THE RELATIONSHIP BETWEEN STUDENTS' PART-TIME WORK EXPERIENCES AND THEIR GRADUATE ATTRIBUTES

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COMPULSORY DECLARATION

This work has not been previously submitted in whole, or in part, for the award of any degree. It is my own work. Each significant contribution to, and quotation in, this dissertation from the work, or works of other people has been attributed, cited and referenced.

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ABSTRACT

This study examined the relationship between work experience and the development of eight graduate attributes among postgraduate students in the faculties of Humanities and Commerce at the University of Cape Town (N = 167). A quantitative research approach was used and data gathered through a questionnaire using a 6-point Likert scale and a work experience grid that was developed by the researcher for the purposes of this study. In order to measure the data, a series of analyses were conducted. Results revealed non-significant relationships between the length and nature of work experience and the development of the perceived level of the eight graduate attributes. Findings furthermore indicated that although graduates were still developing these attributes, it was not as a result of work experience. This study highlights the complexity and many nuances surrounding the development of graduate attributes within higher education. The findings also provide a basis for future research into work experience as an antecedent of attribute development.

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CHAPTER 1: INTRODUCTION

"Universities around the world are increasingly concerned with ensuring that their students develop attributes which will better equip them for the world of work, and as members of society" (Barrie, 2007, p.439).

The current demands of the workplace and rapidly changing industries significantly influence the attributes expected of graduates (Griesel & Parker, 2009; Reissner & Watson, 2010). There is an increasing demand for graduates to enter the world of work with the attributes that will allow them to prosper (Barrie, 2007). It has been widely recognised that having a qualification is no longer sufficient for success in the workplace (Chetty, 2012; Mason, Williams & Cranmer, 2006; Raybould & Sheedy, 2005). As a result, employers are demanding graduates with generic, transferable skills which will ideally prepare them for the workplace (Coetzee, 2012; Fallows & Steven, 2000; Gracia, 2009). These skills will also allow graduates to adapt to the culture of the workplace, using their abilities to contribute to the organisation (Harvey, Moon & Geall, 1997). Many employers hold the perception that higher education is responsible for the development of these attributes. It appears, however, that higher education's perception of their graduates differ to that of employers. Although higher education aims to provide their graduates with degree-specific knowledge, they are not unilaterally convinced it is their responsibility to ensure that students are employable. Whilst some universities are attempting to embed graduate attributes into course curriculum (Barrie, 2004, Nicol, 2010) in order to better prepare graduates for the workplace, it is relatively new within South African universities and differentially implemented (Coetzee, Botha, Eccles, Nienaber & Holtzhausen, 2012; Favish & McMillan, 2009).

As previously mentioned, a qualification is no longer sufficient to enter the workplace and as a result, employers expect graduates to have engaged in alternative activities while studying to distinguish them from other graduates. Employers believe that these activities, such as work experience and extra-curricular activities (Muldoon, 2009; Tchibozo, 2007) will lead to the development of additional attributes that will enhance a graduate's employability. There is the belief that work experience will allow graduates to produce skills that exceed what is required in the traditional academic classroom (Smith, 2012).

Work experience is becoming an increasingly sought after characteristic of graduates entering the workplace. Employers and graduate recruiters tend to place emphasis on work experience

when considering graduates as potential employees. Work experience to a large extent is perceived as preparing graduates for the workplace through developing and enhancing various attributes such as work skills, people skills, interpersonal skills, basic skills, problem-solving skills, decision-making skills, and various personal attributes (Coetzee, 2012; Muldoon, 2009). This suggests that graduates with regular work experience will benefit more than those without. Employers in general are known for their desire to recruit graduates with specific attributes; however, there is limited information on how, other than work experience, graduates are expected to develop these attributes.

Despite the need for work experience, gaining it while studying is seen as the biggest obstacle that students face due to lack of time, often rigid academic timetables and lack of opportunities and networks. It is thus important for employers to have a realistic expectation of the attributes graduates are able to develop while studying, as well as their expectations of the workplace. While it is popularly believed to influence attribute development, there is limited international and local evidence that suggests work experience contributes to the development of graduate attributes.

Aims of the Research

Based on the assumption that work experience could provide a basis for the development of graduate attributes and the lack of empirical research in relating work experience and graduate attributes, this study aims to answer the primary research question: *Is there a relationship between the aspects length of work, nature of work and remuneration of work and Coetzee's (2012) graduate attributes (interactive skills, problem-solving and decision-making, continuous-learning orientation, enterprising skills, presenting and applying information skills, goal-directed behaviour, ethical and responsible behaviour and analytical thinking skills)?* This study was conducted on the basis of the following research objectives:

1. Are students developing these attributes as a result of work experience?
2. Do students with work experience have higher levels of these attributes than those without work experience?

The findings of this study provide insight into the above research objectives by identifying the relationship between work experience and the development of graduate attributes which could be of use to universities, employers and students. Furthermore, while such findings could assist organisations in recruiting the desired graduates, they could also provide students with the necessary information regarding the development of their attributes.

CHAPTER 2: LITERATURE REVIEW

This chapter looks at the literature and research surrounding work experience and graduate attributes. It presents a review of the work published on the factors that contribute to the development of these attributes. These factors are exposure to diversity, higher education institutions, academic staff and degrees, community engagement and work experience (Hodges & Burchell, 2003; Muldoon, 2009; Rainsbury, Hodges, Burchell & Lay, 2002). The importance of these attributes will be discussed from the perspectives of higher education institutions, employers and graduates. The primary focus of this study, however, is to provide insight into the relationship between work experience and the attribute development by Coetzee's (2012) graduate attributes namely, interactive skills, problem-solving and decision-making, continuous-learning orientation, enterprising skills, presenting and applying information skills, goal-directed behaviour, ethical and responsible behaviour and analytical thinking skills. The relationship between work experience and graduate attributes requires an in-depth analysis before work experience can be assessed as a possible antecedent. The review focuses first on employability, defining graduate attributes and the perspective of graduate attributes from three key stakeholders, namely higher education institutions, employers and graduates. Additionally, the review explores the factors thought to contribute to the development of graduate attributes and the difficulties associated with the development. Lastly, the conceptual framework on which the hypotheses of the study are built is presented.

Employability

Employability of graduates is a growing concern (Yorke, 2004) due to the globally changing relationship between higher education and the labour market (Tomlinson, 2007). This changing relationship is marked by an oversupply of graduates and a limited number of jobs available (Pauw, Oosthuizen & van der Westhuizen, 2008; Yorke, 2004). Some have argued that "employability" is a difficult concept to define (Harvey, 2001) as this is a multi-dimensional term which lacks clarity. As a result it is often misunderstood by students (Little, 2001; Pool & Sewell, 2007). Employability is most commonly characterised by the achievements, skills and attributes that enhance a graduate's ability to gain employment and be successful in doing so (Blackwell, Bowes, Harvey, Hesketh & Knight, 2001; Little, 2001).

In the available literature, employability has widely been framed from the perspective of employers (Tomlinson, 2007). Thus, higher education has been challenged to ensure their

graduates are employable as defined by prospective employers. This often causes controversy within higher education as some academic staff believe they are solely responsible for education, which does not automatically translate into practical skills or work-related attributes. There are academic staff, however, who believe it is their responsibility to ensure graduates are prepared for the world of work (Green, Hammer & Star, 2009).

There is wide consensus that universities in the 21st century are concerned with ensuring their graduates are equipped with the necessary attributes that will allow them to succeed in the world of work (Barrie, 2007). Many have expressed that degree-specific knowledge is no longer sufficient for success in the workplace and as a result of this, graduates are encouraged to distinguish themselves from their peers (Raybould & Sheedy, 2005).

An analysis of the literature shows that there is a mismatch between the outcomes of higher education and the workplace (Bernstein & Osman, 2012). Employers often expect graduates to possess a set of attributes that have equipped them for the workplace; however, this set of attributes is not always easily developed through higher education. As a result, graduates are expected to engage in extra-curricular activities (Tchibozo, 2007) and work experience (Blackwell et al., 2001; Muldoon, 2009) while studying to make up for this and develop the attributes required for the world of work.

The argument surrounding the need for graduates to have developed particular attributes upon graduation is influenced by the prospect of employability. There is an extensive range of attributes expected of graduates (Chetty, 2012). Many lists exist that describe desirable graduate attributes, but there has been little attempt to identify the similarities between the lists (Chetty, 2012). It is difficult to develop a universal list of the attributes employers' value as they differ from job to job, organisation to organisation and country to country (Pool & Sewell, 2007; Weligamage, 2009).

Although a degree provides students with potential career prospects, it is not enough to gain employability. Employability largely influences the extent to which graduates engage in part-time work and thus potentially develop the attributes that are highly sought after. Due to the extensive nature of employability, questions are raised surrounding the highly contested debate of which attributes, if any, make graduates employable.

Defining Graduate Attributes

Graduate attributes have been recognised as an outcome of higher education; however, due to the changing nature of the workplace it is becoming increasingly difficult to identify which attributes will make graduates employable (de la Harpe & David, 2012). Research suggests graduates need to be competent in using numbers, language and information technology effectively (Bridges, 2000; Mabuza, 2012). There is some literature suggesting that employers should look for graduate attributes in four categories, namely: (1) self-reliance skills, (2) people skills, (3) general employment skills, and (4) specialist skills (Prospects, 2010). A different view contends that in order for graduates to achieve a prime level of employability they require four elements, namely understanding, skills, efficacy beliefs and metacognition (Yorke & Knight, 2004). It is evident from the material that there are contrasting views among employers with regard to the types of graduate attributes they value. In order to reduce the challenge for higher education to implement these attributes consensus among employers is required. Increased clarity and consensus on the type of graduate attributes desired by employers will allow higher education institutions to better equip their students with the necessary attributes required to succeed in the workplace.

Soft and Hard Attributes

Attributes are often divided into two categories, namely soft and hard. Hard attributes are linked to specific subject knowledge. Soft attributes are based more on attitude and behaviour. Hard and soft attributes cannot be taught in the same way (Chetty, 2012). Examples of soft attributes are professionalism, reliability, interpersonal skills, good written and verbal communication skills, creativity and time-management skills (Andrews & Higson, 2008). Hard attributes would be to have specific knowledge and technical ability associated with a particular industry (Rainsbury et al., 2002). Through this review of literature it appears employers are placing an increasing emphasis on soft attributes which have been perceived as complementing the hard (Caudron, 1999). The literature in this field focuses on many factors which are thought to contribute to the development of these soft and hard attributes and there are varying perspectives regarding which attributes are most important for graduates to develop. This literature review will report on the findings from two major focus areas. It begins by presenting the different perspectives held by key stakeholders (i.e. higher education institutions, prospective employers and graduates themselves) and then moves on to discussing the factors which have been identified as associated with the development of graduate attributes.

Higher Education Perceptions of the Important Graduate Attributes

Literature reveals the challenges and difficulties associated with developing attributes often lead to a discrepancy between the graduate attributes higher education institutions and employers perceive as important (Bernstein & Osman, 2012). Higher education and employers are known to place importance on different attributes. Although this is the case, the value of the graduate attributes is dependent on the context in which they are applied.

It is common practice amongst higher education institutions in Australia to outline the types of attributes their students are expected to leave with once they have graduated (de la Harpe & David, 2012; Donleavy, 2012; Hughes & Barrie, 2010). However, the attributes considered important will differ from university to university. De la Harpe and David (2012) conducted a study, in which academic staff had to rate the importance of various graduate attributes and the staff's willingness and confidence in teaching these attributes. Results showed that the academic staff valued the following attributes most highly: willingness, confidence and emphasis on critical thinking, written communication and problem-solving. The least attention was placed on information and communications technology, teamwork and information literacy. Results also showed that academic staff were the most confident in teaching graduate attributes that were associated with their discipline.

In the United Kingdom, a Graduate Studies Programme (GSP) was put together in order to determine the graduate attributes which were seen as essential (Higher Education Quality Council, 1995). Through this programme, various graduate attributes were identified such as (a) a grounding in the content and methods of a discipline(s), (b) an engagement with teaching and learning that is research-informed so that the students may become research-aware, (c) the development of self-motivating study habits and skills, (d) the experience of an academically coherent programme of study, (e) the development of a critical and analytical approach to theories and concepts and the assumptions on which they are based, (f) a grasp of the impermanence and open-ended character of a discipline's share of and contribution to, knowledge and understanding, (g) where appropriate, the skills necessary for professional practice and (h) the development of transferable intellectual and practical skills (Higher Education Quality Council, 1995). The aforementioned graduate attributes were viewed by several universities in the United Kingdom as important. Based on the above studies it appears that the intentions of universities in Australia and the United Kingdom remain the same.

Universities in Australia are well-known for articulating the type of education they offer through an outline of the generic qualities and attributes their graduates possess. Barrie's (2004) study was prompted by the re-examining of these claims of various attributes and sought to establish a more holistic set of capabilities and attributes across Australian universities. Based on this study, Barrie suggests that there are three important overarching attributes, which tertiary institutions should endeavour to equip their graduates with. These attributes being: scholarship, global and moral citizenship and lifelong learning (for a definition of each see Table 1).

Table 1

Overarching Attribute Definitions

Attribute	Definition of Attribute
Scholarship	Denotes a graduate's position towards knowledge. Graduates should have the ability to apply their knowledge to complex problems and further communicate their knowledge in a confident and effective way.
Global and Moral Citizenship	Denotes a graduate's position towards the world and communities. Graduates are expected to contribute to a local and global society in a way that is meaningful, ethical and responsible.
Life-long Learning	Denotes a graduate's position towards themselves. In order for graduates to further their understanding of the world and their place in it they need to be committed to and adept of continuous-learning.

Furthermore, these three overarching attributes encompass additional attributes, namely, research and inquiry, information literacy, personal and intellectual autonomy, ethical, social and professional understanding and communication. These attributes have been built into the University of Sydney policy as a guideline as to what attributes graduates should ideally be leaving with. In the development of the aforementioned attributes, it was ensured that there was agreement across all the departments within the university. This was done so as to ensure that the attributes were generic and transferable across all contexts within the university. Various researchers argue that generic attributes are important in a university context, which thus led to the chosen attributes of scholarship, global and moral citizenship and lifelong learning (Barrie, 2004; Coetzee, 2012; Schreuder & Coetzee, 2011; Steur, Jansen & Hofman, 2012).

Some argue that the higher education institutions cannot be expected to or responsible for providing graduates with an all-inclusive set of attributes that will allow them to be work

ready (Nabi & Bagley, 1999). Higher education institutions have been criticised for their lack of emphasis on the development of soft skills. The types of soft and hard skills that exist often differ dependent on the context as employers may value different soft and hard skills to higher education institutions (Caudron, 1999; Rainsbury et al., 2002). Universities aim to provide their students with the necessary attributes they believe to be important in persevering and contributing to society upon graduation. Thus, the role of higher education institutions in the future will be to develop high-level skills through investing in people, in the hope that the developed skills will address the skills shortages within the workplace (Fallows & Stevens, 2000; Knight & Yorke, 2003; Kruss, 2004).

Employers Perceptions of the Important Graduate Attributes

Having reviewed the aforementioned perspective, it appears the attributes higher education institutions produce are not sufficient for employability. This insufficiency stems from employer perceptions that higher education institutions do not produce enough generic attributes relevant to the workplace. Thus, it is important that higher education institutions are explicit about the attributes they expect graduates to possess in order for graduates to be aware of attributes they need to develop to meet employer expectations.

Kruss (2004) suggests that employers believe higher education institutions produce graduates who are 'unemployable or under-employable'. The lack of investment in workplace training further increases the expectation of higher education institutions to develop the necessary graduate attributes. Some organisations even resent having to provide training for skills they believe should have been developed throughout the duration of a student's degree (Kruss, 2004).

Literature suggests employers often have preconceived ideas about the skills and attributes they expect graduates to have obtained prior to entering the workplace (Graham & McKenzie, 1995). There is a growing expectation that students have the particular skills and attributes that make them employable. However, employers suggest that it is no longer sufficient for students to only have technical skills and academic knowledge (Potgieter & Coetzee, 2013). Employers expect students to be work-ready, employable and able to sustain their employability. Although there are a variety of skills and attributes employers consider important, employers expect graduates to have a set of skills that are transferable, (Bernstein & Osman, 2012; Chetty, 2012)can be moved from job to job, and used in any profession, at any career stage (Raybould & Sheedy, 2005). Employers perceive a set of generic skills as

indicators of a graduate's employability and work readiness (Clanchy & Ballard, 1995; Coetzee, 2009, 2012). Employer expectations of core graduate attributes differ as a result of discipline (Bernstein & Osman, 2012), context of workplace, and degree obtained (Hodges & Burchell, 2003). Employers should not have expectations of graduates to develop a common skill set as it is largely dependent on the region, the size of business and the market orientation of the business (Atkins, 1999). Further, employers in South Africa challenge higher education institutions to instil graduate attributes that differ from the generic attributes mentioned above such as an awareness of the self and others, moral leadership, global citizenship and social responsibility (Bernstein & Osman, 2012; Coetzee, 2012). South African graduates are expected to not only apply their knowledge in their relevant professions, but also to the broader society and the communities in which the graduates belong (Bernstein & Osman, 2012). In South Africa, there are a number of generic attributes managers expect of their employees in the 21st century (Brevis-Landsberg, 2012). Basic skills, thinking skills, people skills and personal attributes are the clusters of attributes employers see as imperative for students to develop before entering the workplace (Crisp, 2012; Mabuza, 2012; Shuttleworth, 2012). These differ between contexts as research from countries such as Scotland and Australia show that the necessary attributes for graduates at universities in these countries are: academic excellence, knowledge across disciplines, leaders in communities, attuned to cultural diversity, active global citizens, confident thinkers, determined creators, flexible collaborators, professional and ethical, undertake and use research, demonstrate informational literacy and communication and are responsible and autonomous (Barrie, 2004; Nicol, 2010).

Some employers place a particular emphasis on personal skills as opposed to other skills (Yorke & Harvey, 2005). However, there are certain personal attributes that are universally required by employers (Muldoon, 2009; Nguyen, Yoshinari & Shigeji, 2005). Table 2 presents a summary of the main desired attributes of employers (Mabuza, 2012; Muldoon, 2009; Nguyen et al., 2005; Shuttleworth, 2012; Stewart & Knowles, 2000).

Table 2

The Universal Attributes Required by Employers

Universal Attributes Required by Employers			
Leadership	Teamwork Skills	Time-management	Self-management
Confidence	Commitment	Patience	Understanding
Honesty	Self-reliance	Professionalism	Reliability
Creativity	Self-confidence	Willingness to learn	Ability to cope with uncertainty
Independence	Sincerity	Responsibility	Ability to work under pressure
Flexibility	Adaptability	Information technology	Basic literacy and numeracy skills

One of the most prominent expectations of graduates is that they are fully competent with information technology and feel competent using various software (Yorke & Harvey, 2005). The reason for a strong emphasis on information technology skills is a result of the way organisations function which has been largely influenced by the technological era (Brevis-Landsberg, 2012). Graduates are challenged to keep up-to-date with technology and adapt and adjust when necessary (Kreitner, 2009). If graduates in the 21st century are able to keep up with technological advancement they have an advantage over others (Pool & Sewell, 2007; Potgieter & Coetzee, 2013).

