TEACHING STAFF'S PERSONALITY TRAITS, STUDENTS' LECTURER PERSONALITY PREFERENCES AND TEACHING QUALITY AT A ZIMBABWEAN HIGHER EDUCATION INSTITUTION

by

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DECLARATION

I declare that the thesis TEACHING STAFF'S PERSONALITY TRAITS, STUDENTS' LECTURER PERSONALITY PREFERENCES AND TEACHING QUALITY AT A ZIMBABWEAN HIGHER EDUCATION INSTITUTION submitted for fulfilment of the D Consult degree in the subject of consulting psychology at the University of South Africa (UNISA) is my own work and that all sources/intellectual property used within this research study has been acknowledged by means of complete reference. Should it so occur that plagiarism be detected I therefore acknowledge that I will be held accountable and will (should a large extent be detected) be removed from the programme and not be allowed to reregister for a period of 5 years.

I also declare that the study has been carried out in strict accordance with the Policy for Research Ethics of the University of South Africa (UNISA). I took great care that the research was conducted with the highest integrity, taking into account UNISA's Policy for Infringement and Plagiarism.

I further declare that ethical clearance to conduct the research has been obtained from the Department of Industrial and Organisational Psychology, University of South Africa. Permission to conduct the research has also been obtained from the participating institution.

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ABSTRACT

Quality teaching is a constituent of a global quality approach and universities' strategies should be embedded in a quality culture in higher education. The current research focused on the development of a conceptual model based on the Big Five personality traits model that will inform the recruitment of teaching staff in a higher education context with the aim of improving teaching quality. It is evident from the literature that teaching staff's personality traits predict the quality of their teaching. Since personality traits have a significant impact on teaching quality, it seems warranted to determine the Big Five personality traits that students prefer in their lecturers. Moreover, students' personality traits play an important role in their approach to learning. The practice of having students rate and evaluate teaching staff is increasingly common in a higher education context. Such ratings serve as a reflection of the qualities associated with good teaching, such as lecturers' knowledge, clarity, classroom management and course organisation. The measures used in the current study consisted of the Big Five Personality Inventory, the Lecturer Preference Questionnaire and students' end-of-course evaluations. A quantitative survey was conducted involving a convenience sample of a total of 449 participants (males and females in the age group 20 to 50). The convenience sample consisted of undergraduate final-year students (N = 299) and their lecturers (N = 150) from ten faculties at a Zimbabwean higher education institution. A conceptual model that may be useful in gaining an understanding of teaching staff's Big Five personality traits that are associated with good teaching quality was proposed and tested in the study.

The overall mean results indicated that the most positive and important characteristics that the majority of students preferred in their lecturers were openness to experience, conscientiousness, extraversion and agreeableness. Structural equation modelling (SEM) was applied, and the proposed model was based on these four personality traits. The students and their lecturers (with respect to teaching staff's self-assessments and their students' assessments) did not show a preference for the trait neuroticism. The majority of

students indicated that fantasy life (mean = 0.51), values oriented (mean = 0.86), angry hostility (mean = 0.67) and self-conscious (mean = 0.51) were unimportant to them and that they did not have a preference for these traits in their lecturers. Multiple regression analysis served to establish the different personality traits among lecturers that predict teaching quality. SEM supported the causal relationships between the variables.

The majority of students rated the following elements of teaching quality at the participating institution as very good: personal character (mean = 4.21), course design (mean = 4.18), introduction to lecturers (mean = 4.17), utilisation of content (mean = 4.25), utilisation of media and materials (mean = 4.21), interaction behaviour (mean = 4.21) and student assessment (mean = 4.21). Overall, the students who participated in the study believed that the teaching quality at the participating higher education institution was good.

A significant positive relationship was evident among teaching staff's personality traits in the context of the Big Five personality traits model in respect of openness, conscientiousness, extraversion and agreeableness, but not in relation to neuroticism, based on teaching staff's self-assessments and their students' assessments. Students also preferred these personality traits in teaching staff at the participating institution when requested to indicate their preferences in this regard. There were significant differences in teaching staff's Big Five personality traits, as measured on the basis of their gender, age, highest level of education, employment experience and relationship with teaching quality. However, significant differences in terms of race and faculty/department type were not evident among students or teaching staff. A conceptual model based on existing literature regarding the Big Five personality traits and teaching quality was developed and tested. Based on SEM, the hypothesis was fully supported in respect of the goodness of fit of the proposed theoretical model and the empirical data. The study was also aimed at identifying the most significant personality traits in relation to students' preferences that relate to good teaching quality but that may have been ignored in previous studies.

Finally, the objectives of both the literature review and the empirical study were discussed in detail, including the limitation of the study and recommendations for future research. An integration of the research was presented, highlighting that the results of the empirical study provide evidence of resemblances between the Big Five personality traits based on teaching staff's self-assessments and their students' assessments, and differences in students' preferences with regard their lecturers' personality traits based on demographic variables, which can be used to develop a conceptual model for the recruitment of teaching staff.

KEY TERMS: agreeableness; Big Five personality traits; conscientiousness; extraversion; higher education: neuroticism; openness to experience; students' lecturer personality preferences; student evaluations; teaching staff's personality traits; teaching quality; university.

NGOBUFITJHAZANA

Ihlelo lokufundisa lekhwalithi lisisakhi sendlela yehlelo lekhwalithi lephasi loke kanti amano wamayunivesithi kufanele atholakale esikweni lekhwalithi emkhakheni wefundo ephakemeko. Irhubhululo lagadesi beliqale ukuthuthukiswa kwemodeli yomqondo wegama elisuselwe phezu kwamatshwayo wobuntu amaHlanu amakhulu, lawo azokukuba nomthelela phezu kwehlelo lokudoswa kwabasebenzi ababafundisi ebujameni befundo ephakemeko ngomnqopho wokuthuthukisa ihlelo lokufundisa lekhwalithi. Kusukela emtlolweni wobukghwari kuyafakazeleka ukobana amatshwayo wobuntu wabasebenzi ababafundisi abikezela ikhwalithi yehlelo labo lokufundisa. Njengombana amatshwayo wobuntu anomthelela oqakathekileko ehlelweni lokufundisa lekhwalithi, kubonakala kunesiqinisekiso sokukhombisa amatshwayo wobuntu amaHlanu amaKhulu (*Big Five personality traits*) lawo anyulwa bafundi ukobana asetjenziswe malektjhara. Ngaphezu kwalokho, amatshwayo wobuntu wabafundi adlala indima eqakathekileko kuhlelo labo lokufunda. Ikambiso yokuthi balinganise begodu bahlole izinga lokufundisa labasebenzi abafundisako liya ngokuya liyagcwala ebujameni befundo ephakemeko. Ihlelo lokulinganisa elinjalo lisebenza njengesiboniboni esikhombisa amatshwayo akhambisana nehlelo lokufundisa kuhle, amatshwayo anjengelwazi lelektjhara, ukuzwisiseka, ukuphathwa kuhle kwetlasi kanye nokuhleleka kuhle kwesifundo. Amagadango asetjenziswa esifundweni sagadesi anehlelo elibizwa nge-I*Big Five Personality Inventory*, i-*Lecturer Preference Questionnaire* kunye nemisebenzi yokuhlola esekugcineni kwesifundo. Isaveyi yeembalobalo yenziwa, yona ifaka isampuli efaneleko yabadlalindima boke abama-449 (abaduna nabasikazi abaseminyakeni ethoma ema-20 ukufikela ema-50). Isampuli efaneleko beyinabafundi abasafundela iziqu zokuthoma (*undergraduate*) bomnyaka wokugcina (N = 299) kanye namalektjhara wabo (N = 150) ukusukela emikhakheni elisumi ezikweni lezefundo ephakemeko eZimbabwe. Imodeli yomqondo wegama leyo engaba nesizo ekungezeleleni ilwazi

labasebenzi abafundisako elitlhogekako lamatshwayo woBuntu amaHlanu akhambisana nekhwalithi ehle yokufundisa yatjhukunyiswa yahlolwa erhubhululweni

Imiphumela yoke yemini (*mean*) iveze ukuthi amatshwayo amahle aqakatheke khulu anyulwa linengi labafundi kumalektjhara wabo lokuvulelwa kwelwazi, ukuyelelisana, umndlandla wokukhuluma kanye nommoya wokuvumelana. Imodeli ye-*Structural equation modelling (SEM)* isetjenzisiwe, kanti imodeli etjhukunyisiweko isuselwe phezu kwalawa matshwayo amane wobuntu. Abafundi kanye namalektjhara wabo (malungana nehlelo lokuzihlola kwabasebenza ababafundisi kanye nehlelo lokuhlolwa kwabafundi) akhange akhombise ukunyula itshwayo lokungakanzinzi komqondo (*trait neuroticism*). Ubunengi babafundi bukhombisile ukuthi ipilo leyo emnandi (*mean = 0.51*), okudzimelele kufundiso (*mean = 0.86*), ubudlelwano bokusilingeka (*mean = 0.67*) kanye nokuzazi ehlizweni (*mean = 0.51*) koke lokhu akhange kuqakatheke kubo kanti godu akhange banyule amatshwayo lawa kumalektjhara wabo. Amahlelo amanengi wokutsenga (*Multiple regression analysis)* asebenze ukusungula amatshwayo wobuntu ahlukileko hlangana namalektjhara lawo abikezela ikhwalithi yokufundisa. Ihlelo le-SEM lisekele amahlelo wobudlelwano obungunobangela phakathi kwamavarebuli.

Ubunengi babafundi butshwaye amatshwayo alandelako wekhwalithi yokufundisa ezikweni elidlala indima njengeziko elihle khulu: itshwayo lobuntu (*personal character*) (*mean = 4.21*), idizayini yesifundo (*course design)* (*mean = 4.18)*, ukwethulwa kumalektjhara (*introduction to lecturers*) (mean = 4.17), ukusetjenziswa kwelwazi elimunyethweko (*utilisation of content*) (mean = 4.25), ukusetjenziswa kwehlelo lezeendaba kanye namametheriyali (*utilisation of media and materials* (*mean = 4.21*), indlela yokuziphatha malungana nabanye *(interaction behaviour*) (*mean = 4.21*) kanye nokuhlolwa kwabafundi (*student assessment)* (*mean = 4.21*). Sekukoke, abafundi abadlale indima erhubhululweni bakholwa bona ikhwalithi yokufundisa ezikweni eliphakemeko elidlala indima belilihle.

Ubudlelwano obuhle khulu bubonakele hlangana namatshwayo wobuntu kubasebenzi ababotitjhere ngaphasi kobujamo bemodeli yamatshwayo amaHlanu amaKhulu wobuntu (*Big Five personality traits)* malungana nehlelo elivulekileko, eliyelelisako, ukubukwa ngaphandle kanye nokuvumelana. Kodwana hayi malungana nokungakanzinzi kuhle ngokwemizwa/ngokommoya, okususelwa ehlelweni lokuzihlola labasebenzi ababotitjhere kanye nemahlelweni wabafundi babo wokuhlolwa. Abafundi godu banyula la matshwayo wobuntu kubasebenzi ababotitjhere ezikweni elidlala indima lokha nabakhonjelwako ukubona baveze lokho abakunyulako. Kube nomehluko omkhulu kumatshwayo wabasebenzi ababotitjhere *Big Five personality traits*, njengombana kulinganiswe ngokobulili babo, ngokweminyaka, ngokwezinga lefundo ephezulu, ngokwelwazi lomsebenzi kanye namahlelo wobudlelwano nezinga lokufundisa. Nanyana-kunjalo, umehluko omkhulu omalungana nobuhlanga kanye nomhlobo nomkhaka (*faculty*)/nomnyango (*department*) akhange kube zizinto ezibonakalako hlangana nabafundi nanyana abasebenzi ababotitjhere. Imodeli yomqondo wegama esuselwa kumtlolo wobukghwari okhona omalungana namatshwayo amaKhulu amaHlanu wobuntu kanye nezinga lokufundisa akhiwe begodu ahlolwa. Malungana nehlelo le-SEM, ihayipothesisi yasekelwa ngokugcweleko malungana nobuhle bemodeli efaneleko etjhukunyisiweko yethiyori kanye nedatha ephathekako (*empirical data*). Irhubhululo belinqophe ekuvezeni amatshwayo aqakatheke khulu wobuntu malungana nokunyulwa bafundi okumalungana nezinto ezinyulwa bafundi elimalungana nezinga elihle lokufundisa kodwana lokhu kungenzeka ukuthi khekwararhwa esikhathini emarhubhululweni wesikhathi esidlulileko.

Kokugcina, iminqopho yezinto ezimbili ukubuyekezwa komtlolo wobukghwari *(literature review*) kanye nerhubhululo eliphathekako (*empirical study*) zicocwe ngokugcweleko, kufakwa phakathi umkhawulo werhubhululo (*limitation of the study)* kanye neencomo (*recommendations)* zerhubhululo lakusasa. Ukuhlanganiswa kwerhubhululo kwethulwe, lokhu kuveze bona imiphumela yerhubhululo eliphathekako linikele ubufakazi bezinto ezifanako phakathi

kwamatshwayo amaHlanu amaKhulu wobuntu asuselwa phezu kwamahlelo wokuzihlolwa kwabasebenzi abafundisako kanye nokuhlolwa kwabafundi babo, kanye nomehluko wezinto ezinyulwa bafundi malungana namatshwayo wobuntu wamalektjhara okususelwa kumavarebuli wedemografiki, angasetjenziswa ukwakha imodeli yomqondo wegama ukudosa abasebenzi abafundisako.

AMAGAMA AQAKATHEKILEKO: ukuvumelana; amatshwayo amaHlanu amaKhulu wobuntu; ukuyelelisana; ukubukwa babantu bangaphandle; ifundo ephakemeko: ukungakanzinzi kuhle ngokwemizwa; ukuvulela abanye ilwazi; izinto ezinyulwa bafundi kumalektjhara; imisebenzi yokuhlolwa yabafundi; amatshwayo wobuntu wabasebenzi abafundisako; izinga lokufundisa; iyunivesithi.

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List of abbreviations/acronyms

AGFI	Adjusted Goodness-of-Fit statistic
AMOS	Analysis of Moment Structures
AVE	Average variance extracted
AAU	Association of African universities
BFI	Big Five inventory
CFA	Confirmatory factor analysis
CFI	Comparative Fit Index
CTE	College of Teacher education
CHEA	Council for Higher Education Act
OECD	Organisation for Economic Co-operation
LPQ	Lecturers preferences' questionnaire
NCHE	National council for higher education
QAAHEA	Quality assurance and accreditation of higher education in Africa
QA	Quality assurance
QAAHEA	Quality assurance and accreditation higher education SECE Students end of course evaluations
SEM	Structural equation modelling
Std. Dev	Standard Deviation
SDG	Sustainable development goal
TLI	Turkey Lewis index
THE	Territory and Higher Education
IUCEA	Inter-University Council for East Africa
ICC	Intra-class correlation
UN	United nations
UNDP	United Nations Development Programme
UZ	University of Zimbabwe
UNESCO	United Nations Educational, Scientific, and Cultural Organisation
WB	World Bank
WEIRD	Western, Educated, Industrialized, Rich, and Democratic
ZIMCHE	Zimbabwe Council for Higher Education

Chapter One: Scientific Orientation to the Research

This research study aimed to develop of a conceptual model to inform the recruitment of higher education teaching staff, based on their Big Five personality traits. Chapter one provides the rationale and background for this research study that resulted in the formulation of the problem statement, research questions and aims of the research. The chapter also discusses the paradigm perspectives that guided the study. The structure of the research process is defined, emphasising the research methods and design with their diverse steps. The chapter concludes with an outline of the thesis and a chapter summary.

1.1 Background to and Rationale for the Study

The World Bank (2017) contends that higher education is fundamental to all developing nations in order for them to thrive in a world economy where knowledge has become a critical area of advantage. In higher education, the supply of a quality teacher contingent is crucial. It therefore is important to improve the teaching recruitment system. According to World Bank statistics, there are 84.23 million teachers globally, 12.49 of whom are at tertiary level, and 68.8 million teachers will need to be recruited by 2030. The teaching quality and knowledge generated in institutions of higher education is vital to national competitiveness (World Bank, 2017). The United Nations Educational, Scientific and Cultural Organisation (UNESCO) identifies teacher recruitment as one of its top priorities. UNESCO's Teacher Strategy (2014–2021) prioritises teacher shortages and teaching quality, particularly in sub-Saharan Africa as areas requiring attention. The UNESCO Teacher Development Guidelines (2016) emphasise that since teachers are responsible for teaching, they should possess qualities that students find desirable to enhance the quality of teaching and learning (UNESCO, 2016).

The field of higher education in Zimbabwe has undergone rapid changes over the past two decades and the Ministry of Higher Education is focusing on improving teaching quality in this context by supporting suitable initiatives and providing relevant funding (Kim et

al. 2019). The quality of teaching staff's teaching should be regularly appraised, which in turn could inform their professional development. To become globally recognised and prevent the loss of potential students, higher education institutions should prioritise and guarantee quality educational activities and teaching standards (Mahmoud & Kanwara, 2015). Bastian et al. (2017) describe quality teaching as using effective academic skills to produce appropriate learning results for students. According to them, quality teaching should remain the main priority, irrespective of the ongoing changes that higher education institutions face. The Organisation for Economic Cooperation and Development (OECD) guidelines (2016) emphasise that quality teaching and learning are key focus areas which should be enhanced in higher education. The quality of teaching in a higher education context is furthermore essential in terms of accountability. An institutional quality culture should embed quality teaching as an institutional strategy and form part of its global quality approach. Accordingly, higher education institutions should focus on enhancing the quality of their teaching (OECD, 2016).

In Zimbabwe, higher education was officially introduced in 1957. Many factors negatively affected teaching quality in a higher education context since then, including poor recruitment procedures for teaching staff (Garwe, 2014). Recent literature asserts that the process of recruitment is vital for organisations because it ensures the best job fit for candidates who are likely to add to the economic value of organisations (Dhliwayo & Coetzee, 2020).

Many higher education institutions, primarily in the United States (US), the United Kingdom (UK), Canada and Australia recently embraced an enlightened approach, the Students as Partners in Teaching and Learning in Higher Education approach. This approach, however, is still largely unknown in most African developing countries. The students as partners approach implies that students and teaching staff work in partnership to improve teaching and learning experiences (Mercer-Mapstone et al. 2017). A literature review by Mercer-Mapstone et al. (2017) on the students as partners approach found that it

is essential for students to work with teaching staff in higher education to shape learning and teaching. Mercer-Mapstone et al. (2017) further found that although students across various academic levels were involved in the partnership, undergraduate students were most frequently involved (74%, n = 48), with postgraduates being involved less often (20%, n = 13). Becker et al. (2011) maintain that self-confidence in students can support them to overcome their learning challenges. The students-as-partners approach was only introduced into Zimbabwe with the advent of Doctrine education 5.0. This doctrine does not, however, provide a clear framework for students' involvement and their roles (Education 5.0, 2019). Astin's theory of student involvement (as cited in Mercer-Mapstone et al. 2017) posit that such involvement relates to the amount of physical and psychological energy a student devotes to the academic experience. The current study supports the notion of the student as a partner approach, since the student–lecturer relationship is a fundamental factor that contributes to improving the quality of students' learning and teaching in higher education institutions.

Research on the relationship between teaching staff's personality traits and their performance shows that personality traits significantly influence teaching quality (Espinola & Francia, 2015). Researchers such as Bastian et al. (2017) and Haung et al. (2019) have found that personality traits affect teachers' performance, correspond with the results of surveys on the effects of personality on job performance. Both studies indicate that students evaluated extroverted teachers more positively and rated them more highly on teaching quality. Similarly, Alansari et al. (2016) observed that personality traits play a vital role in predicting and understanding employee behaviour at work, hence supporting the idea that personality traits affect performance.

Learning remains largely dependent on effective teaching and there are numerous criteria for evaluating the quality of teaching in a higher education context. Many methods further are available for measuring variations in teaching quality, including peer evaluations, self-observations and student evaluations. It is established practice to measure the

effectiveness of teaching based on students' academic outcomes (Gore & Bowe, 2017). The practice of student ratings in the evaluation of academic staff members is becoming increasingly common in higher education contexts (Golding & Adam, 2016). These ratings reflect the attributes of effective teaching such as the knowledge of the lecturer, clarity of presentation, organisation of the course content and classroom management. Student evaluations further assist lecturers and institutions in identifying areas for improving lecturers' teaching (Chuan & Mart, 2017).

Previous studies that examined the validity and reliability of research data collected from student evaluations suggest that student evaluations of teaching quality are highly controversial and debatable (Golding & Adam, 2016; Mart, 2017). Another view is that since students are the receivers of teaching, they should be able to reliably evaluate the quality of teaching they receive. According to Chuan, (2017) information obtained through student evaluations serves as a good indicator of teaching performance and plays an essential role in the personal development of teaching staff and the improvement of teaching quality.

Government employers in the educational sector are yet to give adequate consideration to teachers' personality attributes as a factor that determines teaching quality (Gore & Bowe, 2017), and this field has been largely unexplored in the context of higher academic institutions in Zimbabwe. The Big Five personality trait model includes the dimensions of Openness to Experience, Conscientiousness, Extraversion, Agreeableness and Neuroticism (Cloninger, 2019; Fleming, 2020). In the current study, the researcher not only investigated students' and their lecturers' personality traits assessments, but also students' preferences for their lecturers' personality traits based on the Big Five, topics that have not, as far as could be determined, been researched before in Zimbabwe. Determining which lecturers' personality traits predict quality teaching further appears essential.

1.2 Problem Statement

Existing research shows that personality traits are reliable indicators of job performance across various professions. In the teaching and learning sector it has been established that the association between teachers' personality traits and their teaching, have a permanent effect on the personalities and memories of their students (Awadh, & Ismail, 2017; Espinola & Francia, 2015; Haung et al. 2019). Although their personality is an important determining factor in how teaching staff communicate and deal with their students (Hughes & Batey, 2017), limited progress has been made in correlating the quality of teaching with personality traits in the recruitment process (Kim et al. 2019). Dhliwayo and Coetzee (2020) recently explored the roles of the constructs of cognitive intelligence, ability, emotional intelligence, trait emotional intelligence and personality types in job performance. The results obtained from structural equation modelling indicated that cognitive intelligence supported the casual relationships with job performance, followed by ability, emotional intelligence and then by personality types. Dhliwayo and Coetzee's (2020) study also emphasise the need for personnel selection models based on the empirically demonstrated variables in different fields to be used by human resources practitioners in the Zimbabwean context. Although the study provides theoretical and practical implications for the Zimbabwean context, its small sample (n = 299) included only supervisory staff, and no other types of professionals.

Teachers' personalities greatly affect students and their learning processes in various ways, especially their academic success (Anglim & Connor, 2018; Diener & Lucas, 2019). Research on suitable personality traits for teaching staff emphasises Conscientiousness, Agreeableness, Openness to Experience, and Extroversion as requisites for positive educational outcomes (Goncz, 2017). Lecturers who score highly on the Conscientiousness personality trait are likely to guide students to succeed academically (Lungu, 2016). Eryilmaz (2014) revealed that students generally rated teachers with personality traits such as

introversion, suspiciousness and antagonism towards others and emotional instability negatively.

Previous studies acknowledge the idea that there is a significant relationship between teachers' personality traits and their performance in higher education institutions (Furnham & Chamorro-Premuzic, 2005; Furnham et al. 2011). Earlier research findings by Othman (2009) on the relationship between the Big Five personality traits and the performance of teaching staff suggested that personality traits such as Extroversion, Agreeableness and Conscientiousness showed significant relationships with efficient teaching, while Openness to Experience and Neuroticism were not significantly related to teaching quality.

In a Malaysian study, Bakker and Bal (2010) examined the relationship between teachers' personality traits and job performance at a public secondary school. They suggested that it is essential to understand the influence of personality on job performance and recommended that the Malaysian Ministry of Education should use a personality traits model in recruiting and selecting suitable teaching staff.

Holmes et al. (2018) identified positive relationships between online teaching performance and personality traits, namely Agreeableness, Conscientiousness, Neuroticism, Openness, Extraversion, Self-Efficacy, Adaptability, Tough-Mindedness and Work drive. Their results are supported by Espinola and Francia (2015), who found that Neuroticism was significantly negatively related to teachers' job performance.

In a study in the United Kingdom, Teodorescu et al. (2017) examined the personality traits of high potential individuals, an area that is fundamental for successful companies and organisations. The High Potential Traits Inventory (HPTI) served to investigate associations between personality traits and measures of career success in a sample of 383 employed individuals. Teodorescu et al. (2017) suggested that a clearer operationalisation of success

is crucial for understanding the underlying mechanisms that result from personality traits. They found that Conscientiousness was the strongest predictor of career success.

Various studies have investigated the relationship between the Big Five personality traits, gender and further demographic variables. One study found that females scored higher on Neuroticism, Agreeableness and Extraversion than their male colleagues (Soto & John, 2017). Findings such as these highlight the importance of measuring personality with demographic level and considering additional variables such as gender, age group and highest level of education (Weisberg et al. 2011). It is also vital to know which specific personality traits students prefer in their teachers. Furnham et al. (2007) applied the Neo Personality Inventory at a higher education institution to examine the relationship between students' preferred personality assessment method and their gender, intelligence and personalities. They found that students preferred emotionally stable lecturers, who showed a low level of Neuroticism and a high level of Conscientiousness. Furnham et al. (2011) point out that extensive literature addresses students' evaluations of teaching staff performance, but limited literature addresses students' preferences in terms of specific personality types in teaching staff members. No recent studies could be identified that investigated these preferences in a Zimbabwean higher education context or on the African continent. Furnham et al. (2011) focused on learning processes by using a study process questionnaire, but in the current study, teaching quality was determined based on students' end-of course-evaluations.

Furnham et al. (2011) advised that students and teaching staff should become aware of students' personality preferences and should be aware that knowing and accepting their own preferences is necessary for good interpersonal relationships. They found that students who preferred lecturers who were extroverts were less prepared for examinations, while those who preferred introverts were better prepared for their university examinations.

As indicated previously, the evaluation of lecturers' teaching quality through student evaluations has been regarded as a reliable measure of teaching effectiveness. These evaluations focus on the characteristics of good teaching such as lecturers' knowledge, course organisation and classroom management (Chuan, 2017). According to Golding and Adam (2016) students' evaluations are the most effective way to measure the effectiveness and quality of lecturers' teaching because student evaluations provide measurable data about their teaching quality and performance in class. Students' evaluations of their lecturers' teaching quality are further beneficial to both academic institutions and lecturers in order to improve their service delivery and the quality of the service they deliver (Chuan, 2017). In some instances, students' evaluations of their lecturers are used in performance appraisals and in guiding promotion and tenure decisions (Mart, 2017).

A number of studies, however, reported several pitfalls when using student evaluations in assessing teaching effectiveness and quality, for instance biased results. Teaching staff's smiles, gestures and other mannerisms may influence student ratings, instead of their knowledge, clarity, organisation or other qualities associated with efficient teaching (Henry, 2017). Mart (2017) stated that the teaching and learning environment should, however, encourage and welcome students' feedback, allowing institutions to identify effective ways for improving the quality of education.

Student evaluations are an established measure of teaching quality and have been the sole method used for this purpose at the participating institution since 2006. M. Makonika (personal communication, May 17, 2017) pointed out that students' end-of-course evaluations (SECE) are the only evaluation currently used to access teaching quality, highlighting the importance of these evaluations. This method of measuring teaching quality has not been revised since its inception, however. Investigating factors that affect teaching quality in a higher education context from different perspectives, including the relationship between personality traits and teaching quality may enhance practical recommendations for

improving teaching quality. It may also contribute to establishing a conceptual model that informs the recruitment of teaching staff in a higher education context.

The abovementioned constructs, namely the Big Five personality traits of teaching staff and their effects on teaching quality, may be partly resolved by investigating the personality types of teaching staff members because some of their personality traits may facilitate quality teaching. Despite this possibility, assessing teaching staff's personality traits seems not to be accepted practice and personality job fit does not seem to be regarded as relevant when selecting teaching staff at most higher education institutions. Haung et al. (2019) describes person–job fit as the compatibility between job tasks and an individual's characteristics. It describes compatibility in terms of employee needs and the resources available to satisfy an employee's needs, as well as resources available for an employee to effectively meet the needs of a job (Haung et al., 2019).

The success of most organisations depends on how they attract and recruit employees, how they motivate employees to perform highly and ensure that employee performance increases (Muindi & Obonyo, 2015). Identifying the factors that determine employee performance remains an important issue in the human resources management field. It appears that the constructs, personality traits and teaching quality, significantly affect performance in a higher education context. In an educational setting, lecturers' performance plays a strategic role and serves as one of the main factors determining student performance and, subsequently, university performance. It is essential that higher education institutions recruit high-performing teaching staff members. The construct of personality traits may assist in this regard.

No published research could, however, be identified that investigated teaching staff's personality traits, students' preferences in terms of lecturers' personality traits and teaching quality in an African higher education context. In light of this apparent research gap, the current study aimed to investigate the following problem: Can a conceptual model that

informs the recruitment of teaching staff be developed based on teaching staff's Big Five personality traits, students' preferences in terms of their lecturers' personality traits and teaching quality in a higher education context? The current study examined students' preferences for their lecturers' personality, based on the Big Five personality model. Differences between teaching staff's self-assessment, the assessment of their students and students' preferences in terms of the Big Five personality traits among teaching staff may facilitate teaching quality outcomes.

The current study aimed to develop a conceptual model that informs the recruitment of higher education teaching staff based on the Big Five personality traits preferred by teaching staff's own students, who rated their lecturers' teaching quality at a higher education institution within the Zimbabwean context. In a nutshell, thus, the empirical model to inform the recruitment of teaching staff developed as the result of this study is expected to assist higher education organisations to employ suitable teaching staff, consequently enabling them to improve teaching quality.

1.3 General Research Questions

Given the above, the research question to be investigated was as follows:

- To what extent can a conceptual model that informs teaching staff's recruitment in a higher education context be developed, based on teaching staff's Big Five personality traits, students' preferences in terms of their lecturers' personality traits and lecturers' teaching quality?

1.3.1 Research Questions Relating to the Literature Review

The following research questions emerged from the literature:

- How are the Big Five personality traits conceptualised in the literature?

- How are students' personality preferences regarding their lecturers conceptualised in the literature?
- How is the construct teaching quality conceptualised in the literature?
- What is the theoretical relationship between lecturers' demographical characteristics (based on their gender, race, age, educational qualification, work experience and the faculty they belong to) in terms of personality traits and teaching quality in a higher education context?
- What are the theoretical relationships among teaching staff's personality traits, students' preferences in terms of lecturers' personality traits and teaching quality in a higher education context that may guide recruitment practices based on the literature?
- Which theoretical conceptual model based on lecturers' Big Five personality traits, students' preferences in terms of lecturers' personality traits and teaching quality can be developed to inform the recruitment of teaching staff in a higher education context?

1.3.2 Research Questions Relating to the Empirical Research Study

The following research questions were formulated with regard to the empirical study:

- What is the statistical relationship among teaching staff's personality traits based on their self-assessment and their students' assessments in the context of the Big Five model (Openness to Experience, Conscientiousness, Extraversion, Agreeableness, Neuroticism), students' preferences regarding their lecturers' personality traits and teaching quality at a Zimbabwean higher education institution?
- Do the Big Five personality traits of teaching staff have an impact on teaching quality at a Zimbabwean higher education institution?
- Do groups of teaching staff differ significantly in terms of their personality traits and teaching quality based on their gender, race, age, educational qualification, work

experience and the faculty they belong to at a Zimbabwean higher education institution?

- Can an empirical model that informs teaching staff's recruitment be developed for recruiting teaching staff for higher education institutions in Zimbabwe based +on the Big Five personality traits?
- Based on the research findings, what recommendations for future areas of research can be made for the field of IOP in terms of a higher education context?
- What recommendations can be made for enhancing the recruitment of teaching staff in a higher education context?

1.4 Aims of the Research

From the above research problem and question, the following aims were formulated.

1.4.1 General Aim of the Research

The general aim of this research was to find ways to improve teaching quality in a higher education context, based on the Big Five personality traits. The study focused on the relationships and differences between teaching staff's personality traits, students' preferences in regard to their lecturers' personality traits, as well as teaching quality at a Zimbabwean higher education institution. The results will contribute to a conceptual model for recruitment based on the Big Five personality traits, student preferences in regard to their lecturers' personality traits and student course evaluations for the conceptual research model that informs the recruitment of teaching staff at a university in order to enhance teaching quality.

1.4.2 Specific Aims of the Research Literature Review

The specific aims of this study were to investigate the relationships among lecturers' self-evaluation of their personality traits based on the Big Five personality model, students' assessments of their lecturers' personality traits based on the Big Five personality model,

students’ preferences in regard to teaching staff’s personality traits and students’ end-of-course evaluations of their lecturers’ teaching quality at a Zimbabwean higher education institution.

The specific literature aims were formulated as follows:

- to conceptualise the Big Five personality traits from a theoretical perspective
- to conceptualise students' personality preferences in regard to their lecturers from a theoretical perspective
- to conceptualise the construct of teaching quality from a theoretical perspective
- to conceptualise the theoretical relationships between lecturers' demographical characteristics (based on their gender, race, age, educational qualification, work-experience and faculty), their personality traits and teaching quality in a higher education context
- to conceptualise the theoretical relationships among teaching staff's personality traits, students' preferences in regard to their lecturers' personality traits and teaching quality in a higher education context for recruitment practices
- to develop a conceptual research model that informs the recruitment of teaching staff based on the Big Five personality traits, students’ preferences and teaching quality in a higher education context.

1.4.3 The Specific Empirical Aims of the Study

The specific empirical aims were formulated as follows:

- to determine the empirical relationship between teaching staff’s personality traits (based on their self-assessments and students’ assessments), students’ preferences in regard to their lecturers’ personality traits and teaching quality at a Zimbabwean higher education institution

- to determine the statistical differences between teaching staff's personality traits based on their self-assessment and their students' assessments based on the Big Five model (Openness, Conscientiousness, Extraversion, Agreeableness, Neuroticism), students' preferences in regard to their lecturers' personality traits and teaching quality at a Zimbabwean higher education institution
- to determine whether the Big Five personality traits can predict lecturers' teaching quality based on students' evaluations at a Zimbabwean higher education institution
- to determine whether groups of teaching staff (based on their gender, race, age, educational qualifications, faculty and years of experience) differ significantly in terms of teaching quality in relation to the Big Five personality traits
- to test a conceptual research model that informs the recruitment of higher education teaching staff based on the Big Five personality traits for teaching staff at a Zimbabwean higher education institution
- to highlight further areas of research in the field of Industrial and Organisational Psychology (IOP) based on the Big Five personality traits and teaching quality
- to make recommendations for enhancing the recruitment of teaching staff in a Zimbabwean higher education context.

1.4.4 Hypotheses

The following research hypotheses, which were tested empirically in this study, were identified from the research background:

Hypothesis 1: There are significant relationships among teaching staff's Big Five personality traits (Openness to Experience, Conscientiousness, Extraversion, Agreeableness and Neuroticism) in terms of teaching staff's self-assessments, assessments by their students, students' preferences in regard to their lecturers' personality traits and teaching quality at a Zimbabwean higher education institution.

Sub Hypotheses:

H1a: There is a positive relationship between Openness to Experience and teaching quality.

H1b: There is a positive relationship between Conscientiousness and teaching quality.

H1c: There is a positive relationship between Extraversion and teaching quality.

H1d: There is a positive relationship between Agreeableness and teaching quality.

H1e: There is a positive relationship between Neuroticism and teaching quality

Null hypothesis 1: There are no significant relationships among teaching staff's personality traits in the context of the Big Five personality model (Openness to Experience, Conscientiousness, Extraversion, Agreeableness and Neuroticism) in terms of teaching staff's self-assessments, assessments by their students, students' preferences about their lecturers' personality traits and teaching quality at a Zimbabwean higher education institution.

Sub null hypotheses:

H_0a: There is no relationship between Openness to Experience and teaching quality.

H_0b: There is no relationship between Conscientiousness and teaching quality.

H_0c: There is no relationship between Extraversion and teaching quality.

H_0d: There is no relationship between Agreeableness and teaching quality.

H_0e: There is no relationship between Neuroticism and teaching quality.

Hypothesis 2: There are significant relationships among teaching staff's personality traits in the context of the Big Five personality model (Openness to Experience, Conscientiousness. Extraversion, Agreeableness and Neuroticism), based on their self-assessments and their students' assessments at a Zimbabwean higher education institution.

Null hypothesis 2: There are no significant relationships among teaching staff's personality in the context of the Big Five personality model (Openness to Experience, Conscientiousness, Extraversion, Agreeableness and Neuroticism), based on their self-assessments and their students' assessment at a Zimbabwean higher education institution.

Hypothesis 3: There are significant differences between teaching staff's personality traits based on their gender, race, age, academic qualifications, department, the faculty they belong to, years of work experience and teaching quality at a Zimbabwean higher education institution.

Null hypothesis 3: There are no significant differences between teaching staff's personality traits based on their gender, race, age, academic qualifications, department, the faculty they belong to, their years of work experience and teaching quality at a Zimbabwean higher education institution.

A detailed discussion of the hypotheses is provided in chapter five.

1.5 Statement of Significance

The investigation in the current study enhanced teaching staff's awareness of their dominant personality traits through their self-assessment, descriptions by their own students and students' preferred personality traits in their lecturers based on the Big Five model. This study also supported teaching staff in dealing with teaching quality issues by identifying the dominant Big Five personality traits that are associated with high quality teaching. Finally, a conceptual research model that informs the recruitment of teaching staff was developed based on the Big Five personality traits (Openness to Experience, Conscientiousness, Extraversion, Agreeableness and Neuroticism) to improve teaching quality at a Zimbabwean higher education institution.

The Big Five personality traits (Openness to Experience, Conscientiousness, Extraversion, Agreeableness and Neuroticism) and teaching quality appear to exert some

influence at higher education institutions. Past studies (Creswell, 2017; Soto & John, 2017; Tamban & Banasihan, 2017) have identified relationships and most desired personality traits of teaching staff based on the Big Five personality traits but not in the Zimbabwean context.

As mentioned, this study makes a contribution to the field of IOP in three distinct areas: theoretical, methodological and practical.

1.5.1 Potential Contribution on a Theoretical Level

In terms of its theoretical contribution, this study may prove useful in identifying the relationships found between the independent variables, that is, the Big Five personality traits (Openness to Experience, Conscientiousness, Extraversion, Agreeableness and Neuroticism), the moderating variables (gender, age, education level, teaching experience and the faculty teaching staff belong to) and the dependent variable (teaching quality). Given the revelation of significant relationships, the conceptual research model that informs the recruitment of higher education teaching staff that has been developed and empirically tested based on the findings, may prove useful in developing further models or frameworks which may be empirically tested in exploring how individuals' demographic characteristics moderate the relationship between the Big Five personality traits and teaching quality in a higher education context.

This research provides a framework to the body of knowledge in the IOP field, with a particular focus on higher education, which will help to develop a conceptual research model to inform the recruitment of higher education teaching staff based on the Big Five personality traits. In explicit terms, the empirically manifested model that resulted from this study forms the basis of a theoretical model, which considers the moderation of demographic variables with the Big Five personality traits and teaching quality variables. The empirically manifested model could be useful in future studies that envisage understanding the Big Five personality traits and teaching quality in further higher education institutions in Zimbabwe.

1.5.2 Potential Contribution on an Empirical Level

This study makes a contribution by constructing an empirically manifested model that can be used to predict the most desired and preferred personality traits from the Big Five personality model among teaching staff as well as in relation to teaching quality. In addition, the study indicated how demographic variables significantly moderate the relationship between the Big Five personality traits and teaching quality in higher education institutions. The study also indicated whether students from different demographic groups differ in terms of their personality preferences in regard to their lecturers based on the Big Five personality traits.

1.5.3 Potential Contribution on a Practical Level

This research makes a practical contribution by providing an empirically manifested model that offers an indication of the variables that can be taken into account when trying to predict the personality traits that student would prefer in regard to their lecturers in a higher education context.

As intimated, this study may be relevant to the IOP field and particularly personality psychology practice, given that it investigated the Big Five personality traits. Therefore, such psychologists, especially personality psychology professionals, may develop a better understanding of this field. This research raises awareness that teaching staff from different demographic segments should be recruited based on the preferred personality traits as these correlated highly with teaching quality in higher education.

1.6 The Paradigm Perspectives of the Research

Essentially, a paradigm is a lens through which the researcher interprets the obvious and the not so obvious principles of reality and shapes the way in which the researcher sees the whole world (Kivunja & Kuyini, 2017). More specifically, a paradigm includes the accepted theories, traditions, approaches, models, frames of reference, bodies of research

and methodologies. It may be seen as a model or framework for observation and understanding, allowing the social world to be understood in an objective way (Zukauskas & Veinhardt, 2018). In the current study, the positivist research paradigm served to present the empirical review which served to predict what may happen in future. According to Zukauskas and Veinhardt (2018), a positivist approach is objective and describes the laws and mechanisms operating in society. It is typically associated with quantitative research. The positivist approach asserts that social events can be observed and explained by logical analysis (Creswell, 2017). The positivist paradigm assumes that the social and physical world exist independently and can be discovered through measurement. This approach emphasises the validity, reliability and replication of research results before any generalisations can be made (Creswell, 2017). The current research was explanatory in nature since it involved testing hypotheses and deriving these hypotheses from available theories.

1.6.1 Industrial and Organisational Psychology

The study resorts under the field of IOP, specifically the sub discipline of personality and personnel psychology. IOP combines many psychosocial principles and theories of, and methods for studying, the impact of human behaviours in the workplace (Truxillo et al. 2018). Its overall goal is to improve and maintain organisational functioning by understanding the interaction between humans and their workplaces from a psychological point of view.

Since the current study investigated the relationship between teaching staff's personality traits and teaching quality, it revolved around the work-related attitudes that IOP assesses. It is envisaged that the study of the relationship between teaching staff's personality traits, students' preferences in regard to teaching staff's personality traits and teaching quality in a higher education context will contribute new knowledge that may help to develop a conceptual research model to inform the recruitment of teaching staff to enhance the quality of teaching in a higher education context.

1.6.2 Personnel Psychology

Personnel psychology focuses on using the variances in and between employees to predict the optimal job fit between an organisation and employee (Truxillo et al. 2018). They assert that personnel psychology focuses on various aspects in the workplace such as job analysis, the retention of scarce and critical skills, employee psychological assessments, employee selection and placement, training and development and remuneration.

According to the American Psychological Association (APA) (2019), personnel psychology involves the application of psychology in employee hiring and care, and deals with the selection, placement, training, promotion and evaluation of employees. Since the ultimate aim of the current research is to develop a conceptual research model to inform the recruitment of teaching staff in a higher education context, it resorts under personnel psychology.

1.6.3 Personality Psychology

Personality psychology understands and classifies people based on the characteristic behaviour that they display every day. Various theories and models have been developed to better understand human personality and most personality psychology theories attempt to accurately explain the aspects of personality (APA, 2019). In the current study, the Big Five personality traits model was applied to investigate the way in which personality influences teaching quality in a higher education context.

1.6.4 Conceptual Descriptions of Terms

The key concepts relevant to this study are operationally defined as follows:

1.6.4.1 Personality. Personality includes a set of consistent behavioural and unique characteristics that make up an individual and can be conceptualised by means of personality traits. Personality traits are enduring personal characteristics that are revealed in

a particular pattern of behaviour in various situations. Personality significantly influences individuals' behaviour and performance in a number of domains (Alansari et al. 2016).

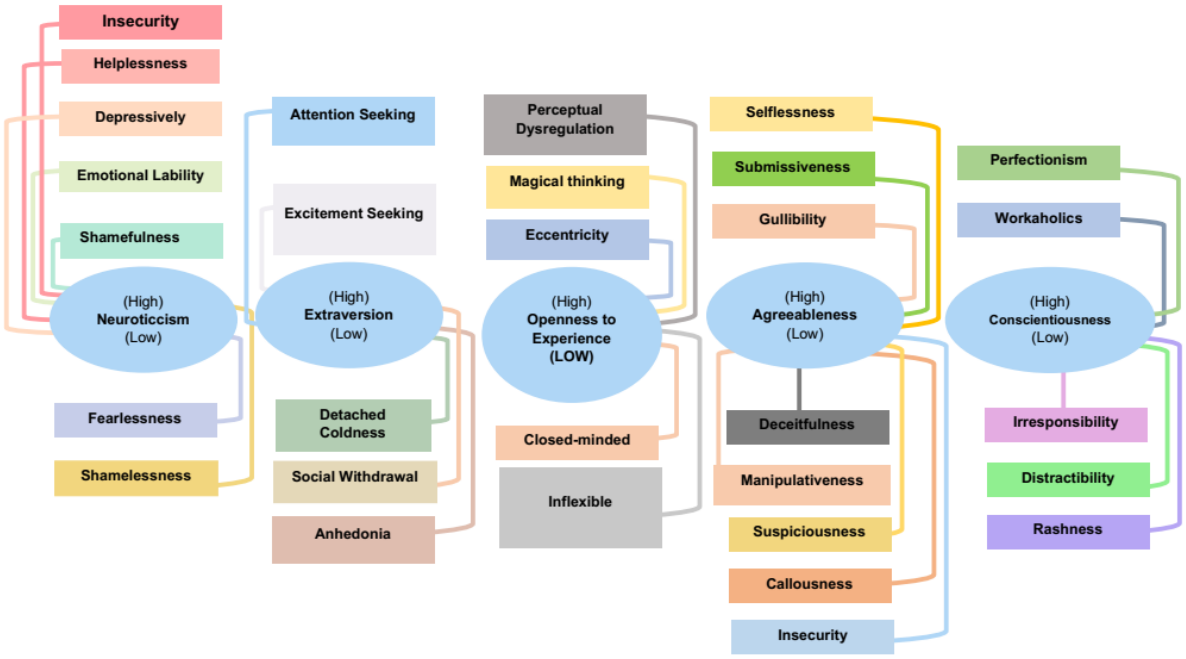
1.6.4.2 Personality Traits. Personality traits are constructs that describe why people react to the same situation in different ways (Nhlanhla & Thubelihle, 2014). Researchers have fiercely debated the notion of personality traits in the past. Early researchers such Furnham, and Chamorro-Premuzic, (2005) appear to support the Big Five personality traits.

1.6.4.3 The Big Five Model. Lewis Goldberg (1981) first proposed the Big Five personality trait model, after which it was reviewed by Costa and McCrae and finally published in 1985. The model is also known as the Five Factor Model. Various other models have been developed in the meantime such as the Myers-Briggs Type Indicator and the Minnesota Multiphasic Personality Inventory. Various further tests have been developed based on the Big Five personality model such as the Revised Neo Personality Inventory (Fleming, 2020). The Big Five personality trait model is widely used in psychology practice and its five dimensions have been used to understand personality traits in a more detailed way. Accordingly, the Big Five personality model currently serves as the dominant approach for representing the human personality trait structure (Soto & John, 2017).

The personality traits of the Big Five Model are presented in Figure 1.1 below.

Figure 1.1:

The Big Five Personality Traits Model



Adapted from Fleming, 2020, p. 356.

As is evident in Figure 1.1, the Big Five personality traits model divides human personality into five trait categories to illustrate personality differences across individuals, based on five traits, namely Neuroticism, Extroversion, Openness to Experience, Agreeableness and Conscientiousness.

- Neuroticism refers to the tendency to experience hopelessness, insecurity, fearfulness, shamefulness, anger, anxiety, irritability, emotional instability, depression, and self-pitying (Fleming, 2020).
- Extroversion refers to the tendency to be sociable, fun-loving and affectionate versus being retiring, sombre and reserved in nature (Fleming, 2020).
- Openness to Experience refers to the tendency to be imaginative and independent (Fleming, 2020).
- Agreeableness involves the tendency to be soft-hearted, trusting and helpful versus being ruthless, suspicious and uncooperative (Fleming, 2020).

- Conscientiousness refers to the tendency to be organised, careful and disciplined versus being disorganised, impulsive and careless (Fleming, 2020).

1.6.4.4 Students' Personality Preferences in Regard to Their Lecturers. Srivastava (2018) found that students' personality preferences play a crucial role in their approach to learning in the sense that students tend to learn effectively in environments consistent with their personality type preferences. According to Golding and Adam (2016) students' preferences in term of their lecturers are a neglected area in the field of personality psychology research. Correlational studies have supported the findings that these preferences are largely a function of students' own personality traits. In the current study, the Lecturer Preference Questionnaire (LPQ), based on the Big Five personality traits, served to investigate students' personality preferences in regard to their lecturers that have major implications for the recruitment process.

1.6.4.5 Students' Evaluations of Teaching Quality. The evaluation of teaching quality has been taking place since the early 1950s (Mart, 2017). Various methods are used to measure teaching effectiveness such as peer evaluations, self-observations and student evaluations. Students' evaluations tend to be used most widely, since students are participants in the teaching process and should therefore be particularly suited to evaluate the effectiveness of lecturers' teaching (Henry, 2017). Higher education institutions consequently typically use student evaluations to measure lecturers' teaching quality and performance. Student evaluations acknowledge the value of students' opinions and offer opportunities for dialogue about teaching quality. The teaching staff themselves benefits from this process as they are partners in planning the evaluation and in implementing and monitoring the effects of changes introduced (Chuan, 2017). In the current study, students' end-of-course evaluations at the participating higher education institution served to investigate teaching quality.

1.6.4.6 Teaching Quality. Teaching quality refers to the use of academic techniques to transfer knowledge from the teacher to the student (Kim et al. 2019). It involves the effective

design of the course content, the learning context and effective assessment outcomes (Bastian et al. 2017).

1.6.4.7 Teaching Staff. Teaching staff involves staff members who are primarily or entirely involved in the teaching activities of an academic centre (Gore & Bowe, 2017). Teaching staff refers to professional personnel who are directly involved in teaching students. These include special education teachers, classroom teachers, teaching in a small-group resource room and one-to-one inside or outside classroom teachers. Teaching staff also includes chairpersons of department whose duties include an amount of teaching. It does not, however, include non-professional personnel who offer supportive services to teaching stuff such a teaching aids and other professional personnel (OECD, 2016).

1.6.4.8 The Participating Institution. The participating institution is the oldest and leading university in Zimbabwe. It is involved in teaching and both academic and professional research and consists of ten faculties.

The following section delineates the research design methodology that underpins this research.

1.7 Research Design

A research design is a blueprint that details how a researcher intends to collect, analyse and present the findings for his or her research (Creswell, 2017). The current study aimed to identify whether the Big Five personality traits could predict students' views about teaching quality, as reflected in students' end-of-course evaluations and the researcher can develop a conceptual research model to inform the recruitment of higher education teaching staff based on the personality traits from the Big Five.

The research approach and methods followed are discussed below.

1.7.1 Research Approach

Quantitative research methods were used to collect and analyse data in the current study. The study employed a cross-sectional survey design to examine the correlation between the Big Five personality traits and teaching quality over a limited period of time. Primary data was used and a correlational approach was applied in the statistical analyses.

