# How pre-admission characteristics affect the performance of CTA students at a South African university

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#### **Abstract**

The completion of a Certificate of Theory in Accounting (CTA) is an essential and challenging part of qualifying as a chartered accountant (CA) in South Africa. The objective of this research was to determine how certain pre-admission student characteristics impact CTA performance at a South African residential university (Stellenbosch University). Current CTA students were asked to complete a questionnaire, which requested information regarding the characteristics that they possessed upon admittance into the CTA programme. Past performance in undergraduate studies showed the strongest correlation with CTA performance, and is thus a valid admission criterion. Characteristics that relate to reduced performance in CTA studies include: not completing the undergraduate programme in the minimum amount of time, being an extrovert, underdeveloped literacy skills and focusing on the details rather than the big picture. Such students are at risk and could benefit from targeted interventions.

#### Keywords

CTA students, Stellenbosch University, Academic performance, Accountancy, Personality, Extroversion, Literacy skills

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#### 1. INTRODUCTION

To qualify as a chartered accountant in South Africa, a student has to overcome a number of hurdles. One of the more difficult aspects of this process is the obtaining of a Certificate of Theory in Accounting (CTA) accredited by the South African Institute of Chartered Accountants (SAICA). A CTA is similar to an Honours degree in many respects, but does not necessarily contain a research component. The curriculum content of a CTA is mainly driven by the Examinable Pronouncements for the Initial Test of Competence (ITC) as set by SAICA. The examinable pronouncements are extensive and often challenging, and students frequently complain that the workload is demanding.

Stellenbosch University (SU) is a South African university that offers a full-time residential CTA programme. Currently, admission into the SU CTA programme is done only through quantitative measures, and is based on the marks obtained in the final (third) year of the undergraduate programme. Stellenbosch currently offers this programme only in Afrikaans, although notes, text books and examinations are available in both Afrikaans and English. Struggling students can request help from a number of sources, including additional classes, sessions with lecturers as well as one-on-one help from academic trainees.

Students at SU sometimes question lecturers about whether the student's personal preadmission characteristics (such as preferred language of tuition, age, whether the student completed his/her undergraduate studies in the minimum amount of time, personality preferences) would impact the student's CTA performance. The fact that SU's CTA programme is presented only in Afrikaans often raises concern among English-speaking students who feel that this might disadvantage them.

# 2. RESEARCH OBJECTIVE AND CONTRIBUTION

# 2.1 Research objective

The purpose of this article is to examine the effect pre-admission characteristics have on the performance of CTA students at Stellenbosch University. The twin objectives are to determine whether (a) certain pre-admission characteristics increase a student's chances of failing the degree, and (b) selection criteria other than third-year marks should be considered when admitting students into the SU CTA programme.

#### 2.2 Research contribution

Students who are at increased risk of failing the CTA (due to certain pre-admission characteristics) could be identified once admitted into the programme, and their areas of risk could be addressed through targeted interventions (before or during the CTA year). If other criteria (besides a student's third-year marks) are found to significantly impact student performance in the CTA year, then the knowledge gained by this research could also be used to refine and expand the relevant admission requirements.

# 2.3 Limitations of the study

The majority of the students sampled in this study achieved A symbols for mathematics and their first language during their matriculation examination (see section 5.1). As these matriculation results might be above the normal level for student intake at other universities, the results of this study cannot be generalised to other universities or fields of study.

#### 3. LITERATURE REVIEW

From previous local and international studies, a number of pre-admission factors have been identified that could impact an accounting students' performance. Previous studies have focused mainly on undergraduate accounting programmes, while a relatively small number of studies have focused on postgraduate programmes. This literature review focuses exclusively on those unchangeable characteristics that a student would presumably have upon admission into the CTA programme.

#### 3.1 Gender

The relationship between gender and performance in accounting has been explored in many studies, but no constant and significant correlation has been found (Guney, 2009; Naser & Peel, 1998). Koh and Koh (1999) found that Singaporean males performed better in undergraduate accounting, and Roos (2009) reported that Southern African females performed better in the international CIMA examinations. Sadler-Smith (1996) found that males were more confident about their academic abilities and believed that they used a deep approach to studying. In the same study, females were more anxious and more likely to use a surface approach to learning. It can therefore be argued that the difference in the performance of males and females found in certain studies might be due to factors other than gender, such as ability, motivation issues or study behaviour (Guney, 2009; Koh & Koh, 1999).