A study conducted in New Zealand reported on how well-prepared graduates were for the workplace according to employers (Hodges & Burchell, 2003). A questionnaire was used, where employers had to rate 25 competencies, based on their level of importance. Each employer had to further rate the typical level of performance that graduates demonstrated for each competency. The 10 most important competencies for employers, ranked from order of importance were: ability and willingness to learn, energy and passion, teamwork and cooperation, interpersonal communication, customer service orientation, order, quality and accuracy, flexibility, problem-solving, achievement orientation and initiative. The first eight mentioned competencies were considered soft skills. The results of the study indicated employers were satisfied with the performance of graduates although they were seen to underperform with regard to the competencies of organisational awareness, leadership and developing others. Results further showed that the 79% of employers regard prior work experience as pertinent before graduation, whereas 9% consider work experience as unimportant and 12% remain neutral.

Research suggests graduate levels of performance on and importance of various competencies are attributed to a lack of work experience. It is argued that graduates with work experience would perform better and the level of performance on the competencies

would be higher than the level of importance placed on the competencies. Findings from research in this area suggests employers believe graduates need to have some form of work experience in order to be considered as ready for the workplace (Hodges & Burchell, 2003). This study suggests that employers place considerable importance on the graduate attributes that prepare graduates for the workplace over and above alternative attributes. Results from these studies advocate that work experience plays an important role in the potential development of desirable workplace competencies.

Research conducted in Japan found that Japanese employers' expectations with regard to graduate competencies could be divided into two categories, namely (1) require knowledge of speciality, including qualifications and degrees and (2) require employable personal qualities, including personal skills, attitudes and traits (Nguyen et al., 2005). The expectations of category one suggest that the competencies are already being taught at university. Whereas the expectations of category two suggest that the employable qualities are not a result of higher education and, to a large extent, still need to be developed through aspects such as work experience. The personal qualities were characterised by communication skills, personal presentation skills, IT and computer skills, problem-solving skills, leadership skills, visioning skills, goal-setting skills and self-assessment skills. The attitudes were responsibility, optimism, curiosity, ambition, and desire for challenge, cooperation and vitality. The traits were categorised by initiative, sensitivity, flexibility, individuality, sincerity, creativity, a balanced personality and an entrepreneurial mind. This study provides evidence that degree-specific knowledge may not be sufficient subsequent to entering the workplace. Thus, work experience or other experiences are postulated to play a significant role in the development of the attributes employers look for in graduates.

In South Africa, a baseline study was conducted on graduates from the perspective of employers (Griesel & Parker, 2009). Underlying this study were two fundamental assumptions: the first being that the skills, knowledge and attributes developed by higher education were incongruent with employer expectations and needs. The second assumption was characterised by the existing view that the definition of skills needed to be redefined in order to align the responsibilities of higher education with the possibilities of the changing workforce (Griesel & Parker, 2009). The study sought to produce the attributes which employers considered important and expect graduates to enter the workplace with. It further aimed to investigate the extent to which South African public higher education graduates exhibit these attributes.

Employers were asked to rate attributes in terms of (a) their evaluation of the performance of recent graduates and (b) their expectations of the importance of the attributes (Griesel & Parker, 2009). The four attribute clusters examined in the study were better skills and understanding, knowledge and intellectual ability, workplace skills and applied knowledge and personal and interactive skills. A principal component analysis was used in an attempt to uncover the structure or underlying factors that drive employer responses (Griesel & Parker, 2009).

Results show that employers get less than what they expect with regard to the basic skills and understanding cluster. Within this cluster, the biggest gap was linked to the "ability to find and access information" and this attribute was rated as the most important alongside "written communication skills" and "the ability to use information" (Griesel & Parker, 2009). The most significant gap within the knowledge and intellectual ability cluster is linked to graduates "understanding of economic and business realities". This suggests there is an important value in understanding the workplace and being able to learn quickly within the workforce. With regard to workplace skills and applied performance the biggest gap within this cluster was linked to the graduates "ability to choose appropriate information to address problems" and "ability to plan and execute tasks independently". The smallest gap within this cluster was linked to a graduate's "ability to deal with different cultural practices" suggesting higher education institutions expose students to a diverse and multicultural environment. The biggest gap within the personal and interactive skills was linked to "openness and flexibility" and the smallest gap was "willingness to learn" which was the attribute most valued by employers. An overview of the results suggests that the perception of higher education and work may not be as far apart as is implied. Griesel and Parker (2009) further suggest that employer perceptions may differ as a result of the level of aggregation of attributes used in the analysis.

The above evidence suggests that there is no one set of particular skills and attributes that employers value, but rather many and they tend to differ dependent on the organisational context and country. There are some commonalities employers tend to look for such as communication, information literacy, interpersonal skills and various others as there is an expectation that these attributes are inherent after having left university (Griesel & Parker, 2009; Hodges & Burchell, 2003; Nguyen et al., 2005).

It was identified that not all employers expect a wide variety of attributes, but many do have certain expectations with regard to the attributes that every graduate should have developed while studying (Bernstein & Osman, 2012). It can be argued that employers need to be realistic about the role that higher education can play in the development of attributes that make graduates employable. Thus, employers also need to consider the role they can play in helping develop the graduate attributes they so desire by means of on-the-job training and continuous development (Griesel & Parker, 2009). In order for employers to successfully recruit graduates who possess the desired attributes it would be important for them to engage with the students and understand their perspective on the type of attributes they aim to develop while studying.

Graduate Perceptions of the Important Attributes

Research suggests graduates believe the workplace is responsible for providing the necessary skills and training to develop the attributes employers value (Kruss, 2004). As a result graduates place importance on other attributes that will not necessarily be developed in the workplace (Anakwe & Greenhaus, 2000; Crebert, Bates, Bell, Patrick & Cragnolini, 2004; Raybould & Wilkins, 2005). Employers have criticised graduates for only being able to produce skills and abilities associated with their academic disciplines (Davies, 2000). However, graduates argue that the competencies and abilities developed during higher education are not primarily concerned with job performance (Arnold, Loan-Clarke, Harrington & Hart, 1999).

According to graduates, although work experience during university is perceived as beneficial the experience itself develops the same competencies as higher education but to a higher level (Arnold et al., 1999). Graduates believe that on-the-job training would potentially be more beneficial than having the desired attributes employers want as they would learn through the experience and obtain the necessary skills and attitudes required to perform in a specific job (Truelove, 1992). Based on this reasoning, graduates value alternative attributes to that of employers.

Table 3 presents a summary of data from various studies regarding the attributes that graduates consider as important (Atkins, 1999; Hodges & Burchell, 2003; Knight & Yorke, 2004; Nabi & Bagley, 1999; Rainsbury et al., 2002; Wickramasinghe & Perera, 2010).

Table 3

The Attributes Graduates Consider Important

Attributes that Graduates Value		
Writing	Positive attitude towards work	Organisational awareness
Reading	Working as a team member	Analytical thinking
Basic arithmetic	Punctuality	Relationship building
Problem-solving	Self-confidence	Self-control
Creative and innovative thinking	Ability to work without supervision	Personal planning and organisational skills
Oral Communication	Adaptability/flexibility	Willingness to learn
Decision-making	Computer literacy	Commitment
Information skills	Responsibility	Developing others
Initiative	Interpersonal understanding	Teamwork

Although the attributes identified in the table above are mostly similar across the studies mentioned thus far, they differ in terms of the order in which they were ranked. Based on the student perceptions reviewed, it appears that graduates value a variety of attributes/skills such as basic skills, higher order thinking skills and affective skills and traits. In the research provided above, it indicates there is incongruity between the attributes graduates and employers consider important.

The material presented above captures some of the similarities and differences across the three key stakeholder groups regarding the nature and definitions of graduate attributes. What is clear from the literature reviewed is that there is general consensus that graduates of higher education should display a range of hard and soft attributes. The question then remains as to how these attributes are fostered and developed. The next section presents the findings of the exhaustive literature review of the sources of graduate attributes.

Factors That Contribute to the Development of Graduate Attributes

A thorough review of the literature reveals the following factors are key in the development of graduate attributes: exposure to diversity (Denson & Zhang, 2010), higher education institutions (Chetty, 2012; Coetzee, 2012; Yorke & Harvey, 2005), voluntarism and community engagement (Muldoon, 2007; O'Connor, Lynch & Owen, 2011) and work experience (Muldoon, 2009; Nguyen et al., 2005). Other external factors such as living away from home, travelling, and participating in societies is also seen to contribute to the development of personal and professional skills (Atkins, 1999). Diversity, higher education institutions, voluntarism and community engagement and work experience will be discussed in further detail below as the literature suggests that they are most influential in the development of graduate attributes.

Exposure to Diversity

Diversity in this context is characterised by a student's ability to interact with people from different backgrounds and encounter unfamiliar situations and diverse opinions (Denson & Zhang, 2010). Being exposed to and working with diversity plays a pertinent role in a student's life as it prepares them for entrance into a diverse workforce. Students who are surrounded by diversity are more likely to encounter situations of unfamiliarity and diverse opinions. Diversity in higher education institutions is perceived to create rich experiences for students and thus prepares them further for participation in a diverse workforce (Gurin, Dey, Hurtado & Gurin, 2002). Engagement with diversity is seen to contribute positively to intercultural competence, critical thinking skills, self-confidence, learning and democratic outcomes, ability to work with others and appreciation and respect for diversity (Nelson Laird, 2005). A study in Australia (Denson & Zhang) assessed the impact of student experiences with diversity on developing graduate attributes. Diversity positively impacted on the following graduate attributes: the ability to work with others, problem-solving and respect and appreciation for diversity. These graduate attributes are seen to be the most relevant to students coping with a diverse workforce and environment once they leave university. Although diversity plays a role in the development of graduate attributes it is not all encompassing of the attributes that are widely considered as important subsequent to graduation. As graduates are often exposed to diversity through higher education, some suggest higher education institutions will be able to foster the development of various graduate attributes.

Higher Education Institutions

There are numerous components within higher education institutions which potentially contribute to the development of graduate attributes. These include academic staff and the specific courses or degrees entered into.

A study at the University of South Africa (UNISA) found a number of generic transferable graduate attributes for the students in the Economic and Management Sciences (Coetzee, 2012). Coetzee (2012) suggests these skills and attributes strongly predict students' career-related employability attributes. The attributes which are understood to be transferable in the field of Economic and Management Sciences include interactive skills, problem-solving/decision-making skills, continuous learning orientation, enterprising skills, presenting and applying information skills, goal-directed behaviour, ethical and responsible behaviour and analytical skills.

The main role of higher education is to train students by enhancing and/or developing their skills and abilities. Through developing these skills, higher education provides graduates with the opportunity to control their lives post-education (Harvey, 2000). The intention of higher education is to equip graduates with skills that employers desire, accomplished through embedding these skills in the academic curriculum.

Academic Staff and Degrees

Academic staff are highly influential to the way in which students learn. Educators are expected to know what it takes to produce competent graduates in the 21st century (Makhanya, 2012). Although educators often hope what they are teaching is sufficient it is important that educators know what is required of graduates to succeed not only in their degree but also in the world of work. Lecturers are seen to make a contribution by developing and teaching a course that embeds particular attributes which students are expected to develop during the course (Bath, Smith, Stein & Swann 2004).

Universities across the world work to integrate various attributes into the structure of their courses and policies (Barrie, 2004; Muldoon, 2009; Nicol, 2010). These policies are often statements that communicate the university's intentions of the type of attributes they desire to equip their students with. Universities have different methods of integrating attributes into their curricula. In the United Kingdom, higher education institutions offer a degree known as the sandwich degree which is characterised by including work experience as part of the curriculum (Blackwell et al., 2001; Yorke & Harvey, 2005). This approach may be beneficial to a certain extent in that graduates may develop all the necessary core attributes through the opportunities to work while studying or between studying. Within the sandwich degree there are thick and thin-sandwich courses. Thick-sandwich courses are characterised by a single continuous block of work experience and thin-sandwich courses include a series of short work experience periods. The results of the study suggest that graduates from sandwich courses tend to have higher employment rates post-graduation than those students on non-equivalent courses. Furthermore graduates on thick-sandwich courses tend to perform better than those graduates on thin-sandwich courses.

Researchers argue that it has become increasingly difficult to develop the important competencies required by graduates through the curriculum (Hodges & Burchell, 2003). This is due to the pedagogical issues associated with the lack of skilled leadership, insufficient resources and inadequate staff support (de la Harpe & David, 2012). As a result higher

education has been challenged to gain a deeper understanding of what drives their staff and their beliefs surrounding graduate attributes. This will possibly reduce the challenge of implementing graduate attributes within the curriculum.

Some higher education institutions have to some extent attempted to incorporate newly configured and innovative knowledge into the curriculum to address the gaps which have been identified by various external stakeholders (Bernstein & Osman, 2012). This is evident in the majority of postgraduate degree programmes which are assumed to contribute to the development of work-related attributes such as critical analysis, problem-solving and team working and presentation skills (Yorke & Harvey, 2005).

In an attempt to prepare graduates for life and work in the 21st century higher education institutions in Scotland and Australia have committed to attempting to design courses in a way that will lead to the development of desirable graduate attributes (Barrie, 2004; Nicol, 2010). Barrie's (2004) research influenced a lot of the thinking surrounding graduate attributes in Scotland. Thus, universities in Scotland have selected similar clusters of attributes as Australian universities. The clusters of attributes include research and inquiry, information literacy, personal and intellectual autonomy, ethical, social and professional understanding and communication (Barrie, 2004, Nicol, 2010). Universities in Australia and Scotland have attempted to embed these attribute clusters into various degrees and courses. These attributes are conveyed as learning outcomes and aligned with the assessment criteria of the course (Barrie, 2007).

Although courses and degree-specific knowledge contribute to the development of various attributes desired by employers these attributes may not be sufficient for success in the workplace. Employers expectations of graduates cannot be fulfilled solely through a higher education experience and so students need to explore alternative options to obtain these attributes (Harvey, 2001; Rae, 2007; Tchibozo, 2007).

In reviewing the above information, it is important to note that higher education institutions are not entirely responsible for the development of graduate attributes. Additionally, other stakeholders such as employers, professional bodies and students also need to be involved in the development process. It is evident that higher education institutions contribute to the development of various attributes whether it is through academic staff and/or course work. However, there are many that believe it is not the university or the faculty's responsibility to develop these attributes (Green et al., 2009). Thus, graduate attribute development within

higher education remains contested territory. Academic staff argue that there is conceptual confusion surrounding attributes and the way in which they should be defined and implemented. Furthermore, some academic staff believe that their role within higher education is to simply teach their disciplinary content (Green et al., 2009), whereas other members of staff believe it is their responsibility to map their curriculum with the world of work in order to develop these attributes. As higher education has varying perceptions of the development of attributes graduates cannot solely rely on universities and need to take initiative to develop attributes through additional undertakings. The role higher education institutions play is vital in the development of attributes, but the argument is whether these attributes are sufficient for graduates prior to entering the workplace and whether a higher education experience is enough.

Community Engagement and Voluntarism

Student-community engagement and voluntarism have been perceived to enhance various graduate attributes (Muldoon, 2007; O'Connor et al., 2011). Universities in New Zealand and Australia have created a non-competitive award which acknowledges students participation in extra-curricular learning (Muldoon, 2007). Students can be rewarded for their involvement in the community. This award system is perceived as a vehicle for attribute development.

The areas in which graduate attributes are potentially enhanced by community engagement and voluntarism are citizenship, employability, resilience, problem-solving and self-motivation, decision-making skills, leadership skills, personal and communication skills (Muldoon, 2007). A qualitative study in New Zealand examined the impact of voluntarism and the extent to which it contributed to the development of certain graduate attributes. Respondents of the study were asked what they thought they had gained through voluntarism and the results showed students enhanced their personal attributes such as responsibility, commitment, reliability, discipline, motivation, initiative, independence and life skills. Respondents of the study further identified the personal attributes that had developed overall, and these were "feelings of worth; patience; empathy; understanding; being confidential; compassion; understanding; honesty; integrity; leadership skills; critical analysis of complex social issues; ability to concentrate and relax; becoming self-reliant and knowing my limits; confidence; more awareness in terms of self-reflection; life satisfaction" (Muldoon, 2007, pp. 165-166). There is some evidence that community engagement and voluntarism to a large extent contribute to the development of certain attributes, many of which are sought by employers.

Work Experience

Employers and graduate recruiters tend to place a particular emphasis on work experience when considering graduates as potential employees and there are assumptions that work experience will provide graduates with a competitive advantage (Anakwe & Greenhaus, 2000; Chetty, 2012). Work experience may be characterised by voluntary work (Muldoon, 2007), part-time work (Muldoon, 2009; Watts, 2002) and full-time work (Blackwell et al., 2001). Research has shown many employers assume that work experience prepares graduates for the workplace through developing and enhancing relevant attributes (Bernstein & Osman, 2012; Coetzee, 2012; Muldoon, 2009). Work experience is regarded as important as employers seek to hire individuals who are able to immerse themselves in the job from their first day (Yorke & Harvey, 2005).

Some suggest employers are not only looking for "degree-specific knowledge", but for soft attributes as well (Raybould & Sheedy, 2005, p. 259). Graduates are expected to have acquired these soft attributes while studying and through various work experiences**.** Employers believe that a degree does not imply that a graduate is work ready or has the desired attributes, but is an indication of a student's potential (Kruss, 2004). Employers encourage students to gain some form of work experience while studying as there is the belief that it will benefit them subsequent to obtaining their degree (Andrews & Higson, 2008; Kruss, 2004; Muldoon, 2009). The extent to which work experience is associated with relevant graduate skills is also likely to be dependent on how much work experience the student is able to gather, i.e. the amount of time that the student is exposed to a work environment (McDonnall & O'Mally, 2012). Finally, whether students receive remuneration for their job or not it is likely to play a role in the nature of work and the length of work they engage in (Muldoon, 2009).

While many students may not have access to full-time work while studying part-time employment is perceived as valuable in enhancing their workplace readiness (Andrews & Higson, 2008). A study in Australia focused on students who had taken up paid work during their studies and what they gained from the work in terms of graduate attributes (Muldoon, 2009). There is a perception among these students that work experience enhances employability. Students identified the most important skill cluster gained through paid part-time work as work skills. Work skills encompassed a number of other skills, namely, organisational skills, time management, punctuality, customer service skills, problem-solving skills, teamwork skills, skills in people management and communication, communication

skills, listening skills, negotiating skills and the ability to build relationships with people. In addition to the above skills, further skills were also developed such as responsibility, commitment, reliability, discipline, motivation, life skills, attention to detail and thinking skills. Students felt they had further developed additional personal attributes such as patience, empathy, understanding, compassion, honesty, integrity, patience leadership skills, leadership, self-reliance and confidence. Graduates reported being satisfied with having developed a set of attributes that would allow them to contribute to society as a responsible citizen (Bernstein & Osman, 2012).