The current study involved teaching staff at the participating higher education institution with the central purpose of defining the empirical relationship between the variables, personality traits, students' preferences in terms of their lecturers' personality traits and teaching quality. Information was elicited from teaching staff and students using surveys (self-administered questionnaires). The researcher ensured content validity by providing an overview of the literature in a structured manner when presenting and relating constructs. The use of established measures such as the Big Five personality traits questionnaire, students' end-of-course evaluations and the Lecturers Preferences Questionnaire increased the prospects of reliability in the study.

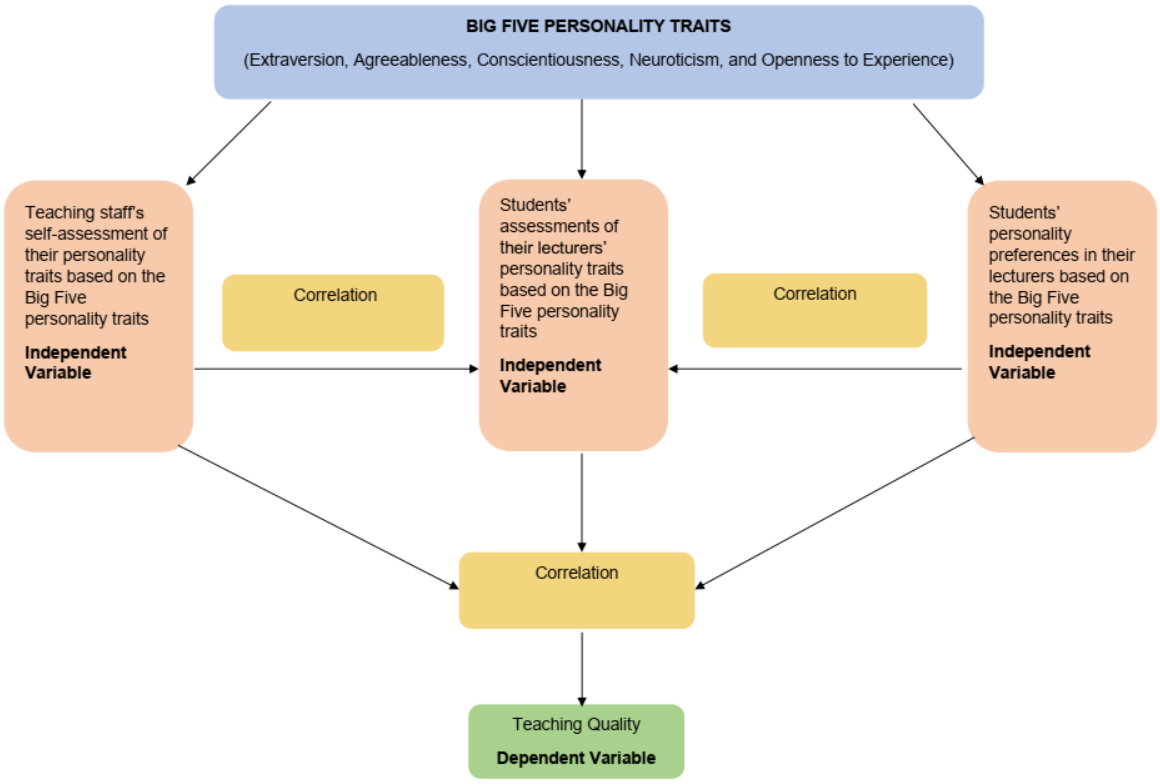
1.7.2 Research Methods

As mentioned earlier, quantitative research methods served to determine the relationships and differences between lecturers' personality traits based on their self-assessments and their students' assessments. These relationships were investigated in a Zimbabwean higher education institution.

Figure 1.2 illustrates the possible correlations between the Big Five personality traits (Openness to Experiences, Conscientiousness Extraversion, Agreeableness and Neuroticism) and teaching quality.

Figure 1.2:

Correlations of the Big Five Personality Traits and Teaching Quality



As indicated in Figure 1.2, the first correlation that was investigated is that between the Big Five personality traits of teaching staff based on their self-assessments, and their students' assessment of their personalities. Secondly, the correlation between students' personality preferences in their lecturers and teaching quality was investigated. In this study, the dependent variable was teaching quality and the independent variable was the Big Five personality traits.

1.7.3 Research Participants

In this study, participation involved final-year undergraduate students from ten faculties and their lecturers at the participating higher education institution. Students' ages ranged between 18 and 65, while teachers' ages ranged between 25 and 65. Both males and females took part in the research. In order to calculate the number of participants from the population to include in the survey, a sample size calculator was used to compute the sample size at a 90% confidence interval and a 10% confidence error.

An email was sent with an online link for the survey to teaching staff who teach final-year undergraduate students at the participating institution to take part in the research. The student sample was subsequently selected from final-year undergraduate students who were enrolled for the courses that the particular teaching staff members taught (matching course codes were used). From a population of 1400 lecturers, only those who taught final-year undergraduate students were selected as a sample to participate in the survey. Ultimately, the final sample of participants consisted of 417 teaching staff members, as well as 3986 final-year undergraduate students out of a total of 13 739 students.

Although recruiting the entire population would have produced more reliable results, it was practically impossible. Consequently, convenience sampling was applied in the present study. This is a specific type of non-probability sampling whereby participants are recruited on the basis of availability. This sampling technique was deemed appropriate for the study because the sample size was large enough and the sampling method was fast, inexpensive and easy. When using this method, inclusion criteria are identified prior to selecting the participants.

1.7.4 Measuring Instruments

Three measuring instruments served to measure the variables, namely the Big Five Inventory (BFI), the Lecturer Preference Questionnaire (LPQ) and students' end-of-course evaluations (SECE) (which measured teaching quality).

Cronbach's alpha coefficients served to establish the internal consistency of the BFI, LPQ and SECE and their resulting reliability. An acceptable reliability coefficient should be above .60 (Anglim & Connor, 2018). Two types of validity were also assessed, namely convergent validity and discriminant validity. Convergent validity ensures that each set of items measures the constructs that it is supposed to measure. Convergent validity was established by computing the average variance extracted (AVE) of the various constructs

involved in the study (Hair et al. 2014). All measuring instruments showed acceptable reliability and validity coefficients.

A pilot study involving a sample of 15 teaching staff and 30 final-year undergraduate students that were randomly drawn from ten faculties initially took place at the participating higher education institution. This served to test and validate the research instruments in the Zimbabwean context.

1.7.4.1 The Big Five Personality Inventory (BFI). John and Srivastava (1999) developed the Big Personality Inventory. It has been widely used to assess personality in various studies and has proven reliability. The scale consists of 44 items and participants indicate their answers on a five-point Likert scale. It takes five to six minutes to complete the inventory. It is widely used to measure five dimensions of personality traits, namely Openness to Experience, Conscientiousness, Extraversion, Agreeableness and Neuroticism. The BFI applies a reverse scoring method. It consists of a self-report and peer description, and therefore, in the current research, teaching staff assessed their own personality traits on the BFI and their final-year undergraduate students assessed their lecturers' personality traits on the same inventory.

The BFI has been proven to be valid and reliable across ages, gender and cultures in past studies (Creswell, 2017; Soto & John, 2017). Worrell and Cross (as cited in Soto & John, 2017), for instance, in cross-cultural samples found coefficient alpha scores ranging between .70 to .80 and test-retest reliabilities from .75 to .90, which is considered satisfactory. Confirmatory factor analysis (CFA) was used because the items were already organised in the questionnaire according to a theoretical framework. This type of analysis enhanced the validity of data as it tests the theory with regard to the verification and operationalisation of the scale structure.

1.7.4.2 Lecturer Preference Questionnaire (LPQ). Students' preferences in regard to their lecturer's personality traits were assessed by means of the LPQ, based on the Big Five

personality traits inventory constructs. Each construct is measured by means of six items. The LPQ consists of 30 items that are scored by means of a 11-point Likert scale and takes up to five minutes to complete. The scale investigates the personality characteristics that students want in their lecturers.

Final-year undergraduate students indicated their personality preferences in their lecturers on a 11-point Likert scale. The more they preferred a specific characteristic in their lecturer, the higher the positive score would be, for instance +5. The less they wanted a specific characteristic, the higher the negative score that they allocated, for instance -5. A middle score (0) meant that a particular characteristic was not important or relevant. The instructions and layout for the LPQ were adapted by (Furnham, & Chamorro-Premuzic, 2005) questionnaire has proven reliability with coefficient alphas of .80 to .87 (Furnham & Chamorro-Premuzic, 2005). CFA was again applied in the case of this questionnaire because the items are already organised in the questionnaire according to a theoretical framework. This analysis enhanced the validity of data as it tested the theory in terms of the verification and operationalisation of the scale structure.

1.7.4.3 Student End-of Course Evaluation Questionnaire (SECE). The SECE questionnaire has been used since 2006 to assess teaching quality at the participating higher education institution (M. Makonika, 2018," Personal communication" on 30 May 2017). The institution conducts end-of-course evaluations which require students to assess their lecturers' teaching quality. The results obtained in this way are used to inform compensation and promotion decisions at the institution.

In the current study, final-year undergraduate students responded to the SECE questionnaire to assess their lecturers' teaching quality. It takes approximately four to five minutes to complete the SECE which consists of 13 items, which include a brief biodata section and assess course design, introduction to the lectures, utilisation of content, use of

media and material, interaction behaviour and student assessment. Students indicate their responses on a five-point Likert scale (ranging between 0 and 5).

The SECE questionnaire was developed in 2006 by the Teaching and Learning Centre at the participating higher education institution and has been used annually since then. The SECE is currently the only measure that is used at the institution to assess teaching quality. The current study sought to identify the validity and the reliability of this measure, which relies on the honesty of the respondents; hence, potential student bias may affect its results.

1.8 Research Procedure

After obtaining permission from the participating higher education institution to do so, a list of all permanently appointed teaching staff involved in teaching final-year undergraduate students was obtained from the human resources department. A secure link to the study, including a demographical scale and the BFI, was emailed to final-year teaching staff for the assessment of their own personality. Final-year undergraduate students, on the other hand, responded to the BFI, the LPQ and the SECE to assess their lecturers' personality traits, teaching quality and their preferences in terms of their lecturers' personality.

1.8.1 Data Management and Storage

All the data collected in this study was stored and protected electronically by means of passwords only known to the researcher. This approach ensured that confidentiality and the authenticity of the research were maintained. The data consisted of four separate data sets that were collected from each of the four assessments, namely the BFI for students, the BFI for teaching staff, the LPQ, and the SECE.

1.8.2 Statistical Analyses

The current study made use of descriptive statistics (means, standard deviation, minimum and maximum values) to interpret the mean scores. Respondents from different gender, age, race and educational qualification groups may significantly differ in terms of their personality traits and teaching quality, and there may be differences in teaching staff's self-assessment of their own personality traits based on the Big Five and students' preferences for their lecturers' personality traits.

Using descriptive statistics of the teaching staff's Big Five personality traits, average scores and standard deviations were firstly computed across the ten faculties in terms of the demographic groups. The greater the mean score of each Big Five personality trait, the more dominant that personality trait was among teaching staff. Data was transformed from an ordinal scale (categorical) to continuous data (mean score). All the information collected from the students by means of the LPQ and the BFI was linked to a secure site to allow the researchers assess on to this group. Secondly, the researcher conducted CFA and ascertained Pearson correlation coefficients (PCC) of the Big Five personality traits with both samples (students and teaching staff) to determine the difference between the self-assessments of lecturers on the BFI and their students' assessments on the BFI. In terms of the lecturers' sample, the researcher used the corrected item total correlation (Cronbach's alpha) to determine how each item converged toward its construct.

Further statistical analyses involved calculating Pearson correlation coefficients between teaching staff's self-assessments and students' assessments of their lecturers' Big Five personality traits. This was achieved by summing all the variables addressing each personality trait and averaging the total scores for the lecturers and students. The same procedure was used to find the mean of the teaching quality score for each lecturer. The independent sample t-test analysis served to determine group difference (teaching staff and students) after which CFA was applied. In addition, Structural Equation Modelling (SEM) and

standardised multiple linear regression analysis were applied to determine the most suitable personality traits of the Big Five for the conceptual research model to inform the recruitment of teaching staff in higher education.

The Statistical Package for the Social Sciences (SPSS) version 25 was used to analyse the data. To ensure the reliability of the analyses and the SEM analysis both IBM and AMOS version 25 were used.

1.8.3 Structural Equation Modelling

SEM is a statistical procedure that computes multivariate analysis of the multi-causal relationships between different social constructs. This method enables researchers to interpret complex interrelated relationships and to identify measurement errors in the structural coefficients (Tarka, 2017). SEM was used in this study to establish whether the relationships found in the data matched the predictions in the hypotheses and to determine the validity and reliability of the proposed conceptual research model to inform the recruitment of higher education teaching staff. Hair et al. (2014) assert that SEM simultaneously estimates the relationship between the manifested variables and the latent variables. The use of SEM is commonly justified in the social sciences based on its ability to impute relationships between unobserved constructs (latent variables) from observable variables (Hair et al. 2018). SEM can incorporate a wide variety of causal relationships and it therefore was suitable for the current study to test a conceptual model that captures the major determinants of the Big Five personality traits correlated with teaching quality at the participating higher education institution.

The conceptual research model was tested by means of a survey at a Zimbabwean higher education institution and the results were subjected to SEM. The data was obtained from the self-assessments of teaching staff and students' assessments of their lecturers and was then exposed to SEM to achieve the empirically manifested model to inform the

recruitment of higher education teaching staff based on the Big Five personality traits to improve teaching quality in the Zimbabwean higher education context.

1.8.4 Variables

Variables are measurable concepts in scientific research (Creswell, 2017). Variables can either be independent, in which case they are causal variables that produce an effect, or dependent, in which case they result from another variable. The independent variables in the current study were the lecturers' self-assessments in terms of the Big Five personality traits and students' assessments of their lecturers' personality based on the Big Five personality traits. The dependent variables were teaching quality and students' preferences (based on students' assessment of their lecturers). The study focused on establishing relationships among these variables and examining whether teaching staff's Big Five personality traits significantly affected their teaching quality.

The following section presents information on the ethical considerations that guided the study.

1.9 Ethical Considerations

Ethical considerations are the rules and structural regulations that guide researchers on what they can and cannot do during research (APA, 2019).

The ethical guidelines in this study were stipulated by the UNISA ethics policy, (Policy of research ethics, 2016). The researcher applied for and obtained ethical clearance from the ethics committee at the Department of Industrial and Organisational Psychology at UNISA, which ensured that the guidelines were followed to the letter. The researcher strived to uphold ethics throughout the study. Plagiarism and the fabrication of data were avoided during the research process and care was taken to acknowledge all sources consulted. The researcher facilitated the completion of the informed consent forms and complied with the following ethical considerations:

1.9.1 Informed Consent

The researcher clearly explained, in writing, all the concepts of the study, including its aims and objectives and the benefits and risks of taking part in the study. All the information was clearly conveyed to the participants in a language they understood. Participants could make an independent choice as to whether to participate in the study or not and, before participating in the study, they signed consent forms to show that they had willingly participated in the study. The participants were also informed about how their raw data and research results would be used. No personal details or any information that would reveal their identity was required.

1.9.2 Protection of Participants

The researcher used inoffensive information to avoid emotional harm to participants, and all the research tools were designed and used in a way that did not cause physical and psychological harm to participants.

1.9.3 Guarding against Deception

The researcher did not mislead the participants during the study and avoided using deceptive instructions.

1.9.4 Confidentiality

The researcher kept all the study data obtained from participants anonymous and it did not reflect their identity. The researcher further obtained consent from participants to use their data and to submit it as part of this thesis.

1.9.5 Voluntary Participation and Withdrawal from Research

Participants had the right to refuse to participate in the study and could leave the study at any given time. The researcher did not use any form of coercion in requiring students to assess lecturers' personalities.

1.10 Conclusions, Limitations and Recommendations

Conclusions relating to the current study were formulated from its results, which indicated whether the aims of this study were met. The limitations of the study were identified reflecting, inter alia, the challenges faced when conducting the literature review, data collection and data analysis. Finally, recommendations were formulated to provide answers to the research questions and address the research problems stated for the field of IOP, as well as the human resources department and teaching staff at the participating higher education institution. Suggestions in terms of the conceptual model to inform the recruitment process of higher education teaching staff to enhance teaching quality in the Zimbabwean higher education context, based on the Big Five personality traits, were subsequently made based on the results of the study.

1.11 Chapter Layout

The contents of the chapters are presented as follows:

Chapter one: Scientific orientation to the research. This chapter introduced the study and discussed the background to the research and the problem statement. The aim of this chapter was to introduce the topic and discuss the variables that were investigated, including the research methodology that was applied.

Chapter two: Literature review: Personality and the Big Five personality traits.

Chapter three: Literature review: Students' preferences for their lecturers 'personality traits.

Chapter four: Literature review: Teaching quality in a higher education context.

Chapter five: The methodology, data collection and analysis are presented in this chapter. The measuring instruments are presented and statistical information relating to the data analysis, which is pertinent to the study objective and hypotheses, will be discussed.

Chapter six: Results and findings of the study.

Chapter seven: Conclusions, limitations and recommendations. This final chapter contains an integrated discussion of the results based on the research questions and aims set for the study and concludes the research. Recommendations will be made in terms of the relationship between the personality traits of teaching staff, students' preferences for their lecturers' personality traits and their evaluation of teaching quality.

Chapter seven: Conclusions, limitations and recommendations. This final chapter contains an integrated discussion of the results based on the research questions and aims set for the study and concludes the research. Recommendations will be made in terms of the relationship between the personality traits of teaching staff, students' preferences for their lecturers' personality traits and their evaluation of teaching quality.

Chapter Two: Personality and the Big Five Personality Traits

This chapter focuses on the foundations of the conceptual framework, namely theories of personality and the Big Five personality traits. The chapter conceptualises personality on the basis of the Big Five personality traits, discusses the importance of personality assessment and provides a review of previous studies on the importance of personality traits in the higher education context. This comprehensive review also focuses on the Big Five personality model and personality assessment in educational settings. The chapter concludes by pointing out the essence of personality traits in recruitment process and teaching in a higher education context.

2.1 Conceptual Foundation of Personality

This section presents a definition of personality, major theories of personality and a comprehensive explanation of the Big Five personality traits.

2.1.1 Definition of Personality

Diener and Lucas, (2019) produced both a basic and a more complex definition of personality. Their basic definition describes personality as consistent individual differences in behaviour across a variety of contexts or within one context across a variety of situations. Their more complex definition explains the nature of personality as being that (1) individuals' differences in behaviour should be consistent over time; (2) differences in the same behaviour(s) between individuals should be consistent across different scenarios or contexts; (3) the relationships between behaviours should not vary depending on the situation; and (4) there should be an objective, ideally quantitative, way to measure all behaviours under consideration (Diener & Lucas, 2019).

Schultz and Schultz, (2016 p.4) defined personality as "the impression we make on others—that is, what we appear to be". They observed that personality is the visible aspect of one's character in different situations. Diener and Lucas (2019) further assert that

personality consists of persistent characteristics in a person's behaviour. They suggest that these consistent behavioural features endow individuals with discernible predispositions.

Anglim and Connor (2018) also describe personality as being an individual's specific configuration of behaviours. According to Schultz and Schultz (2016), the term "personality" can be defined by three different situations: (1) related behaviours within a given context; (2) related behaviours in different contexts within the same situation; and (3) related behaviours across contexts and situations. Personality tends to be consistent across time. Research on personality profiles has shown that personality characteristics are mostly stable from childhood to adulthood (Roberts et al. 2017). However, there are certain general characteristics that may change in adolescents and young people during their developmental stages as they begin to strengthen their personality characteristics (Nida & Ali, 2017). Personality tends to become more dominant and stable as an individual grows and develops (Nida & Ali, 2017).

2.1.2 Definition of Personality Traits

Cattell was the first person who referred to personality dimensions/factors as traits. He described traits as mental elements of the personality that define a person as an individual (Schultz & Schultz, 2016). Personality traits are vital in understating personality as they describe individual behaviour patterns that are stable and consistent across time (Roberts et al. 2017). Most importantly, these patterns affect an individual's behaviour in various aspects of their life (Koschmieder et al. 2018) and individual experiences play in vital role in shaping an individual's traits (Schultz & Schultz, 2016).

Research into psychological traits posits that traits are divided into dimensions such as Extraversion, Agreeableness and Conscientiousness. Individuals' behaviour further lies at a certain point on each dimension. Allport (1897-1967) claimed that personality is the combination of mind and body and that it continues changing and growing. He further

explained that there are two types of personality traits, namely individual and common traits (Allport, as cited in Schultz & Schultz, 2016).

2.2 Major Theories in Personality Psychology

A theory is a theoretical pattern that attempts to organise and explain the facts of nature in terms of general principles. A good personality theory integrates known facts within a single domain of human behaviour (McMartin, 2017). Personality theories fulfil a vital role in modern psychology and are based on the essence of human nature. These theories form the foundation for any discipline based on assumptions about human motivation (Hogan & Sherman, 2020). In the history of personality psychology, personality theories have been defined in various ways according to different school of thoughts (Fleeson & Jayawickreme, 2018). Various theories of personality point out that behaviour is shaped by environmental/social (nurture) factors while other theories suggest that it is caused by innate or biological factors (nature) (Cloninger, 2019). Personality theories are significant for various reasons such as an enhanced understanding of life. Competition plays an essential role in life and personality predicts the outcome of both within-group and between-group competition (Hogan & Sherman, 2020).

The field of human personality highlights the variances and similarities in people. These variations can be used to describe and predict an individual's performance and behaviour in various situations. Various personality theories have been established to explain personality traits in both broad and specific terms (McMartin, 2017). These theories include the following:

- Biological theories
- Behavioural, social learning and cognitive theories
- Humanistic theories
- Psychoanalytic theories
- Trait theories

2.2.1 Biological Theories

Biological theories postulate that personality traits determined by genetics, brain structures and neural mechanism. Hans Eysenck's (1916-1997) was the pioneer of the biological based personality theories and supported the role of inheritance in people's development. he presented a descriptive and causal model of human personality based on the three-factor model of personality that includes Extraversion, Neuroticism and Psychoticism. However, he admitted that conditioning plays an important role in determining personality traits (Cloninger, 2019). Although research evidence shows a stronger genetic component for Eysenck's personality model, he did not rule out environmental and situational influences on personality, such as family interactions in childhood (Eysenck, as cited in Schultz & Schultz, 2016).

2.2.2 Behavioural Theories

Behavioural theories suggest that personality traits are formed by observable experiences that individuals gain by interacting with the external environment and personality can change over time (Cloninger, 2019). Behavioural theories as a general description of contingences mainly posit that behaviour can be changed through conditioning. The main proponents of this type of theory were Skinner and Watson. Watson, however, did not deny the importance of internal traits and he asserted that personality traits should be viewed as behaviours (Moore, 2015). Behavioral theories argue that the best way to understand personality is to study observable human behaviour and they give limited or no consideration to unobservable cognitive thoughts and feelings (Cloninger, 2019).

2.2.3 Psychodynamic Theories

Sigmund Freud (as cited in McMartin, 2017) was the father of personality theories Freud's psychoanalytic theories influenced psychodynamic approaches at the end of 19th century. Freud introduced three main universal statements about human nature, including (1) the Oedipus complex, (2) invariant (unchanging) psychosexual stages of development,

and (3) his structural model of the personality as composed of the id, ego and superego (McMartin, 2017). Psychodynamic theories suggest that personality may be divided into three components, namely, the id, the ego and the superego. The id provides the drive for all needs and urges, and strives for immediate gratification, while the superego is a drive built on social morals. The ego is presented as the drive that regulates the needs of the id and the superego (Cloninger, 2019). Since personality changes over time, most psychoanalytic theorists believe that the most basic personality characteristics are established by the age of five or six and that only minor developments or change may occur during adulthood (Beers, 2019).

2.2.4 Humanist Theories

Humanist theories, also known as existential and narrative approaches, suggest that human behaviour is a product of free will and each individual actively builds his or her own personality with free will and voluntary behaviour that is guided by self-actualisation (McMartin, 2017). This approach focuses most strongly on the spiritual dimension of personality as manifested in a person's search for the meaning in his or her life. The principal theorists were Abraham Maslow, Carl Rogers (1902–1987), George Kelly (1905–1967), Victor Frankl (1905–1997) and Dan McAdams (McMartin, 2017). Humanistic theories also regard people as often being engaged in conflict. For these theorists, however, such conflicts involve an internal self that is striving for positive expression and against the constraints of a restrictive external social world. In general, humanistic psychology has a much more optimistic outlook on human nature than the psychoanalytic approach (Beers, 2019).

2.2.5 Trait Theories

Traits are stable dispositions within human beings and may be revealed in a person's consistent behaviour across a variety of different situations. Gordon Allport, Raymond Cattell, Hans Eysenck, Paul Costa and Robert McCrae were the principal theorists of trait

theories (McMartin, 2017). Previously, traits were defined in various ways in the field of personality psychology. However, the most important definitions involve the way people's thoughts, feelings and behaviours are explained and why they think, feel and behave in certain ways (Fleeson & Jayawickreme, 2018).

Trait theories are important in the field of personality psychology as they focus on quantifying the number of personality dimensions. Personologists claim that each individual falls somewhere between low and high on any of the specific dimensions of traits (Diener & Lucas, 2019). These theories propose that personality is shaped by various traits. The most prominent trait theories are Eysenck's three-dimensional theory introduced on 1967 (extraversion, neuroticism and psychoticism) and the Big Five personality trait theory based on the Openness to Experience, Conscientiousness, Extraversion, Agreeableness, Neuroticism traits developed by John, Naumann, and Soto (2008, cited in McMartin, 2017).

The following section provides some personality trait theories.

2.3 Personality Trait Theories

Personality trait theory is guided by three major beliefs. Firstly, everyone has traits. Secondly, the goal of life is to discover one's traits; and thirdly, the goal of personality assessment is to measure traits (Beers, 2019). In contrast to some other theories of personality, such as psychoanalysis or humanistic theories, the trait approach to personality focuses on the differences between individuals. The combination and interaction of various traits form a personality that is unique to each individual, and trait theory therefore focuses on identifying and measuring these individual personality characteristics (Soto & John, 2017).

Many researchers currently support the idea of the existence of the Big Five personality traits (Bastian et al. 2017; Diener & Lucas, 2019; Haung et al. 2019). Some of the main applications of this approach include the work of Gordon Allport (1937), Raymond

Cattell (1943), Raymond Cattel's Sixteen Personality Factor Questionnaire, Hans Eysenck (1947), and their students. Gordon Allport's trait theory, and the neo personality theory, are presented below.

2.3.1 Gordon Allport's Trait Theory

Allport (as cited McMartin, 2017) was a vigorous proponent of personality traits (he was also referred to as a trait "psychologist") and proposed a distinction between nomothetic and idiographic approaches. Allport is regarded as the single most important person in the history of the scientific study of personality. His key publications were on *Psychological interpretation* (1937), *The nature of prejudice* (1954) and *Pattern and growth in personality* (1961). He described personality traits as bipolar (having two extremities), as these traits range from one extreme to the other, and maintained that personality traits can easily be confused with personality types (McMartin, 2017). Allport organised personality types, termed a hierarchy of traits, into three categories, namely cardinal (the trait that dominates and shapes a person's behaviour), central (general characteristics that can influence behaviour but do not determine it) and secondary traits (characteristics that can only be observed in certain circumstances) (Fleeson & Jayawickreme, 2018). Allport's theory rejected psychoanalytic approaches because they were too interpretive, and behavioural theory because it was too superficial in its interpretation as it focused only on observable behaviours. He termed "traits" and divided them into three categories, namely cardinal, central and secondary traits:

Cardinal traits

These traits are most prominent, pervasive and powerful in an individual's behaviour and the individual is typically identified by means of these traits. Cardinal traits normally develop at a later stage in life when an individual established a fully developed personality (Schultz & Schultz, 2016).

Central traits

These are an individual's characteristics that form the basic foundations of his or her personality. Although these are not as dominant as cardinal traits, they are the primary characteristics that are used to describe another person and they are consistent with the personality (Schultz & Schultz, 2016).

Secondary traits

These traits tend to be situational because they are exhibited during certain situations. They feature in response to stimuli, displayed less conspicuously and less consistently than other types of traits (Schultz & Schultz, 2016).

2.3.2 Eysenck's Three Dimensional Model

Eysenck (as cited in Schultz and Schultz, 2016) proposed a biological model of personality and argued that people inherit a specific nervous system which is essential for learning about and adapting to the environment. The Eysenck three-dimensional model consists of what he termed three universal traits of personality, namely, neuroticism/emotional stability, introversion/extroversion and psychoticism (McMartin, 2017).

Neuroticism/emotional stability

The neuroticism trait describes the personality of individuals who are mostly irritable. The trait is also related to moodiness and its opposite is temperateness, where the individual shows a considerable degree of self-restraint and moderation (McLeod, 2017).

Introversion/extroversion

People characterised by introversion direct their attention to their inner experiences. They typically enjoy being alone, and are mostly reserved and quiet. In contrast, people characterised by extroversion need gratification from the outward environment, they are mostly outgoing and like socially inclusive activities (Schultz & Schultz, 2016).

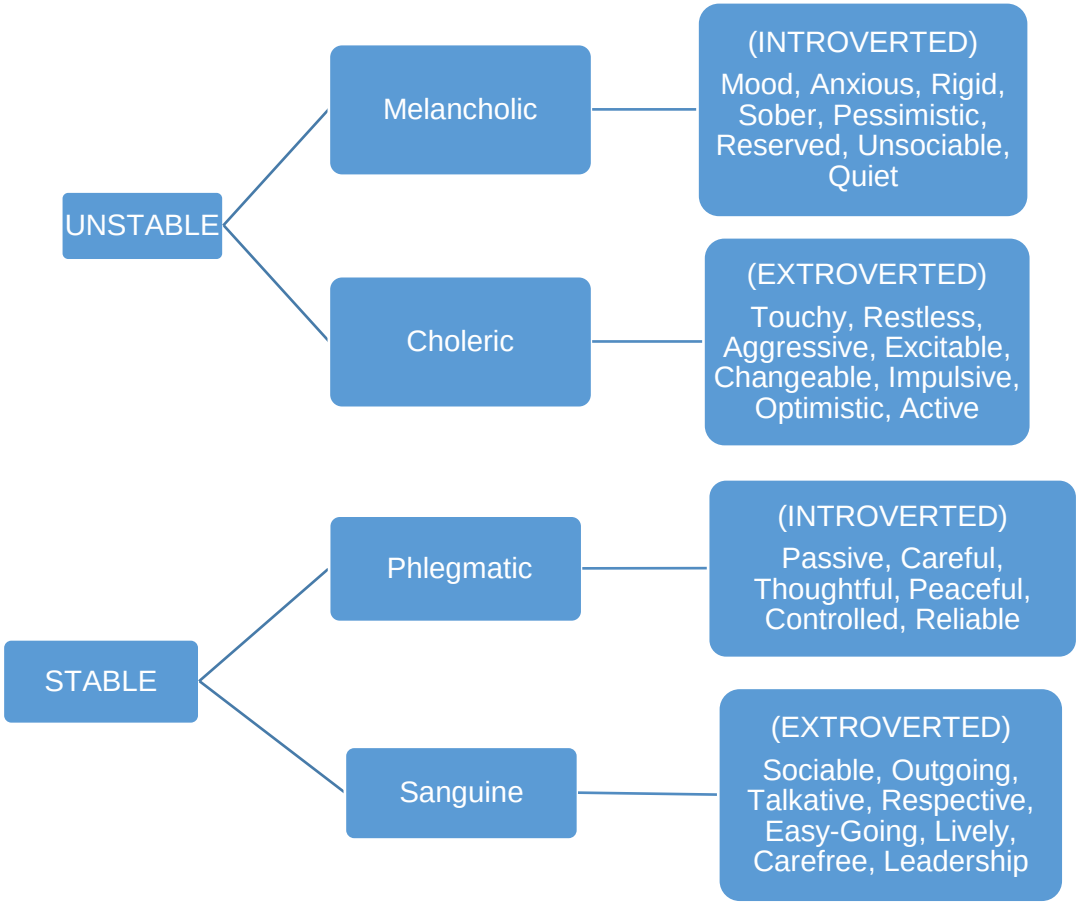
Psychoticism

Psychoticism was added later to accommodate people who suffer from various mental illnesses. This trait explains the type of behaviour where an individual fail to come to terms with reality and may tend to be hostile, manipulative and antisocial (Schultz & Schultz, 2016).

Figure 2.1 illustrates the personality traits in the three-dimensional Neuroticism (Stable vs Unstable) and Introversion Vs Extroversion model.

Figure 2.1:

Eysenck's Three-dimensional Personality Model



Adapted from Schultz & Schultz, 2016

Figure 2.1 shows how the combined traits affect an individual's personality and how various personalities may be shaped. Schultz and Schultz (2016), however, assert that the model focused only on a few traits and was too minimal.

2.3.3 Raymond Cattel's Sixteen Personality Factor Questionnaire

Cattel (as cited in Cloninger, 2019). collected three forms of data:

- L-data that included school grades and absence from work
- Q-data that was obtained by rating individuals' personalities by means of the 16PF Questionnaire
- T-data, which was collected by means of objective tests designed to tap into personality constructs (Cloninger, 2019)

Table 2.1 presents the sixteen factors of Cattel's personality model.

Table 2.1:

The Sixteen Factors of Cattel's Personality Model, including Details of Low and High Scores

Factors	Low score	High score
Intellect	Cold, selfish	Supportive, Comforting
Emotional stability	Instinctive, unstable	Cerebral, analytical
Aggressiveness	Irritable, moody	Level headed, calm
Liveliness	Sober, restrained	Controlling, tough
Assertiveness	Shy, withdrawn	Uninhibited, bold
Sensitivity	Coarse, Laugh	Touchy, soft
Paradonia	Trusting, easy going	Wary, suspicious
Abstains	Practical, regular	Strange, imaginative
Introversion	Open, friendly	Private, quiet
Anxiety	Confident	Fear, self-doubting
Open mindedness	Close mindedness	Curious
Independence	Outgoing, social	Loner, crave solitude
Perfectionism	Disorganised	Orderly, thorough
Tension	Relaxed, cool	Stressed, unsatisfied

Source: Cloninger, 2019

It is evident from Table 2.1 that Cattell regarded these sixteen factors regarding personality traits as more important in describing personality than surface traits. Cattell (as cited in Cloninger, 2019) produced a personality test similar to the Eysenck Personality Inventory (EPI) that measured each of the sixteen traits. The 16 Personality Factors Test (16PF) consists of 160 items, with ten items measuring each personality factor (Cloninger, 2019).

Cattel (as cited in Schultz & Schultz, 2016) showed great interest of inheritance in developing personality traits and accepted the nature and nurture both. He submitted statistical procedure called factor analysis, and created the 16-trait personality model by means of factor analysis and identifying related traits. Cattel divided the 16 traits into surface and source traits and noted that source traits were more important in describing personality than surface traits. In addition, corresponding to Eysenck, Cattel (as cited in Schultz & Schultz, 2016) developed the 16 Personality Factors Test to rate personality, consisting of 160 items which rated each of the 16 traits.

2.3.4 The Meyer-Briggs Scale

The Myers-Briggs Scale was developed Myers and Briggs, based on the work of Carl Jung, who categorised people according to four dichotomous constructs: Sensation, Intuition, Feeling and Thinking (Schultz & Schultz, 2016). The Myers-Briggs Scale suggests that there are sixteen different personality types, with letters representing each type, and that S, I, F, T, are the four dominant preference areas in the individual personality. Despite its considerable contribution to understanding personality the scale has been criticised. Most criticisms of the scale relate to the dichotomous nature of the instrument which shows its forced-choice nature and does not allow respondents to select a median or neutral response. These observations lead to questions regarding the validity and reliability of the scale (Randall et al. 2017).

2.4 Advantages of Trait Theories

One of the biggest strength of trait theory is its objectivity as trait theories are not influenced by personal experiences and concerns classification dimension of individual differences (Hogan & Sherman, 2020). Compared to other theories, trait theory makes three major expectations that all individuals have traits, goal of life to discover and traits can be only discovered by personality assessments (Hogan & Sherman, 2020).

By thoroughly understanding personality traits, it is possible to describe, explain and predict success in various life situations in social relationships and professional endeavours. By so doing it is possible to guide individuals towards a better future (Salgado & Fruyt, 2017).

2.5 Limitations of Trait Theories

Trait theorists focus on understanding behavioural/personality variation across people, while other theories focus on understanding the development of personality traits. The application of trait theories further appears to be limited because they only explain personality and do not provide a means to change human behaviour (Salgado & Fruyt, 2017). Trait theories do not allow the prediction of future personality change because of a lack of information on the development of traits. Accordingly, the application of trait theories appears to be problematic in most situations since they do not provide information on positive and negative traits and how negative traits can be ameliorated (McLeod, 2017).

Previous literature has shown that personality trait measures are widely used in the social sciences across the world and that most studies have been conducted in Western cultures for instance, in Western, educated, industrialised, rich and democratic (WEIRD) populations (Laajaj et al. 2019). Laajaj et al. (2019) analysed 94 751 respondents' data (collected during face-to-face surveys) in developing countries and found that personality trait models had low validity in this context. Furthermore, Laajaj et al. (2019) found that low education levels can mis-represent personality measures when assessed in large-scale surveys. Existing literature support the universality of the Big Five across cultures (Hogan & Sherman, 2020); however, these studies have mostly focused on highly educated populations (often college students) and WEIRD population samples. Despite the fact that the Big Five model is universal, it is difficult to predict its validity when administered at a large scale and in developing countries. There is a large body of evidence on the significance of cognitive ability for predicting job performance (Laajaj et al. 2019). However,

in the current study the researcher tried to provide evidence on the significance of Big Five personality traits for predicting job performance.

Finally, trait theories are considered poor predictors of behaviour since they describe persons' behaviour as a trait and trait as a person behaviour predictor. A person may score highly on a particular trait in a personality test but react differently in various situations. Personality trait theories therefore tend not to be reliable across time (Hogan & Sherman, 2020).

2.6 The Big Five Personality Approach

As explained earlier, proponents and supporters of the Big Five model, also known as the Five Factor Model, suggest that human feelings, thoughts and behaviours can be summarised and explained by five traits, namely Extraversion, Neuroticism, Agreeableness, Openness to Experience and Conscientiousness (Lucas & Baird, 2014). The Big Five personality trait model has been used in various settings such as academic institutions as a psychometric tool to assess predictive validity (Anglim & Connor, 2018). The model has proven reliability across various settings in predicting job performance and in employee recruitment process (Nida & Ali, 2017).

Table 2.2 provides a description of the Big Five personality traits.

Table 2.2:
Descriptions of the Big Five Personality Traits

The Big Five Personality Traits	Definition
Openness to experience	The tendency to appreciate new art, ideas, values, and behaviours
Conscientiousness	The tendency to be careful, on time for appointments, to follow rules and to be hard working
Extraversion	The tendency to be talkative and sociable and to enjoy others; the tendency to have a dominant style
Agreeableness	The tendency to agree and go along with others rather than to assert one's own opinions and choices
Neuroticism	The tendency to frequently experience negative emotions such as anger, worry and sadness, as well as being interpersonally sensitive

Source: from https://doi.socialsci.libretexts.org/@go/page/75838

Table 2.2 illustrates that there are sub-characteristics of the Big Five personality traits which can define them more clearly, and in more detail.

2.6.1 Openness to Experience

The trait of Openness to Experience is characterised as being imaginative and having insight. Most people who relate to this trait tend to be adventurous and creative and have various interests (Diener & Lucas, 2019). A low score on Openness to Experience typically relates to difficulty in abstract thinking. Further characteristics of people who have low and high scores on this trait are presented below:

High score

- Creative
- Open to trying new things
- Focused on tackling new challenges
- Find pleasure in abstract thinking

Low score

- Not comfortable with change
- Dislike new activities
- Not very imaginative
- Do not enjoy abstract and theoretical concepts

2.6.2 Conscientiousness

People who are characterised by the Conscientiousness trait show high levels of orderliness, dutifulness, thoughtfulness and discipline (versus being lazy, disorganised and haphazard) (Fleming, 2020). The characteristics of Conscientiousness are presented on a scale of high to low below:

High score

- Invest more time in preparation of activities
- Organise and implement tasks according to importance
- Pay attention to details
- Enjoy following order and schedule their tasks

Low score

- Take less time in planning
- Untidy and carefree
- All activities are dominated by procrastination
- Do not complete most tasks

2.6.3 Extraversion

Extraversion explains the personality type characterised by sociability, behavioural and emotional expressiveness, being outgoing and a tendency to find excitement in social situations (Roberts et al. 2017).

Some of the characteristics of people with a low versus high score on Extraversion are presented below:

High score

- Enjoys the attention of others
- Very sociable and starts conversations
- Excited to meet new people
- Is characterised by having many friends and acquaintances
- Speaks easily without assessing the impact of their words
- Friendly

Low score

- Prefer and enjoy time alone
- Easily exhausted from doing social activities
- Experience difficulties in starting conversations
- Do not enjoy small talk
- Carefully assess what they say before they say it
- Dislikes public attention

2.6.4 Neuroticism

Neuroticism is characterised by moodiness, irritability, mood swings, emotional instability and anxiety (Salgado & Fruyt, 2017). People who have low scores and high scores on Neuroticism show some of the following characteristics:

High score

- Usually stressed
- Worry frequently about different things
- Irritable
- Dramatic
- Always anxious

Low score

- Great emotional stability
- Do not worry too much
- Mostly execute tasks in a relaxed manner

2.6.5 Agreeableness

This personality trait is characterised by trustfulness, kindness, being affectionate, as well as pro-social behaviour (Salgado & Fruyt, 2017). People with low scores or high scores on Agreeableness tend to show the following characteristics:

High score

- A great interest in others
- Caring
- Empathetic
- Enjoy contributing to the happiness of others

Low score

- Little interest in others
- Unsympathetic
- Insult others
- Self-centred

Agreeableness is a trait characterised mainly by supportiveness and a degree of gentleness. This trait is especially useful in academic settings as it is an essential part of the learning process (Salgado & Fruyt, 2017). Lecturers in higher education institutions have to interact with students, other lecturers and administrative staff who have different personalities. Consequently, the characteristic of Agreeableness is essential in daily communication, interactions and the execution of tasks.

Table 2.3 presents some of the facets of the Big Five personality traits.

Table 2.3:

Facets of the Big Five Personality Traits

Traits	Facets of traits
Openness	Fantasy prone
	Open to emotion
	Adventurous
	Unusual ideas
	Imaginative
	Curious
Conscientiousness	Self-discipline
	Act dutifully
	Strive for achievement
	Control
	Regulate and direct their impulses
Extraversion	Enthusiastic
	Action-oriented
	Possess high group visibility
	Like to talk
	Assert themselves
Agreeableness	Kind
	Generous
	Trusting
	Straightforward
	Modest
	An optimistic view
Neuroticism	Anger
	Anxiety
	Depression
	Emotionally unstable
	Vulnerable

Source: from https://doi.socialsci.libretexts.org/@go/page/75838

2.7 Current Debates around Personality Assessment

In view of the fact that personality may be influenced by various factors, personality psychologists have postulated various approaches to guide an understanding of this field. These approaches include the person–situation debate and the HEXACO model (Fleming, 2020; McMartin, 2017).

2.7.1 The Person-Situation Debate

The person–situation debate is controversial and centres on whether the situation or an individual's choice most strongly influences human behaviour. Walter Mischel (1968) argued about the ability of personality research to accurately predict behaviour based on personality assessment data alone. He believed that behaviour is situation-specific, for instance, how a person behaves in certain situations is a situation-specific and difficult to predict with personality assessments (Fleming, 2020).

Mischel (as cited in Fleming, 2020) believed that the situation has the greatest impact on behaviour, resulting in people reacting as the situation dictates. The same person can be both violent and sympathetic, depending on circumstances and measurement, knowledge of the situation is essential in predicting behaviour instead of only considering personality traits. Situationist suggest that it is highly advisable to capture broad human traits in different situations over time (Fleming, 2020).

2.7.2 The HEXACO Model of Traits

The HEXACO model, a revision of the Big Five Personality model, includes all aspects of the Big Five personality trait model, but adds a sixth trait, Honesty-Humility (McMartin, 2017). The model acknowledges that Honesty-Humility is an important aspect of human behaviour and that people with a high score in Honesty-Humility tend to be modest, fair and sincere. Those with a low score on this trait tend to be narcissistic, manipulative and self-centred. It is evident from the above that personality traits play a significant role in explaining and describing personality. However, there still is much debate on their exact number, composition and order of importance. Further research is needed to confirm the existence of sixth trait, namely Honesty-Humility (McMartin, 2017).

2.8 Research on Personality Traits and Individual Differences

Previous studies have revealed that personality traits play an essential role in exploring behaviour in various settings (Nida & Ali, 2017; Rohani, 2017; Scheepers et al. 2014; Tan et al. 2018). Scheepers et al. (2014) demonstrated that traits such as Conscientiousness, Extraversion and Agreeableness were positively associated with supervisors' engagement in their teachers' work, which was subsequently positively associated with teaching performance. Conscientiousness has strong predictive value as a criterion measurement in most supervisory positions such as supervisory rating and teaching performance. Individuals with high levels of Conscientiousness are competent in achieving complex goals (Soto & John, 2017).

In investigating the development of the Big Five personality traits, a study found that some personality traits could be inherited. Marsh et al. (2013) studied 123 identical twins and 127 fraternal twins and found the inheritability of the Big Five traits to be 53% for Extraversion, 41% for Neuroticism, 41% for Agreeableness, 61% for Openness to Experience and 44% for Conscientiousness. They also carried out longitudinal studies on the development of personality traits and found that traits can change, for instance people's scores on Extraversion, Neuroticism and Openness to Experience decreased over time. This mainly resulted from maturation and various social developmental factors. Traits such as Agreeableness and Conscientiousness tended to increase as people aged. Generally, they also noted that personality became more stable as people aged (Marsh et al. 2013).

Researchers such as Smillie et al. (2015) and Wang (2016) found significant differences in personality traits between males and females. They noted that males tend to be more emotionally stable than their female counterparts. These findings correspond to those of Rahmani et al. (2016), who found that females scored higher on Extroversion, Agreeableness and Conscientiousness than males, but females showed lower levels of emotional stability and the Extraversion personality trait. Weisberg et al. (2011) further

studied the facets of each of the Big Five personality traits. They found gender differences on the Big Five personality traits main level facets and sublevel facets/sub dimensions. They found that females had higher scores on the Big Five personality traits of Extraversion, Agreeableness and Neuroticism than males.

A study involving prospective teachers examined gender differences in terms of the Extraversion personality trait. Extroversion was found to be higher in male than female prospective teachers (Arif et al. 2012). Arif et al.'s (2012) study identified a significant correlation between personality traits and gender. They further noted that females possessed more suitable teaching qualities than males, as they scored higher in Agreeableness and Conscientiousness. In addition, Rahmani and Lavasani (2012) investigated personality trait differences in sensation seeking across gender in 177 undergraduate students at Tehran University. Female students had higher scores on Openness to Experience and Agreeableness than male students. Rahmani and Lavasani (2012), however, found that male students significantly differed from female students in terms of sensation-seeking behaviour.

In summary, there appear to be significant gender differences in personality traits. Females tend to show higher scores on Agreeableness and Conscientiousness, while males tend to show lower scores on Neuroticism. In terms of Openness to Experience, the results tend to be inconsistent, and further research on this facet of personality appears warranted.

2.9 Research on the Big Five Personality Traits Model in a Higher Education

Students' personalities appear to substantially influence how they rate lecturers' teaching performance. Furnham et al. (2011) carried out a study among 400 students from the US and the UK, investigating the influence of each trait on the learning process. They found that Neuroticism was associated with student's surface learning and Extraversion with deep learning. Openness to Experience showed a non-significant correlation with surface learning but significantly correlated with deep-learning styles, while Conscientiousness also

showed a strong correlation with deep learning. Furthermore, Othman's (2009) study on effective teaching in Malaysia examined how the Big Five personality traits influenced teaching effectiveness among 391 lecturers. Othman (2009) suggests that there are additional factors beyond personality traits that strongly influence teaching effectiveness

Patrick (2011) examined students' personality evaluations of their lecturers, and found that students' assessments of personality traits seemed to affect how they rated their lecturers. In line with other studies, it showed that students greatly favoured the traits of Extraversion, Openness to Experience, Agreeableness and Conscientiousness in their lecturers. The courses and teaching effectiveness of most lecturers who exhibited these traits were rated higher than those lecturers who showed high scores on Neuroticism

Research on personality traits in a teaching context showed that it is essential to understand teaching staff's personality traits as they form a major component of the teaching process and its quality. In addition, applying lecturers' personality traits effectively is essential in the teaching staff recruitment process in a higher education context. Students tend to learn from their lecturers' personality traits, although this may not be in the formal sense, as they also have a big impact on students' personality traits (Arif et al. 2012). Arif et al. (2012) suggest that Openness to Experience tends to be more closely associated with teaching quality than other personality traits and Openness to Experience may be an essential tool in teaching compared to the other four traits.

It however appears that the implications of personality traits for lecturers' teaching quality are highly debatable. In a study among medical students at eighteen medical centres in the Netherlands, Scheepers et al. (2014) found that attending physicians who scored high on Extraversion were consistently evaluated as better teaching staff than those who displayed high levels of Openness to Experience. The study featured a survey where residents evaluated attending physicians' overall teaching performance, as well as specific domains such as learning climate, professional attitude, communication, evaluation and

feedback, by means of the validated 21-item System for Evaluation of Teaching Qualities (SETQ). Attending physicians evaluated their own personality traits on a five-point scale by means of the validated ten-item BFI, yielding indications on the Five Factor model: Extraversion, Conscientiousness, Neuroticism, Agreeableness and Openness to Experience. Extraversion related positively to overall teaching quality and Openness to Experience was negatively associated with physicians' scores. Scheepers et al. (2014) found that attending physicians who scored high on Extraversion were favourably evaluated on overall and domain-specific teaching performance, highlighting the importance of personality traits in teaching quality among attending physicians.

Tamban and Banasihan., (2017) also examined how teaching staff's Big Five personality traits influence teaching performance at Laguna State Polytechnic University-Los Banos Campus. They investigated the relationship between the Big Five personality traits and teaching performance of a sample of 20 faculty members who taught first- semester students during 2015-2016 at the College of Teacher Education. A quantitative research method was applied. Their findings suggested that teaching staff performance was average for the Openness to Experience, Extraversion, Conscientiousness and Agreeableness except from Neuroticism personality trait which shows lower description from the Big Five personality traits. The study further revealed that high or low scores on the Big Five personality traits were not significantly related to teaching performance. Tamban and Banasihan, (2017) recommended further research because of the small sample size and they emphasised the need to include student evaluations of teaching staff's performance in future research because teaching performance has a direct impact on students' academic performance.