# 3.2 Age

Some studies have found that older students perform better in accounting as they are possibly more mature in their attitude, more disciplined in their study behaviour (Guney, 2009; Jackling & Anderson, 1998) and more likely to apply a deep approach to studying (Sadler-Smith, 1996). Senior students are more motivated, as they are goal-orientated (Jackling & Anderson, 1998); however, this advantage may only be seen in the first year of study (Guney, 2009).

In the South African context, it can be argued that CTA students are older than average for one of two reasons. Either they only started their accounting studies after some other activity (such as working or studying in another direction) or they have been studying accounting for many years and have been struggling to pass in both undergraduate and postgraduate courses. In the first instance, the results in the mentioned studies are likely to hold true, but in the latter case both the ability and the confidence of the student could be lower, leading to lower marks. In a South African study on the success factors of candidates attempting Part 1 of the Qualifying Examination (QE) (now called the ITC), it was found that younger candidates were more likely to be successful (Van Wyk, 2011).

# 3.3 Past performance in undergraduate studies

Past performance in undergraduate studies can be viewed as an indicator of both intelligence and diligence and, as such, performance in prior modules of study has been found to positively correlate to future performance (Guney, 2009; Maksy & Zheng, 2008; Koh & Koh, 1999). A number of academic indicators (of previous performance) can be linked to future performance in an accounting course (Lynn & Robinson-Backmon, 2006). According to Waples and Darayseh (2005), general academic strength and being well-grounded in the work done in previous accounting modules were also related to performance in future modules.

# 3.4 Numeracy and literacy skills

Literacy and reading skills could be important determinants of performance, because an accounting student needs to able to read effectively (quickly and with understanding) in order to understand notes, text books and examination questions (Steenkamp, Baard & Frick, 2009). In a South African study (Weil & Wegner, 1997), black students reported that their lack of writing skills, especially in English, caused concern, as it negatively affected their performance in a test situation.

A high level of numeric ability can be expected to be important in a quantitative field, such as accountancy. Guney (2009) found that students who achieved higher marks in mathematics at high school were more likely to perform well in undergraduate accounting. In addition, Koh and Koh (1999) found that students with previous experience in mathematics performed better in accounting studies. In their South African study, Weil and Wegner (1997) remarked that a lack of numerical and statistical skills was problematic for black students. Yunker, Yunker and Krull (2009) found that high mathematics scores were significantly correlated to performance in accounting modules, and proposed that it is also related to academic ability in general.

# 3.5 Whether the CTA classes are presented in the student's preferred language

The SU CTA programme is currently offered only in Afrikaans, but all teaching material and examinations are also made available in English. The question arises whether English-speaking students are at a disadvantage. Baard, Steenkamp, Frick and Kidd (2010) found, at the same university, that English first-year students believed that Afrikaans classes were inhibiting their success. Drennan and Rohde (2002) found (in an English academic environment) that second-language speakers were at a disadvantage when they had to apply principles to unfamiliar scenarios. In the same study it was reported that this disadvantage was noted for advanced courses, but not for introductory courses. Research done on candidates attempting Part 1 of the QE found that Afrikaans and English first-language students performed better, as these are the languages in which the QE (now called the ITC) is written (Van Wyk, 2011).

# 3.6 Personality

The interplay between personality and learning style can cause certain personality types to outperform others in the field of accountancy (Wolk & Nikolai, 1997; Gul & Fong, 1993). According to Borg and Shapiro (1996), people with different personalities tend to have different methods of studying. The Myers-Briggs Type Indicator (MBTI) (Myers & McCaulley, 1985) is just one of many ways of measuring personality, but it is fairly robust and has been used in several

studies relating to the personality of accountants, lecturers and students (Wolk & Nikolai, 1997). The MBTI builds on theories developed by Jung, and divides personality into four different areas: (1) introversion versus extroversion, (2) intuition versus sensing, (3) thinking versus feeling and (4) judgement versus perception (Myers & McCaulley, 1985; Wolk & Nikolai, 1997).

# 3.6.1 Introversion (I) versus extroversion (E)

The concept of introversion was first developed by Jung, but its meaning has since become distorted with character traits such as being reserved and uncommunicative (Wolk & Nikolai, 1997). The technically correct definition for an introvert is a person who is energised by spending time alone and who is involved with internal thoughts and feelings (Borg & Strahanan, 2002; Wolk & Nikolai, 1997). It has been argued that introverted students perform better than extroverts, as introverts are more suited to the university environment, especially in the accounting context, where many hours must be spent studying alone (Naser & Peel, 1998; Oswick & Barber, 1998; Gul & Fong, 1993). Extroverted students, in comparison, are energised by spending time with other people. Their focus is mainly on people and objects existing in their external environment and they might prefer working in groups rather than studying on their own (Wolk & Nikolai, 1997). Fewer students with an extroverted personality type might choose to study accounting (Gul & Fong, 1993).