The above research suggests that employers and students may value similar attributes, but the importance they place on these attributes can differ. In the aforementioned study, employers placed emphasis on the importance of people skills over work skills. Employers tended to value interpersonal skills and personal qualities such as confidence, responsibility and commitment much more highly than the students (Muldoon, 2009). A study in Japan (Teichler, 1997) revealed that students also valued personal attributes as in Muldoon's study.

The empirical evidence of the Teichler (1997) study showed that there were four main factors contributing to the development of the personal qualities, which were friends, part-time jobs, parents and family members. Respondents were asked to rate the above four factors in terms of order of importance. The results showed the most important contributing factor was parents and family members (22.9%), faculty members and classes (21.4%), friends (19.2%) and part-time work (17.3%). Moreover, family and friends and part-time work had a greater impact on the development of the personal qualities than that of degrees and teachers. It appears that students in Japan spent more time engaged in part-time work than studying, which led to the development of the personal qualities (Teichler, 1997). Although the above study shows students spent more time working than studying which allowed them to develop particular attributes; this was not the norm in other countries.

There is clear evidence that graduates with work experience are more preferred by employers than those without. Graduates without work experience are to some extent at a disadvantage as they are considered over qualified and under experienced (Muldoon, 2009; Nguyen et al., 2005; Raybould & Wilkins, 2005; Teichler, 1997). Without prior work experience graduates find it challenging to develop the attributes that employers value. Despite the preference of work experience there is little empirical evidence as to whether or not the assumed link between graduate attributes and work experience exists. That is, it is not clear whether

students with work experience do in fact display higher competency in graduate attributes (Muldoon, 2009) and thus whether they are more prepared for the working world.

Based on the above review, literature has shown that there are various factors that are thought to contribute to the development of graduate attributes. Although there is literature on the importance of work experience as a factor that enhances employability there is limited material on work experience as a factor that contributes to the development of graduate attributes. Hence against this background the purpose of this study is to establish whether there is a relationship between the aspects length of work, nature of work and remuneration of work and Coetzee's (2012) graduate attributes (interactive skills, problem-solving and decision-making, continuous-learning orientation, enterprising skills, presenting and applying information skills, goal-directed behaviour, ethical and responsible behaviour and analytical thinking skills).

Difficulties in the Development of Graduate Attributes

There is a body of literature in this area that focuses on the difficulties associated with the development of graduate attributes. Developing attributes is often challenging for students, but having to possess attributes that employers value provides an even greater challenge for graduates. Not only is it difficult to develop the right attributes, but what with industries constantly changing it is difficult to maintain what attributes are important other than those that are generic. Furthermore, it is believed that employer expectations of graduates are often too specific and unable to be fulfilled by higher education institutions (Gordon, 1983).

Research shows students feel that they are trapped between studying full-time in order to get the degree out of the way, and the need to build up work experience, only attainable once in a full-time working position (Raybould & Wilkins, 2005). Although work experience is advantageous, students do not always have the time or availability to pursue additional commitments. This then raises the question: are students without access to work experience in a worse off position? Perhaps organisations should work more closely with higher education institutions to ensure that the attributes they consider important are embedded into the degree-specific knowledge obtained by students. In South Africa students are not always exposed to opportunities to gain work experience and do not have the networks for these opportunities.

There are many factors that make the development of graduate attributes challenging (Green, et al., 2009). A study conducted by Green et al. (2009) looked at what the higher education

sector needed to do in order to effectively define and implement graduate attributes within universities. Findings suggest it is not easy to define the terms attributes and skills within the higher education sector as there is conceptual confusion and no one explicit definition that exists for both concepts (Brown, 1996; Holman & Hall, 1996). It makes it difficult to identify what the attributes look like within each discipline and the way in which they should be taught, assessed and evaluated. The conceptual confusion has further impacted the way in which graduate attributes are perceived and thus the way in which various methods are designed, implemented and taught (Barrie, 2004, 2006; Moore, 2004).

Academic staff experience additional difficulties in implementing and assessing graduate attributes within specific degree and curriculum contexts (Green et al., 2009). While academic staff have different understandings of graduate attributes in the way they relate to subject knowledge there needs to be some sort of consensus. Thus, higher education institutions have been challenged to implement various methods within the degree programmes that will lead to the development of graduate attributes sought by employers. Despite this challenge, it has been argued that employer expectations of graduates are idealistic and as a result, employers should rather consider a potential employee holistically as opposed to simply on work experience. Coetzee (2012) developed a framework in which employers, graduates and higher education institutions can use as a starting point for attribute development and graduate employability.

Conceptual Framework for this Study

This review of literature has defined and clarified graduate attributes and the importance of them has been discussed from the perspectives of higher education institutions, employers and graduates. This study will focus on the attributes that are desired by employers. Although the list of skills and attributes is long this research focuses on the eight core attributes identified by Coetzee (2012), namely, problem-solving and decision-making skills, analytical thinking skills, enterprising skills, ethical and responsible behaviour, interactive skills, presenting and applying information skills, goal-directed behaviour and a continuous-learning orientation (for a definition of each see Table 4).

Table 4

Graduate Skills and Attributes Scale Definitions (Coetzee, 2012)

Attributes	Definition of the Attributes
Problem-solving and decision-making skills	Problem-solving and decision-making skills are related to a graduate's ability to consider various complexities associated with the larger economic, business and cultural reality when approaching a problem and to offer insight into problems and ideas that are novel and unique.
Analytical thinking skills	Analytical thinking skills are characterised by higher order skills, which are based on the ability to explain information and data accurately.
Enterprising skills	Enterprising skills require graduates to be adventurous and in so doing be able to apply critical thinking skills, initiative and proactivity when engaging in various activities.
Ethical and responsible behaviour	Demonstrating ethical and responsible behaviour requires individuals to be accountable and responsible for their actions and decisions.
Presenting and applying information skills	Involves a graduate's ability to present knowledge, facts, and opinions in a manner that is clear and convincing.
Interactive skills	The effective and efficient use of language communicating and interacting with people from diverse cultures and backgrounds.
Goal-directed behaviour	Goal-directed behaviour means setting goals that are realistic and making plans to achieve the relevant goals.
Continuous-learning orientation	Graduates who are seen to have a continuous-learning orientation are open with regard to their own learning and are willing to proactively engage in acquiring new knowledge, skills and abilities.

Having reviewed extensive research on employer perceptions, recent contributions to the body of literature is Coetzee's model. This model is relevant as it is locally developed and hence arguably the most appropriate to use in this study. It was also chosen as the conceptual framework in this study and demonstrated the multiple perspectives on what employers regard as important.

In the present literature it appears there is a gap and a need for additional research to be conducted on graduate exposure to part-time work experience and the extent to which it contributes to the development of core attributes desired by employers. This study is guided by the research question: is there a relationship between the aspects length of work, nature of work and remuneration of work and Coetzee's (2012) graduate attributes (interactive skills, problem-solving and decision-making, continuous-learning orientation, enterprising skills, presenting and applying information skills, goal-directed behaviour, ethical and responsible behaviour and analytical thinking skills)?

Additionally, this study aims to ascertain whether there is in fact a relationship between various aspects of part-time work experience and graduate attributes by assessing the following hypotheses:

H1a: Students have significantly different levels of interactive skills depending on how long they have worked in relevant part-time jobs

H1b: Students have significantly different levels of interactive skills depending on the nature of part-time work

H1c: Students have significantly different levels of interactive skills depending on whether or not the work was remunerated

H2a: Students have significantly different levels of problem-solving and decision-making skills depending on how long they have worked in relevant part-time jobs

H2b: Students have significantly different levels of problem-solving and decision-making skills depending on the nature of part-time work

H2c: Students have significantly different levels of problem-solving and decision-making skills depending on whether or not the work was remunerated

H3a: Students have significantly different levels of continuous-learning orientation depending on how long they have worked in relevant part-time jobs

H3b: Students have significantly different levels of continuous-learning orientation depending on the nature of part-time work

H3c: Students have significantly different levels of continuous-learning orientation depending on whether or not the work was remunerated

H4a: Students have significantly different levels of enterprising skills depending on how long they have worked in relevant part-time jobs

H4b: Students have significantly different levels of enterprising skills depending on the nature of part-time work

H4c: Students have significantly different levels of enterprising skills depending on whether or not the work was remunerated

H5a: Students have significantly different levels of presenting and applying information skills depending on how long they have worked in relevant part-time jobs

H5b: Students have significantly different levels of presenting and applying information skills depending on the nature of part-time work

H5c: Students have significantly different levels of presenting and applying information skills depending on whether or not the work was remunerated

H6a: Students have significantly different levels of goal-directed behaviour depending on how long they have worked in relevant part-time jobs

H6b: Students have significantly different levels of goal-directed behaviour depending on the nature of part-time work

H6c: Students have significantly different levels of goal-directed behaviour depending on whether or not the work was remunerated

H7a: Students have significantly different levels of ethical and responsible behaviour depending on how long they have worked in relevant part-time jobs

H7b: Students have significantly different levels of ethical and responsible behaviour depending on the nature of part-time work

H7c: Students have significantly different levels of ethical and responsible behaviour depending on whether or not the work was remunerated

H8a: Students have significantly different levels of analytical thinking skills depending on how long they have worked in relevant part-time jobs

H8b: Students have significantly different levels of analytical thinking skills depending on the nature of part-time work

H8c: Students have significantly different levels of analytical thinking skills depending on whether or not the work was remunerated

The next section outlines the method that was employed to address these hypotheses.

CHAPTER 3: METHOD

This chapter reports on the research process undertaken for this study. It focuses on participant characteristics, the instruments used to collect data and assess the participants and the data analysis procedure.

Research Design

As the research design was guided by the research question a descriptive design was used in order to measure whether a relationship exists between particular aspects of part-time work experience and graduate attributes. A quantitative research approach was utilised with a survey based research design.

Sampling Procedure

The data was collected through convenience sampling. While convenience sampling means that it is not possible to generalise the findings to an entire population it was the only practical approach due to time constraints and allows the researcher to access a sample that is readily available.

Participants

In this study, students were sampled from the University of Cape Town's Commerce and Humanities faculties. Only students who were completing a programme at a fourth year level were recruited as participants. These students were chosen as the participants of the study as they have had three years of university experience, with the majority of the students finishing university and applying for jobs at the end of the year. Having spent a minimum of three years at university, participants should have developed a certain perceived level of graduate attributes. They would also have had time to accumulate work experience. There would thus be a wider variety of work experiences in this sample than there would be among undergraduate students. The faculties of Commerce and Humanities were chosen to increase the sample size, as they have the largest number of postgraduate students currently completing a course at a fourth year level.

The participants comprised a non-probability sample of 167 students who are currently completing a course at a fourth year level. Of the 1174 participants that were approached, 167 participants completed the questionnaire, representing a 14% response rate. The sample comprised predominantly white students (48.5%), females (74.3%) and students from the faculty of Commerce (61.1%). The age of the participants ranged from 20 years old to 31 years old, the mean age of the sample being 22.61 (SD = 1.484). Furthermore, of the

participants who completed the questionnaire, 92.8% had some form of part-time work experience, while 7.2% had not worked during their time at university. Table 5 presents selected demographic characteristics for the student questionnaire respondents.

Table 5

Demographic Characteristics of Participants

	Respondents	
Biographical variable	**n**	**%**
Gender		
Male	43	25.7
Female	124	74.3
Total	167	100
Racial Group		
African	40	24
Coloured	16	9.6
Indian	14	8.4
White	81	48.5
Other	3	1.8
Prefer not to answer	10	6
Total	164	98.2
Faculty		
Humanities	63	38.2
Commerce	102	61.1
Total	165	98.8

Participants who had work experience in at least one job occupied jobs in the categories: administration, childcare-related, education, general business, hospitality, marketing, and volunteering. Results show that 58% of participants occupied positions in the education industry with jobs such as tutor, head tutor, research assistant, scribe, undergraduate support, data gatherer and writing lab consultant. Of the participants 14% occupied various positions in the hospitality industry such as waitron, bartender and hostess. 8% of participants worked as interns, assistants, consultants and temps which fell within the general business industry. Table 6 presents the nature of the participants work experience in their first job.

Table 6

Participants' Work Experience in Their First Job

Job Industry	Number of Participants	Percentage (%)
Education	91	58
Hospitality	22	14
General Business	13	8.2
Administration	10	6.4
Childcare-related	10	6.4
Volunteering	6	3.8
Marketing	5	3.2
Total	**157**	**100**

Instruments

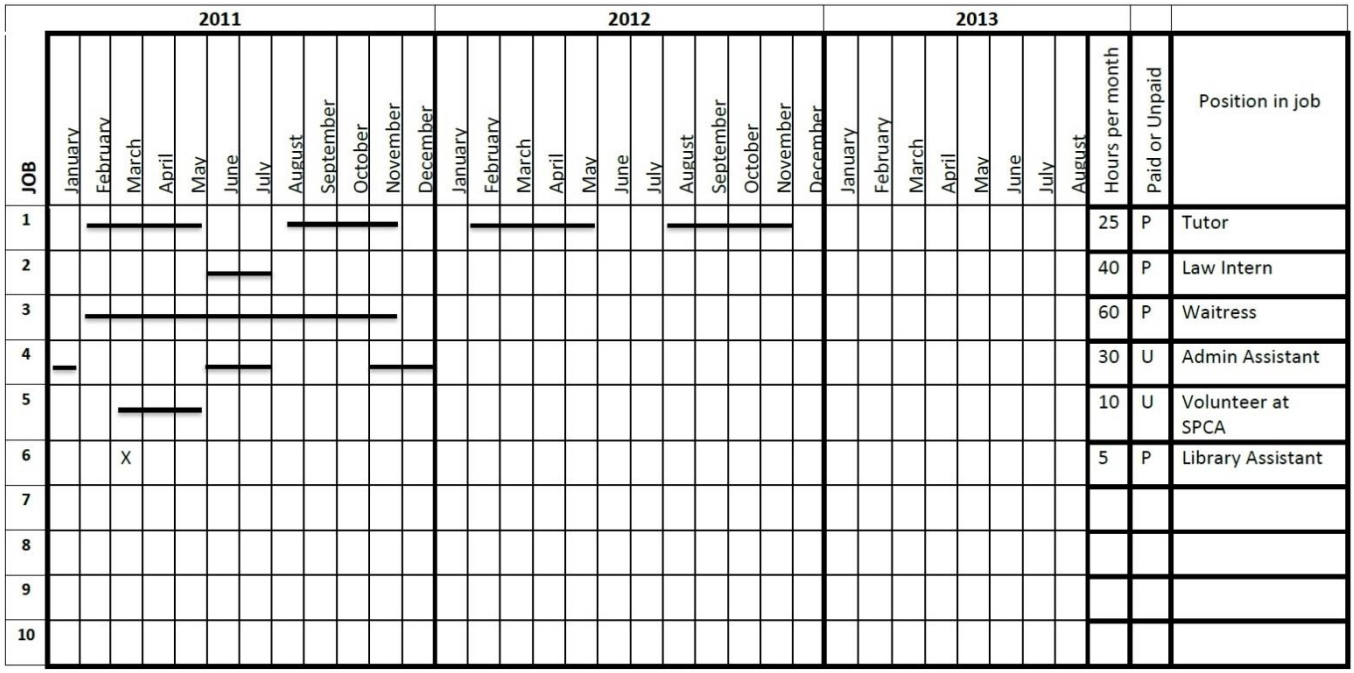
A questionnaire was designed to measure the demographic characteristics and work experiences of participants and included the Graduate Skills and Attributes Scale (Coetzee, 2012) which was adapted to measure graduate attributes of the participants. The *demographic section* of the questionnaire, which was placed at the end of the questionnaire, measured respondents' age, gender, racial group, degree/diploma registered for and faculty of study for sample description purposes. Participation was voluntary and an introduction to the study and instructions preceded the questionnaire items. The questionnaire is provided in Appendix A. The specific measures will be described in detail in the following sections.

Work Experience

The work experience section of the study measured the length of work, the nature of work, the number of hours worked in a month, whether the work was paid or unpaid, and the participant's historical patterns of work. Students' work experience was assessed by the grid displayed in Figure 1, which was developed by the researcher for the purposes of this study. Participants were given the following instructions: *Please indicate in the table below the duration of your work experience in terms of months by indicating for each job you have held in the last three years*

(a) when you started the job and when you completed the job by drawing a solid line in the table below. Note: if you have worked for less than a month indicate with a (x).
(b) the number of hours you worked per month,
(c) whether the job was paid or unpaid, by writing "P" if you got "paid" and "U" if the job was unpaid and
(d) the position you held

Participants were then provided with the completed work experience table shown in Figure 1 as an example to illustrate how they were expected to complete their own table.



JOB	2011												2012												2013								Hours per month	Paid or Unpaid	Position in job
	January	February	March	April	May	June	July	August	September	October	November	December	January	February	March	April	May	June	July	August	September	October	November	December	January	February	March	April	May	June	July	August			
1		—	—	—	—			—	—	—	—			—	—	—	—			—	—	—	—										25	P	Tutor
2						—	—																										40	P	Law Intern
3		—	—	—	—	—	—	—	—	—	—																						60	P	Waitress
4	—					—	—				—	—																					30	U	Admin Assistant
5			—	—																													10	U	Volunteer at SPCA
6			X																														5	P	Library Assistant
7																																			
8																																			
9																																			
10																																			

Figure 1. Example of the Tool Used to Assess Student Work Experience

Figure 1 shows that this particular student has held six different positions over the last three years. Of the six positions four were paid and two were unpaid. Furthermore, this student worked in the position of tutor for eight months in 2011 and eight months in 2012 (Job 1). The sixth job the student held was for less than one month in 2011. The hours that the participant worked per month have also been included in the grid, where for example, the participant worked in the position of tutor for 25 hours per month.

This particular format was chosen as it is user-friendly, allowing the researcher to obtain the information efficiently without having to ask the participant to answer a series of questions. Furthermore, the use of a grid provides a summary of the participants' work experience.

The variables assessed through the table were:

The grid allowed the splitting of participants into one of two groups: those who have had no work experience (indicated by an empty grid) over the three years and those who have had work experience.

Length of Work Experience:
The total length of the participants' work experience was measured by the number of months they had worked in total which was multiplied by the number of hours worked per month.

Position in Job:
The grid allowed for participants to be grouped based on the nature of the positions they had held. For example, a group of positions in the hospitality industry would be waitrons, bartenders and hostesses.

The Graduate Skills and Attributes Scale
Graduate attributes were measured through Coetzee's (2012) Graduate Skills and Attributes Scale (GSAS). The scale assessed eight attributes which Coetzee described as core to graduates. These are problem-solving and decision-making skills, analytical thinking skills, enterprising skills, ethical and responsible behaviour, interactive skills, presenting and applying information skills, goal-directed behaviour and continuous-learning orientation. They are measured via a total of 64 statements to which participants expressed their level of agreement or disagreement. Responses were collected on a 6-point Likert scale (1= strongly disagree; 6 = strongly agree). Coetzee (2012, 2013) tested the scale's psychometric properties in a sample of 272 adults who were employed in the South African service industry and who were enrolled for further education studies at the University of South Africa (UNISA). A factor analysis revealed that these 64 items loaded as intended on eight factors, thus confirming the construct validity of the scale. As Table 7 shows all eight subscales were also found to be reliable in Coetzee's (2012) research.

Table 7

Number of Items and Reliability of the Graduate Skills and Attributes subscales as found in Coetzee (2012)

Attribute	Number of items	Reliability Cronbach's Alpha
Analytical thinking skills	4	0.80
Continuous-learning orientation	7	0.89
Enterprising skills	9	0.88
Ethical and responsible behaviour	5	0.80
Goal-directed behaviour	10	0.79
Interactive skills	16	0.96
Presenting and applying information skills	5	0.96
Problem-solving/decision-making skills	8	0.89

There are three reasons this particular scale was chosen. Firstly, Coetzee's (2012) graduate skills and attributes model is a recent model, as explained in the literature review, which suggests it is applicable and can be used in this study. Secondly, Coetzee conducted her research in South Africa, indicating that these attributes have relevance in the South African context. Thirdly, the GSAS showed good reliability and construct validity in a South African sample.

Data Collection Procedure

Ethics approval was obtained before the data was collected. Ethics forms were submitted to the University of Cape Town's (UCT) Faculty of Commerce Ethics in Research Committee. Permission from the Executive Director of Student Affairs at UCT to assess UCT students as participants was also obtained. With regards to the pen and paper questionnaire, all the course convenors and lecturers within the Humanities and Commerce faculties were contacted via email to request permission to distribute the questionnaire. A pen and paper questionnaire was distributed by the researcher and made available to the participants at a time that was convenient for both the students and the lecturer. Of the courses that responded, some were unable to accommodate the researcher as there were no students registered for the course at the time. Furthermore, students were also not available at the time of data collection due to course scheduling. The courses that responded and made the necessary arrangements can be found in Table 8. Meetings were scheduled either before or after the lecture, dependent on the lecturer's preference. The questionnaire was completed either at the beginning or at the end of the lecture, however, some of the lecturers gave it to their students to complete at home and return. Students across 18 courses within the Humanities and Commerce faculties completed the questionnaire during the meetings arranged with the lecturers over a two week period. The researcher was present at all the sessions so as to answer any questions. Table 8 shows the courses and the number of students per course from which the data was obtained.

Table 8

Course Name and Number of Students per Course Accessed During Data Collection

Course	Number of Students per Course
Humanities Faculty	
Anthropology Honours	13
Afrikaans and Netherlandic Studies Honours	2
Classical Studies	2
Historical Studies Honours	14
Industrial Sociology Honours	5
Journalism and Media Studies Honours	15
Politics Honours	10
Public Policy and Administration	10
Religious Studies Honours	11
Sociology Honours	10
Total	**92**
Commerce Faculty	
Business Strategy	300
Economics Honours	50
Organisational Psychology Honours	43
Postgraduate Diploma in Marketing	70
Postgraduate Diploma in Tourism	14
Postgraduate Diploma in Entrepreneurship Management	50
Postgraduate Diploma in Sport Management	12
Statistics Honours	20
Total	**559**
Combined Total	**651**

Data Analysis

Descriptive analysis was used to determine frequencies, means and standard deviations for sample and scale description purposes. Cronbach's alpha was used to test the reliability of the Graduate Skills and Attributes Scale. A factor analysis was conducted to identify whether the Graduate Skills and Attributes Scale is in fact measuring what it intends to measure. A series of Kruskal-Wallis tests, Mann Whitney U tests, Pearson Product Moment and Spearman Rank-Order correlations and factorial analyses of variance (ANOVA) were used to test whether the level of graduate attributes (dependent variable) differs between the groups that were created as a result of the participants' length, remuneration and nature of their work experience (independent variables).

All analyses were conducted using IBM SPSS (version 21). The methods identified in this chapter were used to analyse the data and the next chapter presents the results of the analyses.

CHAPTER 4: RESULTS

This chapter reports on the reliability and validity of the Graduate Skills and Attributes Scale as well as the descriptive results. Following this, the results relating to the hypotheses are provided.

Reliability

The reliability for the Graduate Skills and Attributes Scale was determined separately for each of the eight subscales using the Cronbach's α technique. Seven of the eight subscales were reliable with Cronbach's α ranging from 0.64- 0.89 as shown in Table 9. Based on the rule of thumb that the Cronbach α coefficient of a scale should be above 0.70 for a scale used for research purposes to be considered reliable (DeVillis, 2012).

Table 9

Number of Items, Initial Internal Consistency and Item Discrimination Results for the Graduate Skills and Attributes Scales

Scale	Initial number of items	Initial Cronbach's Alpha	Range of Corrected item-total correlations	Final number of items[a]	Final Cronbach's Alpha	Range of Corrected item-total correlations
Interactive skills	16	0.89	0.41 < r < 0.67	16	0.89	0.41 < r < 0.67
Problem-solving and decision-making	8	0.82	0.42 < r < 0.60	8	0.82	0.42 < r < 0.60
Continuous-learning orientation	7	0.80	0.49 < r < 0.59	7	0.80	0.49 < r < 0.59
Enterprising skills	9	0.76	0.19 < r < 0.55	7	0.78	0.38 < r < 0.67
Presenting and applying information skills	5	0.63	0.24 < r < 0.50	4	0.64	0.36 < r < 0.48
Goal-directed behaviour	10	0.79	0.15 < r < 0.67	9	0.82	0.37 < r < 0.66
Ethical and responsible behaviour	5	0.74	0.36 < r < 0.63	5	0.74	0.36 < r < 0.63
Analytical thinking skills	4	0.87	0.67 < r < 0.77	4	0.87	0.69 < r < 0.77

Note. Refer to Appendix B, Table B1 and B2 for all subscales' initial corrected item-total correlations and final corrected item-total correlations.
[a]Final number of items after removing items with low corrected item-total correlations.

Some items in the subscales had low corrected item-total correlations and were removed as Briggs and Cheek (1986) suggest items with values less than 0.3 may be measuring something different from the scale. The deleted items and their respective corrected item-total correlations are shown in Table 10.

Table 10

Deleted Items and Their Respective Corrected Item-Total Correlations for Each Subscale

Subscale	Item Number	Item Wording	Corrected item-total Correlation
Enterprising skills	1	I prefer to work under my own direction	0.20
	2	I can think in a disciplined and logical manner when approaching problems or situations	0.27
Presenting and Applying Information Skills	2	I avoid using unnecessary jargon or complicated language when presenting my ideas or insights	0.24
Goal-directed Behaviour	1	I spend a lot of time surfing the internet to find new information on search engines	0.15

Following the deletion of these items the reduced subscales' reliabilities were determined (see Table 9). All subscales, except for the Presenting and Applying Information Skills subscale were now reliable. Although the Presenting and Applying Information Skills subscale's reliability is below the recommended value of 0.70, Cortina (1993) suggests that the value of alpha is largely dependent on the number of items in the scale, thus the limited number of items in this scale may be contributing to the low reliability. Furthermore Kline (2000) argues that a low reliability may be a result of the diversity of constructs being measured. Thus, the reliability of this scale can be considered acceptable with an α coefficient of 0.64.

Factor Analysis

It was not possible to run a factor analysis across the entire Graduate Skills and Attributes scale as Kass and Tinsley (1979) suggest that for each variable there should be between five and ten participants. The GSA scale had 64 items which would require a minimum of 320 participants to perform a factor analysis across all items, while the sample in this study only comprised 167 participants. As a result, exploratory factor analyses were run separately for each of the eight subscales. The suitability of data for factor analysis was first determined using Bartlett's Test of Sphericity and the Kaiser-Meyer-Olkin (KMO) measure. Data is considered suitable for factor analysis if the Kaiser-Meyer-Olkin measure value is 0.6 or above and Bartlett's Test of Sphericity significant (Pallant, 2013). KMO indicates the proportion of variance in the variables that might be caused by underlying factors and Bartlett's Test shows the suitability of data for structure detection (IBM, 2013). Both tests indicated for all eight subscales factor analysis was suitable. These results can be found in Table 11.

Table 11

Kaiser-Meyer-Olkin (KMO) and Bartlett's Test Results for the GSA Subscales

	KMO	**Bartlett's Test**	**df**
Interactive skills	0.887	948.72**	120
Problem-solving and decision-making	0.838	370.65**	28
Continuous-learning orientation	0.784	324.24**	21
Enterprising skills	0.763	289.56**	15
Presenting and applying information skills	0.695	85.15**	6
Goal-directed behaviour	0.809	484.75**	45
Ethical and responsible behaviour	0.708	211.52**	10
Analytical thinking skills	0.825	330.21**	6

**$p < 0.001$.

Principal axis factoring with varimax rotation was selected as the factor analytical procedure. Varimax rotation was chosen as it is assumed that any factors emerging through the analysis are unrelated (Field, 2009). Kaiser's eigenvalue-greater-than-one rule was applied to determine the appropriate number of factors to retain (Kaiser, 1960). Items are considered as significantly correlating with a factor if their factor loading is greater than 0.30 (Child, 2006; Costello & Osborne, 2005). In line with Tabachnick and Fidell's (2007) guidelines if an item loaded on two factors with the difference in loadings being smaller than 0.30 then the item was dropped from the analysis as it was considered to be cross-loading. Please refer to Appendix C (Tables C1 to C8) for eigenvalues, explained variance and factor structures of each subscale.

Interactive Skills

Five rounds of principal axis factoring with varimax rotation were run for the interactive skills scale. In each round items that did not load satisfactorily (due to cross-loadings or low-loadings) were removed. Table 12 provides the eigenvalues, explained variance and the items that loaded on each factor for the five rounds of principal axis factoring. The table also outlines the items that were removed in each round.

Table 12

Factors Extracted for Each of the Five Rounds of Principal Axis Factoring for the Interactive Skills Scale

	Eigenvalue	Explained Variance (%)	Items that loaded	Items Removed
				Cross-loading*
Round 1				
Factor 1	6.12	38.41	1,2,3,7,8,10,11,12,13,15,16	8,10,13,15,16
Factor 2	1.35	8.46	5,6,8,9,13,14,15,16	5,8,13,15,16
Factor 3	1.29	8.07	1,2,4,5,9,10	5,10
Round 2				
Factor 1	3.92	39.18	1,2,3,4,6,7,11,12	6,12
Factor 2	1.19	11.9	6,9,12,14	6,12
Round 3				
Factor 1	3.34	41.73	1,2,3,4,7,11	4
Factor 2	1.11	13.90	4,9,14	4
Round 4				
Factor 1	3.04	43.37	1,2,3,7,11	
Factor 2	1.12	15.83	9,14	
Round 5[a]	3.04	43.37	1,2,3,7,9,11,14	

[a]One factor to be extracted specified.
*Item removed if it loaded significantly on more than one factor with the difference in the loadings < 0.30.

In round four, only two items loaded onto factor two. Pallant (2013) suggests at least three items should load onto one factor for it to be considered sufficient. Thus, only one factor was extracted for round 5 and results revealed that all remaining seven items loaded significantly on this one factor. It was assumed that this seven-item scale was unidimensional and that an average score could be formed for each participant, which indicated the participants' level of interactive skills. The reliability of the seven item scale was determined using Cronbach's α and this reduced scale was reliable (0.77). The corrected item-total correlations and final factor loadings have been included in Table 13.

Table 13

Reduced Scale Items, Final Factor Loadings and Corrected Item-Total Correlations for the Interactive Skills Scale

Scale Items	Final Factor Loadings	Corrected Item-Total Correlation
I find it easy to listen to and understand what others are saying	0.72	0.59
I find it easy to make clear, concise presentations to other	0.72	0.60
I can communicate my viewpoints with clarity and fluency in English	0.67	0.55
I find it easy to persuade, convince or influence others	0.61	0.52
I find it easy to confront people problems to resolve conflicts	0.52	0.46
I usually show respect for the views and contributions of other team members	0.41	0.37
I consult others and share my expertise and information	0.37	0.35

Problem-Solving and Decision-Making Skills

Only one factor with eigenvalues greater than one emerged (eigenvalue: 3.619, explained variance: 37.7%). The scale is thus unidimensional and the factor is assumed to indicate participants' problem-solving and decision-making skills. All items loaded significantly on this factor. Table 14 presents the scale items, final factor loadings and the corrected item-total correlations.

Table 14

Scale Items, Final Factor Loadings and Corrected Item-Total Correlations for the Problem-Solving and Decision-Making Skills Scale

Scale Items	Final Factor Loadings	Corrected Item-Total Correlation
I offer unique and novel ideas that add new knowledge and insights to a problem or situation	0.69	0.60
I can probe for further information to enhance my understanding of a problem	0.67	0.59
I am creative in achieving my goals by anticipating problems before they happen	0.65	0.60
I can structure information to enhance my understanding of a problem	0.65	0.60
I can initiate changes to make my work or life more satisfying and developmental	0.64	0.60
I make quick but clear decisions that spur others on toward action	0.61	0.54
I consider the complexities of the larger cultural, business, and economic reality when approaching a problem or situation	0.51	0.46
I usually set priorities with a proper sense of urgency and importance	0.45	0.42

Continuous-Learning Orientation

Three rounds of factor analysis were run for the continuous-learning orientation scale. Table 15 provides the factor loadings on factor one and two in round one and two, and the final loadings for round three. In round two, only two items loaded onto factor two and as a result one factor was extracted for round three. Results revealed the remaining six items loaded significantly on this factor.

Table 15

Factors Extracted for Each of the Two Rounds of Principal Axis Factoring for the Continuous-Learning Orientation Scale

	Round 1		Round 2		Round 3[a]
Item	Factor 1	Factor 2	Factor 1	Factor 2	Factor 1
1	0.757			0.699	0.571
2	0.745			0.825	0.567
3		0.614	0.662		0.667
4		0.679	0.671		0.646
5		0.668	0.677		0.577
6	0.344	0.560			
7		0.480	0.411		0.509

[a]One factor to be extracted specified.

The reliability of the six item scale was determined using Cronbach's α and this reduced scale was reliable (0.76). The corrected item-total correlations and final factor loadings have been included in Table 16.

Table 16

Reduced Scale Items, Final Factor Loadings and Corrected Item-Total Correlations for the Continuous-Learning Orientation Scale

Scale Items	Final Factor Loadings	Corrected Item-Total Correlation
I make sure that I keep myself up to date on technical knowledge and new developments in my field	0.67	0.55
I am always on the lookout for ways to improve my knowledge and skills, and develop myself as a person	0.65	0.54
I know how to ask the right questions to get needed information and to properly size up a situation	0.58	0.48
I follow up on goals, tasks, and assignments to assure successful completion	0.57	0.51
I monitor my performance against deadlines and milestones	0.57	0.49
I make use of developmental or training opportunities to enhance my competencies, knowledge and skills	0.51	0.43

Enterprising Skills

The results of the factor analysis revealed that three rounds of principal axis factoring (PAF) had to be performed. Table 17 provides the eigenvalues, explained variance and the items that loaded on each factor and the items that were removed.

Table 17

Factors Extracted for Each of the Five Rounds of Principal Axis Factoring for the Enterprising Skills Scale

	Eigenvalue	Explained Variance (%)	Items that loaded	Items Removed
				Cross-loading*
Round 1				
Factor 1	3.05	43.55	6,7,8,9	6,9
Factor 2	1.34	19.21	3,4,5,6,9	6,9
Round 2				
Factor 1	2.10	42.05	7,8	
Factor 2	1.34	26.74	3,4,5	
Round 3[a]				
Factor 1	2.10	42.05	3,4,5,7,8	

[a]One factor to be extracted specified.
*Item removed if it loaded significantly on more than one factor with the difference in the loadings < .30.

Item 6 (0.48; 0.44) and item 9 (0.58; 0.46) cross-loaded on both factors, but were dropped from the scale. A second round of PAF revealed that the remaining five items loaded onto two factors. However, only two items loaded onto component one and three items on

component two. According to Pallant (2013) three or more items should load on a component in order for it to be considered sufficient. As a result only one factor was retained and results revealed that the items loaded significantly on it. It was assumed that this five-item scale was unidimensional and that an average score could be formed for each participant, which indicated participants' level of enterprising skills. The reliability of the five-item scale was determined using Cronbach's α and this reduced scale had a coefficient of 0.65. Although showing low reliability, this can be attributed to the reduced number of items in the scale (Cortina, 1993). The final factor loadings and corrected item-total correlations have been included in Table 18.

Table 18

Reduced Scale Items, Final Factor Loadings and Corrected Item-Total Correlations for the Enterprising Skills Scale

Scale Items	**Final Factor Loadings**	**Corrected Item-Total Correlation**
When controlling costs and budgets, I usually think in terms of profit, loss, and added value	0.67	0.46
I have sound financial awareness	0.64	0.46
I consider the consequences of solutions by examining their feasibility and weighting their impact within the larger cultural, business or economic reality.	0.54	0.47
I am aware of and adept at dealing with organisational or team politics	0.43	0.37
My arguments for solutions are grounded in both subject/discipline specific and general knowledge about global and local affairs	0.31	0.30

Presenting and Applying Information Skills

Principal axis factoring revealed that all four items loaded on one factor with an eigenvalue of 1.956, it explained 48.9% of the variance. No other factors had eigenvalues greater than one. The scale is thus unidimensional and the factor is assumed to indicate participants' level of presenting and applying information skills. The reliability of the six item scale was determined using Cronbach's α and this reduced scale was (0.64). The final factor loadings and corrected item-total correlations have been included in Table 19.

Table 19

Reduced Scale Items, Final Factor Loadings and Corrected Item-Total Correlations for the Presenting and Applying Information Skills

Scale Items	Final Factor Loadings	Corrected Item-Total Correlation
I find it easy to commit information to memory quickly	0.64.	0.47
The solutions I offer make a positive difference in my personal life, community or workplace	0.63	0.48
I can write my ideas and opinions clearly to convince my audience	0.52	0.40
I consider a wide range of alternatives prior to making a decision	0.47	0.36

Goal-Directed Behaviour

Principal axis factoring revealed the presence of three factors with eigenvalues exceeding 1 (3.835; 1.296; 1.013), explaining 38.35%, 12.96% and 10.13% of the variance. Items 4, 8 and 10 had cross-loadings were dropped from the analysis. Once these items were removed a second round of PAF was conducted. It revealed that the remaining seven items loaded onto two factors with eigenvalues exceeding one (2.870 and 1.172) respectively, explaining 41.0% and 16.74% of the variance. However, only two items loaded onto factor two, which according to Pallant (2013) is not optimal, thus suggesting it is not sufficient to have two factors, but rather one. Resultantly, only one factor was retained and results revealed that all the items, except item one (*I spend a lot of time surfing the internet to find new information on search engines*) loaded. Thus, item one was removed and the analysis revealed that all the items loaded onto one factor with one eigenvalue exceeding 1 (2.826) explaining 47% of the variance. The reliability of the six item scale was determined using Cronbach's α and this reduced scale was reliable (0.76). The final factor loadings and corrected item-total correlations have been included in Table 20.

Table 20

Reduced Scale Items, Final Factor Loadings and Corrected Item-Total Correlations for the Goal-Directed Behaviour Scale

Scale Items	Final Factor Loadings	Corrected Item-Total Correlation
I take action to achieve my goals	0.81	0.66
I develop plans for specific goals and tasks	0.78	0.63
I usually set realistic goals	0.61	0.53
I find it easy to meet deadlines	0.60	0.52
I find it easy to access the information I need to solve problems or make decisions	0.41	0.37
I avoid jumping to premature conclusions	0.38	0.34

Ethical and Responsible Behaviour

The principal axis factoring analysis revealed that all five items loaded onto one factor with eigenvalues exceeding 1 (2.507), explaining 38.7% of the variance. The scale is thus unidimensional and the factor is assumed to indicate participants' level of ethical and responsible behaviour. Table 21 presents the final factor loadings and corrected item-total correlations of the scale items.

Table 21

Scale Items, Final Factor Loadings and Corrected Item-Total Correlations for the Ethical and Responsible Behaviour Scale

Scale Items	Final Factor Loadings	Corrected Item-Total Correlation
I uphold the ethics and values of my profession, community or workplace in all I do	0.76	0.63
I accept responsibility for the results of my decisions and actions	0.65	0.53
I personally take credit or blame for the results of my work	0.64	0.51
I encourage responsible behaviour toward the community and the environment	0.58	0.50
I find it easy to provide direction to others, and motivate and empower them	0.41	0.36

Analytical Thinking Skills

Only one factor with eigenvalues greater than one emerged (eigenvalue: 2.911, explained variance 63.9%). The scale is thus unidimensional and the factor is assumed to indicate participants' level of analytical thinking skills. All items loaded significantly on this factor. Table 22 presents the final factor loadings and corrected item-total correlations of the scale items.

Table 22

Scale Items and Corrected Item-Total Correlations for the Analytical Thinking Skills Scale

Scale Items	Final Factor Loadings	Corrected Item-Total Correlation
I can make a rational judgment from analysing information and data	0.85	0.77
I can give accurate explanations of information and date presented to me	0.84	0.76
I can break information into component parts to see relationships and patterns	0.76	0.70
I feel confident in my ability to draw insightful conclusions from numerical data	0.74	0.69

Thus, it can be concluded that the validity of all the subscales was sufficient with high loadings of each item on the relevant components after cross-loading items had been removed.

Descriptive Statistics

Graduate Skills and Attributes Scale

As each subscale could be reduced to a unidimensional scale an average subscale score per participant was formed for each of the eight subscales. A participant's scale score was thus the average answer to all items belonging to a subscale. The descriptive statistics of these average subscale scores are provided in Table 23.

Table 23

Descriptive Statistics for the Eight GSA Subscales (n = 167)

	Number of Items	Mean	Standard Deviation	Minimum	Maximum	Skewness	Kurtosis
Interactive Skills	16	4.86	0.58	1.88	6	-1.04	3.45
Problem-solving and decision-making skills	8	4.59	0.64	2.13	6	-0.43	0.74
Continuous-learning orientation	7	4.52	0.71	2	6	-0.47	0.36
Enterprising Skills	9	4.26	0.66	2.22	5.89	-0.25	0.27
Presenting and Applying Information skills	5	4.48	0.65	2.60	6	0.17	-0.07
Goal-directed Behaviour	6	4.56	0.64	2.10	6	-0.61	1.16
Ethical and Responsible Behaviour	6	5.05	0.64	3.40	6	-0.39	-0.64
Analytical Thinking Skills	4	4.62	0.84	2	6	-0.25	-0.23

On average, participants indicated high levels of graduate attributes as all averages were above the scale midpoint of 3.5 on the 6-point Likert scale.

Work Experience

Of the 167 participants, 155 had some form of part-time work experience while 12 participants had not worked at all over the preceding three years. The majority of the participants received remuneration for their work (as seen in Table 24). The minimum length participants had worked for over the period of three years was 16 hours and the maximum was 8152 hours. The average number of hours worked by participants over a period of three years was 958.73 (SD = 1182.73). Most participants on average had occupied 2.5 jobs (SD = 1.42), with participants working a minimum of one job and a maximum of eight jobs. Table 24 presents the number and percentages of participants who held between one and eight jobs in each job industry and whether the work was paid or unpaid.

Table 24

Participant Numbers and Percentages for Each Job Held (1 to 8) in Each Job Industry and Whether It Was Paid or Unpaid

	Job Industries											
	Education	**Administration**	**Community**	**Childcare-related**	**Entertainment**	**General Business**	**Hospitality**	**Marketing**	**Volunteering**	**Total**	**Remuneration**	
Number of Jobs held by Participants: 1											**Paid**	**Unpaid**
Number of Participants	87	10	3	9	1	12	22	5	6	155	148	7
Percentage (%)	56.1	6.5	1.9	5.8	0.6	7.7	14.2	3.2	3.6	100	95.5	4.5
Number of Jobs held by Participants: 2												
Number of Participants	43	5	4	7	2	23	10	13	9	116	94	22
Percentage (%)	37.1	4.3	3.4	6	1.7	19.8	8.6	11.2	7.8	100	81	19
Number of Jobs held by Participants: 3												
Number of Participants	24	4	3	3		5	12	7	5	63	49	13
Percentage (%)	38.1	6.3	4.8	4.8		7.9	19	11.1	7.9	100	79	21
Number of Jobs held by Participants: 4												
Number of Participants	11	1	2	4		2	3	1	9	134	23	9
Percentage (%)	33.3	3	6.1	12.1		6.1	9.1	3	27.3	100	71.9	28.1
Number of Jobs held by Participants: 5												
Number of Participants	5	2	1	3		1			2	14	9	4
Percentage (%)	35.7	14.3	7.1	21.4		7.1			14.3	100	69.2	30.8
Number of Jobs held by Participants: 6												
Number of Participants	2			1	1	2				6	5	1
Percentage (%)	33.3			16.7	16.7	33.3				100	83.3	16.7
Number of Jobs held by Participants: 7												
Number of Participants	1					1		1		3	3	
Percentage (%)	33.3					33.3		33.3		100	100	
Number of Jobs held by Participants: 8												
Number of Participants			1							1	1	
Percentage (%)			100							100	100	
Total	173	22	13	27	4	46	47	26	31			

Analyses Related to Hypotheses

Please refer to page 24 of the literature review for the hypotheses of the study that were assessed. To determine whether a relationship exists between graduate attributes and student work experience, a combination of Kruskal-Wallis tests, Mann Whitney U tests, Pearson Product Moment and Spearman Rank-Order correlations and factorial analyses of variance were used. These particular techniques allow examining of the individual and joint effect of categorical independent variables on one dependent variable. The graduate attributes served as the dependent variables and separate analyses were run for each attribute.

The independent variables were: the length of relevant work experience, whether or not work experience relevant to the particular graduate attribute skills had been obtained and whether or not this work experience had been gained in a paid or unpaid job. These independent variables were determined as follows:

Length of Work:

As length of work was a continuous variable, it had to be transformed into a categorical variable in order to be used as an independent variable in the analysis of variance. This was done by dividing participants equally into one of three groups through visual binning. Visual binning is the process of collapsing a continuous variable into a categorical variable by creating cut-off points (Pallant, 2013). The 33.3% of participants with the lowest hours of work were placed into one group, the 33.3% of participants with hours of work between the lowest and highest hours were placed in a second group and the 33.3% of participants with the highest number of hours were placed into a third group. The group with the lowest number of hours contained 50 participants who had worked 0 to 300 hours, the second group contained 46 participants who had worked 301 to 952 hours and the group with the highest number of hours contained 48 participants who worked 953 to 4370 hours over the last three years.

Relevant Work Experience: Yes or No

As outlined in the literature review it is likely that different types of work allow students to acquire different graduate attribute skills. Based on this assumption the job industries listed in Table 24 were allocated to the different graduate attributes as outlined in Table 25.

Table 25

The Job Industries Allocated to Each Graduate Attribute in Terms of Importance

Graduate Attribute	Work Industry					
	Education	**Administration**	**Childcare-related**	**General Business**	**Hospitality**	**Marketing**
Interactive Skills			2		1	3
Problem-solving and Decision-making Skills	1		3		2	
Continuous-learning Orientation	1		2	3		
Enterprising Skills				3	1	2
Presenting and Applying Information Skills	2			3		1
Goal-directed Behaviour		2		1		3
Ethical and Responsible Behaviour	2		1		3	
Analytical Thinking Skills	1			2		3

Note. The numbers indicate the importance (1 highest – 3 lowest) of the work industry to each attribute.

From this the three work industries that appeared to the researcher as most likely relating to the particular attribute were chosen (indicated in Table 25) and ranked as most relevant (1), second most relevant (2) and third most relevant (3). Each participant was then allocated a score for each of the graduate attribute skills to indicate the group membership in one of three groups in relation to these skills. Either they had not gained work experience related to the particular graduate attribute skill (indicated by a score of 0), gained work experience in the third most relevant job industry (indicated by a score of 3) in the second, or second and third most important industry (indicated by a score of 2) or gained work experience in the most important industry or in the most important and any of the other categories (indicated by a score of 1). As there were only 12 participants who had no work experience at all no separate category was formed for these. They were indicated in the "no relevant work experience" group.

Paid or Unpaid:

The job that formed the basis for allocating participants into groups 0 to 3 for the "position in job" variable determined if participants were allocated into the "paid" or "unpaid" group. For example, if a participant was put into the group with the highest ranking (1) and in that particular job they had been paid, by default it would remain paid work. However, if a participant did not occupy a job in the highest ranking, but in the second highest ranking (2) and they were not paid for that job, by default it would remain unpaid work.

Table 26 presents the descriptive statistics for each of the subscales. They show that some of the cells contain fewer than 20 cases. Simmons, Nelson and Simonsohn (2011) argue that a minimum of 20 cases per cell are required to run a factorial analysis. In this regard, it was not possible to run a full factorial analysis. In particular, very few participants did not get paid for

their work. Thus, the independent variable, paid vs. unpaid had to be omitted from the analyses. Therefore the nature of work and length of work were left to be included in the analysis. As there were less than 20 participants in the first, second and third most relevant types of work, the 4-level "nature of work" variable was dichotomised: those who had no relevant work experience vs. those who had relevant work experience (consisting of all participants who had gained work experience in the titles: most relevant, second most relevant or third most relevant industry).

Table 26

Descriptive Statistics for the Interactive Skills, Problem-Solving and Decision-Making Skills, Continuous-Learning Orientation, Enterprising Skills, Presenting and Applying Information Skills, Goal-Directed Behaviour, Ethical and Responsible Behaviour and Analytical Thinking Skills Scales Split by Payment Level, Duration and Nature of Work

a) Interactive Skills

		Nature of Work				
		No Relevant Work Experience	Most Relevant: Hospitality	2nd Most Relevant: Childcare-related	3rd Most Relevant: Marketing	Total Work Experience
Payment	Yes		55.5 (6.21) (n = 34)	57.15 (6.50) (n = 13)	60.0 (6.56) (n = 15)	56.94 (6.52) (n = 62)
	No		62.0 (1.41) (n = 2)			62.0 (1.41) (n = 2)
	Total		55.86 (6.23) (n = 36)	57.15 (6.50) (n = 13)	60.0 (6.56) (n = 15)	57.09 (6.48) (n = 64)
Duration	1	55.60 (9.52) (n = 30)	53.1 (5.97) (n = 10)	56.50 (13.44) (n = 2)	57.25 (5.19) (n = 4)	54.56 (6.53) (n = 16)
	2	58.96 (7.44) (n = 23)	56.55 (7.06) (n = 11)	54.60 (6.69) (n = 5)	62.0 (6.87) (n = 5)	57.43 (7.17) (n = 21)
	3	59.75 (5.33) (n = 20)	57.0 (5.94) (n = 13)	60.40 (8.26) (n = 7)	60.4 (8.26) (n = 5)	58.36 (5.90) (n = 25)
	Total	57.8 (8.03) (n = 73)	55.71 (6.37) (n = 34)	57.29 (6.29) (n = 14)	60.14 (6.78) (n = 14)	

b) Problem-Solving and Decision-Making Skills

	Nature of Work				
No Relevant Work Experience	Most Relevant: Education	2nd Most Relevant: Hospitality	3rd Most Relevant: Childcare-related	Total Work Experience
	27.95 (3.88) (n = 114)	26.08 (3.48) (n = 13)	28.17 (3.71) (n = 6)	27.77 (3.85) (n = 133)
	27.95 (3.88) (n = 114)	26.08 (3.48) (n = 13)	28.17 (3.71) (n = 6)	27.77 (3.85) (n = 133)
23.71 (6.13) (n = 7)	27.43 (4.40) (n = 35)	27.83 (2.93) (n = 6)	24.0 (n = 1)	27.39 (4.22) (n = 41)
25.67 (3.06) (n = 3)	28.55 (3.33) (n = 38)	22.0 (2.83) (n = 2)	31.0 (.00) (n = 2)	28.36 (3.54) (n = 42)
28.0 (3.16) (n = 5)	27.86 (4.01) (n = 35)	25.60 (3.21) (n = 5)	27.0 (5.66) (n = 2)	27.55 (3.96) (n = 42)
25.53 (4.91) (n = 15)	27.96 (3.91) (n = 108)	26.08 (3.48) (n = 13)	28.0 (4.12) (n = 5)	

c) Continuous-Learning Orientation

		No Relevant Work Experience	Most Relevant: Education	2nd Most Relevant: Childcare-related	3rd Most Relevant: General Business	Total Work Experience
Payment	Yes		32.16 (4.80) (n = 115)	31.29 (3.04) (n = 7)	29.18 (5.38) (n = 11)	31.86 (5.38) (n = 133)
	No		35.50 (.71) (n = 2)		30.0 (n = 1)	33.67 (3.21) (n = 3)
	Total		32.21 (4.79) (n = 117)	31.29 (3.04) (n = 7)	29.25 (5.14) (n = 12)	31.90 (4.79) (n = 136)
Duration	1	29.28 (6.16) (n = 7)	31.30 (5.01) (n = 37)	31.0 () (n = 1)	29.80 (4.38) (n = 5)	31.12 (4.86) (n = 43)
	2	31.50 (3.54) (n = 2)	32.0 (5.30) (n = 38)	33.50 (2.12) (n = 2)	24.67 (4.93) (n = 3)	31.56 (5.45) (n = 43)
	3	29.40 (4.45) (n = 5)	33.43 (3.78) (n = 35)	30.25 (3.50) (n = 4)	32.0 (4.83) (n = 4)	33.0 (3.89) (n = 43)
	Total	29.64 (5.02) (n = 14)	32.22 (4.80) (n = 110)	31.29 (3.04) (n = 7)	29.25 (5.14) (n = 12)	

d) Enterprising Skills

No Relevant Work Experience	Most Relevant: Hospitality	2nd Most Relevant: Marketing	3rd Most Relevant: General Business	Total Work Experience
	16.18 (3.74) (n = 40)	15.94 (2.48) (n = 18)	14.86 (4.44) (n = 21)	15.77 (3.70) (n = 79)
	14.0 (n = 1)	20.0 (n = 1)	17.0 (2.94) (n = 7)	17.0 (2.96) (n = 9)
	16.12 (3.71) (n = 41)	16.16 (2.59) (n = 19)	15.39 (4.18) (n = 28)	15.90 (3.64) (n = 88)
15.31 (4.44) (n = 26)	18.0 (2.79) (n = 11)	14.25 (1.89) (n = 4)	15.11 (2.76) (n = 9)	16.29 (3.03) (n = 24)
15.67 (3.65) (n = 18)	14.73 (4.41) (n = 11)	17.57 (2.23) (n = 7)	15.89 (1.83) (n = 9)	15.92 (3.34) (n = 26)
14.93 (5.15) (n = 15)	16.06 (3.61) (n = 17)	16.50 (2.81) (n = 6)	14.80 (6.43) (n = 10)	15.76 (4.45) (n = 33)
15.32 (4.34) (n = 59)	16.23 (3.77) (n = 39)	16.41 (2.60) (n = 17)	15.25 (4.15) (n = 28)	

e) Presenting and Applying Information Skills

		Nature of Work				
		No Relevant Work Experience	Most Relevant: Marketing	2nd Most Relevant: Education	3rd Most Relevant: General Business	Total Work Experience
Payment	Yes		17.71 (2.41) (n = 21)	18.51 (2.92) (n = 100)	17.00 (1.83) (n = 10)	18.27 (2.80) (n = 131)
	No		13.00 () (n = 1)		13.5 (3.54) (n = 2)	13.33 (2.52) (n = 3)
	Total		17.50 (2.56) (n = 22)	18.51 (2.92) (n = 100)	16.42 (2.39) (n = 12)	18.16 (2.88) (n = 134)
Duration	1	16.67 (2.96) (n = 9)	16.0 (1.22) (n = 5)	18.72 (2.96) (n = 32)	17.50 (1.19) (n = 4)	18.27 (2.85) (n = 41)
	2	18.50 (2.12) (n = 2)	18.43 (2.99) (n = 7)	18.35 (3.23) (n = 34)	16.0 (1.73) (n = 3)	18.20 (3.12) (n = 44)
	3	18.0 (1.29) (n = 7)	17.75 (1.98) (n = 8)	18.57 (2.69) (n = 28)	15.80 (3.11) (n = 5)	18.07 (2.71) (n = 41)
	Total	17.39 (2.35) (n = 18)	17.55 (2.35) (n = 20)	18.54 (2.96) (n = 94)	16.42 (2.39) (n = 12)	

f) Goal-Directed Behaviour

Nature of Work				
No Relevant Work Experience	Most Relevant: General Business	2nd Most Relevant: Admin	3rd Most Relevant: Marketing	Total Work Experience
	22.63 (4.60) (n = 35)	24.80 (3.71) (n = 15)	23.21 (3.21) (n = 14)	23.27 (4.17) (n = 64)
	22.83 (2.23) (n = 6)	20.0 () (n = 1)		22.43 (2.30) (n = 7)
	22.66 (4.31) (n = 41)	24.50 (3.77) (n = 16)	23.21 (3.21) (n = 14)	23.18 (4.02) (n = 71)
24.48 (3.11) (n = 29)	23.58 (3.29) (n = 12)	24.50 (3.45) (n = 6)	24.0 (2.0) (n = 3)	23.90 (3.08) (n = 21)
23.75 (3.99) (n = 20)	21.46 (4.75) (n = 13)	25.0 (4.69) (n = 5)	23.25 3.99) (n = 8)	22.69 (5.07) (n = 26)
23.88 (3.79) (n = 26)	22.60 (3.50) (n = 15)	23.0 (3.83) (n = 4)	21.67 (4.16) (n = 3)	22.55 (3.47) (n = 22)
24.08 (3.56) (n = 75)	22.53 (4.31) (n = 40)	24.27 (3.79) (n = 15)	23.07 (3.54) (n = 14)	

g) Ethical and Responsible Behaviour

		No Relevant Work Experience	Most Relevant: Childcare-related	2nd Most Relevant: Education	3rd Most Relevant: Hospitality	Total Work Experience
Payment	Yes		24.72 (3.79) (n = 18)	25.78 (2.85) (n = 106)	23.92 (3.25) (n = 13)	25.47 (3.06) (n = 137)
	No					
	Total		24.72 (3.79) (n = 18)	25.78 (2.85) (n = 106)	23.92 (3.25) (n = 13)	25.47 (3.06) (n = 137)
Duration	1	22.17 (4.36) (n = 6)	24.5 (6.36) (n = 2)	25.33 (3.03) (n = 36)	23.83 (2.99) (n = 6)	25.09 (3.12) (n = 44)
	2	24.0 (4.58) (n = 3)	23.4 (4.39) (n = 5)	25.86 (2.73) (n = 36)	26.0 (5.66) (n = 2)	25.58 (3.07) (n = 43)
	3	26.40 (1.34) (n = 5)	25.18 (3.43) (n = 11)	26.11 (2.99) (n = 27)	23.75 (3.30) (n = 4)	25.64 (3.15) (n = 42)
	Total	24.74 (3.38) (n = 14)	24.61 (3.81) (n = 18)	25.74 (2.90) (n = 99)	24.17 (3.27) (n = 12)	

h) Analytical Thinking Skills

No Relevant Work Experience	Most Relevant: Education	2nd Most Relevant: General Business	3rd Most Relevant: Marketing	Total Work Experience
	18.88 (3.55) (n = 116)	17.90 (3.35) (n = 10)	18.0 (2.94) (n = 4)	18.78 (3.51) (n = 130)
		17.50 (.71) (n = 2)	13.0 () (n = 1)	16.0 (2.65) (n = 3)
	18.88 (3.55) (n = 116)	17.83 (3.04) (n = 12)	17.0 (3.39) (n = 5)	18.71 (3.51) (n = 133)
17.44 (2.46) (n = 9)	16.80 (2.59) (n = 5)	19.34 (3.47) (n = 32)	16.50 (2.65) (n = 4)	18.76 (3.43) (n = 41)
21.50 (.71) (n = 2)	19.0 (2.38) (n = 7)	18.53 (3.78) (n = 34)	16.67 (4.04) (n = 3)	18.48 (3.58) (n = 44)
17.71 (2.0) (n = 7)	17.62 (3.89) (n = 8)	19.11 (3.76) (n = 27)	19.60 (2.30) (n = 5)	18.88 (3.62) (n = 40)
18.0 (2.43) (n = 18)	17.90 (3.09) (n = 20)	18.98 (3.65) (n = 93)	17.83 (3.04) (n = 12)	

Assumptions

To determine which analyses can be used for this study preliminary analyses were performed to ensure no violation of the assumptions of normality and homogeneity of variance.

Normality

Results from the Kolmogorov-Smirnov Test, presented in Appendix D (Table D1 to D2), revealed that the interactive skills, enterprising skills, presenting and applying information skills, goal-directed behaviour and ethical and responsible behaviour subscales violated the assumptions of normality. The assumption of normality was not violated for the problem-solving and decision-making skills, continuous-learning orientation and analytical thinking skills subscales. As some of the dependent variables violated the assumptions of normality, non-parametric tests had to be used for hypotheses 1(a, b, c), 4 (a, b, c), 5 (a, b, c), 6 (a, b, c) and 7 (a, b, c).

Homogeneity of Variance

Table 27 presents the assumption results for the analysis of variance. All results for Levene's Test of Equality of Error Variances showed no significance, thus indicating the variances are likely to be equal. Based on this it can be argued that ANOVA is appropriate.

Table 27

Assumptions for Analysis of Variance

	Levene's Test of Equality of Error Variances		
Subscale	**F-Statistic**	**df**	**p**
Problem-solving and Decision-making Skills	1.10	2, 137	0.34
Continuous-learning Orientation	1.14	2, 140	0.32
Analytical Thinking Skills	0.35	2, 140	0.71

As Tables 26 (a, d and f) indicate that there were more than 20 people per variable level the Mann-Whitney U Test and Kruskal-Wallis Test were run with the nature of work (2 levels) and length of work (3 levels) for hypotheses 1 (a, b), 4 (a, b) and 6 (a, b). These tests were complemented by Spearman's Rank-Order Correlation. However, the remaining Tables 26 (b c, e, g and h) only indicate the category, length of work to have more than 20 participants as there were too few participants who had no relevant work experience. Thus, univariate analyses of variances were run for hypotheses 2 (a), 3 (a) and 8 (a) following the assumptions of normality and homogeneity of variance. These tests were complemented by a Pearson Product Moment Correlation between the actual number of hours worked and the respective graduate attribute. Hypotheses 4 (a), 5 (a) and 7 (a) were analysed using the Kruskal-Wallis

Test and Spearman's Rank-Order Correlation. Table 28 presents the analyses used for each attribute and the results of the analyses.

Table 28

Data Analyses Methods, Variables Included and Results Related to the Hypotheses

Hypothesis Number	Dependent Variable	Independent Variable	Analysis Used	Results
1a	Interactive Skills	Length of Work	Kruskal-Wallis Test	$\chi 2$ = (2, n = 135) = 4.84, p = 0.09
			Spearman's Rank Order Correlation	r = 0.17, n =135, p = 0.05
1b		Nature of work	Mann-Whitney U Test	U = 2856, z = -0.410, p = 0.68
			Spearman's Rank Order Correlation	r = 0.03, n =156, p = 0.68
2a	Problem-Solving and Decision-Making Skills	Length of Work	Univariate ANOVA	F (2, 137) = 1.25, p = 0.29, partial ε^2 = 0.02
			Pearson Product Moment Correlation	r = 0.08, n =140, p = 0.37
3a	Continuous-learning Orientation	Length of Work	Univariate ANOVA	F (2, 140) = 1.65, p = 0.20, partial ε^2 = 0.02
			Pearson Product Moment Correlation	r = 0.15, n =143, p = 0.07
4a	Enterprising Skills	Length of Work	Kruskal-Wallis Test	$\chi 2$ = (2, n = 142) = 0.13 , p = 0.94
			Spearman's Rank Order Correlation	r = -0.01, n =142, p = 0.89
4b		Nature of Work	Mann-Whitney U Test	U = 3108.5, z = -0.916, p = 0.36
			Spearman's Rank Order Correlation	r = -0.07, n =165, p = 0.36
5a	Presenting and Applying Information Skills	Length of Work	Kruskal-Wallis Test	$\chi 2$ = (2, n = 144) = 0.60 , p = 0.74
			Spearman's Rank Order Correlation	r = 0.04, n =144, p = 0.61
6a	Goal-Directed Behaviour	Length of Work	Kruskal-Wallis Test	$\chi 2$ = (2, n = 144) = 1.51, p = 0.47
			Spearman's Rank Order Correlation	r = -1.0, n =144, p = 0.23
6b		Nature of Work	Mann-Whitney U Test	U = 3069, z = -1.18, p = 0.24
			Spearman's Rank Order Correlation	r = 0.09, n =166, p = 0.24
7a	Ethical and Responsible Behaviour	Length of Work	Kruskal-Wallis Test	$\chi 2$ = (2, n = 143) = 2.18, p = 0.34
			Spearman's Rank Order Correlation	r = 0.12, n =143, p = 0.16
8a	Analytical Thinking Skills	Length of Work	Univariate ANOVA	F (2, 140) = 0.03, p = 0.97, partial ε^2 = 0.00
			Pearson Product Moment Correlation	r = 0.02, n =143, p = 0.79

H1a: Students have significantly different levels of interactive skills depending on how long they have worked in relevant part-time jobs

H1b: Students have significantly different levels of interactive skills depending on the nature of part-time work

As outlined above the length and nature of work were included. Results from the analyses show that the nature of work experience had no significant difference and thus no relationship with the level of students' interactive skills. Findings further show that there is a significant relationship between the length of work and the level of interactive skills. However, the level of interactive skills does not differ between the groups. Thus, hypothesis 1 (a) and (b) are

rejected as student's level of interactive skills does not differ depending on how long they worked and the nature of that work.

H2a: Students have significantly different levels of problem-solving and decision-making skills depending on how long they have worked in relevant part-time jobs

H3a: Students have significantly different levels of continuous-learning orientation depending on how long they have worked in relevant part-time jobs

H8a: Students have significantly different levels of analytical thinking skills depending on how long they have worked in relevant part-time jobs

For this analysis, length of work was the only variable included. The results for hypothesis 2 (a), 3 (a) and 8 (a) show that there was no significant main effect between the length a student has worked and their level of problem-solving and decision-making skills, continuous-learning orientation and analytical thinking skills. The correlations confirm the above results meaning the hypotheses were rejected as students' levels of problem-solving and decision-making skills, continuous-learning orientation and analytical thinking skills does not differ in terms of how long they have worked.

H4a: Students have significantly different levels of enterprising skills depending on how long they have worked in relevant part-time jobs

H4b: Students have significantly different levels of enterprising skills depending on the nature of part-time work

H6a: Students have significantly different levels of goal-directed behaviour depending on how long they have worked in relevant part-time jobs

H6b: Students have significantly different levels of goal-directed behaviour depending on the nature of part-time work

The variables included in this analysis were length and nature of work. Results from the Mann-Whitney U Test, Kruskal-Wallis Test and Spearman's Rank-Order Correlation showed that there is no significant difference in the nature and length of work and a students' level of enterprising skills and goal-directed behaviour. This means that the hypotheses were rejected as students' levels of enterprising skills and goal-directed behaviour does not differ based on the nature of their work and how long they have worked.

H5a: Students have significantly different levels of presenting and applying information skills depending on how long they have worked in relevant part-time jobs

H7a: Students have significantly different levels of ethical and responsible behaviour depending on how long they have worked in relevant part-time jobs

The nature and remuneration of work could not be included in the analysis due to participant numbers. For this reason only the length of work variable could be included. For hypotheses 5 (a) and 7 (a) results show that there was no significant difference in the length a student has worked for and their level of presenting and applying information skills and ethical and responsible behaviour. The results from the correlations show the relationship is positive, only for hypothesis 7 (a), but not significant. Thus, the hypotheses are not supported as students' levels of presenting and applying information skills and ethical and responsible behaviour do not differ in terms of how long they have worked.

CHAPTER 5: DISCUSSION

The aim of this research was to gain insight into the relationship between work experience and the development of the graduate attributes sought after by employers. This chapter discusses the psychometric quality of the scale used in this study, further reviewing the main findings in relation to the hypotheses. It presents the limitations of the study, recommendations for future research and the implications for employers, students and universities.

Psychometric Quality

There is little research in South Africa about the development of graduate attributes and limited measures which assess this development. Relatively new measures were used that have not had much traction in empirical studies in the past, hence the importance of spending time discussing the quality of these measures. As the results offer limited explanation on the relationship between work experience and the development of graduate attributes, it is prudent to discuss the measure to ascertain whether the nature of the instruments had any limiting effects on the actual results. The scale used appeared to be robust for this study sample. All of the subscales yielded acceptable reliability. It can be concluded that the scale itself is a solid instrument to measure aspects of work experience and attributes. In comparing the results of the present study to Coetzee's (2012) original study it reveals that the original scale had higher reliability with coefficients ranging between 0.75 and 0.92 and this study had coefficients ranging between 0.64 - 0.89. The higher reliability of the original scale could be attributed to the larger sample size (n = 1102) obtained in the study (Kececioglu, 2002). Moreover, the original scale revealed that all 64 items were retained subsequent to being subjected to principal axis factor analysis with varimax rotation (Coetzee, 2012). A separate factor analysis was run for each of the subscales in this study and results suggest the scale is clearly outlined and has discreet factors. The results of the study confirmed the scale as a useful tool to research graduate attributes within a local (South African) context. Evidently, there is nothing inherently wrong with the scale and hence the lack of significant findings must have alternative explanations.

Descriptive Statistics

Graduate Skills and Attributes Scale

Overall, participants indicated high levels of graduate attributes as all averages of the GSAS were above the scale midpoint of 3.5 on the 6-point Likert scale. This suggests, in this study,

that although work experience has no relationship with the development of these attributes, students are still developing them. Given the findings of the literature review it is possible the sources of these attributes are higher education, voluntarism and/or community engagement (Chetty, 2012; Muldoon, 2007; O'Connor et al., 2011).

The results of the study indicate that of all the graduate attributes participants on average had the highest perceived level of ethical and responsible behaviour and the lowest perceived level of enterprising skills. A high level of ethical and responsible behaviour suggests participants are accountable for their actions. Within each industry there is an expectation that students should be accountable and take responsibility for their decisions and actions regarding their work. Furthermore, it is not surprising that participants had the lowest level of skills in enterprising. Participants may find it challenging to take initiative and be proactive while studying and working, due to the lack of opportunities to do so. This could also be attributed to participants' nature and level of work. Participants showed similar perceived levels of graduate attributes in interactive skills, problem-solving and decision-making skills, continuous-learning orientation, presenting and applying information skills, goal-directed behaviour and analytical thinking skills. This suggests that regardless of the source the activities participants are engaging in appear to be fostering this cluster of attributes.

Work Experience Grid

An interesting innovation in this study was the work experience grid. The researcher was unable to find a way of capturing historical work experience and as a result developed the grid herself. The developed grid captured the data in an easy, flexible and convenient way. On receiving the information from the grid it can be considered satisfactory. Moreover, the use of the grid shifted the survey questions and added a dynamic to the questionnaire. The grid also allowed the researcher to capture the necessary information in a relatively compact format. Findings of the study display there are various patterns of work experience.

Nature of Work

Of the 167 participants, 155 had some form of work experience while 12 participants had not worked at all over the last three years. Results show that those participants with work experience had worked in a number of industries throughout the duration of their university career. These industries included administration, childcare-related, education, general business, hospitality and marketing. Participants also worked in various capacities within their community and volunteered at events and organisations. The most common industry in which students gained work experience was education, with the second being hospitality.

With education being the most common industry, this suggests that the university employs a lot of students while studying. Students thus have an opportunity to gain work experience while studying, even if it is only through this avenue.

The nature of work within each industry often differs, potentially requiring individuals to tap into a variety of their attributes in order to perform on the job. As a result, the nature of the work could have influenced the scores participants obtained on the graduate skills and attributes scale. Participants' high scores on ethical and responsible behaviour could largely be attributed to participant work associated with the various industries such as administration, childcare-related, education, hospitality, marketing and general business. Although participants scored the lowest in enterprising skills, it was still above the scale mid-point. This suggests students within their current jobs may not have had the flexibility to be adventurous or take initiative. As these jobs are part-time, participants may have had rigid guidelines and instructions which they were expected to follow without deviation. Table 29 presents a summary of the graduate attributes and the most common industry associated with each attribute.

Table 29

Graduate Attributes and the Most Common Industry Associated With Each Attribute

Graduate Attributes	**Most Common Industry**
Interactive Skills	Hospitality
Problem-solving and Decision-making Skills	Education
Continuous-learning Orientation	Education
Enterprising Skills	Hospitality
Presenting and Applying Information Skills	Education
Goal-directed behaviour	General Business
Ethical and Responsible Behaviour	Education
Analytical Thinking Skills	General Business

Due to participants being full-time students, it is not surprising that education was the most common industry to work in regardless of the number of jobs students occupied. The type of industry that students work in could largely influence the type of attributes they are able to develop. For example, in the hospitality industry, interactive skills are prominent as waitrons and bartenders are constantly interacting with people; whereas interactive skills are less pertinent in an administrative-type of role. In the education industry, there is an expectation that students should develop attributes within the research, scholarship and enquiry cluster such as communication, teamwork and leadership, responsible citizens, lifelong learning,

information, creative thinking, autonomy and ethical, social and professional understanding (Albalooshi, 2013; Barrie, 2006; Delors, 1996; Haigh & Clifford, 2010).

Length of Work

Participants in this sample worked for an average of 40 days over a period of three years, while studying. The minimum length participants worked for was 16 hours and the maximum was 340 days. Because most participants only worked for an average of 40 days, it could suggest that participants did not have enough time to develop the perceived level of attributes in their work. Most participants on average had occupied 2.5 jobs (SD = 1.42), with participants working a minimum of one job and a maximum of eight jobs. The most common industries in which participants held at least two jobs were education (56.1%; 37.1%), general business (19.8%) and hospitality (14.2%). The findings of the study indicate that students spent a reasonable amount of time in the aforementioned industries. However, the industries derived from this study are not extensive. Thus, if participants had spent time working in other industries, this might have contributed to the development of the perceived level of attributes in this study.

Remuneration of Work

Almost all participants received remuneration for their work across all industries. Participants who worked in their community or did volunteer work were in the minority of this sample and it was these participants who were not remunerated. Whether participants received remuneration for their work is likely to play a role in the type of work they pursue and for how long. Remuneration is often perceived as an incentive to work and if the remuneration prospect of a job is not attractive, one would most likely be reluctant to spend a lot of time working in that particular job. Furthermore, remuneration will likely influence one's job satisfaction, ultimately determining the type of work one engages in and for how long.

Results Related to the Hypotheses

Literature has revealed that employers expect graduates to have developed a set of attributes throughout the duration of their university experience (Bernstein & Osman, 2012; Hodges & Burchell, 2003; Muldoon, 2009; Nguyen et al., 2005; Teichler, 1997). Employers are seen to place particular emphasis on work experience which they expect to have had an effect on the attributes that graduates have developed (Muldoon, 2009). Thus this study aimed to determine whether there was a relationship between work experience and the graduate attributes desired by employers. Although work experience was the focus of this study some argue that there may be additional factors that contribute to the development of the attributes

reportedly desired by employers (Coetzee, 2012; Denson & Zhang, 2010; Muldoon, 2007, O'Connor et al., 2011).

The results of this study revealed that there were no relationships between work experience and graduate attributes. Thus the length and nature of work did not affect students' perceived levels of the graduate attributes (interactive skills, problem-solving and decision-making skills, continuous-learning orientation, enterprising skills, presenting and applying information skills, goal-directed behaviour, ethical and responsible behaviour and analytical thinking skills). The findings of this study differed to existing literature on work experience as a factor that contributes to the development of various graduate attributes. This could be a result of a number of aspects such as the attributes this study sought to examine, the nature of the work experience obtained, the level at which the participants worked and the length of time they spent working. Literature did, however, show that work experience is beneficial for reasons other than the development of graduate attributes.

Work experience is beneficial as it provides students with an understanding of the workplace and practical experience of their future industry. It also provides students with a competitive advantage over those without work experience (Bernstein & Osman, 2012; Chetty, 2012; Raybould & Sheedy, 2005).

Narrow Range of Work Experience

The findings from the study show that participants had a narrow range of work experience, which could explain why work experience was not associated with the perceived level of attributes in this study. Given the nature of participants' work experience they could have developed graduate attributes this study did not tap into. There is a perception among graduates that work experience enhances employability (Muldoon, 2009). Although this may be the case, the type of work experience that is considered beneficial is not widely specified by employers. As a result, students are not aware of the type of work they should be doing. This often leads to students completing any kind of work to either gain work experience or to make money while studying. Some students do not have a choice and will pursue any kind of employment in order to pay their debts (Mason, 2002) and invest in their education (Moleke, 2006). Other students work in order to earn money to accommodate their lifestyles. Students rarely work in a job that does not receive pay.

Jobs related to a student's course are not always easily accessible, which often leads to students working in different kinds of jobs, unrelated to their future occupation. This study

revealed that the participants worked in a number of varied jobs. Some of these jobs included bartender, waitron, hostess, au pair, sports coach, brand ambassador, temp, head tutor, tutor, research assistant and data gatherer. Although participants had an accumulation of work experience it was limited to a few industries. This then limits students to jobs that do not require them to work an entire day, but to rather work on a part-time basis and weekends. The findings of this study show the duration of participant work experience was accumulated from the last three years, which did not afford students ample time to gain a wealth of work experience. If all students' work experiences were included in the study and not just the last three years perhaps the results of the study would have been significant.

In this study, none of the work experience gained over the three years was related to participant courses. This could explain why participant work experience had no relationship with the development of the attributes reportedly desired by employers. If graduates were made aware of the labour market expectations and capabilities prior to deciding on a qualification, they might have reconsidered their initial choice (Moleke, 2006).

With industries in constant change, it is difficult to ascertain what attributes are important other than those that are generic (Gordon, 1983). Gaining work experience still remains a challenging aspect for students. Students do not always have access to the right networks which would allow them to obtain the relevant work experience. If higher education is able to implement work experience as part of a degree requirement it would alleviate the challenge of finding relevant work experience while studying.

Researchers argue that while a university experience is adequate to gain employment it would be enriched with experience in the workplace (Guile & Griffiths, 2001). Because the theory learnt in university is often one dimensional it sometimes lacks the practical element. As this is the case, it could explain why students at university do not develop the perceived level of attributes reportedly desired by employers. However, literature suggests that graduates can learn from their experiences in the workplace in order to develop the necessary skills, competencies and attributes (Crebert et al., 2004).

Level at Which Participants are Working

The types of jobs participants occupied were mostly entry-level and did not require high-order skills. As mentioned previously, participants in this study worked in positions such as tutor, bartender, au pair, sports coach and brand ambassador. Although these positions do require certain skills, students do not work in these types of jobs on a regular enough basis to

be able to occupy more senior positions. Some positions such as au pair do not have hierarchal progress whereas bartenders and waitrons could progress to become managers. Furthermore, as most of these jobs are occupied on a part-time basis, organisations are reluctant to invest resources into the development of these positions. Thus, students find themselves working in jobs, where they are not always stimulated and work is perceived as a means to an end. The lack of skills stimulation could in turn result in the lack of sources for the development of various attributes.

Structure of Degree Programmes and Attribute Development

The findings of the literature review suggest that degree programmes could likely lead to the development of attributes (Barrie, 2004; Bernstein & Osman, 2012; Nicol, 2010). However, it has not been specified which attributes would be developed other than critical analysis, problem-solving and team working and presentation skills (Yorke & Harvey, 2005). Graduates have often been criticised for only being able to develop attributes that are associated with their degree-specific knowledge (Nguyen et al., 2005). There are alternative ways in which students can develop attributes that will allow them to be workplace ready. These include thick and thin sandwich degrees (Yorke & Harvey, 2005). This type of degree includes work experience as a formal requirement. The findings in this study indicated that majority of participants had work experience, but most of the experience was unrelated to participants' future industries. By students completing work experience as a requirement of their degree they may develop the attributes reportedly desired by employers. The intention of including work experience as a degree requirement is that it would allow students to develop an array of attributes over and above the traditional attributes produced by higher education. Work experience as part of the curriculum allows students to apply what they have learnt practically. This would, ideally, better prepare graduates for the workplace than any kind of work experience (bartending, waitressing, tutoring and so on).

Although it was not apparent in this study the results of other studies show that students are able to develop clusters of attributes through focused work experience such as people skills, work skills, basic skills and personal attributes (Crebert et al., 2004; Hodges & Burchell, 2003; Muldoon, 2009; Teichler, 1997). The types of attributes examined in this study were not restricted to a particular cluster of attributes but were more inclusive of the general attributes graduates are expected to possess. Perhaps the attributes examined in this study were less relevant to the actual work experience of students included in this sample, which is

why work experience, despite being carefully chosen, had no relationship with any of the attributes.

The Complexity of Identifying Generic Attributes for Research Purposes

The literature review results show that there has been no uniform acceptance on the type of attributes graduates are expected to possess (Bennett, Dunne & Carre, 2000; Fallows & Steven, 2000; Sumsion & Goodfello, 2004). While this is the case, it has been argued that the notion of generic attributes is increasingly complex, especially within the context of higher education (Jones, 2009). This is due to the perception that generic attributes are considered separate from disciplinary knowledge (Jones, 2009). Given this assumption, this study decided to view graduate attributes from the perspective of employers as they expect graduates to possess generic attributes which have been developed through work experience.

The attributes this study examined were determined through a comprehensive investigation conducted in the Economic and Management Sciences at UNISA (Coetzee, 2012). Despite these attributes being considered generic by employers, this could potentially explain the non-significant findings of the study. As this study focused solely on students in the Humanities and Commerce faculties some argue that students in the Humanities faculty would find it more challenging than Commerce students to develop the attributes required in the workplace (Moleke, 2006). This is because degrees in the Commerce faculty are considered more career relevant than degrees in the Humanities faculty. Research shows that although many students enrol in the faculty of Humanities they are the least sought after graduates whereas students in the faculties of Commerce, Health Sciences and Engineering are the most sought after (Moleke, 2006). Students in Humanities may find it more challenging to obtain employment as general degree fields in Humanities and Arts have been considered as not adequately preparing graduates for a profession. Some argue general degrees within the faculties of Commerce, Health Sciences, Law and Engineering better prepare graduates for the workplace (Pauw et al., 2008). Thus, one could assert that students within these faculties may develop the graduate attributes sought by employers more easily than students in the Humanities faculty due to the career relevance of the degrees offered (Pauw et al., 2008). While this may not be the case it would be worthwhile for future research to look at the type of attributes students develop within each faculty and identify the similarities and differences. Moreover, attribute development could also be related to students' interests and orientations in different faculties. While the development of attributes

may differ between faculties some argue more clarity is required on the definition and categorisation of the attributes despite extensive literature (Green et al., 2009).

Higher Education Institutions Exacerbating the Complexity of Identifying Graduate Attributes

Universities across the world have integrated various attributes into their policies and degrees in order to help students develop the attributes required for the workplace (Barrie, 2004; Muldoon, 2009; Nicol, 2010). However, there is limited research that discusses the success universities have had with this initiative. This study aimed to provide insight into students' work experiences and the development of attributes while studying. The findings of the study indicate that although students are developing attributes the development is not as a result of work experience. This suggests that higher education to a large extent plays a role in the development of these attributes.

While universities are the most sought after higher education institutions it might be worthwhile to consider the role technical college's play in the development of attributes sought by employers. Technical colleges differ to universities as they offer courses that are more directly related to the world of work (Crosser, McGrath, Badroodien & Maja, 2003). This allows students to better map their qualifications to their potential industry and workplace. Technical colleges also differ to universities in that the majority of courses offered include a practical component where students are exposed to the industry. The primary intention of embedding a practical component into curricula is to link theory with practice. Higher education aims to better prepare graduates for the world of work through field experience, cooperative education, sandwich programmes, internships and clerkships (Ryan, Toohey & Hughes, 1996). Some argue that reflection and critical analysis form a significant part of the practical component as it provides students with the opportunity to critically examine their work experience, which allows them to gain maximum benefit from the experience (Boud, Keogh & Walker, 1985; Treleaven & Voola, 2008). Thus, academics within a university context must ensure that reflection and critical thinking are built into future practical degree courses. Practical courses provide students with an opportunity to apply knowledge in a practical setting (Cosser et al., 2003; Lloyd, 1985) and develop attributes through a number of practical experiences and gain insight into professional practice (Ryan et al., 1996). Students are expected to possess attributes such as teamwork, critical and reflective thinking, problem-solving, independent learning, effective and oral written communication and research (Ryan et al., 1996).

Research indicates that if students had the opportunity to begin their education again, 91% would choose a course with a practical component, rather than a traditional course (Lloyd, 1985). This suggests that technical colleges provide a wealth of opportunity to gain work experience, which is highly valued by students. Furthermore, students indicated that the practical component of the courses better prepared them for the workplace more than anything else (Ryan et al., 1996). Academic perceptions of a practical course vary within the university context. The perception is two-fold as some academics consider it as very important and meaningful, whereas others fail to see the significance of it in preparation for the workplace (Yarrow, 1992). Research shows that the practical component of the course is the most influential intervention in professional preparation (Yarrow, 1992). The findings of the study indicate that work experience does not lead to Coetzee's (2012) attributes, however, had the courses this study reviewed integrated a practical work experience component the results may have been significant.

Literature suggests that students who attend technical colleges or complete sandwich degrees are in a better position to find employment subsequent to graduation as they have had some exposure to the workplace (Blackwell et al., 2001; Crosser et al., 2003; Yorke & Harvey, 2005). Given this suggestion the findings of this study may have been significant had students either attended a technical college or if students' university courses were better mapped to their future industry. Furthermore, technical colleges also assist students by arranging for organisations to interview students on campus (Cosser et al., 2003). Thus, graduates at a technical college would develop the attributes desired by employers more easily than university graduates given the greater opportunity to do so.

When comparing the objectives and pedagogy of the role of technical colleges to universities it is evident that universities lack particular elements that could have enhanced graduates' abilities to develop attributes through work experience. In order to better prepare graduates for the workplace, universities are challenged to incorporate a practical component within their existing degree structures. There are various models in which universities can design their future courses. Currently in the United Kingdom, the courses with a practical component available to students include single placements, multiple, shorter block placements and part-time placements of one to three days per week (Ryan et al., 1996; Yorke & Harvey, 2005). Universities can adapt their existing courses to incorporate one or all of the previously mentioned practical components. This would, likely, foster the development of the attributes desired by employers and also prepare graduates for the world of work. Although

technical colleges assist their students with interviews it may be unrealistic to suggest that universities do the same. This is due to the numbers of students and the academic endeavour and debates in universities about their actual role. For universities to take responsibility for finding placements would not only be unrealistic, but also impractical. If universities are able to integrate a practical component into their courses or facilitate vacation work as a degree requirement, it would open possible avenues for students to develop the necessary graduate attributes.

Limitations of the Study

The present study has been limited to postgraduate students completing a course at a fourth year level in the faculties of Humanities and Commerce at the University of Cape Town. As a result, the findings cannot be generalised to other disciplinary fields, educational or student groups. As the study only focused on fourth year students, a limitation was the small sample size. Thus, a recommendation for future research is to ensure better means of data gathering so as to ensure a larger sample size. Furthermore, the sample size should also be more representative of post graduate students and other faculties and should therefore consist of students from other universities other than the University of Cape Town and faculties other than Humanities and Commerce.

The attributes selected for the study could be better suited to faculties other than Commerce and Humanities, such as Law, Education and Health Sciences. Each faculty has attributes that are more relevant than others. For example, practical skills are better suited to degrees in Commerce than those in Humanities (Moleke, 2006). Thus, the expectation that the graduate attributes used in this study are equally relevant to each faculty as they are generic should be considered in the future. A future sample should also include students from other faculties such as Law, Health Sciences and Engineering so as to determine whether work experience plays any role in the development of graduate attributes in these fields.

Implications for Employers, Students and Universities

Due to the lack of soft skills and work experience, employers are reluctant to employ graduates, thus the importance of graduate attribute development is pertinent for the advancement of South Africa's labour force, skills development and employability (Moleke, 2005; Pauw et al., 2008). The above has implications for all parties involved: employers, students and universities.

There has been some research that indicates, and it is common knowledge, that most graduate recruiters ask students for evidence of work experience. Employers suggest that work experience is vital in the development of attributes required for the workplace (Crebert et al., 2004; Hodges & Burchell, 2003; Muldoon, 2009; Teichler, 1997). However, results of this study show that any work experience does not necessarily contribute to the development of these attributes. This study provides employers with evidence of the complexity of the development of attributes. As a result, employers should be more cautious with regard to the attributes they expect graduates to possess. As employers have been cautioned with regard to attribute development, this would reduce the pressure on graduates to obtain work experience and develop the desired attributes. Thus graduates have room to develop attributes not only from an employer's perspective but also from a higher education perspective.

This study opens avenues for further investigations into attribute development through the structures of higher education rather than work experience. This potential avenue does not advocate that work experience has no role, but suggests that higher education could prepare graduates for the workplace in ways other than work experience. Through the various extra curricula activities offered at university (Muldoon, 2009) and then implementation of attributes embedded into course curriculum (Barrie, 2004; Nicol, 2010; Treleaven & Voola, 2008) students have the chance to develop the desired attributes without work experience.

The implication for universities in this study is the role they have adopted in ensuring that graduates possess the necessary attributes required to succeed in the workplace. There is a trend towards embedding various attributes into the universities curriculums and teaching them (Barrie, 2004; Nicol, 2010). Graduate attributes are conveyed as learning outcomes and aligned with assessment criteria (Treleaven & Voola, 2008). These attributes are learnt through the way in which students engage with the course content (Barrie, 2007) which allows them to obtain these attributes without any work experience. This would reduce employers' expectations of graduates to have work experience, while ensuring graduates still have the necessary attributes to compete in the world of work. Furthermore, higher education could implement work experience into the degree requirements which would allow for students to obtain experience relevant to their future industry and not just any work experience. Although embedding work experience into the curriculum is not a new finding, it indicates a suggestion for future research.

Recommendations for Future Research

Findings in this study indicate that work experience was not a contributor to the development of the graduate attributes sought by employers. However, there are a number of possible directions for further research to build on the theory around the factors that contribute to the development of graduate attributes.

The first recommendation for future study is to consider the perspective in which graduate attributes are perceived and whether that would influence the type of attributes that are developed. Thus, future research could explore graduate attributes from other perspectives such as higher education. As higher education is primarily responsible for the development of the attributes it would be worthwhile to determine what attributes they consider important and whether students develop those attributes more easily than the attributes desired by employers. Thus, for the purpose of this study, it would have been advantageous if all the parties involved in attribute development had a corroborated list of universal attributes. Despite a future universal list of attributes there is no clear structure of how these attributes should be taught, assessed and measured within a particular disciplinary framework (Green et al., 2009). Thus there is need for clarity regarding how various parties expect graduates to develop these attributes, which is scope for future research.

The sample groups could be extended by including graduates who have entered the world of work to see whether their experiences in their first year of work contribute to the development of the attributes this study examined. It would be valuable to determine whether employer expectations of graduates are realistic in terms of them having obtained these attributes at university, or whether graduates only develop these attributes once they begin working. Furthermore, the sampling procedure should be extended to incorporate students who complete work experience as a requirement of their degree. This could determine whether any work experience, or work experience related to one's future industry would differ in the development of the graduate attributes.

A cross-sectional study is suggested for future research to obtain an understanding of why students work and whether it is to gain work experience or for alternative reasons. This type of design will complement the existing design of this study and provide a greater insight into student work experiences.

This study utilised a pen and paper questionnaire, however, for future research it would be recommended to use an online questionnaire as participants would have to fill in every question of the questionnaire rather than being selective.

Conclusion

There is much literature on work experience as an increasingly desired characteristic of graduates entering the workplace (Blackwell et al., 2001; Coetzee, 2012; Hodges & Burchell, 2003; Muldoon, 2009). The belief is that work experience will ideally prepare graduates for the workplace as they would have developed the necessary attributes to succeed. This study presented work experience as a factor contributing to the development of graduate attributes. The findings from this study show that although students developed various attributes, it was not as a result of work experience. This suggests that the development of graduate attributes is a complex phenomenon with many nuances and a variety of sources.

The results of the study provide a basis on which the discipline and profession of industrial psychology can be built. The findings highlight the importance of attribute development within higher education institutions and questions how students are developing these attributes irrespective of work experience. With regard to the discipline of Industrial Psychology, further research can be conducted to determine which attributes, if any, are developed as a result of work experience and the extent to which this enhances graduate employability. These findings further suggest that employers' requirements of graduates' to possess work experience are idealistic. Within the profession of Industrial Psychology it would be valuable to investigate the attributes which create successful employees. Employers should therefore be judging future candidates based on a different set of criteria other than work experience.

In order to reduce the complexity associated with the development of attributes employers need to be more explicit on the types of soft and hard attributes they consider important. This is relevant for the stakeholders held responsible for the development of the attributes as hard and soft attributes cannot be taught in the same way (Chetty, 2012). The initial results of this study provide a basis on which higher education and employers can work in order to compile a universally agreed upon list of attributes graduates. This list will also alleviate controversy between employers and higher education, allowing the invested stakeholders to work towards a common goal such as the development of graduate attributes.

These findings highlighted a concern around employers expectations of graduates in that they may be idealistic. As the findings suggest that work experience does not play any role in the development of attributes, employers are encouraged to be more cautious with regard to their expectations of graduates entering the workplace. However, further empirical studies are needed to supplement this research. Work experience, despite having no influence on the development of attributes, still remains an important activity for students. It provides a practical approach to understanding the world of work and the various skills and attributes required in the workplace. Perhaps work experience would have had a relationship with the graduate attributes if the students had worked over a longer period of time and their work experience was more related to their industry. It is evident from this study that work experience should be an area of focus in the future for higher education and graduates.

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Appendix A

University of Cape Town

School of Management Studies

Dear Participant,

My name is Victoria Gross and I am currently completing a Master's degree in Organisational Psychology at the University of Cape Town. For my final project, I am examining the relationship between part-time work experience and the graduate attributes sought by employers. This research has been approved by the Commerce Faculty Ethics in Research Committee. Because you are currently completing a programme at a fourth year level, I am inviting you to participate in this research study by completing the attached questionnaire.

The following questionnaire will require approximately 10-15 minutes to complete. There is no compensation for responding nor is there any known risk. In order to ensure that all information will remain confidential, please do not include your name. If you choose to participate in this project, please answer all questions as honestly as possible and return the completed questionnaires to the researcher. Participation is strictly voluntary and you may refuse to participate at any time.

Thank you for taking the time to assist me in my educational endeavours. Completion and return of the questionnaire will indicate your willingness to participate in this study. Should you have any questions regarding the research please feel free to contact the researcher.

Sincerely,

Victoria Gross
(GRSVIC001@myuct.ac.za)

SECTION A: WORK EXPERIENCE INFORMATION

Example:

	Year 1												Year 2												Year 3														
JOB	January	February	March	April	May	June	July	August	September	October	November	December	January	February	March	April	May	June	July	August	September	October	November	December	January	February	March	April	May	June	July	August	September	October	November	December	Hours per month	Paid or Unpaid	Position in job
1		—	—	—	—			—	—	—	—			—	—	—	—			—	—	—	—														25	P	Tutor
2						—	—																														40	P	Law Intern
3		—	—	—	—	—	—	—	—	—	—																										60	P	Waitress
4	—					—	—				—	—																										30	U	Admin Assistant
5			—	—	—																																10	U	Volunteer at SPCA
6			X																																		5	P	Library Assistant
7																																							
8																																							
9																																							
10																																							

Following the example above, please indicate below the duration of your work experience in terms of months by using (———), the Please indicate in the table below the number of hours you worked per month, the position of your job, and whether you were paid (P) or unpaid (U) for each job you have ever had. Note: if you have worked for less than a month indicate with a (x).

	Year 1												Year 2												Year 3														
JOB	January	February	March	April	May	June	July	August	September	October	November	December	January	February	March	April	May	June	July	August	September	October	November	December	January	February	March	April	May	June	July	August	September	October	November	December	Hours per month	Paid or Unpaid	Position in job
1																																							
2																																							
3																																							
4																																							
5																																							
6																																							
7																																							
8																																							
9																																							
10																																							

SECTION B: ATTRIBUTES

	STATEMENT	1 STRONGLY DISAGREE	2 DISAGREE	3 SOMEWHAT DISAGREE	4 SOMEWHAT AGREE	5 AGREE	6 STRONGLY AGREE
1	I can communicate my viewpoints with clarity and fluency in English	**1**	**2**	**3**	**4**	**5**	**6**
2	I find it easy to listen to and understand what others are saying	**1**	**2**	**3**	**4**	**5**	**6**
3	I find it easy to confront people problems to resolve conflicts	**1**	**2**	**3**	**4**	**5**	**6**
4	I can use technology effectively to communicate with others	**1**	**2**	**3**	**4**	**5**	**6**
5	I take care to use appropriate vocabulary and grammar when communicating with others	**1**	**2**	**3**	**4**	**5**	**6**
6	I can gain support from others for recommendations and ideas	**1**	**2**	**3**	**4**	**5**	**6**
7	I find it easy to persuade, convince or influence others	**1**	**2**	**3**	**4**	**5**	**6**
8	I find it easy to quickly gain respect from others	**1**	**2**	**3**	**4**	**5**	**6**
9	I usually show respect for the views and contributions of other team members	**1**	**2**	**3**	**4**	**5**	**6**
10	I usually make a favourable first impressions	**1**	**2**	**3**	**4**	**5**	**6**
11	I find it easy to make clear, concise presentations to others	**1**	**2**	**3**	**4**	**5**	**6**
12	I find it easy to communicate effectively with people from different cultures, backgrounds, and authority levels	**1**	**2**	**3**	**4**	**5**	**6**
13	I find it easy to get cooperation and support from others when working in a team	**1**	**2**	**3**	**4**	**5**	**6**
14	I consult others and share my expertise and information	**1**	**2**	**3**	**4**	**5**	**6**
15	I am able to build wide and effective networks of contacts to achieve my goals	**1**	**2**	**3**	**4**	**5**	**6**
16	I seek to progress to roles of increased responsibility and influence	**1**	**2**	**3**	**4**	**5**	**6**
17	I make quick but clear decisions that spur others on toward action	**1**	**2**	**3**	**4**	**5**	**6**

18	I can probe for further information to enhance my understanding of a problem	**1**	**2**	**3**	**4**	**5**	**6**
19	I can structure information to enhance my understanding of a problem	**1**	**2**	**3**	**4**	**5**	**6**
20	I can initiate changes to make my work or life more satisfying and developmental	**1**	**2**	**3**	**4**	**5**	**6**
21	I consider the complexities of the larger cultural, business, and economic reality when approaching a problem or situation	**1**	**2**	**3**	**4**	**5**	**6**
22	I offer unique and novel ideas that add new knowledge and insights to a problem or situation	**1**	**2**	**3**	**4**	**5**	**6**
23	I am creative in achieving my goals by anticipating problems before they happen	**1**	**2**	**3**	**4**	**5**	**6**
24	I usually set priorities with a proper sense of urgency and importance	**1**	**2**	**3**	**4**	**5**	**6**
25	I follow up on goals, tasks, and assignments to assure successful completion	**1**	**2**	**3**	**4**	**5**	**6**
26	I monitor my performance against deadlines and milestones	**1**	**2**	**3**	**4**	**5**	**6**
27	I make sure that I keep myself up to date on technical knowledge and new developments in my field	**1**	**2**	**3**	**4**	**5**	**6**
28	I am always on the lookout for ways to improve my knowledge and skills, and develop myself as a person	**1**	**2**	**3**	**4**	**5**	**6**
29	I know how to ask the right questions to get needed information and to properly size up a situation	**1**	**2**	**3**	**4**	**5**	**6**
30	I accept and tackle demanding goals with enthusiasm	**1**	**2**	**3**	**4**	**5**	**6**
31	I make use of developmental or training opportunities to enhance my competencies, knowledge and skills	**1**	**2**	**3**	**4**	**5**	**6**
32	I prefer to work under my own direction	**1**	**2**	**3**	**4**	**5**	**6**
33	I can think in a disciplined and logical manner when approaching problems or situations	**1**	**2**	**3**	**4**	**5**	**6**
34	I consider the consequences of solutions by examining their feasibility and weighting their impact within the larger cultural, business or economic reality	**1**	**2**	**3**	**4**	**5**	**6**

35	My arguments for solutions are grounded in both subject/discipline specific and general knowledge about global and local affairs	**1**	**2**	**3**	**4**	**5**	**6**
36	I am aware of and adept at dealing with organisational or team politics	**1**	**2**	**3**	**4**	**5**	**6**
37	I keep up to date with competitor information and market trends	**1**	**2**	**3**	**4**	**5**	**6**
38	I have sound financial awareness	**1**	**2**	**3**	**4**	**5**	**6**
39	When controlling costs and budgets, I usually think in terms of profit, loss, and added value	**1**	**2**	**3**	**4**	**5**	**6**
40	I find it easy to identify business opportunities for myself, my community or organisation	**1**	**2**	**3**	**4**	**5**	**6**
41	I can write my ideas and opinions clearly to convince my audience	**1**	**2**	**3**	**4**	**5**	**6**
42	I avoid using unnecessary jargon or complicated language when presenting my ideas or insights	**1**	**2**	**3**	**4**	**5**	**6**
43	I find it easy to commit information to memory quickly	**1**	**2**	**3**	**4**	**5**	**6**
44	I consider a wide range of alternatives prior to making a decision	**1**	**2**	**3**	**4**	**5**	**6**
45	The solutions I offer make a positive difference in my personal life, community or workplace	**1**	**2**	**3**	**4**	**5**	**6**
46	I spend a lot of time surfing the internet to find new information on search engines	**1**	**2**	**3**	**4**	**5**	**6**
47	I find it easy to access the information I need to solve problems or make decisions	**1**	**2**	**3**	**4**	**5**	**6**
48	I avoid jumping to premature conclusions	**1**	**2**	**3**	**4**	**5**	**6**
49	I try to find the real cause of problems before taking action	**1**	**2**	**3**	**4**	**5**	**6**
50	I usually set realistic goals	**1**	**2**	**3**	**4**	**5**	**6**
51	I take action to achieve my goals	**1**	**2**	**3**	**4**	**5**	**6**
52	I develop plans for specific goals and tasks	**1**	**2**	**3**	**4**	**5**	**6**
53	I use time effectively	**1**	**2**	**3**	**4**	**5**	**6**
54	I find it easy to meet deadlines	**1**	**2**	**3**	**4**	**5**	**6**

55	I can identify the resources needed to accomplish tasks	**1**	**2**	**3**	**4**	**5**	**6**
56	I accept responsibility for the results of my decisions and actions	**1**	**2**	**3**	**4**	**5**	**6**
57	I personally take credit or blame for the results of my work	**1**	**2**	**3**	**4**	**5**	**6**
58	I uphold the ethics and values of my profession, community or workplace in all I do	**1**	**2**	**3**	**4**	**5**	**6**
59	I encourage responsible behaviour toward the community and the environment	**1**	**2**	**3**	**4**	**5**	**6**
60	I find it easy to provide direction to others, and motivate and empower them	**1**	**2**	**3**	**4**	**5**	**6**
61	I feel confident in my ability to draw insightful conclusions from numerical data	**1**	**2**	**3**	**4**	**5**	**6**
62	I can break information into component parts to see relationships and patterns	**1**	**2**	**3**	**4**	**5**	**6**
63	I can make a rational judgment from analysing information and data	**1**	**2**	**3**	**4**	**5**	**6**
64	I can give accurate explanations of information and date presented to me	**1**	**2**	**3**	**4**	**5**	**6**

SECTION C: DEMOGRAPHIC INFORMATION

Please use a cross (x) **to specify your racial group and gender.**

1. **What degree or diploma are you registered for?**

2. **Racial Group:**

	African
	Coloured
	Indian
	White
	Other
	Prefer not to answer

3. **Gender:**

	Male
	Female

4. **Please provide your age in years:**

	Years old

Appendix B

Table B1

Initial Corrected Item-Total Correlations for Each Subscale of the GSAS

	SUBSCALES							
	Interactive Skills	Problem-solving and Decision-making	Continuous-learning Orientation	Enterprising Skills	Presenting and Applying Information Skills	Goal-directed Behaviour	Ethical and Responsible Behaviour	Analytical Thinking Skills
Item	**CORRECTED ITEM-TOTAL CORRELATIONS**							
1	0.563	0.538	0.528	0.198	0.404	0.146	0.526	0.686
2	0.621	0.587	0.494	0.353	0.469	0.419	0.513	0.696
3	0.411	0.601	0.538	0.535	0.360	0.365	0.632	0.768
4	0.488	0.600	0.559	0.352	0.480	0.475	0.504	0.764
5	0.526	0.457	0.494	0.424	0.404	0.508	0.364	
6	0.594	0.604	0.587	0.522		0.672		
7	0.572	0.597	0.490	0.483		0.613		
8	0.642	0.423		0.519		0.495		
9	0.509			0.549		0.600		
10	0.588					0.524		
11	0.621							
12	0.477							
13	0.673							
14	0.472							
15	0.523							
16	0.515							

Table B2

Final Corrected Item-Total Correlations for Each Subscale of the GSAS

	SUBSCALES							
	Interactive Skills	Problem-solving and Decision-making	Continuous-learning Orientation	Enterprising Skills	Presenting and Applying Information Skills	Goal-directed Behaviour	Ethical and Responsible Behaviour	Analytical Thinking Skills
Item	**CORRECTED ITEM-TOTAL CORRELATIONS**							
1	0.563	0.538	0.528		0.404		0.526	0.686
2	0.621	0.587	0.494			0.370	0.513	0.696
3	0.411	0.601	0.538	0.434	0.469	0.397	0.632	0.768
4	0.488	0.600	0.559	0.295	0.360	0.479	0.504	0.764
5	0.526	0.457	0.494	0.381	0.480	0.517	0.364	
6	0.594	0.604	0.587	0.565		0.658		
7	0.572	0.597	0.490	0.556		0.632		
8	0.642	0.423		0.600		0.543		
9	0.509			0.669		0.638		
10	0.588					0.508		
11	0.621							
12	0.477							
13	0.673							
14	0.472							
15	0.523							
16	0.515							

Appendix C

Table C1

Eigenvalues, Explained Variance and Rotated Factor Structures and Loadings for Each Round of the Factor Analysis for the Interactive Skills Scale

	Round 1			**Round 2**		**Round 3**		**Round 4**		**Round 5**
	Factor Structure and Loadings			**Factor Structure and Loadings**		**Factor Structure and Loadings**		**Factor Structure and Loadings**		**Factor Structure and Loadings**
	Factor 1	**Factor 2**	**Factor 3**	**Factor 1**	**Factor 2**	**Factor 1**	**Factor 2**	**Factor 1**	**Factor 2**	**Factor 1**
Eigenvalue	6.145	1.353	1.291	3.918	1.190	3.338	1.112	3.036	1.108	3.036
Explained Variance (%)	38.41	8.46	8.07	39.18	11.90	41.73	13.90	43.37	15.83	43.37
Item Number										
1	0.307		0.615	0.618		0.737		0.591		0.668
2	0.393		0.793	0.773		0.694		0.691		0.723
3	0.375			0.447		0.469		0.481		0.523
4			0.507	0.444		0.442	0.308			0.614
5		0.400	0.573							
6		0.494		0.326	0.535					
7	0.766					0.640		0.656		
8	0.382	0.493								
9		0.608	0.303		0.651		0.834		0.813	0.405
10	0.393		0.427							
11	0.657							0.725		0.720
12	0.413			0.381	0.326					
13	0.361	0.589								
14		0.631			0.591		0.434		0.448	0.370
15	0.496	0.400								
16	0.320	0.479								

Table C2

Eigenvalue, Explained Variance and Factor Structure and Loadings for the Problem-Solving and Decision-Making Skills Scale

	Factor Structure and Loadings
	Factor 1
Eigenvalue	3.619
Explained Variance (%)	45.23
Item Number	
1	0.608
2	0.667
3	0.653
4	0.636
5	0.512
6	0.692
7	0.653
8	0.450

Table C3

Eigenvalues, Explained Variance and Rotated Factor Structures and Loadings for Each Round of the Factor Analysis for the Continuous-Learning Orientation Scale

	Round 1		Round 2		Round 3
	Factor Structure and Loadings		**Factor Structure and Loadings**		**Factor Structure and Loadings**
	Factor 1	**Factor 2**	**Factor 1**	**Factor 2**	**Factor 1**
Eigenvalue	3.179	1.117	2.742	1.116	2.742
Explained Variance (%)	45.42	15.95	45.70	18.61	45.70
Item Number					
1		0.757		0.699	0.571
2		0.745		0.825	0.567
3	0.614		0.662		0.667
4	0.679		0.671		0.646
5	0.668		0.667		0.577
6	0.560	0.344			
7	0.480		0.411		0.509

Table C4

Eigenvalues, Explained Variance and Rotated Factor Structures and Loadings for Each Round of the Factor Analysis for the Enterprising Skills Scale

	Round 1		Round 2		Round 3
	Factor Structure and Loadings		**Factor Structure and Loadings**		**Factor Structure and Loadings**
	Factor 1	**Factor 2**	**Factor 1**	**Factor 2**	**Factor 1**
Eigenvalue	3.05	1.34	2.10	1.34	2.10
Explained Variance (%)	43.55	19.21	42.05	26.74	42.05
Item Number					
1					
2					
3		0.663		0.716	0.537
4		0.628		0.642	0.313
5		0.494		0.456	0.431
6	0.475	0.439			
7	0.749		0.805		0.641
8	0.837		0.799		0.671
9	0.578	0.463			

Table C5

Eigenvalue, Explained Variance and Factor Structure and Loadings for the Presenting and Applying Information Skills Scale

	Factor Structure and Loadings
	Factor 1
Eigenvalue	1.96
Explained Variance (%)	48.90
Item Number	
2	0.632
3	0.472
6	0.636
7	0.518

Table C6

Eigenvalues, Explained Variance and Rotated Factor Structure and Loadings for Each Round of the Factor Analysis for the Goal-Directed Behaviour Scale

	Round 1			**Round 2**		**Round 3**
	Factor Structure and Loadings			**Factor Structure and Loadings**		**Factor Structure and Loadings**
	Factor 1	**Factor 2**	**Factor 3**	**Factor 1**	**Factor 2**	**Factor 1**
Eigenvalue	3.85	1.30	1.01	1.97	1.05	1.972
Explained Variance (%)	38.45	12.96	10.13	49.30	26.26	49.30
Item Number						
1			0.452		0.759	
2			0.641		0.400	0.397
3	0.345			0.413		0.396
4	0.383		0.322			
5	0.548			0.596		0.611
6	0.807			0.755	0.306	0.822
7	0.704	0.310		0.780		0.767
8	0.365	0.600				
9		0.867		0.600		0.584
10		0.452	0.436			

Table C7

Eigenvalue, Explained Variance and Factor Structure and Loadings for the Ethical and Responsible Behaviour Scale

	Factor Structure and Loadings
	Factor 1
Eigenvalue	2.50
Explained Variance (%)	50
Item Number	
2	0.650
3	0.584
5	0.408
6	0.763
7	0.641

Table C8

Eigenvalue, Explained Variance and Factor Structure and Loadings for the Analytical Thinking Skills Scale

	Factor Structure and Loadings
	Factor 1
Eigenvalue	2.91
Explained Variance (%)	72.73
Item Number	
2	0.839
3	0.741
6	0.849
7	0.762

Appendix D

Table D1

Test for Normality for Length of Work

Dependent Variable	Independent Variable (Length of Work)	Kolmogorov-Smirnov		
		Statistic	Df	Sig.
Interactive Skills	1	0.098	46	0.200
	2	0.138	44	0.036
	3	0.124	45	0.078
Problem-solving and Decision-making	1	0.125	48	0.059
	2	0.103	45	0.200
	3	0.117	47	0.122
Continuous-learning Orientation	1	0.085	50	0.200
	2	0.111	45	0.200
	3	0.105	48	0.200
Enterprising Skills	1	0.105	50	0.200
	2	0.146	44	0.019
	3	0.103	48	0.200
Presenting and Apply Information Skills	1	0.137	50	0.020
	2	0.111	46	0.200
	3	0.148	48	0.010
Goal-directed Behaviour	1	0.149	50	0.007
	2	0.141	46	0.023
	3	0.119	48	0.088
Ethical and Responsible Behaviour	1	0.105	50	0.200
	2	0.142	46	0.021
	3	0.133	47	0.038
Analytical Thinking Skills	1	0.098	50	0.200
	2	0.109	46	0.200
	3	0.119	47	0.096

Note. Length of Work: 1 (0-300 hours), 2 (301-952 hours) and 3 (953- 4370 hours).

Table D2

Test for Normality for Nature of Work

Dependent Variable	Independent Variable (Nature of Work)	Kolmogorov-Smirnov		
		Statistic	Df	Sig.
Interactive Skills	1	0.110	66	0.043
	2	0.108	90	0.012
Enterprising Skills	1	0.108	88	0.013
	2	0.104	77	0.038
Goal-directed Behaviour	1	0.133	72	0.003
	2	0.131	94	0.000

Note. Nature of Work: 1 (Work) and 2 (No Work).