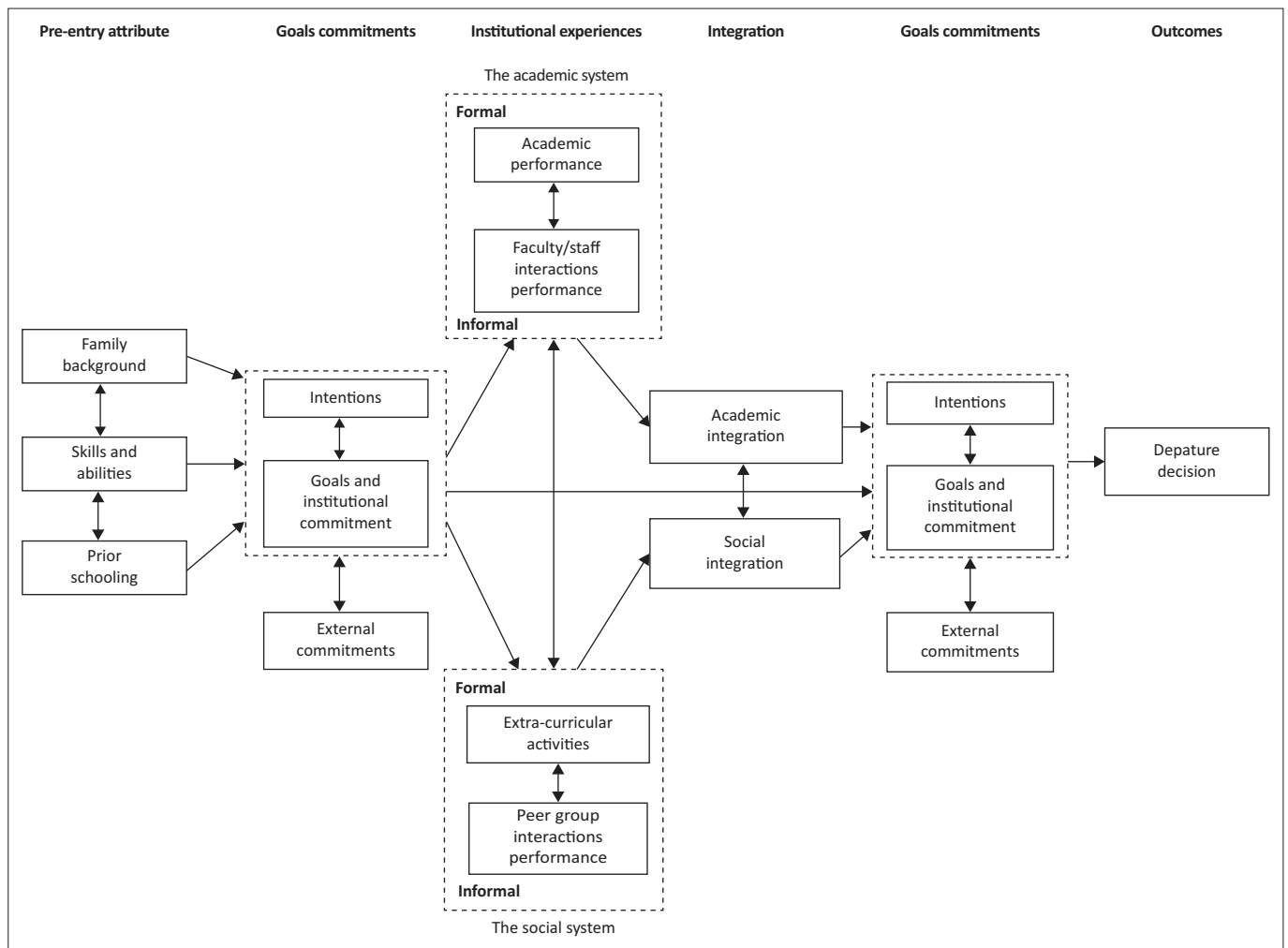
Whilst Tinto's model is popular and many researchers have cited his studies, researchers like Braxton, Sullivan and Johnson (1997) supplied evidence of its shortcomings. A high first-year dropout rate is a global phenomenon, and numerous studies have attempted to explain its complexities and dilemmas in relation to major traditional theories and historical perspectives (Bean, 1980; Bean & Metzner, 1985; Murray, 2014; Tinto, 1975, 1993).

Researchers in the field of student retention, such as Demetriou and Schmitz-Scibarski (2011), have used Tinto's theory and acknowledged his contribution to current studies on student retention. Theorists like Rendón, Jalomo and Nora (2000) tested and validated Tinto's (1975, 1993) theory of students' social and academic integration into the tertiary environment. Other theorists (Pascarella & Terenzini, 2005; Terenzini & Reason, 2005) revisited and attempted to modify Tinto's model of students who drop out of higher education before the completion of their courses. Demetriou and Schmitz-Scibarski (2011), Edwards and Minton (2009) and Rendón et al. (2000) critiqued the traditional theories as too limited in addressing diversities and higher education differences, and advocated the use of different approaches that consider the complexities and range of challenges involved.