# 3.6.2 Intuition (N) versus sensing (S)

This aspect of personality theory refers to the way in which a person receives and files information. While sensing refers to gathering information through the use of one's senses, intuition refers to an abstract orientation to information, seeking to integrate new information with established patterns and meanings (Borg & Stranahan, 2002). Sensing students might fare better in the lecture method of teaching, as they focus on details and step-by-step methods (Wolk & Nikolai, 1997). Wolk and Nikolai (1997) found that the majority of graduate students are sensing and therefore prefer less complex assessment methods, where no uncertainty exists. Intuitive students prefer more complex situations in their work, where they can apply their learning. Such students aim to establish relationships and are able to integrate the different aspects of their studies more easily, which might lead to better performance in unstructured, case study-type questions (Gul & Fong, 1993).

# 3.6.3 Thinking (T) versus Feeling (F)

This dimension of personality is related to decision-making. Thinkers tend to make decisions based on logic, and feelers tend to make decisions based on their personal value system (Borg & Stranahan, 2002). The majority of accounting students are thinkers who make decisions based on logic and can critically assess a particular scenario (Wolk & Nikolai, 1997). Thinking students might fare better in a lecture-based environment (where facts and logical reasoning is used to transmit information), as feeling students base their decisions primarily on their personal values and perceptions rather than logical reasoning (Wolk & Nikolai, 1997). Oswick and Barber (1998) found that the top performers in a class were more likely to be thinkers.

# 3.6.4 Judging (J) versus perceiving (P)

This aspect of personality theory refers to a person's dealings with the external environment. A person who practises judgement will prefer an orderly, planned life and closure about a certain

topic, whereas a perceiving person is open to change at all times and feels trapped in a planned environment (Borg & Strahanan, 2002; Wolk & Nikolai, 1997). According to Wolk and Nikolai (1997), most graduate accounting students practise judgement, and therefore prefer a precise and final answer to a question above an ambiguous answer. They work in a structured manner and like a set of rules or a list of steps that can be applied to any situation. Perceiving students tend to struggle in an accounting environment, as they attempt to solve similar problems using new methods every time (which could lead to problems with finishing assessments in time). These students also enjoy flexibility above planning (which could lead to ineffective time management and an unfocused study effort).

# 4. RESEARCH METHODOLOGY

# 4.1 Overall research design and method

The main research design is in the positivistic paradigm and quantitative in nature. The study is empirical and seeks to find statistically significant associations between data-items (student characteristics and CTA performance) gathered by using a questionnaire. A thorough review of available literature was also done to guide the development of the questionnaire as well as facilitate the evaluation of the research findings.

# 4.2 Survey instrument (including development)

#### 4.2.1 General

A questionnaire was developed based on the findings of the literature review. The questionnaire included items identified in previous research (pertaining to both undergraduate and postgraduate students).

#### 4.2.2 Measuring previous performance in undergraduate studies

Performing well during undergraduate studies could point to academic aptitude as well as diligence. Two proxies were chosen to represent previous performance in undergraduate studies, namely:

- The mark a student obtained for Financial Accounting 379 (in the third year of undergraduate studies), and
- Whether the student completed his/her undergraduate studies in the minimum prescribed period (three years).

It can be argued that performance in most undergraduate subjects would correlate to CTA performance. It would, however, be superfluous to test too many variables, and thus only one subject was chosen as first proxy for previous performance. At the time of this research, the subject that was allocated the most marks in Part 1 of the QE (now called the ITC) was Financial Accounting. For this reason the mark a student obtained for Financial Accounting was singled out as the most appropriate proxy. The mark obtained in this subject (in third year) is also included in the selection criteria for admission into the CTA programme at SU.

#### 4.2.3 Measuring numeracy and literacy skills

In this study, a student's literacy skill was measured using the mark the student obtained for his/her home language in the South African senior certificate examination. The mark obtained for mathematics in the senior certificate examination was used as a proxy for numerical ability.