Nida and Ali (2017) highlight the role of personality traits in higher education and academic motivation in Pakistan. They applied convenience sampling to obtain a sample of 350 participants and collected the data by means of a survey. Students' Big Five personality traits were measured by means of the NEO-FFI and their motivation by means of the

Learning and Study Strategy Learning Inventory (LASSI) scale. All the personality traits were found to have a significant, positive impact on students' academic motivation, except for Agreeableness did not have a significant effect on students' academic motivation. Nida and Ali's (2017) study highlights the role of personality traits in students' academic motivation and may also help educational institutions and teachers to develop suitable strategies for a higher education context.

Tamban and Banasihan (2017) conducted a longitudinal study among university teaching staff across 20 faculties at Laguna State Polytechnic University. They found minimal correlations between teaching performance and four of the Big Five personality traits (Agreeableness, Conscientiousness, Openness to Experience and Extraversion), while Neuroticism had the lowest correlation. They concluded that personality traits did not have a significant impact on lecturers' teaching performance, but recommended further research in this field as these factors may affect teaching performance as well as students' academic performance.

According to Rahmani et al. (2016), psychologists use the BPI, a measure used in the current research, in recruitment and candidate assessment to identify applicants who best fit vacant positions in various organisations. The inventory can be used for self-assessment and to assess others. Rahmani et al. (2016) found that lecturers at the University of Florida who were satisfied with their jobs and persisted in teaching shared similar personality traits. Lecturers who had more experience in teaching scored higher on Conscientiousness and Agreeableness, compared to those with less experience. He further found that lecturers who scored high on Conscientiousness and Agreeableness tended not to be satisfied with their jobs.

Most personality theories accept that people are unique. The effect of personality differences on teaching quality has received considerable research and the construct has been investigated in depth. However, limited research has explored how teaching staff's

personality traits influence teaching quality in a higher education context. The current study focused on the importance of the Big Five personality traits among teaching staff and their impact on teaching quality in a higher education context. Chamorro-Premuzic et al. (2008) assert that the Big Five personality traits are a vital tool in the recruitment process in this context. It therefore appears that there is significant scope for determining the impact of the Big Five personality traits on teaching quality in higher education settings.

2.10 Personality Assessment in the Recruitment Process

A large body of research suggests that personality traits assessment is an essential tool to predict and explain employee performance. This has been found in various contexts, especially academic performance (Buckler, 2015; Othman, 2009; Furnham et al. 2011; Kim et al. 2019; Lungu, 2016; Nida & Ali, 2017; Patrick, 2011; Rohani, 2017; Scheepers et al. 2014; Srivastava, 2018; Tamban & Banasihan, 2017; Tan et al. 2018)

Personality has also long been identified as a construct that influences individual choice in career decisions (Haung et al. 2019). Various studies have shown that personality traits affect and predict the way in which individuals execute their roles in different work settings (Holmes et al. 2018). Most researchers agree that personality traits are stable and have a long-term impact on people's behaviour, therefore they can predict how a person will perform in the workplace (Salgado & Fruyt, 2017).

Although employees need the basic skills required to do their jobs, skills alone are not sufficient for them to do their jobs properly. They also need the personality traits required to transform abilities into achievements (Bui, 2017). Personality assessment has been used in many work settings to, for instance, predict employees' performance in specific roles, establish good work relationships and create effective support teams (Espinola & Francia, 2015).

Psychometric tests play an essential role during the employee recruitment process because they guard against malpractices such as nepotism and bribery that may taint the recruitment and selection process (Salgado & Fruyt, 2017). Personality assessment tools are used in the workplace but they do not all measure the same construct. The Myers-Briggs Type Indicator is well-established, and used extensively in the USA. This measure mainly reflects employee development, and several studies show that it does not predict future performance. Moreover, it appears not to suitably guard against fake responses from employees (Soto & John, 2017).

In essence, the Big Five personality traits significantly affect job performance (Soto & John, 2017). The Big Five personality trait theory is one of the most applied theories and it has proven its reliability in research owing to its encapsulation of personality traits into the five domains (Diener & Lucas, 2019). The theory has also been proven to be reliable across various cultures. Teodorescu et al. (2017) examined the personality traits of employees from 50 different cultures; their findings suggested that the Big Five personality traits were accepted in the 50 different cultures because they could describe and explain employees' personality across these cultural contexts.

Hughes and Batley (2017) posits that information about employee personality traits enables employers to identify applicants who best fit a vacant position. The Big Five model of personality traits has also been used for the recruitment and retention of lecturers in many developed countries (Abdesalam, 2013; Tan et al. 2018). Some researchers have observed that more experienced teachers tend to be high in Conscientiousness and Agreeableness (Bastian et al. 2017; Kim et al. 2019; Russell, 2017), while other researchers have found that less experienced lecturers have higher scores on the Big Five personality traits than those lecturers who are more experienced (Kell, 2019; Rohani, 2017). In some studies, it has been established that teaching staff who score higher in areas of Neuroticism and lower on Conscientiousness and Extraversion would be dissatisfied with their jobs and will show low performance in their teaching (Lungu, 2016).

Considering that personality trait-based psychometric measures have proven to be effective in employee recruitment and work performance in various countries, it is envisaged that this study will contribute to the body of knowledge by focusing on teaching staff recruitment in a Zimbabwean higher education context where no recruitment model has yet been developed.

2.11 Possible Application of the Big Five Personality Traits in a Zimbabwean Higher Education Context

Most organisations focus on suitable employee skills, but personality plays an essential role in how the skills will be used. Anglim and Connor, (2018) posits that the impact of personality in an organisational context is equivalent to cognitive and academic skills. It may accordingly be of interest to determine the most preferred and effective traits among the Big Five personality traits in a Zimbabwean higher education context and to incorporate these in the recruitment process of higher education teaching staff. If suitable psychometric tests are used in this context, it could ensure that malpractices such as bribery and nepotism do not feature in employee selection, but rather expert skills and suitable qualifications. Using suitable psychometric tests in Zimbabwean higher education institutions during employee selection, particularly for teaching staff, should contribute to improving teaching quality in this context.

The current study aimed to add to the existing body of knowledge by investing how personality can best be used in an academic setting both in determining teaching quality and in recruiting suitable teaching staff, based on students' preferences according to the Big Five personality traits. In addition, it could serve as a step forward in changing the approach that the Zimbabwean higher education system uses in the recruitment process of teaching staff. Therefore, the current study sought to develop a conceptual research model to inform the recruitment of higher education teaching staff based on the Big Five personality traits that may support teaching quality in a Zimbabwean higher education context.

2.12 Chapter Summary

Personality traits affect various aspects of human behaviour across a wide range of situations and many theoretical and applied disciplines acknowledge the essential role they fulfil. In this chapter, an overview of the theories of personality and a review of the Big Five personality traits were presented. It was evident that limited research has investigated the impact of teaching staff's personality traits on teaching quality in a higher education context. The current study sought to explore these matters in a Zimbabwean higher education context where no published research on teaching staff's Big Five personality traits and their relation to teaching quality could be identified.

Chapter three focuses on students' preferences in regard to their lecturers' personality traits in terms of the Big Five traits.

Chapter Three: Students' Preferences in Terms of Their Lecturers' Big Five Personality Traits

This chapter presents the conceptual foundations for students' preferences in terms of their lecturers' Big Five personality traits. It presents a comprehensive review of the literature on students' preferences for their lecturers' personality traits in a higher education context. The chapter concludes with a discussion of these preferences based on the Big Five personality traits in this context.

3.1 Student Preferences

Increasing attention is being given to the quality of teaching in higher education across the world (Gore & Bowe, 2017). Teaching staff play a major role in students' learning and therefore their personality traits play an important role in teaching quality, especially in higher education settings. It is important to know students' preferences for their lecturers' personality traits since students often look up to their lecturers as role models and their education is an investment in a country's future (Srivastava, 2018).

Teaching, as an essential human activity, is influenced by teaching staff's personal qualities, including their personality traits and teaching styles (Eryilmaz, 2014). Lecturers typically have their own teaching styles that they are believe are appropriate, depending on particular needs and situations. At contact institutions, teaching staff interact with students from diverse backgrounds and cultures with different learning styles. These learning styles may determine students' preferences in regard to their lecturers.

3.1.1 Students' Preferences for their Lecturers' Personalities in relation to the Big Five Model

In line with their previous studies, Furnham and Chamorro-Premuzic (2005) expected that university students would prefer lecturers with high levels of Openness to Experience, Conscientiousness, Extraversion, and Agreeableness from the Big Five personality traits. They measured the psychometric interface between the Big Five personality traits and

intelligence scores. The findings showed students with high scores for themselves on Openness to Experience, Agreeableness preferred lecturers with same personality traits. There was evidence of a similarity effect for both Agreeableness and Openness to Experience. In addition, less intelligent students were more likely to prefer lecturers who had high score on the Agreeableness personality trait, compared to their intelligent counterparts.

As far as could be determined, the profile similarity between students' preferences for their ideal lecturer personality has not yet been determined in a Zimbabwean higher education setting. The present study set out to examine students' preferences for lecturers' personality based on their Big Five personality traits.

The next section elaborates on the Big Five personality traits and students' preferences.

3.1.2 Domains of the Big Five Personality Traits and Students' Preferences in Regards their Lecturers

The following sections will elaborate in more detail on each of the Big Five personality traits in a higher education context

3.1.2.1 Openness vs. Closedness to Experience. Openness to Experience is a multifaceted construct with six distinct facets, namely aesthetics, fantasy, feelings, actions, ideas and values (Kell, 2019). Lecturers that are characterised by Openness to Experience tend to be more receptive to unique perspectives. Aesthetics refers to the tendency to be sensitive to and appreciative of art and beauty (Schultz & Schultz, 2016). Students may prefer lecturers' personality traits based on one of the Big Five, for instance Openness to Experience (Kell, 2019). Lecturers who show high levels of Openness to Experience tend to be more receptive to emotion in comparison to those who show low levels of the trait. The action facet of Openness to Experience refers to the degree to which people are behaviourally flexible and the extent to which they are willing to try new things. People who show high levels of

Openness to Experience are more intellectually curious than those with lower levels. Further studies suggest that lecturers with high levels of Openness to Experience tend to be more liberal in their values; they tend to question others' political and social values more than those who show low levels on Openness to Experience (Arif et al. 2012).

In contrast, Onraet et al. (2011) describe people who have low scores on Openness to Experience as people who are quite realistic and down to earth. They do not easily become immersed in art and beauty and tend to be emotionally shallow. People who are closed to experience normally do things in ways they are used to doing them and are set in their ways. They further tend not be curious and they do not challenge traditional values.

Judge and Zapata (2015) found that Openness to Experience was strongly correlated with creative and strong innovative jobs. They investigated the degree to which the five-factor model of personality traits is related to job performance in relative demands. They explained that it is important to include situational or contextual factors to measure job performance since personality traits alone are not good predictors of job performance. They found the Big Five personality traits are more predictive of job performance in weak situations and Extraversion is strongly linked to jobs requiring social skills.

Many research studies have identified associations between intellect and Openness to Experience. People who are characterised by high levels of Openness to Experience tend to be more perceptive, intelligent, rational and analytical and have a stronger tendency to embrace and understand unfamiliar phenomena than those who have low levels of Openness to Experience (Lungu, 2016). A study in Pakistan (Peshawar) by Babar and Tahir (2020) was conducted to measure the effects of the Big Five personality traits on employees' job performance in the context of teaching staff in private universities. A quantitative approach was used to collect data. The findings suggested that aa change of up to 81% in the job performance of employees is due to the Big Five personality traits and Openness to Experience has major effects on employees' job performance. This study concluded that Big

Five personality traits are an important predictor of job performance among teaching staff and it was recommended that it may be used for teaching staff to improve the recruitment process in higher education institutions. However, this study used a sample from only private universities only.

It therefore appears that students' preferences may be influenced by the Openness or closeness to Experience of their lecturers. Students may strongly prefer lecturers who get high scores on Openness to Experience, compared to lecturers who have low scores on this trait (Babar & Tahir, 2020).

3.1.2.2 Extraversion vs. Introversion. Students may also prefer lecturers based on the personality trait of Extraversion compared to Introversion. People who score higher on Extraversion tend to be assertive, talkative, energetic, outgoing, cheerful, high spirited, ambitious, positive, optimistic, upbeat, gregarious and active (Diener & Lucas, 2019; Salgado, 2017). Introverts on the other hand, tend to be quiet and independent. Extraverts usually seek social interaction and excitement; thus they have a propensity to spend most of their time among others. They maintain more social contact, spending most of their time socialising and engaging in social activities, while introverts show opposite types of behaviour (Srivastava, 2018).

Many positive outcomes are associated with Extraversion. Nida and Ali (2017), for instance, observed that extraverts tend to perform more highly compared to people with other types of personality traits in any job that requires a higher degree of interpersonal skill such as lecturing/teaching. Kim et al. (2019) positively related Extraversion to extrinsic career success that is operationalised by occupational status and income. All in all, people characterised by the Extraversion personality trait tend to be more successful in their jobs and are more likely to get higher positions and receive more income compared to introverts. According to Lucas and Baird (2014), Extraversion is positively related to positive effects across various cultures and is significantly associated with aggregated momentarily positive

affect. Extraverts are happier in general, as well as over short periods of time, compared to introverts. Tan et al. (2018) observed that if teaching staff are acting the part, they are extroverted and have the high levels of humour students may like that, but this is not the prime reason on which they case their choice of lecturer. Extraversion has also been associated with two elements dominance or agency and affiliation sociability. Dominance refers to extraverts' tendency to be in control, authoritarian, headstrong and combative. This dominance aspect of Extraversion results in extraverts striving to influence others and to maintain their opinions. Affiliation refers to extraverts' propensity to participate in social activities and social interaction and to be friendly and affectionate. Some scholars have argued that extraverts are mainly characterised by dominance, while others have considered affiliation to be the core component of Extraversion (Tan et al. 2018).

Similar to other personality traits, Extraversion can be investigated on a genetic level. Tamban and Banasihan (2017) provided evidence that Extraversion is heritable. However, they maintain that the degree of Extraversion that heredity accounts for tends to decrease when people get older. When people grow older, environmental factors may feature more strongly in determining a person's level of Extraversion compared to genetic factors. In his study, Schultz and Schultz (2016) found that lecturers who scored highly on Extraversion were described as those that get energy from interacting with students, while introverts normally get energy from themselves (Schultz & Schultz, 2016). Extravert lecturers tend to be outgoing, assertive, friendly with students and enjoy their teaching roles, while Introverted lecturers tend to be reserved, formal, serious and quiet, prefer working alone and avoid teaching roles (Tamban & Banasihan, 2017). A study by Barrick et al. (2001) did not find a significant relationship between Extroversion and overall job performance. On the basis of what has been known in the literature, it is nonetheless reasonable to believe that the Extroversion personality trait predict high performance in most professions.

It is expected that students will prefer lecturers characterised by Extraversion in the current study. Several studies have found that students tend to prefer lecturers who show a high level of Extraversion, suggesting that they prefer lecturers who are talkative, outgoing, energetic, cheerful, high spirited, ambitious, positive, optimistic, upbeat, gregarious and active (Tamban & Banasihan, 2017).

3.1.2.3 Agreeableness vs. Antagonism. Some students may prefer lecturers who score highly on the Agreeableness Big Five personality trait rather than antagonistic lecturers. Generally, the Agreeableness personality trait describes people who are kind, altruistic, trusting, courteous, helpful, good natured, honest, soft-hearted, sympathetic to others and tolerant. Antagonistic people, on the other hand, tend to be sceptical, competitive, uncaring, critical and hostile (Tan et al. 2018). Yao and Moskowitz, (2015) describe Agreeableness as a social trait. The ability to trust others as well as to establish and maintain relationships are the hallmarks of people who score high on Agreeableness. High Agreeableness persons' have noticeable greater interpersonal communication when in a high-status role compare to in a low-status role and may influence the effortful control process (Yao, & Moskowitz, 2015).

Some studies, however, have suggested a negative association between Agreeableness and performance in certain jobs. For instance, Le et al. (2011) mentions that lecturers with a high level of Agreeableness may not perform well because the affiliation aspect of Agreeableness may make it difficult for those characterised by Agreeableness to make difficult decisions that may affect students. Rohani (2017) also found evidence of a negative relationship between the Agreeableness personality trait in teaching staff and teaching quality. Teaching staff with high levels of Agreeableness tend to be friendly, cooperative and compassionate. Students may also describe these lecturers as warm, eager to please and good-natured. Lecturers who are low on this characteristic are more distant, hard-headed, sceptical, competitive and proud (Rohani, 2017). Several studies have indicated that students are more drawn to lecturers who are kind, altruistic, trusting, courteous, helpful, good natured, honest, soft-hearted, sympathetic to others and tolerant.

Some researchers, however, have suggested that the Agreeableness personality trait in lecturers may be problematic because they are too soft in dealing with their students (Abdesalam, 2013).

3.1.2.4 Neuroticism vs. Emotional Stability. Students may prefer lecturers with emotional stability, compared to lecturers who show high levels of Neuroticism (Abdesalam, 2013). Neuroticism is described as people's susceptibility to certain negative emotions. People higher in Neuroticism are prone to guilt, anger, being paranoid, self-consciousness, mood swings, disgust, depression, fear, anxiety and embarrassment. They are more likely to lose control and do things on impulse (Cloninger, 2019). In addition, such people are more self-conscious than those people who are low on the Neuroticism personality trait and they are more likely to find a situation stressful and threatening (Cloninger, 2019). People with higher levels of Neuroticism tend to avoid situations that require a high degree of control, social skills, long-term commitment and trust. In essence, people with higher Neuroticism or a lower level of emotional stability can react to any stimuli in an intense and repelling manner. They tend to have negative perceptions of daily events (Elmes, 2017). By contrast, people with high levels of emotional stability tend to be confident, secure, relaxed and adjusted, and are more capable of dealing with stressful situations (Tan et al. 2018).

It has been found that emotional stability predicts many human and organisational outcomes, with job performance and job satisfaction being two of the most established outcomes of emotional stability. Judge et al. (2013), for instance, provided evidence of a significant positive relationship between the trait of emotional stability and job performance. Many empirical studies have shown that employees with high levels of emotional stability were more satisfied with their jobs. In addition, Judge et al.'s (2013) meta-analysis revealed that Neuroticism was not a significant predicator of job satisfaction and performance.

The meta-analysis studies conducted by Scheepers et al. (2014) and Kim and MacCann (2016). indicated that emotional stability significantly predicts teaching

performance or quality. They further found that the relationship between emotional stability and teaching quality is moderated by gender. Low levels of emotional stability in females may therefore result in lower levels of teaching quality compared to males. Lecturers who score highly in Neuroticism may be described as prone to worrying, being easily upset and experiencing negative emotional reactions and feelings of anxiety compared to lecturers who score low on Neuroticism, who tend to be relaxed, calm, resilient and not easily upset in stressful situations. Driskell et al. (2016), for instance, found that students are drawn to lecturers who are confident, secure, relaxed, adjusted and capable in dealing with stressful situations. They do not like dealing with lecturers who are prone to guilt, anger, being paranoid, self-consciousness, or experience mood swings, disgust, depression, fear, anxiety and embarrassment (Driskell et al. 2016).

3.1.2.5 Conscientiousness vs. Negligence. Students may prefer lecturers who score highly on the Conscientiousness Big Five personality trait instead of lecturers who score highly on Negligence (Kim et al. 2019). People who show high levels of Conscientiousness tend to be well organised, purposeful, self-disciplined, punctual, determined, reliable, risk averse, dependable, responsible and achievement-oriented (Schultz and Schultz, 2016). Various studies have used different terms to describe Conscientiousness such as dependability, conformity and the will to achieve. Conscientiousness has been linked to dependability because it reflects thoroughness, playfulness and responsibility. It has also been termed the “will to achieve” because it is strongly associated with educational achievement. In the educational sector, conscientious lecturers have been found to have a stronger drive to meet their objectives and to work hard towards fulfilling their goals than those who were low in Conscientiousness (Bastian et al. 2017; Kim et al. 2019; Russell, 2017). These people mainly differ in terms of their planning, achievement striving, deliberation, order and competence. By contrast, people with lower Conscientiousness scores or high scores on Negligence seem not to attach value to the prospective results of the tasks that they perform. They tend to be careless in terms of their goals, irresponsible, disorderly and

unreliable (Tan et al. 2018). Russell (2017) posits that lecturers with a high level of Conscientiousness have strong social impulse control that might assist them in delivering quality teaching.

Conscientiousness is associated with many positive organisational and individual outcomes. According to Liao and Chuang (2014), teaching quality/performance is probably the most established outcome of Conscientiousness across various job positions. Liao and Chuang (2014) found that teaching staff who score highly on Conscientiousness perform better than those who score low on Conscientiousness in terms of their job performance. Additionally, Goncz (2017) observed that teaching staff who score highly on Conscientiousness perform significantly better in a higher education context than those teaching staff members who score lower on the Conscientiousness personality trait. Conscientiousness has also been found to be positively related to different professions (Bastian et al. 2017). Teaching staff who score highly on Conscientiousness tend to be disciplined, efficient and well organised, have a strong sense of duty and are considered reliable and prompt compared to teaching staff members who have low scores on Conscientiousness who tend to be spontaneous, disorganised, prefer flexible plans and dislike precise details (Bastian et al. 2017). Considering the higher performance levels that have been attributed to teaching staff members with high levels of Conscientiousness, it would be interesting to determine whether students prefer the Conscientiousness personality trait in their lecturers.

In previous studies, it was assumed that students prefer lecturers who are well organised, purposeful, self-disciplined, punctual, determined, reliable, risk averse, dependable, responsible and achievement oriented. To attain their goals, students do not prefer lecturers who are careless in terms of their goals, irresponsible, disorderly and unreliable (Bastian et al. 2017; Kim et al. 2019; Liao & Chuang, 2014; Russell, 2017).

It is evident from the above that the Big Five personality traits have different connotations and none of them, including Neuroticism, necessarily has a negative connotation. Each personality trait has value in a lecturer's personality. A high score on Neuroticism may seem like a negative outcome, but high Neuroticism may be beneficial and necessary in certain situations (Tan et al. 2018). Scores on the various Big Five personality traits may assist students to understand what traits they prefer to see in their lecturers. The present study therefore set out to examine students' preferences for lecturers' personality traits based on the Big Five personality traits. It is anticipated that students' Big Five personality traits would significantly predict their preferences for corresponding personality traits among their lecturers, both in terms of their self-assessments and their students' ratings.

The next section provides an overview of extant cross-cultural research on students' preferences for lecturers' personality traits.

3.2 Cross-cultural Research on Students' Preferences about their Lecturers' Personality Traits

Several factors may affect students' preferences for their lecturers' personality traits (Furnham et al. 2011). In a study by Furnham and Chamorro-Premuzic (2005), 424 students completed the Big Five personality inventory (NEO-FFI: Costa & McCrae, 1992) (as cited in Furnham et al. 2011) and Approaches to Learning scales (Study Process Questionnaire: Biggs, 1987) (as cited in Furnham et al. 2011), and rated the personality facets they desired in a good lecturer. In general, students showed a strong preference for lecturers who were emotionally stable (low in Neuroticism) and conscientious. However, correlations between students' and their preferred lecturers' personality characteristics revealed that students tended to prefer lecturers similar to themselves in terms of all personality traits except Neuroticism, and particularly in terms of Openness to Experience and Conscientiousness. Personality variables showed consistent incremental validity across age and gender in

predicting students' preferences, while learning approaches provided very modest additional information.

Barnes and Lock (2010) requested students at the University of Korea to provide the attributes of an effective lecturer, and then grouped them according to different criteria. Students indicated a number of preferred characteristics that would contribute to creating an atmosphere of respect and dignity in class. These characteristics included being enthusiastic, tolerant, friendly, knowing students' names and being eager to share personal experience and knowledge.

Anbar (2006) further investigated students' preferences for their lecturers' characteristics among 417 students at King Saudi University. The students preferred characteristics such as a respectful attitude towards students' opinions, saying Islamic greetings when meeting students and contributing to students' activities. The most significant preference was that lecturers should start with an Islamic greeting. This may be a surprising finding from a Western perspective, but it serves to illustrate the profound influence of cultural factors on students' preferences for their lecturers. (as cited in Abdesalam, 2013).

Delaney et al. (2010) explored students' perceptions of the features of an effective university teacher among 17 000 students at the University of Newfoundland in Canada. Students identified the following characteristics of an effective university lecturer, namely sociable, organised, erudite, professional, humorous, engaging, tolerant towards students and receptive. Patrick (2011) found that students favoured teachers who displayed higher levels of Conscientiousness, Openness to Experience, Extraversion, and Agreeableness (in descending order), but not Neuroticism.

In the above mentioned study, students' preferences were measured based on Islamic and Arabic cultural characteristics. However, in the current study the researcher also investigated the differences between lecturers' assessments and their students'

assessments of their personality traits, which Big Five personality traits students preferred and their relationship with teaching quality.

In a more recent study, Bastian et al. (2017) investigated the personality of 1790 beginner teachers and found positive correlations between Conscientiousness (as an Extraversion facet) and school administrators' evaluations of teachers that included aspects such as "teachers facilitate learning for their students" (p. 6). In a study involving 75 teachers and their 2082 students, Kim and MacCann (2016) found that the trait of Conscientiousness in teachers most strongly predicted their academic support as rated by students and that Agreeableness best predicted teacher support as rated by students. Kim and MacCann (2016) further found that university students preferred courses taught by lecturers with personality profiles closest to their self-described ideal lecturer. Further research on how teachers' personalities are linked to teaching quality is needed (Kell, 2019).

Teaching staff are under pressure to produce excellent outcomes in students (Tamban & Banasihan, 2017). Although the contribution of students' personality in terms of academic outcomes is well established (Kim et al. 2019), the contribution of preferences for lecturers' personality traits in terms of teaching quality is largely unknown. A study by Kim et al. (2019) examined the influence of students' personality traits (as reported by both the students and lecturers themselves) on student educational outcomes at a university level Their sample consisted of students registered for mathematics and psychology at undergraduate level. The students (N = 515) and their lecturers (n = 45) provided the Big Five personality ratings for themselves, their actual instructor and their ideal instructor Multilevel regressions served to predict each outcome, taking into account the effects of students' gender, age, cognitive ability and personality. The study highlights the importance of studying lecturers' personality traits, especially through other-reports, to understand students' educational experiences. Supporting the absolute preference hypothesis, students rated their ideal instructor as having significantly higher levels than both themselves and the general population on all the Big Five personality traits except for Openness, with particularly

large effect sizes for Neuroticism and Conscientiousness. Elmes' (2017) findings, as incorporated in Tan et al.'s (2018) study contributed further knowledge about students' preferences for their lecturers' personality traits. In this study, survey of more than 260 students, from three London universities, found that Conscientiousness was the most desired trait in lecturers, followed by Agreeableness, Extroversion and Openness to Experience, while Neuroticism was the least desired trait in university lecturers (Elmes, 2017). Neuroticism (emotional instability) was unanimously reported to be the least preferred trait in lecturers. The research thus concluded that emotional stability in lecturers is highly valued by students. This has implications for how tertiary institutions should use and interpret the Big Five personality traits and students end of course evaluations (Kim et al. 2019). Tan et al.'s (2018) research on teaching staff's personality traits in higher education also investigated differences in preferences among two ethnic groups (South East Asian/Chinese versus Caucasian/British). In all, 264 British students completed four questionnaires. Conscientiousness was found to be the most desired trait in lecturers, followed by Agreeableness, Extraversion and Openness, while Neuroticism was the least desired trait. All students preferred lecturers who scored high on Agreeableness. However, Caucasian students had a stronger dislike for neurotic lecturers, while Asians had higher preferences for extraverted, open and agreeable lecturers. There was some evidence of a student–lecturer personality match (Tan et al. 2018).

It is evident from the above studies that students' preferences regarding their lecturers are consistent in many aspects. However, they differ on the basis of educational and/or cultural patterns. Preferences may differ because of students' gender and academic level differences, as well as cultural differences. Furthermore, in the above study an African sample was not investigated; hence, it will be informative to ascertain students' preferences in Zimbabwean higher education by using the same questionnaire.

The following section explores students' preferences based on these differences.

3.2.1 Gender Differences and the Big Five Personality Traits

Gender differences in students' preferences for university lecturers' personality traits appear to be a particularly contentious area in existing research. Some researchers have supported the existence of these differences (Chamorro-Premuzic et al. 2008; Srivastava, 2018; Wang, 2016), while others have denied any differences (South et al. 2018; Vukasovic & Bratko, 2015).

Chamorro-Premuzic et al. (2008) conducted a study at the University of London in the UK and found that personality variables showed consistent incremental validity over age and gender in predicting students' preferences, whereas learning approaches provided very modest additional information. In Chamorro-Premuzic et al.'s, (2008) study about lecturers as effective classroom managers, a sample of 424 students completed the Big Five personality traits (NEO-FFI: Costa & McCrae, 1992 and approaches to learning scales (Study Process Questionnaire: Biggs, 1987 (as cited in Chamorro-Premuzic et al. 2008), and rated the personality facets they desired in a good lecturer. In general, students tended to most prefer lecturers who were emotionally stable, that is, low in Neuroticism and Conscientiousness. However, correlations between students' and their preferred lecturers' personality characteristics revealed that students tended to prefer lecturers similar to themselves in all personality traits except Neuroticism, and particularly in Openness to Experience and Conscientiousness.

In a meta-analysis, Vukasovic and Bratko (2015) concluded that gender was not a significant moderator of the heritability of personality traits and findings revealed that 40% of individual differences were due to genetics and 60% were due to environmental factors; however, their study involved a moderator analysis of heritability estimates calculated from the twin correlations across samples and personality traits from several models of personality traits, including the Big Five model. Their study empirically tested and supported the moderator effect of study design on heritability in the field of personality trait psychology.

Research suggests there are differences in gender related to the most preferred Big Five personality traits in lecturers. For instance, men tend to endorse teacher characteristics associated with being an effective classroom manager more than women (Lungu, 2016). The importance of gender influences for the Big Five model of personality traits is well known. This has been studied in the US at Purdue University by South et al. (2018), who tested whether men and women differ in terms of contributing to the Big Five model personality domains. Results from a nationally representative US adult twin sample (N = 973 pairs) support phenotypic (i.e., mean level) gender differences in three of the Big Five personality traits (Neuroticism, Agreeableness, Conscientiousness) but did not support genetic or environmental gender differences in any of the Big Five personality traits.

The section below elaborates on students' personality preferences in their lecturers based on the Big Five and their acquired level of education.

3.2.2 Education Level and the Big Five Personality Traits

Kim et al. (2019) argue that the education/qualification level of lecturers should be considered an important factor when analysing students' preferences for lecturers' personalities in a higher education context. Results from several studies show a clear divergence in findings, with some studies indicating education level as having a greater impact on students' preferences (Tan et al. 2018).

A study by Bastian et al. (2017) in the US investigated associations between personality traits and first-year teachers' performance and retention in North Carolina public schools based on the Big Five model of personality. They found that Conscientiousness was significantly associated with higher evaluation ratings by students and higher recruitment rates. They also suggested that districts and schools should consider using personality trait measures, along with other valid indicators, as a way to improve teacher recruitment decisions. Conscientiousness results are consistent with a rich body of evidence connecting

Conscientiousness-related measures to employee performance and recruitment across professions (Bastian et al. 2017).

Finally, a study by Ibad, (2018) was done in Pakistan to explore students' perceptions of teaching quality. The study investigated the ability and personality traits of the good and poor teacher characteristics from student perceptions. The findings suggested teaching staff possessed good and bad characteristics to a certain extent, most of the personality and ability traits are based on students' perceptions about good and poor teacher characteristics. Furthermore, the poor communication and low emotional intelligence level are result of teaching characteristics.

The section below will discuss the presence of any age differences in terms of students' preferences for their lecturers' Big Five personality traits.

3.2.3 Age Differences and the Big Five Personality Traits

Research has suggested that the Big Five personality traits change with age over the life span. Scholars have found that people rate higher on Conscientiousness, Agreeableness and lower on Neuroticism as they get older (Soto & John, 2017). Similarly, other psychology researchers have found that Neuroticism, Extraversion (only in men), and Openness to Experience decrease with age after 70, but Conscientiousness and Agreeableness increase with age (the latter only in men) (Roberts et al. 2017). Cross-sectional and longitudinal studies conducted all over the world suggest that there are modest mean level changes throughout adulthood in the Big Five personality traits (Soto & John, 2017).

The available data indicates that from emerging adulthood through to middle age, Conscientiousness and Agreeableness show positive age trends while Neuroticism shows a negative trend, and Extraversion and Openness to Experience show flat trends (Gollner et al. 2016; Lucas & Baird, 2014; Roberts et al. 2017; Soto & John, 2017).

Gollner et al. (2016) examined Big Five personality trait development in the transition to early adolescence (from the fifth to eighth grade). Personality traits were assessed in 2761 students (47% female) over a three-year period. Youths' self-reports and parent ratings were used and the results revealed three main findings: (a) normative mean-level changes occurred for youths' self-report data and parent ratings with modest effects in both cases; (b) Agreeableness and Openness to Experience decreased for self-reports and parent ratings, whereas data source differences were found for Conscientiousness (decreased for self-reports and remained stable for parent ratings), Extraversion (increased for self-reports and decreased for parent ratings), and Neuroticism (remained stable for self-reports and decreased for parent ratings), and (c) girls showed more mature personality traits overall (self-reports and parent ratings revealed higher levels of Agreeableness, Conscientiousness, and Openness to Experience) and became more extraverted in the middle of adolescence (self-reports). It would appear that personality changes modestly during early adolescence.

The section below presents the differences in students' preferences in relation to the Big Five personality traits and their faculty type.

3.2.4 The Big Five Personality Traits across Faculties

Personality traits play an important role in positive and mutual communication between students and their lecturers (Chan et al. 2014) that especially contribute to students' preferences for a particular subject. It has been further argued that differences in the subjects and faculty/departments that lecturers specialise in may play a significant role in students' preferences for university lecturers because academic subjects tend to differ in terms of content and teaching method (Bastian et al. 2017). Students may consequently differ in terms of their preferred characteristics for university lecturers based on their academic subjects. Some of the variations in this field are described below.

At Omdurman Islamic University, Motwally (1999) (as cited in Abdesalam, 2013) identified significant difference in terms of students' preferences. His study was not based on

the Big Five personality traits but he used general characteristics for students' lecturers based on their academic subjects. The findings suggest that social science students emphasised appearance, clothes and the use of Arabic language most, while these characteristics appeared to be less important for physical education students. Obydat (1991) (as cited in Abdesalam, 2013) found that students across academic subjects preferred characteristics such as respect, an ability to present teaching material, sincerity and friendly relationships with students. He did not identify significant differences in student preferences based on their academic subjects. These results are supported by those of Alshokiby (1992) (as cited in Abdesalam, 2013) who conducted a study at Ain Shmes University and Suez University. She concluded that that there were no significant differences among students who specialised in different academic subjects and that all of them emphasised characteristics such as mastery of teaching, a strong personality, fairness to all students and punctuality (as cited in Abdesalam, 2013).

To conclude, a number of studies in the past have investigated university students' preferred characteristics in university lecturers. However, the majority of these studies did not specifically focus on the Big Five personality traits in university lecturers, nor did they sufficiently analyse data in depth. These studies further may have overlooked additional factors or variables that may also determine preferred lecturer characteristics. For instance, some of the studies omitted or paid little attention to demographic variables such as students' level of study or their gender. Nor did they consider lecturers' personality traits, which may be particularly important features in terms of students' preferences for their lecturers' personality traits (Tamban & Banasihan, 2017).

3.3 Student Preferences regarding their Lecturers' Personality Traits in Africa

In Africa, and Zimbabwe in particular, limited research appears to have investigated the Big Five personality traits that students may prefer in their lecturers. Only two studies

could be identified in this field – a study by Aregbeyen (2010) in Nigeria and by Chireshe (2011) in Zimbabwe. These studies did not incorporate the BFI, however.

Aregbeyen (2010) examined students' perceptions of the characteristics of a good lecturer among 602 students at the University of Ibadan in Nigeria. Students identified characteristics such as being sensible, polite, approachable, stimulating, patient and consistent as being evident in effective lecturers.

In Zimbabwe, Chireshe (2011) investigated how university students perceived their lecturers and their image of an effective lecturer. Seventy-seven students participated in the study and the data was analysed by means of content analysis. Students identified the following characteristics for effective lecturers: being knowledgeable, well organised, involving students, as well as being sociable and easy to communicate with. Students also preferred a lecturer who graded work fairly. Ineffective lecturers were indicated as often being late for work, incompetent in the subject matter and not interested in involving students in various discussions and activities.

As evident above, research on students' preferences for their lecturers in Zimbabwe appears to be limited, pointing to a knowledge gap that the current study may contribute to filling. In the research by both Aregbeyen (2010) in Nigeria and Chireshe (2011) in Zimbabwe, lecturers' personality traits were not measured according to the Big Five personality traits, but only in general. A study by Senderayi et al. (2019) examined the Big Five personality traits and job burn out in the sample of 211 university lecturers from the three universities in Zimbabwe. International Personality Item Pool questionnaire and the Oldenburg Burnout Inventory were used by using convenience sampling method. Findings suggested that Extraversion, Conscientiousness, Neuroticism and Agreeableness as the dominant personality traits prevalent in the Zimbabwean lecturers and had a significant weak relationship with burnout. Furthermore, teaching and learning relations depend on lecturer characteristics and personality traits which in turn influence the way the way lecturers teach.

3.4 The Relationship between the Big Five Personality Traits and Students' Preferences for Lecturers' Personality Traits

Several researchers agree that the personality traits of and personality preferences for teaching staff based on the Big Five personality traits can provide a reliable psychometric tool for the recruitment process of teaching staff in higher educational settings such as at universities (Kim et al. 2019; Nida & Ali, 2017; Scheepers et al. 2014; Tamban & Banasihan, 2017).

Some researchers have identified significant relationships between students' personality traits and their evaluations of their lecturers' teaching practices (Chan et al. 2014; Golding & Adam, 2016; Mart, 2017). Chan et al. (2014) indicates that there appears to be considerable controversy in terms of students' evaluations and perceptions of their lecturers. While student end-of-course evaluations may have a major influence on teaching quality/ practices in higher education settings, the implications of the Big Five personality traits for the improvement of recruitment process of teaching staff in higher educational settings may be debatable in terms of their impact on teaching quality. Tamban and Banasihan, (2017) conducted research among 39 faculty members at the College of Teacher Education (CTE) of Laguna State Polytechnic University during the first semester of the 2015–2016 academic year, incorporating the Big Five personality questionnaire and a teaching performance questionnaire to evaluate teaching performance. Pearson's r served to determine whether there was a significant relationship between lecturers' Big Five personality traits and their teaching performance. Tamban and Banasihan, (2017) found that teaching staff obtained high scores on most of the Big Five personality traits, except for the Neuroticism personality trait on which they obtained relatively low scores. The researchers suggested further research in this field because they only involved faculty from the College of Teacher Education. They strongly recommend that teaching performance should be correlated with students' evaluation of their teachers, as well as students' academic performance and teachers' personality traits, since teaching performance is one of the factors that affect

students' academic performance (Tamban & Banasihan, 2017). A study by Tan et al. (2018) applied the Big Five personality traits model in a British student sample and found that students ranked the Big Five personality traits they preferred to see in their lecturers in order of preference as follows: Conscientiousness, Agreeableness, Extroversion, Openness, and Neuroticism.

In summary, although personality traits are conceptualised from different models and various theoretical perspectives, there seems to be agreement that everyone is different and that people are unique. Studies on personality preferences based on the Big Five personality traits are of particular interest in a higher education context and have been investigated in various studies (Tamban & Banasihan, 2017; Tan et al. 2018) but not, as yet, extensively in a Zimbabwean higher education context. Kell (2019), for instance, points out that limited research has explored the relationship between lecturers' personality traits and students' personality preferences for their lecturers and linked to their teaching quality. The current study posits that lecturers'/teaching staff's personality traits based on the Big Five personality traits model and students' preferences for their lecturers based on the Big Five personality traits may contribute to developing a conceptual model to inform the recruitment of higher education teaching staff. Since this approach has not yet been followed in a Zimbabwean higher education context, as far as could be determined, it may contribute to improving teaching quality in a Zimbabwean higher education context.

The following section elaborates on the importance of student evaluations in higher education.

3.5 Importance of Student Evaluations in Higher Education

Globally, the student voice has gained recognition in student feedback. Student evaluations have been proposed as a means to benefit teachers' professional development (Chan et al. 2014). In Zimbabwe, the use of student course evaluations to evaluate teaching quality has increased in higher education during the last decade (Mahlatini et al. 2019).

Lecturers need to get feedback in order to improve teaching quality. Many higher education institutions use student evaluations systems as a way of providing course feedback, and identifying lecturers' strengths and areas for improvement. These evaluations are regarded as key processes in monitoring and improving teaching quality in terms of both educational and administrative practices at higher education institutions (Golding & Adam, 2016; Henry, 2017; Mart, 2017). Student evaluations further contribute to establishing positive lecturer reputations, as well as recognising and enhancing their professional achievements. Student evaluations are normally conducted at the end of a semester or on completion of a degree (Mahlatini et al. 2019). Students' evaluation of lecturer performance is crucial for improving teaching quality in higher education systems (Chuan, 2017).

Lecturer evaluations further allow higher education institutions to establish a comparative framework of staff performance, contributing to the formation of new performance goals to be considered. Blair and Noel (2014), for instance, examined student evaluations at a university in Trinidad and Tobago to determine whether students' views are acknowledged. Student evaluations were gathered from five purposefully selected courses taught at the university during 2011–2012 and then again in 2012–2013, which allowed for an analysis of the selected courses. Although the literature suggests that student evaluation systems are a valuable aid to lecturer improvement, Blair and Noel (2014) found little evidence of the value of these evaluations and suggested that these evaluations do not lead to significant changes in lecturers' teaching practice. Chan et al. (2014) focused on the importance of lecturers' evaluation to be used for measuring teaching quality and performance.

Students' perceptions of lecturers' personality traits may have an impact on their evaluations of teaching quality, as was proven by Patrick (2011). When students perceived their lecturer as reflecting high levels of Conscientiousness, Agreeableness, Openness, and Extraversion, they rated the course and the lecturer's ability to teach positively. When

students perceived their lecturer as reflecting high levels of Neuroticism, they rated the course and the lecturers' ability to teach negatively.

Owing to the importance of teacher evaluation practices, varied approaches have been used to assess lecturers, including student ratings, peer review, self-evaluation and departmental evaluation (Chan et al. 2014). Although all of these data collection methods are used to some extent, the student rating method appears to be the most commonly used across higher education in evaluating teachers' performance (Mart, 2017). Student ratings were introduced in university lecturers' evaluation systems in the US in the 1920s. Although the validity of these evaluation systems was frequently questioned in the 1970s, the student rating methodology has gained in credibility in the meantime and plays a crucial role in assessing the performance of university teaching staff (Abdesalam, 2013).

Golding and Adam, (2016) delineate the dimensions of performance evaluation that may be derived from data provided by student ratings, namely course organisation, planning, lecturers' clarity and communication, their skills in presenting learning materials and teachers' ability to reach out to students (student–teacher rapport). Chan et al. (2014) further identifies course difficulty and workload, the grading of examinations and student self-learning ratings as some of the performance evaluation systems. Some studies have pointed out that the student rating method may be capable of evaluating a wide range of dimensions of lecturers' teaching quality (Abdesalam, 2013; Kim et al. 2019).

A Zimbabwean study by Mahlatini et al. (2019) with a sample of 100 undergraduate students from the Department of Environmental Science and Technology at the Chinhoyi University of Technology employed a quantitative survey method. The study revealed that students evaluated lecturers' teaching quality as excellent with regard to arriving at class on time, utilisation of course content and marking the exams on time. However, the study highlighted that although students rated current teaching practice as excellent, there was a need to improve lecturers' degree of interaction with students outside classrooms so as to

improve teaching quality and one of the ways to improve interaction is to follow a student's-as-partners approach in higher education. Teaching as a profession needs to be updated in order to meet the emerging demands of higher education (Mercer-Mapstone et al. 2017).

Compared to methodologies such as peer review or self-evaluations, student ratings provide independent feedback from stakeholder groups that could not be covered by previous methodologies (Abdesalam, 2013). Student ratings also appear to be as effective as peer evaluation in producing an acceptable correlation between the respective observers' conclusions (Chan et al. 2014).

It may be virtually impossible for a lecturer to adapt their lecturing/teaching style to improve in line with students' evaluations and preferences. It is therefore important to consider other ways of evaluating teaching staff such as peer evaluation, participatory observation and external evaluators (Mahlatini et al. 2019). Chan et al. (2014) and Kim et al. (2019) highlight not only advantages but also the pitfalls associated with student evaluations which include favouritism and personal bias.

3.6 Chapter Summary

Student preferences for their lecturers' personality traits based on the Big Five personality traits were described in this chapter in an attempt to understand the concept in terms of the various theoretical approaches. The paradigmatic and conceptual foundations of personality trait preferences based on the Big Five were discussed. Various facets of the Big Five personality traits were also explored in examining the preferences of students towards their lecturers. In addition, the concept of students' preferences was investigated in terms of its dimensions, originating factors and benefits. The literature review of students' preferences with regard to their lecturers' personality concluded with a discussion of their importance in teaching quality.

Finally, this chapter presented and discussed a conceptual foundation for students' preferences for lecturers' personality traits. A theoretical integration of students' preferences regarding their lecturers' personality was provided, focusing on the impact of the Big Five personality traits on teaching quality and the importance of students' evaluations and preferences in the higher education context.

Chapter four focuses on teaching quality in a higher education context to achieve the literature aim.

Chapter Four: Teaching Quality in a Higher Education Context

This chapter presents a comprehensive review of the literature on studies of teaching quality and their importance in a higher education context. Teaching quality and higher education are firstly conceptualised, followed by a discussion of the importance of teaching quality in higher education. A review of previous studies related to teaching quality in higher education will be presented in the final section.

4.1 Conceptual Foundation of Teaching Quality

Garwe (2016) describe teaching quality as the use of educational techniques to produce appropriate knowledge outcomes for students. This involves the effective design of curriculum and course content, a variety of learning contexts and the effective assessment of learning outcomes. They regard quality teaching as important in higher education despite the continuous challenges that institutions experience.

According to Gore and Bowe (2017), teaching quality is measured by knowledge creation and student outcomes. These are quantitative indicators aimed at human capital creation and ensuring the efficient use of resources that favourably position universities in the global market. In addition to knowledge creation, teaching quality can be understood in terms of non-measurable qualitative values such as wellbeing, participation, critical thinking and sustainability with the outcome of human development (Gore & Bowe, 2017; Murphy et al. 2020). According to Mukwambo (2019), teaching quality includes the publication of statistical data on student entry qualifications, the number of students continuing their studies, graduate information, possible employment opportunities and overall student satisfaction with their subjects. Determining what constitutes teaching quality is therefore based on what one considers to be the purpose of higher education and the values that students ought to learn.

The current emphasis on teaching quality situates universities as key players in knowledge creation and skills development which is a narrowly functional perspective. Conceptualising teaching quality as human development acknowledges the ethical role of higher education institutions as social institutions that ought to develop societies beyond economic development (Bastian et al. 2017). The rationale behind teaching quality assurance is not to deprive academics of their “freedom” but is an effort to bring about accountability (Bastian et al. 2017). In ensuring the quality of teaching in higher education institutions, both internal and external reviews of lecturers’ performance should be undertaken regularly and formally reported, which then become sources of continuous improvement interventions to enhance lecturers’ capacities (Garwe, 2016). Lecturers should have adequate knowledge and a clear understanding of the subject they are teaching, and the requisite skills and experience to impart their knowledge and understanding effectively to their students within various contexts. It is therefore obligatory that higher education institutions have recruitment and selection processes that guarantee the engagement of qualified and experienced teaching staff who can contribute to teaching quality (Goldstein et al. 2017; Murphy et al. 2020).

According to Goldstein et al. (2017), all initiatives in educational development and provision hinge on the availability of quality teachers with suitable educational skills, knowledge and characteristics. Teaching quality contributes to the introduction and accreditation of degree programmes, but this should not be taken for granted because the provision of quality teaching in higher education by governments and authorities, especially in developing countries, it is not without its challenges (UNESCO, 2016). Additionally, if an institution fails to meet students’ expectations, the service will be judged as being of poor quality. This means that the level of students' perceptions of quality teaching depends on how the teaching experiences assist them in linking what they learn in the classroom to real-life experiences; how assignments relate to the real workplace; how discussions lead to new

perspectives of thinking; and how the curriculum accounts for students' group experiences and imparts added value to students (Henard & Roseveare, as cited in Mukwambo, 2019).

According to The Guardian (2018) newspaper, the University of Oxford's rise in the teaching quality ratings is primarily due to improved research and good teaching quality: it produces more academic papers than Cambridge, and also receives a higher number of citations on those papers. Oxford is renowned for its tutorial system and also has the smallest class sizes in the United Kingdom.

Table 4.1 below presents the ranking of the world's top three universities and the ranking of the participating university.

Table 4.1:
University Ranking (2018) of Teaching Quality

Institution	Ranking	Teaching quality
University of Oxford	1	97.1
Harvard University	2	93.8
University of Cambridge	3	97.5
Participating University	1973	Not clearly known

Source: The Guardian, 2018

It is evident from Table 4.1 above that the participating university does not feature among the world's top universities. Although it is regarded as one of the best universities in Zimbabwe in terms of the country's national ranking, in the international ranking system it is ranked number 1973 (Nakombo, 2015).

The following section elaborates on teaching quality in Africa.

4.2 Teaching Quality in Africa

Rahman et al. (2020) asserts that one of the challenges for Zimbabwean higher education has been the competition for students in order to generate sufficient cash flow

because of the economic crisis. In addition, there has been a decline in the number of students enrolled in Zimbabwean higher education in the past decade.

In an era of increased globalisation, teaching quality in higher education is critical in every country's strategic plans to enhance its competitiveness and to meet international expectations and standards (Garwe, 2016). Although there has been some debate on teaching quality in an African higher education context, there is comparatively less literature available about quality teaching in Africa than about the global perspective (Mukwambo, 2019). The literature on teaching quality in a Zimbabwean higher education context is fairly sketchy as the idea is still in its embryonic stages. Most available literature focuses on economic challenges faced in a higher education context which may have an impact on teaching quality in this context (Maware, 2013).

According to Quality Assurance and Accreditation of Higher Education in Africa (QAAHEA) (2019), the growing demand for accountability and quality teaching is gaining widespread public support in many African countries. The Association of African Universities (AAU) and the Inter-University Council for East Africa (IUCEA) (2017) provide regional assistance in teaching quality assurance. The AAU has developed a project designed to provide support for teaching quality assurance at the regional, national and institutional levels for member countries (as cited in Mahomedbhai, 2020).

According to Mukwambo (2019), research on teaching quality assurance agencies in Africa suggests that teaching quality has a significant influence on tertiary institutions by encouraging, improving and moving some institutions towards world-class standards. These agencies have, for instance, helped foster a sense of concern about improving teaching quality in Zimbabwean higher education (Gore & Bowe, 2017).

