BRAINS *VERSUS* BEAUTY IN THE KNOWLEDGE ECONOMY:

THE RELATIVE PREDICTIVE POWERS OF QUALIFICATION AND PHYSICAL ATTRACTIVENESS IN THE DECISION TO EMPLOY A KNOWLEDGE WORKER.

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A research proposal submitted to the Gordon Institute of Business Science, University of Pretoria, in partial fulfillment of the requirement for the degree of

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ABSTRACT

It is a widely held belief that those who are attractive generally experience an easier life; that the door to success is opened by perfect bone structure and a sparkling white smile. However, this might not be the case. Attractiveness might play a far lesser role in individual's achieving their objectives than has previously been thought. Is it possible that an individual's qualifications may have a greater influence regarding the perceptions of managers who question the suitability of a candidate to fill the position of a Knowledge Worker?

The main purpose of this research was not only to identify the existence of the so-called Beauty Premium in the Knowledge Economy but, to determine that if it does indeed exist, how to explore the influence of this aspect regarding the hiring decisions for which managers are responsible.

A two-phased experimental design was followed that investigated the existence and strength of the Beauty Premium amongst a group of managers who were provided with fictitious resumes coupled with photographs of the applicants. These managers were requested to make a hiring decision based on the information in front of them.

The results revealed the existence of a Beauty Premium but that is was relatively weak and that the qualification of an individual had a far greater influence on a manager's perception of the suitability of a candidate to fill a position of a Knowledge Worker.

Key Words: Human Behaviour, Behavioural Economics, Knowledge Worker, Knowledge Economy, Beauty Premium, Qualification

DECLARATION

I declare that this research project is my own work. It is submitted in partial fulfilment of the requirements for the degree of Master of Business Administration at the Gordon Institute of Business Science, University of Pretoria. It has not been submitted before for any degree or examination in any other University. I further declare that I have obtained the necessary authorisation and consent to carry out this research.

14 January 2015

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Richard William Gardiner Ford   Date

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TABLE OF CONTENTS

LIST OF FIGURES

LIST OF TABLES

CHAPTER 1:   INTRODUCTION

1.1   Research Title

Brains *versus* beauty in the knowledge economy: The relative predictive power of qualifications and physical attractiveness in the decision to hire a Knowledge Worker.

1.2   Introduction to the Research Problem

There is a significant body of literature that advocates that humans are biased and irrational in their decision-making process (Aharon *et al.*, 2001; Ariely, 2008; Caplan, 2000). In particular, there is research that suggests that the physical attractiveness of a person has a powerful influence in the general decisions made by third-party decision makers. Simultaneously there is much work that emphasises the need to employ the most capable person for the job regarding intellectual capital.

Bias, as described by Rudolph, Wells, Weller, and Baltes (2009), in terms of organisational research, is most often operationalised as a significant main effect difference between the evaluations of two target individuals who, when everything is considered to be equal, vary only by some stigmatised quality or characteristic extraneous to their qualifications or job performance. This bias takes place in many forms, most notably denoting differences in gender (Arvey, 1979; Davison & Burke, 2000; Deaux & Taynor, 1973), race (Greenhaus, Parasuraman, & Wormley, 1990; Landau, 1995; Landy & Farr, 1980; Schmidt & Lappin, 1980), and weight (Puhl & Brownell, 2001; Roehling, 1999, 2002).

According to Sutherland and Jordaan (2004) recruitment and selection are some of the most critical human resource decisions an organisation can make and, because of this, in the knowledge economy, knowledge should be viewed as a major contributing factor to an organisation's success and, as such, the holders of this knowledge should be focused on and viewed more favourably.

This research study sought to explore the effect of physical attractiveness on the initial hiring process before an applicant was invited to be interviewed, by examining and measuring the relative influences that both the physical attractiveness and qualifications of applicants for a position of a skilled Knowledge Worker have on the decision-making process of managers making hiring decisions.

1.3 Research Motivation

Industrial Psychologists and management researchers have long attempted to detect and eliminate biases in personnel selection and recruitment (Watkins & Johnston, 2000).

This research was motivated by a desire to explore and investigate the presence of bias in the decision-making process when seemingly rational individuals are exposed to factors such as the physical attractiveness of a job candidate and then faced with a decision on whether to hire them or to hire a less attractive individual who might have better or more suitable qualifications for the available position.

In a globally competitive environment there is a distinct need to employ a candidate who will help to maximise the output of the company. This research was made relevant by examining the presence of bias in the hiring decisions of managers and ensuring that recruiters are aware of this potential weakness and are thus in a position to optimise their decisions.

1.4 Research Aims and Objectives of the Study

The aim of this research was to provide insight about whether the attractiveness of a candidate plays a beneficial role in the hiring decision of managers when they are provided with a resume showing the applicant's face together with an explanation of the applicant's qualifications and whether the managers are more likely to hire a less qualified but more attractive applicant over a more qualified but less attractive applicant.

2

1.5   Scope

This research study is categorised in the field of behavioural economics (Tomer, 2007), in particular decision-making bias in the context of the aforementioned "Beauty Premium". There is an emphasis on managers making hiring decisions, as their perceptions could be influenced by the physical attractiveness of an applicant.

Behavioural economics is an area of economic research that is concerned with the prediction and controlling and experimental analysis of human behavior; the main proposition of which is that systematic biases are built into the individual's selection processes and that these choices prevent utility maximisation (Etzioni, 2011).

CHAPTER 2:   LITERATURE REVIEW

2.1   Introduction

The potential decision-making bias in the labour market, where those perceived as being beautiful are more likely to be hired, earn higher salaries, and are more likely to be promoted, emphasises the existence of a "Beauty Premium" (Solnick & Schweitzer, 1999). The literature reviewed in this chapter defines and describes the concept of the Beauty Premium and its effect on the labour market with particular emphasis on Knowledge Workers. This chapter explores the effects of the Beauty Premium on the perception of the physically attractive by others and the possible discrimination based on this in the labour market.

Studies concerning bias, based on physical appearance in the labour market are not new. However, most of these investigations have analysed beauty as a motivation for remuneration (Andreoni & Petrie, 2008; Benzeval, Green, & Macintyre, 2013; French, 2002; Hamermesh & Biddle, 1993; Mobius & Rosenblat, 2006; Robins, Homer, & French, 2011; Tews, Stafford, & Zhu, 2009). However, this particular research study was based specifically on hiring decisions. While studies of this nature are considerably less, there has still been research that concluded that physical attractiveness may not be viewed quite so positively, in particular where unattractive females were rated more suitable than attractive women for male stereotyped industries (Dion & Stein, 1978; Heilman, 1983; Heilman & Saruwatari, 1979).

Whilst attractiveness might be more relevant in service jobs involving interpersonal interaction, Watkins and Johnston (2000) argued that attractiveness is irrelevant in most instances concerning employment. It is posited that this should particularly be the case for a Knowledge Worker in the Knowledge Economy. In their definition of the Knowledge Economy Powell and Snellman (2004) explained that during the last few decades the economies of developed nations have been driven by technologies based on knowledge and information production and dissemination. Since the 1950s these new technologies, lead by the personal computer and then e-mail and the Internet

4

have redefined the nature of work and the economy. Knowledge-intensive industries are becoming the core determiners of growth and the global arena has entered a new type of Knowledge-driven Economy (Smith, 2002). If the Knowledge Economy is measured by the rise in knowledge management services among consulting firms or by the rapid growth in intellectual property as a legal specialty, then its growth has been considerable (Powell & Snellman, 2004).

2.2   Beauty and the Beauty Premium

Beauty is measured on the basis of physical attractiveness; the perception of which has been established based on experiments and has changed minimally over time. Experiments in which respondents ranging in age from seven to fifty years were asked to rank the appearance of people in photographs demonstrated a very high correlation in their rankings (Hamermesh & Biddle, 1993) as pictures of the same individual was shown at different stages of their life (Hadfield, 1986). Cash, Gillen, and Burns (1977) found that physical attractiveness affects personnel decisions to the general advantage of good-looking applicants, unless these perceived attractive people seek jobs considered inappropriate for their sex.

Research has indicated that good-looking candidates are hired due to the belief that they are more successful (Goldman & Lewis, 1976), more credible (Patzer, 1983) and more able (Mobius & Rosenblat, 2006) than their less attractive competition. Goldman and Lewis (1976) hypothesised that this could be due to attractive individuals displaying relatively higher levels of social skillfulness, thus resulting in a "kernel of truth" in the above beliefs. According to the "kernel of truth" hypothesis, the stereotype surrounding physical attractiveness might well be a self-fulfilling prophecy because better looking children are expected to outperform their peers and are thus given special treatment at school, which in turn builds confidence as well as social and communication skills (Mobius & Rosenblat, 2006). These increased social and communication skills also help attractive individuals come across as being more credible (Patzer, 1983).

5

In Hamermesh and Biddle (1993) seminal article "Beauty and the Labor Market", which was based on information collected from US and Canadian census data of more than 7000 people, attractiveness was analysed across various occupations, the researchers found that, holding constant for demographic and labour-market characteristics, plain people earn less than people of average looks, who earn less than the good-looking. Hamermesh and Biddle suggested that the findings might be due to three possible reasons, namely employer discrimination, customer discrimination and occupational crowding. Doran and Hersch (2009) argued that the above-mentioned findings were neither robust nor were the statistics significant. However, Hamermesh and Biddle (1993) findings have been supported by numerous subsequent and more recent studies. Subsequently, Fletcher (2009) found that attractiveness is positively associated with earnings for young adults, even when controlling for ability measures. Robins *et al.* (2011) concluded that physical attractiveness affected wage determination, largely confirming earlier empirical and theoretical studies.