#### 4.2.4 Measuring personality

The categories of the MBTI (Introversion vs. Extroversion; Intuition vs. Sensing; Thinking vs. Feeling; Judging vs. Perceiving) were used to measure student personality. A full MBTI personality test was not done, because personality was only one of the aspects to be examined during the research and a full MBTI test takes approximately two hours to complete (most CTA students would not spare so much time for a questionnaire, which would lead to a lower response rate). Rather, it was decided that a self-reported indication of the personality of the student would be gathered through the questionnaire instrument.

The labels used to report personality were based on the MBTI, but the categories (mentioned at the start of the previous paragraph) which were not self-explanatory (such as Intuition vs. Sensing and Judging vs. Perceiving) were adapted to help students understand what the basic characteristic of that category was. The final labels used to report personality were:

- Extrovert (E) or introvert (I);
- Big picture (B) (basic characteristic of intuitive) or detail (D) (basic characteristic of sensing) person;
- Thinker (T) or feeler (F) in terms of decision-making; and
- Organised/planned (0) (basic characteristic of judging) or go-with-the-flow (G) (basic characteristic of perceiving) type of person.

#### 4.2.5 Measuring student performance in CTA

Student performance during CTA studies is measured in a quantitative way at SU, and is based on the marks a student obtains in tests and examinations during the year. Two separate proxies were identified for this study:

- The mark a student had obtained by mid-year of his/her CTA studies, and
- The drop in marks experienced by a student, from the third year of undergraduate studies to the CTA year (i.e. mark in third-year Financial Accounting minus mark in CTA year).

The mark a student had obtained by mid-year of his/her CTA studies was chosen as the first proxy for student performance. The reason for using the mid-year mark instead of the final year-end mark was the timing of the research (which was done in the second semester). It was believed that it would be easier to contact the CTA students while they were still completing the CTA programme rather than when they had completed their studies and were off campus.

The second proxy chosen for student performance was the drop in marks that a student experienced in CTA when compared to the final year of undergraduate studies. This was identified as an alternative proxy which controls for previous academic performance. This measure could highlight additional characteristics of the study-programme or student

(excluding previous academic performance) that should be considered before admission into the CTA programme.

# 4.3 Data collection and analysis

During the second semester of 2010, the questionnaire was sent to a total of 246 students at SU. The responses were statistically evaluated using the STATISTICA-programme.

The following statistical analysis was done:

- Simple descriptive statistics to examine the biographical details of the sample.
- A correlation and ANOVA study (using Spearman r-tests for ordinal data and F-tests for nominal data) between the characteristics of the sample and their mid-year CTA mark. This was done to highlight those characteristics that correlate with achieving a higher CTA mark.
- A correlation and ANOVA study (using Spearman r-tests for ordinal data and F-tests for nominal data) between the characteristics of the sample and their drop in marks from final year of undergraduate studies to mid-year CTA. This measure controls for academic strength and may emphasise other influencers of CTA performance.

#### 5. RESEARCH FINDINGS

# 5.1 Biographical details of respondents

A total of 163 students (66%) responded by completing the questionnaire. 87 (53%) of the respondents were female and 76 (47%) were male. The mean age of the respondents was 22.3 years, which normally relates to the fourth or fifth year after completing their high school education. 73% of the students reported that the classes they attended were always presented in their preferred language (the language in which they were most comfortable). TABLE 1 shows the distribution of the reported personality traits of the respondents.

**TABLE 1: Reported personality traits** 

	Percentage of respondents
Extrovert (E)	59%
Introvert (I)	41%
Big picture (B)	51%
Detail (D)	49%
Thinker (T)	75%
Feeler (F)	25%
Organised/planned (0)	83%
Go-with-the-flow (G)	17%

**Source:** Author's analysis

290

The most common symbol obtained for both mathematics and a first language (in the matriculation/Senior Certificate examination) was an A (69% of the respondents attained an A for mathematics, while 64% received an A for their first language). These symbols were used as proxies for numeracy and literacy skills, respectively. 91% of the students completed their undergraduate programme in the minimum amount of time (used as one of the proxies for past performance in undergraduate studies). The average mark obtained for Financial Accounting in the final year of undergraduate studies (also used as one of the proxies for past performance in undergraduate studies) was 66%, while the average mark obtained by mid-year CTA was 50% (used as first proxy for CTA performance in further analysis). This translates to an average drop in marks (from final year of undergraduate studies to mid-year CTA) of 16% (used as second proxy for CTA performance in further analysis).