The following section provides some background on teaching quality in Zimbabwe.

4.3 Teaching Quality in Zimbabwe

Traditionally, higher education in Zimbabwe has three missions, i.e. quality teaching, research and community service (consultancy). The Territory and Higher Education (THE) 3.0 clearly states that all students need quality education (Strategic plan, 2019–2023).

Zimbabwe, with sixteen universities, is currently in the embryonic stage of teaching quality. Nine of these are public institutions: the National University of Science and Technology (NUST); the Chinhoyi University of Technology (CUT); the Harare Institute of Technology (HIT); the Bindura University of Science and Education (BUSE) which trains science teachers; the Lupane State University (LSU) which focuses on agriculture; Great Zimbabwe University (GZU) focusing on cultural and heritage studies; the University of Zimbabwe (UZ); Midlands State University (MSU) and the Zimbabwe Open University (ZOU). These are comprehensive universities offering programmes across various disciplines. The ZOU is the only open and distance learning institution. The seven private universities include Africa University (AU); Solusi University (SU); the Catholic University in Zimbabwe (CUZ); the Reformed Church University (RCU); the Women's University in Africa (WUA); Zimbabwe Ezekiel Guti University (ZEGU); and the Southern Africa Methodist University (SAMU) (Garwe, 2015).

The Zimbabwe Council for Higher Education (ZIMCHE) is a government initiative for monitoring quality assurance in Zimbabwe higher education; however, there are many challenges, including a poor recruitment system (Garwe, 2015). The formalisation of teaching quality assurance in the Zimbabwean higher education context has resulted from both local initiatives and adherence to international and regional trends. Internationally, debates around quality assurance and teaching quality began and gained momentum in countries such as the USA, Britain, Netherlands and France in the 1980s and 90s (Garwe, 2015). Teaching quality is an important criterion in higher education institutions, involving, for instance, the identification of students' improvement needs and their parents' demands for

high-quality teaching, and determining suitable measures of the construct (Kim et al. 2019). The importance of teaching quality raises concerns as to whether current teaching assessments provide reliable data on teaching quality in higher education. Two broad measuring approaches are used to gauge teaching quality in higher education, namely, the qualification of lecturers and course evaluations by students at Zimbabwean universities. However, there is little evidence that qualified lecturers are more effective (Majoni, 2014) and course evaluations are by far the most widespread measure of teaching quality (Garwe, 2015).

In Africa, the first quality assurance was established in Kenya in 1985 and in Zimbabwe in 2006. Prior to this, in Zimbabwe, quality assurance was one of the specifications included in the National Council for Higher Education (NCHE) Act passed in 1990 after the publication of the William's Report advising the cautious expansion of higher education. The 1990 NCHE Act empowered the Council to process applications for the establishment of private universities or university colleges, and make recommendations to the Minister of Higher Education. The Minister would then advise the President. The NCHE also had to ensure the maintenance of "appropriate standards in regard to teaching and other deliverables of institutions of higher learning" and to establish similar student admission procedures for all universities. The establishment of committees was important to carry out quality assurance in universities, as well as for setting standards, verification and the maintenance of a qualifications framework (Mukwambo, 2019).

In 2006, the Zimbabwean Council for Higher Education was revamped to play a more active role in the monitoring of quality. The new Act for the Council of Higher Education (2006) aimed at giving this central body some control over maintaining quality assurance in higher education. However, in view of the current socioeconomic challenges in Zimbabwe, there often are delays in results from this body because of financial and human resource limitations (Zimbabwe Council for Higher Education [ZIMCHE], 2016).

The 2006 Act (Council for Higher Education Act, 2006, p. 5) states that, in searching for a model of quality assurance, certain minimum standards are expected in the following areas: curriculum design, content and organisation, teaching, learning and assessment, student progression and achievement, student support and guidance, as well as learning resources, and quality assurance and enhancement (Council on Higher Education, 2015).

In 2019, the Ministry of Higher and Tertiary Education adopted Education 5.0, one of the objectives of which is to prepare at least 1000 science graduates with teaching education per year. The Strategic Plan 2019–2023 provides an overview of the Ministry's strategic trajectory for the next five years. The Constitution of Zimbabwe Amendment (No. 20) Act of 2013 section 27(1) states that the State must take all practical measures to promote the appointment of suitable personnel for the Ministry and monitor good teaching quality. All public universities and all the institutions' programmes should be accredited by the ZIMCHE (Education 5.0, 2019).

For the purpose of quality assurance, the NCHE was revamped to play a more active role in the monitoring of teaching quality (Majoni, 2014). Subsequently, the NCHE Act was replaced by the ZIMCHE Act in 2006, which established ZIMCHE as a statutory body to oversee teaching quality issues in higher education (Garwe, 2014). However, as a result of Zimbabwe's socioeconomic environment, ZIMCHE only became operational in 2009. A closer look at the ZIMCHE Act, structures and policies reveals the adoption of several recommendations made by the Nziramasanga Report. The ZIMCHE objective is "to contribute towards the sustenance of environments conducive to learning thereby enhancing the quality of human capital produced in Zimbabwe's institutions of higher learning" (Garwe, 2014, p. 6). The ZIMCHE mandate is to promote and coordinate education provided by institutions of higher education and to act as a regulator in the determination and maintenance of standards of teaching quality, examinations, academic qualifications and research institutions (ZIMCHE Act, 2006, as cited in Mukwambo, 2019).

The ZIMCHE carries out similar activities in both private and public institutions. Although the organisation determines the quality assurance standards, their implementation is regarded as the responsibility of the individual university. In carrying out its duties, ZIMCHE adheres to the legal guidelines of the ZIMCHE Act (Garwe, 2015). The Executive Committee Higher Education Quality Assurance carries out internal evaluations prior to external audits. Audits are meant to promote public confidence that quality provision and the standard of awards in higher education are being safeguarded and enhanced. Academic and institutional audits are, therefore, a process of guaranteeing the quality of programmes and the standard of awards. This national structure ensures that the value of teaching in higher education receives the attention it deserves (ZIMCHE Act, 2016).

The Association of African Universities, in collaboration with the African Union, UNESCO and the European Union, is also working to harmonise higher education standards in terms of improving its teaching quality. This includes the development of African Standards and Guidelines for Quality Assurance in Higher Education (Walker & Fongwa, 2017).

Zimbabwe's historical context, discussed above, explains the development of the country's higher education and how perspectives on teaching quality are framed. The initial emphasis on increasing access eventually gave way to a focus on teaching quality (Garwe, 2015).

4.3.1 Sustainable Development Goal (SDGs) Chart by the United Nations (UN)

According to the Sustainable Development Goal (SDGs) chart of the United Nations (UN, 2016), quality education focuses on ensuring inclusive and equitable quality education and promoting lifelong learning opportunities for all. The document resulting from this chart proposes 17 SDGs and associated targets, of which quality education is the fourth major goal (UNESCO, 2016).

According to the United Nations Educational, Scientific, and Cultural Organization (UNESCO, 2016), “Education Transform 2030 Agenda refers to the global commitment of the Education for All movement to ensure access to basic education for all”. This Agenda is an essential part of development and outlines the way in which countries, working with UNESCO and global partners, can translate commitments into action (UNESCO, 2016, p. 6).

Zimbabwe is currently working towards the SDGs of providing universal and free education to all students by 2030 and has the highest adult literacy rate in Africa, which in 2010 was 92% of the population (SDGs cited in UN report, 2016).

Post-secondary education may be completed at one of Zimbabwe’s nine public universities. Alternatively, the pursuit of a university degree abroad is a viable option. Zimbabwe’s public expenditure on higher education is higher compared to other developing countries, but the participation rate remains low, as resource constraints have largely dictated developments in education. Quality consequently appears to have been relegated to a lower priority as events unfolded. Nevertheless, education in Zimbabwe has been instrumental in skills development. This is attributed to the emphasis placed on education by government before and after the country’s independence. There has been unprecedented expansion of all education sectors since independence in 1980. However, the gains in education are being undermined by other factors such as teaching quality (Shizha & Kariwo, 2011). Promoting teaching quality assurance is therefore essential for ensuring the competitiveness of Zimbabwean higher education and meeting the expectations of various stakeholders, including students, parents, industry, regulatory bodies and government. Continuous improvement has to take place in higher education in Zimbabwe to ensure the regional and international competitiveness of its graduates.

4.4 Teaching Quality in Higher Education

According to Garwe’s (2015) classifications, the quality assurance systems of countries such as Botswana, Zimbabwe, Vietnam and Oman are in the “embryonic” stage.

Garwe (2015) carried out a study on the establishment and operations of ZIMCHE from an organisational perspective. He pointed to a lack of literature documenting ZIMCHE's interaction with higher education institutions and the assessment of its quality assurance (QA) practices.

Samkange and Zano (2013) examined the teaching quality at an open and distance learning institution. Focusing on teaching and learning, they understood quality as how well the learning opportunities provided to the students to attain their desired qualifications ensured appropriate and effective teaching, support, assessment, and learning opportunities. Samkange and Zano's (2013) findings largely reveal student satisfaction with teaching and learning in terms of lecturers' communication skills, knowledge of the subject area, feedback through tests and assignments and sensitivity to the learner needs. However, these researchers identified challenges in teaching quality. Although open and distance learning is a component of university learning, the current study focused on traditional face-to-face teaching in conventional universities.

Majoni (2014) highlights one of the challenges facing higher education in Zimbabwe as the poor recruitment system. However, he does not provide an explanation for improving current teaching quality/performance. Buckler (2015) identifies challenges in recruitment as mainly occurring in low-income countries. He further notes that, in human capital terms, improving teaching quality means increased investment in educational inputs such as personality testing and technological environments, which do not exist in most sub-Saharan African countries. It is therefore assumed that poor teaching quality outcomes are a result of inadequate resources. The present study in part addressed such issues in the Zimbabwean higher education context.

In a developing country like Zimbabwe, one of the big challenges is the assurance of teaching quality. This has had an impact on the functions and operations of universities since independence (Garwe, 2015). The current study sought to find a solution to some of

the challenge highlighted above, which may have had an impact on teaching quality in higher education, since personality-based recruitment has not been used in Zimbabwean higher education in the past. Gore and Bowe (2017) investigated the effects of professional development on the quality of teaching in Zimbabwe. Their study tested a pedagogy-based, collaborative approach to address the quality of teaching. A cluster randomised controlled trial involving eight teachers at each of 24 schools found significant positive effects for teaching quality (d = 0.4) independent of school type (primary/secondary), school location (urban/rural) and years of teaching experience. These effects were sustained six months later. Qualitative data were used to illustrate mechanisms underpinning the success of the intervention. Gore and Bowe's (2017) study illustrates how teacher learning may be supported for measurable positive effects on teaching quality and teacher morale. Their findings highlight how robust pedagogical frameworks such as teaching quality may be used to guide in-service teacher development and enhance collaborative processes for such professional development. Their research further contributes to the international evidence base for the improvement of teaching quality in higher education.

A bleak picture emerges from the literature in terms of quality teaching in a higher education context in China. Wang and Wang (2015) investigated teaching quality across higher education institutions in that country, highlighting the importance of a three-stage process involving self-evaluation by higher education institutions (stage one), external evaluation by peer reviewers (stage two), and the implementation of peer reviewers' recommendations (stage 3). In China, the ranking of the overall teaching quality of higher institutions was widely challenged by scholars due the high number of higher education institutions that were ranked as excellent. The first cycle of evaluations of teaching quality was also criticised for not taking students' learning outcomes into account. The second cycle of evaluations consequently places a greater emphasis on actual teaching processes in higher education institutions, and the measures of quality are being modified to incorporate student learning.

The current study in part addressed the issue of teaching quality in the Zimbabwean higher education context.

4.5 Progress of Zimbabwean Higher Education

The Zimbabwean higher education sector has grown significantly from 1980-2020, from one university (University of Zimbabwe) upon independence in 1980 to the current 18 universities, both private and state owned, that offer undergraduate and postgraduate degree programmes. Three further universities were launched in 2017. In addition, the country has eight polytechnic universities and 14 teacher training colleges that offer certificates, diplomas and higher national diplomas. Some polytechnic universities also offer degree programmes as affiliates of certain universities. This growth in the establishment of higher education institutions in Zimbabwe corresponds to trends in other African countries (Majoni, 2014).

Considering the rate of growth of the Zimbabwean higher education sector, there is a risk that without the necessary control of teaching quality, universities may end up focusing on quantity rather than quality (Wong, 2016). Quality assurance is therefore critical to ensure the relevance of the industry and to maintain regional and global competitiveness in higher education. Higher education institutions are ideally supposed to be centres of excellence in academic provision (Garwe, 2014; Majoni, 2014; Mukwambo, 2019). Industry and other stakeholders expect that higher education institutions will produce high quality graduates with the relevant knowledge, skills and expertise to provide innovative solutions to industry problems (Buckler, 2015). Therefore, people often expect higher education to provide solutions to the problems of development especially in so-called “underdeveloped countries”. These expectations unfortunately are not met, as increased investment in higher education does not produce the desired results. Zimbabwe has immense potential human resource capital because of its high level of literacy (World Bank, 2017). Higher education institutions in Zimbabwe further are looking at exploring innovative short and medium-term mechanisms

for improving various teaching skills and teaching quality (Mukwambo, 2019). Unfortunately, the gains have been undermined by the “brain drain”, with qualified people leaving the country (Shizha & Kariwo, 2011).

Limited research has investigated quality teaching in Zimbabwe compared to the global context. However, the current study focused on identifying the Big Five personality traits that contribute to an acceptable level of teaching quality, specifically in Zimbabwean higher education.

The following section elaborates on the student evaluation systems used in a higher education context.

4.6 Student Evaluation Systems in Higher Education

Several reasons have been given for assessing the quality of teaching in a higher education context. Henard and Roseveare (2012) argue that higher education institutions need to respond to changes in the type of knowledge produced and in the market requirements; hence, both the complexity and ambiguity of society and the economy will require institutions to continuously adapt while upholding teaching quality standards and there is need to improve commitment across faculty to the objective of improving teaching quality.

As pointed out earlier, students’ end-of-course evaluations of teaching staff are an essential measure and play an important role in determining teaching quality in higher education (Mahlatini et al. 2019). Their evaluations make it possible to understand the effects of teaching quality on students’ learning. This implies gathering information, interpreting the information and making judgements about which actions are necessary to improve teaching practice in terms of its strengths and weaknesses (Kim et al. 2019). A considerable body of literature focuses on student evaluations and their impact on quality education in countries such as Britain, Australia and the USA. Golding and Adam (2016) for

instance, identify the need for a “dialogue” between students and their lecturers to promote teaching quality in higher education. A good teacher is one who examines their instruction practices, develops their teacher competences, and evaluates the teaching process in accordance with its influence on learners (Mahmoud & Kanwara, 2015).

Considerable concern has been expressed about the possible sources of bias that may affect students’ evaluations of teaching. Since about 85% of universities utilise student evaluations of teaching as a part of the teaching staff evaluation process, it is essential to study sources of bias during this process (Kohoutek, 2014). Feistauer and Richter (2016) investigated the inter-rate reliability of students’ evaluations of teaching quality. They argued that reliability is a fundamental criterion of student evaluations and a necessary (though not sufficient) precondition for their validity as indicators of teaching quality. The most common measure of inter-rate reliability for interval-scaled ratings is intra-class correlation (ICC). Feistauer and Richter (2016) addressed the issue of inter-rate reliability by comparing different combinations of teachers and courses. For instance, they compared one teacher presenting several courses with one course taught by various teachers. An evaluation questionnaire was deemed more reliable (and also more valid) when there was a higher effect of teachers in parallel courses with the same content compared to courses covering different content. They inferred from correlational analyses that teachers had a strong impact on teaching evaluations.

However, the use of course evaluations as a measure of teaching quality has been criticised for a number of reasons. Firstly, it is often argued that the single course evaluations provided on teaching quality are contaminated by “noise”. Indeed, students’ evaluation results tend to reflect teaching staff characteristics that may not be related to teaching quality (Mart, 2017). It is further suggested that students’ ability to assess the quality of teaching provided to them is limited. These incidences of “noise” in course evaluations may encourage the inflation of grades, since considerable evidence suggests that the average (expected) grade has a positive effect on course evaluations irrespective of

learning outcomes (Golding & Adam, 2016). However, concerns such as these may be reduced if specific, true information is contained in course evaluations about teaching quality.

Spooren et al. (2013) queried the extent to which student evaluations of teaching can be interpreted as an indicator of teaching quality in higher education. Additional work by Wolbring (2015) considered selection bias in paper-based evaluations by examining the effects of class absenteeism on the day of the evaluation across courses. In particular, these studies found that selection bias due to observed characteristics is positive but quite small, although adjusting for it still has important effects on the ranking of courses. However, this work does not consider that selection bias may additionally arise from unobserved characteristics (Henry, 2017). A further concern is that other teaching colleagues may be better positioned to comment: for instance, on the appropriateness of course aims, content and structure; on the design of resource materials; or on alternatives for devising and marking assignments (Kim et al. 2019).

Student course evaluations are currently used on a large scale to assess the quality of teaching in higher education, and also for comparing teacher performance across courses, departments and universities (Becker et al. 2011). Kim et al. (2019) point out that students' opinions offer direct access to teaching quality and that they are exceptionally qualified to comment on matters such as the clarity of presentation, pacing of material, "bunching" of assignment deadlines and helpfulness of lecturers' feedback on students' written work. Students are also best positioned to evaluate the teaching quality they receive and to provide lecturers with an indication of their performance. Their evaluations contribute to improving the quality of teaching because "no lecturer wants to be rated poorly, so they improve" (Mukwambo, 2019).

Although student evaluations are the most commonly used mechanism to measure teaching quality, Hughes and Batey (2017) suggest that student evaluations should be used

for formative and diagnostic purposes instead of summative purposes because they have the potential to attract personal penalty. Quality teaching should employ pedagogical techniques to produce learning outcomes for students (Henard & Roseveare, 2012). Teaching quality includes effective curriculum design and course content, a variety of learning techniques, soliciting and using feedback, effective assessment of learning outcomes, well-adapted learning environments and student support services. Teaching quality is therefore a multilevel undertaking, occurring on three interdependent levels; institutional, programme and individual. The individual level encompasses lecturer support services and providing student-centred focus. Providing examples of universities from Finland, Brazil, Australia, Canada, South Africa and Japan, Henard and Roseveare (2012) identify interventions in areas such as raising awareness of quality teaching, developing excellent teachers, engaging students, building organisations for change, teaching leadership and aligning institutional policies to foster quality teaching.

Students' evaluations are a part of an internal quality assurance (IQA) process. This is important as most IQA parameters for universities focus on teaching and learning quality. Quality assurance should take place in an inclusive manner, with leadership commitment and stakeholder participation. Students are the main stakeholders in higher education (Walker & Fongwa, 2017). Teaching staff are central to teaching quality because they are responsible for guiding students through the learning process. It is therefore important to uncover students' perceptions as the recipients of the education, and compare their expectations of teaching quality to the recruitment of teaching staff in higher education (Mukwambo, 2019).

Teaching is a flexible institutional framework combining teacher autonomy and a collaborative relationship between students and staff (Henard & Roseveare, 2012). However, given the exclusion of academics in determining teaching quality, this conception of teaching is not likely to prevail and notions of teaching quality remain vague and unshared internally. For Henard and Roseveare (2012), acceptable teaching quality assurance can be

established by first identifying the kind of education and skills that graduates require. This informs a working definition of teaching quality and enables an identification of the role played by lecturers and any support they may require.

The following section elaborates on the recruitment process of teaching staff in Zimbabwean higher education.

4.7 Concerns about Suitable Procedures for Recruiting and Developing Higher Education Teaching Staff across the World

Zimbabwean higher education institutions face considerable challenges in recruiting qualified teaching staff. Accordingly, this area needs urgent attention in order to address some of the country's challenges (Garwe, 2015). It ideally requires one of the best recruitment systems that are being used in the most developed countries in the world such as the United States of America and various European countries.

Nguwi (2014) points out the pitfalls of the informal selection model used in most organisations in Zimbabwe. He also mentions that most organisations in Zimbabwe have been deprived of specific recruitment models and are still using traditional methods of personnel selection, with the result that there has been an increase in nepotism, corruption and personal biases during recruitment. Thus, if Zimbabwean organisations fail to adopt valid personnel selection models, they may continue to recruit unsuitable people, resulting in poor job-fit and performance issues. The current study therefore sought to propose a scientific and valid conceptual model to inform the recruitment of higher education teaching staff in the Zimbabwean higher education context.

Nepotism and favouritism in the recruitment of teaching staff at institutions of higher education have the potential to undermine meritocracy and negatively affect the quality of teaching and research. In a survey conducted among Ghanaian university students, Walker and Fongwa (2017) found that perceptions of favouritism and nepotism were among the

main forms of corruption in higher education. Limited research has investigated trends such as these in developing countries, but they have recently received research attention in Italy, where, during 2017, a total of 59 people were under investigation for corruption, with seven being placed under house arrest, and 22 being banned from holding academic posts for 12 months. In 2019, nine professors from Catania University and the institute's dean were suspended by a preliminary investigations judge for their involvement in rigging selection committees for the recruitment of professors and researchers (Walker & Fongwa, 2017).

The teaching and learning centres that are being established in Zimbabwean state universities should hopefully restore the status and value of teaching quality in higher education through research focusing on the improvement of teaching quality (Mukwambo, 2019). Considerable investment has been made in terms of human resources in setting up these teaching and learning centres. It is frequently argued that professional development may empower university academics with the necessary pedagogical skills to cope with the educational challenges encountered in higher education. The University of Western Australia, for instance, has adopted a comprehensive approach to staff development and recruitment in order to address academics' expanding roles and the changing demands being made on them to improve teaching quality (Mahmoud & Kanwara, 2015).

In Africa, teaching staff development is also regarded as an institutional strategy that builds capacity among university lecturers to cope with the changes in higher education. Gow et al. (2009) emphasise the role of teaching staff recruitment in unlocking and developing talent within the lecturing force and its positive impact on improving teacher quality. Mukwambo (2019) further emphasises the creation of suitable spaces for genuine and critical dialogue with students about knowledge, course design, teaching methods, assessment and ways of engaging with new generations of students. Higher education institutions further are searching for innovations to improve teaching quality (Garwe, 2015). Therefore, the researcher sought to improve teaching quality by using a universal model of

the Big Five personality traits for the purpose of incorporating students' views in the conceptual research model to inform the recruitment of higher education teaching staff.

4.8 Conclusion

Some concerns in relation to teaching quality centre on its conceptualisation, as well as an emphasis on accountability to stakeholders such as students and lecturers, combined with the need to attract teaching talent competitively. Quality assurance focuses on practices such as accreditation and audits which rely on easily measurable variables such as the availability of resources, qualified lecturers and graduates. Ensuring teaching quality, however, is not only the responsibility of teaching staff but also of educational institutions (Kim et al. 2019).

It is evident from the literature that the concept of teaching quality is highly contested and is context-specific, resulting in the need for the inclusion of the various higher education stakeholders to ensure quality for everyone's optimal benefit. Comparatively limited literature is available on the various dimensions of teaching quality in Africa, specifically in Zimbabwe.

4.9 Chapter Summary

Teaching staff play a pivotal role in any education system and they are the most important determinants of student learning and academic attainment. Many higher education institutions are finding it increasingly difficult to recruit qualified teaching staff for the best job fit. It appears warranted to investigate the relationship between teaching staff's personality traits and teaching quality, especially to guide recruitment decisions, since teaching staff have a direct and essential effect on students' learning.

The importance of ensuring teaching quality in Zimbabwean universities is evident from the discussion in this chapter, and the conceptualisation of teaching quality cannot be separated from students' evaluations of and preferences for teaching staff, since they play

an important role in students' academic attainment. It is therefore necessary to investigate these evaluations and preferences in Zimbabwean higher education.

Chapter five presents the research design and methodology applied in the research with the specific aim of describing the statistical methods used to develop a conceptual research model to inform the recruitment of higher education teaching staff based on the Big Five personality traits to improve teaching quality in a higher education context.

Chapter Five: Research Design and Methodology

This chapter describes the research design and methodology applied in this study, in particular the statistical methods used to develop a conceptual research model to inform the recruitment of higher education teaching staff (based on the Big Five personality traits of teaching staff) for improving teaching quality in a higher education context. The chapter commences with an overview of the study population. This is followed by a discussion of the data collection phase, focusing on the measuring instruments, the reasons for choosing the instruments, and the data gathering process. The chapter concludes by explaining the hypotheses formulated for the study.

The discussion starts with an exposition of the research design. Overall, this study relied on various statistical techniques ranging from simple descriptive statistics to more sophisticated techniques such as SEM. A discussion of how each stage of SEM was applied during the empirical study follows. All the research processes were subject to important ethical considerations as discussed in the succeeding section. The chapter concludes with a summary of the main research methodology.

The seven steps of the research design method used in the current study are as follows:

Step 1: population and sample

Step 2: survey instrument

Step 3: data collection

Step 4: data processing and analysis

Step 5 report and interpretation of the results

Step 6: integration of the research results

Step 7: research conclusions, limitations and recommendations

This chapter discusses steps 1 to 4. Steps 5 to 7 are addressed in chapters six and seven.

5.1 Research Design

The research design refers to the plan, structure and steps that will be followed to answer the research questions (Creswell, 2017). Leedy and Ormrod (2016) indicate that the research methodology is the researcher's framework for achieving the research aim, outlining the process of data collection, analysis and interpretation.

The current study is an empirical study, which is reflected in the research design. An empirical study contains primary (new) data collected by the researcher, rather than secondary data which is collected by others (Hair et al. 2014). This research was guided by a general aim based on the theory and literature survey, and conceptualised in chapter one using a descriptive research design. The researcher's purpose was to conduct a study of teaching staff's Big Five personality traits in higher education, with a view to improving the quality of teaching in Zimbabwean higher education and developing a conceptual research model to inform the recruitment of higher education teaching staff . The constructs of the Big Five personality traits were discussed in detail in chapters two, three and four, as well as students' preferences for their lecturers' personality traits and their views on teaching quality in higher education.

5.2 Formulation of the Research Hypotheses

According to Hair et al. (2014, p. 71), "a hypothesis is a statement or proposed explanation that can be tested by reference to the empirical study". Hypotheses are tested scientifically before they can be accepted or rejected.

Flowing from the background and problem identified earlier, the following research hypotheses were formulated and tested empirically in this research study:

Hypothesis 1: There are significant relationships among teaching staff's Big Five personality traits (Openness to Experience, Conscientiousness, Extraversion, Agreeableness and Neuroticism) in terms of teaching staff's self-assessments, assessments by their students, students' preferences in regard to their lecturers' personality traits and teaching quality at a Zimbabwean higher education institution.

Sub Hypotheses:

H1a: There is a positive relationship between Openness to Experience and teaching quality.

H1b: There is a positive relationship between Conscientiousness and teaching quality.

H1c: There is a positive relationship between Extraversion and teaching quality.

H1d: There is a positive relationship between Agreeableness and teaching quality.

H1e: There is a positive relationship between Neuroticism and teaching quality

Null hypothesis 1: There are no significant relationships among teaching staff's personality traits in the context of the Big Five personality model (Openness to Experience, Conscientiousness, Extraversion, Agreeableness and Neuroticism) in terms of teaching staff's self-assessments, assessments by their students, students' preferences about their lecturers' personality traits and teaching quality at a Zimbabwean higher education institution.

Sub null hypotheses:

H_0a: There is no relationship between Openness to Experience and teaching quality.

H_0b: There is no relationship between Conscientiousness and teaching quality.

H_0c: There is no relationship between Extraversion and teaching quality.

H_0d: There is no relationship between Agreeableness and teaching quality.

H_0e: There is no relationship between Neuroticism and teaching quality.

Hypothesis 2: There are significant relationships among teaching staff's personality traits in the context of the Big Five personality model (Openness to Experience, Conscientiousness, Extraversion, Agreeableness and Neuroticism), based on their self-assessments and their students' assessments at a Zimbabwean higher education institution.

Null hypothesis 2: There are no significant relationships among teaching staff's personality in the context of the Big Five personality model (Openness to Experience, Conscientiousness, Extraversion, Agreeableness and Neuroticism), based on their self-assessments and their students' assessment at a Zimbabwean higher education institution.

Hypothesis 3: There are significant differences between teaching staff's personality traits based on their gender, race, age, academic qualifications, department, the faculty they belong to, years of work experience and teaching quality at a Zimbabwean higher education institution.

Null hypothesis 3: There are no significant differences between teaching staff's personality traits based on their gender, race, age, academic qualifications, department, the faculty they belong to, their years of work experience and teaching quality at a Zimbabwean higher education institution.

The following section provides details of the research paradigms and approaches followed during the study.

5.3 Research Paradigms

The term “paradigm” has been broadly defined by many researchers. For instance, Kivunja and Kuyini (2017) define a paradigm as the researcher’s way of thinking about a topic. They further describe it as ‟an investigation which includes data collection and analysis procedures and its implications for every decision made in the research process” (p. 26). A research paradigm has also been described as “the meaning individuals or groups ascribe to a social or human problem and set of interrelated assumptions about the social world which provides a philosophical and conceptual framework for the organised study of that world” (Creswell, 2017, p. 34).

In terms of research methodology, a positivist approach is mainly associated with the use of quantitative research methods. The main advantages associated with the positivist approach are that it adheres to the hypothetical-deductive method that requires the systematic observation of phenomena and hypothesis testing relying on empirical studies, which may be generalisable (Kivunja & Kuyini, 2017, p. 36). Positivism argues that reality must be observed by utilising the complex process of scientific investigation (Kivunja & Kuyini, 2017). In order to achieve the purpose of the current study, a quantitative research approach was followed. The major criticisms against this philosophy centre on the failure to uncover the in-depth, holistic, contextual and subjective influences that shape human experiences (Mukherji & Albon, 2015).

The following section provides details of the research data collection method that was followed during the current study.

5.4 Quantitative Research Approach

Paradigms are also “characterised by the use of the quantitative methodological approach which emphasises the need to generalise about the world and the need for accurate measurement” (Mukherji & Albon, 2015, p. 24). In the present study, a descriptive

research design was used. To obtain a descriptive summary of the sample, the analysis made use of IBM, AMOS and SPSS version 25. Various multivariate statistical data analysis techniques were used to analyse the data and test the hypotheses in the study. These techniques included mean standard deviation, independent T tests, ANOVA, confirmatory factor analysis (CFA), Pearson correlation coefficients, Cronbach's alpha, and SEM. All of these statistical techniques require a substantial number of sample units and this was achieved in the present study.

There are two common types of descriptive research, namely, cross-sectional and longitudinal studies. In section 6.14, the researcher will elaborate on the descriptive statistics. The following section elaborates on the cross-sectional study design.

5.5 Cross-sectional Study Design

In the current study, a cross-sectional survey strategy of inquiry was used and primary data was collected by means of predetermined instruments to yield statistical data. This strategy was chosen because a cross-sectional survey provides a snap-shot of a sample of the population at a particular point in time. A cross-sectional study is a type of observational study in which data is collected at a single point in time but from various individuals (Creswell, 2017). In a cross-sectional survey, data is collected to make inferences about a population of interest at a particular point in time (Creswell, 2017). This method was deemed appropriate since the data obtained from teaching staff and students was collected at the same time, thus following a cross-sectional design. The researcher's intention was to develop a conceptual research model to inform the recruitment of higher education teaching staff that reflect the interrelationships and find out the most preferred personality traits from the Big Five personality model and teaching quality in higher education.

The following section provides the advantages and disadvantages of cross-sectional studies.

5.5.1 Advantages of Cross-sectional Studies

Cross-sectional studies can be very cost-effective because they do not take long to complete, and do not require any follow-up actions. It is also possible to collect data on many different variables in one study and to examine whether several variables are associated with one another without having to conduct multiple studies (Creswell, 2017). A further advantage of cross-sectional surveys is that they provide a snapshot of the situation at a specific moment in time. It is accordingly possible to look at several studies conducted on the same subject and in the same location but at different times to compare different snapshots in time (Kivunja & Kuyini, 2017).

5.5.2 Disadvantages of Cross-sectional Studies

Cross-sectional studies collect data from a large number of subjects dispersed across a large geographical area (Hair et al. 2014). This may make cross-sectional studies costly in comparison to research methods involving fewer people and locations (Creswell, 2017).

A further disadvantage is that it is only possible to make associations between variables; it is not possible to actually prove that one variable causes changes in other variables. This limitation may be addressed, if the time and resources are available, by following up the cross-sectional study with a different type of study, such as a cohort study, to examine the question of causality among the variables more closely (Creswell, 2017). The disadvantage of a study being time-bound in this way is that it limits the determination of the correct chronological sequence of events, as it cannot tell which variable out of several started changing first (Leedy & Ormrod, 2016).

The following section will provide more details regarding the sampling methods.

5.6 Target Population and Sampling Method

Hair et al. (2014, p. 52) define a population as “the study object [that] consists of individuals, groups, organisations, human products and events”. The current empirical study took place at a public university, based in Harare province, Zimbabwe, among a population of final-year undergraduate students and their lecturers. Staff members responsible for lecturing to final-year undergraduate students at the participating university were invited to participate in the study by means of an online survey. The student sample was subsequently selected from final-year undergraduate students who were enrolled for the courses that the particular teaching staff members taught (matching course codes were used).

Before selecting the sample units, several decisions need to be made, including defining the target population, choosing the sampling method, determining the sample size and selecting the actual sampling units (Hair et al. 2014).

5.6.1 Defining the Target Population

At the beginning of the sampling procedure, the researcher needs to clearly define the target population by responding to the question “whom do we want to investigate?” (Creswell, 2017, p. 70). Based on the key objective of the current research, the target population was final-year undergraduate students and their lecturers whose ages ranged between 18 and 60 (male and females) from ten faculties at the participating higher education institution.

5.6.2 Determining the Sample Size

A population is a large group of research respondents, while a smaller group selected from the population to conduct the research is termed a sample (Soto & John, 2017). The results obtained from the sample can be used to make generalisations about the entire population when the sample is representative of the total population (Leedy & Ormrod, 2016). The sample size is a major concern in academic research. Several factors are

commonly considered when deciding on the sample size, including the available funds to cover the cost, time constraints, the heterogeneity of the population and the type of analysis the study seeks to undertake (Hair et al. 2014). These factors were taken into consideration in deciding on the sample size in this study. Insufficient sample sizes may lead to biased estimates, or significance tests with low statistical power, while excessive sample sizes are a waste of money and time (Soto & John, 2017).

In the current study, convenience sampling was applied to produce two different sample sizes from the total population. The study took place during the first and second half of 2019. All participants were invited to take part on a voluntarily bases in the survey, in order to obtain a sufficient number of participants from the total population. From a population of 417 lecturers, only those who taught final-year undergraduate students were selected as a sample to participate in the survey, the final sample size being 150 teaching staff members. In addition, out of a total of 3986 undergraduate students, 299 undergraduates (male and females) in their final year of study were included as participants in the student sample. The sample design was characterised by two factors, namely the selection process (the rules for including units in the sample) and the estimation process (the sample estimates of population values). Hair et al. (2014) suggest that the sample size should be determined by the number of constructs, number of measured items as well as multivariate normality.

Table 5.1:

An Overview of the Sample Requirements for SEM

Minimum sample size required	Conditions
100	Five or fewer constructs More than three items each High item communalities (0.6 or higher)
150	Seven or fewer constructs Modest communalities (0.5) No under-identified constructs
300	Seven or fewer constructs Lower communalities (below 0.45) Multiple under-identified constructs
500	Large number of constructs Lower communalities Fewer than three measured items Multivariate normality*

*When data deviate from multivariate normality, a larger sample size is required

Source: Adapted from Hair et al. (2014, p. 576).

As evident in Table 5.1, which summarises the key sample size prerequisites for conducting SEM, Hair et al. (2014, p. 576) suggest that for a multiple under-identified complex model (less than 7 constructs), the minimum sample size required is 300. The proposed conceptual model in this study could be considered a semi-complex model given the six constructs that were included in the SEM analysis. Subsequently, a sample size calculator was used to compute the sample from a given population at the 90% confidence interval and with a 10% confidence error. This method was considered appropriate for the current study as the population was known (Joseph & Anderson, 2014).

The following subsection explores the methods and approaches applied to choose the sampling technique.

5.6.3 Choosing the Sampling Technique

Probability and non-probability sampling are the two main sampling methods (Hair et al. 2014). In probability sampling, the researcher can indicate the probability of each element

of the population being included in the sample (Leedy & Ormrod, 2016) while, in non-probability sampling, some members of the population have little or no chance of being part of the sample (Leedy & Ormrod, 2016). The advantages of non-probability samples are that they are less complicated and more economical than probability samples (Hair et al. 2014).

In all forms of research, it would be ideal to investigate the entire population. But in most cases the population is so large that it is impossible to include every individual, and there is no guarantee that all individuals would, for instance, respond to a questionnaire. Although inferences cannot be made about a population from a convenience sample, the sample size is an important characteristic of an empirical study. However, a convenience sample does not allow the researcher to generalise the results of the research to other research (Hair et al. 2014).

In the current study, the non-probability sampling method known as convenience sampling was used. Convenience sampling involves choosing a sample by using people in the population who are readily available to participate in the research (Leedy & Ormrod, 2016). This sampling method therefore involves getting participants wherever the researcher can find them and wherever is convenient. In this type of sampling no inclusion criteria are identified before participants are selected and all are invited to participate. This study employed a convenience sampling method that falls into the category of non-probability sampling methods. This sampling technique was deemed appropriate for the current study because the sample size was large enough, and the sampling method is fast, inexpensive and easy to apply.

The study involved two different samples, teaching staff and their students. Table 5.1 provides an overview of the sample sizes.

Table 5.2:

An Overview of the Student and Teaching Staff Sample Sizes

	Total population	Sample size	Sampling technique
Sample 1: Final-year undergraduate students	3986	299	Simple convenience sampling; this sample is large enough to represent the population
Sample 2: Academic staff members who teach final-year undergraduate students	417	150	Simple convenience sampling; this sample is large enough to represent the population

Note: Year of data collection: 2019

The profile of each sample was described according to the demographical variables of gender, race, age, education level, years of work experience, and faculty or department. The decision to use these demographical variables in the empirical analyses was based on the literature review of the variables that influence the Big Five personality traits and teaching quality. A list of final-year undergraduate students and the teaching staff who were their lecturers was obtained from the Department of Human Resources (HR) at the participating university. Exclusion criteria applied to both groups of samples. Students registered for short courses or diplomas, and master's and doctoral students, were not included in the student group and lecturers who taught more than one course to the same students were not included in the teaching staff group.

5.7 Survey Instrument

To measure the research variables, the research survey was divided into two sections:

Section A: Final-year undergraduate students completed The Big Five Inventory (BFI), Lecturer Preference Questionnaire (LPQ) and Students' End-of-Course Evaluations (SECE) and a demographical section relating to their gender, race, age, level of education, working experience and the faculty they belonged to.

Section B: Teaching staff members who were the lecturers of the undergraduate final-year student sample completed the BFI and a demographical section on their gender, race, age, as well as the faculty they belonged to.

The BFI, LPQ and SECE were chosen as measuring instruments because of their suitability, validity, reliability and cost-effectiveness. Validity refers to the extent to which an instrument measures what it is supposed to measure (Leedy & Ormrod, 2016). Leedy and Ormrod (2016, p. 29) describe reliability as the "consistency with which a measuring instrument yields a certain result when the entity being measured has not changed". This refers to the dependability of the measuring instrument. Surveys (self-administered questionnaires) were used to elicit information from both teaching staff and students, with a cross-sectional survey being implemented in this study. Surveys have many advantages for an academic social research project, as they provide uniform and standardised questions for all respondents and the uniformity of questionnaires makes them easy to administer a survey. Additionally, the straightforwardness and relative cost-effectiveness of surveys rendered them appropriate for the present research (Hair et al. 2014). The standardised nature of the questionnaire allows computerised data analysis programmes to analyse the data collected quickly. Moreover, surveys uncover subgroup differences because they use large sample sizes (Hair et al. 2014).

Hair et al. (2014) provide a taxonomy of survey methods or modes commonly used in research such as person-administered surveys and telephone administered surveys, as well as self-administered surveys. The present study utilised a self-administered survey in an online mode to collect the data. In order to reach as many people as possible, the data collection process included a paper-based questionnaire as well as a web-based questionnaire. This approach was premised on the principle that data collection modes should match respondents' preferences and availability (Anderson et al. 2017). The choice of survey methods was motivated by the relatively low cost associated with this data collection method. Furthermore, a self-administered survey better preserves the anonymity

of respondents. This can therefore contribute to more openness and honesty in the process of completing the questionnaires.

Before providing more details on the rationale for and description of the questionnaires used in the current study, the following subsection discusses important issues around the reliability and validity of scales.

5.7.1 Reliability and Validity of Measurements

When conducting a survey, the researcher should ensure that the scales used in the questionnaire are not only reliable but also valid. The concept of reliability denotes the consistency of a measure of a concept. A questionnaire is reliable when different attempts at measuring it converge on the same results and the main approaches for assessing reliability include test-retest, alternative-form and internal consistency (Hair et al. 2014). In other words, internal consistency can be assessed by the Cronbach's alpha coefficient. Cronbach's alpha is the most frequently applied measure of internal consistency in social research (Leedy & Ormrod, 2016) and was therefore used in this study. A value equal or above 0.7 commonly designates satisfactory internal consistency in social science research (Hair et al. 2014). In addition, the use of widely acceptable instruments such as the BFI, SECE and LPQ increased the prospects of reliability in the current study. In this study, the reliability of the scale was first assessed during the pilot study. The results of this analysis will be discussed in the subsection related to the pilot study. Reliability is later assessed as part of the main analysis.

5.7.1.1 Reliability Analysis and the Cronbach's Alpha Coefficient. Reliability is a measure of the stability or consistency of test scores (Hair et al. 2014) and refers to the fact that a scale should consistently reflect the construct it is measuring. There are two versions of alpha in reliability analysis, namely a normal and a standardised version. The normal version of alpha is applicable when the items on a scale are summed to produce a single score for the

particular scale. The standardised version of alpha is applicable when the items on a scale are standardised before they are summed (Anderson et al. 2017).

A number of statistical tools serve to measure reliability, including Kuder-Richardson 20, which is a measure of internal reliability for a binary test (i.e. one with right or wrong answers) and Cronbach's alpha. The latter is the most widely used internal consistency coefficient. A simple correlation between two scores from the same person is one of the simplest ways to estimate a reliability coefficient. If the scores are taken at different times, this is one way to estimate test-retest reliability. Different forms of the test given on the same day can estimate parallel forms reliability. This measures internal reliability for tests with multiple possible answers. The researcher used Cronbach's alpha because the questionnaires consisted of multiple possible answers.

5.7.1.2 Internal Reliability or Internal Consistency. Internal reliability, or internal consistency, is a measure of how well a test actually measures what it is supposed to measure. External reliability means that a test or measure can be generalised beyond what it is immediately used for (Joseph & Anderson, 2014). Internal reliability was tested during the pilot study and some of the sub-items were removed from the BFI since they were not measuring what they were supposed to measure.

5.7.2 Validity of Measures

While reliability evaluates the consistency of the scale, validity is concerned with accuracy in measurement. Validity assesses whether a scale initially devised to measure a concept does indeed measure what it is supposed to measure (Hair et al. 2014). Although different authors attach different labels to describe the techniques used to assess validity, there are two commonly used ways of establishing validity in social science research. These are content validity and construct validity. Content or face validity reflects subjectivity among experts; that is, that a scale logically reflects the concept that is the focus of attention. The researcher ensured content validity by providing an overview of the literature in a structured

manner when presenting and relating constructs and it was further improved after reviewing the pilot study. Construct validity assesses the core model/theory that the scale is in fact measuring (Leedy & Ormrod, 2016). Each item forming the scale must replicate the construct and show a significant correlation with other items within the scale. To ensure construct validity in the present study, confirmatory factor analyses were performed when analysing the final data to confirm the validity of the scales.

The ensuing section discusses the questionnaire in detail.

5.8 Questionnaire Design

Questionnaire design is a structured procedure that requires researchers to go through a series of important steps (Leedy & Ormrod, 2016). As mentioned earlier, this study adapted existing questionnaires, because some items were removed after the pilot study to ensure the reliability and validity of the survey. In general, a good questionnaire flows from general questions to more complex and specific questions (Hair et al. 2014). Ease of completion of the questionnaire can motivate respondents to fill in the questionnaire effectively (Tarka, 2017). The items in the present study were designed to be straightforward and comprehensive, with unambiguous and ordinary words being used throughout the questionnaire. Leading questions and implicit assumptions were avoided.

The section below presents the layout of the questionnaire used in the current study.

5.8.1 Demographical Questionnaire.

The demographical questionnaire served to gather information about the following demographical variables:

- gender
- race
- age

- level of education
- working experience, and
- the faculty to which they belonged.

5.9 The Big Five Personality Trait Inventory

The BFI was developed by John and Srivastava (1999) and has since been used in many studies.

5.9.1 Rationale for using the Big Five Personality Trait Inventory

Personality testing for recruiting teaching staff is a trend all over the world, mostly in developed countries (Soto & John, 2017). However, this trend is not yet established in the Zimbabwean higher education context, and therefore the researcher's aim was to investigate its relevance in this context in order to show which Big Five personality traits correlate with teaching quality.

5.9.2 Description of the Big Five Personality Trait Inventory

In responding to the BFI, respondents indicated their responses to 44 items on a five-point Likert scale. The inventory measures the important dimensions of five personality traits (Openness to Experience, Conscientiousness Extraversion, Agreeableness and Neuroticism) and consists of two types of assessment; firstly, self-assessment and, secondly, assessment of others' personality traits (Soto & John, 2017). The BFI takes five to six minutes to complete and applies a reverse scoring method. The inventory's reliability and validity of score interpretations have been examined across various ages, genders and cultures (Soto & John, 2017), with factor analytic studies supporting the Big Five Model (Salgado & Fruyt, 2017). Coefficient alphas (α) ranged from .70 to .80 and test-retest reliabilities (r) from .75 to .90. Scale scores have been considered satisfactory (Creswell, 2017) in cross-cultural samples incorporating multiple translations of the measure.

5.10 Lecturer Preference Questionnaire

The LPQ was also used in the current study. This scale was adapted by Furnham and Chamorro-Premuzic, (2005). Most of the constructs were found to have a Cronbach's alpha higher than 0.7, thereby indicating good reliability. Others had reliabilities not too far from 0.7 (> = 0.6) which is still acceptable.

5.10.1 Rationale for using the LPQ

As far as could be determined, the LPQ has not been used in a Zimbabwean study before so it was deemed valuable to determine its relevance at a Zimbabwean higher education institution in order to investigate which personality traits from the Big Five inventory students prefer in their lecturers.

5.10.2 Description of the LPQ

The LPQ is based on the Big Five personality traits. Each dimension is measured by means of six items. The LPQ consists of 30 items and takes five minutes to complete. It investigates the type of characteristics students most (and least) want in their lecturers. Final-year undergraduate students indicated their preferences on an 11-point scale. The more they preferred a characteristic in their lecturer, the higher the positive score would be (i.e. +4, +5). The less they desired a characteristic, the higher the negative score that they allocated (i.e. - 4, - 5). A middle score (0) meant that a particular characteristic was not important or relevant to them.

The reliability and validity of LPQ and score interpretation were examined during the pilot study and coefficient alphas (α from .80 to .87) were found to be satisfactory. CFA was also applied to this questionnaire, because the items are already organised in the questionnaire according to a theoretical framework. This analysis enhanced the validity of data as it tested the theory with regard to the verification and operationalisation of the scale structure.

The following section provides the details about the SECE that served to evaluate teaching quality in the current study.

5.11 Student End of Course Evaluations

The participating university employs SECEs to assess staff members' teaching quality.

5.11.1 Rationale for using the Student End of Course Evaluations

SECEs are the only evaluation used at present at the participating university to assess teaching quality. The institution's Teacher and Learning Centre devised the questionnaire in 2006, and since then thousands of students have responded to it annually.

5.11.2 Description of the Student End of Course Evaluations

At the end of each term, all students respond to the SECE questionnaire to assess their lecturers' teaching quality at the participating institution. The SECE takes approximately four to five minutes to complete and consists of 13 items, including a brief biodata section and information about the personal characteristics of the lecturers, course design, utilisation of content, use of media and material, interaction behaviour and student assessment. Students indicate their responses on a five-point Likert scale. The reliability and validity of SECE was determined in the pilot study of the current research.

The following section elaborates on the survey administration and data collection method used in the current research.

5.12 Survey Administration and Data Collection

A webpage was created by means of the Google application, Google Forms. The hyperlink to the online questionnaire was sent to the email addresses of 500 final-year undergraduate students and 200 lecturers at the participating university. The data collection process spanned three months, including follow-up reminder emails. The data on a total of

449 respondents was subsequently obtained from the students and their lecturers via the online link.

5.12.1 Steps in the Survey Process

Surveys provide data that can be generalised to the population (Leedy & Ormrod, 2016). The following sections will elaborate on each step in detail.

5.12.1.1 Step 1: Pilot Study of the Survey Instrument. A pilot study was undertaken with a sample of 30 final-year undergraduate students and 20 of their lecturers.

5.12.1.2 Step 2: Communication of the Survey Process. Internal communication methods.

5.12.1.3 Step 3: Finalisation and Administration of the Survey. Data was collected during two simultaneous electronic processes, which took place between early and mid-2019. The researcher coordinated the survey administration process after obtaining approval to do so from the university authorities. She also facilitated the questionnaire administration with the assistance of university students and staff.

For the first sample, students were invited through various internal communication processes in their departments to attend the orientation sessions that took place after lectures in their classrooms. Research participants subsequently accessed the online link to the survey and completed it at times convenient to them.

In the second sample, teaching staff were invited electronically to participate in and complete the electronic version of the survey. An invitation to participate in the research study was sent together with a memorandum in an email, with the survey link included. The letter of invitation explained the importance of the study, and that participation was voluntary. Participants were given the assurance of total anonymity and confidentiality and the completed surveys were stored anonymously on an external web server. Since the electronic survey was hosted on the external web server, it was impossible to trace

individual participants' surveys on the university's internal systems. These processes assured participants of confidentiality and anonymity in the data collection process.

5.12.1.4 Step 4: Analysis, Reporting and Feedback on Survey Results. The Statistical Package for the Social Science (SPSS) version 25 and IBM and AMOS 25 were used to analyse the data and to ensure the reliability of the analyses. The SPSS is a package of programmes for analysing and presenting data and is widely used in the social and behavioural sciences. It is capable of handling large amounts of data and was able to perform the required analyses for the current study (Tarka, 2017).

The following section elaborates on data capturing and processing.

5.13 Data Capturing and Processing

The data obtained from the online survey was captured, protected with a password and stored on a web-based server using the Google Survey Software Package. The processing of this data included capturing the responses in the fully completed surveys, reviewing the data and preparing it for analysis. Data entry and transcription were rechecked and confirmed, the raw database was entered into SPSS (SPSS version 25 and IBM AMOS version 25) (2019) and data was checked for missing values. All data will be permanently deleted after five years, as required by the HPCSA.