Patzer (1983), in his study of source credibility as a function of communicator physical attractiveness, summarised existing physical attractiveness research into four generalisations. When the physically attractive are compared with unattractive counterparts, 1) they have greater social power, 2) they are perceived to have more favourable personal and non-personal characteristics, including intelligence, personality traits, and success in life, 3) they have more positive effects on other people and receive more positive responses from others, and 4) they are more persuasive. Patzer's study concluded that the consequences of being physically attractive are positive and the consequences of being physically unattractive are negative. These findings were supported by further evidence obtained in a study by Fletcher (2009) who, in his study entitled "Beauty vs. brains: Early labour market outcomes of high school graduates", found that attractive and very attractive individuals earned between 5% and 10% more than average-looking individuals. Further to this, the study found that for very attractive individuals, an increase in ability was associated with an increase in wages; however, for individuals that were below average in attractiveness, the returns on ability could be negative, resulting in a "plainness

6

penalty".

Although the studies above add to the evidence of a Beauty Premium, these investigations do not consider other variables, which may be related to success in the work place. Robins *et al.* (2011) found that most studies do not take personality attractiveness and grooming into account (Ritts, Patterson, & Tubbs, 1992) and this may lead to research limitations. These authors found that when only beauty is measured it resulted in a Beauty Premium of approximately 12% for very physically attractive men, 7% for very physically attractive women and 4% for physically attractive women and men. When both personality attractiveness and grooming were added to their model, the Beauty Premium for men was slightly reduced but became statistically insignificant for women. Robins *et al.* (2011) concluded that whilst beauty is the most important of the three traits tested for men, it is the least important for women after personality attractiveness and grooming. This finding is significant because it emphasises the ability for women to minimise the effects of the Beauty Premium by controlling their demeanor and adjusting the way that they groom themselves.

Whilst conducting economic laboratory experiments exploring beauty, gender and stereotypes, Andreoni and Petrie (2008) found that a Beauty Premium exists, but that this was only evident when total output was measured and groups performed tasks without knowing how much each member of the group had contributed. As soon as individual contributions were made known, the beauty premium disappeared. This finding confirmed that people expect attractive individuals to be more cooperative but that when expectations are not met they may be less cooperative with attractive individuals. These findings confirmed the findings of Langlois, Kalakanis, Rubenstein, and Larson (2000), that attractive people are consistently judged and treated more positively.

Certain industries, such as the sales industry, may lend themselves to hiring more attractive individuals. DeShields Jr, Kara, and Kaynak (1996) confirmed a 'what is beautiful is good' halo effect on how individuals received information from physically attractive individuals. This is significant regarding the hiring process, because it was also found that attractive people are better liked and

7

are assumed to be more sociable, independent and exciting, whilst less attractive people may be perceived to be deviant.

To establish the effects of a Beauty Premium Solnick and Schweitzer (1999) investigated the role of physical attractiveness and gender in an experimental setting using a variation of (Roth & Kagel, 1995) ultimatum game. The aim of Solnick and Schweitzer's research was to explore the influence of physical attractiveness and gender on bargaining behaviour. Whilst they found that the results from the study concluded that there were no significant differences in the decisions made by attractive and unattractive people, they concluded that, consistent with the notion of a Beauty Premium, significant differences arose in the way attractive individuals were treated by other players. Attractive people were offered more but more was demanded from them, whereas less was demanded from unattractive people.

Consistent with Solnick and Schweitzer (1999) findings that, while people may be more generous towards physically attractive individuals, more may be demanded from them, is Hadfield (1986) study, who found that the physical attractiveness stereotype can become a self-fulfilling prophecy. Hadfield found that attractive children were often identified early on by teachers who expected them to outperform at school and these children were given special attention. This extra attention builds self-confidence as well as social and communication skills, which helps the children later in life. This self-confidence has been confirmed in experiments where college students were asked to interact anonymously with each other *via* telephone and then judge, based on a five minute telephone conversation, whether the person on the other end of the line was physically attractive or not (Goldman & Lewis, 1976). The findings of the study found that there was a correlation between physical attractiveness and social and communication skills and thus there was a *kernel of truth* in the physical attractive stereotype. As such, it is often perceived that physically attractive people may be more capable, well adjusted, and socially skillful than unattractive people.

The Beauty Premium is evidenced by recruiters who claimed that candidates' physical appearance significantly accounted for their assessment of the

candidates "fit" in an organisation (Solnick & Schweitzer, 1999). Managers may use physical attractiveness to make generalised inferences about a candidate regarding employment suitability as it is an easily identifiable characteristic (Tews *et al.*, 2009) and in a related study, 50% of employers who had recently hired candidates to fill a position answered that physical appearance was very important (11%) or somewhat important (39%) (Holzer, 1993). In Tews *et al.* (2009)'s study on organisational fit, the authors surmised that once applicants had been screened and were deemed to meet the minimum requirement for the job being for which they has applied, qualification was no longer important. The assessment of fit, which included interpersonal skills, goal orientation, and physical attractiveness, involved something beyond the evaluation of knowledge, skills, abilities, and past accomplishments.

Research has also confirmed that physically attractive workers are wrongly considered more able by employers. Furthermore, employers expect good-looking workers to perform better than their less attractive counterparts, even when controlling for individual worker characteristics and confidence (Mobius & Rosenblat, 2006).

Research suggests that very little time is spent on training interviewers on how to evaluate applicants' suitability (S. L. Rynes & Bourdreau, 1986) and this may lead to bias that is based on physical appearance or the "what is beautiful is good" stereotype (Patzer, 1983). Tews *et al*. (2009) found that due to others ascribing positive attributes to the physically attractive, it may lead to a positive effect on hiring decisions but when details of the applicants' GMA (General Mental Ability) and personality were recorded, the results demonstrated that attractiveness was valued less than both of these attributes. This finding from Tews *et al.'s* study concluded that managers appeared to make hiring decisions based on employee ability to maximize job performance. Another conclusion that can be drawn is that if managers are not provided with the right information, hiring decisions may be made on the basis of physical attractiveness of the candidate and as such these candidates could be "beating" the selection system (Tews *et al*., 2009).

This attractiveness advantage has been demonstrated in work-related settings

9

and although high-performing candidates are preferred in comparison to low-performing candidates, regardless of their level of attractiveness, research has found that attractive people are favoured over equally qualified unattractive people in hiring decisions (Dipboye, Arvey, & Terpstra, 1977; Dipboye, Fromkin, & Wibak, 1975; Raza & Carpenter, 1987). However, the relationship between attractiveness and occupational outcomes may not be as simple and straight forward as may be suggested. In a study by (Cash et al., 1977), the researchers found that attractive women were judged to be less qualified than unattractive women and were less likely to be hired. Interestingly, male physical attractiveness was shown to be an advantage in both managerial and non-managerial positions, but female physical attractiveness was only found to be an advantage in non-managerial positions to the extent that physical attractiveness was actually found to be detrimental for women pursuing managerial positions.

2.3   Bias in Selection

Research suggests that biases may decrease as an individual's exposure to the qualifications and performance of others increases (Marlowe, Scheider, & Nelson, 1996). This may be a result of experienced managers having a wider range of performance on which to base their judgments and as a result, they may be less susceptible to bias, based on the attractiveness of an applicant.

Globally, lawmakers have passed legislation in an attempt to decrease the level of discrimination by employers on factors unrelated to job performance. Even so, studies concerning discrimination based on external factors unrelated to job performance, such as age and sex, still exist (Gerdes & Garber, 1983). These biases can be further compounded by the differences among the raters of job applicants (M. Y. Quereshi & Kay, 1986). Characteristics of the rater, such as age, sex, years of experience and sensitivity to discrimination issues seem to affect the degree of bias displayed in hiring practices (Martinko & Gardner, 1983; M. Y. Quereshi, 1983; M. Y. Quereshi, Buckley, & Fadden, 1981). Despite considerable research being done on the topics above, little investigation has been performed concerning the discerning of how the age,

sex, and physical attractiveness of the applicants combine with the personal and social characteristics of the employers in influencing managerial hiring decisions (M. Y. Quereshi & Kay, 1986).

Dipboye *et al.* (1977) found in their research that regardless of the sex or attractiveness of the interviewer, that highly qualified applicants were preferred over poorly qualified applicants, male applicants were preferred over female applicants and attractive applicants were preferred over unattractive applicants. The research concluded that discrimination in employment decisions was attributed to sex-role and physical attractiveness stereotypes. Dipboye *et al.* (1977) found that interviewers displayed biases against physical unattractive applicants whilst conducting research about the behaviour of male college recruiters and business students; finding that they were more willing to hire a physically attractive candidate for a supervisory position than and equally qualified unattractive candidate. However, contrary to their prediction that female attractiveness would be a more important determinant than male attractiveness, they found that attractive applicants were preferred over unattractive applicants regardless of their sex.

Not much research on bias has been completed that explores the existence of bias in the earlier phases of the personnel selection process, for example the screening of applicants prior to the job interview (Dipboye *et al*., 1975). The researchers further found that in many cases the screening and interviews are performed by the same person and as a result of either the perusal or resumes, negative first impressions and psychological or actual rejection of the candidate may take place before the actual interview process has commenced. Dipboye *et al.* (1975) found that scholastic standing was the most important determinant of suitability ratings and rankings, accounting for more than 30% of the variance. When applicants had equivalent scholastic standing, subjects revealed a strong preference for males and attractive applicants. This outcome indicates that, assuming scholastic standing is the most rational basis for discriminating between applicants, persons with equivalent qualifications had unequal probabilities of being hired (Dipboye *et al*., 1975). The researchers who performed the study also found that the subjects discriminated more

against unattractive applicants and females when deciding which candidate would be assigned the top rank. This is significant because in a recruitment situation where applicants far outnumber positions available, it is critical that an applicant is ranked amongst the highest candidates in order to be hired or invited for an interview. It is also important to note the effect that the sex or the attractiveness of the applicant may have on the interviewer's behavior subsequent to them evaluating the applicant's resume. Research by Mayfield (1964) demonstrated that interviewers tend to form an early impression. Thus, the ability of the applicant to convey sex and attractiveness to the interviewer through resume information may assist in creating an initial impression, which influences the outcome of the face-to-face interview (Dipboye *et al*., 1975)

Employment selection is a highly skilled profession; however it is worth noting that Hakel, Ohnesorge, and Dunnette (1970) found no interaction differences between the ratings of students and professionals during tasks that mimic the early stages of employment selection procedure (Bernstein, Hakel, & Harlan, 1975; Singer & Sewell, 1989). Dipboye *et al.* (1975) found that both students and professional interviewers evaluated resumes more favourably for attractive managerial applicants than for unattractive ones.