# 5.2 Characteristics influencing the mark obtained in CTA studies

#### 5.2.1 Correlations of certain characteristics with the mark obtained in CTA

A Spearman r-test (correlation test) was done between the reported characteristics of the students (for all ordinal data) and their mid-year CTA mark. The results of this can be seen in TABLE 2. A positive correlation is indicated by a positive in the first column.

TABLE 2: Correlations with the mark obtained in CTA

	Spearman r	Spearman p-value
Symbol obtained for mathematics in Senior Certificate	0.15	0.07
Symbol obtained for first language in Senior Certificate	0.25	<0.01
Age	-0.24	<0.01
Mark obtained in Financial Accounting in final year of undergraduate studies	0.67	<0.01

**Source:** Author's analysis

It is interesting to note that the positive correlation between the mark obtained in CTA and the symbol in mathematics was not significant ( $\rho$  = 0.07). This might be an indication that matric performance (in numeracy) may no longer be an indicator of performance when it comes to postgraduate (advanced) studies. However, a significant positive correlation ( $\rho$  < .01) was found between a higher symbol obtained for the student's first language in matric, and a high mark in CTA, which indicates that innate (and developed) literacy skills have a significant impact on the performance of CTA students. Language aptitude might be of increased importance during the CTA year because of the high volume of reading that needs to be done, and the speed at which concepts have to be grasped (either from lecturers or text books).

There was a negative correlation ( $\rho$  < .01) with age, indicating that older students perform worse than younger students. However, the range of the students' reported age was very small (from 21 to 26, with 25 and 26 being statistically defined as outliers). Because of this, it could be argued that the older students performed worse because they had taken longer on their undergraduate and postgraduate studies (they might be repeat CTA students, or did an additional year during their undergraduate studies). This was confirmed by the results of an F-test (F-value was 19.63

with a p-value < .01), signalling that students who did not complete their undergraduate studies in the minimum amount of time had a significantly higher age (average age of 23.4) as compared to those who did complete their undergraduate studies in the minimum amount of time (average age of 22.2).

In terms of previous performance in undergraduate studies, a strong correlation was found (p < .01) between the mark obtained in Financial Accounting in the final year of undergraduate studies and mid-year CTA mark. This indicates that the inclusion of this variable in the admission criteria is warranted and valid.

#### 5.2.2 Influence of certain characteristics on CTA mark

An F-test was done (for all nominal data) to test whether a certain characteristic has a significant influence on the student's mid-year CTA mark. The results of this can be seen in TABLE 3.

TABLE 3: Influence on mark obtained in CTA

	F	F p-value	Average mark if Yes	Average mark if No
Gender	0.00	0.95		
Attending classes in language of choice	0.43	0.65		
Completing undergraduate studies in minimum period	11.43	<0.01	50.96	43.15
Extrovert (vs. Introvert)	7.49	<0.01	48.85	52.52
Big picture (vs. Detail)	0.07	0.80		
Thinker (vs. Feeler)	3.37	0.07		
Organised (vs. Go with flow)	2.68	0.10		

**Source:** Author's analysis

If a student did not complete his/her undergraduate studies in the minimum amount of time, the student tended to have a lower mark in CTA ( $\rho$  < .01), indicating that previous performance in undergraduate studies does correlate with postgraduate performance. A statistically important influence on a student's mark is introversion, with extroverted students faring significantly worse than their introverted counterparts ( $\rho$  < .01). This could indicate that introverted students are more adept (than their extroverted counterparts) at spending long hours alone studying, which leads to improved performance. None of the other characteristics had a significant influence on the CTA mark.

# 5.3 Characteristics influencing the drop in marks from undergraduate to CTA studies

#### 5.3.1 Correlations of certain characteristics with the drop in marks

A Spearman *r*-test (correlation test) was done between the reported characteristics of the students (for all ordinal data) and their drop in marks — from undergraduate studies (Financial Accounting in third year used as proxy) to mid-year CTA. The results of this can be seen in TABLE 4. A correlation between a smaller drop in marks and the particular characteristic is indicated by a positive sign in the first column. A negative sign in the first column indicates the opposite.

TABLE 4: Correlations with drop in marks

	Spearman	Spearman p-value
Symbol obtained for mathematics in Senior Certificate	0.12	0.13
Symbol obtained for first language in Senior Certificate	0.10	0.22
Age	-0.13	0.10
Mark obtained in Financial Accounting in final year of undergraduate studies	-0.38	<0.01

Source: Author's analysis

#### 5.3.2 Influence of certain characteristics on drop in marks

An F-test was done (for all nominal data) to test whether a certain characteristic has a significant influence on the student's drop in marks — from undergraduate studies (Financial Accounting in third year used as proxy) to mid-year CTA. The results of this can be seen in TABLE 5.

Again, it was found that students who did not complete their undergraduate studies in the minimum amount of time were at a disadvantage, as these students tended to have a bigger decrease in marks (p = .02). This might be due to a repeat third year (where the student repeats most of the third-year subjects to gain entrance into the CTA programme). During a repeat third year, students tend to score higher marks than in their 'first' third year, but they are still at risk in their CTA year (due to lower academic ability as proven by the fact that it took these students longer than the minimum prescribed time to complete their degrees).

Students such as these also tend to become more focused on details during their repeat third year, as they have more time available. This is often to their detriment, because in advanced studies (where you have to apply principles to unfamiliar case-study type questions) a bigpicture mentality is more beneficial. This is also shown from the data as a strong correlation between being a person who focuses on the big picture (rather than details) and a smaller decrease in marks was found (p = .05). A focus on detail might work in undergraduate studies where the volume of work is less, but not in CTA studies.

TABLE 5: Influence on drop in marks

	F	F p-value	Average drop if Yes	Average drop if No
Gender	2.10	0.15		
Attending classes in language of choice	0.95	0.39		
Completing undergraduate studies in minimum period	5.41	0.02	-15.57	-19.54
Extrovert (vs. Introvert)	3.07	0.08		
Big picture (vs. Detail)	4.02	0.05	-14.95	-16.87
Thinker (vs. Feeler)	1.64	0.20		
Organised (vs. Go with flow)	0.75	0.39		

**Source:** Author's analysis

#### 6. CONCLUSION AND RECOMMENDATIONS

#### 6.1 Conclusion

The objective of the research was two-fold: firstly, to identify pre-admission characteristics that put students at increased risk of failing the SU CTA year, and, secondly, to evaluate the appropriateness of the current admission criteria for the SU CTA programme. The first objective was achieved in that certain characteristics that increase a student's chance of failing were identified. The association between CTA performance and the pre-admission characteristics is summarised in the next three paragraphs.

Older students at SU tended to perform worse during their CTA studies than their younger classmates. This ultimately indicates that the students concerned struggled at an undergraduate level and did not complete their undergraduate studies in the minimum amount of time. Students who did not complete their undergraduate studies in the minimum period fared significantly worse in CTA studies, and experienced a larger decrease in marks from their third year. These students had to complete a repeat third year to gain entrance into the CTA programme, and are at an increased risk in their CTA studies due to their lower innate academic ability and potentially inefficient study methods.

Although most of the students had completed school more than three years ago, a significant positive correlation was still found between their first-language marks in high school, and the mark obtained in CTA. This indicates that language skills are especially important at this level, because of the speed that students have to read and process information. Students who have underdeveloped literacy skills could be at a disadvantage during CTA studies.

From the statistical evaluation is seems that English-speaking students were not disadvantaged by the Afrikaans classes, as classes presented in their preferred language did not have a significant influence on CTA performance. Regarding personality (in line with prior research), it was found that extroverted students fare significantly worse than introverts, as they had a lower

CTA mark. Additionally it was found that students who focus on detail (rather than the big picture) were disadvantaged during CTA studies, as they experienced a larger decrease in marks from third year.

Regarding the second research objective, it was found that the current admission criteria (third-year marks) is valid. This is due to the fact that a strong positive correlation was found between CTA performance and the mark obtained for Financial Accounting in the third year of undergraduate studies (proxy for prior academic performance). The other factors that were found to impact CTA performance (personality and language skills) cannot easily be included in admission criteria, as they are not readily quantified. A student who had not completed his/her undergraduate degree in the minimum time (but still achieved the desired marks to gain entrance in the CTA programme) could not be discriminated against.

#### 6.2 Recommendations

Students with weaker performance (lower marks) in undergraduate studies and who did not complete the undergraduate programme in the minimum prescribed period are at increased risk of not passing the SU CTA programme. Students who are extroverted, have a lower level of language skills and tend to be detail-focused (rather than big-picture-focused) are also at increased risk of performing worse than their fellow-students. Students need to be made aware of these facts, so that they address their academic problems. Additional help or development opportunities could also be arranged for such students (such as tutoring on effective study habits and techniques). These factors should also be considered by lecturers and tutors in identifying and helping students at risk during the CTA year.

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Steenkamp