5.13.1 Data Analysis

This study relied on a number of statistical data analysis methods. Given that the core of this study was to ascertain whether the major determinants of the Big Five personality traits correlated with teaching quality in a Zimbabwean higher education context in the conceptual model, the statistical data analyses included various statistical techniques, including descriptive statistics, confirmatory factor analysis and SEM for testing the model.

5.14 Descriptive Statistics

Statistical analyses are categorised into two types, namely descriptive and inferential statistics. Descriptive statistics, in contrast to inferential statistics, are not developed on the basis of probability theory, and are frequently nonparametric statistics (Hair et al. 2014). Descriptive statistics aim to summarise a sample, rather than use the data to learn about the population that the sample of data is thought to represent (Joseph & Anderson, 2014). The data is summarised in charts, tables and graphs. Descriptive statistics assist in simplifying large amounts of data in a meaningful way and reducing large amounts of data to a summary. Conversely, in inferential statistics a hypothesis is tested and conclusions and predictions generated about a whole population, based on the sample (Joseph & Anderson, 2014).

Descriptive statistics consist of two main types:

- measures of central tendency (mean, median, and mode)
- measures of dispersion or variation (variance, standard deviation, range).

The researcher only elaborated on those statistics that were relevant to the study, which in the present study included descriptive statistics in the form of tabulations (frequency tables), means, standard deviations and cross-tabulations. Means and standard deviations provided information on the average of the continuous variables.

Central tendency (also termed measures of location or central location) is a concept for describing what is typical for a group (set) of data (Anderson et al. 2017). Central tendency does not show what is typical about each piece of data, but it gives an overview of the entire data set (Anderson et al. 2017). It indicates what is normal or average for a given set of data. There are three key methods to show central tendency: the mean, mode and median. The researcher used measures of central tendency and the data were analysed by determining the mean, mode and median.

A mean is the average of a given set of numbers and is calculated in two steps: Firstly, the values of all the items in a data set are added together, and then the total is divided by the total number of data items. The mode of a set of data is the number in the set that occurs most often (Anderson et al. 2017), while the median is the middle value. To determine this value, numbers should be listed in numerical order from smallest to largest (Anderson et al. 2017).

5.14.1 Confirmatory Factor Analysis

In statistics, CFA is a special form of factor analysis, most commonly used in social research. It is used to test whether measures of a construct are consistent with a researcher's understanding of the nature of that construct (or factor). The objective of CFA is to test whether the data fits a hypothesised measurement model. This hypothesised model is based on theory or previous analytic research (Hair et al. 2014).

In CFA, the researcher first develops a hypothesis about what factors he or she believes underlie the measures used. The researcher may impose constraints on the model based on these a priori hypotheses. By imposing these constraints, the researcher is forcing the model to be consistent with his or her theory. If the constraints the researcher has imposed on the model are inconsistent with the sample data, then the results of statistical tests of the model fit will indicate a poor fit, and the model will be rejected. If the fit is poor, it may be because some items measure multiple factors. It might also be that some items within a factor are more related to each other than others (Creswell, 2017).

In the SEM procedure, the CFA introduces measurement theory and fulfils the purpose of specifying how the constructs are structured (Anderson et al. 2017). The steps followed in specifying the conceptual research model to inform the recruitment of higher education teaching staff will be discussed in depth in the section dedicated to SEM.

5.14.2 Pearson correlation.

The Pearson product moment correlation, also called Pearson's r, is a statistical calculation of the strength of the relationship between two variables. It therefore is a measurement of how dependent two variables are on one another. The correlation between sets of data provides a measure of how well they are related. Pearson's correlation can be used to estimate the theoretical reliability coefficient between parallel tests and shows the linear relationship between two sets of data (Hair et al. 2014).

A potential limitation of the Pearson correlation is that is not able to determine the difference between dependent variables and independent variables (Hair et al. 2014).

5.14.3 Multiple Regression Analysis.

Multiple linear regression (MLR), also known simply as multiple regression, is a statistical technique that uses several explanatory variables to predict the outcome of a response variable. The goal of MLR is to model the linear relationship between the explanatory (independent) variables and the response (dependent) variable (Hair et al. 2014). A researcher might, for instance, want to know which Big Five personality traits are associated with good teaching quality in a higher education context. After plotting all these into a system that can perform MLR, the researcher determines the factors that most strongly relate to teaching quality.

A simple linear regression is a function that allows an analyst or statistician to make predictions about one variable based on the information that is known about another variable. Linear regression can only be used when two continuous variables, an independent variable and a dependent variable, are involved. The independent variable is the parameter that is used to calculate the dependent variable or outcome. A multiple regression model can be extended to include several explanatory variables (Anderson et al. 2017). For instance, the concept of personality traits cannot be measured directly and the researcher developed hypotheses about personality traits and incorporated measurement

instruments consisting of items designed to measure personality traits. SEM was used to test the hypotheses using data gathered based on the hypotheses.

A multiple regression model is based on the following assumptions:

- There is a linear relationship between the dependent variables and the independent variables.
- The independent variables are not too highly correlated with each other.
- Observations are selected independently and randomly from the population.
- Residuals should be normally distributed with a mean of 0 and variance σ.
- There is no major correlation between the independent variables.

5.15 Structural Equation Modelling

SEM is a method for representing, estimating and testing a network of relationships between measured variables and latent constructs (Tarka, 2017). As mentioned before, the primary objective of this investigation was to test a conceptual model that captures the major determinants of the Big Five personality traits correlated with teaching quality at the participating higher education institution. Thus, SEM is central to this study.

The following subsections elaborate on SEM.

5.15.1 Purpose of Structural Equation Modelling

The aim of SEM is to understand the patterns of correlation or covariance between a set of variables, and to explain as much of their variance as possible on the basis of a specific model. The use of SEM is commonly justified in the social sciences based on its ability to impute relationships between unobserved constructs (latent variables) from observable variables (Hair et al. 2018). SEM can address a wide variety of causal relationships. Two most common types of analysis are CFA and the estimation of a series of structural equations (Bentler & Chou, 2016). CFA was employed in this study.

To give a simple example, the concept of personality traits cannot be measured directly and psychologists instead develop a hypothesis of personality traits and create measurement instruments using items designed to measure personality traits. According to their hypothesis they would then use SEM to test this hypothesis using data gathered from people who responded to the particular personality test. With SEM, personality traits would be the latent variable and the test items would be the observed variables (Tarka, 2017).

5.15.2 Characteristics of Structural Equation Modelling

The characteristics of SEM can be thought of as a set of relationships providing consistent and comprehensive explanations of the actual phenomena. There are two types of models.

- **Measurement models**: The measurement model represents the theory that specifies how measured variables come together to represent the theory.
- **Structural models**: These represent the theory that shows how constructs are related to other constructs (Tarka, 2017). SEM is also known as causal modelling because it tests proposed causal relationships.

5.15.3 Advantages of Structural Equation Modelling.

SEM has both advantages and disadvantages which have to be considered when a researcher has to make a decision about using the model. According to Tarka (2017), the following are some of the advantages of SEM:

- It can be used for theory testing and development.
- It estimates the multiple and interrelated dependence in a single analysis.
- It is a multimethod, multi-trait model.
- It is a methodology for representing, estimating and testing a network of relationships between variables (measured variables and latent constructs).

- It is a highly flexible and comprehensive methodology. One of the strengths of SEM is its flexibility, which permits examination of complex associations, the use of various types of data (e.g., categorical, dimensional, censored, count variables) and comparisons across alternative models.

5.15.4 Limitations of Structural Equation Modelling.

Relative to alternative statistical procedures, SEM has several limitations:

- It requires a relatively large sample size (N of 150 or greater).
- It requires considerable formal training in statistics to be able to use SEM software programmes effectively.
- It requires a well-specified measurement and conceptual model. SEM is theory driven, and well-developed a priori models are therefore essential.
- The researcher's choice of variables and pathways represented will limit the ability of SEM to recreate the sample covariance and variance patterns that were observed.
- The SEM cannot test directionality in relationships. The directions of arrows in SEM represent the researcher's hypotheses of causality in a system (Hair et al. 2018).
- It provides straightforward tests for determining model fit; it is complex and has a large sample size requirement (> 200) for goodness-of-fit assessment (Tarka, 2017).

Despite these limitations, the advantages of SEM listed above outweigh its disadvantages.

5.16 Impact of Sample Size on Structural Equation Modelling

Although the determination of an appropriate sample size is a critical issue in SEM, there does not appear to be consensus in the literature regarding the appropriate sample size for this technique. Some evidence exists that simple SEM models could be meaningfully tested even if a sample size is quite small, but usually, N = 100–150 is considered the minimum sample size for conducting SEM (Hair et al. 2014). Most researchers would

recommend using sample sizes of at least 200, or five or ten cases per parameter (Kline, 2015). Some researchers consider an even larger sample size appropriate for SEM, for example N = 200 (Tarka, 2017).

Simulation studies show that with normally distributed indicator variables and no missing data, a reasonable sample size for a simple CFA model is about N = 150 (Bentler & Chou, 2016). For multi-group modelling, the rule of thumb is 100 cases or observations per group (Bentler & Chou, 2016). Sample size is often considered in light of the number of observed variables. Most researchers prefer a 200 to 400 sample size with 10 to 15 indicators. As a rule of thumb, that is 10 to 20 times as many cases as variables (Tarka, 2017). SEM involves large sample sizes. To be effective and to reduce measurement errors, sample size should not be fewer than 100. With small size samples partial least squares (PLS) is preferred (Tarka, 2017).

5.17 Structural Equation Modelling Strategy

The central objective of the current study was to develop and test a conceptual model to inform the recruitment of teaching staff in a higher education context based on the Big Five personality traits. The proposed conceptual or theoretical model for teaching quality of teaching staff was presented and discussed in chapter five Stages 1 and 2 of the SEM, namely the development of the theoretically based model and the construction of a path diagram of causal relationships, were covered in an integration of the literature review.

SEM undertakes a multivariate analysis of multi-causal relationships among different, independent phenomena grounded in reality. SEM is largely a confirmatory, rather than an exploratory, technique. A researcher consequently is more likely to use SEM to determine whether a certain model is valid instead of using SEM to "find" a suitable model, although SEM analyses often involve a certain exploratory element. SEM enables the researcher to assess and interpret complex interrelated dependence relationships as well as to include the measurement error on the structural coefficients (Hair et al. 2018). SEM with confirmatory

factor and path analysis is a versatile multivariate approach to measure latent variables and the structural relationships among the study variables (Tarka, 2017). It is used to determine whether the exogenous (independent) variables are causally related to the endogenous (dependent) variables.

In the current study, SEM served to determine whether a pattern of relationships in the data matched the predictions in the hypothesis, and in this way the validity of the proposed conceptual model for the recruitment of teaching staff at a Zimbabwean higher education institution could be determined. SEM simultaneously estimates the relationships between the indicators (manifested variables or survey items) and the constructs (latent variables or hypothesised theoretical constructs in the model) (Hair et al. 2018).

The conceptual research model to inform the recruitment of higher education teaching staff was validated during the empirical phase by conducting a survey at a Zimbabwean higher education institution, the results of which were subjected to SEM. The data obtained from the self-assessments of teaching staff and their students by means of survey instruments was then exposed to CFA in SEM (Hair et al. 2018).

Various SEM strategies can be used, and the researcher's decision about the appropriate strategy to apply is mainly based on the research purpose and research hypotheses. The three different SEM strategies, with specific emphasis on the model development strategy which is applicable in this study, will now be discussed.

5.17.1 Confirmatory Modelling Strategy

The assessment of the measurement model is also called CFA. In CFA, a researcher compares the theoretical measurement against the model of reality and the result of the CFA must be associated with the validity of the construct. SEM allows confirmatory modelling that is suited to both theory testing and theory development (Hair et al. 2014).

CFA is used when evidence is evaluated using traditional statistical tools such as significance, inference and confidence. At this point, assumptions are challenged. A big part of CFA is quantifying aspects such as the extent to which any deviation from the model the researcher has built could have happened by chance, and at what point the researcher should start questioning the model (Bentler & Chou, 2016).

Confirmatory modelling usually starts out with a hypothesis that is represented in a causal model. The concepts used in the model must then be operationalised to allow the relationships between these concepts to be tested. The limitation of this strategy is that the causal assumptions embedded in the model often have falsifiable implications which can be tested against the data. In addition, although the model is tested against the measurement data obtained to determine how well the model fits the data, the strategy cannot adequately test the proposed model for acceptable fit (Tarka, 2017).

5.17.2 Comparative Modelling Strategy

Comparative modelling is applied when the alternative model is compared with the fit of the baseline model (Anderson et al. 2017). The baseline model usually specifies complete independencies, which are the most restrictive. Hence, the measure of fit of the baseline model will be a fairly large model of fit among the observed variables. The comparative fit index (CFI) produces values between 0−1 and thus high values are indicators of good fit. When the CFI value is 0.97, it means that the fit in question is better compared to the independence model. This implies that in terms of the indices, 0.95 is indicative of good fit relative to the baseline model. The major concern of the comparative modelling strategy is the extent to which its indices are sensitive to sample size, method of estimation and distributional violations (Creswell, 2017). In view of the aim of the current study, the comparative or competing model strategy was not relevant.

5.17.3 Model Development Strategy

Since the purpose of this study was to use SEM to develop a conceptual research model to inform the recruitment of higher education teaching staff, the model development strategy was relevant.

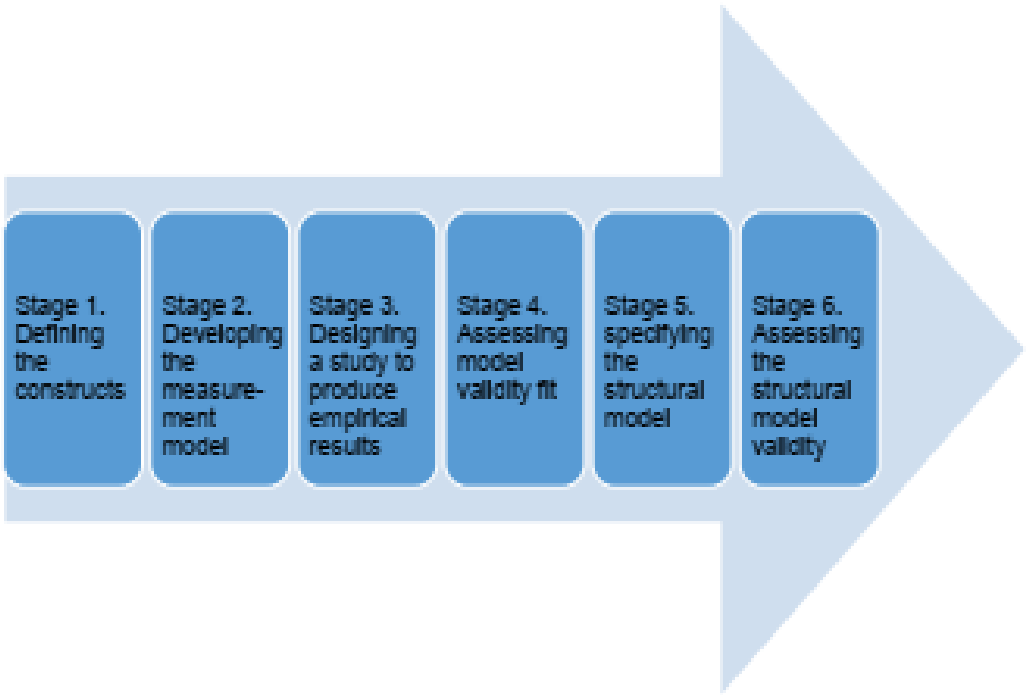
5.18 Structural Equation Modelling Process

The SEM process is described in terms of the six stages outlined below. As mentioned before, the primary objective of the current investigation was to test a conceptual model that captures the major personality traits that correlate with teaching quality. Thus, SEM is central to this study. The six stages that are important for conducting an SEM (Hair et al. 2014) and which were followed in this study are the following:

- Stage 1: Defining the individual constructs
- Stage 2: Developing and specifying the measurement model (CFA)
- Stage 3: Designing a study to produce empirical results
- Stage 4: Assessing measurement model validity
- Stage 5: Specifying the structural model
- Stage 6: Assessing the validity of the structural model

Figure 5.1 below illustrates the six stages of the SEM model in detail.

Figure 5.1:
Six stages of the SEM strategy



Source: Hair et al. (2014, p. 566)

The following procedure guided the process for conducting an empirical test of the proposed conceptual model to inform the recruitment of higher education teaching staff. The stages are explained in detail below:

Stage 1: Defining the individual constructs. This initial stage of the SEM involves using the most relevant available theory, research and information to construct a theoretical model (Hair et al. 2018; Tarka, 2017). In chapters two, three and four of this study, both the theoretical model of the Big Five personality traits and teaching staff were discussed based on the literature survey.

Stage 2: Developing and specifying the measurement model. In this phase of SEM, it is essential to specify the relationships between the relevant variables that describe the phenomenon of study. The measurement model (which is CFA) is represented by a path diagram. CFA involves using multivariate techniques to test or confirm a pre-specified relationship (Hair et al. 2014). The fundamental hypothesis of the SEM is that the covariance matrix of the observed or manifest variables is a function of a set of parameters which, in the

current study, meant the relationship between latent variables and between the latent and the observed variables (Tarka, 2017). It is at this stage that the researcher will use SEM graphs with one-headed arrows indicating causal relationships or two-headed arched arrows indicating mutual dependencies (correlations) (Tarka, 2017). Chapter six of this thesis explores the path diagram developed in chapters two, three and four. The inclusion of unimportant factors or the exclusion of important factors will produce implied models that are mis-specified. Because a mis-specified model cannot adequately reproduce the observed covariance, it will not fit the data (Hair et al. 2018).

Stage 3: Designing a study to produce empirical results. Before assessing the measurement model fit, some issues related to the research design, such as sample size, estimation technique and the computer programme are carefully addressed. Sample size requirements in SEM have been discussed in the section dedicated to the target population and the sampling methods. Estimation technique refers to the mathematical foundation of the estimates for each free parameter (Hair et al. 2018). The software utilised for conducting the SEM is the Analysis of Moment Structures (AMOS) version 22, which is a module of IBM SPSS 22. This choice was mainly motivated by the graphical interface provided by AMOS 22.

Stage 4: Assessing measurement model validity and fit. The CFA (measurement model) enables the researcher to establish the construct validity as discussed in previous sections. More importantly, this stage evaluates how well the model fits the data. Several fit indices are utilised to validate the model fit in SEM, the most common of which are described in Table 5.3.

Table 5.3:

Model Fit Indices

Model fit indices	Threshold
Absolute fit indices	
Normed chi-square (x 2 /DF)	< 3 good; < 5 sometimes permissible
Goodness of fit index (GFI)	> 0.90
Root mean square error	< 0.05 good; between 0.05-0.08
Approximation (RMSEA)	< . 05 indicates a “close fit,” and < . 08 suggests a reasonable model–data fit
Standardised root mean square residual (SRMR)	0.05
Incremental fit indices	
Normed fit index (NFI)	Above 0.90
Tucker Lewis index (TLI)	Above 0.90
Comparative fit index (CFI)	Above 0.90
Parsimony fit indices	
Adjusted goodness of fit (AGFI)	Above 0.8
Parsimony normed fit index (PNFI)	Above 0.9
Closeness of fit (PCLOSE)	Above 0.05

Source: Hair et al. (2014); Tarka (2017)

As evident in Table 5.3, the model fit indices can be classified into absolute fit indices, incremental fit indices and parsimony fit indices. Absolute fit indices measure how well a model fits the observed sample data (Tarka, 2017). Incremental fit indices do not incorporate chi-square statistics, but rather evaluate how well the estimated model fits to some alternative null model (i.e. a model that supposes that all observed variables are uncorrelated) (Hair et al. 2018). Parsimony fit indices focus on comparing models based on relative fits and complexity (Creswell, 2017). Tarka (2017) recommends that at least one fit index of each category should be reported in order to complete the assessment and validate the fit models. In the current study, at least one of the fit indices in each category outlined in Table 5.3 was included in the analyses. The goodness of fit index (GFI) statistics served to provide assurance that the data fitted the model correctly (Hair et al. 2018). The first assessment of model fit took place for the overall model in order to determine the degree to

which the specified indicators represented the hypothesised constructs. This was followed by the evaluation of each construct to examine the indicator loadings for statistical significance and to assess reliability of the construct and the variance extracted (Tarka, 2017). Furthermore, a multiple regression analysis served to determine the interrelationships between the variables (Bentler & Chou, 2016). The purpose of using the multiple regression analysis was to identify the relationships between the variables.

Stage 5: Specifying the structural model. The structural model can subsequently be specified. According to Hair et al. (2014, p. 640), a structural model is a “set of one or more dependent relationships linking the hypothesised constructs”. The process of specifying the structural model consists of assigning the relationship from one construct to another as described in the theory. The goodness-of-fit of this model was first assessed for the overall model and then for the measurement and structural model separately. Finally, the proposed model was verified and the required significant modifications of the model explored.

Stage 6: Assessing the structural model validity. This final stage of SEM entails assessing the validity of the structural model. Possible modifications to the proposed model may be indicated by examining the normalised residuals and the modification indices (Hair et al. 2018). Once the structural model is sketched out, an evaluation of the validity and model fit can be performed. The model fit in the structural model relies on the same fit indices found in the measurement model. At this stage, the researcher empirically tests the hypothesised relationships discussed in previous literature review chapters.

It is evident from the above that the current study relied on many statistical techniques, ranging from simple descriptive statistics to more sophisticated techniques such as SEM. Before the proposed modification was made, it was theoretically motivated by testing the specified model. During this process, the modification index from AMOS was used to make improvements to the final model. The proposed model for teaching staff recruitment was also interpreted on the basis of the literature and existing theory.

All the research processes were subject to important ethical considerations as is evident in the following section.

5.19 Ethical Considerations

This section deals specifically with the ethical issues that may arise in the course of conducting a survey. Some of the ethical principles applied in the present study relate to research integrity, privacy and confidentiality, as well as informed consent. In terms of the ethical considerations that guided the research, the survey included a covering letter providing information on the importance of the study, the purpose of the survey, the respondents' voluntary participation, the confidentiality of respondents' responses, and feedback on the research results (Hair et al. 2014). In order to enforce these ethics during the administration of the survey, the researcher afforded the participants the opportunity to complete the survey voluntarily.

The following sections explain research integrity in more detail.

5.19.1 Research Integrity

To ensure research integrity verifiable methods should be used in proposing and evaluating data (Hair et al. 2014). In view of the fact that researchers may be tempted to falsify data, alter findings or withhold important information, the integrity of the present study was assured by the involvement of many stakeholders in the data analysis process.

5.19.2 Privacy and Confidentiality

Maintaining privacy and confidentiality helps to protect participants from potential harm, including psychological harm such as embarrassment or distress (Hair et al. 2014). In the current study, participants were assured of privacy and confidentiality. The researcher also explained to participants how their responses would be used in the study during the data collection process and the group orientation session. To protect respondents' identity, anonymity was ensured, with both online and paper-based questionnaires being anonymous

in the sense that respondents were not requested to provide any personal details when completing the questionnaires.

5.19.3 Informed Consent

The process of informed consent provides participants with sufficiently detailed information on the study in order for them to make an informed, voluntary and rational decision to participate. This involves information on their right to decline to participate in the study or to withdraw from it if they wish (Creswell, 2017). Informed consent letters were sent to final-year undergraduate students and their lecturers, and their personal details were not disclosed. In addition, the researcher collected the data herself. Participants were protected from emotional, physical and mental harm by being briefed on informed consent and they were also reminded that participation in the study was completely voluntary.

5.20 Conclusion

In conclusion, seven steps of research methodology were discussed with the details of the hypotheses. The chapter detailed statistics ranging from simple descriptive statistics to more complicated techniques such as SEM. A discussion of the six stages of SEM that were applied during the empirical study followed. All the research processes were subject to important ethical considerations and were discussed in the above sections.

All the statistical methods were followed by a discussion of the data collection phases, focusing on the measuring instruments, the rationale for choosing the instruments, and the data gathering process.

5.21 Chapter Summary

This chapter delineated the steps in the research design and methodology, and discussed the research objectives of the study. The study adopted a positivist paradigm and quantitative data methods were used to collect data by means of an online survey. The final sample size consisted of 449 students and teaching staff members which were selected by

means of convenience sampling. A variety of data analyses were utilised in this research; however, the key statistical technique used to test the hypotheses was SEM. Finally, ethical considerations that were taken into consideration during the investigation were discussed.

Chapter six focuses on the data analysis, interpretation of the data and the integration of the empirical findings.

Chapter Six: Research Results and Discussion

This comprehensive chapter presents and discusses the statistical results in a sequence that is coherent with the research questions about teaching staff's personality traits, students' preferences regarding their lecturers' personality traits based on the Big Five personality model, as well as teaching quality at the participating university. The statistical results of this study are reported in terms of the two sample groups, the teaching staff and the student sample. The statistical results of the study discussed in this chapter commence with descriptive statistics, confirmatory analysis and SEM. Thereafter, the results of the SEM, with which the hypotheses were tested, are discussed.

As articulated in chapters one and five, eight hypotheses were formulated for this study. These are recapped in the following section.

6.1 Hypotheses

The following research hypotheses were posed and were tested empirically in this research study:

Hypothesis 1: There are significant relationships among teaching staff's Big Five personality traits (Openness to Experience, Conscientiousness, Extraversion, Agreeableness and Neuroticism) in terms of teaching staff's self-assessments, assessments by their students, students' preferences in regard to their lecturers' personality traits and teaching quality at a Zimbabwean higher education institution.

Sub Hypotheses:

H1a: There is a positive relationship between Openness to Experience and teaching quality.

H1b: There is a positive relationship between Conscientiousness and teaching quality.

H1c: There is a positive relationship between Extraversion and teaching quality.

H1d: There is a positive relationship between Agreeableness and teaching quality.

H1e: There is a positive relationship between Neuroticism and teaching quality

Null hypothesis 1: There are no significant relationships among teaching staff's personality traits in the context of the Big Five personality model (Openness to Experience, Conscientiousness, Extraversion, Agreeableness and Neuroticism) in terms of teaching staff's self-assessments, assessments by their students, students' preferences about their lecturers' personality traits and teaching quality at a Zimbabwean higher education institution.

Sub null hypotheses:

H_0a: There is no relationship between Openness to Experience and teaching quality.

H_0b: There is no relationship between Conscientiousness and teaching quality.

H_0c: There is no relationship between Extraversion and teaching quality.

H_0d: There is no relationship between Agreeableness and teaching quality.

H_0e: There is no relationship between Neuroticism and teaching quality.

Hypothesis 2: There are significant relationships among teaching staff's personality traits in the context of the Big Five personality model (Openness to Experience, Conscientiousness, Extraversion, Agreeableness and Neuroticism), based on their self-assessments and their students' assessments at a Zimbabwean higher education institution.

Null hypothesis 2: There are no significant relationships among teaching staff's personality in the context of the Big Five personality model (Openness to Experience, Conscientiousness, Extraversion, Agreeableness and Neuroticism), based on their self-assessments and their students' assessment at a Zimbabwean higher education institution.

Hypothesis 3: There are significant differences between teaching staff's personality traits based on their gender, race, age, academic qualifications, department, the faculty they belong to, years of work experience and teaching quality at a Zimbabwean higher education institution.

Null hypothesis 3: There are no significant differences between teaching staff's personality traits based on their gender, race, age, academic qualifications, department, the faculty they belong to, their years of work experience and teaching quality at a Zimbabwean higher education institution.

The following section provides details of the sampling methods applied during the study.

6.2 Descriptive Statistics

Before conducting the descriptive statistics, certain preliminary analyses were performed. The imputation method in SPSS version 25 was used to replace missing data and, after screening and cleaning, the final sample size included 449 participants.

Section A of the survey required respondents to provide certain demographic details.

6.2.1 Demographic Profile of the Participants

The following sections will discuss the details relating to the teaching staff and their students in terms of gender, age, race, highest level of education, employment experience and faculty.

6.2.2 Composition of Gender Groups in the Two Samples

The number of males and females in both samples were almost equal.

The gender distribution of the teaching staff is presented in Table 6.1 below. The information was captured from the responses of 150 teaching staff members.

Table 6.1:

Gender Distribution of the Teaching Staff Sample

Gender	Frequency	Percent
Male	73	48.7
Female	77	51.3
Total	150	100.0

It is evident from Table 6.1 that just over half (51.3%) of the teaching staff who participated in the study were female.

The gender distribution in the student sample is presented in Table 6.2 below, based on information obtained from the 299 students who participated in the study.

Table 6.2:

Gender Distribution of the Student Sample

Gender	Frequency	Percent
Male	147	49.2
Female	152	50.8
Total	299	100.0

It is evident from the Table 6.2 that males and females were represented almost equally in the student sample. This may be because very equal numbers of male and female students are registered in most departments of the participating university.

6.2.3 Age Distribution of the Two Samples

Teaching staff and students between the ages of 19 and 65 participated in the study.

The ages of the participants in the teaching staff sample ranged between 25 and 65, with one participant being older than 65.

Table 6.3:

Age Group Distribution of the Teaching Staff Sample

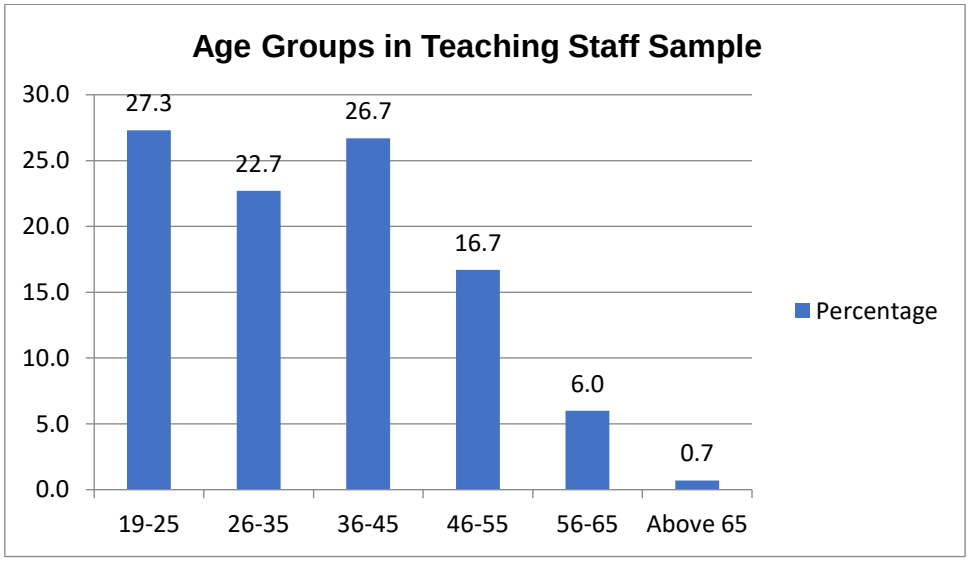
Age	Frequency	Percent
19–25	41	27.3
26–35	34	22.7
36–45	40	26.7
46–55	25	16.7
56–65	9	6.0
Above 65	1	0.7
Total	150	100.0

It is evident from Table 6.3 that teaching staff from all age groups responded to the survey, with the greatest number of responses generated by lecturers in the age groups 19–25 (27.3%), 26–35 (22.7%), and 36–45 (26.7%). Most teaching staff who participated in the survey were between the ages of 19 and 25 (27.3%).

Figure 6.1 presents the graphical distribution of the age groups in the teaching staff sample.

Figure 6.1:

Age Groups Distribution of the Teaching Staff



It is evident from Figure 6.1 that 27.3% of respondents in the teaching staff sample were between the ages of 19 and 25.

Participating students were asked to indicate their age, with age groups from 19 to 45 being included.

Table 6.4:

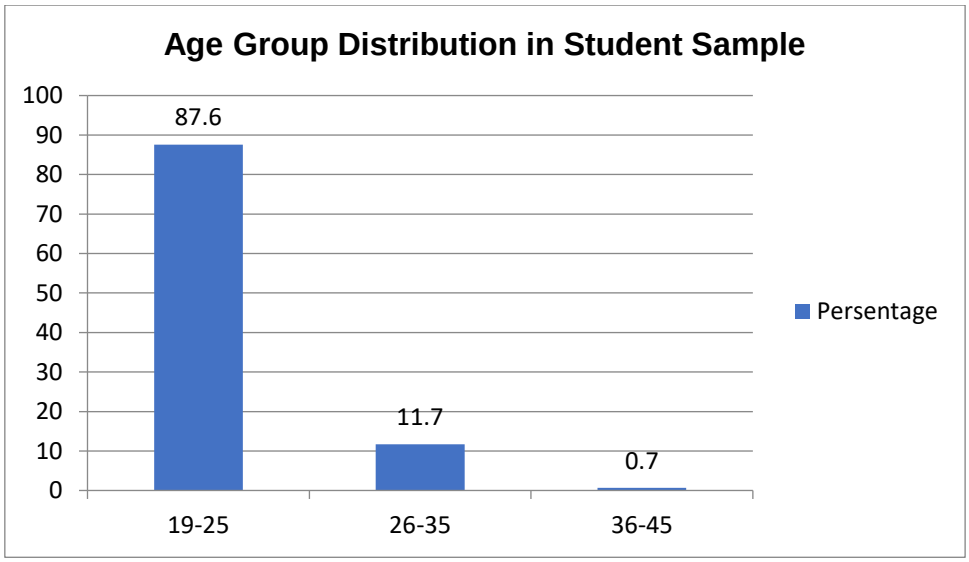
Age Group Distribution of the Student Sample

Age	Frequency	Percent
19–25	262	87.6
26–35	35	11.7
36–45	2	0.7
Total	299	100

It is evident from Table 6.4 that the majority of students who participated in the study (87.6%) were between the ages of 19 and 25.

Figure 6.2:

Age Group Distribution of the Student Sample



It is evident from Figure 6.2 that 87.6% of students in the sample were between the ages of 19 and 25.

6.2.4 Composition of Racial Groups in the Two Samples

The composition of the two samples in terms of racial group will now be briefly presented.

Table 6.5 presents the racial distribution of the teaching staff sample

Table 6.5:
Racial Distribution of the Teaching Staff Sample

Race	Frequency	Percent
Black	118	78.7
White	10	6.7
Coloured	16	10.7
Asian	6	4.0
Total	150	100.0

With regard to the teaching staff sample, it is evident from Table 6.5 that the majority of the teaching staff (78.7%) who participated in the study was Black. The main reason could be that most of the teaching staff employed at the participating university was Black Africans.

Figure 6.3:
Racial Distribution of the Teaching Staff Sample

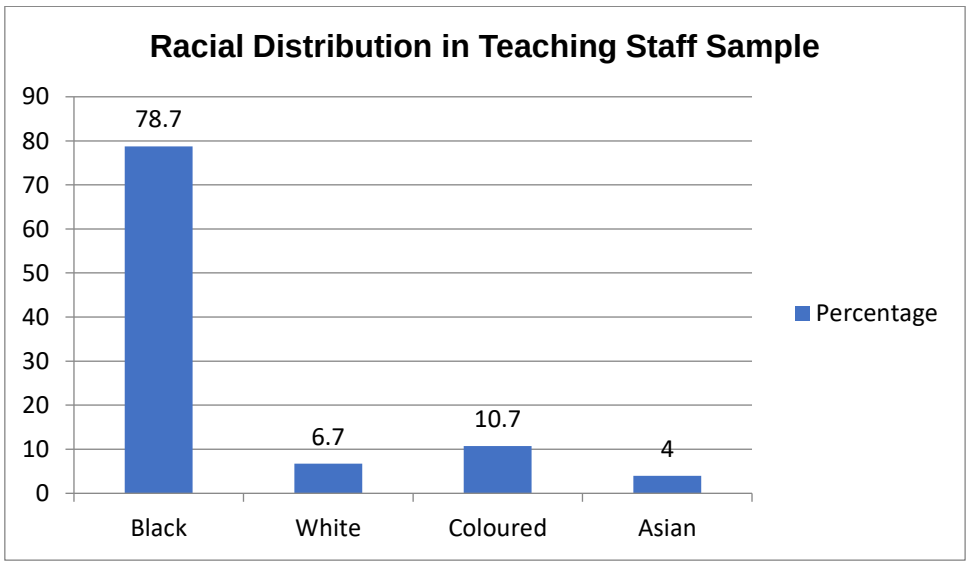


Figure 6.3 presents a graphical representation of the racial group distribution in the teaching staff sample.

It is evident from Figure 6.3 that the majority of respondents (78.7%) in the teaching staff sample were Black (Africans).

Table 6.6 presents the racial distribution of the student sample.

Table 6.6:

Racial Group Distribution of the Student Sample

Race	Frequency	Percent
Black	250	83.6
White	14	4.7
Coloured	25	8.4
Asian	10	3.3
Total	299	100

It is evident from Table 6.6 that the majority of students (83. 6%) who participated in the study were from the Black ethnic group. The reason of this result could be that Zimbabwe is a majority Black African country and minority groups do not feature strongly in the country. The same applies to higher education students.

Figure 6.4:

Racial Distribution of the Student Sample

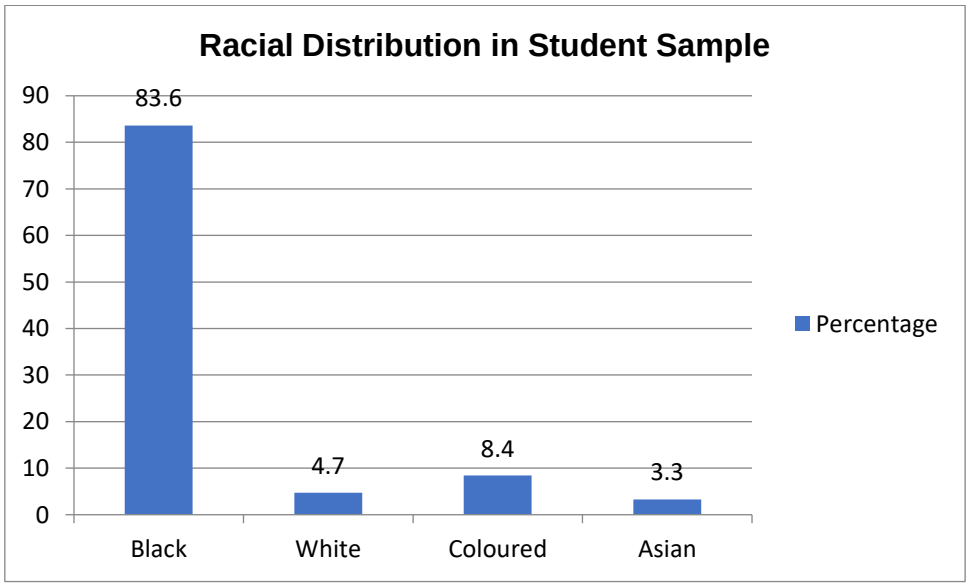


Figure 6.4 presents the graphical representation of all racial groups in the student sample.

It is evident from Figure 6.4 that Black (African) respondents comprised 83.6% of the student sample.

6.2.5 Length of Employment Experience in the Teaching Staff Sample

The composition of the employment experience in teaching staff sample will be presented in the following sections.

Teaching staff were asked to indicate the duration of their employment experience of teaching in the higher education institution during the survey. Table 6.7 presents further details.

Table 6.7:
Composition of Employment Experience among Teaching Staff Sample

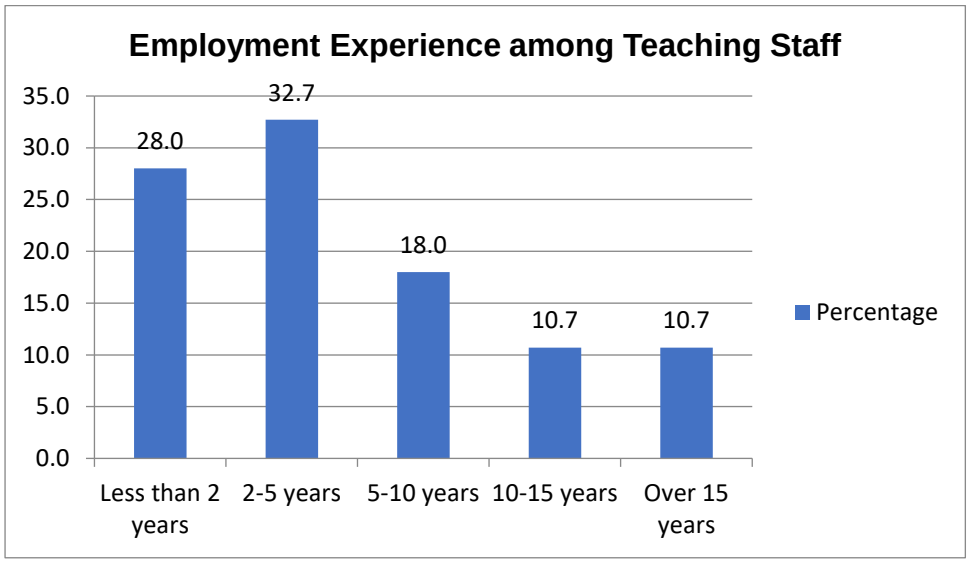
Period	Frequency	Percent
Less than 2 years	42	28.0
2-5 years	49	32.7
5-10 years	27	18.0
10-15 years	16	10.7
Over 15 years	16	10.7
Total	150	100.0

It is evident from Table 6.7 that the highest number of the teaching staff members who participated in the study (32.7%), had 2-5 years of teaching experience, followed by those who had less than two years of teaching experience (28%). Most teaching staff who participated in the study were newly appointed or had less than 5 years of teaching experience.

Figure 6.5 presents a graphical illustration of the distribution of teaching staff's years of experience at the institution.

Figure 6.5:

Employment Experience among Teaching Staff



It is evident from the Figure 6.5 that teaching staff members who had two to five years of employment experience were most strongly represented in the teaching staff sample.

6.2.6 Teaching Staff's Highest Level of Education

Teaching staff were asked to indicate their highest level of education. The level of education of teaching staff might predict some the Big Five personality traits that may positively correlate with teaching quality in higher education.

Table 6.8 presents teaching staff members' highest levels of education.

Table 6.8:

Highest Level of Education among Teaching Staff

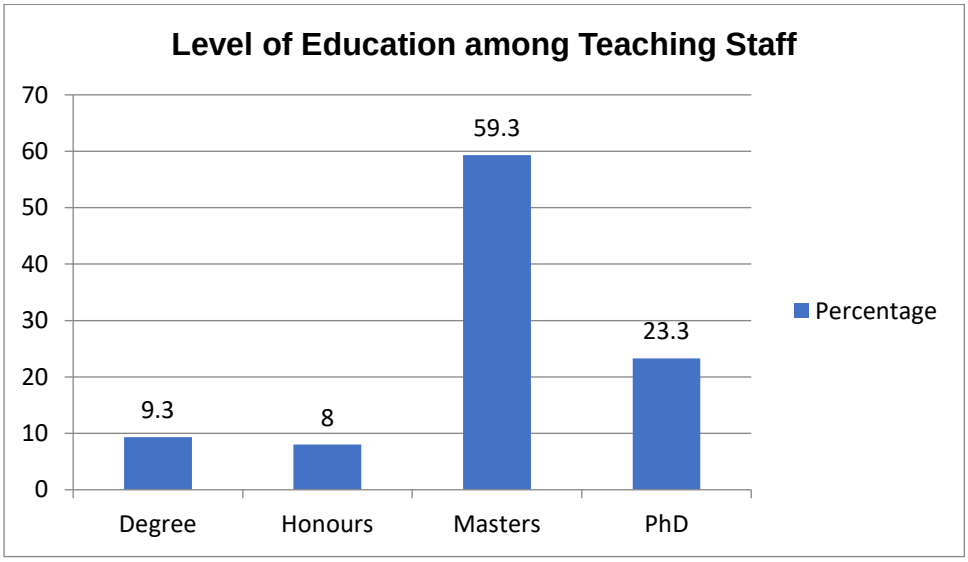
Education level	Frequency	Percent
Degree	14	9.3
Honours	12	8.0
Master's	89	59.3

PhD	35	23.3
Total	150	100.0

It is evident from Table 6.8 that nearly 60% (59.3%) of teaching staff members held a Master's degree as their highest qualification. Figure 6.6 presents a graphical representation of the highest level of education of teaching staff.

Figure 6.6:

Highest Level of Education among Teaching Staff



It is evident from Figure 6.6 that 59.3% of teaching staff respondents held a Master's level degree. This may be ascribed to the trend observed in the Zimbabwean higher education context for most teaching staff to hold Master's degrees (Garwe, 2014; Mukwambo, 2019).

6.2.7 Representation of Faculties in the Two Sample Groups

In both samples (teaching staff and students), participants from ten faculties were invited to participate in the study. The representation of the ten faculties in the two samples is presented below.

Teaching staff were asked to indicate the faculty they belonged to. Table 6.9 presents the details of their representation of the various faculties.

Table 6.9:

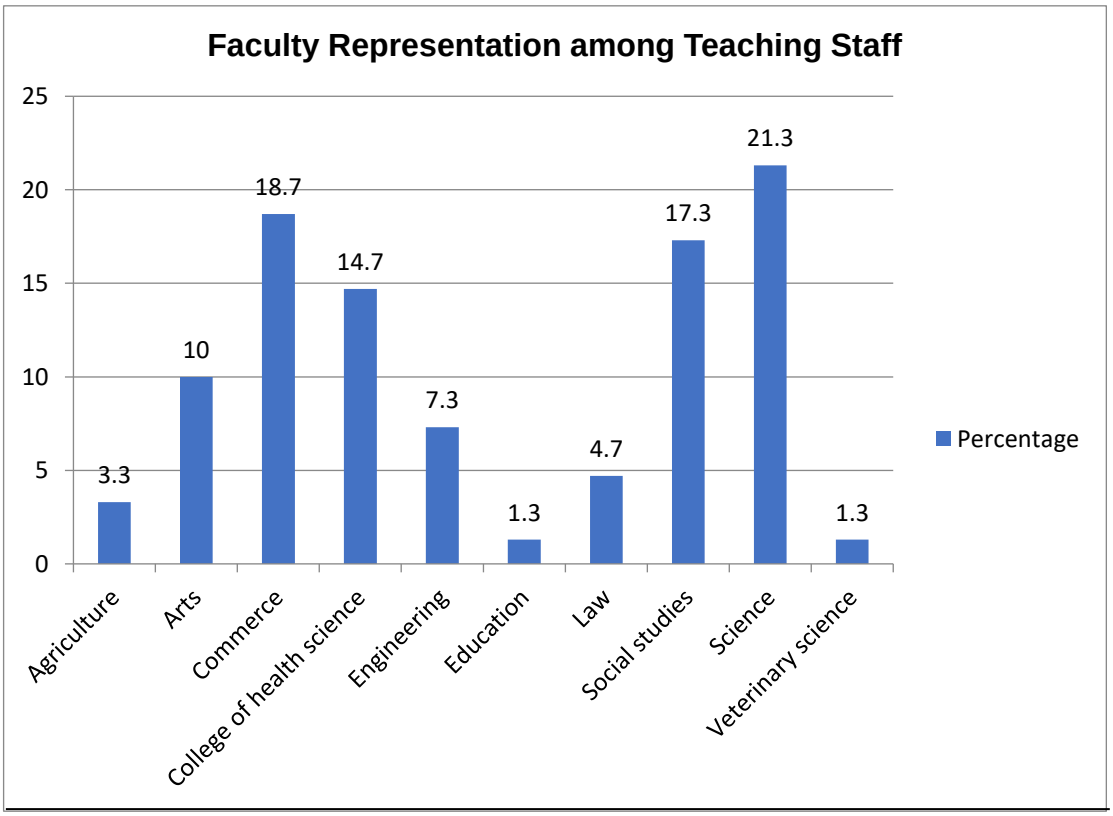
Distribution of Ten Faculties among Teaching Staff

Faculty	Frequency	Percent
Agriculture	5	3.3
Arts	15	10.0
Commerce	28	18.7
College of health	22	14.7
Engineering	11	7.3
Education	2	1.3
Law	7	4.7
Social studies	26	17.3
Science	32	21.3
Veterinary science	2	1.3
Total	150	100.0

It is evident from Table 6.9 that most teaching staff members were from the faculty of science (21.3%), commerce (18.7%) and social studies (17.3%). Figure 6.7 graphically represents the faculties teaching staff members belonged to.

Figure 6.7:

Representation of Faculties among Teaching Staff



It is evident from Figure 6.7 that the highest percentage of teaching staff (21.3%) was from the Science faculty. This trend may be ascribed to the fact that this faculty has more departments than other faculty and the highest number of teaching staff (Garwe, 2015).

Students were asked to indicate the faculty they belonged to. Table 6.11 presents the details in this regard

Table 6.10:
Distribution of Faculties among Students

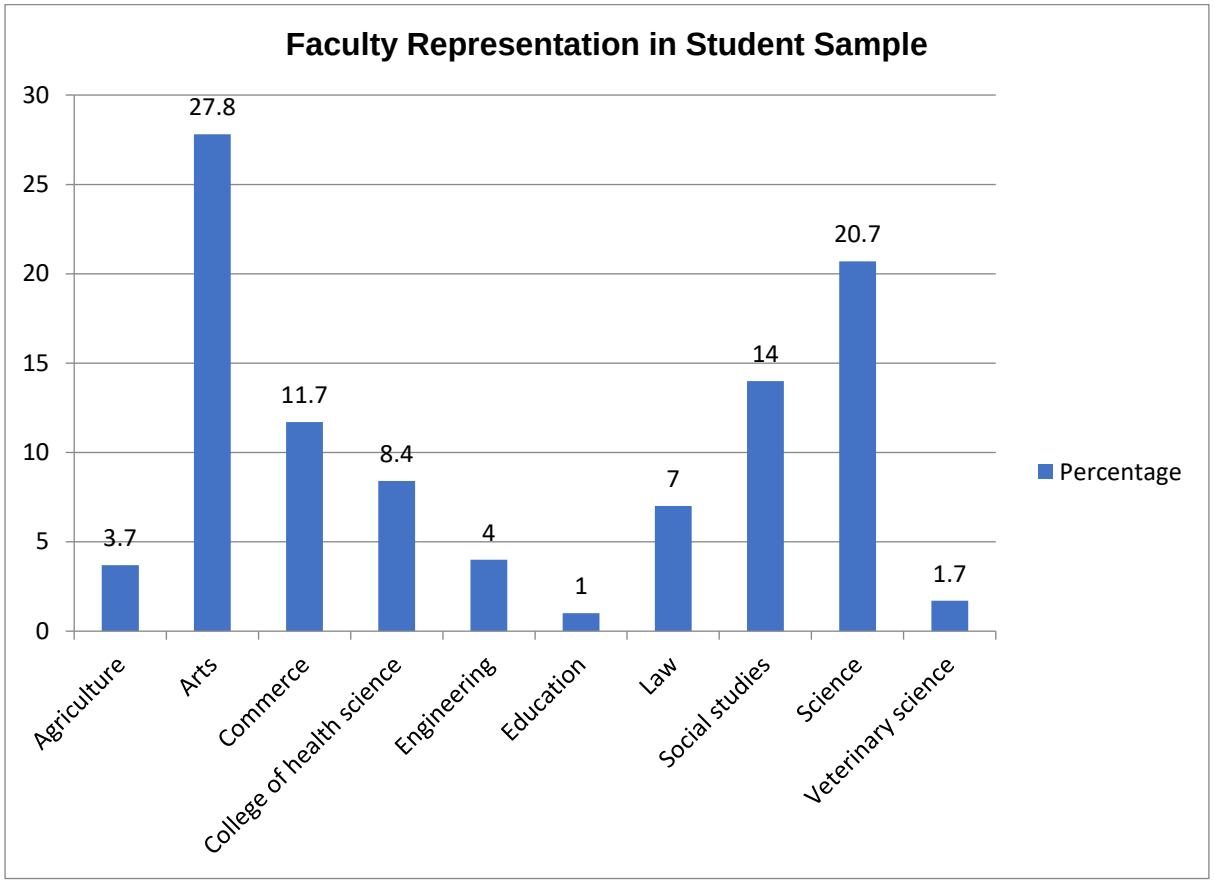
Faculty	Frequency	Percent
Agriculture	11	3.7
Arts	83	27.8
Commerce	35	11.7
College of health	25	8.4
Engineering	12	4
Education	3	1
Law	21	7
Social studies	42	14
Science	62	20.7
Veterinary science	5	1.7
Total	299	100

It is evident from Table 6.11 that the highest number of students that participated in this study were from the Arts faculty (27.8%) followed by students from the Science faculty (20.7%) and Social Studies (14%).