Jama (2010) argues that if institutions and key stakeholders could understand the nature of problems faced by non-traditional students, they could collaborate, communicate and work together as a team to provide an integrated and holistic programme of action to support and develop such students. In this way, they could increase the retention rate even before the students enter higher education.

## Rationale of the study

The research presented in this article was conducted in response to the challenges outlined above. It constitutes a response to the question of whether interventions that focus



Source: Tinto, V. (1993). Taking retention seriously: Rethinking the first year of college. *NACADA Journal*, 19(2), 5–9. <https://doi.org/10.12930/0271-9517-19.2.5>

**FIGURE 1:** A conceptual schema for dropout from college.

on combinations of factors (academic and non-academic) accounting for students' successful transition from high school to higher education need to be implemented by higher education – already as from an early age in their school career.

Previous research that employed Tinto's model focused exclusively on students who had already attended higher education institutions. Certain mechanisms need to be developed and implemented to decrease the high failure and dropout rates in higher education, and to increase the number of successful participants – particularly in the equity groups (Department of Education [DoE], 1997; DHET, 2012). These strategies embrace the view that intervention must happen at an early stage instead of delaying action until students arrive at university (Jansen & Suhre, 2010; Nel, Troskie-De Bruin, & Bitzer, 2009).

Researchers who come from a higher education background generally conduct their studies from a higher education perspective (Bowles, Fischer, McPhail, & Rosentreich, 2013; Goldrick-Rab, Carter, & Wagner, 2007). They propose solutions designed to decrease the high dropout rates at university level. Fewer researchers utilise any high school perspectives

(Bangser, 2008), and only a small number of researchers focus on a combination of factors. This is because of capacity constraints that result in a lack of evidence related to high school interventions, which may stimulate the successful transition of students from high school to higher education.

## Aims of the study

The aim of this article was to explore the factors that influence the successful transition of students from high school to higher education. In particular, it focuses on combinations of academic and non-academic factors that contribute to the successful transition from high school to higher education, as well as to the success rate of first-year JT students (both at UP and other universities).

## Research methodology

An explanatory sequential mixed-method case study design was used. Grounded in social constructivism, this design was utilised to collect, analyse and report on quantitative and qualitative data. Firstly, quantitative data were collected by means of a survey questionnaire that focused on attributes that may account for students' success (or lack thereof) in



transitioning from high school to higher education. Secondly, group interviews (qualitative research) were conducted to understand why, according to the survey questionnaire, some factors appeared to be more influential than others.

## Participants and context

In total, 642 students who were studying at UP at the time of the research, and others who had formerly been included in the JT initiative, were invited to complete an online survey questionnaire (quantitative research). The participants were part of the JuniorTukkie Empowerment Initiative from 2009 to 2013. The research focused on those students who passed their first year in a single year without being failed in a subject. Although they were in different study years or had already finished their studies, the emphasis was on first-year success and the possible influence of academic and non-academic factors on their success. Seventy students (group sizes of 8–10) were invited to participate in the group interviews (qualitative research). The aim was to separate positive and negative influences on transitions from high school to higher education. The collected data were analysed to establish the level of success of the JT initiative and to measure the efficiency of the existing Junior Tukkie Empowerment Programme implemented by UP in assisting new first-year students to transition from high school to higher education.

## Data collection instruments

Online questionnaires (for collecting quantitative data), which could be completed within 15–20 min, were sent by e-mail to 642 participants (the study population). Altogether 256 members (39.9%) of the 642 potential participants completed and submitted their questionnaires. I then analysed the resulting quantitative data and identified the significant factors that warranted further investigation.

Qualitative data were collected through focus group interviews that were conducted with respondents who had indicated their willingness to participate in the interviews. Invitations were sent to all those who had responded to the online questionnaire to participate in the focus group interviews, and 70 respondents responded in the affirmative. Eventually, only 47 participants pitched up for the interviews and they were divided into smaller groups of five to seven each.

The qualitative data were used to supplement the quantitative data, and all the data were integrated. I opted to employ the Likert scale in some questionnaire questions. Likert (cited in McLeod, 2008) developed the principle of measuring attitudes by asking people to indicate the extent to which they agree with statements regarding a topic. The measuring instrument used in this research was a five-point bipolar Likert scale. It allowed respondents to signify the degree to which they agreed or disagreed with statements

and approved or disapproved suggestions. In this research, I employed a five-point Likert scale but decided not to include a neutral point. The reason was that I expected some participants to give a higher proportion of neutral responses because they did not want to say one way or another, which might lead to response bias.

The number of respondents who marked 'strongly disagree' and 'disagree' were grouped together, as well as those who marked 'agree' or 'strongly agree', so as to get a result on those who indicated a positive outcome and a negative outcome, respectively.

The survey questionnaire was the instrument that measured participants' self-reported attitudes and convictions regarding the factors that assisted them to pass all their first-year modules. As the online questionnaire (quantitative approach) was expected to only partially describe and explain the factors that contributed to successful transitions, I then conducted the group interviews (i.e. qualitative approach) to gather more data for analysis and interpretation.

## Rigour of the study

Despite the large sample size, I was careful not to generalise any findings. I also understood the need for transparency and transferability during all stages of the research. Thus, I strove to include detailed descriptions of the research context and to keep detailed records of each participant's perceptions and experiences.

The goal of the research was to determine why some variables prompt successful transition from high school to higher education, whilst others fail. My research strategy adhered to the principle of locating the study within a particular social, cultural and historical context. I therefore attempted to remain aware of the social constructs within these contexts, and of the particular identities of each participant.

## Ethical consideration

Ethical clearance for the study was obtained from the Research Ethics Committee of the Department of Education Management and Policy Studies at the University of Pretoria on 27 March 2015 (Clearance number: EM 14/01/01). The research purpose and ethical issues were explained to all participants via an e-mailed letter that clarified their rights with regard to participation. If they decided to participate, the participants had the option to open the survey through an attached e-mail link. They had to grant their permission for the anonymous publication of the findings. To overcome the potential problem of researcher bias, the Market Research Office in the Department of Institutional Planning at UP oversaw the handling of the questionnaires. In order to prevent bias of the researcher's personal views, reflections and conclusions, it was decided to use a professional moderator to conduct the focus group interviews.

**TABLE 1:** Quantitative responses related to academic factors.

Academic factors	Quantitative research (%)
Study methods (skills)	96.48
Teacher's level of training	85.66
Extra classes in Mathematics and Physical Science	71.49
Grade 12 marks as indicator of success	51.06

The author afterwards used all the feedback received with respect to the research.

## Results

### Academic factors as positive contributors

Academic factors are all factors related to classical studies, where a formal education determines a student's academic prowess based on calculated test averages. Specific factors are considered in the grading of students' achievements or to illustrate their mastering of the course content (Wormeli, 2006). In this section, the academic factors analysed are high school curriculum, poor selection of study fields, training of teachers, differences between grades 11 and 12 marks, study skills, the language of teaching and learning, and Mathematics and Physical Science skills.

In the quantitative research on academic factors, the data received were systematically linked in the online questionnaire that had been specifically designed for this research. The analysis presented here focuses primarily on the academic factors that influence the successful transition from high school to higher education, as well as on the interventions in which students participated to ease their transition. Although numerous questions were asked in the survey, the focus here was on the factors that could influence their transition in a positive way.

According to the survey results as shown in Table 1, the participants indicated that the study methods training (96.48%), their teacher's level of training (85.66%), the extra classes they received in grades 11 and 12 (71.49%) and their Grade 12 end-of-year results (51.06%) all had a positive influence on their own successful transition.

In the qualitative research, participants had to compile a list of academic factors that they thought could have had an influence on their successful transition from high school to higher education. They were given the opportunity to make a selection out of the factors compiled in the quantitative research. According to the survey results, the interviewed participants believed that the three factors with the greatest influence on their transition from high school to higher education were study methods, the language of teaching and learning (including reading skills), and Mathematics and Physical Science skills.

Of the 47 participants in the focus group interviews, 34 (72.43%) stated that the development of their study skills constituted a factor that influenced their transitioning experiences. Four of these participants explained why they

believed study skills to have a determining influence on new students' transitioning from high school to higher education (quotes are cited verbatim):

'It [*developed study methods*] helped learners realise that it is more about understanding key concepts of the work rather than just going through and applying methods in past papers.'

'[It] helped the learners to study smarter in order to get the required marks for admission into higher education.'

'It helped match the study methods suitable for different personality types and this helped improve learners' marks.'

Their remarks, as well as the percentage (72.43%) of participants, agreed with the research findings of Jansen and Suhre (2010), namely that successful study skills depend on advanced time management skills, regular tutorial attendance and satisfaction with a chosen degree.

Results obtained from the focus group interview revealed that 34 of the 47 participants (72.34%) indicated that the language of learning and teaching influenced their transition to higher education. When asked to explain why they selected this factor as influential, most of the participants mentioned the positive influence of LectorSA's Lab-on-line Reading Development Programme on their own development in terms of the language used in teaching and learning. The reading development programme consists of 20 lessons, each lasting for 40–60 min, which JTs completed over a period of 10 weeks. It assisted them to increase their reading speed and to improve their comprehension as well as their academic achievement. Below is a selection of verbatim comments made in this regard:

'Learners were at the advantage because it [*LectorSA*] assisted with understanding the terminology used in most subjects and those who don't necessarily have English as a home language were still able to understand what's going on.'

'The LectorSA reading development programme helped improve our literacy level, helped us to use the allocated time in tests and examinations effectively and we learn to read and write faster.'

Almost two-thirds of the participants (31 of 47; 65.96%) in the seven focus groups indicated that their Mathematics and Physical Science skills (as an academic factor) could have influenced their transition from high school to higher education. This result correlates with Arnold and Straten's (2012) research by acknowledging the importance of mathematical readiness in the pursuit of successful higher education studies. The following comments were recorded during the interviews:

'It [*Mathematics and Physical Science skills*] helped with the current curriculum because it is included in most foundational courses of various degrees.'

'It gave learners background information and gave learners an advantage because the learners could reason logically, not only in their respective study fields but also in the daily *lives*.'

Most of the learners in the JT initiative attended extra classes over weekends and during holidays as part of their enrichment at specific centres all over South Africa.

**TABLE 2:** Qualitative responses related to academic factors.

Academic factors	Qualitative research (%)
Study methods (skills)	72.34
Language of learning and teaching	72.34
Mathematics and Physical Science skills	65.96
High school curriculum	51.06
Grade 12 marks as indicator of success	44.68
Poor selection of study fields	36.17
Teachers' level of training	31.91

During the interviews, the following comments were made concerning extra classes:

'It [*extra classes*] not only improved our marks, but also assisted us to have a better understanding of the content in the subjects [*Mathematics, Physical Science and English*].'

'The teachers who taught us [*in extra classes*] teaching style differ from our own teachers and contribute to the better understanding of the content.'

'In the extra classes, we had more time to grasp certain difficult concepts because in school there is limited time to do revision.'

Other factors – such as high school curriculum, Grade 12 marks as indicator of success, poor selection of study fields and teachers' level of training – also influenced some of the participants' transition, but at a lesser extent, study methods, language of learning and teaching and Mathematics, as well as Physical Science skills as indicated in Table 2.

## Non-academic factors as positive contributors

### Social skills

Social skills constitute a set of competencies that allow an individual to initiate and maintain positive relationships, achieve peer acceptance and behave acceptably in the larger social environment (Walker, 1988). The JT initiative promotes the role that advanced social skills can play in empowering learners and students in South Africa's multiracial and multicultural environment. The initiative primarily guides learners and new students to develop mutual respect, acknowledge diversity and work together towards a successful future, whilst maintaining the various cultural realms.

During the quantitative research phase, the vast majority of survey respondents (95.58%) indicated that the JT initiative contributed to their social skills development, thereby positively influencing their transition from high school to higher education. During the qualitative research phase, 59.57% of respondents also indicated that the JT initiative contributed to the development of their social skills, and hence it positively influenced their transition from high school to higher education. A few verbatim remarks made by participants in the focus group interviews explain how the JT initiative helped them to develop their social skills:

'It [*social skills*] exposed learners from disadvantaged backgrounds to various other learners and different culture groups.'

'The JuniorTukkie initiative focused on social skills and empowered us not only to developed social skills but also to use our social skills when we met other culture groups.'

The above comments regarding the influence of the development of social skills in the JT initiative correspond with Hinkley and Anderson's (1996) arguments that human beings have a need for acceptance by social groups, and that individuals may benefit from exposure to other persons with healthy self-beliefs. During the development of social skills – as practised by the JT initiative – the participants become exposed to other cultural communities, which can assist in fostering healthy and productive interactions within diverse groups (Tett, Cree, & Christie, 2016).

The high percentages of participants in both the quantitative and qualitative research phases who selected social skills as an influential (non-academic) transitional factor mean that the participants largely acknowledged the role of the development of social skills in securing future success. It is important to develop a person's social skills whilst he or she is still young to enable him or her to adapt quickly to new environments, and to interact productively with strangers of all personality types.

### Financial support

Bourn (2002, p.16) (as cited in Jones, Coetzee, Bailey, & Wickham, 2008) suggests that a lack of funds can 'easily lead to problems of achievement, by provoking anxiety and reducing the time available for study and socialising, which in turn might persuade a student to withdraw'. This view correlates with the JT Student Recruitment Division's policy of offering financial awards as incentives for prospective students.

Of the 47 participants in the focus groups interviews, 24 (88.43%) stated that financial factors could influence the transition from high school to higher education. Whilst the percentage selecting financial status as a factor that may determine the success of transition to higher education is lower (51.06%) in the qualitative research population, the participants' recorded comments strengthened the view of finances as a deciding factor. Some interview participants highlighted positive as well as negative effects that bursaries may have on students:

'Getting a bursary can influence how you perform in your academics and you won't have to stress or worry where you are going to get funds.'

'Sometimes having a bursary may contribute to stress and thus affect a student negatively because of the pressure to perform well in order to maintain the bursary but on the other hand, however, it can motivate you to work harder in order to reward one.'

Interestingly, the interviewees stressed that the receiving of adequate funding for studies may motivate the student to improve his or her academic results. Such an achievement

will place the student in a more advantageous position to be considered for further financial assistance, especially in the case of financially needy students. Skilful financial advice and guidance become vital approaches in assisting students to manage their finances responsibly.

**Learners should know how to manage their finances and draw up a budget:** Some researchers – such as Dunnett et al. (2011), Jones et al. (2008), Roble (2017) and Thomas (2002) – focused on the effects of having low-income parents on students and the difficulties faced by these students when they lack sufficient funds. A high percentage of participants in the focus group interviews (88.43%) stated that financial support, as well as their families' financial status, could influence their successful transition to higher education (Roble, 2017).

The comments recorded during the quantitative research phase covered both positive and negative aspects of received a study bursary. The comments related to the positive influence of bursaries correlate with the view published in the DHET Green Paper of 2012, which states that a bursary contributes significantly to a student's effective transition and completion of his or her studies.

Judging by the manner in which participants shared their views on the influence that finances may have on academic prowess, it becomes clear that a lack of sufficient funding can negatively influence the transitioning phase from high school to higher education.

### Interpersonal relationships

Researchers like Stein and Book (2011), (as cited in Mangal & Mangal, 2015, p. 238) describe an interpersonal relationship as a strong or close association or acquaintance between two or more people, ranging in duration from being brief to enduring. Interpersonal relationships, according to them, are established within the context of social, cultural and other influences.

In this research, I focused on the building and development of interpersonal relationships amongst students who were affiliated with JT programmes. I encountered different opinions regarding the types of skills needed for maintaining healthy interpersonal relationships in the literature, but found the skills as determined by Hinkley and Anderson (1996) in their research as the most suitable combination of skills in terms of my research aims. Hinkley and Anderson (1996) believe that new students' interpersonal skills need to be tended to whilst they transition to higher education. Accordingly, the JT initiative incorporated the following skills as focal points in its approach: verbal communication, listening, problem-solving, decision-making and assertiveness. The only skill type that Hinkley and Anderson (1996) additionally focused on (but that was not included in this research and the JT initiative's programmes) is the negotiation skill. As illustrated, almost all the

quantitative survey respondents agreed that the JT initiative enhanced their personal skills (the types included in this research) in one way or another. Problem-solving and listening skills were the most frequently improved sets of skills, followed by assertiveness, decision-making and verbal communication skills (Hinkley & Anderson, 1996).

Although only 28 of the 47 respondents (59.57%) who participated in the focus group interviews (qualitative research) regarded interpersonal relationship as an important transitional factor, the percentage still indicates that the JT initiative had been instrumental in their overall development of personal skills. Various participants supported this statement as recorded below. Some participants promoted the utilisation of a personality test to help learners understand themselves better and to establish a healthy self-esteem.

The following participant commented that sound interpersonal skills and relationships can help to lay the foundation for a successful study career:

'Interpersonal relationships with other students of different culture groups, family members and teachers at school are very important for success.'

'Good interpersonal relationships made the gap between matric and first year at higher education easier.'

'Meeting new friends in the initiative and develop good interpersonal relations with other participants helped a lot because it exposed me, as a learner, to more friends, their ideas and thus made me to be more open-minded towards things.'

Responses obtained from both the quantitative and qualitative research phases revealed that the participants valued interpersonal relationships as one of the (non-academic) factors that influence the transition from high school to higher education. Productive interaction not only with peers and friends but also with other cultural groups exposed them to new ideas and nurtured respect for other communities. The views of participants on the positive influence of interpersonal skills correlate with the arguments found in the studies conducted by Bar-On (2007), (as cited in Mangal & Mangal, 2015), Hinkley and Anderson (1996) and Tett et al. (2016).

### Co-curricular activities

Whilst previous researchers – including Andrews (2013), Khan, Jamil, Khan and Kareem (2012), Prasad (2012) and Streb (2009) – highly regarded the influence of co-curricular activities (extra-curricular activities), my research reveals that the JT participants valued the influence of co-curricular activities on the transitional process, but to a lesser extent. Participants in the focus group interviews only commented on the extra-curricular activities that were instrumental in their transition.

In the quantitative research phase, approximately half of the respondents agreed that both sports and cultural activities at university assisted them during their transition from high



school to higher education. Cultural activities, however, appeared to be more influential in transitioning than sports activities, according to the interviewees (55.51% vs. 42.29%).

The contribution that extra classes in subjects such as Mathematics and Physical Science could make to a successful transitioning from high school to higher education was an important focus point in the quantitative survey (Prinsloo, 2008; Santhi, 2011). Almost three-quarters of respondents (73.45%) agreed or strongly agreed that extra classes could be a supporting factor during transition.

During the qualitative research phase, 21 of the 47 participants (44.68%) stated that extra-curricular activities could have been influential transitioning factors. These were amongst the few comments recorded during the discussion of this factor:

*'It [extra-curricular activities] helped to keep a balance with social and academic life.'*

*Participation in sports helped in keeping me sane.'*

The lack of resources and opportunities to participate in sports and cultural activities could explain the low response rate of the focus group participants, with only 44.68% of participants having indicated that co-curricular activities could have contributed to their transitioning experiences. Reasons that explain why many of the participants felt those activities had borne no influence on their transitioning are found in these recorded remarks:

*'I did not have the opportunity to participate in cultural activities as well as sports activities because I only focus on my academics.'*

*'Higher education focuses on academic achievements to select learners for university and therefore I spend my time on focusing on my academic skills.'*

In the qualitative research phase, participants considered the attendance of extra classes in Mathematics and Physical Science as a co-curricular experience. Comparatively, more quantitative (online) respondents than qualitative (focus group) participants felt that the extra classes they attended could have influenced their transition. More respondents selected cultural activities rather than sports as a possible co-curricular factor to influence the transition from high school to higher education. The low number of agreements in the qualitative phase can possibly be ascribed to the fact that many did not participate in sports or cultural activities as learners, and some prioritised academic achievements as the more vital endeavour in gaining admission to higher education.

### First- and second-generation students

Heyman and Carolissen (2011) described a first-generation student as a student whose parents or guardians never earned a degree or diploma, whilst a second-generation student is a student whose parents or guardians have earned at least one tertiary qualification. Several researchers found that

parents' expectations (Gonida, Kiosseoglou, & Voulala, 2007), parents' socio-economic status (Alexander, Entwistle, & Horsey, 1997) and parents' education (Hornby, 2011) play elemental roles in learners' development and their transition from high school to higher education. Engle and Tinto (2008) argued that first-generation students are significantly less likely to graduate because of a lack of family support. The JT initiative maintains a strong support system to assist such first-generation students. All JT participants receive academic and emotional support from JT staff members and JT student ambassadors (senior students).

Nearly half of the sample population in the quantitative research phase (48.61%) were students whose parents (father and mother) never studied at a tertiary institution; just over a quarter of students (25.90%) had parents who both studied at tertiary institutions, whilst almost the same number of students (25.49%) had either a mother or a father who studied at a tertiary institution. Only nine of the 47 participants (19.50%) amongst the seven focus groups (qualitative research phase) indicated that differences between first- and second-generation students could constitute a non-academic transitional factor. Those participants praised the positive contributions that their parent(s), who attended higher education institutions, had made to prepare them for the transition to the tertiary sphere:

*'It was easier for me because my parents were able to prepare financially for university because then you too attended a tertiary institution like one of your parents, so they knew what would be expected not only from them but from me too.'*

*'My parents understood the stress that comes with being at a tertiary institution, so they were able to prepare me for it.'*

A first-generation participant, however, highlighted the intriguing possibility that having no parents with tertiary backgrounds may also have a positive effect on a new student's transition from high school to tertiary education:

*'If you are the first one to go to university in your family, it motivates others and they look up to you as a role model.'*

The interview sessions revealed that only a small number of participants perceived that differences between first- and second-generation students could influence the transition from high school to higher education. Their statements indicated that those students who had parent(s) with tertiary backgrounds benefited in their efforts to transition successfully to higher education because of their parents' knowledge regarding the demands of tertiary studies and the latter's financial readiness to support them. At the same time, an argument can be presented that first-generation students could be motivated, as role models, to achieve and hence encourage other family members to aim for higher education studies.

Although many JTs were first-generation students, the relationships they had built and the support they had received through the JT initiative helped them to offset the

relatively strong connections that first-generation students generally have with their homes. The statements made by other participants in relation to the positive effects of being a second-generation student corroborate the findings of Pascarella and Terenzini (2005), who found that students whose parents had a bachelor's degree or higher were five times more likely to earn a bachelor's degree than the first-generation students.

Whilst the first-generation students could face certain disadvantages in comparison to other students, their parents may harbour higher expectations for their university-attending children, especially when these children had achieved high grades at school (Hamrick & Stage, 2004).

### **Culture shock (school vs. higher education)**

Several researchers have investigated the culture shock that students can experience during their first year at a tertiary institution. McCoy, Smyth, Watson and Darmody (2014) argue that high school learners are in need of a self-directing style of learning (especially with regard to time management), in contrast to the directive approach adopted by schools, in order to overcome the culture shock experience. Diversity within the education system ranks amongst the greatest challenges facing higher education institutions and may exacerbate students' transitional culture shock (Kish, 2003).

The JT initiative values all activities that assist prospective students to become comfortable with diversity, not only to help students to manage situations of diversity relating to cultural practices, gender and language barriers, but also for students to obtain social and interpersonal skills that will minimise the culture shock caused by exposure to a new environment. The JT initiative takes both positive and negative emotions or feelings of first-year students into account.

## **Discussion**

In this study I investigated a variety of academic and non-academic factors that could influence new students' transitional experiences and determine their success. The results of both the online participants and the focus group interviews differ from those of the study of Bangser (2008), who found that students' high school experiences often do not prepare them well for a successful transition to higher education. He suggested that efforts should be made to increase the rigour, relevance and engagement of the high school curriculum for students who have traditionally faced barriers to the successful transition to higher education.

The participants' remarks are in contrast with the assumptions found in the literature (Bangser, 2008; Dlomo, Jansen, Moses, & Yu, 2011), where researchers perceived the higher education curricula to differ from and present more strenuous challenges to students than high school curricula on account of increased workloads and higher volumes of learning material.

## **Interpretation of results**

Several researchers, such as Balduf (2009), Damico and Quicy (2009) and Jansen and Suhre (2010), have focused on the relationship between study skills and successful academic achievements. Success in a study career is achievable when the student's study and time management skills are functional (Jansen & Suhre, 2010). The quantitative data and participants' comments in this research agree with the perception that inadequate study skills can have a negative impact.

The results of this research concerning the question of whether the language of teaching and learning can act as a predictor of success in the transitioning from high school to higher education correlate with Wedekind's (2013) study of South African universities, in which he suggested that academic success in the language used for learning and teaching at a learner's school is a reliable predictor of academic success – in the same language – at a higher education institution.

The findings of the present research, namely that participants' Mathematical and Physical Science skills (as an academic factor) could have influenced their transition from high school to higher education, complement Arnold and Straten's (2012) research by acknowledging the importance of mathematical readiness in the pursuit of successful higher education studies.

Naidoo, Motala and Joubert (2013) found in their research that a high correlation existed between matriculation scores and degree averages. This correlates with the findings of the present research, namely that nearly 50% of the participants indicated that their Grade 12 marks were an indication of their success in higher education (first year). The other 50% correlates with the findings of Müller (2013), who presents a case that the National Senior Certificate (NSC) Grade 12 examinations are not a good indicator of success in higher education.

When researching financial factors as part of the non-academic factors that can influence successful transition, I found that both the quantitative and qualitative results complemented the findings of researchers like Dunnett et al. (2011), Jones et al. (2008), Roble (2017) and Thomas (2002). All of them focused on the effects of having low-income parents and insufficient funds on these students.

Although Engle and Tinto (2008) argue that first-generation students are significantly less likely to graduate because of a lack of family support, the present research findings show that only a small percentage (19.5%) of participants indicated that the differences between first- and second-generation students could constitute a non-academic factor. On balance, some of the participants' comments corresponded with the findings of Billson and Terry (1982), namely that there are no noticeable differences between the educational aspirations of

first- and second-generation students. Other participants' statements regarding the positive effects of being a second-generation student agree with the findings of Pascarella and Terenzini (2005), who argued that students whose parents held a bachelor's degree or higher were five times more likely to earn a bachelor's degree than the first-generation students.

The results of the questionnaire (quantitative research) show that the participants experienced positive and negative emotions or feelings in almost equal measures during their first study years. They confirm the perception that students may experience a culture shock whilst transitioning to a higher education institution (Zhou, Jindal-Snape, Topping, & Todman, 2008).

Responses obtained from both the quantitative and qualitative research phases of the study reveal that the participants valued interpersonal relationships as one of the (non-academic) factors that influence the transition from high school to higher education. This finding correlates with the arguments found in the studies of Bar-On (2007) (as cited in Mangal & Mangal, 2015) and Tett et al. (2016).

The findings of this research complement those of Moursound (1995) (cited in Eisenberg & Johnson, 2002), namely that the productive utilisation of computers and computerised content is either neglected or underdeveloped in many schools. It also correlates to the view of Eisenberg and Johnson (2002) who argued that programmes used to develop computer literacy will manage to develop skills that are best applied when meeting learning outcomes.

The results regarding the influence of the development of social skills in the JT initiative as a non-academic factor support the arguments suggested by Hinkley and Anderson (1996), who believe that human beings have a need for acceptance by social groups. During the development of social skills as part of the JT initiative, the participants become exposed to other cultural communities, which can assist in fostering healthy and productive interactions within diverse groups (Tett et al., 2016). According to Bangser (2008), students' high school experiences often do not prepare them well for a successful transition to higher education. He suggests that efforts should be made to increase the rigour, relevance and engagement of the high school curriculum for students who traditionally face barriers that hamper their successful transition to higher education. However, the remarks made in the focus group interviews of this study are in contrast to the assumptions found in the reviewed literature.

In total, only 17 (36.17%) students who participated in the focus group interviews indicated a belief that a poor selection of study fields could influence the transitional process. This is in contrast to the findings of Bourdabat and Montmarquette (2007) who argue that expected economic return has a primary influence on the choice of a study field.

Although Prasad (2012) found a positive correlation between sports participation and academic performance, and Andrews (2013) and Zia-ul-Islam, Khan and Khan (2016) argued that participants in sports and co-curricular activities generally achieve better grades than non-participants, a lower percentage of participants in the focus group interviews in the present study stated that those activities could have eased their transition to higher education. As most of the respondents in this study lacked the resources and opportunities to participate in sports and cultural activities, their response rate was low.

In the reviewed literature, I found no evidence of other programmes designed to specifically address poor study skills prior to new students' arrival at higher education institutions. The JT initiative, however, incorporates a study skills programme to assist participants in improving their study methods (skills).

What emerged from the findings of this study was that most students who had successfully transitioned from high school to higher education were convinced that a variety of academic and non-academic factors could influence new students' transitional experiences and determine their success. The respondents identified certain factors as highly influential, whilst others were not negligible but had less influence on transitions.

Lastly, in contrast to studies such as those conducted by Bowles et al. (2013) and Goldrick-Rab et al. (2007), which largely focused on the types of assistance once students had arrived at a higher education institution, the current study focused on factors and experiences of students before they entered higher education. A reasonable assessment provided by this study is that a well-functioning support system, combined with programmes to aid the development of various skill sets (e.g. academic, social and personal), could greatly enhance new students' successful transition from high school to higher education.

### Possibilities for further research

This study's findings helped me to appreciate the importance of sufficiently preparing high school learners for their pending transitions to higher education (especially learners identified as prospective students in South Africa's public schools), and to keep supporting and encouraging them to complete their first academic year within one calendar year. As the scope of this study was limited to the factors that enable successful transitions (with a resultant focus on JT participants who achieved academic successes in their first years), a new area of wider research could be developed that will complement this study's findings. A new study could, for instance, determine the factors that led to the success of those students who had transitioned well and completed not only their first years successfully, but also had graduated in the minimum amount of time.

A second new area of investigation could involve participants who had attended the JT initiative's programmes at their

**TABLE 3:** Overview of the academic and non-academic factors that influence student success or failure.

Academic factors	Non-academic factors
Study methods (skills)	Social skills
Language of learning and teaching	Financial support
Mathematics and Physical Science skills (extra classes in Mathematics and Physical Science)	Interpersonal relationship
High school curriculum	Co-curricular activities
Grade 12 marks as indicator of success	Difference between first-and second-generation students
Poor selection of study fields	Culture shock (school vs. higher education)
Teachers' level of training	-

high schools in 2014 and 2015, and then completed their first years at universities in 2016 and 2017. This new study would establish if the changes and additions implemented by the JT initiative (as a consequence of this study) had any greater effects on new students' transitional and academic successes at higher education.

As a third suggestion, as the JT initiative incorporated extra e-learning programmes and escalated its focus on the development of personal skills, the degrees of influence that these specific programmes had on students' transitioning and academic successes could be investigated in the near future.

## Conclusion

There is a general consensus about the fact that both academic and non-academic factors will influence prospective students' transition from high school to higher education. As has been demonstrated in the findings of this research, certain academic factors played a bigger role in participants' successful transition, whilst others had less influence. The same trend was found with respect to non-academic factors, which not only affected the successful transition of students from high school to higher education, but also contributed to their success in further studies.

The academic benefit and competitive advantage gained by students who made a successful transition from high school to tertiary education cannot be underestimated. Hence, it is vital to introduce a pre-arrival programme – already in high school – to address both the academic and non-academic factors that may affect transition. Successful transition to higher education can reduce the dropout rate of first-year students and decrease their fear of failure.

Closing the successful transitioning from high school to higher education is paramount for learners and students in the South African context. School preparation is often inadequate for ensuring a successful transitional period, and many new students find it difficult to remain in control of their transition and studies without the necessary preparation, skills or motivation. Academic and non-academic factors work together 'as a unit' to ensure (or ruin) the study success of a first-year student; therefore, it is important to assess and evaluate all the factors that

may assist in successful transition from high school to higher education.

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The author has declared that no competing interests exist.

## Author's contributions

I declare that I am the sole author of this research article.

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Data sharing is not applicable to this article as no new data were created or analysed in this study.

## Disclaimer

The views and opinions expressed in this article are those of the author and do not necessarily reflect the official policy or position of any affiliated agency of the author.

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