In research conducted by (Watkins & Johnston, 2000) it was found that the research's results indicated that applicant attractiveness had no impact when the quality of the application was high, but that attractiveness was an advantage when the quality of the application was mediocre. In some cases, physical attractiveness may be a valid criterion on which to evaluate an applicant, but in most cases physical attractiveness is unrelated to job performance, resulting in any bias toward physically attractive applicants representing discrimination (Watkins & Johnston, 2000).

When meeting someone for the first time whether for a blind date or a job interview, the characteristic that carries the most weight for making a good impression is physical appearance (Cash & Janda, 1984). Further to this, it is important to note that individuals form first impressions of others on the basis of their immediately apparent features, most notably physical appearance (McArthur & Baron, 1980).

12

The results of studies using fictitious resumes and applicants of varying attractiveness clearly reveal the potential for discrimination in hiring on the basis of physical attractiveness (Cash *et al*., 1977; Cash & Kilcullen, 1985; Dipboye *et al*., 1977; Dipboye *et al*., 1975; Holahan & Stephan, 1981).

It appears that attractiveness can compensate for poor application quality but if the quality of the application is high, attractiveness was found to have no additional impact (Watkins & Johnston, 2000). The sex-irrelevant what-is-beautiful-is-good stereotype is evident in the findings that the employment potential of both sexes was perceived to be significantly greater for attractive applicants (Cash *et al*., 1977).

2.4   The Knowledge Economy and Knowledge Workers

The term 'Knowledge Economy" is a very broad term (Powell & Snellman, 2004) without a clear definition or theoretical concept. Rather it is widely used as a metaphor (Smith, 2002). For the purpose of this research study, the researcher used the same definition as Powell and Snellman (2004) who defined the Knowledge Economy as, "production and service based on knowledge-intensive activities that contribute to an accepted pace of technical and scientific advance, as well as rapid obsolescence", "the key component of which is the greater reliance on intellectual capability than on physical inputs and natural resources" citing the transition that has occurred in advanced industrialised nations from manufacturing-based to service-driven economies. Powell and Snellman (2004) further provided the example of how cars of today are less products of metal fabrication than they are the products of smart machines that use computer technology to integrate safety, emissions, entertainment and performance, with economists noting these changes in production as part of a broader shift from tangible goods to intangible or information goods (Shapiro & Varian, 2013).

A pertinent feature of the so-called Knowledge Economy is the increase in the mobility of knowledgeable workers which leads to higher levels of recruitment and selection (Sutherland & Wöcke, 2011). Recruitment and selection is the

process of making fair and relevant assessments of the strengths and weaknesses of applicants with the intent to hire them (Boxall & Purcell, 2008). This definition of recruitment is the tenet upon which this research study was conducted; as the research was dependent on testing the notion that knowledge is the most important factor in the Knowledge Economy and that it is a scarce resource. As such, knowledge workers should be prime candidates for recruitment and hiring.

Drucker (1973) popularised the term Knowledge Worker to describe the growing number of employees in business organisations: "*The manual worker is yesterday….. The basic capital resource, the fundamental investment, but also the cost center for a developed economy is the knowledge worker who puts to work what he has learned in systematic education, that is, concepts, ideas and theories, rather than the man who puts to work manual skill or muscle.*"

A defining characteristic of a Knowledge Worker is that they are changed by the information they process, their value lies in their diversity and a company's ability to exploit the fact that these people make different sense from the same phenomena and therefore respond in different ways (Kidd, 1994). Workers interviewed by Kidd saw their value to an organisation as being able to understand a body of knowledge and generate new information from this understanding, which changed either the organisation or its customer in a direct way.

Kidd (1994) also found that Knowledge Workers solve problems and generate outputs largely by resorting to structures internal to themselves rather than by relying on external rules or procedures. Each Knowledge Worker addresses a situation in a slightly different way, inferring that individuals cannot be trained to be a Knowledge Worker; these individuals have to learn it through on-the-job experience.

Knowledge Workers are highly motivated to actively learn and change their thinking throughout their careers, meaning that if the Knowledge Worker employed in a specific job changes, the company will receive a different

product as a result, while this is not necessarily true for other kinds of workers (Kidd, 1994).

CHAPTER 3: RESEARCH PROBLEM

This research study attempted to determine the prevalence of bias against qualified individuals towards attractive individuals during the hiring practices in the "Knowledge Economy", which should dictate that potential employers would hire the most technically competent applicant and whilst discrimination takes place based on technical expertise and ability, there should be no employer-bias based on the physical appearance of the job applicant.

3.1 Research Questions

Do both physical attractiveness and qualifications of an applicant for the position of a Knowledge Worker influence a manager's perception of the suitability of such applicant? And if so, which of the two factors is more influential?

3.2 Hypotheses

The hypotheses developed to answer the research questions are:

Hypothesis 1

H_0 = Qualifications and attractiveness do not influence a manager's perceived suitability of an applicant to fill the position of a Knowledge Worker.

H_1 = Both qualifications and attractiveness influence a manager's perceived suitability of an applicant to fill the position of a Knowledge Worker.

Hypothesis 2

H_0 = There is no difference between the influence of qualifications and attractiveness in a manager's perception of an applicant's suitability to fill the position of a Knowledge Worker.

H_1 = Qualifications are more influential than attractiveness in a manager's

perception of an applicant's suitability to fill the position of a Knowledge Worker.

CHAPTER 4:   RESEARCH METHODOLOGY

4.1   Research Design

In conducting this research an experimental design was used that allowed the researcher to manipulate two independent variables (Cooper & Schindler, 2014). These variables were:

1.   The applicant's physical attractiveness which, for the purpose of this research, is the prospective employee's facial appearance and the degree to which that appearance is pleasing to observe, and
2.   The prospective employee's qualifications.

To measure the effect on the dependent variable, the suitability of the candidate for the position as a knowledge worker was used to determine whether any bias exists in the hiring decision. Various combinations of attractiveness and qualifications were presented to test the hypothesis that when a manger is provided with details of an applicant's qualifications, the attractiveness of the applicant will not bias the manager's decision.

The research took place as a two-phase quantitative study, which was well-suited to this study given that the research subjects were requested to rank the suitability of the candidates for the position of a Knowledge Worker. The advantages of quantitative research are that it helps the researcher develop and test a theory and the data gathered can be manipulated for statistical analysis. The second phase of the experiment was designed to simulate the practice of screening applicants' résumés prior to a job interview.

4.2   Universe and Sample Frame

Since managers are predominantly responsible for making hiring decisions, the universe for this study was business managers. To obtain a representative sample, the sample frame for this study was business managers completing a part-time Program for Management Development (PMD) Postgraduate Degree

at the Gordon Institute of Business Science.

4.3 Unit of Analysis

The unit of analysis for this study was the bias that occurs when managers assess the suitability of a group of applicants for the position of a knowledge worker.

4.4 Sampling

4.4.1 Sample Technique

A saturated sample comprising of two separate groups of Program for Management Development (PMD) students at The Gordon Institute of Business Science was used. PMD students are, amongst other things, managers who have at least five years of business experience, and are actively pursuing ways to increase their managerial effectiveness, unlock creativity and effect change and develop leadership and management skills for non-traditional approaches within a management role in organisations. These students were used because they represent a credible sample of managers who would typically make hiring decisions.

4.4.2 Sampling Frame

Two non-parametric sampling techniques were used to select participants for the study, namely purposive and convenience sampling. In light of the fundamental criteria that participants in the study are involved in hiring decisions, there was a need to select participants through a purposive method of sampling. Typically, a purposive method of sampling allows the researcher to select participants arbitrarily for their unique characteristics or experiences, attitudes, or perceptions (Cooper & Schindler, 2014). Convenience sampling was incorporated into the sampling strategy, given that the researcher had access to the class of part-time PMD students at the Gordon Institute of Business Science. This group was selected because they are professionals

with management experience who are likely to have been involved in hiring decisions, and thus fit the criteria for participants in this study.

4.4.3   Sample Size

115 students were approached, and 113 students chose to respond. From the 113 responses, 103 were free of errors and were divided into two groups of 53 and 50 from the part-time PMD cohort.

4.5   Research Instrument/Measurement

4.5.1   Method and Procedure

4.5.1.1   Phase One: Ranking Photographs.

The primary purpose of phase one was to obtain a collection of photographs that fairly represent attractive and unattractive individuals for each gender. The photographs selected in phase one were used to test the hypotheses in phase two.

16 colour head-and-shoulder photographs were presented to 10 MBA students who were requested to rank them in order of attractiveness; eight of the photos were of women (Appendix 2) and eight photos were of men (Appendix 3). The scale for ranking was eight (most attractive) to one (least attractive). From the selected photographs, the two most attractive and two least attractive photos from each gender were selected and were used in the second stage of the experiment (Appendix 4). The MBA students were procured by speaking to current full and part-time students on campus.

Photographs were used to control for extraneous variables such as height, speech, confidence levels and body language, which can differ between experimental treatments and weakened internal validity (Patzer, 1983).

The photographs were printed in a random order of attractiveness on two pieces of paper, one containing photographs of men, the other photographs of women. These sheets were placed in an unmarked envelope and presented to

the rater along with a consent form, instructions and two matrixes, one for the male subjects and one for the female subjects on which the rater could rank the photographs in order of preference (Appendix 1). The MBA students who ranked the photographs were asked to complete a form detailing their age, gender, race as well as current or most recent occupation.

The photographs were of Caucasian men and women to eliminate the effects of racial preference of the subjects choosing the photographs.

The experiment was conducted in the same setting for all subjects to provide uniform conditions, i.e. lighting, stimulus material, verbal and written instructions, anonymity assurance and experimenter.

4.5.1.2   *Phase Two: Ranking the suitability of candidates*

Using the results from phase one to determine the two most attractive and the two least attractive of each sex from the subjects from the 16 photographs, eight identically formatted résumés were created for the eight photographs. The resumes were created to include a photograph of an attractive male and an attractive female with relatively high qualifications, the same approached was followed for resumes with relatively low qualifications. It is worth noting that the applicants with relatively low qualifications were still suitably qualified for the position for which they applied. Similarly, there was also a photograph of an unattractive male and female attached to resumes with high qualifications and the same process was employed for resumes with relatively low qualifications. The resumes contained a variety of information, including extracurricular activities, languages spoken and work experience. The qualifications were manipulated by varying the types of degree held by the applicant i.e. BA, BComm, BComm Honours, BEng and CA. BComm and BA degrees were deemed less qualified and BComm Honours, CA and BEng degrees were deemed more qualified. The attractiveness of the applicant was manipulated in phase one of the experiment as either being attractive or unattractive.

The researcher approached two part-time PMD classes and distributed 115 unmarked A4 white envelopes containing a disclaimer, instructions, a form on

21

which to complete personal details (Age, gender, race, industry and management experience), as well as the details of a fictitious job, the eight resumes and two matrixes on which the respondents could rank the suitability of the applicants (Appendix 5). A random number generator was created by using Microsoft Excel, which determined the order that the resumes were placed in the envelopes before being handed out. The researcher provided the instructions contained in the envelops verbally to the subjects before the envelopes were handed out, and clearly explained that participation in the experiment was completely voluntary and could be concluded at any time without penalty.

The experiment was conducted in the same setting for all subjects to provide uniform conditions, i.e. lighting, stimulus material, verbal and written instructions, anonymity assurance and experimenter.

4.5.2   Pre-testing

The purpose of pre-testing establishes whether there are any errors in the design of the research or lack of controls for extraneous or environmental factors (Cooper & Schindler, 2014). The researcher ran a pilot test on 10 full-time MBA students to establish whether the procedure was sufficiently robust and to establish whether any amendments to the procedure was required before performing the experiment on a larger scale. Such amendments could have included the ease with which the instructions were understood, as well as the clarity of the printed instructions. Based on the outcome of the pre-test, the researcher concluded that the experiment was sound and could go ahead unchanged.

4.5.3   Reliability and Validity

For a measurement derived from an experiment to be of any use, it must be both reliable and valid (McBurney, 2001). There are several different types of validity, however internal, external and ecological validity is comprehensively discussed. The experiment did not involve multiple tests, therefore threats to validity that involve time and multiple measures, history, maturation, testing,

22

statistical regression, experiment mortality and instrumentation did not pose threats to internal validity. The experimental design was such that the research could ascribe any changes to the dependent variable, applicant suitability, to the independent variables, applicant attractiveness and qualification.

Selection posed a threat to internal validity because the method of sampling did not control for the type of person in each of the experimental and control groups.

In the case of external validity, the reactivity of testing was not applicable because subjects were only tested once. However interaction of selection posed a threat as the population that the researcher selected the sample from may have differed from the general business manager population, and it is this general population for which the findings will be generalised, as not all business managers are PMD students.

Particular attention was paid to the ecological validity of this experiment, which is an external validity measure (Vogt, 2005). It was required to measure the degree to which the surveys predicted behaviours in a real-world setting (Gouvier, Barker, & Musso, 2010). Based on the fact that a manager in the real world would not classify applicants, but rather make a single selection to appoint a candidate to fill a single position, there is room to suggest that ecological validity of this study is questionable.

According to Cooper and Schindler (2014) a measure is reliable to the degree that it supplies a constant result. However, it is important that the experimental testing was both reliable and valid to determine the accuracy of the results.

4.6 Data Analysis

Data analysis took place in two phases. For phase one, the aim was to establish the order of preference assigned, by a group of participants, to a set of photographs, in terms of attractiveness. The research subjects ranked the photographs in order of preference, with eight being most attractive and one being the least attractive. The resulting data was analysed using basic

descriptive statistics, in order to determine the median ranking for each photograph and to determine the results of the participants' ranking of the photographs. The results were determined using Microsoft Excel, by adding together the total rank each photograph had been given by the subject. The two highest and two lowest ranked individuals from each sex were then used in phase two of the experiment (see Appendix 4).

To test the hypotheses created to answer the research questions, the second phase of the research was implemented to establish the presence of any bias based on the Beauty Premium. The results of the survey were transcribed into an excel spreadsheet and the subjects were each given an identification number from 1 to 103.

These details were then recorded into SPSS version 22, where multiple Wilcoxon Signed Ranks Tests were performed that compared the following variables and their effects and influence on:

    i.   Attractive *vs*. Unattractive
    ii.   Qualified *vs*. Unqualified
    iii.   Attractive Qualified *vs*. Attractive Unqualified
    iv.   Unattractive Qualified *vs*. Unattractive unqualified
    v.   Unattractive qualified *vs*. Attractive unqualified
    vi.   Unattractive unqualified *vs*. Attractive unqualified
    vii.   Attractive qualified *vs*. Unattractive qualified

4.7   Research Limitations

The use of a convenience sample (Cooper & Schindler, 2014) limits the effectiveness of the research because a convenience sample is the least reliable design.

A limitation that may have been experienced was the use of hypothetical situations and the deliberate exclusion of real life stimuli and contexts in which decisions are made, as well as the exclusion of additional information that real life decision makers would have in order to make a decision.

24

A lack of training in the recruiting and hiring process may have led to limitations in the research study (S. Rynes & Gerhart, 1990). Robins *et al.* (2011) found that most studies did not consider personality attractiveness and grooming. As this was not included in the scope of this research study, it can be concluded that this may also be regarded as a limitation.

CHAPTER 5: RESULTS

This chapter presents the results obtained through the research process. It is divided into the two phases of the experiment. Phase one sought to establish a collection of photographs of men and women that the research subjects would perceive as either attractive or unattractive. Phase two then aimed to use these photographs to create resumes that the research subjects would rank in order of preference to fill the position of a Knowledge Worker. The results of this research provided the researcher with insight into the decision-making process that a manager undertakes when deciding on which applicant to hire to fill the position of a knowledge worker in the knowledge economy.

5.1   Phase 1

During phase one, the researcher showed 16 photographs, eight of men and eight of women to 10 MBA students at the Gordon Institute of Business Science. These photographs were then ranked in the order that the subjects perceived them to be attractive. The results were then calculated using Microsoft Excel and the two male and female photographs that received the highest cumulative ranking and the two male and female candidates that received the lowest cumulative ranking were used to create the resumes for phase two of the research.

Table 1: Cumulative Ranking of Photographs of Male Candidates

Men	Rank								Cumulative	Total Votes
	1	2	3	4	5	6	7	8		
Photograph A	7		3	4					14	8
Photograph B		14	3	4					21	8
Photograph C	2	4	12	4					22	8
Photograph D			9	20	5				34	8
Photograph E						6	21	40	67	8
Photograph F							42	24	66	8
Photograph G				4	30	12			46	8
Photograph H					10	36		8	54	8
										64

Table 2: Cumulative Ranking of Photographs of Female Candidates

Women	Rank								Cumulative	Total Votes
	1	2	3	4	5	6	7	8		
Photograph A			6	20	5		7		38	8
Photograph B					5	12	21	24	62	8
Photograph C		2		16	10	6			34	7
Photograph D					15	18	28		61	9
Photograph E	1		15		10	6			32	8
Photograph F		16	3						19	8
Photograph G						12	7	48	67	8
Photograph H	8		3						11	8
										64

As can be seen from Table 1 and 2 above, the photographs with the highest cumulative rankings are highlighted in blue and the photographs with the lowest cumulative rankings are highlighted in red. These photographs were selected to create the resumes for the implementation of phase two of the research.

5.2 Phase 2

5.2.1 Subjects

The sample of 103 research subjects who responded was very evenly divided by gender, as evidenced from Figure 1 below.

Figure 1: Gender Classification of Respondents

Male vs Female Respondents

Unspecified 1%
Male 49%
Female 50%
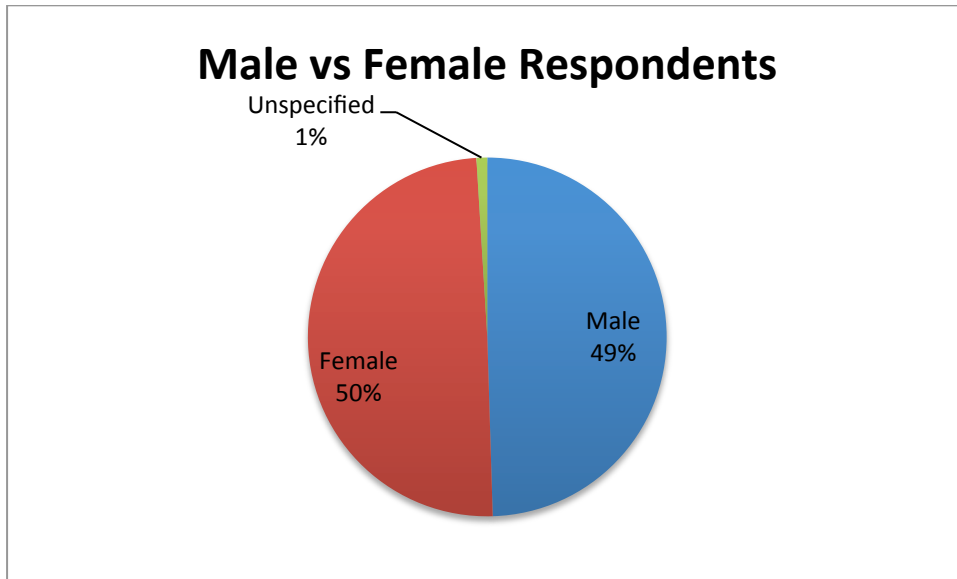
There were 51 male subjects and 51 female subjects, while one respondent chose not to disclose his/her gender.

Figure 2: Racial Classification of Respondents

Racial Profile of Respondents

Coloured 8%
Undisclosed 3%
Indian 11%
Black 45%
White 33%
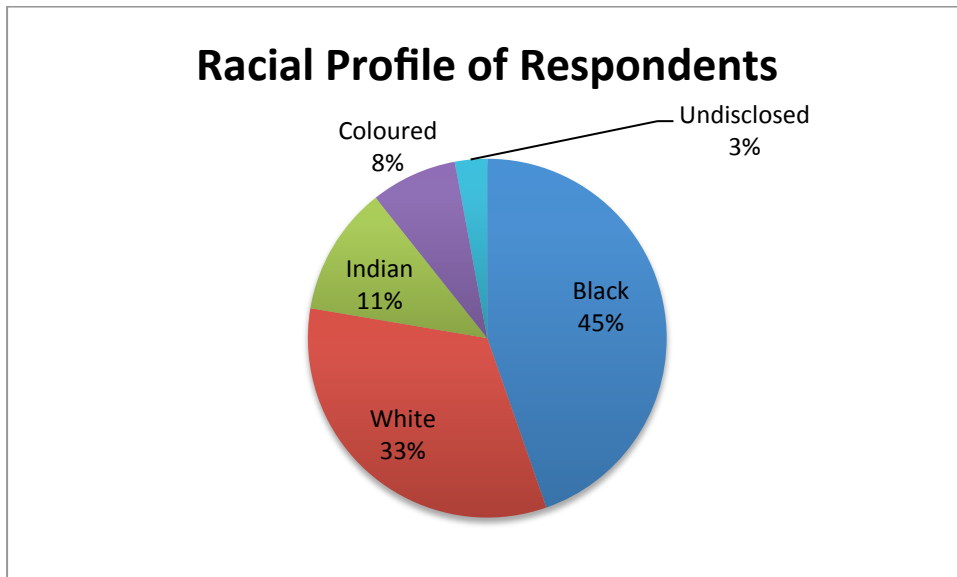
Figure 2 above provides the classification of the respondents by their race. There were 46 black subjects, while 34 respondents classified themselves as white, and 12 classified themselves as Indian, eight respondents selected to record themselves as Coloured and three respondents chose not to disclose their race.

28

Figure 3: Age Group of Respondents

Age Groups of Respondents
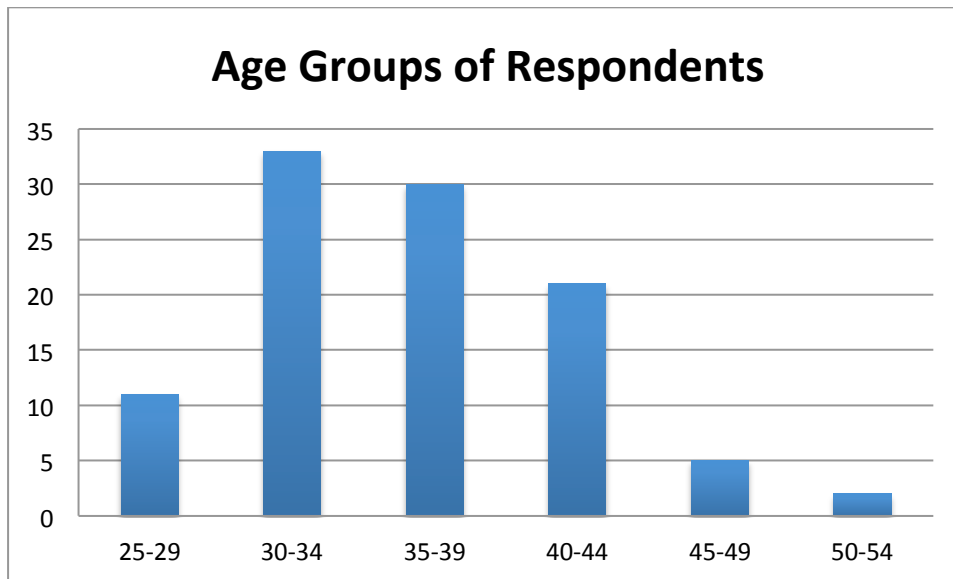
The histogram above shows the age groupings of the research subjects. One subject declined to disclose his/her age.

It is important to consider the number of years of work experience that the research subjects had, as the researcher wanted to replicate a real-life scenario as closely as possible.

Figure 4: Management Experience of Respondents

Management Experience of Respondents
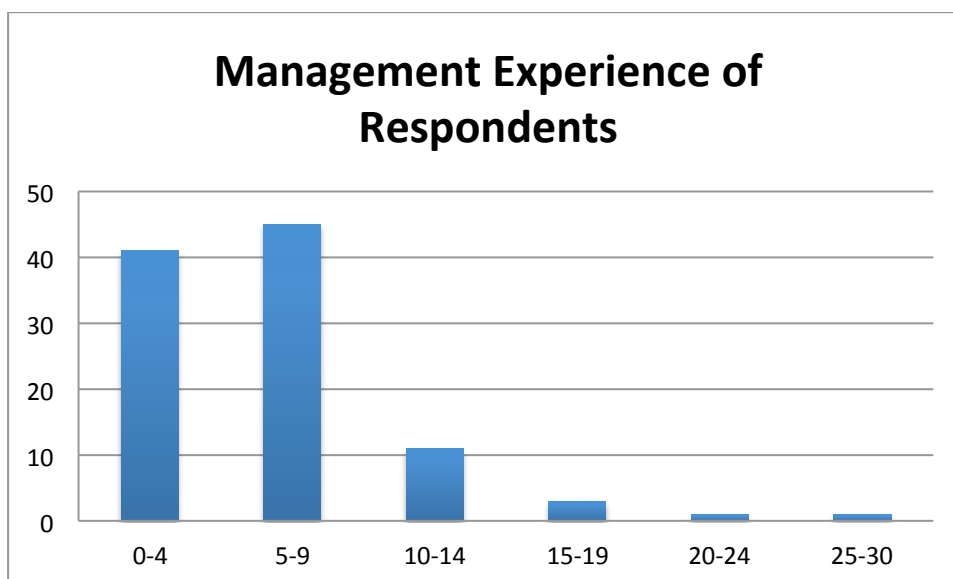
Figure 4 exhibits that 45 from the 103 research subjects have between five and nine years of management experience. A single research subject declined to

disclose their management experience.

5.2.2 Candidates

The frequency of rankings per fictitious candidate are now compared.

Table 3: Frequency of Rank per Candidate

Rank	1	2	3	4	5	6	7	8
Male Attractive Qualified	6	12	8	16	15	23	11	12
Male Unattractive Qualified	6	10	6	12	14	11	23	21
Female Attractive Qualified	1	10	15	10	11	19	15	22
Female Unattractive Qualified	14	8	11	8	14	8	20	20
Male Attractive Unqualified	10	9	19	16	16	12	8	13
Male Unattractive Unqualified	7	20	18	16	18	13	8	3
Female Attractive Unqualified	39	14	8	7	8	10	10	7
Female Unattractive Unqualified	20	20	18	18	7	7	8	5

Table 3 expresses the frequency of each candidate's rankings. For example, the Male Attractive Qualified Candidate received a ranking of six 23 times. It is interesting to note that the both male and female qualified candidates scored consistently higher in the rankings than their unqualified counterparts.

30

Table 4: Cumulative Totals for Candidate Ranking Based on Qualification and Attractiveness

Row labels	1	2	3	4	5	6	7	8	Grand Total
Attractive Attractive Count	56	45	50	49	50	64	44	54	412
Row %	13,59%	10,92%	12,14%	11,89%	12,14%	15,53%	10,68%	13,11%	100%
Unattractive Unattractive Count	47	58	53	54	53	39	59	49	412
Row %	11,41%	14,08%	12,86%	13,11%	12,86%	9,47%	14,32%	11,89%	100%
Qualified Qualified Count	27	40	40	46	54	61	69	75	412
Row %	6,55%	9,71%	9,71%	11,17%	13,11%	14,81%	16,75%	18,20%	100%
Unqualified Unqualified Count	76	63	63	57	49	42	34	28	412
Row %	18,45%	15,29%	15,29%	13,83%	11,89%	10,19%	8,25%	6,80%	100%

Table 4 presents the rankings for the candidates by considering whether they were attractive/unattractive or qualified/unqualified, regardless of their gender. The results presented are interesting because they show a fairly even distribution of ranking for the attractive and unattractive applicants, whereas the results for qualified and unqualified applicants are obviously in favour of qualified.

31

Figure 5: Average Rank per Candidate
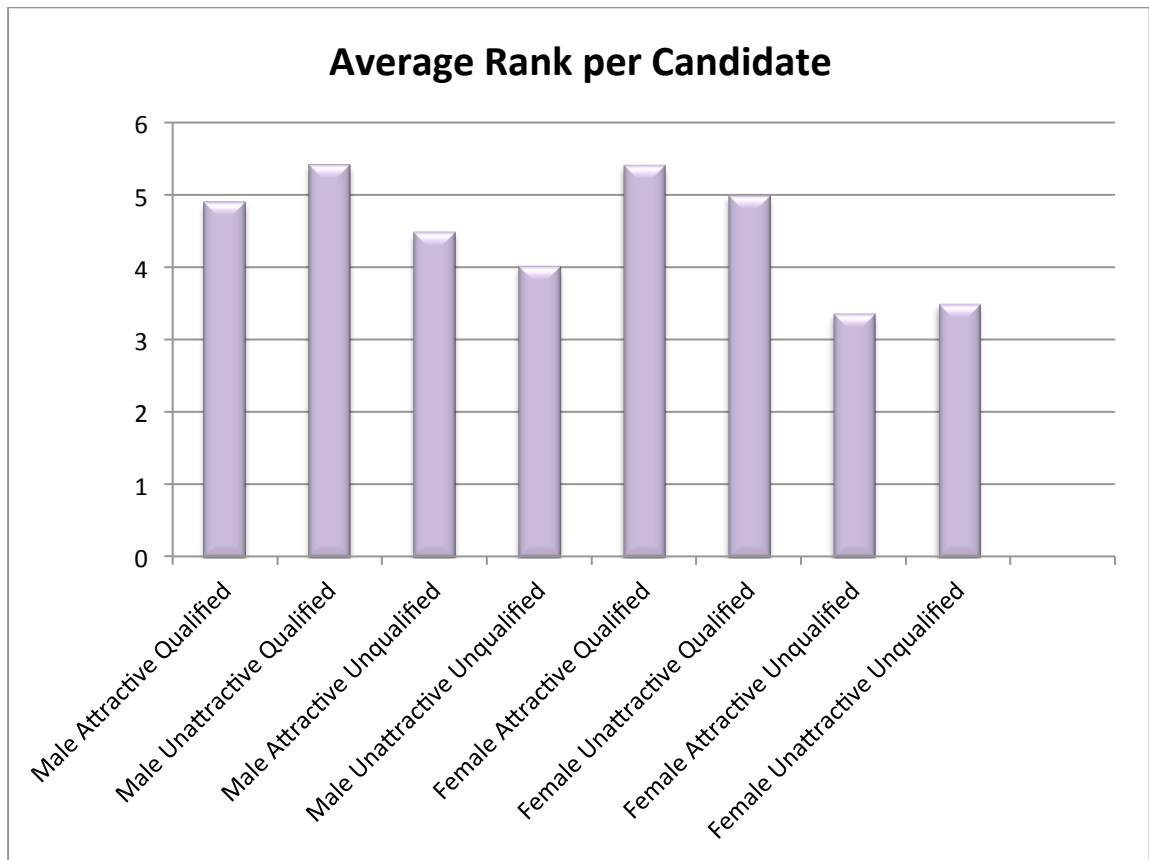
Figure 5 above shows the average ranking that each candidate received. It is interesting to note that the average rank for the qualified candidate is consistently higher than that for the unqualified candidates. It is also noteworthy that the female unqualified candidates received the lowest ranking with the female attractive unqualified candidate, Chloe Francis, receiving the lowest ranking of all of the candidates. The male, attractive, unqualified candidate received the highest ranking of the unqualified group, which may indicate the presence of gender bias.

5.2.3 Inferential Statistics

Due to the data being prepared in rank order, a Wilcoxon Signed Rank Test was selected because it is designed to be used with repeated measures (Pallant, 2010), which in this case is the ranking of the suitability of an applicant to fill the position of a knowledge worker. This is the non-parametric equivalent of the matched pairs t-test. The test converts scores to ranks and compares the

32

two separate variables, for example qualified *versus* unqualified, attractive *versus* Unattractive, showing not only whether the null hypothesis should be accepted or rejected but also the preference of the subjects for a particular group of applicants.

Having performed the statistical analysis, the following results were gathered by the researcher.

Table 5: Descriptive Statistics

	N	Percentiles		
		25th	50th (Median)	75th
Attractive	412	3.00	5.00	6.00
Qualified	412	3.00	5.00	7.00
Attractive Qualified	206	3.00	5.00	7.00
Unattractive Qualified	206	3.00	5.50	7.00
Attractive Unqualified	206	2.00	4.00	6.00
Unattractive	412	2.00	4.00	7.00
Unqualified	412	2.00	4.00	6.00
Unattractive Unqualified	206	2.00	3.50	5.00

When analysing the Wilcoxon Signed Rank Test, the higher the mean rank, the more likely the choice (Pallant, 2010).

33

Table 6: Wilcoxon Signed Rank Test Results

Ranks

		N	Mean Rank	Sum of Ranks
Unattractive Attractive	-Negative Ranks	214[a]	201.70	43164.00
	Positive Ranks	198[b]	211.69	41914.00
	Ties	0[c]		
	Total	412		
Unqualified Qualified	-Negative Ranks	283[d]	212.56	60154.00
	Positive Ranks	129[e]	193.21	24924.00
	Ties	0[f]		
	Total	412		
Attractive Unqualified Attractive Qualified	Negative Ranks	141[g]	104.33	14711.00
	-Positive Ranks	65[h]	101.69	6610.00
	Ties	0[i]		
	Total	206		
Unattractive Unqualified Unattractive Qualified	Negative Ranks	142[j]	108.61	15422.50
	-Positive Ranks	64[k]	92.16	5898.50
	Ties	0[l]		
	Total	206		
Unattractive Qualified Attractive Unqualified	Negative Ranks	79[m]	87.76	6933.00
	-Positive Ranks	127[n]	113.29	14388.00
	Ties	0[o]		
	Total	206		
Unattractive Unqualified Attractive Unqualified	Negative Ranks	106[p]	105.80	11215.00
	-Positive Ranks	100[q]	101.06	10106.00
	Ties	0[r]		
	Total	206		
Unattractive Qualified Attractive Qualified	Negative Ranks	100[s]	103.69	10368.50
	-Positive Ranks	106[t]	103.33	10952.50
	Ties	0[u]		
	Total	206		

Key
a. Unattractive < Attractive
b. Unattractive > Attractive
c. Unattractive = Attractive
d. Unqualified < Qualified
e. Unqualified > Qualified
f. Unqualified = Qualified
g. Attractive Unqualified < Attractive Qualified
h. Attractive Unqualified > Attractive Qualified
i. Attractive Unqualified = Attractive Qualified
j. Unattractive Unqualified < Unattractive Qualified
k. Unattractive Unqualified > Unattractive Qualified
l. Unattractive Unqualified = Unattractive Qualified

34

m. Unattractive Qualified < Attractive Unqualified
n. Unattractive Qualified > Attractive Unqualified
o. Unattractive Qualified = Attractive Unqualified
p. Unattractive Unqualified < Attractive Unqualified
q. Unattractive Unqualified > Attractive Unqualified
r. Unattractive Unqualified = Attractive Unqualified
s. Unattractive Qualified < Attractive Qualified
t. Unattractive Qualified > Attractive Qualified
u. Unattractive Qualified = Attractive Qualified

The results from the ranks above demonstrate not only the subject's preference for the applicant but also the strength of the preference. It is interesting to note the following phenomena using the key above:

i.   b. Unattractive applicants were preferred to attractive applicants.

ii.   d. Qualified applicants were preferred to unqualified applicants.

iii. g. Attractive qualified applicants were preferred to attractive unqualified applicants.

iv.   j. Unattractive qualified applicants were preferred to unattractive unqualified applicants.

v.   n. Unattractive qualified applicants were preferred to attractive unqualified applicants.

vi.   p. Attractive unqualified applicants were preferred to unattractive qualified applicants.

vii. s. Attractive qualified applicants were preferred to unattractive qualified applicants.

35

		Unattractive - Attractive	Unqualified Qualified	Attractive Unqualified -Attractive Qualified	Unattractive -Unqualified Unattractive Qualified	Unattractive -Qualified Attractive Unqualified	Unattractive -Unqualified Attractive Unqualified	Unattractive -Qualified Attractive Qualified -
Z		-.259[b]	-7.310[b]	-4.747[b]	-5.581[b]	-4.364[c]	-.653[b]	-.343[c]
Asymp. Sig. (2-tailed)		-.795	.000	.000	.000	.000	.514	.732

a. Wilcoxon Signed Ranks Test

b. Based on positive ranks.

c. Based on negative ranks.

36

Using the information above, the researcher ran a test for effect size for each of the statistical hypotheses using the following calculation below. The effect size measures the degree to which the null hypothesis is false.

Effect size = $r = Z/\sqrt{N}$ where Z is determined from the table above and N is the number of observations (Vogt, 2005)

Cohen (1988) stated that an r-value of 0.1 = A small effect, 0.3 = A medium effect and 0.5 = A large effect.

5.2.4   Non-Parametric Tests

Figure 6: Summary of Hypothesis Test 1

Hypothesis Test Summary

	Null Hypothesis	Test	Sig.	Decision
1	The median of differences between Attractive and Unattractive equals 0.	Related–Samples Wilcoxon Signed Rank Test	.795	Retain the null hypothesis.

Asymptotic significances are displayed. The significance level is .05.

The Wilcoxon Signed Rank Test above revealed that there is no statistical significance in the difference between attractive and unattractive applicants based on their ranking by managers to fill the position of a Knowledge Worker.

37

Figure 7: Summary of Hypothesis Test 2

Hypothesis Test Summary

	Null Hypothesis	Test	Sig.	Decision
1	The median of differences between Qualified and Unqualified equals 0.	Related-Samples Wilcoxon Signed Rank Test	.000	Reject the null hypothesis.

Asymptotic significances are displayed. The significance level is .05.

The Wilcoxon Signed Rank Test above revealed a statistically significant difference between qualified and unqualified applicants based on their rankings by managers to fill the position of a Knowledge Worker, where Z=-7.310, $p < 0.0005$, with a medium effect size of 0,3601.

Figure 8: Summary of Hypothesis Test 3

Hypothesis Test Summary

	Null Hypothesis	Test	Sig.	Decision
1	The median of differences between Attractive Qualified and Attractive Unqualified equals 0.	Related-Samples Wilcoxon Signed Rank Test	.000	Reject the null hypothesis.

Asymptotic significances are displayed. The significance level is .05.

The Wilcoxon Signed Rank Test above revealed a statistically significant difference between qualified and unqualified applicants based on their rankings by managers to fill the position of a Knowledge Worker, where Z=-4.747, $p < 0.0005$, with a medium effect size of 0,3307.

Figure 9: Summary of Hypothesis Test 4

Hypothesis Test Summary

	Null Hypothesis	Test	Sig.	Decision
1	The median of differences between Unattractive Qualified and Unattractive Unqualified equals 0.	Related–Samples Wilcoxon Signed Rank Test	.000	Reject the null hypothesis.

Asymptotic significances are displayed. The significance level is .05.

The Wilcoxon Signed Rank Test above revealed a statistically significant difference between qualified and unqualified applicants based on their rankings by managers to fill the position of a Knowledge Worker, where Z=-5.581, p<0.0005, with a medium effect size of 0,3889.

Figure 10: Summary of Hypothesis Test 5

Hypothesis Test Summary

	Null Hypothesis	Test	Sig.	Decision
1	The median of differences between Attractive Unqualified and Unattractive Qualified equals 0.	Related–Samples Wilcoxon Signed Rank Test	.000	Reject the null hypothesis.

Asymptotic significances are displayed. The significance level is .05.

The Wilcoxon Signed Rank Test above revealed a statistically significant difference between qualified and unqualified applicants based on their rankings by managers to fill the position of a Knowledge Worker, where Z=-4.364, p<0.0005, with a medium effect size of 0,3040.

The Wilcoxon Signed Rank Test above revealed that there is no statistical significance in the difference between attractive unqualified and unattractive

39

unqualified applicants based on their ranking by managers to fill the position of a Knowledge Worker.

Figure 11: Summary of Hypothesis Test 6

Hypothesis Test Summary

	Null Hypothesis	Test	Sig.	Decision
1	The median of differences between Attractive Qualified and Unattractive Qualified equals 0.	Related–Samples Wilcoxon Signed Rank Test	.732	Retain the null hypothesis.

Asymptotic significances are displayed. The significance level is .05.

The Wilcoxon Signed Rank Test above revealed that there is no statistical significance in the difference between attractive qualified and unattractive qualified applicants based on their ranking by managers to fill the position of a Knowledge Worker.

40

CHAPTER 6: DISCUSSION OF RESULTS

This chapter undertakes to provide a critical analysis and interpretation of the research results presented in the previous chapter. The analysis and discussion are informed by the research objectives that were comprehensively discussed in Chapter 3. This chapter includes the results collected during the second phase of the experiment. In chapter two the existence of a Beauty Premium and bias in selection was confirmed by previous research. Chapter six provides further insight into these phenomena as evidenced by the research study's results as apparent from the running of the various experiments explained in Chapter 4 and Chapter 5.

To answer the research question, "Do both physical attractiveness and qualification of an applicant for the position of a Knowledge Worker influence a manager's perception of the suitability of such applicant? And if so, which of the two factors is more influential?" it is necessary to isolate the variables of qualification and attractiveness in order for these to be compared. The researcher did this and found, consistent with previous research, that when a subject is provided with the details of a prospective applicant's qualifications, managers are more likely to make a hiring decision based on the applicant's qualifications rather than the applicant's physical appearance (Dipboye *et al.*, 1977).

The researcher attempted to recreate a realistic environment by sampling a diverse group of men and women with different racial backgrounds and management experience. The research made use of photographs of applicants for the job of a Knowledge Worker on the basis that past experiments (Hamermesh & Biddle, 1993) had found that photographs demonstrated a very high correlation in the ranking on an individual's attractiveness.

By considering Goldman and Lewis (1976) postulation that attractive individuals display a higher level of social skillfulness, the researcher eliminated this variable by not having any personal interaction between the subjects and the applicants. Due to the lack of personal interaction between the subject and the

applicant, the variable of grooming was also eliminated over and above any grooming that was evident of the subject from the photograph of the applicant.

Due to the nature of the research experiments, the researcher was unable to confirm that good-looking candidates are hired in the belief that they are more successful (Goldman & Lewis, 1976), more credible (Patzer, 1983) and more able (Mobius & Rosenblat, 2006) than their less attractive competition, only that they were, in fact, preferred.

The research aimed to analyse the effect of physical attractiveness on the initial hiring process before an applicant was invited for an interview. This means that applicant's social power, favourable personal and non-personal characteristics such as personality and success in life, positive effects on people and persuasive ability were not tested for as these factors would only be available for testing in an environment where there was personal interaction between the subjects and the applicants.

The results displayed in Chapter 5 demonstrated that the research subjects placed a higher value on qualifications than they did on physical attractiveness and, in the case of Chloe Francis (Female, Attractive, Unqualified), it seems as though she may have actually been severely prejudiced for being perceived as being attractive and unqualified. These findings are consistent with the research of Dion and Stein (1978), Heilman (1983) and Heilman and Saruwatari (1979) who concluded that attractiveness may not always be viewed positively.

The researcher found that, whilst qualification was the most important factor when selecting an applicant to fill the position of a Knowledge Worker, attractiveness of the applicant played a secondary role. This is consistent with Tews *et al.* (2009), who found that physical attractiveness had a positive effect on hiring decisions, but when details of the applicant's GMA (General Mental Ability) were given, attractiveness, as an attribute, was less valued.

This research also demonstrated through the experimentation process, in agreement with Dipboye *et al.* (1977), Dipboye *et al.* (1975) and Raza and Carpenter (1987),that whilst high-performing candidates are preferred over low-

42

performing ones, regardless of their level of attractiveness, attractive candidates are more favoured than equally qualified, less attractive candidates in hiring decisions.

Another reason that physically attractive applicants could be favoured over the unattractive applicants could be that, as per Tews *et al.* (2009), research on organisational fit, that once an applicant has been screened and deemed to meet the minimum requirements of the job being applied for, qualification was no longer deemed important. Tews *et al.* (2009) concluded that the assessment of fit involved something beyond the evaluation of knowledge, skills, abilities and past accomplishments but rather that interpersonal skills, goal orientation and physical attractiveness were deemed important. Since the researcher excluded details on the applicant's goal orientation and controlled for interpersonal skills, it is feasible that physical attractiveness whilst not significant, was used as a secondary measure in order to select the applicant. This is supported by recruiters who claim that the physical appearance of an applicant significantly contributes towards their assessment of candidate fit (Solnick & Schweitzer, 1999).

Dipboye *et al.* (1977) found that, regardless of the sex or attractiveness of the interviewer, that highly qualified applicants were preferred over poorly qualified applicants. In contrast however, the data concluded that attractive applicants, as a group, were not preferred over unattractive applicants. This result might have come about due to the very low relative ranking of the female attractive unqualified applicant, Chloe Francis.

Whilst for this study the attractiveness of the research subject was not measured, the study found that, regardless of the sex of the research subject, they preferred qualified applicants more than unqualified applicants and when qualification was equal, the respondents preferred attractive over unattractive applicants. Thus it can be concluded that there is discrimination in the employment decision that can be attributed to physical attractiveness stereotypes.

Because the researcher controlled for interview technique, grooming and social

43

skill whilst only giving details on qualification, past experience, hobbies and a photograph to display physical attractiveness, it is reasonable to determine that the hiring decision was made using primarily the applicant's qualifications and then physical attractiveness.

The researcher found, similar to Dipboye *et al.* (1975), that scholastic standing was the most important determinant of suitability rating and ranking. However this is in contrast to Dipboye *et al*. (1975) who found that when applicants had equal scholastic standing, subjects revealed a **strong** preference for attractive applicants, as this particular research study revealed that subjects displayed only a **marginal** preference for attractive applicants. Whilst the result was merely marginal, it is still significant and it makes a case for discrimination and bias based on physical attractiveness which, when making a hiring decision, is not a valid reason not to hire a knowledge worker.

Watkins and Johnston (2000) concluded that applicant attractiveness had no impact when the quality of the applicant was high but that it only played a role when applicant quality was mediocre. This is complementary to the evidence found by the researcher, who concluded that taking qualifications into account on a like-for-like basis, attractive applicants are consistently preferred over unattractive applicants, even if the preference is marginal.

The researcher found that in the case of both qualified and unqualified applicants that attractiveness was preferred, even though it was only slightly so, over unattractiveness on a like-for-like basis; i.e. attractive qualified applicants were preferred over unattractive qualified applicants, and attractive unqualified applicants were preferred over unattractive unqualified applicants.

44

CHAPTER 7:   CONCLUSION

The researcher can concludes that based on the evidence garnered during the experiment, there is a Beauty Premium that exists but that perhaps it is not as strong as has previously been speculated and that significantly more value is placed on the qualification of a job seeker than their physical attractiveness.

Congruent with research that has previously been conducted, the researcher found that regardless of the attractiveness of the applicant, more relevance is placed on the qualifications of the applicant in order to assess suitability to fill a position as a Knowledge Worker. However, when the quality of two applicants' qualifications is equivalent, the more attractive applicant is likely to be selected.

Errors may have occurred by the unwitting inclusion by the researcher of the types of academic qualifications held by the applicant and this may have lead to further bias on the part of the research subjects. For example, more weight might have been placed on an individual who holds a CA than on an engineering degree and this seems to have been the case. The way in which the female attractive unqualified applicant, Chloe Francis, seems to be prejudiced could be result of bias for being attractive and relatively under qualified or it could be bias against her type of qualification, as she was the only applicant to hold a Bachelor of Arts qualification.

Having concluded that whilst qualifications are the most important factor taken into consideration by a manager in hiring a Knowledge Worker, it has been affirmed that physical attractiveness is also important. Furthermore, it could be to the benefit of an attractive applicant to attach a photograph of themselves to a CV in order to convey this attractiveness and to assist in creating initial impressions that influence the outcome of the decision to invite the applicant for an interview. It is very interesting to note that attractive applicants, as a group, were not preferred over their unattractive counterparts and, when qualifications were considered on a like-for-like basis, attractive applicants were only marginally preferred.

Unlike Watkins and Johnston (2000) who found that attractiveness can

compensate for poor application quality, the researcher found that the attractiveness of an applicant would only help when high quality applicants or low quality applicants were competing for a position. The attractiveness of an applicant would not give them an advantage over a more highly skilled applicant.

In conclusion, like Cash *et al.* (1977), Cash and Kilcullen (1985), Dipboye *et al.* (1975), Dipboye *et al.* (1977) and Holahan and Stephan (1981) the researcher found that when subjects were presented with fictitious resumes depicting applicants of varying attractiveness, the results clearly confirmed that there is the potential for discrimination in hiring on the basis of physical attractiveness.

7.1   Areas for further study

During the course of conducting this research, the researcher noticed numerous factors that might warrant further exploration, namely the existence of bias towards different types of qualifications of a Knowledge Worker, i.e. CA *versus* B.Eng *versus* BComm *versus* BA and gender bias in the Knowledge Economy.

Further, the provision of proper training to the individuals in HR and recruitment responsible for hiring decisions could be explored to ascertain whether adequate training diminishes the effect of the Beauty Premium among similarly qualified individuals.

The researcher was also unable to confirm that good-looking candidates are hired in the belief that they are more successful (Goldman & Lewis, 1976), more credible (Patzer, 1983) and more able (Mobius & Rosenblat, 2006) than their less attractive competition, only that they were in fact preferred. This allows for a further research to investigate the hypothesis in the context of Knowledge Workers.

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APPENDIX 1 – PHASE 1 SELECTING PHOTOGRAPHS

Consent

I am doing research in the field of behavioural economics and, to that end, you are asked to complete the matrix on the next page to help us better understand the human decision making process.

This should take no more than 10 minutes of your time. Your participation is voluntary and you can withdraw at any time without penalty. Of course, all data will be kept confidential. By completing the survey, you indicate that you voluntarily participate in this research.

If you have any concerns, please contact me or my supervisor. Our details are provided below.

Researcher

Richard Ford

083 675 0833

Richard@ffinvestments.co.za

Supervisor

Dr Gavin Price

011 771 4223

priceg@gibs.co.za

Signed   ………………………………………….

56

Instructions

Enclosed in this envelope are 16 pictures, 8 of men and 8 of women along with a rating scale and space to fill out some personal details.

You will see along the vertical axis the photographs are labeled A-H, which corresponds to the letter on the photographs. On the horizontal axis there is a rating scale from 1-8.

Please rate each picture from 1-8 with **1** being **LEAST** attractive and **8** being **MOST** attractive. Please note that each number is mutually exclusive i.e. There can only be one photograph attached to each number this giving them a ranked order.

Age:……………………………………………………………………………………
……………………………

Gender:…………………………………………………………………………………
……………………………

Race:……………………………………………………………………………………
…………………………..

Occupation (If not currently employed, please state your last position):

………………………………………………………………………….…………
…………………………….

Please tick the appropriate box and remember not to tick the same number more than once.

Men   Rank

	1	2	3	4	5	6	7	8
Photograph A								
Photograph B								
Photograph C								
Photograph D								
Photograph E								
Photograph F								
Photograph G								
Photograph H								

58

Women   Rank

	1	2	3	4	5	6	7	8
Photograph A								
Photograph B								
Photograph C								
Photograph D								
Photograph E								
Photograph F								
Photograph G								
Photograph H								

Signed   ………………………………………….

59

APPENDIX 2 – FEMALE CANDIDATES

A

B

C

D

E

F

G

H

APPENDIX 3 – MALE CANDIDATES

A

B

C

D

E

F

G

H

APPENDIX 4 – TOP AND BOTTOM MALE AND FEMALE CANDIDATE CHOICES FROM PHASE 1

Attractive Females

Attractive Males

Unattractive Females

Unattractive Males

APPENDIX 5 – RESEARCH QUESTIONNAIRE

Consent

We are doing research in the field of behavioural economics and, to that end, you are asked to complete the matrix on the next page to help us better understand the human decision- making process.

This should take no more than 10 minutes of your time. Your participation is voluntary and you can withdraw at any time without penalty. Of course, all data will be kept confidential. By completing the survey, you indicate that you voluntarily participate in this research.

Personal Details

Age:………………………………………………………………………………… …………………

Gender:………………………………………………………………………………… ………………….

Race:………………………………………………………………………………… ………………….

Occupation (If not currently employed, please state your last position):

………………………………………………………………………………..………… …………………..

Management Experience (e.g. 3 years general management, 2 years executive):

………………………………………………………………………………………… …………………

Signed:…………………………………………………

Instructions

Enclosed in the envelope are eight CVs. Please rank the CVs in your envelope in order of preference from 1 (one) to 8 (eight), where **1 (one) indicates the applicant you regard as <u>LEAST DESIRABLE</u>** for the organisation and **8 (eight) indicates the applicant you regard as <u>MOST DESIRABLE</u>** for the organisation in the the job detailed below. Please **<u>DO NOT</u> use the same number more than once.**

Job specification

A leading global consulting firm is seeking to hire new employees in the role of consultants. As part of the hiring process, all successful applicants will be taken through a compulsory six-month training process.

Consultants will be expected to work alongside some of the world's top minds on cases that reshape business, government, and society. They will collaborate on challenging projects with team members from many backgrounds and disciplines, increase their understanding of complex business problems from diverse perspectives and develop new skills and experience to help them at every stage of their career.

The firm thrives when its' teams are made up of people from different, genders, training, interests, and skills.

With this in mind, please rank the CVs in your envelope in order of preference from 1 (one) to 8 (eight), where **1 (one) indicates the applicant you regard as <u>LEAST DESIRABLE</u>** for the organisation and **8 (eight) indicates the applicant you regard as <u>MOST DESIRABLE</u>** for the organisation. Please **<u>DO NOT</u> use the same number more than once.**

Name	Jonathan Andrews	Gareth Brown	Bridget Durant	Chloë Francis	James O'Neill	Toni Reece	Brent Smith	Stacey Stevenson
Rank								

APPENDIX 6 – RÉSUMÉS

65

Brent Smith

Johannesburg, Gauteng
DoB: 25 April 1991

Introduction Brent is a junior forex trader within treasury sales at a well-known corporate and institutional bank. His year in this position has required Brent to become accustomed to working in a high-pressure environment, making decisions based on limited information as well as dealing with clients on a daily basis.

Education B.Comm   2010 - 2013
University of the Witwatersrand

Experience Well-known financial services company   2014
Junior forex trader

Languages English (Native language)

Afrikaans (Conversational)

Hobbies Iron man

Surfing

Mountain biking

References available on request

65

Bridget Durant

Johannesburg, Gauteng
DoB: 26 January 1984

|		
Introduction	Bridget is a vastly experienced professional engineer with eight years of wide-ranging experience in the chemical and petro-chemical field. She is a qualified and registered professional engineer with IChemE, SAIChE and ECSA and has been involved in numerous aspects of product design and development in a leading South African petro-chemical company.	
Education	B.Eng (Honours)	2003 - 2006
	University of the Witwatersrand	
Experience	South African petro-chemical company	2007 - 2014
	Product research manager	
Professional Development	Member of the Institute of Chemical Engineers	
	Registered with the South African Institute of Chemical Engineers	
	Engineering Council of South Africa registered professional engineer	
Languages	English (Native language)	
	Zulu (Conversational)	
	French (Basic)	
Hobbies	Sewing	
	Political biographies	
	Toastmasters/public speaking	

References available on request
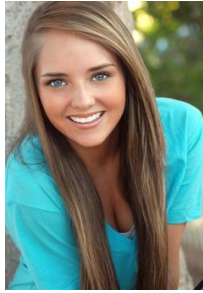
Chloë Francis

Johannesburg, Gauteng
DoB: 5 July 1990

Introduction   Chloë has two years experience as a sales rep within a well-known cosmetics company. She is well versed in B2B sales and is a competent and motivated saleswoman, with excellent interpersonal and communications skills.

Education   B.A. (General Studies)   2009 – 2011
University of the Witwatersrand

Experience   Well known cosmetics company   2012 – 2014
Sales rep

Languages   English (Native language)

Afrikaans (Basic)

Hobbies   Yoga

Running

References available on request

Gareth Brown

Johannesburg, Gauteng
DoB: 7 September 1984

Introduction   Gareth is a registered chartered accountant with a big-four accounting and auditing firm. His area of interest lies in tax efficiency for large family trusts, despite working mostly within the individual and corporate tax spheres, focusing particularly on trust management.

Education   B.Comm (Finance)   2004 - 2006
University of the Witwatersrand

B.Comm (Finance) Honours   2007
University of the Witwatersrand

Experience   Reputable accounting and auditing firm   2008 - 2014
Completed articles while working within a registered training organisation

Key member in trust account division

Professional Development   CA(SA)

SAICA member

Languages   English (Native language)

Afrikaans (Bilingual)

Zulu (Conversational)

Italian (Basic)

Hobbies   Model trains

Ornithology

References available on request

James O'Neill

Johannesburg, Gauteng
DoB: 27 December 1988

Objective	James is a high-calibre logistician experienced in product and service delivery. Having spent the last three years working for a South African electronic commerce company James is adept at ensuring the smooth running of elements of the delivery chain within Mpumalanga.	
Education	B.Comm (Logistics) University of the Witwatersrand	2007 - 2010
Experience	Games tester during gap year in London	2011
	South African electronic commerce company Assistant regional logistics manager	2012 - 2014
Languages	English (Native language)	
	Afrikaans (Basic)	
Hobbies	Gaming	
	Comic book collecting	

References available on request

69

Jonathan Andrews

Johannesburg, Gauteng
DoB: 8 November 1987

Introduction   Jonathan is a professional engineer with significant competence in control and microelectronics. His experience covers four years within the South African division of a global aerospace company where he is a team leader. He is registered with the IEEE, SAIEE and ECSA

Education   B.Eng (Honours)   2006 - 2009
University of the Witwatersrand

Experience   Global aerospace company   2010 - 2014
Team leader

Professional Development   Registered with the Institute of Electrical and Electronics Engineers

Member of the South African Institute of Electrical Engineers

Engineering Council of South Africa registered professional engineer

Languages   English (Native language)

Afrikaans (Conversational)

German (Conversational)

Hobbies   Crossfit

Running

Cycling

References available on request

Stacey Stevenson

Johannesburg, Gauteng
DoB: 2 April 1985

Introduction
Stacey is a practiced and capable chartered accountant with five years requisite experience in a big-four accounting firm. Having completed her articles in 2011, Stacey gained further experience in auditing and is now looking for new opportunities.

Education

B.Acc	2004 - 2007
University of the Witwatersrand	
B.Acc (Honours)	2008
University of the Witwatersrand	

Experience

Big-four accounting and auditing firm	2009 - 2013

Completed articles while working within a registered training organisation.

Key member in corporate tax division

Professional Development
CA(SA)

SAICA member

Languages
English (Native language)

Afrikaans (Conversational)

Xhosa (Basic)

Hobbies
Trail running

Cycling

References available on request

Toni Reece

Johannesburg, Gauteng
DoB: 2 May 1989

Introduction	Toni has two years experience as the assistant regional manager of a South African hospitality company. Her skills include her excellent organisational ability, inter-personal proficiencies and easy demeanour. Her job has taken her throughout Southern Africa and is accustomed to spending time away from home.

Education	B.Comm	2008 - 2011
	University of the Witwatersrand	

Experience	Travelling throughout Europe	2012
	South African hospitality company	2013 - 2014
	Assistant regional manager	

Languages	English (Native language)
	Afrikaans (Basic)

Hobbies	Walking
	Reading
	Scrapbooking

References available on request