Figure 6.8 provides a graphical representation of the faculties the students belonged to.

Figure 6.8:

Distribution of Faculties in the Student Sample



It is evident from Figure 6.8 that highest percentage of students that participated in the study were from the faculty of Arts (27.8%), followed by the faculties of Commerce and Social Science.

The following sections will elaborate on teaching staff's self-assessments in terms of the Big Five personality traits and compare them to the assessments of their students on the BFI.

6.3 Teaching Staff's Self-assessments on the Big Five Personality Traits Inventory

One hundred and fifty teach teaching staff members who taught final-year undergraduate students participated in the survey and completed self-assessments on the BFI. Table 6.11 provides the means and standard deviations of the Big Five personality constructs.

Table 6.11:

Means and Standard Deviations of the Construct the Big Five Personality Traits (Teaching staff)

The Big Five Constructs	Mean	Standard Deviation
Extraversion		
Overall results	4.34	0.86
I see myself as someone who is talkative	4.09	1.09
I see myself as someone who is full of energy	4.35	0.90
I see myself as someone who generates a lots enthusiasm	4.46	0.98
I see myself as someone who has an assertive personality	4.45	0.94
I see myself as someone who is outgoing, sociable	4.37	1.10
Agreeableness		
Overall results	4.48	0.73
I see myself as someone who is helpful and unselfish with others	4.41	0.84
I see myself as someone who has a forgiving nature	4.37	0.90
I see myself as someone who is generally trusting	4.37	0.97
I see myself as someone who is considerate and kind to almost everyone	4.57	0.83
I see myself as someone who likes to cooperate with others	4.67	0.76
Conscientiousness		
Overall results	4.44	0.80
I see myself as someone who does a thorough job	4.33	0.96
I see myself as someone who is a reliable worker	4.45	0.86
I see myself as someone who perseveres until the task is finished	4,.48	0.86
I see myself as someone who makes plans and follows through with them	4.49	0.90
Neuroticism		
Overall results	1.70	1.07
I see myself as someone who is depressed	1.51	1.03
I see myself as someone who can be tense	1.73	1.20
I see myself as someone who worries a lot	1.77	1.25
I see myself as someone who can be moody	1.77	1.24
I see myself as someone who gets nervous easily	1.70	1.20
Openness to Experience		
Overall results	4.39	0.83
I see myself as someone who is original, comes up with new ideas	4.25	0.86
I see myself as someone who is curious about many different things	4.28	0.98
I see myself as someone who is ingenious, a deep thinker	4.43	0.94
I see myself as someone who has an active imagination	4.46	0.97
I see myself as someone who is inventive	4.43	0.95
I see myself as someone who values artistic, aesthetic experiences	4.45	0.94
I see myself as someone who likes to reflect, play with ideas	4.53	0.89
I see myself as someone who is sophisticated in art, music, or literature	4.32	1.15

It is evident from Table 6.11 that the majority of teaching staff members tended to associate themselves with the personality traits of Extraversion (M = 0.43, Std. Dev = 0.86), Agreeableness (M = 0.48 Std. Dev = 0.73), Conscientiousness (M = 4.44 Std. Dev = 0.80), and Openness to Experience (M = 4.39 Std. Dev = 0.94). However, only a few tended to disagree or strongly disagree with the statements used to measure Neuroticism (M = 1.70 Std. Dev = 1.07). In essence, teaching staff assessed themselves highly on Openness to Experience, Conscientiousness, Extraversion and Agreeableness but not on the Neuroticism personality trait. These results correspond to those of past studies by Tamban and Banasihan, (2017) and Tan et al. (2018), whose respondents also found Openness to Experience, Conscientiousness, Extraversion and Agreeableness to be highly likeable personality traits.

6.4 Students' Assessments of Teaching Staff on the Big Five Personality Traits Inventory

Two hundred and ninety-nine final-year undergraduate students who were enrolled for the courses taught by the participating teaching staff members assessed their lecturers' personality traits on the BFI. Table 6.12 below provides the means and standard deviations for the Big Five personality traits.

Table 6.12:

Means and Standard Deviations of the Big Five Personality Traits (Students' Assessment of Their Lecturers)

The Big Five Constructs	Mean	Standard Deviation
Extraversion		
Overall results	4.28	0.82
I see my lecturer as someone who is talkative	4.03	1.09
I see my lecturer as someone who is full of energy	4.29	0.87
I see my lecturer as someone who generates a lot of enthusiasm	4.35	0.89
I see my lecturer as someone who has an assertive personality	4.39	0.92
I see my lecturer as someone who is outgoing, sociable	4.34	0.99

Table 6.12: Means and Standard Deviations of the Big Five Personality Traits (Students' Assessment of Their Lecturers) (cont'd)

The Big Five Constructs	Mean	Standard Deviation
Agreeableness		
Overall results	4.36	0.76
I see my lecturer as someone who is helpful and unselfish with others	4.39	0.85
I see my lecturer as someone who has a forgiving nature	4.24	0.92
I see my lecturer as someone who is generally trusting	4.26	0.89
I see my lecturer as someone who is considerate and kind to almost everyone	4.40	0.85
I see my lecturer as someone who likes to cooperate with others	4.48	0.84
Conscientiousness		
Overall results	4.43	0.77
I see my lecturer as someone who does a thorough job	4.35	0.88
I see my lecturer as someone who is a reliable worker	4.28	0.88
I see my lecturer as someone who perseveres until the task is finished	4.43	0.83
I see my lecturer as someone who does things efficiently	4.41	0.89
I see my lecturer as someone who makes plans and follows through with them	4.70	0.83
Neuroticism		
Overall results	1.88	1.27
I see my lecturer as someone who is depressed	1.69	1.31
I see my lecturer as someone who can be tense	1.98	1.35
I see my lecturer as someone who worries a lot	1.93	1.34
I see my lecturer as someone who can be moody	1.93	1.38
I see my lecturer as someone who gets nervous easily	1.90	1.37
Openness to Experience		
Overall results	4.42	0.81
I see my lecturer as someone who is original, comes up with new ideas	4.37	0.97
I see my lecturer as someone who is curious about many different things	4.30	0.92
I see my lecturer as someone who is ingenious, a deep thinker	4.44	0.90
I see my lecturer as someone who has an active imagination	4.51	0.89
I see my lecturer as someone who is inventive	4.48	0.94
I see my lecturer as someone who values artistic, aesthetic experiences	4.38	0.99
I see my lecturer as someone who likes to reflect, play with ideas	4.45	0.93
I see my lecturer as someone who is sophisticated in art, music, or literature	4.39	1.01

The means and standard deviations of the BFI results in Table 6.12 indicate that the majority of the students tended to ascribe the following Big Five personality traits to their lecturers: Extraversion (M = 4,28 Std. Dev = 0.82), Agreeableness (M = 4,36 Std. Dev = 0.76), Conscientiousness (M = 4,43 Std. Dev = 0.77), and Openness to Experience (M =

4,42 Std. Dev = 0.81). In contrast, the majority of students disagreed or strongly disagreed with the statements relating to Neuroticism (M = 1,88 Std. Dev = 1.27). This corresponds with the teaching staff's self-assessments of their personality traits on the BFI, as neither the teaching staff nor their students assessed Neuroticism positively. These results correspond with those of Patrick (2011), Tamban and Banasihan (2017), Goncz (2017) and Tan et al. (2018). For instance, Patrick (2011) found that students favoured teachers who displayed higher levels of Conscientiousness, Openness to Experience, Extraversion and Agreeableness (in descending order), but not Neuroticism. Tamban and Banasihan (2017) conducted a longitudinal study among university teaching staff from 20 faculties at Laguna State Polytechnic University. They found negative correlations for the Conscientiousness, Openness to Experience and Extraversion between academic performance and the Big Five personality traits and positive correlations for the Agreeableness and Neuroticism Additionally, Goncz (2017) observed that teaching staff who score highly on Conscientiousness perform significantly better in a higher education context than those teaching staff members who score lower on the Conscientiousness personality trait. Tan et al. (2018) emphasised Conscientiousness, Agreeableness, Openness to Experience, and Extroversion as requisites for positive educational outcomes.

6.5 Students' Personality Preferences in regard to their Lecturers based on the Big Five Personality Traits

The 299 final-year undergraduate students who assessed their lecturers' personality traits also completed the LPQ, indicating which of the Big Five personality traits they preferred in their lecturers. Students were asked to rate these traits based on the following scale: 1 = +4 and +5 which means a positive score, 2 = -4 and -5, which means a negative score, 3 = 0 indicates not important. Students who chose 1 preferred the specific trait in their lecturer, those who chose 2 preferred the trait less in their lecturer and those who selected 0 indicated that the trait was not important to them.

Table 6.13 presents the means and standard deviations of the LPQ based on the sub-facets of the Big Five personality traits.

Table 6.13:

Means and Standard Deviations of Students' Preferences in regard to their Lecturers

The Big Five Personality Traits Sub Facets	Mean	Standard Deviation
Warm		
Overall results	1.35	0.63
I prefer my lecturer to be friendly (EF1)	1.60	0.96
I prefer my lecturer to be warm (EW2)	1.33	0.75
I prefer my lecturer to be sociable (ES3l)	1.26	0.76
I prefer my lecturer to be cheerful (EC4)	1.22	0.68
Gregarious		
Overall results	1.20	1.16
I prefer my lecturer to be pleasure-seeking (GS1)	1.18	1.47
I prefer my lecturer to be talkative GS2	1.16	1.33
I prefer my lecturer to be spontaneous (GS3)	1.27	1.28
Activity oriented		
Overall results	1.28	0.81
I prefer my lecturer to be energetic (AO1)	1.55	0.96
I prefer my lecturer to be hurried (AO2)	1.12	1.37
I prefer my lecturer to be quick (AO3)	1.15	1.24
I prefer my lecturer to be determined (AO4)	1.32	0.76
Excitement seeking		
Overall results	1.42	1.10
I prefer my lecturer to be daring (ES1)	1.51	1.25
I prefer my lecturer to be charming (ES2)	1.38	1.23
I prefer my lecturer to be spunky (determined) (ES3)	1.38	1.16
Positive emotions		
Overall results	1.53	0.79
I prefer my lecturer to be humorous (PE1)	1.69	1.03
I prefer my lecturer to be praising (PE2)	1.53	0.96
I prefer my lecturer to be optimistic (PE3)	1.47	0.92
I prefer my lecturer to be jolly (PE4)	1.43	0.92
Fantasy life		
Overall results	0.51	1.35
I prefer my lecturer to be dreamy (FL1)	0.58	1.80
I prefer my lecturer to be mischievous (FL2)	0.08	1.68
I prefer my lecturer to be artistic (FL3)	0.97	1.58
I prefer my lecturer to be complicated (FL4)	0.42	1.74
Interested aesthetics		
Overall results	1.50	0.82
I prefer my lecturer to be original (IA1)	1.65	1.03
I prefer my lecturer to be enthusiastic (IA2)	1.44	0.92
I prefer my lecturer to be inventive (IA3)	1.41	0.89

Table 6.13*:* Means and Standard Deviations of Students' Preferences in regard to their Lecturers (cont'd)

The Big Five Personality Traits Sub Facets	Mean	Standard Deviation
Interested feelings		
Overall results	1.58	0.87
I prefer my lecturer to be excitable (IF1)	1.83	1.08
I prefer my lecturer to be insightful (IF2)	1.41	0.93
I prefer my lecturer to be affectionate (IF3)	1.51	1.06
Action oriented		
Overall results	1.48	0.82
I prefer my lecturer to have wide interests (AOT1)	1.64	1.03
I prefer my lecturer to be outgoing (AOT2)	1.44	0.95
I prefer my lecturer to be adventurous (AOT3)	1.37	0.92
Ideas oriented		
Overall results	1.05	1.27
I prefer my lecturer to be inventive (IO1)	1.42	1.47
I prefer my lecturer to be curious (IO2)	0.91	1.50
I prefer my lecturer to be idealistic (IO3)	1.09	1.48
I prefer my lecturer to be imaginative (IO4)	0.80	1.53
Values oriented		
Overall results	0.86	0.92
I prefer my lecturer to be unconventional (VO1)	0.40	1.70
I prefer my lecturer to be flirtatious (VO2)	0.04	1.69
I prefer my lecturer to be useful (VO3)	1.47	1.09
I prefer my lecturer to be ethical, have moral principles and a value system (VO4)	1.52	1.05
Agreeableness		
Overall results	1.62	0.86
I prefer my lecturer to be trusting (AGS1)	1.79	1.04
I prefer my lecturer to be forgiving (AGS2)	1.62	0.98
I prefer my lecturer to be peace-loving (AGS3)	1.46	0.95
Straightforward		
Overall results	1.30	0.71
I prefer my lecturer to be uncomplicated (SD1)	1.34	1.11
I prefer my lecturer to be undemanding (SD2)	1.28	1.21
I prefer my lecturer to be genuine (SD3)	1.29	0.82
I prefer my lecturer to be open (SD4)	1.25	0.80
I prefer my lecturer to be mellow (SD5)	1.31	0.94
I prefer my lecturer to be forthright (SD6)	1.33	0.80
I prefer my lecturer to be direct (SD7)	1.28	0.82
I prefer my lecturer to be trustful (SD8)	1.29	0.79

Table 6.13: Means and Standard Deviations of Students' Preferences in regard to their Lecturers (cont'd)

The Big Five Personality Traits Sub Facets	Mean	Standard Deviation
Altruistic		
Overall results	1.46	0,.76
I prefer my lecturer to be soft-hearted (AC1)	1.73	1.09
I prefer my lecturer to be gentle (AC2)	1.44	0.92
I prefer my lecturer to be generous (AC3)	1.38	0.84
I prefer my lecturer to be kind (AC4)	1.41	0.82
I prefer my lecturer to be tolerant (AC5)	1.37	0.89
I prefer my lecturer to be sympathetic (AC6)	1.39	0.89
Compliant		
Overall results	1.45	0.86
I prefer my lecturer to be flexible (CT1)	1.70	1.08
I prefer my lecturer not to be headstrong (CT2)	1.48	1.22
I prefer my lecturer to be patient (CT3)	1.43	0.94
I prefer my lecturer to be tolerant (CT4)	1.41	0.93
I prefer my lecturer to be not outspoken (CT5)	1.23	1.28
Modest		
Overall results	1.19	1.17
I prefer my lecturer not to be a show-off (MT1)	1.39	1.35
I prefer my lecturer to be unassertive (MT2)	1.12	1.45
I prefer my lecturer to be non-argumentative/friendly (MT3)	1.09	1.45
I prefer my lecturer to be calm (MT4)	1.16	1.30
Competence		
Overall results	1.41	0.74
I prefer my lecturer to be efficient (CC1)	1.68	1.00
I prefer my lecturer to be self-confident (CC2)	1.39	0.85
I prefer my lecturer to be thorough (CC3)	1.39	0.84
I prefer my lecturer to be resourceful (CC4)	1.36	0.80
I prefer my lecturer to be confident (CC5)	1.33	0.81
I prefer my lecturer to be intelligent (CC6)	1.34	0.78
I prefer my lecturer to be energetic (CC7)	1.36	0.81
Orderly		
Overall results	1.55	0.88
I prefer my lecturer to be organised (OY1)	1.72	1.05
I prefer my lecturer to be precise (OY2)	1.44	0.93
I prefer my lecturer to be methodical (OY3)	1.47	0.96
Dutiful		
Overall results	1.05	0.84
I prefer my lecturer to be defensive (DL1)	0.83	1.42
I prefer my lecturer to be non-distractible (DL2)	1.14	1.09
I prefer my lecturer to be careful (DL3)	1.06	0.96
I prefer my lecturer not to be lazy (DL4)	1.10	0.99
I prefer my lecturer to be not absent minded (DL5)	1.04	0.93
I prefer my lecturer to be not fault-finder (DL6)	1.13	1.00

Table 6.13: Means and Standard Deviations of Students' Preferences in regard to their Lecturers (cont'd)

The Big Five Personality Traits Sub Facets	Mean	Standard Deviation
Achievement striving		
Overall results	1.49	0.84
I prefer my lecturer to be ambitious (AS1)	1.74	1.03
I prefer my lecturer to be industrious (AS2)	1.46	0.99
I prefer my lecturer to be enterprising (AS3)	1.43	1.00
I prefer my lecturer to be confident (AS4)	1.40	0.90
I prefer my lecturer to be persistent (AS5)	1.41	0.92
Deliberate		
Overall results	1.48	0.73
I prefer my lecturer to be hasty (DE1)	1.45	1.26
I prefer my lecturer to be non-impulsive (DE2)	1.46	1.08
I prefer my lecturer to be careful (DE3)	1.53	0.84
I prefer my lecturer to be patient (DE4)	1.46	0.88
I prefer my lecturer to be mature (DE5)	1.40	0.87
I prefer my lecturer to be tough (DE6)	1.55	0.89
Anxiety		
Overall results	1.10	1.34
I prefer my lecturer to be anxious (AY1)	-0.63	1.47
I prefer my lecturer to be fearful (AY2)	1.55	1.53
I prefer my lecturer to be worrying (AY3)	1.49	1.60
I prefer my lecturer to be tense (AY4)	1.56	1.49
I prefer my lecturer to be nervous (AY5)	1.52	1.53
Angry hostility		
Overall results	0.67	1.09
I prefer my lecturer to be irritable (AH1)	1.64	1.37
I prefer my lecturer to be impatient (AH2)	-0.93	0.95
I prefer my lecturer to be excitable (AH3)	1.67	1.43
I prefer my lecturer to be moody (AH4)	-0.57	1.53
I prefer my lecturer to be anxious (AH5)	1.57	1.55
Depressive		
Overall results	1.06	1.08
I prefer my lecturer to be worrying (DV1)	-0.80	1.30
I prefer my lecturer to be pessimistic (DV2)	1.69	1.34
I prefer my lecturer to be sad (DV3)	1.60	1.28
I prefer my lecturer to be in a low mood (DV4)	1.76	1.26
Self-conscious		
Overall results	0.51	1.17
I prefer my lecturer to be shy (SC1)	1.72	1.39
I prefer my lecturer to be timid (SC2)	-0.64	1.41
I prefer my lecturer to be defensive (SC3)	1.54	1.53
I prefer my lecturer to be inhibited (SC4)	-0.56	1.46

Table 6.13: Means and Standard Deviations of Students' Preferences in regard to their Lecturers (cont'd)

The Big Five Personality Traits Sub Facets	Mean	Standard Deviation
Impulsive		
Overall results	1.41	1.82
I prefer my lecturer to be sarcastic (IE1)	1.72	1.42
I prefer my lecturer to be self-centred (IE2)	-0.51	1.54
I prefer my lecturer to be loud (IE3)	1.62	1.47
Vulnerable		
Overall results	1.03	1.06
I prefer my lecturer to be not confident (VE1)	-0.48	1.46
I prefer my lecturer to be careless (VE2)	1.79	1.18
I prefer my lecturer to be not clear thinker (VE3)	1.80	1.22

According to the overall mean results in Table 6.13, the most positive and important characteristics identified from the Big Five personality trait sub-facets and which the majority of students preferred to see in their lecturers were as follows: Warm (M = 1,35 Std. Dev = 0.63), Gregarious (M = 1,20 Std. Dev = 1.16), Excitement Seeking (M = 1,42 Std. Dev = 0.81), Positive Emotions (M = 1,53 Std. Dev = 1.18), Interested Aesthetics (M = 1,50 Std. Dev = 0.79), Interested Feelings (M = 1,58 Std. Dev = 1.33), Action Oriented (M = 1,48 Std. Dev = 0.82), Ideas Oriented (M = 1,05 Std. Dev = 0.87), Agreeableness (M = 1,62 Std. Dev = 0.82), Straightforward (M = 1,30 Std. Dev = 1.27), Altruistic (Mean = 1,46 Std. Dev = 1.27), Compliant (Mean = 1.45 Std. Dev = 1.27), Modest (Mean = 1.19 Std. Dev = 0.92), Competent (Mean = 1.41 Std. Dev = 0.76), Orderly (Mean = 1.55 Std. Dev = 0.88), Dutiful (Mean = 1.05 Std. Dev = 0.84), Achievement Striving (Mean = 1.49 Std. Dev = 0.85), Deliberate (Mean = 1.48 Std. Dev = 0.73), Anxiety (Mean = 1.10 Std. Dev = 1.09), Depressive (Mean = 1.06 Std. Dev = 1.08), Impulsive (Mean = 1.41 Std. Dev = 1.82), and Vulnerable (Mean = 1.03 Std. Dev = 1.06).

However, the majority of students stated that Fantasy Life (Mean = 0.51 Std. Dev = 0.92), Values Oriented (Mean = 0.86 Std. Dev = 0.92), Angry Hostile (Mean = 0.67 Std. Dev = 1.09) and Self-conscious (Mean = 0.51 Std. Dev = 1.17) were not important characteristics and they therefore did not want to see them in their lecturers.

Overall, the results showed that students preferred the traits of Extraversion, Openness to Experience and Agreeableness in their lecturers, while they did not prefer Conscientiousness and Neuroticism personality traits to be present to the same extent in their lecturers. The findings of the current study correspond to those of past studies by Furnham and Chamorro-Premuzic (2005), and Judge et al. (2013) except for the personality trait of Conscientiousness. In the past, a British study by Furnham and Chamorro-Premuzic (2005) found that students preferred all the Big Five personality traits in their lecturers, namely, Openness to Experience, Conscientiousness, Extraversion and Agreeableness, except for Neuroticism. Judge et al.'s (2013) meta-analysis revealed that Openness to Experience, Conscientiousness, Extraversion and Agreeableness were good predictor of job performance than Neuroticism personality trait and it was not a significant predicator of job performance.

6.6 Students' Assessment of Teaching Quality

The undergraduate final-year students also completed the SECE to assess the teaching quality at the participating institution. The statements for teaching quality were measured on the following five-point Likert-type scale: 1 = Poor/Inadequate, 2 = Satisfactory, 3 = Good, 4 = Very Good, and 5 = Excellent.

Table 6.14 presents the means and standard deviations of the construct, teaching quality.

Table 6.14:

Means and Standard Deviations of the Construct of Teaching Quality

Components of Teaching Quality	Mean	Standard Deviation
Personal character		
Overall results	4.21	0.82
Pleasant, clear, audible, voice modulated, well-paced voice (PC1)	4.05	0.93
Appearance (PC2)	4.12	0.85
Poise, composure (PC3)	4.20	0.86
Friendly, enthusiastic and sensitive to students' needs (PC4)	4.27	0.94
Social moulding skills and professional ethics (PC5)	4.28	0.93
Efficacy of class management (PC6)	4.36	0.91
Course design		
Overall results	4.18	0.87
Aims and objectives clear and adequate (CD1)	4.10	0.92
Content – adequate, appropriate to students (CD2)	4.09	0.90
Strategies suggested – relevant, varied and manageable (CD3)	4.22	0.96
Activities and assessment procedures spelt out clearly (CD4)	4.29	0.97
Introduction to lectures		
Overall results	4.17	0.90
Stimulating, creative, obtained attending behaviour (IL1)	4.10	0.93
Objectives clearly stated and relevance explained (IL2)	4.10	0.97
Related lesson to previous student experience or knowledge (IL3)	4.30	1.01
Utilisation of content		
Overall results	4.25	0.82
Appropriate to objectives and group level (UC1)	4.11	0.92
Sufficient depth for achieving objectives (UC2)	4.09	0.94
Up-to-date, relevant, accurate and objectively presented (UC3)	4.23	0.97
Simply and concisely presented; real life situation examples provided where needed (UC4)	4.30	0.89
Well organized, logical sequence (UC5)	4.30	0.92
Smooth transition from one idea to another (UC6)	4.29	0.93
Facilitated concept development (UC7)	4.24	0.94
Key ideas emphasized and summarized (UC8)	4.33	0.91
Evidence of use of research bases and varied sources (UC9)	4.29	0.94
Exhibited evidence of innovativeness (UC10)	4.23	0.95
Balanced in terms of cognitive reflectivity, affective reflectivity, critical reflectivity, practical reflectivity (UC11)	4.34	0.92
Utilisation of media and materials		
Overall results	4.21	0.90
Appropriate for objectives and content (UMM)	4.13	0.88
Manageable (UMM2)	4.10	0.90
Appealing, motivating, illustrative and reinforcing (UMM3)	4.23	0.99
Multi-sensory (UMM4)	4.21	1.02
Marks fairly (UMM5)	4.27	1.01
Laboratory – instructions//processes clearly given and effective management of material resources demonstrated during practice (UMM6)	4.29	1.06

Table 6.14: Means and Standard Deviations of the Construct of Teaching Quality (cont'd)

Components of Teaching Quality	Mean	Standard Deviation
Interaction behaviour		
Overall results	4.21	0.89
Encouraged and reinforced student participation (IB1)	4.07	0.92
Achieved balance of teacher-student participation (IB2)	4.09	0.95
Accepted and used student ideas (IB3)	4.21	1.03
Asked questions with various demand levels e.g. Recall/knowledge, comprehension, application, analysis, synthesis and evaluation (IB4)	4.33	0.95
Perceptive to student involvement; modified when necessary (IB5)	4.36	0.99
Student assessment		
Overall results	4.21	0.93
Provided evidence of achievement of course objectives (SA1)	4.07	0.97
Appropriate to behaviour expected (SA2)	4.10	0.95
Exhibited evidence of innovative and balanced assessment models (SA3)	4.26	1.01
Provided immediate feedback to students in terms of coursework assignments (SA4)	4.30	0.10
Designed and used effective marking guides/schemes (SA5)	4.32	1.05

It is evident from Table 6.14 that the majority of the students perceived the following lecturer characteristics to be valuable in providing quality teaching: Personal character (M = 4,21 Std. Dev = 0.82), Course design (Mean = 4,18 Std. Dev = 0.87), Introduction to lecturers (Mean = 4,17 Std. Dev = 0.92), Utilisation of content (Mean = 4,25 Std. Dev = 0.90), Utilisation of media and materials (Mean = 4,21 Std. Dev = 0.90), Interaction behaviour (Mean = 4,21 Std. Dev = 0.89) and Student assessment (Mean = 4,21 Std. Dev = 0.93). The overall results indicate that the students who participated in the study believed that the quality of teaching at the university was of a good standard. The current findings correspond with the teaching quality characteristics that were measured by Mahlatini et al. (2019) among a sample of 100 undergraduate students from the Department of Environmental Science & Technology at the Chinhoyi University of Technology. Their study revealed that students rated teaching quality as excellent in terms of lecturers arriving at class on time, their utilisation of course content and marking examination scripts on time. In addition, in line with the findings of the current study, Murphy et al. (2020) found an empirical relationship between personality traits and preferred teaching methods among 507

undergraduate students at Saint Joseph's College in Maine. These findings showed that the students had a distinct preference for teaching methods that involved high interaction, with lecturers using visual tools or PowerPoint presentations to make their teaching style more interesting, rather than unscheduled quizzes and teaching methods involving the lecturer talking with no visuals tools.

6.7 Reliability of the Constructs

Cronbach's alpha coefficient is a measure of the internal consistency of a measurement (Hair et al. (2014). Cronbach's alpha was used to measure the internal consistency of all the constructs in the present study. A composite reliability (CR) coefficient was also provided to make the reliability analysis more robust. Internal consistency reliability implies a degree of generalisation across the items in the measurement instrument and, in the social sciences, Cronbach's alphas of 0.6 are sometimes regarded as acceptable (Hair et al. 2018). This measure lends assurance to the interpretation of the research results.

Table 6.15:
Reliability of the Constructs using Cronbach's Alpha

	Teaching staff's personality traits			
Constructs	**Items**	**Total correlation**	**Cronbach's alpha**	**Total number of items**
Extraversion	E1s	0.712	0.908	5
	E11	0.805		
	E16	0.734		
	E26	0.801		
	E36	0.779		
Agreeableness	A7s	0.735	0.902	5
	A17	0.749		
	A22	0.756		
	A32	0.732		
	A42	0.800		
Conscientiousness	C3s	0.727	0.918	4
	C1	0.830		
	C2	0.848		
	C3	0.836		

Table 6.15: Reliability of the Constructs using Cronbach's Alpha (cont'd)

Constructs	Teaching staff's personality traits Items	Total correlation	Cronbach's alpha	Total number of items
Neuroticism	N4s	0.752	0.943	5
	N1	0.891		
	N1	0.872		
	N2	0.896		
	N3	0.826		
Openness to Experience	O5	0.749	0.955	8
	O1	0.792		
	O1	0.866		
	O2	0.877		
	O2	0871		
	O3	0.861		
	O4	0.925		
Students' assessments of lecturers on the Big Five personality traits				
Extraversion	E1l	0.685	0.915	5
	E11	0.796		
	E16	0.827		
	E26	0.798		
	E36	0.796		
Agreeableness	A7l	0.762	0.922	5
	A17	0.781		
	A22	0.792		
	A32	0.824		
	A42	0.827		
Conscientiousness	C3l	0.836	0.934	5
	C1	0.824		
	C2	0.855		
	C3	0.838		
	C3	0.764		
Neuroticism	N4l	0.848	0.964	5
	N1	0.910		
	N1	0.895		
	N2	0.928		
	N3	0.911		
Openness to Experience	O5l	0.748	0.947	5
	O1	0.760		
	O1	0.811		
	O2	0.864		
	O2	0.916		
	O3	0.851		
	O4	0.825		
	O4	0.684		

Table 6.15: Reliability of the Constructs using Cronbach's Alpha

Constructs	Teaching staff's personality traits Items	Total correlation	Cronbach's alpha	Total number of items
Teaching quality as assessed by students	Cd	0.847	0.950	7 (7)
	INT ROL	0.787		
	UTILIC	0.861		
	UMM	0.835		
	INTERBHV	0.821		
	STUASS	0.794		
Students' preferences of lecturers on the Big Five personality traits				
Warm	Ef1	0.814	0.953	4
	EW2	0.903		
	ES3L	0.917		
	EC4	0.911		
Gregarious	GS1	0.833	0.936	3
	GS2	0.882		
	GS3	0.879		
Activity oriented	Ao1	0.517	0.844	4
	AO2	0.764		
	AO3	0.808		
	AO4	0.658		
Excitement seeking	Es1	0.729	0.889	3
	ES2	0.823		
	ES3	0.799		
Positive emotions	Pe1	0.596	0.847	4
	PE2	0.713		
	PE3	0.685		
	PE4	0.737		
Fantasy life	Fl1	0.613	0.800	4
	FL2	0.670		
	FL3	0.548		
	FL4	0.625		
Interested in aesthetics	Ia1	0.595	0.836	3
	IA2	0.720		
	IA3	0.771		

It is evident from Table 6.15 that all the constructs were internally consistent in their measurement because their Cronbach's alpha values were above the acceptable threshold of 0.6, which is acceptable in the social sciences (Hair et al. 2014).

6.8 Pearson Correlation Coefficients between the Constructs

The Pearson correlation test served to assess the relationship between teaching staff's self-assessments of their personality traits and their students' assessments of their Big Five personality traits. A Pearson correlation is deemed significant when the p-value is at least < 0.05 (Hair et al. 2014).

Hypothesis 2: There are significant relationships among teaching staff's personality traits in the context of the Big Five model (Openness to Experience, Conscientiousness, Extraversion, Agreeableness, Neuroticism) in terms of the self-assessments of teaching staff and assessments by their students at a Zimbabwean higher education institution.

The p-value is important for determining whether there is a significant relationship between the variables, with any p-value below 0.05 indicating that there is a significant relationship, while any p-value above 0.05 indicates no significant relationship. The correlations were found to be statistically significant at the 0.01 level. For instance, the findings suggest that there is a positive and significant relationship between

Agreeableness and Extraversion as assessed by both sample groups, teaching staff ($r = 0.760$; $p < 0.05$) and students ($r = 0.566$; $p < 0.05$)

Conscientiousness and Extraversion for teaching staff ($r = 0.623$; $p < 0.05$) and students ($r = 0.468$; $p < 0.05$)

Conscientiousness and Agreeableness for teaching staff ($r = 0.604$; $p < 0.05$) and students ($r = 0.614$; $p < 0.05$).

Openness to Experience and Extraversion for teaching staff ($r = 0.696$; $p < 0.05$) and students ($r = 0.523$; $p < 0.05$)

Openness and Agreeableness for teaching staff ($r = 0.645$; $p < 0.05$) and students ($r = 0.560$; $p < 0.05$)

Openness and Conscientiousness for teaching staff ($r = 0.650$; $p < 0.05$) and students ($r = 0.527$; $p < 0.05$)

It is evident that both teachers and students tended to regard these personality traits as contributing to teaching quality. The results indicate positive relationships among Openness to Experience, Extraversion, Agreeableness, and Conscientiousness for both teachers and students, while a negative relationship was found for Neuroticism. Therefore, hypothesis 2 is accepted for most of the personality traits.

The results of the current study are similar to Chamorro-Premuzic et al.'s (2008) and Tan et al.'s (2018) findings. In their student samples, these researchers found a high preference for the Openness to Experience, Agreeableness, Extraversion and Conscientiousness personality traits, while Neuroticism was the least desired personality trait. However, the findings of the current study contradict a recent study done in Zimbabwe by Senderayi et al. (2019), who found a relationship between the Big Five personality traits and job burnout among a sample of 211 lecturers in a Zimbabwean teacher training college, using an international personality item pool scale and the Olden Berg Burnout Inventory. Tan et al. (2018) found Extraversion, Conscientiousness, Neuroticism and Agreeableness to be the more prevalent personality traits than Openness to Experience among the lecturer sample. However, their study collected only the self-assessment reports of teaching staff while in the current study the researcher used the self-assessments of teaching staff members as well as the assessments of their students to assess teaching staff's personality traits and used the same questionnaire to determine whether differences exist between the way in which lecturers assess their personality traits and the way their students assess them.

Table 6.16 elaborates on the Pearson correlation coefficient matrix.

Table 6.16:

Pearson Correlation Coefficients Matrix of the Big Five Personality Traits

Teaching Staff self-assessment on The Big Five personality traits correlation					
	E	**A**	**C**	**N**	**O**
Extraversion					
Agreeableness	.760**				
Conscientiousness	.623**	.604**			
Neuroticism	-.239**	-.212**	-0.131		
Openness to Experience	.696**	.645**	.650**	-.187*	
Students' assessment on Big Five personality traits correlation					
	E	**A**	**C**	**N**	**O**
Extraversion					
Agreeableness	.556**				
Conscientiousness	.468**	.614**			
Neuroticism	-.191**	-.151**	-.115*		
Openness to Experience	.523**	.560**	.527**	-.150**	

Note: E = Extraversion; A = Agreeableness; C = Conscientiousness; N = Neuroticism; O = Openness to Experience

It is evident from Table 6.16 that the majority of inter-construct correlations of the Big Five personality trait were significant. A positive and significant relationship was found amongst all of the Big Five personality traits except Neuroticism. A possible reason for this non-significant relationship for Neuroticism could be that it is regarded as a negative personality trait. For instance, if someone experiences feelings such as sadness, anxiety, irritability or anger they may not disclose this honestly (Goncz, 2017; Tamban and Banasihan, 2017; Tan et al. 2018).

Subsequently, a structural model was built to test the hypotheses and the following sections elaborate on this process.

6.9 Confirmatory Factor Analysis of the Big Five Personality Traits

CFA (a measurement model) was used to confirm the structure of constructs based on the relevant theory (Hair et al. 2014). AMOS Graphics version 25 was used to perform

both the CFA and the SEM. The data was obtained from the self-assessments of the teaching staff and their students' assessments and then subjected to CFA in SEM. The discriminant validity of the measurement model was assessed by means of a comparison of the square root of the AVE estimates and the highest inter-construct correlation of the specific construct (Hair et al. 2018). The square root of the AVE is expected to be above the inter-construct correlation values.

Table 6.17 presents the discriminant validity of the measurement model.

Table 6.17:

Discriminant Validity of the Measurement Model

The Big Five	Openness	Conscientiousness	Neuroticism	Agreeableness	Extraversion
Openness to Experience	0.826				
Conscientiousness	0.562	0.848			
Neuroticism	-0.134	-0.130	0.910		
Agreeableness	0.567	0.675	-0.164	0.825	
Extraversion	0.512	0.519	-0.223	0.611	0.827
Teaching Quality	0.481	0.531	-0.163	0.564	0.605

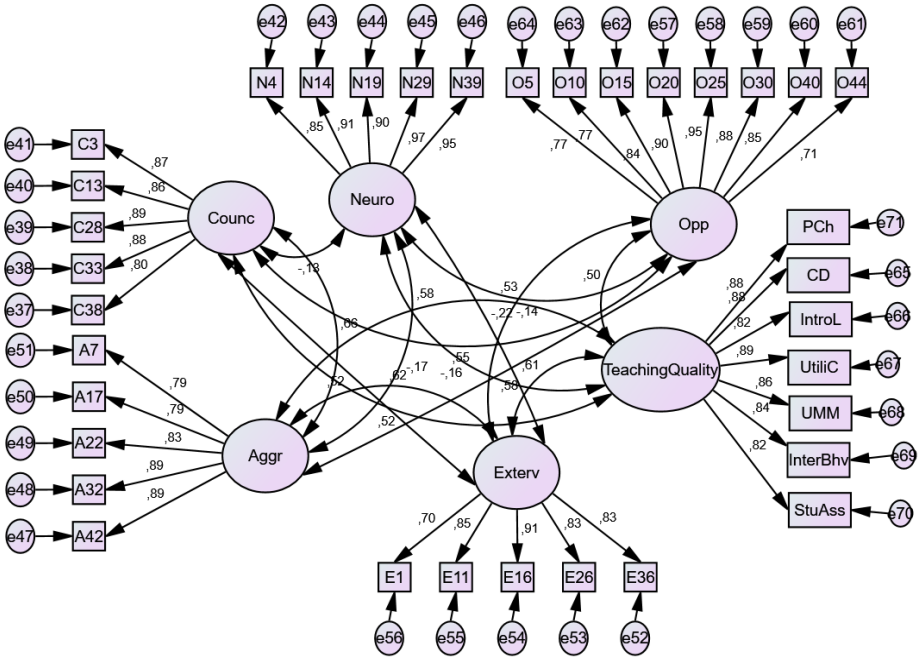
Table 6.17 shows that there were no discriminant validity concerns between all the constructs. It can thus be concluded from the given statistical analysis that the overall results of the CFA were satisfactory and it therefore was possible to confidently move on to the structural model. The proposed model is presented in Figure 6.9.

Figure 6. 9 presents the initial measurement model before refinement. The data analysis found that the chi-square was equal to 1582.839, its p value = 0.05 (significant) and its degree of freedom (df) = 545. Although the initial measurement model (Figure 6.9) depicts a significant chi-square, there was a need to further examine the model-fit indices before concluding about the model fit. The chi-square is very sensitive to the sample size which might be the reason why chi-squares of large samples are often significant (Hair et al. 2014). The GFI is a non-statistical measure ranging in value from 0, as a poor fit, to 1.0 as a

perfect fit (Hair et al. 2014). Although 1.0 suggests a perfect fit, index values greater than 0.90 are recommended for good fit assumptions (Hair et al. 2014; Tarka, 2017).

Figure 6.9:

The Proposed Measurement Model



Note: Direct causal relationship = → Correlations between variables = ↔ and error between actual and predicted value = ⬭

Based on the above results and the data in this study, model A was rejected, as it did not meet the required goodness of fit for both the incremental and absolute measures used. The initial measurement model showed some unsatisfactory fit indices, a fewer number of loading factors and several validity concerns in the proposed model.

Based on the following measures a weak fit was indicated (see Figure 6.9):

A GFI of 0.75 is below the minimum requirement for goodness of fit, which is 0.90.

An NFI of 0.860 does not meet the model fit requirement of 1.00.

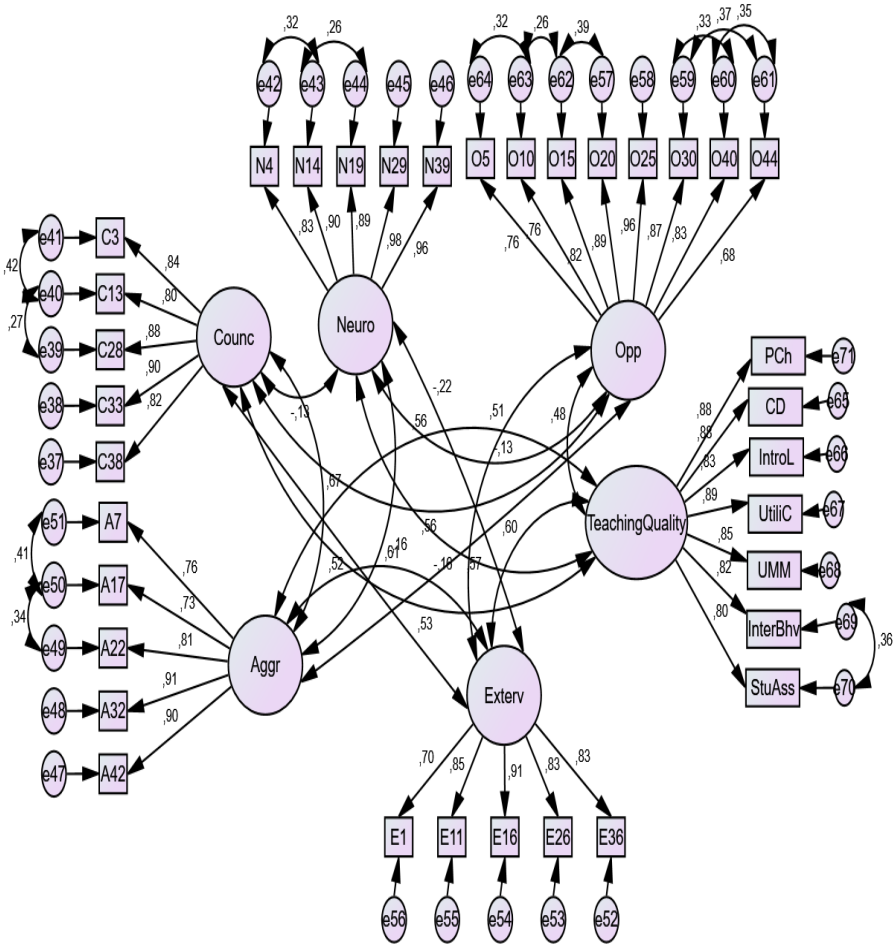
The CFI of 0.903 does not meet the minimum requirement of an acceptable fit of 1.00.

The RMSEA value of 0.080 is also above the acceptable levels for goodness of fit.

The chi-square of 2.904 is high and significant with a p-value of 0.000, suggesting that the model should be rejected.

Figure 6.10 below presents the improved model.

Figure 6.10:
The Final Improved Measurement Model



As evident in Figure 6.10, after refinement the measurement model still had six latent variables and 35 observed variables. Since the model-fit indices of the initial model were

moderately good (see Table 6.18), the model was further improved. The contribution of each item in the construct is indicated by its factor loading; any factor loading above .5 is acceptable, while any factor below .5 indicates a poor measure. For instance, the factor loading of item C3 was .84, meaning that item C3 measures Conscientiousness at 70.56% (0.84 X 100). Since there is always a margin of error when measuring abstract concepts, IBM SPSS AMOS always associates an error term with each item. In the case of Openness to Experience, for instance, e64 was the error term of the item O5.

The coefficient values of the double-headed arrows indicate the bivariate correlation coefficients between two latent variables. For instance, the correlation coefficient between Agreeableness and teaching quality is .56; suggesting that when one of these two variables increases by one standard deviation, the other variable increases by .56% of its own standard deviation. All these correlations were found to be statistically significant at the 99% confidence interval.

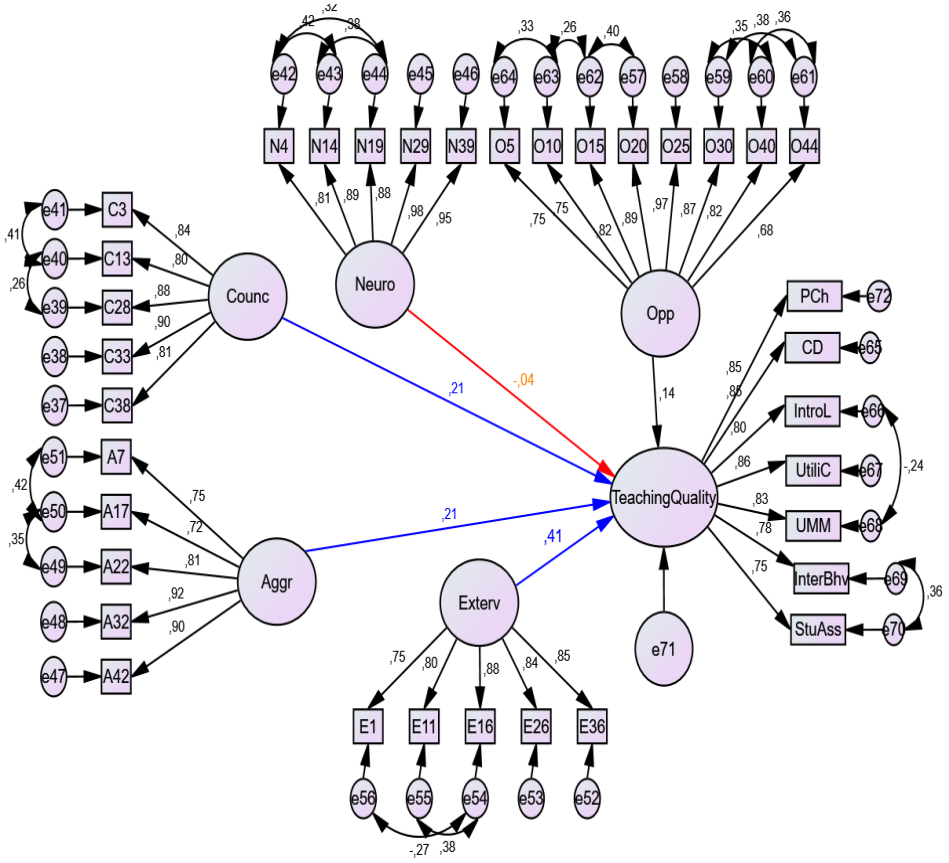
The final measurement model illustrated in Figure 6.10 above was considered to be graphical evidence of convergent and discriminant validity because all the factor loadings were above .5 and a moderate level of correlation (less than .8) existed between the constructs. Although this graphical evidence suggested convergent and discriminant validity, further robust statistical evidence was needed to establish the validity of all the research instruments used in the study.

This statistical evidence of SEM is presented in the next section. Figure 6.11 graphically represents the structural model.

The structural equation model shows the dependence interrelationships, also called path estimates (regression type), between the constructs. The transition from the measurement model to the structural model was done by replacing the correlation relationships (double-headed arrows) between constructs with path estimates (single-headed arrows). AMOS 25 was used to draw and test the model.

Figure 6.11:

Final Structural Equation Model



Note: The values in blue represent the statistically significant relationships (95% and 99% CI level).

As indicated in Figure 6.11 above, prior to testing the relationships stated in the hypotheses, the fit of the model was assessed. The results subsequently indicated satisfactory fit indices for the structural model because the chi-square = 1548.065; p value = .000; df = 538 (CMIN/DF = 2.877; TLI = .896; CFI = .906, NFI =. 863; RMSEA = .079). It was therefore concluded that the structural model fitted the data satisfactorily. In conclusion, the relationships illustrated in the final measurement model (Figure 6.11) fitted the data satisfactorily. All the instruments used in the final measurement model were reliable and the convergent validity in the context of this study supported.

Therefore, the structural model (Figure 6.11) can be used with confidence to test the research hypotheses of the study. Table 6.18 presents the common threshold of the model fit indices.

Table 6.18:

Results of Initial and Final Measurement Model

Fit Indicator	Threshold adapted from Hair et al. (2014, pp. 579–580)	Initial measurement model	Final measurement model
CMIN/DF (chi-square/degree of freedom)	Less than 3 (good) Between [3–5] (acceptable) Above 5 (poor)	2.904	2.255
RMSEA (root mean square error of approximation)	Less than .05 (good) Between [.06–.1] (acceptable) Above .1 (poor)	0.080	0.065
NFI (normed fit index)	Less than .80 (poor) Between [.80–.90] (acceptable) Above .90 (good)	0.860	0.894
CFI (comparative fit index)	Less than .90 (poor) Above .90 (good)	0.903	0.938
TLI (Tucker Lewis Index)	Less than .80 (poor) Between [.80–.90] (acceptable) Above .90 (good)	0.894	0.930
GFI (Goodness-Of-Fit-Index)	Less than .80 (poor) Between [.80–.90] (acceptable) Above .90 (good)	0.750	0.802

Source: Hair et al. (2014).

It is evident from Table 6.18 that the cuts-off were utilised throughout the SEM analysis in this study. The model was re-specified for its items and estimates were calculated several times in AMOS 25. The first step of SEM consists of constructing the measurement model. Subsequently, the process of refining the measurement model guided the decision to eliminate problematic items. They were removed mainly from the Neuroticism personality trait in the model to improve the model fit. The test of GFI took place for both the initial and the improved final measurement model to improve the model. A GFI of 0.90 is the minimum requirement for goodness of fit, which was achieved.

6.10 Standardised Regression Path Significance for Hypotheses Conclusions

The standardised regression path significance method in SEM was utilised to estimate theory-based and empirically supported relationships between the Big Five personality traits and teaching quality in order to examine the causal links. The results showed statistically significant results for both constructs.

Table 6.19 below presents the conclusions of the sub hypotheses.

Table 6.19:

Standardised Regression Weights and Hypothesis Conclusions

Independent variables	Estimate	P-value	Hypotheses conclusions
Openness to Experience	0.135	0.011	Openness to Experience has a positive and statistically significant effect on teaching quality as its p-value (0.011) is lower than .05. When Openness to Experience increases by 1 standard deviation, teaching quality also increases by 13.5% of its own standard deviation. Therefore, H6 is accepted. In other words, there is a positive relationship between Openness to Experience and teaching quality.
Neuroticism	-0.035	0.505	Neuroticism does not have a statistically significant effect on teaching quality as its p-value (.505) is greater than .05. This means improving Neuroticism will not translate to an improvement in teaching quality. Therefore, H5 is rejected. In other words, there is no positive relationship between Neuroticism and teaching quality.
Conscientiousness	0.209	0.000	Conscientiousness has a positive and statistically significant effect on teaching quality as its p-value (0.000) is lower than .05. In other words, when Conscientiousness goes up by 1 standard deviation, there is a 99% chance that teaching quality will go up by 20.9% of its own standard deviation. Therefore, H4 is accepted. It would be correct to say that there is a positive relationship between Conscientiousness and teaching quality.
Agreeableness	0.215	0.000	Agreeableness has a positive and statistically significant effect on teaching quality, as its p-value (0.000) is lower than .05. In other words, when Agreeableness goes up by 1 standard deviation, there is a 99% chance that teaching quality will also go up by 21.5% of its own standard deviation. Therefore, H3 is accepted. There is also a positive relationship between Agreeableness and teaching quality.
Extraversion	0.409	0.000	Extraversion has a positive and statistically significant effect on teaching quality as its p-value (0.000) is lower than .05. In other words, when Extraversion goes up by 1 standard deviation, there is a 99% chance that teaching quality will also go up by 40.9% of its own standard deviation. Therefore, H2 is accepted and there is a positive relationship between Extraversion and teaching quality.

Note: Dependent variable = Teaching Quality

It is evident from Table 6.19 that all the Big Five personality traits, Openness to Experience, Conscientiousness, Extraversion and Agreeableness, had a positive statistically significant effect on teaching quality, but not Neuroticism. The four sub hypotheses for the Big Five personality traits were therefore accepted, but not for the Neuroticism personality trait.

According to the SEM results, the following Big Five personality traits were most desired of teaching staff at the time of the study:

- Extraversion
- Agreeableness
- Conscientiousness
- Openness to Experience

6.11 T-test Analysis to determine Group Differences (Teaching Staff and Students)

An Independent T-test was conducted to compare the mean score of Extraversion, Agreeableness, Conscientiousness, Neuroticism and Openness to Experience across the two independent groups (teaching staff and students). To determine whether there is a significant difference between the means it is important to consider the p-value of the independent samples test table. Any p-value less than 0.05 means that there is a significant difference while any p-value above 0.05 means that the difference is non-significant.

6.11.1 Group Differences among the Big Five Personality Traits

The independent sample t-test for equality of means was applied to the Big Five personality traits and the results were found to be 0.44. This indicates a p-value of above 0.05, which suggests that there is no statistically significant difference in the way that teachers and students perceive Openness to Experience, Consciousness, Extraversion,

Agreeableness and Neuroticism. The views of teaching staff and students in terms of the Big Five personality traits seemed to correspond.

6.12 Group Differences Tests

The group differences test was applied to test the second hypotheses of the study.

H2: There is a significant difference between teaching staff's personality traits based on their gender, race, age, academic qualifications, employment experience, and the faculty they belong to and teaching quality at a Zimbabwean higher education institution.

The group differences (gender, age, racial group, highest level of education, employment experience and faculty type) are reported in the following sections.

6.12.1 Independent Sample T-test Analysis

To compare the means of the two groups (male and female) on the Big Five personality traits, an independent t-test was undertaken. In order to determine whether there is a significant difference between the means, the p-values in the independent samples t-test table were considered. P-values lower than 0.05 indicate that there is a significant difference while any p-value above 0.05 indicates a non-significant difference.

Table 6.20:
Independent Samples T-test

The Big Five Personality Traits	Df	P-value	Mean Difference	Standard Error	95% Confidence Interval of the Difference	
					L	U
O 1.519	148	0.131	0.20617	0.13576	-0.06210	0.47444
C 0.738	148	0.462	0.09669	0.13108	-0.16235	0.35573
E 3.544	148	0.001	0.47735	0.13467	0.21122	0.74349
A 2.977	148	0.003	0.34570	0.11612	0.11623	0.57517
N -1.191	148	0.236	-0.20836	0.17497	-0.55412	0.13740

Note; Any p-value lower than 0.05 indicates a significant difference, while any p-value above 0.05 indicates a non-significant difference

It is evident from Table 6.20 that there were significant differences between the Big Five personality traits, Extraversion and Agreeableness as the P value was lower than 0.05. The P-value for some of the personality traits such as Openness to Experience, Conscientiousness and Neuroticism was above 0.05, indicating non-significant differences across genders, further suggesting that male and female teaching staff members perceived these two traits (Extraversion and Agreeableness) differently.

6.13 Comparing Means and the ANOVA

A one-way ANOVA between groups was conducted to compare the means across racial group, age, employment experience, highest level of education and faculty type with the Big Five personality traits of Openness to Experience, Extraversion, Agreeableness, Conscientiousness, and Neuroticism. The ANOVA table below indicates whether there was a statistical significance between the groups. The significant difference is determined by the p-value, which is expected to be below 0.05 thus indicating a mean difference. If the ANOVA shows a significant result, the post-hoc (multiple comparisons) table should be analysed. The post-hoc (multiple comparisons) assesses the mean difference within the groups. The Tukey test was used in this ANOVA.

6.14 The Big Five Personality Traits and Racial Groups

The Big Five personality traits, Openness to Experience, Conscientiousness, Extraversion, Agreeableness and Neuroticism were tested across racial groups.

Table 6.21 below presents descriptive statistics of the Big Five personality traits across racial groups.

Table 6.21:

Descriptives across Racial Groups

The Big Five Personality Traits	Mean	Std. Deviation	95% Confidence Interval for Mean		Minimum	Maximum
			Lower Bound	Upper Bound		
Extraversion						
P value: 0.001						
Black	4.2864	0.93021	4.1169	4.4560	1.00	5.00
White	4.6200	0.40497	4.3303	4.9097	4.00	5.00
Coloured	4.5125	0.54635	4.2214	4.8036	3.20	5.00
Asian	4.5667	0.08165	4.4810	4.6524	4.40	4.60
Total	4.3440	0.85581	4.2059	4.4821	1.00	5.00
Conscientiousness						
P value: 0.462						
Black	4.3644	0.87011	4.2058	4.5230	1.00	5.00
White	4.7500	0.31180	4.5269	4.9731	4.00	5.00
Coloured	4.6563	0.45529	4.4136	4.8989	3.25	5.00
Asian	4.7500	0.15811	4.5841	4.9159	4.50	5.00
Total	4.4367	0.80121	4.3074	4.5659	1.00	5.00
Neuroticism						
P value: 0.236						
Black	1.7203	1.03516	1.5316	1.9091	1.00	4.80
White	1.7800	1.25945	0.8790	2.6810	1.00	4.60
Coloured	1.4125	1.11108	0.8204	2.0046	1.00	4.80
Asian	1.8333	1.53058	0.2271	3.4396	1.00	4.80
Total	1.6960	1.07259	1.5229	1.8691	1.00	4.80
Openness to Experience						
P value: 0.131						
Black	4.3559	0.85245	4.2005	4.5113	1.00	5.00
White	4.5375	0.47889	4.1949	4.8801	3.75	5.00
Coloured	4.4453	1.01136	3.9064	4.9842	1.00	5.00
Asian	4.7708	0.14613	4.6175	4.9242	4.63	5.00
Total	4.3942	0.83467	4.2595	4.5288	1.00	5.00
Agreeableness						
P value: 0.003						
Black	4.4407	0.78732	4.2971	4.5842	1.20	5.00
White	4.7800	0.28983	4.5727	4.9873	4.20	5.00
Coloured	4.5375	0.56436	4.2368	4.8382	3.20	5.00
Asian	4.5333	0.10328	4.4249	4.6417	4.40	4.60
Total	4.4773	0.72936	4.3597	4.5950	1.20	5.00

It is evident from Table 6.21 that there were no significant differences in terms of all the Big Five personality traits across racial groups. The results of previous studies have

shown racial group differences in the Big Five personality traits in different situations. For instance, Lucas and Baird (2014) found the Extraversion trait to be positively related to positive effects across various cultures in the teaching and learning environment. Tan et al.'s (2018) research on the personality traits of teaching staff in higher education also investigated differences in preferences among two ethnic groups (South East Asian/Chinese versus Caucasian/British). Their results suggested that Caucasian students had a stronger dislike for the Neuroticism personality trait in their lecturers than the Asian sample, while Asians had greater preference for Extraversion, Openness to Experience and Agreeableness in lecturers. This contradicts the results of the current study which found no significant differences in the Big Five personality traits across racial groups.

6.14.1 ANOVA Results for the Big Five Personality Traits and Racial Group

An ANOVA test was done within and between the groups. According to the results, there were no significant differences between the Big Five personality traits Openness to Experience, Conscientiousness, Extraversion, Agreeableness and Neuroticism within and across the different racial groups at the participating institution. This conclusion is based on the p = value which was less than 0.05.

6.14.2 Multiple Comparisons for the Big Five Personality Traits and Racial Group

Multiple comparisons were also done by means of the Tukey honestly significant difference (HSD) test for the all racial groups and the Big Five personality traits. The results indicated a significant difference between the black, white, coloured and Asian groups in terms of how they perceived the Big Five personality traits, with a p value of less than 0.05.

6.15 Age Group Differences and the Big Five Personality Traits

Descriptive analysis was conducted to investigate age group differences. The results are presented in Table 6.22 below, which indicates the mean and standard deviation for the Big Five personality traits and the different age groups.

Table 6.22:

Descriptives of the Age Groups

Age groups	Mean	S.D.	Upper bond	Lower bond	Minimum	Maximum
Openness to Experience						
19-25	3.9451	1.02852	3.6205	4.2698	1.00	5.00
26-35	4.4338	0.97421	4.0939	4.7737	1.00	5.00
36-45	4.6188	0.41016	4.4876	4.7499	3.38	5.00
46-55	4.7050	0.32452	4.5710	4.8390	3.88	5.00
56-65	4.4167	1.01934	3.6331	5.2002	1.88	5.00
Total	4.3935	0.83744	4.2579	4.5290	1.00	5.00
Conscientiousness						
19-25	4.1037	0.93871	3.8074	4.4000	1.25	5.00
26-35	4.4338	0.97567	4.0934	4.7743	1.00	5.00
36-45	4.6125	0.52486	4.4446	4.7804	3.00	5.00
46-55	4.7000	0.42081	4.5263	4.8737	3.00	5.00
56-65	4.4167	0.89268	3.7305	5.1028	2.75	5.00
Total	4.4346	0.80350	4.3045	4.5646	1.00	5.00
Extravasation						
19-25	3.7171	1.15756	3.3517	4.0824	1.00	5.00
26-35	4.6235	0.74633	4.3631	4.8839	1.00	5.00
36-45	4.5600	0.47545	4.4079	4.7121	3.20	5.00
46-55	4.5840	0.38695	4.4243	4.7437	3.60	5.00
56-65	4.4444	0.51747	4.0467	4.8422	3.40	5.00
Total	4.3396	0.85699	4.2009	4.4783	1.00	5.00
Agreeableness						
19-25	4.0634	1.01434	3.7433	4.3836	1.80	5.00
26-35	4.5941	0.71772	4.3437	4.8445	1.20	5.00
36-45	4.6850	0.35341	4.5720	4.7980	3.60	5.00
46-55	4.6640	0.38175	4.5064	4.8216	3.40	5.00
56-65	4.4222	0.54263	4.0051	4.8393	3.20	5.00
Total	4.4738	0.73055	4.3556	4.5921	1.20	5.00
Neuroticism						
19-25	1.9122	1.04886	1.5811	2.2433	1.00	4.80
26-35	1.5706	1.03530	1.2094	1.9318	1.00	4.80
36-45	1.6600	1.14058	1.2952	2.0248	1.00	4.80
46-55	1.6240	1.19766	1.1296	2.1184	1.00	4.80
56-65	1.5333	0.70711	0.9898	2.0769	1.00	3.00
Total	1.6953	1.07618	1.5211	1.8695	1.00	4.80

It is evident from Table 6.22 that the average score of Openness to Experience, Conscientiousness, Extraversion and Agreeableness differed across the age groups and the mean difference was significant at the 0.05 level. However, the personality trait of Neuroticism had a non-significant differences and the mean difference was significant at the

0.05 level. The results of the current study correspond to recent research that examined age differences in the Big Five trait domains. Existing research has suggested that the Big Five personality traits evolve with age over the life spans and can change. For example, scholars have found that people score higher on Conscientiousness and Agreeableness and lower on Neuroticism as they get older (Soto & John, 2017). Likewise, Neuroticism, Extraversion (only in men) and Openness to Experience have been found to decrease with age after 70, but Conscientiousness and Agreeableness increase with age (the latter only in men) (Roberts et al. 2017). Cross-sectional and longitudinal studies conducted all over the world suggest that there are modest mean level changes throughout adulthood in the Big Five personality trait model (Soto & John, 2017). Gollner et al. (2016) also examined the Big Five personality trait development in the transition to early adolescence (from the fifth to eighth grade) and the results showed that people tend to be more extraverted in the middle of adolescence. Finally, Openness to Experience showed a negative and linear association with age. In general, personality traits change modestly during early adolescence.

6.15.1 ANOVA Results for the Big Five Personality Traits and Age Groups

ANOVA results showed that the average score on Openness to Experience seems to differ across age groups and there was a significant difference in mean scores across age groups; this is indicated by the p value = .001 < 0.05.

The average score on Conscientiousness appeared to differ across age groups. The ANOVA indicated a significant difference in mean scores across the age groups with a p value = .018 < 0.05.

The average scores of lecturers who were between the age of 26 and 35 and 46 and 55 on Extraversion were significantly higher (p = .000 < .05) than the average score of teachers who were between the age of 19 and 25 years and the mean difference was significant at the 0.05 level.

The average score on Agreeableness appeared to differ across age groups. The average score of lecturers who were between the age of 26 and 35 ($p = .010 < .05$), 36 and 45 ($p = .001 < .05$) and 46 and 55 ($p = .007 < .05$) on Agreeableness was significantly higher ($p = .007 < .05$) than the average score of teachers who were between the age of 19 and 25 years.

The results showed that there was a non-significant difference in Neuroticism within the age groups. This is based on a p = value above 0.05.

6.15.2 Multiple Comparisons for The Big Five Personality Traits and Age Groups

Multiple comparisons showed that the average score of lecturers who were between the age of 19 and 25, 36 and 45, and 46 and 55 on Openness to Experience, Extraversion and Agreeableness was significantly higher ($p = .002 < .05$) than the average score of teachers who were between the age of 26 and 35 years. The multiple comparison tests showed that the Conscientiousness average score of lecturers who were between the age of 36 and 45 and 46 and 55 was significantly higher ($p = .026$ and $.032 < .05$) than the average score of lecturers who were between the age of 19 and 25 years. The mean difference was significant at the 0.05 level. Multiple comparisons showed that there was no significant difference among age groups in terms of the Neuroticism trait.

6.16 Years of Employment Experience among Teaching Staff at the University

Teaching staff were asked to indicate their years of employment experience. The results presented in Table 6.23 show that there were no significant differences in terms of the Big Five personality traits across the years of employment years among teaching staff at the participating institution.

Table 6.23:

Descriptives of Employment Experience and the Big Five Personality Traits

Employment experience	Mean	S.D.	Upper bond	Lower bond	Minimum	Maximum
Openness to Experience						
Less than 2 years	4.1667	0	3.8989	4.4344	2	5
5-10 years	4.5926	0.7849	4.2821	4.9031	1	5
10-15 years	4.5547	0.4401	4.3202	4.7892	3.75	5
Over 15 years	4.4922	0.78192	4.0755	4.9088	1.88	5
Total	4.3942	0.83467	4.2595	4.5288	1	5
Conscientiousness						
Less than 2 years	4.1667	0.8592	3.8989	4.4344	2	5
5-10 years	4.5926	0.7849	4.2821	4.9031	1	5
10-15 years	4.5547	0.4401	4.3202	4.7892	3.75	5
Over 15 years	4.4922	0.78192	4.0755	4.9088	1.88	5
Total	4.4367	0.8012	4.3074	4.5659	1	5
Extraversion						
Less than 2 years	4.1667	0.8592	3.8989	4.4344	2	5
5-10 years	4.5926	0.7849	4.2821	4.9031	1	5
10-15 years	4.5547	0.4401	4.3202	4.7892	3.75	5
Over 15 years	4.4922	0.78192	4.0755	4.9088	1.88	5
Total	4.344	0.8558	4.2059	4.4821	1	5
Agreeableness						
Less than 2 years	4.1667	0.8592	3.8989	4.4344	2	5
5-10 years	4.5926	0.7849	4.2821	4.9031	1	5
10-15 years	4.5547	0.4401	4.3202	4.7892	3.75	5
Over 15 years	4.4922	0.78192	4.0755	4.9088	1.88	5
Total	4.4773	0.72936	4.3597	4.595	1.2	5
Neuroticism						
Less than 2 years	1.751	1.12289	1.4285	2.0736	1	4.8
5-10 years	1.5259	1.08436	1.097	1.9549	1	4.6
10-15 years	1.875	1.24553	1.2113	2.5387	1	4.8
Over 15 years	1.375	0.61046	1.0497	1.7003	1	3
Total	1.696	1.07259	1.5229	1.8691	1	4.8

It is evident from Table 6.23 that the Big Five personality traits, Openness to Experience, Conscientiousness, Extravasation and Agreeableness, did not differ significantly across the years of teaching experience of teaching staff at the participating institution. In a previous study, Rohani (2017) also found no correlation between any of the Big Five personality traits and employment experience. An additional finding was that a high level of Neuroticism corresponded with an intention to leave the job.

6.16.1 Multiple Comparisons of the Big Five Personality Traits and Employment Experience

According to the multiple comparison results, there were no significant differences in the mean scores of the all Big Five personality traits, Openness to Experience, Conscientiousness, Extraversion, Agreeableness and Neuroticism, within and across the number of employment years teaching staff spent at the institution.

6.16.2 ANOVA Results of the Big Five Personality Traits and Employment Experience

An ANOVA was done to test differences within and between the groups. Accordingly, no significant differences were found in terms of the Big Five personality traits, Openness to Experience, Conscientiousness, Extraversion, Agreeableness and Neuroticism, within and across the number of years teaching staff spent at the institution with a p-value above 0.05.

6.17 Highest Level of Education and the Big Five Personality Traits

In the questionnaire, teaching staff were asked about their highest level of education; this ranged from a degree to PhD level. Table 6.24 elaborates on the relationship between the highest level of education and the Big Five personality traits of teaching staff.

Table 6.24:
Highest Level of Education and the Big Five Personality Traits

Level of Education	Mean	S.D.	Upper bond	Lower bond	Minimum	Maximum
Openness to Experience						
Degree	3.5268	0.85087	3.0355	4.0181	2.13	5.00
Honours	3.8958	1.16876	3.1532	4.6384	1.00	5.00
Masters	4.5646	0.68208	4.4209	4.7083	1.00	5.00
PhD	4.4786	0.80582	4.2018	4.7554	1.25	5.00
Total	4.3942	0.83467	4.2595	4.5288	1.00	5.00
Conscientiousness						
Degree	3.7321	0.78117	3.2811	4.1832	2.50	5.00
Honours	4.1458	1.22687	3.3663	4.9253	1.25	5.00
Masters	4.5506	0.66163	4.4112	4.6899	1.00	5.00
PhD	4.5286	0.82643	4.2447	4.8125	1.50	5.00
Total	4.4367	0.80121	4.3074	4.5659	1.00	5.00

Table 6.24: Highest Level of Education and the Big Five Personality Traits (cont'd)

Level of Education	Mean	S.D.	Upper bond	Lower bond	Minimum	Maximum
Extraversion						
Degree	2.9714	0.87304	2.4674	3.4755	1.80	4.60
Honours	3.5667	1.26155	2.7651	4.3682	1.00	5.00
Masters	4.6135	0.50163	4.5078	4.7192	2.00	5.00
PhD	4.4743	0.74532	4.2183	4.7303	1.00	5.00
Total	4.3440	0.85581	4.2059	4.4821	1.00	5.00
Agreeableness						
Degree	3.7286	1.06874	3.1115	4.3456	1.80	5.00
Honours	3.7333	1.03514	3.0756	4.3910	1.80	5.00
Masters	4.6697	0.45237	4.5744	4.7650	2.40	5.00
PhD	4.5429	0.70054	4.3022	4.7835	1.20	5.00
Total	4.4773	0.72936	4.3597	4.5950	1.20	5.00
Neuroticism						
Degree	2.3571	1.04124	1.7560	2.9583	1.00	4.80
Honours	2.4000	1.06856	1.7211	3.0789	1.00	4.00
Masters	1.5820	1.10150	1.3500	1.8141	1.00	4.80
PhD	1.4800	0.82491	1.1966	1.7634	1.00	4.80
Total	1.6960	1.07259	1.5229	1.8691	1.00	4.80

The average score of Openness to Experience seemed to differ across the highest level of education among teaching staff at the university. It is evident from Table 6.24 that the average score on Openness to Experience of teaching staff who had obtained master's degrees was significantly higher ($p = .000 < .05$) than the average score of teaching staff with degrees; that the average score on Openness to Experience of teaching staff with a PhD was significantly higher ($p = .001 < .05$) than the average score of teachers who had obtained degrees, and that the average score of teaching staff with master's degrees was significantly higher ($p = .029 < .05$) than the average score of those with an honours degree. The mean difference was significant at the 0.05 level.

The average score on Conscientiousness seemed to differ across the highest level of education. It is evident from Table 6.23 that the average score on Conscientiousness of teaching staff who had obtained master's degrees was significantly higher ($p = .002 < .05$) than that of teaching staff with degrees, while the average score of those who had obtained

PhDs was significantly higher ($p = .007 < .05$) than the average score of teaching staff who have obtained degrees. The mean difference was significant at the 0.05 level.

It is evident from Table 6.24 that the average score on the Extraversion trait of teaching staff who had obtained degrees was significantly higher ($p = .000 < .05$) than the average score of those with a master's, the average score of teaching staff who had obtained an honours degree was significantly higher ($p = .000 < .05$) than the average score of teaching staff who had obtained masters and PhDs; and the average score of teaching staff with PhDs was significantly higher ($p = .000 < .05$) than the average score of teaching staff with degrees. The mean difference was significant at the 0.05 level.

The average score on Agreeableness also appeared to differ across the highest level of education. It is evident from Table 6.24 that the average score on Agreeableness of teaching staff with master's degrees was significantly higher ($p = .000 < .05$) than the average score of teaching staff with degrees, while the average score of those with PhDs was significantly higher ($p = .001 < .05$) than the average score of those with degrees and honours degrees. Moreover, the Agreeableness average score of teaching staff who had obtained masters degrees was significantly higher ($p = .000 < .05$) than the average score of those with honours degrees. The mean difference was significant at the 0.05 level.

The average score on Neuroticism appeared to differ between the highest levels of education. It is evident from Table 6.24 that the average score on Neuroticism of teaching staff who had obtained master's degrees was significantly higher ($p = .049 < .05$) ($p = .054 < .05$) than that of teaching staff with degrees and honours degrees, while the average score of those with degrees was significantly higher ($p = .041 < .05$) than those with PhDs. In turn, the average score on Neuroticism of teaching staff with PhDs was significantly higher ($p = .043 < .05$) than the average score of those with honours degrees and that of teaching staff with degrees was significantly higher ($p = .049 < .05$) than the average of those with master's degrees. The average score on Neuroticism of teacher staff with honours degrees

was significantly higher ($p = .054 < .05$) than that of those with master's degrees. The mean difference was significant at the 0.05 level. These results support findings in the existing literature which suggest that highest education level of teaching staff is a reliable predictor of teaching performance in relation of the Big Five personality traits (Anbar, 2006; Bastian et al. 2017; Kim et al. 2019).

6.17.1 ANOVA Test for the Big Five Personality Traits and Highest Level of Education

An ANOVA test was conducted to identify significant differences between and within the level of education groups. The results showed that the Openness to Experience, Extraversion and Agreeableness personality traits significantly differed in terms of mean scores across the highest level of education because the p-value = .000 < 0.05. In addition, there were significant differences in mean scores across the highest level of education because Conscientiousness personality trait p-value = .002 < 0.05 and Neuroticism p-value = .004 < 0.05.

6.17.2 Multiple Comparisons of the Big Five and the Highest level of Education

The Tukey HSD test, which was conducted during the multiple comparison of the Big Five personality traits and the highest level of education of teaching staff, indicated that the average score of teaching staff with master's and PhDs, on the Big Five personality traits Openness to Experience Conscientiousness, Extraversion, Agreeableness and Neuroticism, was significantly higher ($p = .000 < .05$) than the average score of teachers with degrees and honours degrees.

6.18 Faculty Differences in the Big Five Personality Traits

The sample included participants from all ten faculties at the participating institution. The results showed that there were no significant differences in all Big Five personality traits Openness to Experience, Conscientiousness, Extraversion, Agreeableness and Neuroticism among teaching staff members from the different faculties.

Table 6.25:

Big Five Personality Trait within Different Faculties

The Big Five Personality Traits	Mean	Std. Deviation	95% Confidence Interval for Mean		Minimum	Maximum
			Lower Bound	Upper Bound		
Openness to Experience						
Agriculture	4.4750	0.42757	3.9441	5.0059	3.75	.88
Arts	4.4083	0.96763	3.8725	4.9442	1.25	5.00
Commerce	4.6339	0.76295	4.3381	4.9298	1.00	5.00
Health science	4.4545	0.87759	4.0654	4.8436	1.00	5.00
Engineering	4.1591	0.95540	3.5172	4.8009	1.88	5.00
Education	4.3750	0.88388	-3.5664	12.3164	3.75	5.00
Law	4.4821	0.93103	3.6211	5.3432	2.50	5.00
Social studies	4.0577	0.94554	3.6758	4.4396	2.13	5.00
Science	4.4336	0.69124	4.1844	4.6828	2.00	5.00
Veterinary Science	4.8125	0.26517	2.4301	7.1949	4.63	5.00
Total	4.3942	0.83467	4.2595	4.5288	1.00	5.00
Conscientiousness						
Agriculture	4.7000	0.41079	4.1899	5.2101	4.00	5.00
Arts	4.3167	0.98410	3.7717	4.8616	1.50	5.00
Commerce	4.6161	0.76522	4.3193	4.9128	1.25	5.00
Health science	4.4659	0.90730	4.0636	4.8682	1.00	5.00
Engineering	4.2500	0.90139	3.6444	4.8556	2.75	5.00
Education	4.5000	0.70711	-1.8531	10.8531	4.00	5.00
Law	4.5000	0.69222	3.8598	5.1402	3.00	5.00
Social studies	4.2019	0.92741	3.8273	4.5765	2.50	5.00
Science	4.5078	0.61397	4.2865	4.7292	3.00	5.00
Veterinary Science	4.5000	0.35355	1.3234	7.6766	4.25	4.75
Total	4.4367	0.80121	4.3074	4.5659	1.00	5.00
Extraversion						
Agriculture	4.6400	0.80498	3.6405	5.6395	3.20	5.00
Arts	4.3600	1.00057	3.8059	4.9141	1.00	5.00
Commerce	4.4429	0.83152	4.1204	4.7653	1.00	5.00
health science	4.6455	0.39003	4.4725	4.8184	3.40	5.00
Engineering	4.1273	0.92205	3.5078	4.7467	2.00	5.00
Education	5.0000	0.00000	5.0000	5.0000	5.00	5.00
Law	4.5143	0.75593	3.8152	5.2134	3.00	5.00
Social studies	3.8692	1.15231	3.4038	4.3347	1.80	5.00
Veterinary Science	4.3625	0.70104	4.1097	4.6153	2.00	5.00
Total	0.70104	4.1097	4.6153	2.00	5.00	4.60

Table 6.25: Big Five Personality Trait within Different Faculties (cont'd)

The Big Five Personality Traits	Mean	Std. Deviation	95% Confidence Interval for Mean		Minimum	Maximum
			Lower Bound	Upper Bound		
Neuroticism						
Agriculture	2.0800	0.90111	0.9611	3.1989	1.20	3.60
Arts	1.5067	0.83449	1.0445	1.9688	1.00	3.60
Commerce	1.4571	0.91871	1.1009	1.8134	1.00	4.80
Health	2.0091	1.42692	1.3764	2.6418	1.00	4.80
Engineering	1.5818	0.98165	0.9223	2.2413	1.00	4.20
Education	1.9000	1.27279	-9.5356	13.3356	1.00	2.80
Law	1.5714	1.34377	0.3286	2.8142	1.00	4.60
Social study	1.9308	0.96157	1.5424	2.3192	1.00	4.00
Science	1.6125	1.13699	1.2026	2.0224	1.00	4.80
Veterinary Science	1.2000	0.28284	-1.3412	3.7412	1.00	1.40
Total	1.6960	1.07259	1.5229	1.8691	1.00	4.80

It is evident from Table 6.25 that there was no statistical difference in Neuroticism across the different faculties. The current findings correspond to those by Tamban and Banasihan (2017) who determined the relationships between the Big Five personality traits and teaching performance at the College of Teacher Education, Laguna. Tamban and Banaishan (2017) found that teaching staff tend to score about average on most of the Big Five personality traits except for Neuroticism. However, Tamban and Banaishan (2017) study was limited to one faculty.

6.18.1 ANOVA Results for the Big Five Personality Traits and Faculties

An ANOVA test was conducted to identify significant differences between and within the faculty groups and the results indicated a non-significant difference in mean scores for the Openness to Experience, Conscientiousness, Extraversion, Agreeableness and Neuroticism personality traits across the ten faculties based on a p value = .000 < 0.05.

6.18.2 Multiple Comparisons of the Big Five Personality Traits and Faculties

A Tukey HSD test was applied during the multiple comparisons of the Big Five personality traits, Openness to Experience Conscientiousness, Extraversion, Agreeableness

and Neuroticism, and the ten faculties, Agriculture, Arts, Commerce, College of Health sciences, Engineering, Education, Law, Social study, Science and Veterinary Science that teaching staff belonged to. The results showed that the average score on the Big Five personality traits for teaching staff from all the faculties was similar and that teaching staff from all of the faculties mentioned in Table 6.25 did not differ significantly in terms of their Big Five personality traits.

6.19 Summary of the Research Hypotheses

This section contains an overview of the decisions relating to the research hypotheses to determine whether the objectives of this study were achieved. The research findings suggest that the hypotheses were supported by research findings obtained from the descriptive and SEM statistics.

6.19.1 An Overview of Decisions relating to the Hypotheses

Hypothesis 1: There is a significant relationship among teaching staff's personality traits in the context of the Big Five model (Openness to Experience, Conscientiousness, Extraversion, Agreeableness and Neuroticism) in terms of their self-assessments, assessments by their students, students' preferences in regard to their lecturers' personality traits and teaching quality at a Zimbabwean higher education institution.

- Decision: Supported except for the Neuroticism personality trait.

Sub hypotheses:

H1a: There is a positive relationship between Openness to Experience and teaching quality.

- Decision: Supported

H1b: There is a positive relationship between Conscientiousness and teaching quality.

- Decision: Supported

H1c: There is a positive relationship between Extraversion and teaching quality.

- Decision: Supported

H1d: There is a positive relationship between Agreeableness and teaching quality.

- Decision: Supported

H1e: There is a positive relationship between Neuroticism and teaching quality.

- Decision: Not supported

Hypothesis 2: There are significant relationships among teaching staff's personality traits in the context of the Big Five personality model (Openness to Experience, Conscientiousness, Extraversion, Agreeableness and Neuroticism) in regards teaching staff's self-assessments and their students' assessments at a Zimbabwean higher education institution.

- Decision: Supported

Hypothesis 3: There are significant differences between teaching staff's personality traits based on their gender, race, age, highest level of education, employment experience, faculty and teaching quality at a Zimbabwean higher education institution.

- Decision: Supported for, age, gender, highest level of education and employment experience.

It is evident from the results for the eight hypotheses that seven hypotheses of this study were supported with the exception of that concerning the Neuroticism trait. During the

process of hypothesis testing, a significance level of $p < 0.05$ was used as the criterion for supporting or not supporting the hypotheses. Hypotheses are supported or not supported if the probability is less than or equal to the chosen level of significance (Hair et al. 2014). Finally, based on SEM results, hypothesis 8 was fully supported in respect of the goodness of fit of the proposed conceptual recruitment model of teaching staff based on the Big Five personality traits.

6.20 Chapter Summary

This chapter presented the results obtained from the statistical analysis of the construct of the Big Five Personality traits and teaching quality by means of SPSS and AMOS, version 25. The study relied on many statistical techniques ranging from simple descriptive statistics to more sophisticated techniques such as SEM. The CFA established satisfactory model fit indices with valid and reliable scales appropriate for conducting the structural model. The structural model presented acceptable model fit indices and provided support for several hypotheses. The researcher then interpreted the research results in order to integrate the findings of the literature review with those of the empirical research. The hypotheses formulated in chapter five were supported, except those for the trait of Neuroticism. The choice of IBM AMOS was motivated by its covariance approach which provides robust estimations of the model fit indices as well as its visual representation of the measurement model.

Chapter seven presents the final step in this thesis, namely a discussion of the conclusions, limitations and recommendations of the research study.

Chapter Seven: Conclusions, Limitations and Recommendations

"Arriving at one goal is the starting point to another" (Dewey, 1952).

The primary objective of this study was to develop a conceptual model to inform the recruitment of teaching staff in a higher education context based on their Big Five personality traits. The previous chapter covered steps 5 and 6 of the empirical study, as outlined in chapter one. The current chapter focuses on the final step in the empirical study which deals with the conclusions, limitations and recommendations. The conclusions of the literature review are accordingly presented on the basis of the framework used in the study. This is followed by a discussion of the limitations of the literature review and the empirical research. The chapter concludes by making a number of recommendations and ultimately summarising the chapter.

7.1 Overview of the Study

Before concluding on the contributions that this study makes, it is worthwhile recapitulating the main points expounded in it.

7.1.1 Overview of the Research Problem and the Objectives of the Study

Existing research on the relationship between the Big Five personality traits and teaching quality shows that personality traits have a significant impact on teaching quality (Espinola & Francia, 2015). Researchers such as Bastian et al. (2017) and Haung et al. (2019) found that personality traits affect the performance of teaching staff.

This research study aimed to develop a conceptual module to inform the recruitment of teaching staff in a higher education context based on their personality traits, as proposed by the Big Five model. In order to achieve the study's overarching objective, the following secondary objectives were set:

The specific objectives for the literature review were formulated as follows:

- To conceptualise the Big Five personality traits from a theoretical perspective.
- To conceptualise students' personality preferences in regard to their lecturers from a theoretical perspective.
- To conceptualise the construct of teaching quality from a theoretical perspective.
- To conceptualise the theoretical relationships between lecturers' demographic characteristics (their gender, racial group, age, educational qualification, work experience and the faculty they belonged to) in terms of personality traits and teaching quality in a higher education context.
- To conceptualise the theoretical relationships among teaching staff's personality traits, students' preferences in terms of lecturers' personality traits and teaching quality in a higher education context for recruitment practices.
- To develop a theoretical (conceptual) recruitment model based on the Big Five personality traits, students' preferences and teaching quality for the recruitment of teaching staff at a higher education level.

The specific empirical objectives were formulated as follows:

- To determine the empirical relationship among teaching staff's personality traits (based on their self-assessments and students' assessments), students' preferences in regard to their lecturers' personality traits and teaching quality in a Zimbabwean higher education context.
- To determine statistically the difference between teaching staff's personality traits based on their self-assessments and their students' assessments in the context of the Big Five model (Openness, Conscientiousness, Extraversion, Agreeableness, Neuroticism), students' preferences in regard to their lecturers' personality traits and teaching quality at a Zimbabwean higher education institution.
- To determine whether the Big Five personality traits can predict lecturers' teaching quality based on student evaluations at a Zimbabwean higher education institution.

- To determine whether groups of lecturers (based on their gender, race, age, educational qualifications, the faculty they belong to and their years of work experience) differ significantly in terms of their teaching quality in relation to the Big Five personality traits.
- To test a recruitment model based on the Big Five personality traits for teaching staff at a Zimbabwean higher education institution.
- To highlight areas for further research in the field of IOP in terms of personality traits based on the Big Five personality traits and teaching quality.
- To make recommendations for enhancing the recruitment of teaching staff in a higher education context

7.2 Summary of the Chapters

The first chapter introduced the study by outlining the research problem and the research question and presenting the research objectives. This initial chapter also provided a preliminary literature review and an overview of the research methodology and possible contributions of this study. The second chapter unveiled the literature on the Big Five personality traits and their importance in a higher education context. Chapter three focused on the application of students' preferences in regard to their lecturers' personality traits based on the Big Five personality model. Chapter four provided the theoretical background underpinning teaching quality in higher education and the importance of students' evaluations in this context. Chapter five delineated the research methodology employed to empirically test the conceptual model and achieve the objectives set in the study, including matters relating to the target population and sampling, data collection and data analysis. The ethical considerations related to the study were also outlined. Chapter six focused on presenting and discussing the statistical analysis of the data obtained from the survey. The main statistical data analysis methods described in this chapter were descriptive statistics, confirmatory factor analysis and SEM.

In line with the objectives set at the outset of this study, the following section presents the key findings of the survey.

7.3 Conclusions

The following conclusions were drawn on the basis of the literature review and the empirical research.

7.3.1 Conclusions Regarding the Literature Review

The general aim of this study was to conduct a cross-sectional survey of the Big Five personality traits and teaching quality in a higher education context to examine the possible correlations. The study focused on the relationships and differences among teaching staff's personality traits, students' personality preferences for their lecturers and teaching quality at a Zimbabwean higher education institution. The study also focused on the demographic characteristics of the lecturers based on their gender, race, age, highest level of education, employment-related experience, the faculty they belonged to and their relations to the Big Five personality traits and teaching quality at a Zimbabwean higher education institution.

The results will contribute a empirically validated conceptual model to inform the recruitment of teaching based on the Big Five personality traits in order to enhance teaching quality participating university. This general aim was achieved by addressing and achieving the specific aims of the research study. Conclusions were drawn on the specific objectives of the literature review in relation to the constructs of the Big Five personality traits and teaching quality.

7.3.1.1 The first, second and third objectives. To conceptualise, from a theoretical perspective, the Big Five personality traits, students' personality preferences in regard to their lecturers and the construct of teaching quality.

The first, second and third objectives of the literature review, as formulated above, were achieved in chapter two (Personality and the Big Five personality traits), chapter three

(Student preferences in terms of their lecturers' personality) and chapter four (Teaching quality in a higher education context).

7.3.1.2 The fourth, fifth and sixth objectives. To conceptualise the relationships between lecturers' demographic characteristics (based on their gender, racial group, age, highest level of educational qualification, employment-related experience and faculty differences) in terms of the Big Five personality traits and teaching quality in higher education, the relationships among teaching staff's personality traits and students' preferences in regard to their lecturers' personality traits and teaching quality in higher education for recruitment purposes, as well as to develop a theoretical (conceptual) recruitment model (for recruitment of teaching staff) based on the Big Five personality traits, students' preferences and the teaching quality of teaching staff in a higher education context.

The fourth, fifth and sixth objectives were achieved in chapters two, three and four. In terms of exploring the impact of the Big Five personality traits on teaching quality, as experienced by students at a Zimbabwean higher education institution, the following conclusions were drawn:

The Big Five personality traits are related to teaching quality. Students' preferences in regard to their lecturers' personality traits, based on the Big Five model, were also explored as the personality traits in teaching staff that are most desired by their own students in higher education.

The personality traits of teaching staff influence students and the teaching quality process in many ways (Awadh & Ismail, 2017; Holmes et al. 2018; Kim et al. 2019; Tamban & Banasihan, 2017). For example, apart from influencing the interaction between teachers and students, teaching staff's personality traits also play a part in enhancing students' academic success. Teaching staff who are characterised by personality traits such as Conscientiousness, for instance, are more likely to guide students to achieve academic success (Kim et al. 2019). Studies on the characteristics required of teaching staff

emphasise Conscientiousness (Bastian et al. 2017; Kim et al. 2019; Rohani, 2017; Russell, 2017; Senderayi et al. 2019), Agreeableness (Judge et al. 2013; Fielden et al. 2015; Nida & Ali, 2017; Rohani, 2017; Senderayi et al. 2019; Tan et al. 2018), Openness to Experience (Judge & Zapata, 2015; Lungu, 2016) and Extroversion personality traits as prerequisites for positive educational outcomes (Diener & Lucas, 2019; Kim et al. 2019; Nida & Ali, 2017; Salgado & Fruyt, 2017; Senderayi et al. 2019; Srivastava, 2018; Tamban & Banasihan, 2017; Tan et al. 2018). Students tended to rate lecturers with high levels of Neuroticism, that is, emotional instability, negatively (Abdesalam, 2013; Kim et al. 2019; Scheepers et al. 2014; Senderayi et al. 2019; Tan et al. 2018).

The benefit of incorporating the BFI in the recruitment of teaching staff in higher education is that it may help to improve teaching quality in this context (Kim et al. 2019).

Based on the empirical study, inconsistencies were found in determining the empirical relationship between the demographic variables of gender, race, highest level of education, working experience and faculty differences of teaching staff and the Big Five personality traits. However, the researcher found that there is a lack of literature on the relationship between the Big Five personality traits, student preferences for their lecturers' personality traits and teaching quality in higher education.

7.3.1.3 The seventh objective. This objective concerned the recommendations that can be made for enhancing the recruitment of teaching staff in higher education. This objective was achieved in chapters six and seven. In terms of the theoretical relationships among teaching staff's personality traits, students' preferences for lecturers' personality traits and teaching quality in higher education for recruitment practices, the following conclusions were drawn:

There is a significant relationship among teaching staff's personality traits in the context of the Big Five model (Openness to Experience, Conscientiousness, Extraversion and Agreeableness except for Neuroticism) in terms of the self-assessments of teaching staff and the assessments of their students, students' preferences in regard to their lecturers'

personality traits and teaching quality in the Zimbabwean higher education institution in this study.

In higher education today there is a need for a framework in the form of a recruitment model that may assist in improving teaching quality. A suitable recruitment model should incorporate desirable personality traits from the Big Five model. As indicated by the current findings, an SEM recruitment model can be based on four of the Big Five personality traits, namely, Openness to Experience, Conscientiousness, Extraversion and Agreeableness.

The World Bank (2017) contends that higher education is fundamental to all developing nations if they are to thrive in a world economy where knowledge has become a critical area of advantage. Accordingly, it is essential to maintain the quality of the instruction and knowledge generated in institutions of higher learning as this is vital to national competitiveness. Consequently, UNESCO regards teacher recruitment as top of its priorities. The UNESCO Teacher Strategy (2014–2021) identifies three priority areas for action; namely, the teacher shortage, teacher quality and research knowledge production and communication globally, and in sub-Saharan Africa in particular. According to the UNESCO Teacher Policy Development Guideline (2016), the principle that teachers are accountable for the character of their teaching is key to a high-status teaching profession and to enhancing learning. Teachers' teaching quality should be regularly appraised, which in turn would inform their professional development (UNESCO, 2016).

To become globally recognised and prevent losing potential students, higher education institutions have to prioritise the quality of their educational activities and guarantee high quality teaching standards (Gore & Bowe, 2017; Mahlatini et al. 2019). The OECD guidelines (2016) emphasise that enhancing the quality of teaching and learning is a key strategic focus area in higher education. Quality teaching is a constituent of a global quality approach, as well as an institutional strategy, and should not be set apart from the

institutional quality culture. Institutions should support the enhancement of teaching quality (OECD, 2016).

7.3.2 Conclusions Regarding the Empirical Research

The empirical objectives of this study were as follows:

- To determine the statistical relationship among teaching staff's personality traits based on their self-assessment and their students' assessments in the context of the Big Five model (Openness to Experience, Conscientiousness, Extraversion, Agreeableness, Neuroticism), students' preferences in regard to their lecturers' personality traits and teaching quality at a Zimbabwean higher education institution.
- To determine the statistical relationship among teaching staff's personality traits based on their self-assessments and their students' assessments in the context of the Big Five model (Openness, Conscientiousness, Extraversion, Agreeableness, Neuroticism), students' preferences in regard to their lecturers' personality traits and teaching quality at a Zimbabwean higher education institution.
- To explore whether the Big Five personality traits of teaching staff have an impact on teaching quality as experienced by students at a Zimbabwean higher education institution.
- To find out whether, based on their gender, race, age, educational qualification and work experience, groups of lecturers differ significantly in terms of personality traits and teaching quality at a Zimbabwean higher education institution.
- To develop a conceptual model for the recruitment of teaching staff at higher education institutions in Zimbabwe.
- To make recommendations on areas for future research for the field of IOP based on the research findings in terms of a higher education context.
- To make recommendations on enhancing the recruitment of teaching staff in terms of the research results,

- The first hypothesis (H1) was supported on the basis of the descriptive analysis which indicated that there is a significant relationship among teaching staff's personality traits in the context of the Big Five model (Openness to Experience, Conscientiousness, Extraversion, Agreeableness and except Neuroticism) based on the self-assessment of teaching staff and the assessments of their students, students' preferences for their lecturers' personality traits and teaching quality in a Zimbabwean higher education context.

  H1a: There is a positive relationship between Openness to Experience and teaching quality.

  H1b: There is a positive relationship between Conscientiousness and teaching quality.

  H1c: There is a positive relationship between Extraversion and teaching quality.

  H1d: There is a positive relationship between Agreeableness and teaching quality.

  H1e: There is a positive relationship between Neuroticism and teaching quality.

- H1a, H1b, H1c, H1d were supported but not H1e.
- H2 was supported on the strength of the descriptive analysis which indicated that there were significant gaps among teaching staff's personality traits in the context of the Big Five model (Openness to Experience, Conscientiousness, Extraversion, Agreeableness, Neuroticism) in terms of teaching staff's self-assessments and their students' assessments at a Zimbabwean higher education institution.
- H3 was also supported on the basis of the results, which indicated that there was a significant relationship between teaching staff's personality traits based on their gender, age, highest level of educational qualification and employment experience and teaching quality at a Zimbabwean higher education institution. This did not, however, apply to the racial group and the faculty teaching staff belonged to. The

findings of the empirical study, based on the research objectives and the relevant research hypotheses, are presented below.

The majority of teaching staff tended to assess themselves as having the personality traits of Extraversion (M = 0.43, Std. Dev = 0.86), Agreeableness (M = 0.48 Std. Dev = 0.73), Conscientiousness (M = 4.44 Std. Dev = 0.80), and Openness to Experience (M = 4.39 Std. Dev = 0.94). In addition, a few tended to disagree or strongly disagree with the statements used to measure Neuroticism (M = 1.70 Std. Dev = 1.07). It can therefore be concluded that the teaching staff assessed themselves highly on the personality traits of Openness to Experience, Conscientiousness, Extraversion and Agreeableness but not on Neuroticism. This finding is similar to those of Tamban and Banasihan (2017) and Tan et al. (2018) in previous studies.

Pearson correlation coefficients and independent T-tests were conducted to assess the relationship between teaching staff's self-assessments and their students' assessments in regard to the Big Five personality traits. Positive relationships were evident among teaching staff's personality traits in the context of the Big Five model (Openness to Experience, Conscientiousness, Extraversion, Agreeableness) while a negative relationship with Neuroticism was found in terms of teaching staff's self-assessments and their students' assessments at a Zimbabwean higher education institution. The independent sample t-test revealed a p-value of above 0.05 which suggested that there were no statistically significant differences in the way that teaching staff and students perceived their Big Five personality traits. It was further evident that only the Neuroticism personality trait from the Big Five did not have a significant effect on teaching quality, as its p-value (0.505) was found to be greater than 0.05. This suggests that reducing the level of Neuroticism will not translate to an improvement in teaching quality.

In terms of the BFI results of the teaching staff's self-assessments versus their students' assessments, the mean score for the teaching staff sample for Extraversion (Mean

= 4.34), Openness to Experience (M = 4.40) and Neuroticism among teaching staff (M = 1.70) showed a slight difference. The same applies to the student sample where the mean scores for Extraversion (Mean = 4.28), Openness to Experience (M = 4.42) and Neuroticism (M = 1.88) also showed slight differences. The overall mean results indicated that the most positive and important traits that the majority of students preferred in their lecturers were Openness to Experience, Conscientiousness, Extraversion and Agreeableness.

The results of the SECE indicated that the students perceived the following elements of teaching quality as being very good: Personal character (M = 4.21), Course design (Mean = 4.18), Introduction to lecturers (Mean = 4.17), Utilisation of content (Mean = 4.25), Utilisation of media and materials (Mean = 4.21), Interaction behaviour (Mean = 4.21), Students' assessment (Mean = 4.21). The overall results indicate that the students who participated in the study believed that the teaching quality at the university was good.

The researcher concluded that of the Big Five personality traits, Openness to Experience, Conscientiousness, Extraversion and Agreeableness are the most desired over Neuroticism, and are more closely linked to teaching quality in a Zimbabwean higher education context.

Subsequently, SEM was applied, with the proposed model being based on the first four personality traits and omitting Neuroticism, as this trait was not desired by either students or their lecturers. The students indicated that they did not regard certain sub-facets of the Neuroticism personality trait, such as Fantasy Life (Mean = 0.51), Values Oriented (Mean = 0.86), Angry Hostility (Mean = 0.67), and Self-Conscious (Mean = 0.51), as important nor did they require them in their lecturers.

Multiple regression analysis was employed to establish the different personality traits that predict teaching quality among lecturers. The SEM supported the causal relationships between the variables. It can therefore be concluded from the findings of the current study that there is a significant positive relationship among teaching staff's personality traits in the

context of the Big Five model for Openness to Experience, Conscientiousness, Extraversion and Agreeableness, but not Neuroticism. This was indicated by both the teaching staff's self-assessments and their students' assessments. Hence it may be said that students at the Zimbabwean higher education institution prefer their lecturers to possess the personality traits of Openness to Experience, Conscientiousness, Extraversion and Agreeableness.

The study further found a significant relationship between teaching staff in terms of the Big Five personality traits, based on their gender, age, highest level of education and employment experience, and teaching quality at the university. However, no significant differences were found among racial groups and faculty/department type for both students and teaching staff.

Finally, this study built and tested a conceptual model on the basis of previous literature related to the Big Five personality traits and teaching quality. The study further aimed to identify the most significant constructs from students' preferences that relate to good quality teaching, aspects that have been largely ignored in previous studies. Based on SEM, H8 hypothesis was fully supported in respect of the goodness of fit of the proposed theoretical model; that is, 0.802%, which is considered to be statistically acceptable (Hair et al. 2014).

Higher education requires a framework in the form of a recruitment model to improve teaching quality. In line with the current findings, the recruitment model can be based on Openness to Experience, Conscientiousness, Extraversion and Agreeableness.

The following section presents conclusions regarding the relationship between teaching staff members' and students' demographic characteristics, the Big Five personality traits and teaching quality.

7.3.2.1 Demographic Characteristics. One of the objectives was to conceptualise the theoretical relationships between lecturers' demographic characteristics (based on their

gender, racial group, age, educational qualification, work-experience and faculty) in terms of personality traits and teaching quality in higher education.

The following sections present detailed conclusions relating to this objective.

7.3.2.2 Gender and the Big Five Personality Traits. In terms of the demographic characteristic of gender, the empirical analysis indicated that gender differences contributed to differences in scores on the Big Five personality traits. The means for males (4.59) and females (4.11) differed slightly among students. In addition, there was a significant ($p = 0.001$) difference between male and female teaching staff members in terms of how they perceived Extraversion, as males did not perceive Extraversion in the same way as females. A significant difference ($P = 0.003$) was also evident in Agreeableness across genders, with male teaching staff members perceiving Agreeableness differently from their female counterparts. No significant gender differences were evident in the assessment of Conscientiousness, Openness and Neuroticism.

The above results contradict some of the findings in the literature, which have shown that women scored higher on the Big Five personality traits of Extraversion, Agreeableness and Neuroticism than men (Arif et al. 2012; De Bolle et al. 2015; Soto & John., 2017; Weisberg et al. 2011). Gender differences in personality traits are often reported in terms of which gender has higher scores on a particular trait on average. For example, women are often found to be higher in Agreeableness than men (Rahmani & Lavasani, 2012). Weisberg et al. (2011) studied the personality trait of Neuroticism and found that the relationship between Neuroticism and teaching quality is moderated by gender differences, and that females score higher on Neuroticism than males. However, such a finding does not preclude the fact that men may also experience Neuroticism and may even score higher on this trait than women. The goal of investigating gender differences in personality is, therefore, to elucidate the differences among general patterns of behaviour in men and women on average, with the understanding that both men and women can experience states across the

full range of most personality traits. Gender differences in terms of mean differences do not imply that men and women only experience states on opposing ends of the trait spectrum; on the contrary, significant differences can exist along with a high degree of overlap between the distribution of men and women (Kim et al. 2019).

7.3.2.3 Race and the Big Five Personality Traits. The empirical results indicated no significant differences across racial/ethnicity groups on Openness to Experience, Conscientiousness, Extraversion, Agreeableness and Neuroticism in both the student and teaching staff samples.

Previous studies, however, have revealed racial group differences in the Big Five personality traits. For instance, Lucas and Baird (2014) found Extraversion to be positively related to positive effects across various cultures in the teaching and learning environment. Tan et al. (2018) research on teaching staff's personality traits in higher education also investigated differences in preferences among two ethnic groups (South East Asian/Chinese versus Caucasian/British). Their findings suggested that Caucasian students had a stronger dislike for the personality trait of Neuroticism in their lecturers than the Asian sample, while Asians had a higher preference for Extraversion, Openness to Experience and Agreeableness in their lecturers. Findings such as these contradict the results of the current study which did not identify significant differences in Big Five personality traits across racial groups.

7.3.2.4 Age Groups and the Big Five Personality Traits. Regarding the demographic characteristic of age, the ANOVA results revealed a significant difference in mean scores across age groups based on a p-value of $.000 < 0.05$. The average scores on Agreeableness, Openness to Experience, Conscientiousness and Extraversion seemed to differ across age groups. The average score of lecturers between the ages of 26 and 35 and those between the ages of 46 and 55 on Agreeableness, Openness to Experience,

Conscientiousness and Extraversion was significantly higher ($p = .007 < .05$) than the average score of lecturers who were between the ages of 19 and 25 years.

The results of the current study correspond to the findings of previous research that examined age differences in the Big Five trait domains of Extraversion, Agreeableness, Conscientiousness, Neuroticism, and Openness to Experience. Existing research suggests that the Big Five personality traits evolve with age over the life span and can change. Scholars have found that people's levels of Conscientiousness and Agreeableness increase as they get older, while their levels of Neuroticism decrease (Soto & John, 2017). Similarly, some psychologists have found that Neuroticism, Extraversion (only in men) and Openness to Experience decrease with age after 70, but Conscientiousness and Agreeableness increase with age (the latter only in men) (Roberts et al. 2017). Cross-sectional and longitudinal studies conducted globally suggest that there are modest mean level changes throughout adulthood in the Big Five personality trait model (Soto & John, 2017). Gollner et al. (2016) also investigated Big Five personality trait development in the transition to early adolescence (from the fifth to eighth grade), finding that people tend to be more extraverted in mid-adolescence. Finally, Openness to Experience showed a negative and linear association with age, with personality traits in general changing modestly during early adolescence.

7.3.2.5 Highest Level of Education and the Big Five Personality Traits. Teaching staff's average scores on Openness to Experience, Conscientiousness, Extroversion, Agreeableness and Neuroticism appeared to differ in terms of their highest level of education. A multiple comparison test showed that the average score on Openness to Experience, Conscientiousness, Extroversion, Agreeableness and Neuroticism of teaching staff who had obtained master's degrees was significantly higher ($p = .000 < .05$) than the average score of lecturers who had only obtained degrees. The average score on Openness to Experience of lecturers who had obtained PhDs was significantly higher ($p = .001 < .05$) than the average score of teachers who had obtained degrees, while the average score of

lecturers with master's degrees on this trait was significantly higher ($p = .029 < .05$) than the average score of teachers with honours degrees. The mean difference was significant at the 0.05 level.

The above results support findings in the existing literature, suggesting that the education level of teaching staff is a reliable predictor of teaching performance in relation of the Big Five personality traits (Anbar, 2006; Bastian et al. 2017; Kim et al. 2019).

7.3.2.6 Employment experience and the Big Five Personality Traits. In the brief section on demographic data, teaching staff were asked about the duration of their employment experience. Subsequently, no significant differences were evident in terms of the Big Five personality traits, namely, Openness to Experience, Conscientiousness Extraversion, Agreeableness and Neuroticism, among teaching staff across the number of years of employment at the university. This finding contradicts the results of some previous studies. For example, Rohani (2017) found no correlation between any of the Big Five personality traits and employment experience. However, he did find that a high level of Neuroticism corresponds with participants' intention to leave the job.

7.3.2.7 Faculty and the Big Five Personality Traits. No significant differences were evident in terms of Openness to Experience, Conscientiousness, Extraversion, Agreeableness and Neuroticism among teaching staff members from various faculties. The researcher could only identify one study by Tamban and Banaishan (2017) that sought to determine the relationships between the Big Five personality traits and teaching performance at the College of Teacher Education, Laguna. Teaching staff members in this study tended to score about average on most of the Big Five personality traits except for Neuroticism. Bastian et al. (2017) recommends further studies in this field be conducted because his study only involved the Faculty of Teacher Education. Bastian et al.'s (2017) suggestion highlights the need for the current study, in which differences in personality traits were investigated across ten faculties (Agriculture, Arts, Commerce, College of Health sciences,

Engineering, Education, Law, Social study, Science and Veterinary science) at the participating institution.

7.4 To Develop a Model for the Practice of Consulting Psychology

This objective was achieved in chapter six with the presentation of the SEM model. SEM was also used to investigate the impact of the Big Five personality traits on teaching quality in a higher education context. Subsequently, all the variables, namely the Big Five personality traits, students' preferences in regard to their lecturers' personality traits and teaching quality, indicated a satisfactory fit.

The goodness-of-fit measure was used to evaluate model A of the SEM. The initial evaluation of model A indicated a weak fit, suggesting two modifications to the model. The first modification focused on allowing the correlation between the manifest variables while the second modification suggested an absolute and incremental goodness-of-fit measure for the modified model B. The SEM supported the causal relationships between the latent and manifest variables, indicating that the latent variables of the model designated the inter-correlations between these latent variables.

A comparison of model B of the SEM and the theoretical model revealed the following similarities:

- The domain of the Big Five has a direct causal relationship with the dimensions of teaching quality in higher education. The dimensions of the domain supported the findings in the literature review that the Big Five personality traits are criteria for predicting teaching quality.
- The domain of student preferences in regard to their lecturers' personality traits has a direct causal relationship with the dimensions of teaching quality and the domain of teaching quality has a direct causal relationship with the Big Five personality traits. In conclusion, the researcher could infer that the results of the SEM enhanced the

theoretical model created in chapters two and three. This model suggests incorporating the Big Five personality traits in the recruitment of teaching staff to improve teaching quality in higher education.

7.5 Conclusions Relating to the Hypotheses

The empirical study provided statistically significant evidence to support the acceptance of most of the hypotheses of the study, as discussed in chapters one and six. The central hypothesis of this study suggested that the Big Five personality traits can play an important role in the recruitment of teaching staff. Furthermore, teaching staff from different genders, racial groups, levels of education, employment experience levels and faculties/departments differ significantly in terms of their teaching quality. In addition, it was concluded that there was goodness of fit between the proposed theoretical model of the Big Five personality traits and teaching quality, which could be used during the recruitment of teaching staff in higher education.

7.6 Conclusions Relating to Contributions to the Field of Industrial and Organisational Psychology

The findings of the literature review and the empirical research results make a contribution to the field of IOP, particularly the investigation of aspects relevant to a higher education context. The literature review revealed insights into the impact of the Big Five personality traits on teaching quality. In particular, the review provided insight into the concepts and theoretical models that have led to the development of an empirically validated conceptual model to inform the recruitment of teaching staff based on the most preferred personality traits of students in higher education.

The empirical findings contribute new knowledge to the cross-sectional study of teaching staff in higher education, based on the Big Five personality traits. The findings on the relationship between the Big Five personality traits and demographic variables such as

gender, race, highest level of education, employment experience and faculty differences are new findings for the Zimbabwean higher education context. The current findings relating to the Big Five model may guide new interventions during higher education teaching staff recruitment and may assist in enhancing this process. An interesting perspective that may guide this process is the idea that personality can be developed or integrated according to desired personality traits (South et al. 2018).

Industrial psychologists play a crucial role in assisting organisations to facilitate their recruitment processes. Accordingly, industrial psychologists could build on the proposed recruitment model developed in this study and it could serve as a cornerstone when assisting higher education institutions to improve teaching quality.

The empirical findings of this study revealed that the goodness of fit of the model was 0.802 which is deemed to be acceptable. In addition, the most important personality traits of the Big Five model that correlate with high quality teaching were identified. These findings could support higher education institutions in the recruitment process.

This research adds to the field of personality psychology by proposing a recruitment model for teaching staff based on the desired personality traits that relate to teaching quality in a higher education context.

7.7 Limitations

The next section focuses on the limitations of the literature review and the empirical study.

7.7.1 Limitations of the Literature Review

The following limitations were evident in the literature review:

This research study on the Big Five personality traits, students' preferences in regard to their lecturers' personality traits and teaching quality in a Zimbabwean higher education context was limited on account of the following:

- Despite the importance of the Big Five personality trait model, researchers have criticised it in the past because of its inability to generate accurate measures. It should therefore be modified to make it more dynamic (South et al. 2018).
- It was evident in the literature that although these personality trait measures are widely used in the social sciences globally, existing research mainly reflects conditions in Western, Educated, Industrialized, Rich and Democratic (WEIRD) populations. Furthermore, low education levels may misrepresent personality measures when assessed in large-scale surveys and in low or middle-income countries (Laajaj et al. 2019).
- The paradigms of the present study were limited to the subfields of Organisational Psychology and the discipline of IOP, which include systems, humanistic and functionalistic paradigms.

7.7.2 Limitations of the Empirical Study

The following are the limitations of the study in terms of its ability to generalise and make practical recommendations on the basis of the findings:

- A convenience sample was used instead of a randomised group method. This implies that the findings could not be generalised because they pertain only to the population involved in the present study.
- Since Zimbabwe is an African country and more than 95% of teaching staff and students at the participating institution are African, the vast majority of the participants in the study were Africans, thus limiting the ability to generalise the findings to other racial groups even though white, Indian and coloured participants were included.

- There is a possibility that teaching staff may have provided a fake personality test; even so the harm caused would be minimal. The primary limitation of this study is the fact that the data for both samples were collected at a single higher education; consequently, the variables of the Big Five personality traits and teaching quality were measured at one higher education institution only.

7.8 Recommendations

To achieve the empirical aim stated in section 7.2.2, this section makes certain recommendations for further research based on the findings of the current study. The recommendations below focus on the participating organisation, the field of IOP and future research. These recommendations are made on the basis of the findings, conclusions and limitations of this study.

7.8.1 Recommendations for Further Research

The following recommendations for future research in the field of IOP are based on the conclusions and limitations of the study:

- The results of this study revealed that the Big Five personality traits have a strong impact on teaching quality in a higher education context. Based on the conceptual model developed in this study, teaching quality may be enhanced by focusing on (and supporting the development of) the most preferred personality traits from the BFI.
- The focus of future research should be on collecting data from additional higher education institutions in order to validate the results of the current study, because these results will not have general applicability without such replication.
- There is also a need for further research on differences in the Big Five personality traits of teaching staff at government universities compared to private universities.

Further research, specifically in the Zimbabwean context, should focus on improving the recruitment process for teaching staff in order to support teaching quality.

- Integrating the students-as-partners approach in future research appears warranted. This approach acknowledges students as active participants who have valuable insights that may influence learning, teaching, and further areas in a higher education context in collaboration with academic and professional staff.

This study did not provide insights in terms of the preferences of students from other programmes as it was limited to final-year undergraduate students. Hence, industrial and organisational psychologists, researchers and academics should conduct further studies in order to assist higher education in determining which personality traits students from different academic years prefer in teaching staff.

The proposed model identified in the current study highlighted several relationships, suggesting vital future research. Firstly, the results suggest that the Big Five personality traits can play an important role in the recruitment of teaching staff. Secondly, teaching staff from different genders, levels of education, and years of employment differed significantly in terms of their personality traits. The model could be modified or replaced so as to be more dynamic in relation to the structure of personality.

The current study used a convenience sampling method, although the sample size was large. Further studies using probability sampling could increase the generalisability of the study.

Students and teaching staff used the same inventory based on the Big Five personality model. Therefore, future studies should find an optimal dynamic model which may reflect unique aspects of participants' personalities that may assist in increasing the efficacy of the recruitment process.

Finally, this study was an attempt to develop a conceptual model to inform the recruitment of teaching staff in a higher education context in both future research and practice. This objective was subsequently achieved.

7.8.2 Recommendations Relating to the Participating Organisation

Based on the empirical results and the limitations and conclusions of this study, the following recommendations are made specifically for the participating institution:

- In future, higher education could use the teaching staff recruitment model, based on the Big Five personality traits, for recruitment purposes in order to improve teaching quality. This recruitment model should enable the higher education institution to focus on the Big Five personality traits that students prefer.
- The most preferred personality traits from the Big Five that relate to high teaching quality could be used in the participating institution to improve its recruitment process of teaching staff.
- It is recommended that teaching quality related to students' evaluation for their teaching staff, be correlated with teaching staff the Big Five' personality traits since teaching quality is one of the factors that affect the students' academic performance.
- Future studies may consider teaching staff's self-assessments combined with their students' assessments not only for personality traits but also for attributes such as intelligence and cognitive abilities to investigate more complex relationships.
- The Big Five personality measures can be used for selection and recruitment as part of a battery of assessments that may serve to assess the spectrum of personality traits from broad to narrow traits.

7.8.3 Recommendations for Industrial/Organisational Psychologists

The literature review provided a useful foundation for the development of a conceptual model to inform the recruitment of teaching staff in higher education. The empirical study supported Openness to Experience, Conscientiousness, Extraversion and

Agreeableness as the most desired Big Five personality traits among students in higher education and Neuroticism as the least desired.

- The Big Five personality traits and the empirically manifested model to inform the recruitment of teaching staff in higher education should consequently be applied to enhance recruitment of teaching staff to improve teaching quality.
- It was evident in the present study that different demographic groups (for instance in terms of gender, race, highest level of education, employment experience and department/faculty) may display differences in terms of the Big Five personality traits and teaching quality in higher education. It is therefore essential to create a conceptual model to inform the recruitment of teaching staff that reflects differences among demographic groups in order to enhance teaching quality in higher education.

7.9 Integration of the Research Results

This thesis focused on the differences among teaching staff in relation to the Big Five personality traits as identified by their self-assessments and their students' assessments. It also explored students' preferences regarding their lecturers in terms of the Big Five personality traits. The empirically manifested model reflects the most preferred personality traits that relate to teaching quality in a higher education context.

The literature review indicated that there is a theoretical relationship between the Big Five personality traits and teaching quality and that the most desired Big Five personality traits may be adopted in a higher education context to improve teaching quality.

Central to this thesis was the development of a conceptual model to inform the recruitment of teaching staff at higher education institutions based on the Big Five personality traits. This was deemed important because teaching staff play a key role in teaching quality in higher education. Accordingly, the empirical study investigated the

differences in teaching staff's self-assessments of their Big Five Personality traits and the assessments of their students.

The empirical study provided statistically significant evidence that supports the hypothesis of this study, namely that there is a significant relationship among teaching staff's personality traits in the context of the Big Five model (Openness to Experience, Conscientiousness, Extraversion, Agreeableness, Neuroticism) in terms of the self-assessments of teaching staff and assessments by their own students, students' preferences in regard to their lecturers' personality traits and teaching quality in the Zimbabwean higher education institution. In addition, there is a significant relationship between teaching staff's personality traits, based on their gender, racial group, age, educational qualification and work experience, and teaching quality at a Zimbabwean higher education institution.

7.10 Chapter Summary

In this chapter, conclusions were drawn and discussed on the basis of the objectives of both the literature review and the empirical study. Possible limitations were explored in the literature review and the empirical research and recommendations for future research were made focusing on the need for more research investigating the relationship between the Big Five personality traits and teaching quality, especially in the private versus government higher education context. In conclusion, an integration of the research was presented, highlighting the fact that the results of the empirical study provide evidence of the differences in the Big Five personality traits as self-rated by teaching staff and their students, differences between students' preferences in regard to their lecturers' personality traits and demographic variables, in order to develop a recruitment model for teaching staff.

7.11 Concluding Remark

The purpose of this study was to develop a conceptual model that can be used in the Zimbabwean higher education context. The research made certain theoretical and practical contributions by developing a conceptual model based on the most desired personality traits from the Big Five model that directly impact on teaching quality in higher education. This study provides insight and scientific knowledge in terms of the Big Five personality traits and teaching quality in higher education. It is therefore believed that industrial psychologists should be able to apply these insights, especially the use of the proposed model of the Big Five personality traits, in the recruitment process to enhance teaching quality in higher education. In addition, recommendations were made for future research. This study should make a positive contribution, firstly, to personality psychology, and secondly, to the field of IOP in the Zimbabwean context.

Using a survey that involved 449 participants, the study proposed and tested a conceptual model that is useful for understanding the Big Five personality traits of teaching staff that are linked with good quality teaching. The study also made practical contributions to deal with the quality challenges experienced when recruiting teaching staff in higher education. This study opens up avenues for future research to expand the findings obtained and deal with the limitations associated with this study.

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Appendix A: Informed consent form

Teaching Staff's Personality Traits, Students' Lecturer Personality Preferences and Teaching Quality at the University

Principal investigator: Ms Farzana Naeem (D Consult Psychology)

Phone number: +26 377 2397 362

What you should know about this research study:

- You are given this consent form so that you may read about the purpose, risks and benefits of this research study.
- We cannot promise that this research will benefit you. Just like regular care, this research can have side effects that can be serious or minor.
- You have the right to refuse to take part, or agree to take part now and change your mind later.
- Whatever you decide, it will not affect your regular care.

Please review this consent form carefully. Ask any questions you like before you make a decision. Your participation is voluntary.

Purpose

You are being asked to participate in a research study on lecturing staff's personality traits, students' preferences for lecturers' personality traits and teaching quality at the University. The purpose of the study is to develop a recruitment model for teaching staff at the University of Zimbabwe based on the Big Five personality traits. You were selected as a possible participant for this study because you are either a final-year undergraduate student or you teach final-year undergraduate students at the university. Approximately 300 undergraduate students and 150 teaching staff who are teaching undergraduate students will take part in the study from 10 faculties.

Procedures and Duration

If you decide to participate, you will be sent an online link. The study will follow a quantitative research approach. It will employ a cross-sectional survey design because the study seeks to examine the relationship between the Big Five personality traits and teaching quality over a short period. Primary data will be used and a correlational approach and SEM analysis will be applied in the statistical analysis. The researcher will be using the Big Five Personality Inventory (administration time 5–6 minutes), the Lecturer Personality Preference Questionnaire (administration time 5–6 minutes) and Students' End-of-course Evaluations (administration time 4-5 minutes) which all require the direct involvement of final-year undergraduate students and their lecturers. There is no foreseeable risk of physical or psychological harm to participants, but they may experience slight discomfort when responding to the questionnaires.

Participants may withdraw from the study at any time if they do not want to continue. The researcher will not force them to continue if they are uncomfortable about assessing their

personality, indicating their preferences in terms of teaching staff's personality or rating teaching quality.

Risks and Discomforts

There are no negative consequences or potential inconvenience or discomfort related to participating in this research.

Benefits and/or Compensation

Participants in this research will not receive any payment or rewards and participation is voluntary. Therefore, there will be no benefits of any kind for taking part to this study. However, the results of the research could be made available to participants if requested personally through an email link.

Confidentiality

None of the information provided by participants will be recorded anywhere, and no one, apart from the researcher and the research supervisor, will know about your involvement in this research. Your name and the information conveyed in this research will be kept confidential and you may decide not to reveal your name. Your answers will be given a code number or a pseudonym and you will be referred to in this way in the data, in any publications, and in other research reporting methods such as conference proceedings.

Your answers will be reviewed by people responsible for making sure that research is done correctly, including the transcriber, the external coder and members of the Research Ethics Review Committee. Otherwise, records that identify you will be available only to people working on the study, unless you permit other people to see the records.

Additional Costs

There will be no costs for any of the participants for participating in this study.

Voluntary Participation

Participation in this study is voluntary. If you decide not to participate in this study, your decision will not affect your future relations with the University of Zimbabwe. If you do decide to participate, you are free to withdraw your consent and to discontinue participation at any time without penalty.

SIGNATURE PAGE

Appendix B: Participation sheet

Teaching Staff's Personality Traits, Students' Lecturer Personality Preferences and Teaching Quality at the University

Protocol Version No./Date

Offer to Answer Questions

Before you sign this form, please ask any questions on any aspect of this study that is unclear to you. You may take as much time as necessary to think about your decision.

Authorisation

You are deciding whether or not to participate in this study. Your signature indicates that you have read and understood the information provided above, have had all your questions answered, and have decided to participate.

Name of Research Participant (please print) Date

Signature of Participant Time

YOU WILL BE OFFERED A COPY OF THIS CONSENT FORM TO KEEP.

If you have any questions concerning this study or consent form beyond those answered by the investigator, including questions about the research, your rights as a research participant or if you feel that you have been mistreated and would like to talk to someone other than a member of the research team, please feel free to contact the Medical Research Council of Zimbabwe (MRCZ) on telephone (04)791792 or (04)791193 and cell phone lines 0784 956 128. The MRCZ Offices are located at the National Institute of Health Research premises, corner of Josiah Tongogara and Mazowe Avenue in Harare.

Appendix C: The Big Five Inventory (Self-assessment by Teaching Staff)

Adapted by Oliver P. John (1991)

Personal details of teaching staff (self-assessment)

Course code and course name

Demographic details

Age (19–25, 26–35, 36–45, 46–55, 56–65 and Above 65)

Gender (Male, Female)

Race (Black, White, Asian, Coloured)

Education level (Degree, Honours, Masters, PhD)

Working experience (Less than 2 years, 2–5 years, 5–10 years, 10–15 years and above 15 years)

Department

Faculty *Please choose one of the following:

- Agriculture
- Arts
- Commerce
- College of Health Sciences
- Engineering
- Education
- Law
- Social Studies
- Science
- Veterinary Science

Self-description Inventory

Here are a number of characteristics that may or may not apply to you. For example, do you agree that you are someone who likes to spend time with others? Please choose a number for each statement to indicate the extent to which you agree or disagree with that statement.

Disagree Strongly	Disagree a Little	Agree Strongly	Agree a Little	Neither Agree nor Disagree
1	2	3	4	5

I see myself as someone who …

___ 1. Is talkative

___ 2. Tends to find fault with others

___ 3. Does a thorough job

___ 4. Is depressed, blue

___ 5. Original, comes up with new ideas

___ 6. Is reserved

___ 7. Is helpful and unselfish with others

___ 8. Can be somewhat careless

___ 9. Is relaxed, handles stress well

___ 10. Is curious about many different things

___ 11. Is full of energy

___ 12. Starts quarrels with others

___ 13. Is a reliable worker

___ 14. Can be tense

___ 15. Is ingenious, a deep thinker

___ 16. Generates a lot of enthusiasm

___ 17. Has a forgiving nature

___ 18. Tends to be disorganised

___ 19. Worries a lot

___ 20. Has an active imagination

___ 21. Tends to be quiet

___ 22. Is generally trusting

___ 23. Tends to be lazy

___ 24. Is emotionally stable

___ 25. Is inventive

___ 26. Has an assertive personality

___ 27. Can be cold and aloof

___ 28. Perseveres until the task is finished

___ 29. Can be moody

___30. Values artistic, aesthetic experiences

___ 31. Is sometimes shy, inhibited

___ 32. Is considerate and kind to almost everyone

___ 33. Does things efficiently

___ 34. Remains calm in tense situations

___ 35. Prefers work that is routine

___ 36. Is outgoing, sociable

___ 37. Is sometimes rude to others

___ 38. Makes plans and follows through with them

___ 39. Gets nervous easily

___ 40. Likes to reflect, play with ideas

___ 41. Has few artistic interests

___ 42. Likes to cooperate with others

___ 43. Is easily distracted

___ 44. Is sophisticated in art, music, literature

Appendix D: The Big Five Inventory (Assessment by Students)

Adapted by Oliver P. John (1991)

Personal details of students (Assessment by students)

Course code and course name

Demographic details

Age (19–25, 26–35, 36–45, 46–55, 56–65 and Above 65)

Gender (Male, Female)

Race (Black, White, Asian, Coloured

Department

Faculty *Please choose one of the following:

- Agriculture
- Arts
- Commerce
- College of Health Sciences
- Engineering
- Education
- Law
- Social Studies
- Science
- Veterinary Science

Describe your lecturers' personality

The Big Five Inventory

Here are a number of characteristics that may or may not apply to the person who asked you to complete this form. For example, do you agree that this person is someone who likes to spend time with others? Please choose a number for each statement to indicate the extent to which you agree or disagree with that statement as a description of the behaviour of the person you are rating.

Disagree Strongly	Disagree a Little	Agree Strongly	Agree a Little	Neither Agree nor Disagree
1	2	3	4	5

I see myself as someone who …

___ 1. Is talkative

___ 2. Tends to find fault with others

___ 3. Does a thorough job

___ 4. Is depressed, blue

___ 5. Original, comes up with new ideas

___ 6. Is reserved

___ 7. Is helpful and unselfish with others

___ 8. Can be somewhat careless

___ 9. Is relaxed, handles stress well

___ 10. Is curious about many different Things

___ 11. Is full of energy

___ 12. Starts quarrels with others

___ 13. Is a reliable worker

___ 14. Can be tense

___ 15. Is ingenious, a deep thinker

___ 16. Generates a lot of enthusiasm

___ 17. Has a forgiving nature

___ 18. Tends to be disorganised

___ 19. Worries a lot

___ 20. Has an active imagination

___ 21. Tends to be quiet

___ 22. Is generally trusting

___ 23. Tends to be lazy

___ 24. Is emotionally stable

___ 25. Is inventive

___ 26. Has an assertive personality

___ 27. Can be cold and aloof

___ 28. Perseveres until the task is finished

___ 29. Can be moody

___30. Values artistic, aesthetic experiences

___ 31. Is sometimes shy, inhibited

___ 32. Is considerate and kind to almost Everyone

___ 33. Does things efficiently

___ 34. Remains calm in tense situations

___ 35. Prefers work that is routine

___ 36. Is outgoing, sociable

___ 37. Is sometimes rude to others

___ 38. Makes plans and follows through With them

___ 39. Gets nervous easily

___ 40. Likes to reflect, play with ideas

___ 41. Has few artistic interests

___ 42. Likes to cooperate with others

___ 43. Is easily distracted

___ 44. Is sophisticated in art, music, Literature

The Big Five Inventory Scoring Key [1]

Extraversion: 1, 6R [2],11, 16, 21R, 26, 31R, 36, Neuroticism: 4, 9R, 14, 19, 24R, 29, 34R, 39, Agreeableness: 2R, 7, 12R, 17, 22, 27R, 32, 37R, 42, Openness:5, 10, 15, 20, 25, 30, 35R, 40, 41R, 44, Conscientiousness: 3, 8R, 13, 18R, 23R, 28, 33, 38, 43R

Calculate total scores for each of the five scales above (after appropriately reversing item scores) and enter them in the spaces below. Then calculate T-scores for each of the scales, following the formulae provided.

Total Scores Converted to T-Scores

Self-Ratings

Extraversion ___. Total Score divided by 8 = ____ (X). X minus 3.2 = ____ (Y). Y divided by 0.8 = (Z) = ____. (Z * 10) + 50 = ____ (T)

Agreeableness ___. Total Score divided by 9 = ____ (X). X minus 3.8 = ____ (Y). Y divided by 0.6 = (Z) = ____. (Z * 10) + 50 = ____ (T)

Conscientiousness ___. Total Score divided by 9 = ____ (X). X minus 3.6 = ____ (Y). Y divided by 0.7 = (Z) = ____. (Z * 10) + 50 = ____ (T)

Neuroticism ___. Total Score divided by 8 = ____ (X). X minus 3.0 = ____ (Y). Y divided by 0.8 = (Z) = ____. (Z * 10) + 50 = ____ (T)

Openness ___. Total Score divided by 10 = ____ (X). X minus 3.7 = ____ (Y). Y divided by 0.7 = (Z) = ____. (Z * 10) + 50 = ____ (T)

Observer-Ratings

Extraversion ___. Total Score divided by 8 = ____ (X). X minus 3.2 = ____ (Y). Y divided by 0.8 = (Z) = ____. (Z * 10) + 50 = ____ (T)

---

1 Copyright Oliver P. John (1991), University of California-Berkeley, Institute for Personality and Social Research.

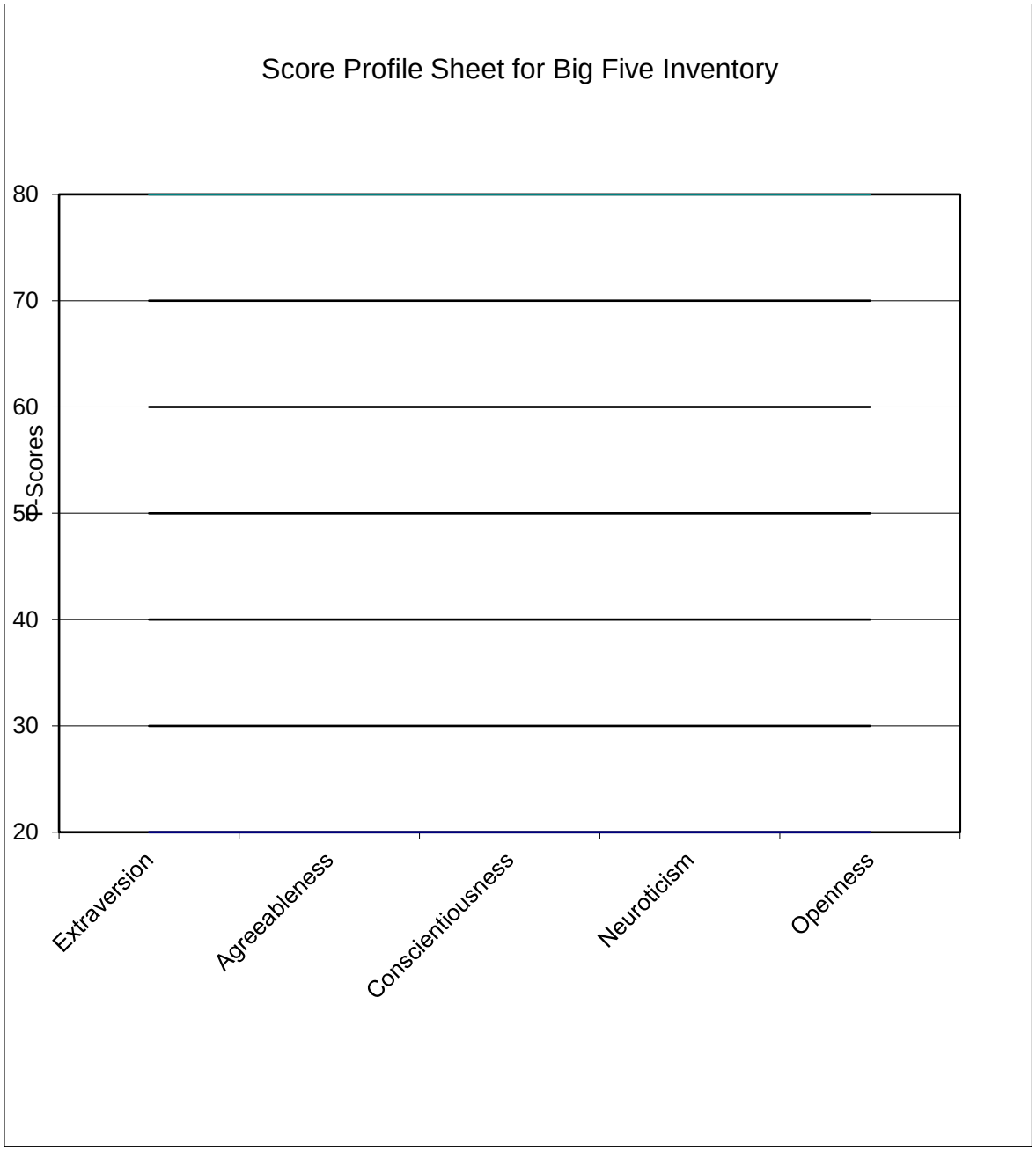
2 Note that “R” denotes reverse-scored items (1 = 5, 2 = 4, 3 = 3, 4 = 2, 5 = 1).

Agreeableness ___. Total Score divided by 9 = ____ (X). X minus 3.8 = ____ (Y). Y divided by 0.6 = (Z) = ____. (Z * 10) + 50 = ____ (T)

Conscientiousness ___. Total Score divided by 9 = ____ (X). X minus 3.6 = ____ (Y). Y divided by 0.7 = (Z) = ____. (Z * 10) + 50 = ____ (T)

Neuroticism ___. Total Score divided by 8 = ____ (X). X minus 3.0 = ____ (Y). Y divided by 0.8 = (Z) = ____. (Z * 10) + 50 = ____ (T)

Openness ___. Total Score divided by 10 = ____ (X). X minus 3.7 = ____ (Y). Y divided by 0.7 = (Z) = ____. (Z * 10) + 50 = ____ (T)


Score Profile Sheet for Big Five Inventory
80
70
60
50
40
30
20
T-Scores
Extraversion
Agreeableness
Conscientiousness
Neuroticism
Openness

Appendix E: Lecturer Personality Preference Questionnaire

Adapted by Furnham, & Chamorro-Premuzic (2005)

What do you look for in a lecturer personality traits based on the Big Five?

When lecturers get feedback from students they are often surprised by the variability in the responses. Some students clearly liked the content, style, pace etc. of the lecturer while others did not. This brief questionnaire looks at the sort of characteristics you most (and least) want in your lecturers. We want you to think of someone who lectures, gives tutorials or supervises projects.

The list below is in fact based on a study that looked at the personality characteristics associated with lecturers. The trait is in italics, the description underneath. Your task is to indicate the extent to which you would like your lectures to have, or not to have, these characteristics.

Show your preference by completing the 11-point scale. The more you want that characteristic in your lecturer, the higher the positive score (i.e. +4, +5). The less you want those characteristics, the higher you circle a negative score (i.e. - 4, - 5). The middle score (0) means this is not important or relevant to you.

		Negative						**Positive**				
		- 5	- 4	- 3	- 2	- 1	0	+1	+2	+3	+4	+5
1	Warm: Friendly, warm, sociable, cheerful, affectionate, outgoing.	- 5	- 4	- 3	- 2	- 1	0	+1	+2	+3	+4	+5
2	Gregarious: Pleasure-seeking, talkative, spontaneous.	- 5	- 4	- 3	- 2	- 1	0	+1	+2	+3	+4	+5
3	Assertive: Aggressive, assertive, self-confident, forceful, enthusiastic, confident.	- 5	- 4	- 3	- 2	- 1	0	+1	+2	+3	+4	+5
4	Activity oriented: Energetic, hurried, quick, determined, aggressive, active.	- 5	- 4	- 3	- 2	- 1	0	+1	+2	+3	+4	+5
5	Excitement-seeking: Pleasure-seeking, daring, adventurous, charming, spunky, clever.	- 5	- 4	- 3	- 2	- 1	0	+1	+2	+3	+4	+5

6	Positive emotions: Enthusiastic, humorous, praising, spontaneous, pleasure-seeking, optimistic, jolly.	- 5	- 4	- 3	- 2	- 1	0	+1	+2	+3	+4	+5
7	Fantasy life: Dreamy, imaginative, humorous, mischievous, idealistic, artistic, complicated.	- 5	- 4	- 3	- 2	- 1	0	+1	+2	+3	+4	+5
8	Interested in aesthetics: Imaginative, artistic, original, enthusiastic, inventive, idealistic, versatile.	- 5	- 4	- 3	- 2	- 1	0	+1	+2	+3	+4	+5
9	Interested in feelings: Excitable, spontaneous, insightful, imaginative, affectionate, talkative, outgoing.	- 5	- 4	- 3	- 2	- 1	0	+1	+2	+3	+4	+5
10	Action oriented: Interests wide, imaginative, adventurous optimistic, talkative, versatile.	- 5	- 4	- 3	- 2	- 1	0	+1	+2	+3	+4	+5
11	Ideas oriented: Idealistic, interests wide, inventive, curious, original, imaginative, insightful.	- 5	- 4	- 3	- 2	- 1	0	+1	+2	+3	+4	+5
12	Values oriented: Unconventional, flirtatious.	- 5	- 4	- 3	- 2	- 1	0	+1	+2	+3	+4	+5
13	Trusting: Forgiving, trusting, peace-loving.	- 5	- 4	- 3	- 2	- 1	0	+1	+2	+3	+4	+5
14	Straightforward: Uncomplicated, undemanding.	- 5	- 4	- 3	- 2	- 1	0	+1	+2	+3	+4	+5
15	Altruistic: Warm, soft-hearted, gentle, generous, kind, tolerant.	- 5	- 4	- 3	- 2	- 1	0	+1	+2	+3	+4	+5
16	Compliant: Flexible, undemanding, not headstrong, patient, tolerant, not outspoken, soft-hearted.	- 5	- 4	- 3	- 2	- 1	0	+1	+2	+3	+4	+5

17	Modest: Not a show-off, unassertive, non-argumentative, unselfconfident, non-aggressive.	- 5	- 4	- 3	- 2	- 1	0	+1	+2	+3	+4	+5
18	Tender-minded: Friendly, warm, sympathetic, soft-hearted, gentle, kind.	- 5	- 4	- 3	- 2	- 1	0	+1	+2	+3	+4	+5
19	Competence: Efficient, self-confident, thorough, resourceful, confident, intelligent.	- 5	- 4	- 3	- 2	- 1	0	+1	+2	+3	+4	+5
20	Orderly: Organised, thorough, efficient, precise, methodical.	- 5	- 4	- 3	- 2	- 1	0	+1	+2	+3	+4	+5
21	Dutiful: Defensive, non-distractible, non-careless, not lazy, thorough, non-absentmindedness, not fault-finding.	- 5	- 4	- 3	- 2	- 1	0	+1	+2	+3	+4	+5
22	Achievement striving: Thorough, ambitious, industrious, enterprising, determined, confident, persistent.	- 5	- 4	- 3	- 2	- 1	0	+1	+2	+3	+4	+5
23	Self-disciplined: Organised, efficient, energetic, thorough, industrious.	- 5	- 4	- 3	- 2	- 1	0	+1	+2	+3	+4	+5
24	Deliberate: Hasty, non-impulsiveness, careful, patient, mature, though.	- 5	- 4	- 3	- 2	- 1	0	+1	+2	+3	+4	+5
25	Anxiety: Anxious, fearful, worrying, tense, nervous.	- 5	- 4	- 3	- 2	- 1	0	+1	+2	+3	+4	+5
26	Angry hostility: Irritable, impatient, excitable, moody, tense	- 5	- 4	- 3	- 2	- 1	0	+1	+2	+3	+4	+5
27	Depressive: Worrying, pessimistic, moody, anxious.	- 5	- 4	- 3	- 2	- 1	0	+1	+2	+3	+4	+5
28	Self-conscious: Shy, timid, defensive, inhibited, anxious.	- 5	- 4	- 3	- 2	- 1	0	+1	+2	+3	+4	+5

29	Impulsive: Moody, irritable, sarcastic, self-centred, loud, hasty, excitable.	- 5	- 4	- 3	- 2	- 1	0	+1	+2	+3	+4	+5
30	Vulnerable: Not confident, careless, not clear thinking, anxious.	- 5	- 4	- 3	- 2	- 1	0	+1	+2	+3	+4	+5

Appendix F: Student End-of-course Evaluation Questionnaire

Adapted by Quality Assurance (at the participating institution)

Dear Student

The purpose of this survey is to help the University to create a better teaching and learning environment for you. Please take a few minutes to tell us about the course. This survey is anonymous. Your faculty and department are required to allow only students of the University and those taking this course to express their views and for us to also provide feedback to the right faculty and department. Your views are very important to the University so please take some time to complete this survey.

Key: 5 = Excellent; 4 = Very good; 3 = Good; 2 = Satisfactory; 1 = Poor/Inadequate

1. Personal characteristics of lecturer(s)

*Please choose the appropriate response for each item:

	1	2	3	4	5
Pleasant, Clear, Audible, Voice Modulated, Paced Voice					
Appearance					
Poise, Composure					
Friendly, Enthusiastic and Sensitive to Student's Needs					
Social Moulding Skills and Professional Ethics					
Efficacy for Class Management					

2. Course Design

*Please choose the appropriate response for each item:

	1	2	3	4	5
Aims, Objectives Clear and Adequate					
Content, Adequate, Appropriate to Students					
Strategies Suggested, Relevant, Varied and Manageable					
Activities and Assessment Procedures Spelt out Clearly					

3. Introduction of Lectures

*Please choose the appropriate response for each item:

	1	2	3	4	5
Stimulating, Creative, Obtained Attending Behaviour..					
Objectives Clearly Stated and Relevance Explained					
Related Lesson to Previous Student Experience or Knowledge					

4. Utilisation of Content

*Please choose the appropriate response for each item:

	1	2	3	4	5
Appropriate to Objectives and Group Level					
Sufficient Depth for Achieving Objectives					
Up-to-date, Relevant, Accurate and Objectively Presented					
Simply and Concisely Presented; Real-life Examples Provided Where Needed					
Well Organised, Logical Sequence					
Smooth Transition from One Idea to Another					
Facilitated Concept Development					
Key Ideas Emphasised and Summarised					
Evidence of Use of Research Bases and Varied Sources					
Exhibited Evidence of Innovativeness					
Balanced in Terms of Cognitive Reflectivity, Affective Reflectivity ,Critical Reflectivity, Practical Reflectivity					

5. Utilisation of media and materials

*Please choose the appropriate response for each item:

	1	2	3	4	5
Appropriate for Objectives and Content					
Manageable					
Appealing, Motivating, Illustrative and Reinforcing					
Multi-sensory					
Marks Fairly					
Laboratory – Instructions//Processes Clearly Given and Effective Management of Material Resources Demonstrated During Practice					

6. Interaction Behaviour

*Please choose the appropriate response for each item:

	1	2	3	4	5
Encouraged and Reinforced Student Participation					
Achieved Balance of Teacher-Student Participation					
Accepted and Used Student Ideas					
Asked Questions with Various Demand Levels E.G. Recall/Knowledge, Comprehension, Application, Analysis, Synthesis and Evaluation					
Perceptive to Student Involvement; Modified when Necessary					

7. Student Assessment

*Please choose the appropriate response for each item:

	1	2	3	4	5
Provided Evidence of Achievement of Course Objectives					
Appropriate to Behaviour Expected					
Exhibited Evidence of Innovative and Balanced Assessment Models					
Provided Immediate Feedback to Students in Terms of Coursework Assignments					
Designed and used Effective Marking Guides/Schemes					

Open Comments

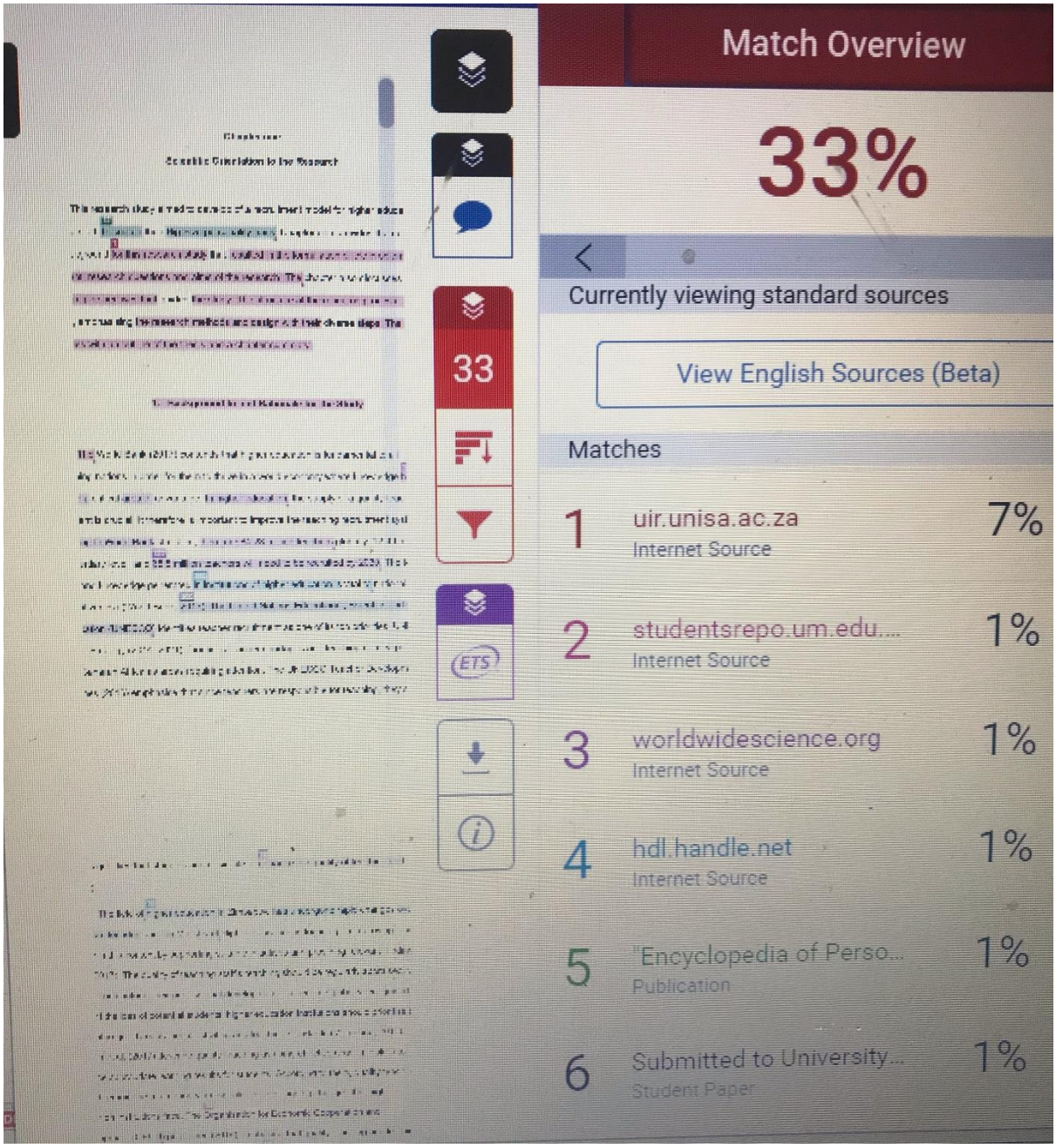
Please write your answer here:

Thank you for completing this survey.

Reference number

MRCZ No. A/2399, IRB No. 2018_CEMS/IOP_015, version 1.2 updated on 12-12-2018.

Appendix G: Turnitin report



Appendix I: Ethical clearance certificate

UNISA university of south africa

UNISA CEMS/IOP RESEARCH ETHICS REVIEW COMMITTEE

26 July 2018

NHREC Registration # : (If applicable)
ERC Reference # : 2018 CEMS/IOP_ 015
Name : Ms Farzana Naeem
Student #: 57669546
Staff #: N/A

Dear Ms Farzana Naeem,

Decision: Ethics Approval from 26 July 2018 to 26 July 2021

Researcher(s): Name: Ms Farzana Naeem
Address: 16 McLaren, Milton Park, Harare
E-mail address, telephone: freefari@yahoo.com, +00263772397362

Supervisor (s): Prof Leona Ungerer
E-mail address, telephone: ungerlm@unisa.ac.za, (012) 429-8213

Teaching staff's personality traits, students' lecturer personality preferences and teaching quality at a Zimbabwean higher education institution.

Qualification: Post graduate degree

Thank you for the application for research ethics clearance by the Unisa CEMS/IOP Research Ethics Review Committee for the above mentioned research. Ethics approval is granted for **Three** years.

*The **low risk application** was **reviewed** by the CEMS/IOP Research Ethics Review Committee on the 20th July 2018 in compliance with the Unisa Policy on Research Ethics and the Standard Operating Procedure on Research Ethics Risk Assessment. The decision was approved on 20th July 2018.*

The proposed research may now commence with the provisions that:

1. The researcher(s) will ensure that the research project adheres to the values and principles expressed in the UNISA Policy on Research Ethics.
2. Any adverse circumstance arising in the undertaking of the research project that is relevant to the ethicality of the study should be communicated in writing to the Unisa CEMS/IOP Research Ethics Review Committee.

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Appendix I: Technical editing certificate

Alexa Barnby

Language Specialist

Editing, copywriting, formatting, translation

BA Hons Translation Studies; APEd (SATI) Accredited Professional Text Editor, SATI

Mobile: 071 872 1334 alexabarnby@gmail.com

Declaration: Editing of doctoral thesis

3 March 2021

To whom it may concern

This is to certify that I, Alexa Kirsten Barnby, an English editor accredited by the South African Translators' Institute, have edited the doctoral thesis titled "Teaching staff's personality traits, students' lecturer personality preferences and teaching quality at a Zimbabwean higher education institution" by Farzana Naeem.

The onus is on the author, however, to make the changes and address the comments made.

Signed: