The impact of the academic psychological contract on job performance and satisfaction

By

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DECLARATION

I, Max Charles Tookey, declare that I am the sole author of this thesis, that during this period of registered study I have not been registered for any other academic award or qualification, nor has any of the material been submitted wholly or partly for any other award. I have personally carried out all the work of which this is a record. The program of study of which this is a part has been delivered by the Norwich Business School, University of East Anglia, United Kingdom.

Signed:……

Date:……...

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ABSTRACT

What is known as the psychological contract is the 'promises and the nature of relationships that exists between employee and employer' (Schein, 1978). While this concept has been researched at some depth with the study of organisational careers, a paucity of research exists in terms of its application to the university environment, with very few studies identifying what the factors of an "academic psychological contract" could be (Krivokapic-Skoko & O'Neill ,2008; Shen, 2010). This is surprising as Taylor's *Making Sense of Academic Life* (1999) evaluates how career aspirations and identities of academics have been shaped by the transactional character of work in a higher education environment – where areas such as work skills and individual ability have been recognised as the determinants for career success.

To address this paucity in work in this area, this study examines the existence of a psychological contract that is unique to the university environment, drawing upon a sample of 337 academic staff employed in three traditional and three new universities in the United Kingdom – utilising an self-administrated questionnaire that takes the perspective of the academic employee, incorporating items that measure an employee's expectations from their employers. Consequently, a conceptual model has been developed which captures how relationships between a number of areas (that affect academic practice), define and influence career related behaviours in academia, and impact (research-based) performance and job satisfaction. The factors that characterise this model consist of: (i) institutional expectations; (ii) networking; (iii) commitment; (iv) the type of university an academic work's in (i.e. a Pre 1992/Post 1992 institution); (v) academic responsibilities; (vi) emotions; (vii) (research-based) performance; (viii) competence; (ix) psychological contract breach; (x) future career expectations and (xi) job satisfaction. Thirteen hypotheses which have been formulated which are reflective of the character of relationships between these factors, and some interesting findings have been revealed, using multiple regression procedures. These include positive relationships between an academic's expectations, networking behaviours, and academic responsibilities with (research-based) performance – while the type of university an academic employee works in has no impact on performance. Furthermore, this research also found that academic competencies have no relationship with job satisfaction and that psychological contract breach has a negative relationship to job satisfaction.

By moving away from orthodox research in this area (which examines psychological contracts according to a transactional/relational continuum), this study builds upon an exploratory framework and is unique for examining the factorability of an academic psychological contract which characterises both the "pre-1992" and the "post-1992" sectors of the British higher education market.

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Chapter One

Introduction

This chapter provides the reader with an overview of the ideas that have provided the inspiration and impetus for this study. This is followed by an overview of the purpose of this research and the methods which have been adopted. The most important contributions made by this research will also be mentioned, followed by a description of the outline of this study, and the organisation of this thesis.

1.1 The inspiration and impetus for this study

The inspiration to conduct this research is rooted in my own experience as a University Lecturer, having accumulated 16 years' experience of working in the universities of Cork (Ireland), Bath, the University of East Anglia, the University of the West of England, and most recently, the University of Greenwich. During the time spent at these institutions it appeared that expectations associated with working as an academic member of staff varied considerably, with some universities appearing to perpetuate a research based culture, while others placed an emphasis on teaching excellence. It also appeared that the expectations of working as an academic were influenced by various issues that addressed individual needs and aspirations, and the influence of the wider organizational environment. In view of this, the idea of conducting research into the "rules of engagement" associated with working as an academic fascinated me, particularly after reading Taylors (1999) *Making Sense of Academic Life* which represented an excellent account of how the career aspirations and personal identities of academics have been shaped by the transactional character of the working environment within higher education, where flexible work skills, individual ability and self-development have now become the determinants of career success.

During my time working as an academic member of staff, changes also occurred in the higher education environment in the United Kingdom. The impact of the these will be evaluated in the third chapter, but it is worth mentioning that a particularly significant piece of legislation (i.e. the *Further and Higher education Act* of 1992) changed the character of British universities, and effectively created a *duality* in the British higher education market, where ex-polytechnics and colleges of higher education become universities and existed alongside traditional institutions.

The impact of these changes fascinated me, especially as the rhetoric of literature that has been written about universities in the Britain (since the late 1990's) appears to acknowledge the changes brought about by the impact of the 1992 legislation. For example, it has been recognised that the changes brought about by the 1992 Act has seen an exponential increase in growth in student numbers and the notion that the student has become a "consumer" with the academic adopting a "managerial" role to ensure that a university experience is financially viable (Bryant & Johnston, 1997; Grant,1997; Hayes & Wywmard, 2002). Furthermore, the duality that exists in the scholarly/vocational purpose between new universities and older institutions has been documented in a corpus of research which suggests that older universities (particularly *Russell Group* institutions) have stronger research cultures, whereas newer universities have strengths in teaching and delivering vocational knowledge (Fulton, 1996; MacFarlane, 1997; Henkel,2000). From reading this literature it appeared that the "rules of engagement" associated with working in academia were not only associated with individual needs, aspirations and the influence of a wider organisational environment, but also with the impact of changes that have occurred within the British higher education market.

Therefore, the idea of conducting research into the expectations associated with working in the British university environment appealed to me, especially as this could raise some interesting questions about what the role of an academic in this country consists of. For example, "do academics recognise that promotion of excellence in teaching and research defines their work?" or "do academics acknowledge that career development is associated with taking a more corporate approach to their work, with an emphasis on managerialism?" My interest in these kind of issues, and in the expectations that define the character of academic work, has facilitated my interest in conducting a doctoral study in academia, and this has been developed by my supervisor Professor Yehuda Baruch who encouraged me to undertake this research and to examine the character of the academic career through the theoretical backdrop of the "psychological contract" – looking specifically at the factors of a psychological contract that is unique to the university environment, and how these impact performance and job satisfaction.

The psychological contract will be examined in more detail in chapter two. However, as it reflects an 'individual's beliefs regarding the terms and conditions of a reciprocal exchange agreement between themselves and their organisation' (Rousseau, 1989), it will provide a useful template for examining *what* gaps exist between the efforts and contributions an academic directs towards his/her work and what they expect from their university. (i.e. *recognising* institutional expectations, emotional intelligence and individual ability). Furthermore, psychological contracts have attracted a lot of attention over the last thirty years as the perception of "employment relationships" has changed, and the character of psychological contracts has also changed (Herriot & Pemberton 1995, Rousseau 1996).

In view of this, it is interesting to speculate on whether the existence of a psychological contract that is particular to the university environment reflects these changes. Indeed, some seminal research conducted by Baruch and Hall (2004) on the future of the academic career has recognised that "transactional" psychological contracts (discussed in section 2.3 of the next chapter) may now have emerged in the university environment.

So while the study of a psychological contract within a university environment will provide a good platform for addressing these issues, it should be appreciated that various gaps exist in the study of this area. It is therefore hoped that this doctoral research will address these and contribute towards knowledge in this area. The gaps in knowledge will be discussed throughout the subtext of this research, but particular attention will be paid towards: (i):how this research conceptualises the psychological contract in terms of "factors" (as opposed to current conceptualisations of research in this area) and (ii) the contribution that this research makes towards strengthening links between psychological contract theory and the study of the academic career (which will be looked at in more detail in sections 2.8 and 2.9 of the next chapter). With regard to the first of these points, it should be emphasised that this research is unique for identifying factors that are unique to the academic environment – complementing a very small body of studies conducted primarily in Pacific Rim countries, particularly the work of Krivokapic-Skoko and O'Neill (2008) and Shen (2010).

Moreover, the contribution this research makes towards understanding the links between psychological contract theory and the study of the academic career will be principally associated with the impact that the psychological contract has on promoting an understanding of the character of expectations/working relationships in the academic environment – shedding some light on how competencies associated with research skills, management ability and synthesising knowledge (Baruch & Hall, 2004) facilitate job satisfaction in the academic environment. Furthermore, other contributions made by this study towards academic careers will also be discussed – such as recognising the links between academic career systems and "real world" career systems (Dem & Brehony, 2005) and the contribution made by the "intelligent career" academic psychological contract.

1.2 Research methodology

This research follows a *hypthetico-deductive method* (Whewell, 1840, Popper, 1959) where relationships which exist within a conceptual model that has been developed for this research, (as illustrated in figure 3 of chapter four), will be tested. A self-administered questionnaire was developed (that was initially piloted) which was partly influenced by the Psychological Contract Inventory (PCI) operationalised by Rousseau (2000) – illustrated in appendix 1. The respondents who completed this

questionnaire answered questions which explored a number of areas which are particular to research in organisational research and organisational careers (such as emotions, commitment, networking and future career expectations), in addition to items which explored the character of a psychological contract that is particular to academia.

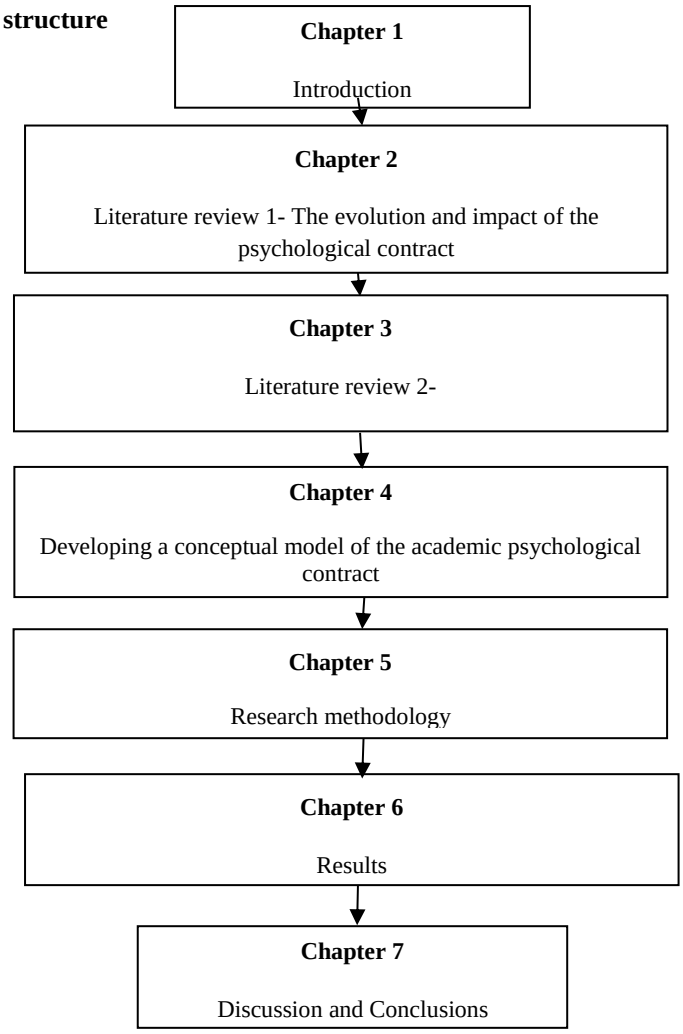
All of the participants in this study were academic staff currently employed by the University of East Anglia, the University of the West of England, the University of Greenwich, the University of Westminster, the University of Bristol and the London School of Economics. 1000 questionnaires were delivered to the five universities targeted in this study and 337 *useable* questionnaires were returned. The analysis of this research began by thoroughly screening the data to determine the accuracy of the data entry and to check the assumptions of multivariate analysis. This was followed by an examination of the reliability of the data and was followed by an exploratory factor analysis to explore the distinctiveness of some of the factors measured in this study. A descriptive analysis of the data was then undertaken to examine its methodological robustness, along with an account of how the developed scale measured "gaps" in different aspects of the academic psychological contract. To look at how the factors of an academic psychological contract could vary across demographic differences ANOVA procedures were adopted, and finally the hypothesis tested in this study were examined using multiple regression procedures.

1.3 Outline of study

Following the general introduction to this research, (as outlined in this chapter) this thesis will be divided into six further chapters. The second chapter will represent the first part of the literature review and will include information about how the psychological contract has evolved, how it has changed and managed (including information about the significance of breaching/violation and fulfilment). This chapter will also include information about how the psychological could impact work in university environment. The third chapter will represent the second part of the literature review, in this case evaluating the changing character of the "academic career" - focusing on issues that include the dual role of academia, the parallels to be drawn between academic and corporate careers and the impact of the "intelligent career" framework (Arthur, Arthur,Claman & DeFillippi, 1995) in understanding work within the academic context. This chapter will also look at the small body of research which looks specifically at the existence of psychological contracts in the university environment. The fourth chapter will discuss the development of the conceptual model that underlies this research – this will focus on a number of factors which will incorporate: : (i) institutional expectations; (ii) networking; (iii) commitment; (iv) the type of university an academic works in (i.e a Pre 1992/Post 1992 institution); (v) academic responsibilities; (vi) emotions; (vii) performance; (viii) competence; (ix) psychological contract breach; (x) future career expectations and (xi) job satisfaction. An evaluation of

how these factors will represent the building blocks of a conceptual model (of the academic psychological contract) will also be examined in this chapter, along with an overview of how these factors will have a distinct relationship with one another - reflecting the thirteen hypothesis that will be tested in this study. Chapter five will present an overview of the methodology adopted by this research. This will include an introduction to the framework of inquiry which characterises this study, along with an overview of how the research was designed and the questionnaire was developed. This chapter also includes an overview of the targeted population (and institutions) used for this research, an account of the pilot study, along with information about the 337 respondents who participated in this research. The quantitative methods that will be used in this research will also be presented, which are outlined in section 1.2 (above). In the sixth chapter the findings of the empirical methods adopted by this research will be evaluated (with extensive information about the results of the data screening procedures). In addition this chapter will also address reliability, the results of the exploratory factor analysis and the results of the ANOVA procedures and multiple regression equations. Finally, chapter seven will present a discussion of the main findings of this research, along with conclusions. This will incorporate an overview of the purposes of this research (with reflections on debates and issues raised), the contributions made to knowledge, the implications of this research in understanding the "rules of engagement" in academia, along with an outline of the limitations and caveats of this study and its implications for future research. The structure that this thesis will follow is summarised in figure 1.

Figure 1 – Thesis structure



Chapter Two

Literature review (part one) - The evolution and the impact of the psychological contract

As the first part of a literature review, this chapter will introduce the reader to how the psychological contract has evolved, with reference made to themes that underlie its definitions, its changing typology, how it is managed, and the significance of breach, violation and fulfillment. Furthermore, the various conceptual and methodological issues that affect research in this area will be discussed. But in order to provide a solid bedrock for this research, reference will also be made to how the issues raised in this review will have a conceptual and methodological impact on the academic environment. Finally, as postscript to this chapter, the reader will be introduced to a number of issues that represent the "rationale" for undertaking this research.

2.1 Introduction

In *Zen and the Art of Motorcycle Maintenance* Robert Pirsig (1974) presents a story of father and his son's journey across America. The relationship between these two characters reflects a personal and philosophical inquiry into various issues associated with how to live, with a particularly emphasis on exploring the meaning of the concept of "quality", in terms of what is real, what is good and what is normal. These themes are often represented through a series of unwritten rules and understandings between the story's central characters, which gradually become clearer to the reader as the story progresses. As a backdrop to this study, this observation represents a good point of reference because it has been established that unwritten rules and understandings play an important role in social relationships between people, on both a personal and an organizational level. Not surprisingly, a large body of sociological and philosophical literature has emerged on this subject. For example, the eminent American sociologist Herbert Blumer (1969) recognized that all human behaviour was associated with the meanings derived from (mainly unwritten) social rules and linked this to the concept of "symbolic interactionism" where people act toward things based on the meaning those things have for them; which are in turn derived from social interaction and modified through interpretation.

Focusing on behaviour within an organizational context, unwritten rules are particularly relevant as understandings that may be unique to any scenario may also translate to behaviour within the workplace, especially in the process of integrating individual needs with organisational ones. This point was reflected in a study by Herriot and Pemberton (1996) who suggest "at the heart of successful management is the problem of integrating the individual and the organisation" (Mullins, 2002, p29).

While this association could be formalised within the context of a written contract, there may be a more *implicit* set of obligations and expectations associated with what the individual and the organisation expects to give and receive from each other. This relationship represents a phenomenon known as the *psychological contract* (Argyris, 1960; Levinson, 1962 *et al*), and could be defined as "the unspoken promise, not present in the small print of the employment contract, of what an employer gives, and what employees give in return (Baruch & Hind, 1999). A contract of this nature is therefore very different from the formal, legal employment contracts in both context and impact (Spindler, 1994), and it has been applied to many areas within the study of both organisational analysis and behaviour. It was coined in the early 1960's (Argyris, 1960) but formally introduced to the area of organisational studies by Levinson *et al* (1962), and re-introduced to organisational studies by Kotter (1973) and Schein (1980). In the next section, the evolution of the psychological contract will be examined in more detail, reflecting the central theoretical idea that this study will be built upon.

2.2 Review of literature on the evolution of the psychological contract

The historical roots of psychological contracts could be traced back to a vast body of literature associated with: (a) Social Contracts; (b) Organizational Equilibrium theory and (c) the psychotherapist-patient contract identified by the American Psychotherapist Karl Menninger (1958). However, it is interesting to note that the ideas expressed in this literature reflect a situation of mutual expectations between two or more parties.

The Social Contract was brought to the public arena by Jean Jacques Rousseau in *The Social Contract, Or Principles of Political Right* in 1762 (Wraight,2008). The principle of social contracts is an "agreement" regarding the reciprocal duties of the citizens of a state. Therefore by paying taxes, serving in the forces and obeying laws, it is expected that the state will offer its citizens protection, security and opportunities for social mobility. Essentially the social contract reflects a relationship of mutual expectations between the state and individual, with some of these expectations written down and enshrined in law, and others mostly implied. According to Schein (1980) psychological contracts are an extension of what has been written about the implicit and unspoken character of social contracts.

The idea of mutually exchangeable relationships and their bearing on the evolution of psychological contracts is also reflected in the notion of *Organizational Equilibrium theory* (Simon, 1945 Barnard, 1968). This recognises that an organization is a system of interrelated social relationships between a number of participants such as suppliers, customers, the workforce, and other key players who are instrumental to an organisation's continuance. When there is an imbalance between the contributions provided by these individuals and the expectations they receive, this theory suggests that an

organisation will cease operations and close. However, the nature of contractual relations between key players in organisations could be based on unwritten obligations, which is a unique feature of the psychological contracts. This is reflected in the following quote from a book by March and Simon (1958), which is built upon Organisational Equilibrium theory. "In joining (an) organisation (the employee) accepts an authority relation..defined both explicitly and *implicitly* by the terms of the employment contract…supplied by the organization." (March & Simon, 1958, p90).

The influence of mutual expectations on the evolution of the psychological contract is seen again in Menninger's (1958) seminal work on the psychotherapist-patient contract. Menninger recognised that the relationship between a psychotherapist and client is often based on meeting *intangible* needs (such as the pleasure of companionship). Subsequently in *Men, Management, and Mental Health* (1962), Harry Levinson *et al* recognised that Menninger's research was very influential in studying the effects of the work experience on mental health, where it was found that employees of a large utility had intangible needs and expectations that the organisation was almost obliged to meet. This illustrates the importance of meeting intangible needs and again reflects a situation of mutual expectations between two or more parties.

The first application of a psychological contract to the *workplace* was made Chris Argyris (1960), who referred to the notion of a psychological contract in terms of the relationship between employer and employee. Following observations and interviews conducted in two factories, Argyris suggested that a psychological work contract or understanding would develop between the foremen and employees if the foremen respected the norms of an employee's informal culture. He argued that employee's would maintain high production and low grievances if they were left alone, received adequate pay and they were guaranteed secure jobs. In other words, he was proposing that a relationship existed that potentially, had a stronger influence on employee's performance and attitudes than the formal contract of employment. The character of this working relationship is nicely captured in the following quote from Argyris's (1960) *Understanding Organisational Behaviour*.

"*Since the foremen realise the employees in this system will tend to produce optimally under passive leadership, and since employees agree, a relationship may be hypothesised to evolve between the employers and the foreman which might be called the 'psychological work contract'. The employee will maintain high production, low grievances etc., if the foremen guarantee and respect the norms of the employee informal culture (i.e. let the employees alone, make certain they make adequate wages, and have secure jobs). This is precisely what the employees need*" (Argyris, 1960, p97).

However, it should emphasised that while Argyris (1960) first made reference to the term in passing, Levinson and his colleagues (1962) could claim to be the 'fathers' of the concept. This claim could be supported most visibly by appreciating how Levinson et al's (1962) seminal research isolated a number of key ideas that have been of particular importance in understanding this concept. Firstly, how the expectations of both the employee and the organisation were recognised as "components" or *constructs* of the psychological contract; secondly, how the mutual expectations of psychological contracts are largely implicit and unspoken and reflect the person/organisation relationship, and finally how psychological contracts can change and evolve over time as a result of changing individual or organizational needs. (Roehling, 1997). These findings are particularly interesting because the idea of psychological contracts having 'constructs' (or factors) and 'evolving' will be considered in this research on psychological contracts in academia.

Edgar Schein (1965) also made reference to the idea of a psychological contract and its importance in understanding and managing human behaviour in organisations. He believed that expectations may not be written into any formal agreement but operate powerfully as determinants of behaviour. For instance, an employer may expect a worker not to tarnish the company's public image, and an employee may expect trust and job security after many years' service. He also recognised that the evolution of psychological contracts was linked with different types of psychological culture associated with Etzioni's (1964) theory of coercive, utilitarian and, normative involvement and McGregor's (1960) typology of theory X and theory Y management styles. Nevertheless, whilst these early writings have highlighted the significance of the concept, and its theoretical underpinnings have been of interest to social scientists for nearly fifty years, only in recent years have more extensive studies on the psychological contract been carried out. It is only in the last two decades that research in this area has been of interest within organisational behaviour, human resource management (HRM) and organisational psychology, with academic publications, references in management texts, as well as practitioner discourses, increasing dramatically (Conway & Briner, 2006).

So by deconstructing literature on the evolution of the psychological contract, it appears that the etymology of the term "psychological contract" could be grounded in research associated with the Social Contract, Organisational Equilibrium and the psychotherapist-patient relationship, with an 'emphasis on the implicit "unspoken" mutual expectations between the employer and the employee that are not written down in legal contracts' (Westwood et al., 2001). These ideas are very much captured in the numerous definitions that have emerged on this subject, including the aforementioned definition from Baruch and Hind (1999). However, by looking at various definitions of the psychological contract that have emerged over the years, it is interesting to note that there has been a gradual shift in what the concept actually represents, with a gradual emphasis on the *employment relationship* in more

contemporary definitions of the concept (Conway & Briner, 2006). This is illustrated in the following table, which traces how some of the definitions have shifted over the years.

Table 1

Changing definitions of the psychological contract

"*a series of mutual expectations (to which) the parties to the relationship may not themselves be dimly aware but which…govern their relationship to each other*." (Levinson *et al*,1962, p21).

"an *unwritten set of expectations operating at all times between every member of an organization and the various managers and others in that organization*" (Schein, 1965, p35).

"*an implicit contract between an individual and an organization which specifies what each expects to give and receive from each other in their relationship*."(Kotter, 1973,p73).

"the term psychological contract refers to an individual's belief regarding the terms and conditions of a reciprocal exchange agreement between the focal person and another party. Key issues here include the belief that some form of a promise has been made and a consideration offered in exchange for it, binding the parties to some set of reciprocal obligations" (Rousseau, 1989 ,p121).

"*An employee's beliefs about the reciprocal obligations between that employee and his or her organisation, where these obligations are based on perceived promises and are not necessarily recognised by agents of the organisation*" (Morrison & Robinson, 1997, p229).

" an opportunity to explore the processes and content of the employment relationship through a focus on more or less explicit deals. These deals are likely to be re-negotiated or modified over time, to be influenced by a range of contextual factors, and to have a variety of consequences. The primary focus of the psychological contract is therefore the employment relationship at the individual level between the employer and employee" (Guest, 2004 cited in Latornell, 2007, p279).

As this table shows, throughout the years, definitions of the psychological contract have evolved. The emphasis on implicit, unspoken mutual expectations between the employer and the employee has now been replaced by the more generic concept of an employment relationship between the employer and employee. However, as Conway and Briner (2006) suggest, if key terms and features of the numerous definitions of psychological contracts are more closely examined a number of common themes emerge. These are illustrated below:

The idea that *beliefs* constitute psychological contracts

In this respect emphasising the importance of the expectations, obligations and promises that make up the character of the psychological contract. However, since the publication of a seminal paper on psychological contacts by Rousseau in 1989, most beliefs associated with psychological contracts are *promissory* in focus. This is because promises "are seen as more clearly contractual, whereas expectations and obligations have more general meanings" (Conway & Briner, 2006, p23).

The notion of psychological contracts being *implicit* in nature

While psychological contracts contain explicit promises associated with the written or spoken arrangements between an employee and an employer, they also contain *implicit* promises. These represent "interpretations of patterns of past exchange, vicarious learning (i.e. witnessing other employees experiences), as well (as).various (other) factors that each party may take for granted (i.e. good faith or fairness)" (Robinson & Rousseau, 1994, p126). Indeed, many key researchers in the study of psychological contracts (Levinson *et al* 1962; Schein 1965, 1980, Guest, 1998) believe that only promises at the implicit end of an implicit/explicit continuum can be recognised as psychological contracts.

The *subjective* nature of psychological contracts

The notion of psychological contracts being perceived as subjective is inherently linked to the idea that that they exist within "the eye of the beholder" (Rousseau & Parks, 1993, p18) and reflect individual interpretations of behaviour. But according to Conway and Briner (2006) there does remain some debate about which terms of the psychological contract are open to subjectivity.

The idea that psychological contracts are associated with a *perceived* (rather than actual) agreement

For a psychological contract to exist, the idea of actual agreement or mutuality between both parties is not a requisite condition. According to Rousseau (1990) 'the employee and the employer may hold different beliefs about the terms and existence of a psychological contract,' and it this respect is should be emphasised that psychological contracts very much embody *perceived* rather than actual agreements.

The notion of psychological contracts being about *exchange*

Psychological contracts reflect the idea of a *reciprocal exchange* between two parties such as an employee and an employee. In this respect is something is offered, the other party would do something in exchange. For example, if an organisation offers pay, training, respect and promotion, the employee would offer effort, skills, flexibility and creativity in return. Nevertheless, while various definitions of psychological contracts emphasise an exchange relationship, it should be pointed out that the clarity of this relationship is often unclear. (Conway & Briner, 2006).

The notion of psychological contracts being the *entire* set of beliefs regarding a relationship between an employer and his/her employee

This emphasises the idea that a psychological contract is made up of a multitude of obligations, rights, and privileges between a worker and an organisation, giving it a broader appeal than a formal employment contract or a legal contract. However, it has been suggested that a lot of research into psychological contracts has "tended to focus on a set of employer inducements (i.e. pay, training, promotion, respect) and employee contributions (i.e. effort, ability, creativity, honesty) which, it is assumed, lie at the heart of the employment relationship" (Conway & Briner, 2006, p31).

With reference to this research on the study of academia, it could be inferred that employer inducements and contributions associated with working in university environment could represent *factors* associated with the existence of a psychological contract that is unique to the academic domain. This will be explored in more detail in chapter four.

The suggestion that psychological contracts are an *ongoing* exchange between two parties

Exchanges in the psychological contract are *ongoing* as they are continually in operation and encompass repeated cycles where each party fulfils their promises to each other (Rousseau, 1989). According to Conway and Briner (2006), this is what makes psychological contracts unique from a scenario of one-off exchange.

The *parties* to the psychological contract

Within many definitions of psychological contracts there is an association between two different parties: the employee and the employer or organisation. Usually the central party to any psychological contract is the employee, but there is some debate about whether psychological contracts can also be seen from an organisations perspective. Indeed, a lot of seminal research in this area has suggested that the beliefs of *both* the employee and the organisation should be taken account of (Herriot & Pemberton 1997; Guest 1998; Guest & Conway, 2002). But as Conway and Briner (2006) suggest, there is ambiguity about where psychological contracts from an employer's perspective come from – i.e. from the organisation as an abstract entity, or from a particular organisational agent (such as the "foreman") in the aforementioned quote by Argyris (1960). It should be clarified, that in the case of this particular research on the existence of psychological contract in the academic environment, the *employee's* perspective will be taken.

The psychological contract is *shaped by the organisation*

This highlights the view that psychological contracts highlight an exchange relationship that is shaped or moulded by the employee's interaction with their *current* employer, with beliefs that are formed outside the organisation having little impact on an individual's psychological contract. But there is some debate about whether an employee's psychological contract is shaped by external or internal factors to an organisation. While early research believed that employees shape their expectations through "their inner needs..their own past experience and a host of other sources" (Schein, 1980, p24), more contemporary conceptualisations of this subject have emphasised how the character of any psychological contract is shaped by promises made between the organisation and the employee (Roehling, 1996).

> This debate is particularly interesting because as this research will show, there is a wide range of evidence to suggest that in an area like academia, the character of a psychological contract could be shaped by a multitude of different factors which are associated with working in a university, and are separate from it (*including* contracts/networking, institutional expectations, academic responsibilities, workplace, competencies and emotions). This will be discussed more in chapters three and four.

By examining the key terms and features associated with various definitions of the psychological contract it can be seen that it represents a multifaceted concept that often refers to quite different phenomena. While the many definitions of this subject have evolved through the years, many interesting debates have emerged, including the notion of whether psychological contracts could be necessarily construed a "psychological" in character (Meckler, Drake & Levinson, 2003). Interestingly, the aforementioned definition suggested by Rousseau (1989) has gained the widest acceptance due to three main reasons: (i) it embodies the main qualities of a 'contract' whilst acknowledging the "subjective" nature of an employee's beliefs (making it psychological); (ii) it includes promises which are a more closely associated with the notion of a contract and (iii) through focusing on promises it becomes theoretically different from other ideas (Conway & Briner, 2006).

Within the subtext of this research that focuses on the academic domain, it is hoped that many of the features this definition will be implicitly reflected in the notion of a psychological contract that is unique to academia. In particular, recognising that the 'promises' associated with academic work (such as commitment and work performance) are important parts of an academic psychological contract. Moreover, as we shall see later, Baruch and Hall (2004) acknowledge that the psychological contracts and career systems that are unique to universities mirror the transactional psychological contracts of the contemporary business world (Herriot & Pemberton 1995, Rousseau 1996). The term 'transactional psychological contract' is part of the changing typology of this concept that has emerged over the years, and subsequently the next section will look at this in more detail and discuss its implications on the study of the academic domain.

2.3 The changing typology of psychological contracts

It is particularly interesting how psychological contracts have significantly changed since the 1990's (Hiltrop, 1995). For example, a thesis entitled *Managing on the Edge: Psychological Contracts in Transition* draws attention to how the relationship between employees and employers 'is disrupted as people are asked to do more with less and get nothing back in exchange for their heavier workloads'

(Garrow, 2004). This change has been mirrored by what is known as the "new deal" model within corporate life, where the ideas of loyalty, conformity, commitment, career prospects and training are replaced by added responsibility, broader skills, tolerance of change and ambiguity and performance based reward (Herriot & Pemberton, 1995).

With the advent of this "new deal" and with changing perceptions of employee obligations and time horizons (or duration of employment), Denise Rousseau, (1990) believed that the character of the psychological contracts had changed in a fundamental way and documented this in a classic study entitled *New Hire Perceptions of Their Own and Their Employer's Obligations: A Study of Psychological Contracts Agreements* (1990). This study looked at the career perceptions and obligations of 224 MBA graduates and their employees, and found that career expectations from the 1990's to the present day reflected a conceptual shift from traditional 'relational' contracts to 'transactional contracts' In chapter four this study will be examined in more detail.

The continuum between relational and transactional contracts was originally based on the work of MacNeil (1974) who applied these typologies to the legal profession, and later Rousseau (1990) and many others (i.e. Millward & Hopkins 1998; Raja, Johns & Ntalianis 2004) applied this to organisational research. Moreover, the key differences between relational and transactional contracts can be seen in a number of quite visible ways.

With regard to relational psychological contracts, research from a wide range sources has suggested that the relational elements of psychological contracts encompass ideas that in very broad terms concerns the relationship of the individual employee with the organisation that he/she works for (Guzzo & Noonan, 1994). The most common relational components of a psychological contract include the notion of a long-term time association with an organisation (or open time frame) along with high levels of organisational commitment, loyalty, and trust (Blancero & Ellram, 1997; Maguire, 2002). In essence a contract of this nature embodies the notion that an individual is less concerned about him or herself, but has a greater concern with the wider aspects of the organisation and its stakeholders. These ideas are captured nicely in the following quotation from Thompson and Bunderson (2003), taken from an excellent theoretical article on changing conceptual currency of the psychological contract.

"*Employees with a relational contract contribute their commitment and involvement to the organisation often in the form of organisational citizenship behaviours, with the belief that the organisation will provide loyalty, a sense of community, and opportunities for professional growth. In this relationship the beneficiaries of the exchange are largely local (i.e. the employee and his or her*

organisational community). Relational contracting relies on a collective or socialised model of human behaviour" (Thompson & Bunderson, 2003, p574).

Transactional psychological contracts, on the other hand, are more associated with a narrower set of carefully defined obligations that an individual has promised to deliver in return of a specific monetary reward. Unlike relational contracts, the transactional components of a psychological contract include the idea of a limited time association with an organisation (or short time frame), the idea of a psychological contract being linked to specific work obligations and an association with performance related criteria Chrobot-Mason (2003). The conceptual paper by Thompson and Bunderson (2003) draws attention to these ideas within the following quotation.

"*Organisational inducements within transactional contracts are calculated to fulfill the minimal, narrowly specified requirements to receive those economic rewards. Because employees are concerned about themselves as the primary beneficiaries of the exchange, transactional contracts imply an egoistic or instrumental model of human nature*" (Thompson and Bunderson, 2003, p574).

There is certainly evidence to suggest that the transactional character of psychological contracts that exist within the workplace is profoundly effecting career development and perceptions of job satisfaction in a wide variety of areas. For example, findings of a British Workplace Employee Relations Survey indicate that increasing levels of flexible working, especially contracting out, has led to lower levels of job satisfaction, trust, commitment, motivation and performance. For example, a study by Iles (2000) on the "Changing Patterns of Career Development in the United Kingdom" has indicated that the transactional nature of employment has now prompted British managers to take a more resilient and 'protean' approach towards career behaviours, with an emphasis on the individual, not the organization taking responsibility for career development.

Furthermore, in a seminal piece of CIPD research entitled *Employee Well-Being and the Psychological Contract*, Guest and Conway (2004) found that organisation's are now becoming successful in delivering the expectations of employees and fulfilling their side of the psychological contract, with three types of contracts emerging which broadly capture some aspects of transactional and relational typologies, namely:

Traditional psychological contracts – with long term tenure and long working hours

Disengaged psychological contracts – for those whose work has been a central life interest with no emotional links to their employer

Independent psychological contracts – associated well qualified personnel who seek high rewards and short tenure

The changing character of the psychological contract does tend to capture the similarities that exist within the study of the academic and corporate career, and provides a good opportunity to reflect upon how the corporate world and academia are characterised by certain implicit work related behaviours. For example, a move towards a more transactional contract will bring with it a blurring or organisational boundaries, a move towards working within an "intelligent career" and the growth of project-based work - reflecting a working environment that has gone from being skills based to "protean" (and knowledge based), with an emphasis on career competencies, motivation and networks (Adamson, Doherty & Viney 1998). The shift from skills to protean behaviours in academia has been documented in a classic study on the complexity of the university environment by Clark (1993). Amongst the findings of this study is the suggestion that the contemporary university environment has increasingly relied on individual networks within faculties in determining how it is governed and organized.

Moreover, Rousseau (2004) has recognised that a "hybrid" or *balanced* psychological contract has emerged in recent years. Balanced contracts combine the open-ended time frame and mutual concern of relational agreements with the performance demands and renegotiation of transactional contracts. Furthermore, balanced contracts also combine commitments on the part of the employer to develop workers whilst recognizing that workers will be flexible and willing to adjust to economic change. An interesting study which reflected the positive aspects of these contracts came from Dabos and Rousseau (2004) which recognized that the highest levels of productivity, career advancement and worker satisfaction where found when worker and employer agreed upon a balanced psychological contract. In academia, the notion of balanced psychological contracts with an emphasis on both commitment and flexibility in working practices can be found in a study by Groves *et al*. (1997) that looks at the processes associated with how British universities are effectively managed to remain competitive.

However, the view that psychological contracts are relational or transactional in character (or both) can be challenged. Research from Rousseau (2001) and Thompson and Bunderson (2003) recognised that a new form of contract has emerged that goes beyond the relational/transactional continuum. According to these authors the study of psychological contracts can be enriched by considering the importance of *ideology*. The ideological currency of a psychological contract could be recognised as the obligations to pursue a cause or principle that are implicitly exchanged within the employee-employer relationship, and the following quotation from Thompson and Bunderson's (2003) conceptual paper captures the character of this contract.

"*In an ideology-infused contract there is an assumption that the employee is willing to contribute extra role behaviours such as voluntary helping or advocacy, perhaps outside the organisation, in order to*

support the pursuit of the espoused cause. The cause may be as grandiose as 'promote world peace' or as (simple) as 'buy only American products'. Furthermore, the cause need not be viewed as noble or altruistic (i.e. 'targeted hatred' as an ideology). The salient beneficiary of this relationship is some constituency - however distal or poorly defined - that is assumed to benefit from the organisation's actions (i.e. 'the poor',' society' or 'future generations'). Ideology-infused contracts invoke a principled or altruistic model of human nature" (Thompson and Bunderson, 2003, p576).

By acknowledging that psychological contracts can be ideological in nature it could be inferred that an individual's obligations to a company are not grounded in personal gain but in the promotion of a particular cause that they regard as important. Indeed in a keynote speech to the *Academy of Management* in the United States upon receipt of the Executive of the Year Award in 2001, George (2008) suggested that "although everyone wants to be fairly compensated for his or her efforts, the real motivation for many employees comes from believing that their work has a purpose, and that they are part of a larger effort to achieve something truly worthwhile (George, 2008, p3). In the study of the university environment, the importance of ideological concerns has been well documented in a number of key studies associated with the concept of "New Managerialism" in the British higher education sector (Deem *et al*,2006; Gumport, 2000).

New Managerialism represents an" ideological approach to managing public services connected to (the) deliberate and highly politicized state regulation of managerial power over public sector organizations"(Deem *et al*, 2006, p207), and the same author recognised that this new ideological agenda had brought with it a number of changes in the working practices of an academic. These included a concern for competition and markets, linking individual performance to specific targets and the creation of quality audits for teaching and research. Overall this reflected the notion that higher education had changed from being a social institution and had become an industry (Gumport, 2006). In the framework of this particular research this information is particular interesting as it reflects a part of a debate that will be explored in more detail in chapter four. This is the nature of a relationship between "academic" and "corporate" career models.

So by recognizing how the changing character of the psychological contract captures similarities that exist within both the academic and corporate environment, it is hoped that this research will play a valuable role in understanding how the psychological contract will facilitate a wide understanding of the psychology of the employment relationship (Guest, 2004) – in this case the employment relationship associated with working in academia. However, it is interesting to speculate on how psychological contracts can be effectively managed in order to achieve good employee performance in both the corporate and academic environment and this will be examined in the next section.

2.4 Managing psychological contracts

According to Rousseau and Schalk (2000) managing psychological contracts effectively is important as it reflects a shift from "people using" to "people-building" organisations which are indicative of an organisational climate that is characterised by trust. The same authors also believe that to elicit trust there has to be a clear understanding of expectations, promises and obligations that come from both the employees *and* the employer's perspective. But regardless of whether psychological contracts are associated with an employees or employers perspective, there are a number of issues to consider in how they are effectively managed.

In an excellent book entitled *Managing the Psychological Contract*, Michael Wellin (2007) suggests that for psychological contracts to be managed effectively there has to be an understanding of how they are articulated within the culture of an organisation. In an evaluation of the psychological contracts of three large organisations, Wellin recognised that the nature of promises and expectations between employee and employer can vary greatly. For instance, in *Prêt à Manger* the emphasis is on training, development, equal opportunities and diversity; in *Ernst & Young* the emphasis is on the employee (not the organisation) being responsible for their career growth, access to knowledge and learning opportunities; and in *John Lewis* the emphasis is on working as a co-owner the organisation, collective responsibility and treating colleagues with respect (Wellin, 2007).

This variation in how psychological contracts are articulated suggests that their character could change according to different sectors of the labour market, and within the academic labour market it is interesting to speculate on what the character of a psychological contract could be. From what is known up to now about psychological contracts in the university sector, Baruch and Hall (2004) suggest that they resemble *some* of the characteristics of new transactional contracts that are found in the corporate environment and are characterised by a number of specific features including: professional development, self-management, networking, employee loyalty, career advancement (based more on performance than tenure), flat working hierarchies and job security. Baruch and Hall's (2004) ground breaking study plays an important role in terms of understanding how psychological contracts are articulated in the academic environment, and this may important implications for understanding how a contract in this area could be effectively managed. But this study will show that there still very much exists a *gap* in work associated with the existence of an academic psychological contract and this

will be explored in more detail in the subsequent chapters of this study, with frequent reference to Baruch and Hall's (2004) research.

However, understanding how psychological contracts are articulated within different sectors represents just one aspect of how they could be managed effectively. According to a survey of 1306 HR managers, Guest and Conway (2002) recognised that management of the psychological contract is linked to effective forms of organisational communication. Amongst the findings of this study was the idea that communication strategies linked to job-related and recruitment-based issues led to a more explicit understanding of the psychological contract, along with lower contract breach and a sense of fairer exchange between employee and employer.

So as communication strategies might have an important role in managing psychological contracts in the HR sector, it will be interesting to speculate on their role in managing psychological contracts within the HE sector. This will be examined in more detail later in this study. However, it should be recognised that the notion of a fair exchange between the employee and the employer does have a strong bearing on issues associated with commitment, motivation and satisfaction (Robinson & Morrison, 1995). But when there is a disparity between what the employee gives and what the employer offers, this mismatch in perceptions can result in what has been termed as a *violation* or *breach* of a psychological contract. The next section will discuss what these terms mean and comment on their application to the academic environment.

2.5 Breaching and violating the psychological contract

It has been commonplace for researchers to adopt the terms "breach" and "violation" interchangeably. However, most people conducting research into psychological contracts now accept the findings of research by Morrison and Robinson (1997) which suggested that the two terms actually represent distinct phenomena. According to these authors breach signifies "the cognition that one's organisation has failed to meet one or more obligations within one's psychological contract in a manner commensurate with one's contributions" (Morrison & Robinson, 1997, p230). Violation on the other hand represents "An emotional and affective state that may follow from the belief that one's organisation has failed to adequately maintain the psychological contract" (Morrison & Robinson, 1997, p230). In other words psychological contract breach is associated with the *cognisance* of a broken agreement whereas violation is related to the *emotional reaction* to a breach.

The reactions associated with psychological contracts being breached and violated has been well documented in a number of key studies. For instance, in a recent study on the advancement of

psychological contracts, a female employee who was interviewed for this research stated that: "*I will go and find something else, because the way it is now is not good. I have given them time until…. My commitment has changed very much. Yes, at this moment I am very clearly indifferent towards the organization*" (Schalk & Roe, 2007, p178).

Furthermore, other studies have recognised that when psychological contracts are violated employees may experience the negative feelings of distress, agony and dissatisfaction (Robinson & Morrison, 1995) or antagonism, anger and hostility (Rousseau, 1989; Pate and Malone, 2000). According to Conway and Briner (2006) the logic behind most of these studies is easy to rationalise. Namely, "When employees perceive the organisation to have breached the psychological contract they view the relationship with the organisation more negatively and are less likely to do things for the organisation" (Conway & Briner, 2006, p70). The following table (adapted from these authors) gives some examples of this way of thinking.

Table 2

The consequences of breach: things a person might feel, think, and do following a psychological contract breach

Feel	**Think**	**Do**
Anger Violation	"How can I trust this organisation anymore" "I'm not going to put myself out again for this organisation"	Put in less effort Not prepared to go the extra mile for the organisation
Upset	"How can I trust this organisation anymore"	Refuse to work beyond their contract
Dissatisfied Betrayal Sadness	"What's the point in being loyal to this organisation when they behave in this way?" "How dare they treat me like that?"	Retaliate – through turning up late, leaving early, taking days off, using company equipment for purposes unrelated to work

Source: Conway and Briner (2006)

However, it is interesting to note that the responses associated with breaching and violating psychological contracts can be directed towards particular parties in an organisation. For instance, in a study undertook by Pate and Malone (2000) on the relationship between redundancy and post psychological contract violation, it was found that negative reactions to violation were directed towards a number of different constituents including employers in general, current employers and other company agents such as work colleagues. But in order to really scrutinize the reactions and attribution

of blame associated with breaching and violating psychological contracts it is worth examining contract breach and violation with respect to the transactional, relational and ideological typologies that have been discussed up to now.

The distinctions between transactional and relational contracts that have been examined in this chapter are important because they might have a direct impact on how contracts are breached and violated. For instance, as transactional psychological contracts contain narrow sets of obligations which are specifically designed to fulfil instrumental needs, the consequences of breach and violation could be seen in relatively black and white terms. However, as relational contracts reflect a more pervasive and comprehensive set of obligations (based on commitment and involvement), the consequences of breach and violation are more sensitive to the subjective judgements which reflect an individual's relationship to the organisation. (Thompson & Bunderson, 2003).

But the study of psychological contracts has also (200included an ideological currency, and in this respect the impact of contract breach and violation should be seen beyond the relational/transactional continuum. According to Thompson and Bunderson (2003) breaching and violating an ideological contract reflects a scenario where an organisation has in some way deviated from a perceived moral obligation, leading to a response of moral outrage. By applying transactional, relational and ideological typologies of contract breach /violation to academia, it may be possible to see some interesting behavioural reactions associated with breaking the reciprocal obligations that an academic member of staff would expect within his or her workplace. For example, it could be inferred that an academic feels that an institution does not provide him/her with a sense of loyalty or community (*relational* breach/violation) or that instrumental concerns associated with producing a strong research profile are not met (*transactional* breach/violation).

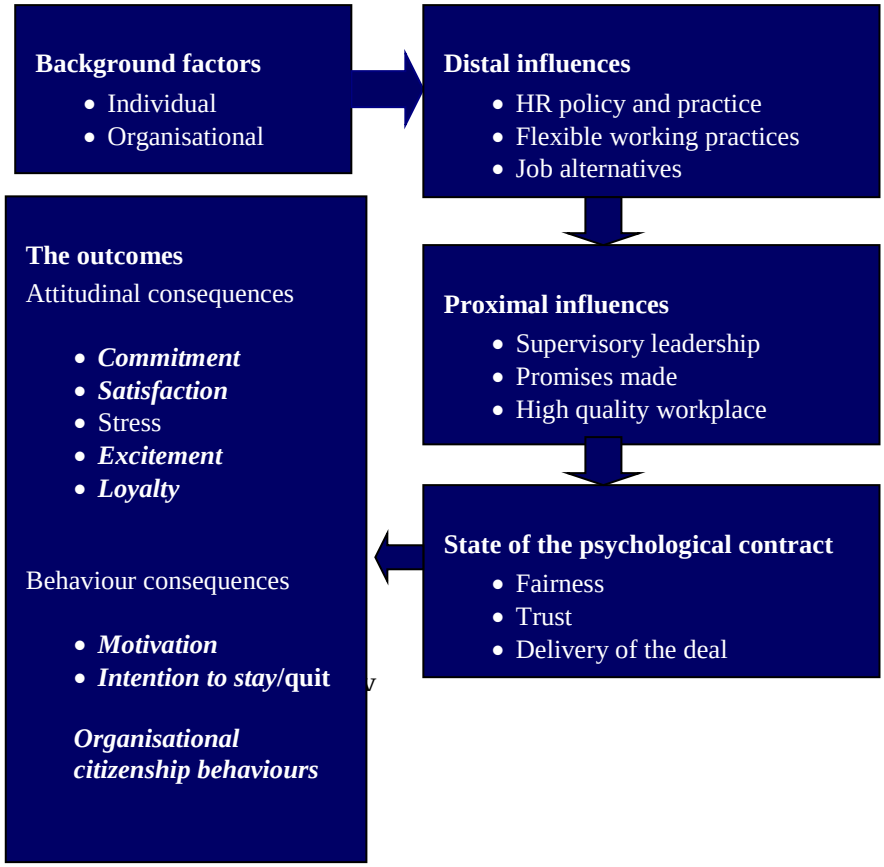
Alternatively, it could suggested that a university fails to adopt a "managerialist" (Deem, *et al*, 2006) approach to its working practices, with the academic feeling that the university needs to place a stronger emphasis on competition and meeting specific targets (*ideological* breach/violation). The effect of breaching and violating psychological contracts in the academic environment will be scrutinised more closely in chapter three of this study, and the role of psychological contract breach as a factor of the academic psychological contract will be discussed in chapter four. But while prior research has been directed towards investigating how psychological contracts are under-fulfilled, a growing body of studies are emerging which examine the impact of fulfilling psychological contracts. This will be further examined in the next section, with reference made to the significance of fulfilling psychological contracts within the academic domain.

2.6 Fulfilling psychological contracts

One of the first studies that identified the importance of fulfilling psychological contracts came from the aforementioned research by Levinson et al 1962 which recognised the significance of "reciprocation" in the employee-employer relationship. This was defined as "the total process of fulfilling the psychological contract" (Levinson, et al 1962, p125), leading to a number of positive outcomes. For example, it was recognised that reciprocation provides a good incentive for an employee to feel motivated and to identify with an organisation's needs, and its goals. So in this respect, fulfilling psychological contracts can play a useful role in promoting well-being and effective functioning in the workplace, and a maybe as a renaissance to Levinson's pioneering work, the aforementioned CIPD based study by Guest and Conway (2004) also recognised that fulfilling psychological contracts had a positive effect on well-being, motivation and functioning.

In the diagram in figure 2 which is based on Guest and Conway's research, the positive aspects of fulfilling psychological contracts have been emphasised in italics, with psychological contracts associated with "fairness", "trust" and "delivering a deal" linked to a number of positive attitudinal and behavioural outcomes including commitment, satisfaction, motivation and organisational citizenship. With reference to organisational citizenship, a study on the relationship between psychological contract fulfilment and organisational citizenship behaviours by Turnley et al (2003) found that if psychological contracts were fulfilled in terms of a supportive employment relationship, this resulted in increased employee performance in terms of their organisational citizenship behaviour (OCB) or the "willingness to go above and beyond the call of duty" (Turnley, et al 2003, p189), especially if citizenship behaviours could directly benefit the organisation.

Figure 2 - The causes and consequences of the psychological contract (Guest and Conway, 2004)



Research by Guerrero and Herrach (2008) explored the relationship between between psychological contract fulfillment, organizational support and "workplace affect", or the propensity to experience specific moods and emotions across different various situations in the workplace. It was established that psychological contract fulfillment is correlated to perceived organisational support and is also related to the frequency of *positive* affective states reported at work.

With reference to the study of academia, the findings of this kind of research might have some interesting implications. For example, would an academic member of staff feel that a positive working relationship and a fulfilled psychological contract could lead to a propensity to go beyond their normal call of duty, in terms of research, teaching and administrative responsibilities? Furthermore, would a lecturer feel that a sense of support from their institution would lead to fulfillment of their psychological contract, with positive moods and emotions? These questions will be explored in more detail in chapter five of this study.

So by reviewing literature on the evolution of psychological contracts, together with an analysis of their changing typology and how they are managed, breached, violated and fulfilled, it could be inferred that they play a significant role in understanding the character of the relationship between employer and the employee. Moreover, it could also be inferred that the scale of research that has been conducted in this area has brought with it an eclectic mixture of findings that could be applied well to the study of the academic environment. However, as a backdrop to some of the methodological and conceptual debates that research into psychological contracts has exposed, it is now worth evaluating issues that a researcher in this area would face.

2.7 Methodological and conceptual issues influencing research on the psychological contract

The scope of research associated with the psychological contract has been large and varied, incorporating a number of areas that has *included*: workplace motivation within both the private and the public sector (Guest & Conway, 2001); organisational citizenship (Coyle-Shapiro, 2002; Guerrero & Herrach, 2008); organisational support (Aselage & Eisenberger, 2003); change initiatives (Garrow, 2004); organisational socialisation (De Vos *et al* 2009) and mergers and acquisitions (Bellou, 2007). Furthermore, the psychological contract has also proved to be a useful concept for recognizing what employees and employers expect of a job and a work environment, including not only expectations of tenure or promotion but also a sense of entitlement to work-life benefits and flexible working arrangements. (Coussey, 2000). But it should also be recognised that this vast corpus of research into psychological contracts has employed numerous methods which pose different challenges for the researcher. These will now be examined, with some reflection on their bearing to this particular study.

Research into psychological contracts has tended to adopt six different methods which fall within the following areas: critical incident techniques; interviews; diary methods; case studies; scenario methodologies and questionnaire surveys (Conway & Briner, 2006). Broadly speaking these methodologies employ a range of qualitative and quantitative techniques that have a number of distinctive strengths and weaknesses. For example, through using scenario methodologies a researcher would design a situation where an independent variable is manipulated to establish whether an individual makes a judgment about a person or situation. This was demonstrated in a study by Rousseau and Anton (1991) which manipulated various variables such as skills, length of service and employability in scenarios where a termination was made in employment. Interviews on the other hand have been used extensively by many researchers to capture the idiosyncratic quality of psychological contracts that exist in the language of both employees and employers, perhaps demonstrating that there is a subjective and individualized quality to this concept (Rousseau and Tijoriwal, 1998). However, probably the most widely used method adopted in research in this area have been questionnaire

surveys, where, typically, self-report questionnaires are created for the purposes of measuring variables such as the content of the contract, how it is breached and its outcomes (Conway & Briner, 2006). Furthermore, the wording of these questionnaires usually captures the promises and obligations of an employee's perspective of a psychological contract, reflecting Rousseau's (1989) favoured definition of this concept.

Probably the best example of a self-report questionnaire that follows this format is the Psychological Contract Inventory (PCI) which was originally devised by Rousseau in 2000 as a self-reporting measure to quantifiably identify "transactional", "relational" and "balanced" aspects of the psychological contract and as a self-scoring method of appraisal to support executive and professional development. As chapter five will illustrate, the questionnaire which will be used in the context of this research will be influenced by the PCI and will represent a psychometrically sound way to explore the *character* of psychological contracts that exist within academia, employing measures that capture both the content of the contract and its outcomes. However, the process of using self-report questionnaires to measure psychological contract has brought with it a number of methodological debates which the researcher in this area should be aware of. For example, it has been found that self-report measures have suffered from biases in relation to the selection, recall and aggregation of information (Reis & Wheeler, 1991). Furthermore, it has been found that using self-report measures for the purposes of measuring behavioural outcomes such as performance (as in the case of this research) has problems in terms of validity. This was illustrated most visibly in a psychological contract based study by Lester *et al* (2002) which demonstrated that there was no significant relationship between employee ratings of their own performance and their supervisors/managers ratings of their performance. In chapters four and five these methodological concerns will be given more consideration, along with an evaluation of how the problem of *common method bias* could be reduced, which regularly affects the validity of self-report measures (Podsakoff, MacKenzie, Jeong-Yeon & Podsakoff, 2003; Meade, Watson, & Kroustalis, 2007).

With regard to the conceptual debates face researchers in this area, it is now worth examining a number of points that according to Conway and Briner (2006) have brought a number of challenges to anyone undertaking research on the psychological contract. The most relevant of these will now be examined, with reference made to their bearing on this research within academia.

The first challenge facing researchers in this area relates to confusion about which types of beliefs psychological contracts are represented by: namely, *expectations, obligations* or *promises*. Earlier in this chapter it was suggested that *promises* had the most bearing on how psychological contracts are conceptualized. However, within the working environment of a university, it should be emphasised

that promises represent just one aspect of a psychological contract that could is unique to this area. For example, in chapters five and six it will be seen that the promises associated with being "committed" to university work, may be an important factor of an academic psychological contract. But in the same chapters, it will also be suggested that meeting institutional based and career related *expectations* also represent important factors of an academic psychological contract. So with this in mind, the self-report questionnaire that has been designed and utilised for this study will include items which capture *different* beliefs associated with a psychological contract within the academic domain.

Another important challenge that faces researchers concerns the issue of whether psychological contract beliefs are only those which are shaped by an employee's *current* organisation. The problem here is that as psychological contracts can be seen as highly perceptual and interpretive phenomenon (Rousseau and Parks, 1993). Because of this is may be difficult to determine whether the beliefs associated with them originate from within an organization, or from other factors associated with past experience or from being exposed to different types of organisational culture (Handy, 1985). To address this issue, it should be pointed out that research instrument adopted in this study will be designed to take account of a *multitude* of factors that may influence the beliefs an academic has as an *employee* of a university.

With reference to the importance of an exchange relationship that exists between the employee and the organisation, it should be pointed out that this brings challenges to research on the psychological contract because there is often *vagueness* about the nature of this relationship. Conway and Briner (2006) point out that this could lead to three types of problems. Firstly, if exchanges are not specified it will be difficult to accurately validate the suggestion that any type of psychological contract exists and consequently difficult to predict any type of behaviour that may emerge. Secondly, if exchanges are not specified it is difficult to understand why things are *not* done, and finally a lack of information about an exchange may lead to confusion about how a psychological contract can be negotiated or how an employee can be compensated when their contracts have been breached. Bearing this in mind, this study of psychological contracts within academia will be based upon a solid conceptual model, emphasising very defined and specific relationships that exist between employee and employer within the academic environment. These will be conceptually grounded in a range of findings from key research in academia and careers which will be specified in chapters three and four.

Although it is important to ensure that research on the psychological contract is focused and based on a solid conceptual relationship, researchers in this area should also appreciate that there has to be *clarity* in terms of how organisations are perceived and how the relationships between their key agents are defined. To address this Conway and Briner (2006) suggest that research on the psychological contract

should examine the bearing of an organisations key agents (i.e. line managers), and also examine how employees "divide the contents of their psychological contract across different agents" (Conway & Briner, 2006, p127). For example, if the exchanges between employer and employee are transactional in nature (i.e. pay, promotion) the organisational agents who deal with these could be represented by the Human Resources Department, whereas relational exchanges may be dealt with through the support and respect of line managers. In view of this, the research instrument adopted by this study will include items that represent the exchanges an academic has with different agents within their institution. This ranges from transactional exchanges associated with promotion, to relational exchanges associated with support for research, "peer review" within teaching, and support for administration.

The final challenge that researchers should be aware of when investigating the psychological contract is how employees might anthropomorphise the organisation. Conway and Briner (2006) make reference to how organisations are often personified due to the 'legal, moral and financial responsibilities' that they bring to all of the agents working within a company. But although research does exist which questions this idea, (Lewis-McClear & Taylor, 1997) it should be appreciated that the evolution of psychological contracts is conceptually grounded in the view that organisations do have a benevolent quality. Indeed, Levinson (1965) recognised that an organisation is a "place in which a man (*sic*) enters..before he marries and remains in it long after his grandchildren are grown" (Levinson, 1965, p373). In the context on this research within academia this point is important as many lecturers might recognise that their identity as "academics" is based on something of a benevolent relationship with their institution. While this will be examined in more detail in the next chapter, reference should also be made to how the research instrument used by this study will include items that reflect how a university may care for the welfare of its academic staff and has a sense of "loyalty".

So looking at the wealth of research associated with the study of the psychological contract, it could be inferred that a number of conceptual and methodological concerns exist which very much has an impact on this research within the academic environment. But while this is clearly important, it is also worth thinking about what the "rationale" for undertaking this study is based upon. So as a postscript to this chapter, this matter will be given further consideration.

2.8 Rationale for research - (a) Conceptualising the psychological contract in terms of "factors" , and moving away from orthodox views of research in the area

The key aspect of this research is to identify what an "academic psychological contract" would essentially represent and to look at how it impacts job performance and satisfaction and to do this, this

study will represent a conceptual shift from existing research in the area, which has placed an emphasis on the continuum between relational and transactional contracts (MacNeil, 1974; Rousseau, 1990; Milward & Hopkins, 1998;Raja, Johns & Ntalianis, 2004). Furthermore, as pointed out earlier, Baruch and Hall (2004) have recognized that psychological contracts and careers systems that are unique to universities tend to mirror the transactional contracts in the contemporary business world, and this finding has been supported in further research by Shen (2010) on psychological contracts amongst academics in a middle-ranked Australian University. So in view of evidence to suggest that psychological contracts in academia could be transactional in character, this research will mark a "point of departure" from evaluating psychological contracts in the rather orthodox manner of the transactional/relational continuum – building upon an exploratory framework that will aim to identify the "factors" that make up a psychological contract that is unique to the academic domain.

By adopting this approach, it is hoped that this research will play a particularly valuable role in advancing knowledge of *what* signifies a psychological contract that is unique to the academic environment, especially as Roehling (1997) has suggested that "there has been little recognition of the fact that the PC (psychological contract) has been conceptualised in a number of significantly different ways" (Roehling, 1997, p214). So in view of this shortcoming, undertaking a piece of research that reconciles the divergent uses of what a psychological contract could represent might have some value. Furthermore, there has also been a limited scope of research that has looked specifically at factors that "sculpture" the character of psychological contracts, and this has tended to focus upon studies in the areas of employment goals (Shore & Barksdale (1998), social networks (Ho & Levesque, 2002; Higgins, 2000), the role of individual differences (Orvis & Dudley, 2002) and a classic study by Herriot, Manning and Kidd (1997) on the content of the psychological contract in terms of twelve categories of employee and organisational oblligations.

But while these have provided unique insights into the identifying the factors of psychological contracts through examining the role of variables associated with individual differences and situational variables, they have tended to be focused on areas that are largely outside the academic domain. This is quite surprising, because the limited number of studies that have evaluated psychological contracts within the academic domain have recognised that the notion of "academic responsibility" plays an important role in the formation of a psychological contract that is unique to academia (Krivokapic-Skoko & O'Neill, 2008) and that "institutional expectations" (associated with areas like career development and autonomy) also play an important role in the notion of an academic psychological contract (Shen, 2010).

Although more attention will be directed to evaluating the significance of this research in the next chapter, this evidence highlights that conceptualising the academic psychological contract in terms of "factors" is more appropriate than current conceptualizations of research as it helps to develop a better understanding of the contents and nature of the academic psychological contract - in this particular case a psychological contract which applies to both the "pre-1992" and the "post-1992" sectors of the higher education environment in the United Kingdom (DFEE,1997; Groves, et al, 1997).

The conceptual framework developed for this study will subsequently incorporate a number of factors that are unique to the academic psychological contract, which have a distinct relationship with one another, and the relationship between these factors will be further examined in chapter four. It is also hoped that the application of this model will provide a good basis for understanding the expectations of work within the changing demands of the academic environment in the United Kingdom.

Moreover, as discussed in section 3.6 of the next chapter, the only existing studies that looks specifically at the theoretical development of factors associated with an academic psychological contract comes from Krivokapic-Skoko's and O'Neill's (2008) study of the formation and content of psychological contracts at University in New Zealand and Shen's (2010) study of the contents of a psychological contracts at a middle-ranked Australian University. Although both these studies are quite unique, only Krivokapic-Skoko's and O'Neill's (2008) study looked at the "factorability" of a psychological contract that is unique to academia. This present study builds upon this by looking at the factorability of an academic psychological contract which is unique to both the "pre-1992" and the "post-1992" sectors of the British higher education sector.

2.9 Rationale for research - (b) Strengthening links between psychological contract theory and research in the area of the academic career

A lot of existing research that has been carried out on the concept the psychological contract has originally been used to describe the *character* an employee's relationships at work, and it has been suggested that the concept can be used to characterise a number of relationships. These include: renter and landlord (Radford & Larwood, 1982); consultant and client (Boss, 1985); husband and wife (Dunahee & Wangler, 1974); student and teacher (Kolb, Rubin, & McIntyre, 1984), and Menninger's (1963) seminal work of the psychological aspects of a contract between patient and therapist. However, it has been pointed out that there does exist a gap in the study of the psychological contract within the academic domain, and by addressing this it may be possible to have a clearer insight into the character of working relationships that exist within this environment.

Furthermore, if a university breaches the expectations of an academic member of staff and their psychological contract is said to be "violated" (Rousseau, 1995; Morrison & Robinson, 1997), what would be the consequences of this? Existing research demonstrates that employees with different understandings of their psychological contracts respond differently to contract violation. For instance, employees working in an unstructured labour market in Singapore showed a lower sense of obligation and more perceived violation when aspects of their psychological contracts were breached. (Ang, Tan & Ng, 2000). But would similar findings occur if a psychological contract within an academic context were violated? To address this issue, this research will examine the effects of psychological contract breach on job satisfaction with the British higher education sector. However, probably the most significant characteristic of this research is that draws upon the psychological contract to "make sense" of a number of issues that an academic member of staff would face within a university environment – such as an awareness of the their "personal identity" as an academic, or a familiarisation with the rules of engagement associated with progressing with an "academic career". Although the notion of making sense of an academic career could be achieved by adopting standard measures of career orientating such as career anchors, (Schein, 1985) or Career Success Maps (Derr, 1986), drawing on the psychological contract provides the researcher with a good framework for capturing a wide variety of issues associated with employment practices that are inherent within the academic domain. The next chapter will include an overview of how employment practices within academia have changed and evolved, incorporating an evaluation of the similarities between "academic" and "corporate" career models, and laying the bedrock for the formulation of an "academic psychological contract.

2.10 - Chapter Summary

For over forty years the concept of the psychological contract has been widely researched, and within the context of this chapter a number of important areas have been discussed. To reiterate, this has included a deconstruction of how the concept has evolved, a critical look at its changing typology and an overview of a number of key themes that have very much dominated research in this area – namely, how contracts are managed, breach, violated and fulfilled. An outline of the methodologies used to study this concept has also been discussed, along with an overview of the challenges facing anyone conducting research in this area. The prime intention of this chapter has been to reveal that numerous conceptual and methodological concerns associated with the study of the psychological contract may have an impact on the study of the academic environment, in addition to revealing what the rationale for undertaking this research represents. In the next chapter more relevant literature will be reviewed that has a particular bearing on this study, but in this case focusing on the changing character of the "academic career".

Chapter Three

Literature review (part two) - The changing character of the "academic career"

As the second part of a literature review, this chapter will introduce the reader to the changing character of the "academic career", incorporating a number of different themes associated with the study of this area. This will include an analysis of how the academic career has evolved, the emergence of the international career, the dual role of academia, the similarities between academic careers and corporate careers and the notion that academic careers are part of the contemporary "intelligent career" framework. The idea that an academic career is in some way "unique" is an argument which is explored within the subtext of this chapter, with additional attention directed to the issue of how academic careers can serve as a "role model" for understanding corporate career systems. While evidence is presented to suggest that the academic career does have some unique qualities, studies are also presented to show that the academic career is a good reference point to understand corporate careers, suggesting that the relationship between academic/corporate careers reflects qualities of psychological contracts. However, as a postscript to this chapter a critical overview of research that looks at psychological contracts in academia is conducted in order to bring about a more sophisticated understanding of this body of research and to bring out the methodological and conceptual limitations.

3.1 Introduction

"We in (academia) like to think we are bathing the country in logic and right reason, when all you have to do is stop at a service station or read a newspaper to find out otherwise" - The character Professor Michael, from the novel *Davla* by Jim Harrison (1988)

This quote reflects quite a cynical view of the work of an academic, with further cynicism reflected in the commonly held stereotype that the academic world and the world of work represent fundamentally different areas. For example, it has jokingly been suggested that the prime motivation for pursuing an academic career "beats working" (Baruch & Hall, 2004 p4).

But would it necessarily be correct to suggest that the work of an academic is necessarily "unique" and different from anyone else? Within the context of this chapter, this argument will be considered through examining a number of key areas that have influenced the changing character of the academic career. This will include: (i) an overview of the changing character of academia; (ii) an evaluation of the international academic career; (iii) an analysis of changes in the British academic environment; (iii) an overview of the convergence between "academic" and "corporate" career models; (iv) an examination of academic work as part of the "intelligent career" and (v) and evaluation of whether academic careers can serve as a "role model" for understanding corporate career systems. To do this a range of classical and contemporary literature on academia and careers will consequently be reviewed.

However, as an important part of this study investigates the existence of psychological contract within the academic domain, this chapter will also include an overview of the narrow range of research that has studied psychological contracts in the academic environment, with an analysis of the limitations of this research and more evidence to suggest that there is still a gap in knowledge associated with an understanding of the academic psychological contract.

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3.2.1 The changing character of academia

As researchers are increasingly recognizing how academic career systems are becoming a role model for understanding other career systems within the context of the 'real world' (Baruch & Hall, 2004), there might be value in conducting research that can draw out this relationship and provide a sound bedrock for facilitating future research in the study of the academic career. From a psychological perspective, definitions of the term "career" have often been expressed in terms of the notion of "work experience". For example, Greenhous and Callanan (1994) have regarded careers as "the pattern of work-related experience that span the course of a person's life" whereas Arthur, Hall and Lawrence (1989) recognize the career as an "evolving sequence of person's work experience over time". Furthermore, Gunz (1989) has recognised that careers are associated with "corporate climbing frames", where the climbing frame metaphor is used to describe how an individual enters a career at its lower levels and moves from run to run as opportunities arise. But can academic careers be represented in these ways or is there a different framework of research that conceptualises how the academic career has evolved?

To address this issue, it is initially worth drawing attention to areas of research that have shaped how work in this area is planned and managed, and what implications this has had. Indeed, conducting research that incorporates an evaluation of the academic career is particularly interesting as universities represent a rapidly expanding and highly influential sector in any society. This is particularly true within the United Kingom where according to official sources, the previous labour government intended to increase the numbers of under-30's entering higher education to 50% by 2010 (compared with 46% in 2004). Although this figure was not reached, it should be stressed that the area of higher education is a growing sector. According to information from the *Higher Education Statistics Agency* - HESA (2012), by the 2010/2011 academic year there were some 2,501,295 full time student's enrolled at some 119 higher education institutions in the United Kingdom, supplemented by 124 further education colleges which offer higher education programs. This shows a rise from the 2007/2008 academic year, where there were 2,306,105 students enrolled in HE programmes in the United Kingdom (HESA).With this evidence in mind, it seems that the expansion of higher education in the UK has become a priority of the British Government, and consequently studying the changing character

of academic careers (in the United Kingdom) will be influenced by an number of factors associated with the changing character of higher education policy. This will be examined in more detail later in this chapter. But to see whether the evolution of the academic career embodies a different discourse to the body of research associated with corporate careers, it is worth examining how the academic career has evolved.

The origin of careers in academia date back to the time of Socrates and Plato who investigated the ideas of the academe as a source of wisdom, although the establishment of an academic career within the context of a university came with the introduction of a number of European institutions which specialised in the study of law, medicine and theology – most notably the universities of Bologna (1088), Oxford (1249) Paris-Sorbonne (1253) and Cambridge (1284). Although many studies have been made of the working life in some of the most prestigious academic institutions, arguably the most appropriate study that has attempted to expose the character of academic careers has come from Caplow and McGee's *The Academic Marketplace* (1958). This classic survey based study focused on ten major universities in the U.S. (including Ivy League institutions, state supported institutions and a liberal arts college), between 1954-55 and 1955-56. The rationale for this study had both a theoretical and a practical focus. On a theoretical level, the study exposed how "the university is a fascinating social organization, and remarkable for pursuing an intricate program with little agreement about fundamental purposes" (Caplow & McGee, 1958, p2). This very much reflects the early suggestion that working in a university *perhaps* represents a "unique" experience, and this is reinforced by how the study exposed a number of issues that are fundamental to the practical day to day running of a university department, such as role of peer review, prestige, the idea of "reputational" measures of competence, and the quality and number of citations an individual has contributed towards. Again, perhaps reflecting "uniqueness" in the work an academic conducts.

However, what is particularly interesting about Caplow and McGee's study is that their findings on the nature of the academic career have not changed significantly during the last 50 years. As Baruch and Hall suggest – "Most of the issues they describe – the academic status system, the process of evaluating job and tenure candidates, the autonomy of a department and the tension between departments and larger units over budgets and other resources, the dilemmas and trade-offs of a move up or down the university or college status order – all sound familiar and valid in today's environment" (Baruch & Hall, 2004, p8). But while this observation may be applicable to "traditional" universities in the United Kingdom it will be interesting to speculate on whether this could apply to the newer institutions that have emerged in Britain. The differences that exist between "traditional" and "newer" universities that exist in Britain will be looked at later in this chapter, and as this study will show, the differences between the "traditional" university sector and the "newer" institutions in the United Kingdom will

become an important factor that will shape the character of a psychological contract that could exist within the British higher education sector. Furthermore, it is hoped that the this doctoral research will shed some light on whether issues like academic status, job security (tenure) and the expectations associated with being an academic are different between these two types of academic institution.

But in addition to changes that have occurred within universities in the Britain, contemporary literature on the subject has suggested that the character of academic work has also been mediated by a wide range of cultural, social, demographic and environmental factors. For example, an excellent study by Clark (1987) looked at how the academic profession has evolved within modern industrial economies, and recognised the influence of national culture, the dichotomy between public and scholarly definitions of academia and the primary divisions that exist within academia in the American university system.

Indeed, the issue of national culture has played a particularly important role in the character academics work, and in a study by Friedbery and Musselin (1987) on prestigious institutions in France known as the *grandes ecole*, the authors refrained from speaking of an "academic profession" which they believe does not exist within France. Although in a more recent study of the "coconut tree" model of careers within French universities, Altman and Bournois (2004) argue that the French academic system has emerged in an elaborate and perfect hierarchy where procedures are governed by elaborate procedures and reinforced by tradition, in a similar manner to the Anglo-Saxon university system. Furthermore, in a study of the practices and policies that reflects university life within the British and American markets, Kogan, Moses, and El-Khawas (1994) have identified how the move from collegial (professional) towards managerial and market orientated models of academic governance has resulted in the evolution of a new academic mandate associated with greater flexibility in teaching methods and the adoption of managerial skills to ensure that a university meets its commercial objectives. Moreover, Metzger (1994) recognised that the academic profession has become more diverse, with academics coming from a wide range of sociological backgrounds – a trend that was echoed in earlier longitudinal research conducted by Sewell and Hauser (1975).

3.2.2 The changing character of the academia – the international academic career

But regardless of the influence of national culture on an academic's work, many academics are willing to engage in what could be broadly called an "international academic career". An important element of the overseas academic career has been the practice of the overseas sabbatical, its popularity nicely summarised in the following quote from Baruch and Hall (2004) "The overseas sabbatical has always been one of the benefits academe has always offered its community. These sabbaticals typically last

one year, compared to a longer time for conventional expatriation in business, where assignments typically last some three years, and even more for Far Eastern organizations" (Baruch & Hall, 2004, p34).

Indeed, there is a lot of evidence to suggest that international mobility has become a unique feature of an academic's work. According to Ehrenberg (1973) the earliest academic travellers were the Greek Sophists of the 6th and 7th centuries before the Christian Era, and by the twelfth century the medieval world experienced increased mobility from academics across a variety of disciplines (Welch, 1997). Furthermore, according to Scott (1988), international mobility amongst academics was commonplace in the colonial era, with academics establishing their careers in "colonial or semi-colonial" environments. In more recent years, the trend towards establishing an international academic career has continued, and this has gone beyond the taking an overseas sabbatical, which has been a familiar feature of an academic's work. Indeed, Baruch and Hall (2004) suggest that academics have "led the way in the now-popular business trend towards international assignments" (Baruch & Hall, 2004, p254).

This trend has been linked to a number of social changes which represent different "pull" and "push" forces which may influence an academics decision to work within an international market (Richardson and Zikic, 2007). The pull forces include: (i) the move from "elite" to "mass" forms of higher education in countries such as Canada, the United States, the United Kingdom, Australia, and more recently Asia, the Middle East and South America (Welch, 1997) and (ii) the move towards international recruitment practices, where many institutions (particular in business education) retain an international faculty in order to enhance their reputation (Liblin, 2003). The push forces include: (i) the abolition of tenure in under the Education Reform Act of 1988 in many British universities, along with a growing number of part-time and temporary contracts leading to low work morale and job security (Blaxter *et al*, 1998; Forster, 2001); (ii) a view that respect for the academic profession and its influence has declined in the United Kingdom, as documented by an excellent study by Altbach (1996) and (iii) difficulties in retaining "homegrown" faculty members who are attracted to higher salaries in other countries such as the United States (Holloway, 2004; Ward, 2004).

Furthermore, there has been evidence to suggest that the international nature of academic careers represents an important dimension of the possible convergence between academic and corporate careers, which will be explored in more detail in section 3.3 or this chapter. Indeed, Baruch and Hall (2004) point out that the practice amongst academics to work abroad reflects several themes of contemporary careers literature. The first of these concerns the fact that academic careers "unfold across several employers" (Arthur and Rousseau, 1996), where there is an accepted expectation that

movement between institutions will occur. The second theme is associated with the idea of how careers draw marketability and validation from sources outside a present employer (especially from overseas). This was demonstrated quite visibly in a study by Nixon (1996) of professional identify amongst academics in "traditional university" and an "ex-polytechnic" in the United Kingdom, where it was found that international mobility in academic careers "depends increasingly on the individual's reputation and influence outside their own institution" (Nixon, 1996, p8).

Also there is evidence to suggest that pursing an academic career abroad might be linked to an individual's desire to be extrinsically and intrinsically motivated to look for new experiences to enhance knowledge and learning. This was demonstrated in a number of classic studies which looked at career exploration and personal motivation. For example, a study by Blustein (1988) on career exploration found that individuals will be more determined in their career related behaviour's if they are given a chance to undertake new experiences (such as working abroad). Furthermore, a study on self-motivation by Deci and Ryan (1985) found that various social-contextual conditions (such as the autonomy associated with working overseas) could facilitate a natural process of motivation and healthy psychological development.

But while pursuing a career overseas is obviously an important aspect an academic's work, contemporary research by Richardson and Zikic (2007) has suggested that there is a "darker side" of what it means to engage in an international academic career. By employing a qualitative methodology which drew upon semi-structured interviews conducted *in situ* with 30 expatriate academics across four different countries, this study established that risk and transience were the biggest problems associated an international academic career. With regard to transience, this study revealed that academics were locked into a "time sentence" (Osland, 1995) associated with work permit arrangements and limited contracts, discouraging professional development overseas. As far as risk was concerned, this study revealed that an international experience might not be recognised or rewarded, job security and stability might be undermined and the risk of spouses/partners not being able to find employment, leading to conflicts in personal relationships. So on the basis of this evidence, it would appear that the opportunity to work abroad presents the academic with many opportunities and challenges which perhaps reflects the unique quality of this work. In the next chapter, the issue of the international academic career will be further explored within the subtext of a section that looks at contacts and networking within the university environment. However, the uniqueness of working in a university environment may be influenced by considering what a university's role represents. Indeed, in the United Kingdom, there is evidence to suggest that the role of a university is undergoing change, and the next section presents an evaluation of this evidence.

3.2.3 The changing character of the academia – changes in the British higher education environment

While the opportunity to pursue an overseas career possibly reflects one of the unique qualities of being an academic, it could also be argued that another unique quality of academia is associated with how it now plays dual role: namely, providing a facility for engaging in scholarly activities, whilst having a role which is largely economic (Mora, 2001; Neave, 2006). The "economic" role of a university is founded on the premise that higher education is a resource that can be exploited for economic development through the provision of an educated workforce with marketable skills (Williams, 1996). In view of this, a number of changes have occurred within the academic environment within the United Kingdom which reflects how higher education is becoming increasingly responsive to economic needs.

The first of these changes worth drawing attention to was the *Robbin's Report* of 1963. This was a landmark piece of legislation which recommended the large expansion of universities in the United Kingdom to deal with the growth of vocational courses, the importance of applied research and the collaboration of British universities with British Industry (Scott, 1999). Amongst the recommendations of this report was giving Colleges of Advanced Technology university status (such as Loughborough and Bath) the establishment of large expandable "plate-glass" universities outside towns and cities (such as Warwick, Sussex and the University of East Anglia) and the creation of polytechnics which offered vocationally-orientated courses but could not award degrees in their own right. The English academic Richard Hoggart (1996) argued that the impact of the Robbin's Report played an important role in the expansion of higher education in the United Kingdom "confirm(ing) that there was far more talent in the country than we had guessed or were willing, out of class-and-culture meanness, to recognise" (Hoggart, 1996, p42).

The second change, which again reflected the idea that higher education in the United Kingdom was responsive to economic needs, was establishment of the *Further and Higher education Act* (1992). The effects of this act were documented in a report entitled the *National Committee of Inquiry into Higher education* (1997) by the English Academic Ron Dearing, with this report becoming popularly known as the *Dearing Report*.

In the higher education sector, the visible result of this act was to allow polytechnics and colleges of higher education to become universities, resulting in a distinction between the new "post 1992" universities and the older "pre 1992" institutions. The economic implications of the 1992 Act were far reaching as a new university sector was created and higher education expanded, leading to a view that universities had moved from being elitist institutions (where knowledge was acquired for its own sake)

to institutions that were orientated towards providing marketable skills to an increasingly educated workforce (Groves *et al*, 1997).

Furthermore, the changes brought about by the 1992 Act have additionally reflected a trend of *massification* and *McDonalidisation* in the British higher education sector. In the higher education context, massification refers to the exponential growth of student numbers affecting the proportion of the population in higher education, the growth in faculty size and the sizes of seminars and lecturers (Guri-Rosenblit, *et al*, 2007). The term McDonalidisation was coined by George Ritzer in 1993 to refer to a process of industrial rationalisation that has been occurring within wider society. In the higher education context Ritzer's four features of McDonaldisation (efficiency, calculability, predictability and control) have been applied to the operation of a university where an institution is required to make efficiency gains and produce measurable and predictable outputs in order to ensure that a university experience offers "value for money" (Hayes & Wywmard, 2002). This is especially relevant as under *The England, Wales and Northern Ireland Teaching and Higher education Act* of 1998 up-front tuition fees were introduced for degree courses in the United Kingdom. Subsequently, as a result of the same act, student maintenance grants were reduced and abolished by 1999, and by 2006/07 universities in the UK could charge up to £3000 in tuition fees, with further increases in fees due to the recommendations of the controversial Browne Report (Brown, 2010). This has led to an emerging culture of "consumerism" within mass higher education in the United Kingdom, with a university place becoming a real 'investment for the future' (Callender, 2003).

Indeed the discourse of a student being seen as a "consumer" has been featured in research that has re-evaluated what the identity of an "educated" person represents. For example a study by Usher, Bryant and Johnston (1997) recognised that a student's self-identity as a consumer has led to a scenario where education is regarded as a product and the university is a customer service provider. Moreover, research by Grant (1997) has recognised that students in both traditional (pre-1992) universities and non-traditional (post-1992) institutions recognise themselves as "empowered consumers" giving them a perception of influence and centrality within the academic arena.

The culture of consumerism has provoked some interesting challenges within the culture of British higher education. The first of these concerns the issue of academic management. In a paper by Hellawell and Hancock (2001) it was revealed that senior academics in post 1992 institutions recognised themselves as *managers* within the "knowledge-based" sector in which a university is firmly based (Drucker,1995), and this managerial role involved an awareness of the needs and wants of the university's customer's (i.e. students). The second of these challenges concerns how the culture of consumerism within British Higher education conflicts with a move towards "widening participation".

In a recent report on *Widening Participation in Higher education* (National Audit Office, 2008), some interesting statistics revealed that participation rates in British higher education varied according to socio-economic status. For example, the report found that over the last five years, 18-20 year olds from lower socio-economic groups appeared to be significantly under-represented in British Universities, with the same report revealing that this demographic cohort was discouraged from applying for a university place due to difficulties in paying fees.

So on the basis of this evidence, it could be inferred that the role of the academic has been influenced by changes relating to policy, the impact of massification/McDonaldisation and the realisation that a university lecturer essentially provides a "service" to deal with the growing number of fee paying students who have the financial means to complete a degree level course (Watson, 2000). Bearing this in mind, it would be interesting to speculate on whether the responsibilities associated with being an academic is influenced by the lecturer taking a more "corporate" approach towards his/her work and maybe adopting a philosophy of "new managerialism" These issues will be given more attention in the next chapter which includes an examination of the notion of academic responsibility, and in a section 3.3 of this chapter which includes an analysis on the impact on new managerialism within British higher education.

But while it could be inferred that the economic role of universities in the British higher education sector has led to emphasis on providing marketable skills to a mass market, it could also be suggested that universities should retain a role as a platform for providing scholarly activities. The dichotomy that exists in between a university's scholarly/vocational purpose has been reflected in a divide that exists between "post 1992" universities and the older "pre 1992" institutions. For instance, research by Fulton (1996), MacFarlane (1997) Henkel (2000) and Breakwell and Tytherleigh (2010) have established that "old" universities with established research cultures have approximated more to the ideal type of "academic" institution than the "newer" universities which are considered to be primarily teaching institutions whose mission is to deliver vocationally relevant knowledge to the real world.

Furthermore, with regard to the research output of pre-1992 and post-1992 universities, studies have shown some interesting variations between these two institutions, based upon performance in the Research Assessment Exercise (RAE). For example, it was established that from the time of the Further and Higher education Act (1992), "a predictable gap existed (between) the two groups of institutions" (McKenna, 1996, p1), with the strongest RAE based ratings coming from pre-1992 institutions. Additionally, Henkel (2000) established that by 2001 RAE panels were comprised mainly of academic staff from pre-1992 universities, perhaps implying that the notion of "scholarly activity" in the UK higher education market lies within the domain of older and more established institutions.

Indeed, perhaps the most visible example of how pre-1992 institutions have made an impact on scholarship and research in the United Kingdom has been the establishment of a body representing 20 major research-intensive universities in Britain. This body was formed in Russell Square (London) in 1994 and is known as the *Russell Group*. According to information from the Russell Group's website, by 2008/09 its institutions accounted for 66% (over £2.2 billion) of research grant and contract income from the UK and additionally accounted for 68% of total Research Council income. Furthermore, at the same time, 56% of all doctorates awarded in the United Kingdom came from Russell Group Universities (Russell Group, 2010).

So in view of some quite compelling evidence which suggests that academic performance differs between pre-1992 institutions and post-1992 institutions, (Fulton,1996, (McKenna, 1996'MacFarlane 1997 & Henkel 2000), these differences will be looked at more closely within the central context of this research.

However, when looking at changes that have occurred within an academic environment, it is possible to appreciate that the necessity to be responsive to economic needs has led many academics to think again about what their role as academics mean. This was demonstrated very convincingly in Taylor's *Making Sense of Academic Life* (1999), which captured many of the behavioural aspects associated with the reoccurring changes in the academic environment of the late 20th century. This study adopted a socially constructed approach towards the study of academia, where the Cartesian notion of interpreting organisational activities using an objective language or an analytical scheme is replaced by the method of *social constructionism***,** applying meanings, terms and concepts to what is observed and experienced (Weick, 1995). In this case a rich variety of information was presented on how academics have been required to re-think their career aspirations and to have a greater awareness of how their "personal identity" is shaped by personal interests and the interests of the university – emphasising the "rules of engagement" that may emerge from working within the research, administrative and pedagogical aspects of university life (a point that reflects my own experience of working within academia).

Therefore, reflecting upon the idea that academic work is in some way "unique", it can be seen that working in a university environment is influenced by ideas such as academic reputation, peer review and research output (Baruch & Hall, 2004) which may not necessarily capture the expectations which are found within a more traditional career system.

However, as this apparently unique system of working within academia is evidently influenced by a variety of social, cultural, demographic and environmental factors, it remains an interesting issue to speculate on what kind of research framework could best capture how the academic career is evolving.

Indeed, would it be erroneous to suggest that work within an "academic" and a more traditional "corporate" environment is really vastly different? To address this it is worth looking at whether there exists a convergence between "academic" and "corporate" career models, and how this could provide a good conceptual foundation for the establishment of an "academic psychological contract.

3.3 A convergence between "academic" and "corporate" career models

The idea that "academic" and "corporate" careers are converging is an interesting issue that exposes some interesting questions about the study of careers. Indeed the following quote from Baruch and Hall (2004) highlights how the convergence between academic and corporate careers has evolved:

"The academic career system has unique features, which, in the past, have made it different from the traditional career model based on hierarchical considerations. In the past it was just different, more of an exclusive, "stand-alone" model. Now, with the changing nature of careers and labor markets, many organizations in a variety of sectors try to explore and adopt alternative career models. This enables the academic career model to operate as a leading prototype, an indicator of direction and changes in the career systems in other sectors" (Baruch & Hall, 2004, p2). This observation is interesting as generates some questions on the relationship between academic and corporate career models. For example, does the academic career model represent a "prototype" for concepts such as the boundaryless, protean, and the post-corporate career (Hall, 2002; Peiperl & Baruch, 1997; Arthur & Rousseau, 1996)? Furthermore, can future corporate career systems be based upon an academic role model? Although there is not the space to fully address these questions within the context of this chapter, to get an idea of how academic and corporate career models are similar, it is worth initially looking at the concept of the protean career (Hall, 1976, 2002). This can be defined in the following way:

"the protean career is a process by which the person, not the organization is managing. It consists of all the person's varied experiences in education, training, work in several organizations, changes in occupational field etc. The protean career is not what happens to the person in any one organization. The protean person's own personal career choices and search for self-fulfilment are the unifying or integrative elements in his or her life. The criterion of success is internal (psychological success), not external. In short the protean career is shaped more by the individual than by the organization and may be redirected from time to time to meet the needs of the person" (Hall, 1976, p201).

Table 3 gives an overview of some of the key elements of the protean career.

Table 3 – Elements of the protean career – taken from Hall (1976)

Issue	Protean Career	Traditional Organizational Career
Who's in charge?	Person	Organization
Core values	Freedom Growth	Advancement
Degree of mobility	High	Lower
Success criteria	Psychological success	Position level Salary
Key attitudes	Work satisfaction Professional commitment	Organizational commitment

From looking at this table, it could be inferred that protean careers highlight how the character of careers is becoming more individually orientated (Taylor, 1999), and this is particularly applicable to the world of academia. A study by Startup (1979) nicely illustrated this through looking at the working lives on academic staff, with a particular focus on their relationships with others, and how their work affects their identity. It was found that individual choice played an important role in assigning people to projects, and although the leader of a project was more likely to be a professor, this role could also be played a lower ranking academic staff. Moreover, this study also illustrated that academic career orientated behaviour reflects inner needs, values and self-actualisation (Maslow, 1943), and DeFillippi and Arthur (1998) have illustrated how the idea of individual choice characterizes a model of a project based organization which was *de facto* in academic life long before it was reflected in matrix structures, which are representative of many modern organisations.

However, the links between the "protean" character of the academic career and the emphasis on individualism that is found within many project-based organizations reflects just one aspect of the similarity between academic and corporate career models. Baruch and Hall (2004) have additionally identified how academic career models are often based on a flat structure where dyadic relationships and team work define a great deal of current academic research, in addition to an emphasis on empowerment and "free agency", where the academic can negotiate his/her own area of research and where they want to work. This reflects how the working environment of academia has a meritocratic quality, where competencies associated with research, and to a certain degree now teaching, are highly valued (Darley, Zanna, & Roediger, 2004). Moreover, it is interesting that many of the ideas associated with "free agency" have characterized an integral part of the modern boundryless organization, where

the idea of networking across organizational borders, self-defining ones role, and self-guiding career transitions have become paramount (DeFillippi & Arthur, 1998).

But the notion of "protean careers" and "free agency" represents just one part of the association between academic and corporate career models. A study by Deem and Brehony (2005) has suggested that the similarities between academic and corporate working environments can now be explained on a more ideological basis, with an emphasis on "new managerialism". These authors recognise that 'new managerialism' is an ideological approach to managing public services linked to state regulation (Clarke & Newman, 1997) and is characterised by: the removal of bureaucratic rule-following procedures; an emphasis on the importance of management as a main activity; the monitoring of employee performance; attaining financial and other targets and the auditing of service delivery (Le Grand & Bartlett, 1993). Moreover, Deem and Brehony (2005) suggest that this ideology has made an impact on the culture of management in British higher education. Based upon focus group discussions and semi-structured interviews from senior academics in the United Kingdom, it was established that the ideology of new managerialism has led to a number of unique features in British higher education that included: surveillance on the performance of academics; a recognition that some academics have the right to manage academic and non-academic staff and the auditing of academic performance.

Probably one of the best indicators of how new managerialism has made an impact on higher education in the UK has been the establishment of the *Quality Standards Agency for Higher education* (QAA). From its inception in 1997 the QAA has been instrumental in development of quality in the British higher education sector through providing reference points to define clear standards and to encourage continuous professional improvement in the management of higher education institutions in the United Kingdom (QAA, 2012). Furthermore, the QAA institutional audits which operate on a six year cycle (ibid) are probably one of the best examples of how this body has brought about a culture of accountability and predictability in the management of higher education in the United Kingdom (Lomas, 2007).

So based upon this evidence, it could inferred that the similarities between the academic and the corporate career additionally encompass a shared management ideology, where a style of management associated with the public sector has had an impact on higher education within the United Kingdom. The relationship between work in academia and the influence of the corporate sector will be further explored within the subtext of a section in the next chapter that examines the responsibilities associated with being an academic. However, it is worth mentioning that the character of an academic career also reflects the elements of an "intelligent" corporate career model, which will be examined below.

3.4 Academic work as part of the "intelligent career".

The growth of "the knowledge worker" has characterised the changing world of modern work where "people are hired on the basis of what they know and can do, (and) what they earn depends on the market value of the portfolio of skills and knowledge that they offer the employer (Cascio, 2000, p81). Within academia, ideas such as intellectual capital, knowledge management and system-embedded knowledge have become an integral part of the working culture, with an emphasis on building up intellectual capital and basing academic output on tacit rather than explicit knowledge (Nonaka, 1994). However, *how* knowledge is applied and used within the academic environment goes way beyond the idea of what an individual can do. Recent literature on the character on careers in modern organizations has introduced the notion of the "intelligent career" (Arthur, Arthur,Claman & DeFillippi, 1995), which is based upon the dimensions of knowing why, knowing how, and knowing whom. As illustrated below, these dimensions have become an integral part of the work that is carried out by an academic.

Knowing how – this is based on skills, abilities, professional knowledge and experience. This is particularly applicable to working in academia, where there is an emphasis on being rational, introspective and scientific (Blaxter, *et al*, 1998), along with an ability to demonstrate a certain degree of emotional intelligence (Goleman, 1996). Indeed the importance of emotional intelligence in academic work was recently examined in a recent article by Vandervoort (2008) which established that emotional intelligence not only facilitates the learning process amongst academics, but also "leads to better personal and social adaptation in general (leading to a) educational experience (that) would tend to be more balanced or holistic as it would focus on educating the whole person" (Vandervoort, 2008, p5). Furthermore, it could also be argued that the "knowing how" aspect of being an academic could relate to the competencies associated with leading people effectively within an academic role. This issue was explored in a recent study on the competencies necessary for effective leadership in higher education by Spendlove (2007). Amongst the findings of this study was the revelation that competence was associated with "credibility", where the skill of an academic was linked to the scholarly activities of teaching, research and obtaining grants. In the next chapter, more attention will be directed towards how this kind of competence and other workplace competencies will have an impact on the academic sector.

Knowing why - this is associated with why people might be motivated to stay (and possible settle) in particular occupations and life-styles? In the cases of academia there is an abundance of literature that focuses on what attracts an individual to work in this particular sector. For example, an interesting paper by Snodgrass and Behling (1996) revealed that the motivation to settle in and stay in an academic career was influenced by a wide variety of factors. These included: (i) working in a *dynamic*

environment where ideas are discussed and passed to others; (ii) a degree of personal *freedom* (with regard to structuring time, working overseas, engaging in research and taking ownership of courses); (iii) the stability afforded by academic *tenur*e; (iv) the opportunity to take a *sabbatical* to engage in productive projects/research and (v) the youthful enthusiasm reflected through working with *students*. This finding perhaps reflects and reinforces the earlier observation that the work of an academic has something of a "unique" quality, as illustrated by the aforementioned studies from Caplow and McGee (1958) and more recently Baruch and Hall (2004).

However, in an interesting book entitled *Negotiating Academic Literacies* (Zamel & Spack, 1998), another view is reflected on why an individual might be motivated to stay, and possibly settle in an academic career. For example, a chapter in this book by Spellmeyer (1998) suggests that a fundamental character of an academic's work is the pursuit of "scholastic learning", where the lecturer can effectively communicate the language of "scholastic discourse" to his or her students. This represented part of a dichotomy in learning that was initially identified in a paper by the French essayist Michel de Montaigne in 1575, where scholastic discourse would represent the "high" language of the court and college (as opposed to the "low" language of the street and the home) and would be characterised by precise and effective grammar, logic and rhetoric (Bloom, 1987). Whether the issue of "scholastic discourse" remains an important part of an academic's work is perhaps a matter of debate. However, in the next chapter, this issue will be amongst the areas looked at when examining the responsibilities associated with working in an academic role.

Knowing whom – illustrating the networks people use in getting a job or changing career (Jones & DeFillippi, 1996; Arthur, Inkson & Pringle, 1999). This is particularly valued in academia as career success (especially in terms of publications) is associated with finding the right connections, networking and effective mentoring. Furthermore, over the years a number of interesting findings have emerged on the growing importance of networking within the academic context. For example, Altbach (1997) highlights that shared patterns of thoughts and action are reflected in the networking activities of faculty members give rise to the process of *faculty socialisation*. This is particularly valuable as it represents an important way of learning about the norms associated with working in a university environment and how an academic's occupational life is shaped. Furthermore, a study by McAdam and Marlow (2008) has found that university environment's play a particularly important role in facilitating various types of networks, especially networks of a business and social nature, leading to effective information exchange, the organisation of conferences and the establishment of trust. In the next chapter, further discussion will be directed towards evaluating the role of contacts and networking within the academic environment.

So by deconstructing dimensions of the intelligent career, it is possible to see how a concept linked to the corporate workplace is applicable to academia. Furthermore, a similar association can be found with regard to the issue of mentoring. It has been observed (De Janasz and Sullivan, 2004) that most work in his area has been based been based on traditional, hierarchical mentor–protégé relationships in that are found in non-academic settings. However, due to the challenges faced in the contemporary academic environment, this single master–apprentice mentor model is no longer insufficient (Darley, Zanna, & Roediger, 2004). It has been suggested that the traditional model of an academic being guided throughout their careers by one primary mentor, (such as a dissertation advisor), may not be appropriate, with inspiring academics being better served by a portfolio of mentors who facilitate their protégé's intellectual development. (Baugh & Scandura, 1999; Higgins & Kram, 2001). In view of this, it is hoped that the findings of this doctorate research will play an important role in understanding which aspects of an academics intellectual development will be served in an increasingly multifaceted mentoring process.

3.5 Can we judge whether the academic career can serve as a "role model" for understanding corporate career systems?

Up to this point, this literature review has examined a range of ideas that have essentially de-constructed the argument that an academic career is in some way "unique". From looking at the evidence presented, a number of issues have been exposed which in many respects support this proposition. There are illustrated below:

• The idea that a university is a unique social institution with distinctive qualities associated with its day to day running. These include peer review, prestige and academic reputation (Caplow & McGee, 1958).

• The opportunity for academics to engage in an international career overseas. For many years this practice has been an integral part of an academics working life, and has been influenced by a number of "pull" and "push" social changes which encourage an academic to work in an international market (Richardson & Zikic, 2007).

• The notion that academia is unique in that a plays a dual role. Namely, providing a facility for engaging in "scholarship" (i.e. teaching, research and obtaining grants) whilst having an "economic" role (Mora, 2001; Neave, 2006, Spendlove, 2007) - the economic role being based on the idea that higher education provides a platform for economic development by providing a highly marketable educated workforce (Williams, 1996). In the United Kingdom, the *Further and Higher education Act* of 1992 represented one of the most visible indications that academia did indeed play a dual role. A new university sector was created, the number of degree awarding institutions expanded and the role of higher education was not solely associated with acquiring knowledge for its own sake, but with

providing an educated workforce with marketable skills (Groves et al, 1997). Consequently, the economic role of universities was reflected in a rhetoric that emphasised *massification, McDonalidisation* and the idea that there is an emerging culture of "consumerism" in the United Kingdom.

• The notion that academic's have a unique sense of "personal identity" which is reflected by particular "rules of engagement" which reflect the research, administrative and pedagogical aspects the academic environment (Weick, 1995; Taylor, 1999).

However, while these points may appear to support the proposition that an academic career has something of a unique quality, it could also be suggested that academic and corporate careers do indeed have a number of similarities. For example, a chapter by Cooper. C.L (2008) on *Leadership and Management in the 21st Century: Business Challenges of the Future* OUP in Cooper's (2004) *Leadership and Management in the 21st Century* suggests that:

"universities are complex organisations which pose quite demanding…challenges. In many ways they are prototypes for twenty first century enterprises. They create little by the way of physical goods, have traditionally (at least in United Kingdom) been substantially self-governing and are populated by clever, creative and independent individuals, some of whom are antipathetic to traditional line management approaches" (Rhind, 2004, p306).

Furthermore, a chapter entitled *herding cats, moving cemeteries, and hauling academic trunks* in Lohmann's (2008) *How Universities Think* draws attention to the parallels between the university and the corporate world, suggesting that a 'university can be more like a business', and a 'business can be more like a university'. But on the basis of these types of observations, could it necessarily be inferred that academic careers serve as "role models" for understanding corporate career systems? In the context of this doctoral study, this argument is worth examining because it provides a useful framework to demonstrate how the similarities between academic/corporate careers reflect certain qualities of psychological contracts which are found within the contemporary working environment. So based upon the evidence presented earlier in this chapter, the following points may reflect how this argument can be supported.

•. The notion that academic and corporate career models are converging, with the suggestion that academic career models represent a prototype for understanding many concepts that reflect the character of the contemporary corporate profession, particularly the notion of the 'protean career' (Hall, 1976; Taylor, 1999) - the links between academic life and protean careers being reflected in an emphasis on individualism and inner needs and values, which were commonplace in academia before they emerged in contemporary matrix organisations (Startup, 1979).

• The idea that academic careers place an emphasis on empowerment and "free agency" (Baruch & Hall, 2004) which are important qualities of the modern boundryless organisation (DeFillippi & Arthur, 1998).

• The notion that there is an *ideological* similarity between academic and corporate careers - embracing the concept of 'new managerialism' (Clarke & Newman, 1997) which is reflected in academic management, and the surveillance and auditing of academic performance (Deem & Brehony, 2005). The establishment of the QAA representing one of the most visible indicators of how new managerialism has impacted higher education in the United Kingdom.

•The notion of how the character of the academic profession is reflected in the concept of the "intelligent career" (Arthur, Arthur,Claman & DeFillippi, 1995). This is associated with the dimensions of knowing why, knowing how, and knowing whom which can be applied to the rules of engagement associated with working in an academic role.

On the basis of this evidence, it could be inferred that the links between academic and corporate careers reflect qualities of psychological contracts that are recognised by researchers who work within this area. For example, an emphasis on protean careers, free agency and dimensions of the intelligent career may reflect a rhetoric of "self-reliance" which according to Hiltrop (1996) is an important quality of the contemporary *transactional* psychological contract. Furthermore, the impact of new managerialism (Deem & Brehony, 2005) may suggest that academic careers have an association with an *ideological* psychological contract (Thompson & Bunderson, 2003), where a lectures obligation to his/her institution is reflected in promoting a particular style of academic management associated with auditing/monitoring research output or teaching quality.

However, it may be naive to suggest from these observations that psychological contracts in academia have transactional or ideological qualities. In order to develop a more thorough understanding of the character of psychological contracts that are unique to the academic domain, what is needed is an evaluation of the small amount of studies that have been undertaken in this area. This will not only draw attention to issues associated with studying psychological contracts in academia, but will bring out the limitations of this research and add support to the claim that these does exist a gap in understanding this body of knowledge. In view of this, the next section will present a critical overview of work that has examined psychological contracts within an academic context, with most of this work emerging from just over the last decade.

3.6 An "academic" psychological contract?

Research that has studied psychological contracts within the domain of an academic environment is perhaps in its infancy and has focused on a number of specific areas. These have included:

• Using psychological contracts to study low morale and disappointment amongst academics

Empirical research carried out by Tipples and Krivokapic-Skoko (1997) at Lincoln University in New Zealand explored the beliefs and expectations of academic members of staff. This study revealed that the psychological contracts of university staff were generally in a poor state and that the University had not met its promised obligations, leading to low staff morale and disappointment.

• A study of the changing state of psychological contracts in a British post-1992 university

Using semi-structured 30 interviews of academics and managers from a "new" university in the United Kingdom, Bathmaker (1999) explored how each group understands the psychological contracts which are unique to this institution and their subjective experience of the work they conduct. This research demonstrated that academics recognised visible career ladders and clear recognition as important parts of their psychological contract whilst acknowledging their contracts were not healthy as there was a break in the implied understandings associated with this employment relationship. This study also showed that managers in post-1992 universities believed that there was a relational element to their psychological contract, with an emphasis on socio-emotional values and organisational loyalty.

• Examining how psychological contracts promote quality management/leadership in academia

A case based study conducted by Newton (2002) recognised that an understanding of an academics psychological contract played an instrumental role in evaluating collegiality, professional accountability, reciprocity and trust at a British college of higher education. Furthermore, this author additionally recognised that knowledge of an academics psychological contract played a valuable role in maintaining staff morale, promoting leadership and recognising standards of "quality management" in an academic context.

• An examination of mutuality and reciprocity in the psychological contracts of academic staff

A study by Dabos and Rousseau (2004) recognised that levels of productivity, career advancement, satisfaction were highest when there was a sense of mutuality and reciprocity in the psychological contracts of academics at a top research-orientated school of bioscience in a Latin American university. This survey based research was unique in that it was one of the few empirical studies which looked beyond the downside of psychological contracts (i.e. violations, low morale, and high staff turnover).

• A study of organisation-individual agreements between academic/non-academic staff

A recent study by İnayet *et al* (2008) examined different views on the psychological contract from academic and non-academic staff amongst 442 employees working in the education faculties of 11 state universities in Turkey. By utilising the Psychological Contract Inventory (PCI) that was designed by Rousseau (2000) this research established that academic, non-academic staff and executive staff showed significant differences in whether a university carried out its obligations towards staff. For example, academic staff and executives believed that their university carried out its obligations towards staff at a `moderate' level, whereas the non-academic staff believed that their university was `insufficient' in meeting obligations.

• The formation and content of psychological contracts in a university environment

Recent research carried out by Krivokapic-Skoko and O'Neill (2008) used a mixed research design of focus group discussions and empirical research and to explore the formation and content of psychological contracts amongst academic staff at a University in New Zealand. The focus group discussions revealed that certain categories of academic responsibility influenced the formation and effects of psychological contracts in academia. These were: the ethos of the university; respect for discipline; a university's contribution to society and a loyalty to students. The empirical research employed by this study carried out exploratory factor analysis (EFA) to identify eight factors associated with the university's obligations to its employees. There were associated with: fair treatment in promotion; staff development and support; good management and leadership; work/life balance in academic life; fairness and equity; appropriate remuneration; reward performance and good workplace relations.

• A study of an academics psychological contract and their fulfilment

This recent empirical study by Shen (2010) examined the contents and the character of psychological contracts amongst academics at a middle-ranked Australian University (using a survey of 280 academic staff). This study revealed that elements of an academic psychological contract differ to that of other professions, with the academic psychological contract being more transactional in nature. The elements of an academic psychological contract (identified in this study) were promotion and advancement, power and responsibility, pay (based on performance), recognition, support, work environment, job security, training and career development, and workload. The provision of a safe working environment was recognised as the most important expectation in an academics psychological contract, which was followed by the provision of resources to do work and competitive pay.

So from examining the limited scope of research that has explored the impact of psychological contracts in academia, it could be inferred that these studies have tended to focus on particular aspects of workplace behaviour (such as staff morale, effective management, job satisfaction and employer/employee obligations). However, the studies conducted by Krivokapic-Skoko and O'Neill (2008) and Shen (2010) were unique in that they isolated the different components of a psychological contract associated with an academic environment. In this respect, it *identifies* with an important aspect of this doctoral research that was highlighted in the last chapter, namely the theoretical development of the "factors" of a psychological contract which is unique to the academic domain.

The research carried out by academics in Pacific Rim countries appear to be influential in understanding the composition of academic psychological contracts. Indeed, a study by Tipples and Verry (2006) of academic staff at a university in New Zealand emphasised that understanding this phenomenon will play valuable role in successful academic management.

But while these studies expose the character of psychological contracts within the environment of a particular university, their contribution to the conceptual development of an academic psychological contract may be very limited, therefore supporting the assertion is chapter 2 that there exists a gap in the study of the psychological contract within the academic domain. These limitations have been exposed in a number of ways: Firstly, the studies by Tipples and Verry (2006) and Krivokapic-Skoko and O'Neill (2008) were based upon the respondents from a single organisation and did not account for any changes in the character of the academic environment which was described earlier; secondly, the survey's used in these studies used self-reporting questionnaires that were framed in terms of promises and obligations, but did not look at the range of *competencies* associated with working as an academic; finally, these studies have not directed enough attention towards examining whether psychological contracts in academia fall within a relational/transactional continuum, or have a balanced or ideological character (as described in the last chapter).

The first of these points is particularly pertinent because Baruch and Hall (2004) have suggested that the psychological contracts and career systems which have emerged in universities have tended to resemble the new transactional contracts that are a feature of the modern business environment (Herriot & Pemberton 1995, Rousseau 1996). So in this respect perhaps academics have always taken a "protean" attitude towards their own career behaviours, and the earlier argument that future corporate career systems could be based on an academic role model may appear to hold some water. But does this necessarily mean that the possible existence of an "academic" psychological contract would necessarily be transactional in nature?

Through looking at studies on the nature of academic life, it would at first glance appear that this idea can be supported. For example, Taylor (1999) believes that "investing in a psychological contract that it fixed, immutable, based on 'modernist' assumptions, and focused on institutions as providers of a career path seems pointless" (Taylor, 1999, p111). Moreover, Baruch and Hall (2004) illustrate that any psychological contract within the academic world has been characterised by a number of qualities that *include*, job security, professional development, a rich learning environment, good working conditions and flexibility, with an emphasis on performance based career advancement and a very flat system of hierarchy (which usually consisted of three or four grades – assistant professor, associate professor and full professor in the US, and lecturer, senior lecturer, reader and professor in the United Kingdom). These characteristics seem very different from the idea of an old corporate career, but seem to be quite similar to the protean "transactional" contracts that exist within the modern business environment, where there is an emphasis on the "new deal" (Herriot & Pemberton, 1995) that was described in the last chapter.

However a healthy amount of caution should be exercised in assuming that an "academic psychological contract" reflects that transactional quality of work within the "new deal" model in modern corporate life (Herriot and Pemberton, 1995). For example, the idea of "tenure" or the secure position that is gained after successfully passing a tenure review does not tend to fit into of a modern, transactional based psychological contract (Baruch & Hall, 2004). Although tenure has an important purpose in that it "protect(s) the academic so that he (or she) could be free to pursue, publish, and teach the truth as he saw it (Baruch & Hall, 2004, p3), evidence examined earlier in this chapter suggests that this practice is decreasing, "pushing" academics in the United Kingdom towards an international career (Blaxter *et al*, 1998; Forster, 2001).

Furthermore, career systems in academia may sometimes model an old style corporate structure that exists in some institutions (particularly in the US) and remuneration packages may differ greatly from the modern, project based organizations where payment is strictly regulated and subjected to market forces (Baruch & Hall, 2004). This evidence seems to indicate that the notion of an academic psychological contract does not fit perfectly with the transactional nature of the new corporate career. It therefore remains a matter of debate to suggest that a psychological contract that could exist in academia is necessarily transactional in nature. However, as illustrated in section 2.8 of the previous chapter, this study will be unique in that it will recognise the academic psychological contract in terms of "factors" and move away from more orthodox approaches to psychological contract research, where it has been conceptualised on a transactional/relational continuum (MacNeil, 1974; Rousseau, 1990; Milward & Hopkins, 1998;Raja, Johns & Ntalianis, 2004). In this case the factors that make up the academic psychological contract could be represented in a contract that *implicitly* captures the characteristics and expectations of working in academic life - addressing ideas that could *include* individual needs, aspirations and the influence of the wider organisational, professional and cultural environment. Within the context of the following chapter these ideas will be explored in greater detail, with the intention of subsequently evaluating the contribution they could make as factors of the academic psychological contract.

3.7 - Chapter Summary

By deconstructing the idea that an academic career has something of a "unique" quality, a number of key ideas associated the changing character of academia have been critically examined. Consequently, this chapter has included: an analysis of how universities in the United Kingdom have expanded and the cultural, social and demographic factors that influence an academic's work; the opportunities and challenges associated with an international academic career; the notion that universities have a dual scholastic/economic role which has impacted the culture of British higher education; the idea that

academic and corporate models of careers are merging and the suggestion that dimensions of "intelligent career" (Arthur, Arthur,Claman & DeFillippi, 1995) have become an integral part work undertaken by an academic member of staff.

In the context of this chapter, it was also argued whether academic careers served as a role model for understanding corporate career systems. This argument provided a useful framework for illustrating how the similarities between academic/corporate careers were indicative of psychological contracts found within a modern organisational context. While this argument gave some indication of what characteristics an academic psychological contract might have, to develop a more sophisticated understanding of this concept, this chapter also included an analysis of the quite limited scope of research that has specifically examined psychological contracts within the academic environment. Consequently, through looking at this evidence, it was established that a number of limitations exist in this body of research, supporting the claim in the last chapter that there exists a gap in research associated with the existence of an academic psychological contract. These limitations not only reflect a number of methodological and conceptual concerns, but also draw attention to whether an academic psychological contract necessarily fits in with the transactional character of contemporary careers.

In the next chapter more attention will be directed towards drawing out the characteristics of a psychological contract that reflects character of working in an academic role. This will subsequently serve as the theoretical bedrock to build the conceptual framework that underlies this doctoral research.

Chapter four

Developing a conceptual model of the academic psychological contract

The following points of this chapter are organised on the basis of the factors of the academic psychological contract that emerged from an extensive review of appropriate literature. Namely, these factors entail: (i) institutional expectations; (ii) networking; (iii) commitment; (iv) the type of university an academic work's in (i.e a Pre 1992/Post 1992 institution); (v) academic responsibilities; (vi) emotions; (vii) performance; (viii) competence; (ix) psychological contract breach; (x) future career expectations and (xi) job satisfaction. Each of these factors is justified as part of the academic psychological contract in this chapter. Furthermore, this chapter will also examine how the individual and situational factors associated with the academic psychological contract have a distinct relationship with one another, which in turn represent the thirteen hypotheses that reflect the main conceptual focus of this study.

4.1 Introduction

In the previous chapter, literature that was reviewed which suggested that the changing character of psychological contracts within the corporate environment could possibly be represented in a contract that captures the implicit expectations of academic life. This is turn has been has been grounded in areas that include the growth of the "intelligent career", the importance of individual characteristics and values and a recognition of the "institution". However, there is wide variety of evidence to suggest that many other influences will shape the work of the academic (Gammie & Gammie, 2002). So to develop a more solid theoretical foundation for formulating a conceptual model of an academic psychological contract, the following section will review more literature that captures an employee's expectations and the characteristics of working within an academic role.

4.2 The expectations and characteristics associated with an academic role

4.2.1 Institutional expectations

As a factor of the academic psychological contract "institutional expectations" provide a good reference point for debating how far work in the university environment represents adopts a distinctly transactional approach where academics take a "protean" approach towards their career management, or follow a more traditional approach with an emphasis on stability, a long-term employment relationship and a rigid hierarchical structure. According to Baruch and Hall (2004) the expectations associated with psychological contracts in the academic environment have been characterised by areas that have included professional challenge, social status, job security, professional development, good working conditions, and flexibility. However, this finding represents a very small section of work that has been done into the notion of the academic psychological contract, and for this reason it is worth directing more attention into examining what these institutional expectations represent.

A good reference point for understanding the expectations of working within an academic role has come from research by Badley (2001). This study recognises that there is a dichotomy between "pragmatism" and "scholarship" within academic life, where academic development has often been associated with promoting useful (rather than say, true, correct or best) approaches to teaching and learning, encouraging learning and being more anti-managerial than managerial. However, as illustrated in Chapter 3, academic staff members may feel that their university *will* provide them with opportunities of working within a managerial role (Deem and Brehony,2005). Indeed, "best practice" is a good example of an idea that embodies the rhetoric of "new managerialism" (Clarke & Newman, 1997) which has now entered the academic arena (Deem & Brehony, 2005), and in a study by Philbin (2008) on university-industry research collaboration, best practice was recognised as an important part of what academics would expect in their involvement with industry based projects.

Furthermore, in a piece of research by Coaldrake (2001) that looked at what roles universities play in contemporary society, it was established that academics expect their university to be loyal to their discipline, rather than the culture or politics of their institution. This point is reflected in this quote from Coaldrake's (2001) study:

"Academics continue to derive much of their peer support, satisfaction, direction, recognition and work focus from membership of a discipline grouping which transcends institutional or even national boundaries. Many academics see their primary loyalty as being to their discipline, rather than to the institution in which they work". (Coaldrake, 2001, p23).

The issue of learning opportunities has also become an important element of what an academic would expect from his or her institution, and a body of research has developed which has looked at the role of universities as "learning organisations" (Senge, 1990). A learning organisation represents an institution where "people continually expand their capacity to create the results they truly desire, where new and expansive patterns of thinking are nurtured, where collective aspiration is set free, and where people are continually learning how to learn together" (Senge, 1990, p3).

In a paper by Franklin, Hodgkinson and Stewart (1998) on *Universities as Learning Organisations*, it was established that academic staff expect their institutions to undertake various activities that would go hand in hand with many of the "disciplines" associated with a learning organisation (Senge, 1990). These include the creation of task based teams with specialist advisers (the discipline of team learning) and the creation of a body of knowledge associated with multi-dimensional and complex mentoring systems (the discipline of systems thinking). Moreover, these authors believe that "universities

are..uniquely privileged to explore, apply and advance the concept of "learning organisation" in their own organisation practices" (Franklin, Hodgkinson & Stewart,1998,p9).

So on the basis of this evidence; it appears that the institutional expectations associated with work in the academic environment covers a multitude of areas that range from professional challenges, social status, job security and professional development to respect for an academic discipline and learning opportunities. In this respect, the rationale for recognising institutional expectations as a major factor of the academic psychological contract is associated with the importance that a range of professional and personal expectations brings to the academic role. So to capture ideas associated with "institutional expectations" the instrument used within this research will include items that represent expectations that have been traditionally associated with working in an academic role, in addition to items associated with the dichotomy between pragmatism and scholarship such as the notion of "best practice", learning opportunities, managing well and managing others and loyalty towards employer.

4.2.2 Contacts and networking

The rationale for looking at contacts and the process of "networking" is associated with how networking opportunities have become increasingly recognised as an important element that captures the changing character of psychological contracts within the contemporary work environment (De Meuse, Bergmann, Thomas & Scott, 2001). Furthermore, networking additionally represents an important dimension of both the "protean" career (Hall, 1976, 2002; Taylor, 1999) and the "boundaryless" career (Arthur and Rousseau, 1996). As illustrated in chapter 3, the protean career places an emphasis on how the individual (rather than the organisation) takes responsibility for their own personal development (Hall, 1976, 2002; Taylor, 1999), and quite a lot of research on protean careers has quite explicitly illustrated the impact that networking has on career-orientated behaviours.

For instance, a study by O'Sullivan (2002) has recognised that networking represents an important part of a protean approach that repatriated managers adopt to develop their careers effectively. Moreover, research by Forret and Dougherty (2004) on male/female networking and career outcomes found that protean career success was associated with a number of "networking behaviours" which men, in particular adopted (this included maintaining contacts, socializing and engaging in professional activities).

The boundaryless career represents a "sequence of job opportunities that go beyond the boundaries of single employment" (DeFillipi & Arthur, 1994, p307) where "a person..does not rely on *one* organisation to develop and foster his or her own career" (Briscoe *et al*., 2006, p. 32). Furthermore, as an individual moves from job to job or organisation to organisation he or she is supported by strong

internal and external networks (Arthur and Rousseau, 1996), and studies have documented the significance of this process of networking in the boundaryless career. For example, DeFillipi and Arthur (1996) recognise that those adopting a boundaryless mindset (in knowledge based organisations) use internal networks as a way of drawing upon expertise and external networks to enhance professional profile.

So the importance of networking can be seen within the rhetoric of studies that investigate careers from both a protean and boundaryless perspective. However, when specifically examining the "academic career", it appears that quite a lot of evidence exists to reinforce the significance of networking as a way of getting ahead in the university environment, whether examined through a protean or boundaryless viewpoint. In the last chapter, attention was made to the relevance of networking in academia, looking at Startup's (1979) study of the working lives of university staff, where academics increasingly network both within and across organisations, (particularly within the creation of a research project). Furthermore in the last chapter, the importance of networking in academia was linked to deconstructing the "intelligent career" (Arthur, Arthur,Claman & DeFillippi, 1995) where "faculty socialisation" (Tierny & Rhode, 1997) and business/social networks (McAdam & Marlow, 2008) were associated with the "knowing whom" dimension of this concept.

But a range of other studies have highlighted the importance of networking within the academic environment, and this reinforces its role as a factor of the academic psychological contract. For example, a study by Dowd and Kaplan (2005) recognised networking as a skill which is linked to a boundaryless perspective of an academic career. In Dowd and Kaplan's (2005) study, it was established that networking was an integral part of an academic career typology known as "connectors". This referred to faculty members who adopt a boundaryless mindset and have "extremely well developed networks of associates within and outside their current institution.(to) provide them with a base of support for their work and also with a professional support system should feedback or information be needed" (Dowd & Kaplan, 2005, p17).

Furthermore, in a more recent study that looked at the strategies to survive and thrive in academia, Salazar (2009) found that "finding, building and maintaining support networks" was one of the five "emergent themes" that developed from a constructivist grounded theory approach which this researcher adopted (Glaser & Strauss, 1967; Charmaz, 2003). Within this theme, the value of networking was linked to four strategies which "stressed the essential nature of a support network, without which (academic staff) may not survive" (Salazar, 2009,p191). These were: (i) seeking support from individual faculty members of a university; (ii) creating a connection with individuals outside an academic's department; (iii) building and maintaining a social network outside a university and (iv)

using one's family as a support network. So on the basis of this evidence, it appears that networking might be an integral part of a boundaryless perspective to an academic career, and has a particularly important *strategic* value for surviving and thriving within the university environment.

Therefore, it could be inferred that networking has become an important element of working within a boundaryless organisation such as a university (Baruch & Hall, 2004), and as the "knowing whom" aspect of the "intelligent career" (Arthur, Arthur,Claman & DeFillippi, 1995). In view of this, it can be inferred that networking plays an important role as a situational factor that sculptures the idiosyncratic character of a psychological contract that could exist within academia, thus representing an important factor of an academic psychological contract. Furthermore, as networking plays an evidently important role to the work of an academic, and has become a key element in the changing character of psychological contracts in the present day workplace (De Meuse, Bergmann, Thomas & Scott, 2001), it seems logical to recognise its association with a psychological contract that could exist within academia. Consequently, the role of networking in this study will be examined in an overview of the relationship between the central factors of the academic psychological contract and subsequent the hypothesis - providing the theoretical bedrock of this research (in section 4.4.2.2). Moreover, the instrument adopted in this research will measure the factor of "networking", by looking at what opportunities a member of university staff has to network with leading academics in their area of research.

4.2.3 Commitment

There have been numerous studies that have examined the notion of organisational commitment, particularly in relation to studying the effects of commitment within the idea of an employee relationship, and this is relevant to this research as it takes an *employee'*s perspective towards looking at the existence of a psychological contract within an academic domain.

The notion of organisational commitment (OC) has been represented in terms of the attitudinal commitment that an individual directs towards working in an organisation, and Hall, Schneider and Nygren (1970) believe it reflects a state 'when the goals of the organization and those of the individual become increasingly integrated or congruent'. Research within this area is intrinsically linked a range of ideas that include the notion of social identity, where the individual will seek to enhance personal worth and self-belief by being members of an in-group (Tajfel & Turner, 1985; Ashforth & Mael, 1989).

Furthermore, the role that OC has played from a managerial point of view has been well documented, especially its role on enhancing employee effectiveness and performance (Cohen, 1993; Cohen & Hudecek, 1993 *et al*) and as an important variable in defining human resource management (HRM). Indeed, Storey (1995) defines a distinctive approach to HRM that seeks to "obtain competitive advantage through the strategic deployment of a highly *committed* and skilled workforce, using an array of cultural, structural and personnel practices" (Storey, 1995,p5).

However, in addition to the implications that OC has had for management, it is interesting to note that OC is often associated with an employee relationship where commitment is associated with rewards, which are usually intrinsic (such as belonging and job satisfaction). For this reason, OC can be recognised as an important factor of psychological contracts and contemporary research has now suggested that contracts have been mediated by the transition of specific levels of commitment within employment relationships (Robinson, Kraatz & Rousseau, 1994). Furthermore, during the last several years a sizable body of research has accumulated on the multidimensional approach to commitment, (Cohen, 2003) and Baruch and Winkelmann-Gleed (2002) have recognised that different forms of commitment may "hold the key for the future of the psychological contract between employees and their employer" (Baruch and Winkelmann-Gleed,2002,p344). Indeed, an interesting study which explored the relationship between commitment and psychological contracts came from Hughes's and Palmer's (2007) research on the effects of psychological contracts on organisational commitment amongst permanent and contingent workers. Amongst the results of this study was the finding that workers, regardless of status, appeared to develop obligations which reflected *relational* psychological contracts as well as a level of *value commitment*, which reflects a desire to *produce* goods or services for an organisation (March and Simon, 1958). This finding is interesting as it perhaps challenges the view that relational psychological contracts always imply a long term association with an organisation (Blancero & Ellran, 1997), which was illustrated in chapter two.

So as evidence has suggested that psychological contracts have been mediated by levels of commitment (Robinson, Kraatz & Rousseau, 1994) and that different forms of commitment may play an important future role in understanding psychological contracts between employees and their employer (Baruch and Winkelmann-Gleed,2002,p344), it seems logical to include commitment as a factor of the academic psychological contract. Furthermore, the rationale for including commitment at the factor of the academic psychological contract can also be linked to Baruch and Hall's (2004) study on the future character of the academic career. These authors suggested that commitment can be seen in various different ways. Namely, commitment to the institution (the university), commitment to the notion of academia, commitment to a specific work group and individual belongs to, (i.e. biochemistry) commitment to an academic department or faculty and commitment to union. Consequently, the

questionnaire developed within the context of this research, will measure commitment by including items associated with these areas.

4.2.4 Type of University (Pre 1992/Post 1992)

As mentioned in section 1.1 of the first chapter, and in section 3.2.3 of the previous chapter, one of the most significant developments that has changed the character of higher education in the United Kingdom has been the impact of the Further and Higher Education Act of 1992. As already mentioned, this created a duality in the United Kingdom, higher education market, with ex-polytechnics and colleges of higher education becoming new universities - existing along traditional institutions. As section 3.2.3 of the previous chapter has suggested, the 1992 act has effectively created a duality in the scholarly/vocational purpose of universities, with "pre-1992" institutions having a stronger research culture (based on RAE ratings) than "post 1992" institutions which are regarded for teaching and delivering vocationally relevant knowledge (Fulton,1996; McKenna, 1996; MacFarlane, 1997; Henkel, 2000:Breakwell & Tytherleigh,2010).

However, there is a paucity of research that looks at the impact of the Further and Higher Education Act of 1992 on psychological contracts in academia. As mentioned in section 3.6 of the previous chapter, a study Bathmaker (1999) on the changing state of psychological contracts in a United Kingdom post-1992 institution established that managers in newer universities had a relational element to their psychological contract. However, this research did not compare how academics in both pre-1992 and post-1992 institutions might have different expectations according to which type of university they work in. This is surprising as the 1992 Act has been one of the most significant developments which has shaped the character of higher education in the United Kingdom, since the Robbin's Report of 1963. Therefore, this gives a clear rationale for incorporating the type of university an academic works in (i.e a pre-1992 or post 1992 institution) as a factor of the academic psychological contract. Consequently, the questionnaire that has been developed for this research will include an item where the academic member of staff specifies the type of institution they currently work in.

4.2.5 Academic responsibilities

As this research is very much focused upon examining the existence of a psychological contract that could exist within the academic environment, it would seem logical to examine the responsibilities undertaken by anyone within an academic role. As illustrated in the last chapter, the responsibilities associated with working as an academic may have evolved to the extent where there is now a similarity between academic and corporate career models (Baruch and Hall, 2004). The convergence that may have occurred between "academic" and "corporate" career models may have influenced the academic

to think about the range of responsibilities that may have shaped his or her identity such as research, administration, teaching and an awareness of organisational politics. This has been captured quite vividly in some seminal research on the reality of academic work, such as the aforementioned Taylor's *Making Sense of Academic Life* (1999) and Jacobs's, Cintron and Canton's *The Politics of Survival in Academia* (2002).

Jacob's *et al's* (2002) research was particularly interesting as it critically examines narrative accounts of the experiences and challenges faced by ethnic minorities to become bona fide members of various academic institutions in the United States. These narratives show how survival and success require a sophisticated knowledge of the politics of academia, insider knowledge of the requirements of legitimacy in scholarly efforts, and a resourceful approach to facing dilemmas between cultural values, traditional racist practices, and academic resilience.

Furthermore, in a more recent paper by Terpstra and Honoree (2009) which examined the importance of teaching, research and administration in different departments of four universities in the United States, it was established that the most successful academic departments placed *equal weight* to mainly research and teaching activities. Moreover, the same study found that academic departments which place too much emphasis on teaching activities would "fare poorly in terms of faculty teaching effectiveness, research performance, job and pay satisfaction and recruitment and retention" (Terpstra & Honoree, 2009,p175). This finding is interesting as it challenges the importance of teaching as an academic responsibility, perhaps reflecting the findings of studies (highlighted in the last chapter) which suggest that the responsibilities of an academic are becoming more managerial (Kogan, Moses & El-Khawas 1994; Baruch & Hall 2004; Hellawell and Hancock 2001; Brehony 2005; Deem & Brehony, 2005).

Based upon this evidence, it seems that there is a clear rationale for including academic responsibilities as a factor of the academic psychological contract, which is based on two issues: namely, (i) they capture the capture the convergence that has occurred between academia and the corporate world (Baruch & Hall, 2004) and (ii) they additionally capture the expectations of what an individual will be undertaking within the line of his or her duties within a university environment. Lee's (2003) *Surviving and Thriving in Academia* gives numerous examples from a wide range of sources of the obligations that an academic will be faced with in the areas of research, publication, teaching and administration, and problems of simultaneously undertaking these responsibilities effectively has been documented. For example, Taylor (1999) documents how the emergent educational role of the academic has led to a new agenda of work within the university environment, where the emphasis has been on finding a balance between academic and institutional values, priorities and practices. So in view of this, the

instrument used within this research will include items associated with research, teaching and administration in order to capture the reality of what is expected on an academic within the context of a contemporary university setting.

4.2.6 Emotions

In the academic domain emotions (and their expression) are controlled and managed by a wide range of formal and informal means, ensuring that certain emotions are expressed while others are suppressed (Bellas,1999). In the academic context, it could be inferred that staff might be expected to conform to norms associated with an emotional display, even when they conflict with inner feelings. When this conflict results in suppressing genuine emotion or expressing fake emotion, it could be inferred that the work or effort involved in doing the job of an academic is synonymous with a kind of "emotional labour"(Hochschild, 1983; Fineman, 1997; Grandey, 2000) *et al*.

So in view of this, whether the expectations of working as an academic means that emotion can be freely expressed is a matter for debate. Indeed, a paper which illustrated that emotions cannot be freely expressed in academia came from Constanti and Gibbs's (2004) study on emotional labour in higher education teaching. Constanti and Gibbs (2004) argue that emotional labour has become an inevitable by-product of the culture of "managerialism" that has now had an impact on the university environment (as mentioned in the last chapter). By using in-depth unstructured interviews on academic staff at an HE institution in Cyprus, these authors established that "academic staff were expected to perform emotional labour during the execution of their duties, thereby adding *value* to (their) learning/teaching activities" (Constanti and Gibbs, 2004, p247). Furthermore, within the narratives of their findings, it was established that academics were "expected to perform emotional labour in order to achieve the dual outcomes of consumer (i.e. student) satisfaction and profit for management" (Constanti and Gibbs, 2004, p248).

Moreover, similar findings about emotional labour in academia were also found in another interview-based study conducted by Ogbonna and Harris (2004). Therefore, emotional labour is arguably an important feature of work within the academic environment, reflecting the demands faced by academic staff in an age of managerialism, where the student is regarded as a consumer.

However, the character of the academic environment has not only been affected by the issue of emotional labour. In recent years, an increasingly large corpus of research has examined the concept of "emotional intelligence" (Mayer & Salovey, 1997; Goleman,1996; Mullins,2002; Petrides & Furnham, 2003) *et al*. Emotional intelligence is the ability to perceive emotion, integrate it with thought, and to understand and manage emotions (Mayer & Salovey 1997). Furthermore, people with high emotional

intelligence can reflect and regulate their own, and other, emotional states within any environment (Goleman,1996). Within an organisational context (such as academia) emotional intelligence plays a valuable role in identifying the components associated with understanding with how emotions are expressed, identified and regulated. Indeed, the importance of emotional intelligence in academic work was examined in an article by Vandervoort (2008) which established that emotional intelligence not only facilitates the learning process amongst academics, but also "leads to better personal and social adaptation in general (leading to a) educational experience (that) would tend to be more balanced or holistic as it would focus on educating the whole person" (Vandervoort, 2008, p5).

It is also worth mentioning that in Mayer and Salovey's (1997) original research on this subject, four branches of emotional intelligence were identified. These were: (i) emotion perception; (ii) the emotional facilitation of thinking; (iii) understanding and analysing emotions and (iv) the reflective regulation of emotions to promote emotional and intellectual growth. Emotion perception is the first and most basic branch of emotional intelligence in Mayer and Salovey's (1997) model and refers to the 'ability to identify emotions (in one and in others), express emotions accurately, and discriminate between accurate and inaccurate expressions of emotions'. This branch of emotional intelligence is interesting as research has suggested that it is linked to the study of psychological contracts. Indeed, a study by Poon (2004) established that emotion perception has an important link to the evolving psychological contracts in the workplace as employees are expected to adopt an increasingly "protean" approach to their careers, with an emphasis on identifying, expressing and discriminating between emotions in order to foster personal development and employability. So in view of this, it will be interesting to speculate on whether emotional perception will play an important role in shaping the character of psychological contracts in academia, especially as it is becoming widely recognised as a key aspect of understanding the concept of emotional intelligence in the workplace (Ashkanasy & Daus 2002; Rozell,Pettijohn & Parker 2002).

From looking at this evidence, it seems that emotions have a multifaceted impact on the rules of engagement associated with working in an academic role, and this rationalises their role as a factor of a psychological contract that applies to the academic environment. In the context of this study, the role of emotions as factor of an academic psychological contract will be examined by incorporating four hierarchically arranged abilities that underlie the Emotional Intelligence (EQ) construct that was originally identified by Mayer and Salovey (1997). These are: emotion perception (the ability to identify, express and discriminate between emotions); the emotional facilitation of thinking; understanding emotions and regulating emotions. Through adapting this idea and applying it to the academic environment, the role of emotions within the context of an academic psychological contract will be measured via different items on the research instrument that is used within this study – this will focus on areas that will incorporate the expression of emotions, receiving and giving emotional support,

the link between emotions and quality of work, support groups, emotions and motivation, conflict and the expression of trust.

4.2.7 Performance

The issue of work performance has become an important part of any research associated with the psychological contract, especially as the advent of the "new deal" (illustrated in chapter 2) and the development of transactional contracts has meant that there has been a greater emphasis placed on current work performance, rather than a reliability upon a safe, long term, career (Hiltrop, 1995). The importance of work performance in the study of psychological contracts is nicely illustrated in one of the first quantitative studies in this area by Jurek (1968), which examined the relationship between the existence of a psychological contract and sales performance. Using simple correlational analysis this study indicated that sales performance was greatest when an individual's psychological contract was perceived to be met.

Clearly research within this area has developed a lot since Jurek's early work, and psychological contracts have proved to have an effect on performance within many spheres, particular in relation to areas such as the industrial textiles (Pate, Martin & McGoldrick, 2003) and the construction industry (Dainty, Raiden & Neale, 2004).

In the academic context, an interesting paper that illustrates the significance of performance comes from Gendron's (2008) study of "Constituting the Academic Performer". In this study it was recognised that *one* of the representations of "identity" associated with being an academic was linked to performance measures associated with the number of publications in "top" journals. This was in turn monitored by a number of formal schemes to "measure, rank and make sense of the performance of knowledge producers and conveyers" (Gendron, 2008, pp99-100). By examining the performance of academics in the fields of Accounting and Business, the schemes Gendron drew attention to included: the Research Assessment Exercise (RAE) in the United Kingdom (as mentioned in chapter 3);the Social Sciences Citation Index (SSCI), which is a database of articles published in over 1700 scholarly social science journals; the Financial Times rankings of global business schools (which uses research ratings based on publications in international academic and practitioner journals) and the Social Science Research Network (SSRN), which is an internet database of social science research. This study documented that data obtained from these schemes "exert(ed) significant pressure on researchers to publish in "top" journals to ensure they have a displayable productivity – otherwise their careers are at risk of perishing" (Gendron, 2008, p100).

Although the study by Gendron (2008) did not mention psychological contracts, it is interesting that it reflected an important element of what Baruch and Hall (2004) believed to be a property of psychological contracts in the university sector, namely the notion that career advancement is based more on academic performance (in this case publication rate) than tenure (as mentioned in chapter 2).

As performance clearly plays an important role in recognising the achievements of academics, and as it has also been acknowledged that psychological contracts in an academic context play a value role in "developing and maintaining a relationship between the individual, employee and organization to ensure a given level of performance" (Bathmaker,1999,p266), its role as both a factor of the academic psychological contract as a key aspect of this research can be justified. In view of this, the instrument that has been developed for this research will include items that will measure academic performance by focusing on levels of research output.

4.2.8 Competence

Workplace competencies have been extensively researched within the field of areas such as organisational learning and management performance (Murray, 2003; Abraham & Knight, 2001). Furthermore, within the contemporary organisational climate of the transactional careers, the existence of work based competencies has played an important role in the existence of the "intelligent career", reflecting the earlier reference made to the "knowing how" dimension of knowledge – linked with skills that are associated with the ability to be rational, introspective and scientific (Arthur, Arthur,Claman & DeFillippi, 1995). But within the context of the academic background, the notion of what competencies represent is a matter for debate. On one hand, competencies could be associated with research ability, interpersonal skills, business acumen and organizational ability. Indeed, a paper by Twomey and Twomey (1998) on the activities, interactions and competencies associated with British business schools, established that these areas proved to highly significant predictors associated with hiring faculty members. On the other hand, as illustrated in the last chapter, competencies could be associated with "credibility", linked to the activities of teaching, research and obtaining grants (Spendlove, 2007).

However, in a study of the experience of being an academic in a higher education institution in New Zealand, Ruth (2008) believes that academic competencies are associated with *authorship*, *authenticity* and *authority*, where the academic authors an authoritative and authentic representation of his/her identity through research activities they are involved with, and through their academic portfolio. Therefore, the notion of what competencies represent does not only reflect skills associated with the "know how" dimension of knowledge (Arthur, Claman & DeFillippi 1995), but also embody a number of particular skills that reflects an academic's identity.

In this respect, competencies will represent an important factor of the academic psychological contract, and the notion of workplace competence will be examined through including items in the research instrument which are associated with the competence-based or (or "know how") dimension of knowledge (Arthur, Arthur,Claman & DeFillippi, 1995) and through other items that capture an academic's identity (Twomey &Twomey,1998; Spendlove,2007; Ruth,2008). These will include research skills, management ability, time management and the ability to synthesize knowledge (Baruch & Hall, 2004). However, the instrument will also include items that could be recognised as the competencies associated with working in a "protean career" (that is characteristic of a modern transactional contract), embodying items such as leadership ability, empathy and the provision of emotional support (Maguire, 2003).

4.2.9 Psychological contract breach

As mentioned in section 2.5 of the second chapter, psychological contract "breach" represents the *cognisance* of a broken agreement, where an organisation has organisation has failed to meet its obligations, whereas the related concept of psychological contract "violation" represents the *emotional* reaction to a breach (Morrisson & Robinson, 1997). Furthermore, as discussed earlier, numerous studies within the field of organisational studies have researched the effects of breach (and violation), and these have included work on how breaching and violating a psychological contract can have negative implications for job satisfaction, (Robinson & Morrison, 1995) workplace anger and hostility (Rousseau, 1989; Pate and Malone, 2000).

However, within the field of academia, there is evidence to suggest that psychological contract breach (and subsequent violation) may exist within the HE sector. This was most visibly documented in Shen's recent (2010) research on psychological fulfilment in the Australian HE sector, where academics felt that their expectations were not met in a number of areas, especially with regard to the provision of a safe working environment and the provision of resources to do work and competitive pay (as mentioned in section 3.6 of the previous chapter). On the whole, this revealed that there was "an overall low level of academic psychological contract fulfilment, indicating (that) serious contract violation may exist in the HE sector (Shen, 2010,p587). Furthermore, a Doctorate of Education study by Gammie (2010) on the psychological contracts of higher education lecturers in a post 1992 British University Business School revealed that the breach (and violation) of an academics psychological contract did occur, but they continued to work (with an unresolved breach or violation) before attempting further negotiation to improve their working conditions. But, as indicated in section 2.3 of

the second chapter, academics reaction to breach could differ according to whether a relational, transactional or ideological typology of a psychological contract was adopted.

This evidence indicates that the issue of psychological contract breach has not only impacted organisational studies, but has additionally had some impact in academia which is worth further investigation. This provides the rationale for including it as factor of a psychological contract that is unique to the academic environment. Consequently, the instrument that has been developed for this research measures psychological contract breach by including a number of items that compares what an academic (as a university employee) expects from their employer, compared to what is actually received.

4.2.10 Future career expectations

The importance of career expectations in research associated the psychological contract has been well documented, most notably in Rousseau's seminal research on the career perceptions and obligations 224 MBA graduates and their employees (1990). Table 4 gives an overview of the main findings of this study, where differences in career expectations from the 1990's to the present day reflects the move from "relational" to "transactional" contracts (Rousseau, 1995) which was illustrated in chapter two. Applying this to academia, it could be inferred that academic careers are now characterised by low job security and adaptability, with the individual, rather than the organisation, taking responsibility for his/her future development. As career development has evolved to the point where the individual, rather than an organisation takes responsibility for his or her future development, this has brought with it a variety of changing expectations (Rousseau, 1990) which will affect the character of any psychological contract that could exist within the university environment, with academics changing their views about ideas such as job security, rewards, personal development and career outcomes (Coaldrake & Stedman, 1999). And it is not surprising that this shift in opinion about career perceptions has facilitated an interest amongst academics to get involved in activities and projects that have often required them to work overseas (Richardson & McKenna, 2002).

Table 4 - Changes in career expectations associated with changing psychological contracts (adapted from Rousseau, 1990)		
	1990's expectations	***Present expectations***
Job security	High, no redundancy	Low, contingent on performance
Objectives	Targets set by boss Aimed at financial goals	Mutual targets linked to Strategy, aimed at finance
Evaluation	Limited feedback	Ongoing appraisal
Rewards	Position and length of service	Performance related
Personal development	Organisational responsibility	Individual responsibility
Outcomes	Compliance, dependence	Adaptability, innovation

However, in a paper that was presented at the *Academy of Management Conference* by Bagdadi (2009) it was acknowledged that while career expectations in academia are associated with an individual taking responsibility for their own development, "academic systems vary so much that they..devise very different ways of recognising the individual" (Bagdadi,2009,p24). For example, it was found that academic careers (it Italy) are shaped by some powerful social processes which include: merit, human capital (i.e. the possession of a PhD); academic seniority; geographical mobility and changes in legislation. Moreover, this study also established that "merit and human capital do not determine (nor influence) careers in..Italian academia" (Bagdadi,2009,p24), perhaps challenging the (transactional) notion that career progression is based on performance. Although it is interesting to speculate on whether these factors would affect the progression of academic careers in the United Kingdom, it reflects how career expectations in academia are very much effected by context.

So as future career expectations in academia reflect the changing discourse of research into organisational careers (Rousseau, 1990) and are additionally effected the by context of an academic's work, their role as an important factor of an academic psychological contract can be recognised. In view of this, the instrument used within this research will *implicitly* capture the future career perceptions associated with working in an academic role, incorporating items associated with job security, reward and personal development.

4.2.11 Job and career satisfaction

The issue of job and career satisfaction is a particularly interesting aspect of any research associated with psychological contracts because there is some debate on whether levels of satisfaction associated with any job is influenced by a contract being either relational or transactional in nature. Although, Rousseau (1990) has suggested that traditional relational contracts are characterised by high levels of commitment to the organisation and job satisfaction, a study by McDonald and Makin (2000) revealed that the character of psychological contracts amongst temporary and permanent employees has little influence on job satisfaction. This finding has particularly interesting applications within the academic context because it might infer that the increasingly temporary and "protean" character of academic careers with transactional obligations (as illustrated in chapter 3) has little influence on job satisfaction.

Furthermore, in a study conducted by Oshagbemi (1999) which used a questionnaire survey to record job satisfaction amongst lecturers and their managers in 23 United Kingdom universities, it was established that levels of job satisfaction were highest amongst academic staff that hold managerial positions (these included being the dean of a faculty, the director of a school, the head of a department, the chairperson of a research group or the director of an undergraduate programme). However, this author also recognised that managers in the academic environment did not especially derive satisfaction from research activities (when compared with other academic staff), and the reasons for this are nicely captured in the following quote:

"As managers, many people no longer have the time for research activities and therefore, their level of satisfaction from research may be lower than what it was before they became managers. This would be because they perform fewer research activities as managers, and they enjoy fewer of the tangible and intangible benefits of research" (Oshagbemi,1999, p119).

So while the notion of job satisfaction in academia is linked with managerial responsibilities, it appears academic managers do not have the time to become involved in one of the key responsibilities of university work, which is undertaking research (Boice, 2000). Moreover, in another study undertaken by Oshagbemi (2000) it was revealed that satisfaction from undertaking managerial responsibilities tended to rise exponentially with age, whereas satisfaction from undertaking research tended to fall with age. This finding is interesting as it suggests that the character of job satisfaction in academia may change throughout a lecturer's career. It also shows that satisfaction in academia may now be expressed within the rhetoric of managerialism (Deem & Brehony, 2005), which has also had an impact on the expectations associated with academic work, the notion of academic responsibilities, the role of emotions in the academic domain and commitment in the university environment.

So although job satisfaction in the academic domain may be linked to a variety of areas, it remains an important aspect of working within a the HE sector, especially as an excellent study on job satisfaction within academia by Hagedorn (2000) established that how high morale (within a variety of academic positions) has a generally positive outcome on the reputation of a department and institution. Furthermore, although there is some debate as to whether the changing character of psychological contracts has necessarily increased job satisfaction (Rousseau, 1990; McDonald & Makin 2000), its role as an important expectation of working in academia is hard to question (Kogan, Moses & El-Khawas 1994; Baruch & Hall, 2004). For these reasons, there is a clear rationale for recognising job satisfaction as both a factor of the psychological contract, and as a key aspect of this research. Consequently, the instrument development for this research will be designed to include items that capture the levels of morale and satisfaction that an academic feels about his or her work. These items will be conceptually framed within the concept of a *career locus* (Rotter,1992; O'Neil, Bilimoria, & Saatcioglu, 2004) which represents a continuum stretching between an internal or external location of career direction and success – in other words the difference between a self-directed career and an externally-directed career. An internal locus is reflected in a belief that one is responsible for one's own career success and in charge of creating and managing one's future career. Hall's (2002) notion of a protean career as "based on self-direction in the pursuit of psychological success in one's work" (Hall, 2002, p23) reflects an internal career locus. An external career locus reflects the belief that one's career direction and career success occur due to chance (being in the right place at the right time), or some other external intervention such as a network of contacts from which career opportunities emanate or from institutionally-determined structures, cultures and rules of engagement. (Allen *et al,*2000).

Therefore, within the context of this chapter, a range of studies have been examined which influence the work of an academic, and these have fallen within the areas of : (i) institutional expectations; (ii) networking; (iii) commitment; (iv) the type of university an academic works in (i.e a Pre 1992/Post 1992 institution); (v) academic responsibilities; (vi) emotions; (vii) performance; (viii) competence; (ix) psychological contract breach; (x) future career expectations and (xi) job satisfaction. These areas are of particular relevance to this study as they represent the theoretical foundations, and factors, of a psychological contract which is unique to academia. In section 4.4, the relationships between the central factors of the academic psychological contract will be evaluated, looking at how these capture the 13 *a priori* hypothesis that this research will be focused upon - building the conceptual model that maps out the overall terrain of this study.

However, it is also worth mentioning that the factors of an academic psychological contract may also be conceptually grounded in a number of areas that have been overlooked in previous research. So in

view of this, some of the gaps that are present in existing studies of academic careers and the psychological contract will now be addressed.

4.3. Gaps in literature associated with research on academic careers and the psychological contract

In *the British doctorate: a guide for current and prospective doctoral candidates* by the Quality Assurance Agency (QAA), it has been specified that one of the most important requirements for a PhD award is the 'the creation and interpretation of new knowledge (through original research or other advanced scholarship)..to extend the forefront of (a) discipline'(QAA, 2012). This doctorate study will satisfy this requirement through: (i) utilising an attitudinal based questionnaire to test various *a priori* hypotheses that reflect the character of an academic psychological contract and (ii) addressing the gaps which exist in previous research within this area. In relation to the second point, what are identified as "gaps" in research reflect a number of issues that have been raised within the subtext of this chapter. These are illustrated below, and reveal that a study in this area raises some interesting questions in the field of academic careers and the psychological contract.

• Looking at how the notion of an academic psychological contract could be conceptually grounded in the dimensions of the "intelligent career" framework (Arthur, Arthur,Claman & DeFillippi, 1995). In this respect linking the factors of the academic psychological contract with dimensions of knowledge associated with *know why* (institutional expectations), *know how* (competencies and performance) and *know whom* (networking).

• Looking at how the character of the academic psychological contract is influenced by a process in which organisational expectations and requirements are now affecting academic practice. For example, are the responsibilities associated with working in an academic role, synonymous with work in a corporate role, and is this influenced by future career expectations? This point is especially relevant, in light of the culture of managerialism which has now entered the academic arena (Deem & Brehony, 2005).

• Examining how psychological contracts within academia are largely influenced by an *emotional* dimension. For example, if a relationship exists between academic responsibilities and performance in an academic psychological contract, is this influenced by an lecturers level of "emotional intelligence"? (Mayer & Salovey, 1997; Goleman,1996; Mullins,2002; Petrides & Furnham, 2003) *et al*.

• Looking at how commitment may influence the character of an academic psychological contract. For example, in an academic psychological contract, is performance mediated by different levels of commitment, reflecting the perceived obligations an academic has to the institution he or she works at? (Baruch & Hall, 2004).

• Researching the existence of psychological contracts in academia from a *British* perspective, where the effects of the Further and Higher Education Act of 1992 will be examined. This will raise some interesting issues. For instance, in an academic psychological contract, does performance differ significantly between a pre-1992 and post-1992 institution?

• Evaluating the effects of "breaching" psychological contracts in the United Kingdom higher education environment. Although some recent research does exist which looks at the effects of breaching (and violating) psychological contracts in an academic environment (Tipples & Krivokapic-Skoko's,1997; Shen, 2010), this examined the higher education sector within pacific rim countries, with the only one UK based study (to date) examining psychological contract breach within a British University Business School (Gammie, 2006). This research will look at psychological contract breach within a variety of different pre-1992 and post-1992 universities in the United Kingdom, using a sample of university staff from different disciplines. Again, this raises some interesting issues. For example, does breaching a psychological contract in the United Kingdom higher education environment, have a negative effect on job satisfaction?

4.4 Relationships between the central factors of the academic psychological contract

4.4.1 The expectations academics have (of their institution) and performance

As mentioned section 4.2.1 of this chapter, the institutional expectations associated with working in an academic role can be linked to a wide corpus of research in the academic environment. These range from professional challenges, social status, job security, professional development, good working conditions, and flexibility (Baruch & Hall, 2004) to best practice (Clarke & Brehony, 2005), loyalty to an academic discipline(Coaldrake,2001) and learning opportunities (Franklin, Hodgkinson & Stewart,1998,p9).

However, there is evidence to suggest that the expectations academics have from their institution has a positive link to performance (measured by research output). In Gendron's (2008) study on academic performance, it has been recognised that the construction of the identify of an academic as "performer" is not only concerned with establishing and maintaining a research-based reputation, but also in mechanisms used by organizations to regulate and manage individuals – these can include incentive

schemes (reflecting expectations that enhance good working conditions) and organisational policies (reflecting expectations that can facilitate best practice). So it could be inferred that the expectations an academic has of his/her institution not only contributes to how they are managed and governed, but also contributes to the processes that transform the academic into a "performer".

Another study which reinforces the relationship between institutional expectations and performance comes from Simmon's (2002) study on performance appraisals systems in HE and FE colleges in the United Kingdom. This study revealed that performance criteria in in the HE sector was largely determined by research based criteria including the "number of research publications produced" and the "amount of research funding generated". Moreover, this study also recognised that levels of performance in the HE sector (measured by research output and amount of research funding,) would increase if different work related expectations were met, such as the provision of good learning opportunities and the recognition that the academic is a "knowledge based" worker (Nonaka, 1994), where the provision of learning opportunities is of great importance.

However, will the relationship between institutional expectations and work performance be moderated by age, where this relationship will be stronger for young, as opposed to older scholars? This is an interesting question to consider as Shen's (2010) recent research on psychological contract fulfilment in an Australian university established that older academic staff might "become apathetic about what (has) been occurring in (their) workplace" (Shen, 2010,p586). In this respect younger scholars may place more emphasis on various institutional expectations (such as good working conditions and an awareness of "best practice") in order to facilitate academic performance, especially as evidence also exists which suggests younger academics have a particularly high research output in the early years of their career (Heward *et al*, 1997).

Therefore, the hypotheses that are stated below reflect the positive relationship between the institutional expectations of working in an academic position and performance, and how this is moderated by age.

Hypothesis 1a

In the academic psychological contract there is a positive relationship between an employee's perceived institutional expectations and their performance.

Hypothesis 1b

In the academic psychological contract there is a positive relationship between an employee's perceived institutional expectations and performance, which is moderated by age, in a way that this relationship will be stronger for young scholars compared with older scholars.

4.4.2.1 The relationship between networking (in academia) and performance

In section 4.2.2 of this chapter, it was documented how networking has become an important part of the contemporary "protean" (Hall, 1976, 2002; Taylor, 1999) and "boundaryless" approaches to careers (Arthur and Rousseau, 1996). Furthermore, as already mentioned, the previous chapter recognised that networking, in an academic context, could be associated with the "knowing who" dimension of the "intelligent career" framework (Arthur, Arthur,Claman & DeFillippi, 1995) – reflecting practices such as "faculty socialisation" (Tierny & Rhode, 1997) and business/social networks (McAdam & Marlow, 2008).

But there is also evidence to suggest that networking has a positive effect on (research based) performance in academia. In a study of the determinants of research based performance (amongst social science academics) in an Australian University, it was found that good research performance was linked to greater interaction (or networking) with other academic members of staff from different institutions (Harris & Kaine, 1994). Through using a cluster analysis methodology to examine the research performance profiles of 134 academic staff, this study established that high performers "had frequent contact with colleagues in universities in Australia and overseas, that they frequently presented papers at conferences in Australia and overseas, and that they frequently acted as journal referees and journal editors (ibid, 1994,p199).

Furthermore, in a study by Raddon (2002) which looks at the "discourse" of academic success, it was established that networking plays a fundamental role in establishing an academic's reputation. More specifically, this study recognised that a "successful academic" represents an individual who is devoted to their reputation and their university, secures this reputation through publications in peer reviewed journals, focuses on research, (rather than teaching, administration and pastoral care) and develops these practices through a process of networking – both during and outside normal working hours (ibid).

Finally, the importance of "social network" relations (Wasserman & Faust, 1994) has been seen in research which recognises the links between networking and performance in an academic context. The basic premise of this perspective is that individual success is dependent on the relationship with others, both inside and outside an organisation (Wasserman & Faust, 1994; Burt, 2000). And a recent study which adopted this perspective by Coromina *et al* (2011) looked at the performance of early career

academics (who are studying or just finished a PhD). It was established that a lack of network contacts hindered the process of publishing research and that the *content* of ties between academic members of staff mattered as much as the structure of networks to enhance research output. Moreover, this study also recognised that number of issues reinforced the importance of networking in establishing a record of academic publications and presentations at conferences. These included the influence of a research group within a university faculty (Gulbrandsen, 2004), the negative effect of isolation in conducting research (Rudd, 1984) and the effects of socialisation (Austin, 2002), where the academic member of staff becomes *part* of the research group.

On the basis of this evidence, the hypothesis that is stated below reflects the positive role of networking in enhancing academic performance.

Hypothesis 2a

In the academic psychological contract there is a positive relationship between an employee's networking and performance.

4.4.2.2 The mediating role of commitment on the relationship between networking (in academia) and performance

Although a variety of studies exists to support the view that networking has a positive effect on (research based) performance in academia, it should be appreciated that an academic career can take a "multi-directional" path (Baruch & Hall, 2004) where or an member of staff (such as a Department Chair or a Dean) can hold managerial responsibilities associated with administrative duties (in addition to the more traditional roles associated with research). So in view of this, will an academic feel committed to maintaining sufficient levels of research based performance and networking practices, whilst maintaining an increasingly multifaceted pattern of responsibilities? This is question is particularly interesting as research has suggested that the idea of "long term commitment" has already become a virtually extinct feature of organizational life in the 1990s and this trend seems sure to continue in the 2000s" (Baruch, 1999, pp435-436). However, research has suggested that academics are not willing to accept managerial positions because of the commitment they have to the (research-based) reputation of their institution, and will continue to undertake networking practices to enhance this (Oshagbemi, 1997). Furthermore, in study of the "binding and unbinding of academic careers", Enders and Kaulisch (2006) recognise that academics have a commitment to their discipline, to their individual research record and to the research profile or their institution, which are considered to be a key aspects of their professional identity. However, this study also recognised that academic career paths are also built on networking, not only within their institution, but also across other institutions.

Therefore, while the links between networking and research based performance are important, the influence of commitment on this relationship can also recognised. The following hypothesis therefore reflects the mediating role of commitment on the positive relationship between networking and commitment.

Hypothesis 2b

In the academic psychological contract there is a positive relationship between an employee's networking and performance, which is mediated by commitment, where this relationship will influenced by the obligations a scholar has to his/her institution.

4.4.3.1 The relationship between the type of university (pre1992/post1992) and performance

The relationship between the type of university an academic member of staff works in and academic (research based) performance has been documented in a growing body of research which has been mentioned earlier in this chapter, and in the previous chapter, with the general consensus suggesting (as mentioned) that a "duality" exists between post-1992 institutions (with an administrative and teaching based culture), and post 1992 institutions, with a stronger research based culture (Fulton,1996; McKenna, 1996; MacFarlane, 1997; Henkel, 2000, Breakwell & Tytherleigh, 2010).

However, probably one of the most interesting studies that highlighted, in some detail, the differences in research performance between pre and post 1992 institutions, came from Shattock's (2001) study on the academic profession in Britain. This study illustrated that the changes brought on by the Further and Higher Education Act of 1992 brought about a highly differentiated university sector in the United Kingdom, with pre-1992 institutions having a proliferation of academic staff known for their high research profile, and with pre-1992 institutions having more pressure from the Research Assessment Exercise (RAE) " to persuade older research inactive staff to retire so that they can be replaced by younger, more energetic researchers (Shattock, 2001, p38). In view of this, it could be inferred that an academics expectations of research based performance will be positively affected by the type of institution they work in, with pre-1992 institutions having a higher research based culture. In view of this, the following hypothesis reflects the relationship between research performance and the dual market of the British university sector.

Hypothesis 3a

In the academic psychological contract there is a positive relationship between the type of university an academic works in and performance, where research performance will be higher amongst academics in pre-1992 institutions.

4.4.3.2 The moderating role of professional background on the relationship between the type of university (pre1992/post1992) and performance

While the impact of the Further and Higher Education Act of 1992 may have had an important effect on an academic's research based performance, there is also evidence to suggest that research output may differ between different academic faculties, reflecting the professional background that an academic member of staff identifies with (i.e. social science or natural science). In a paper by Charlton and Andras (2007) that included an analysis of 30 years of publications and citations from 47 universities in the United Kingdom, it was found that the main way of method of measuring the research quality of British Universities (the RAE) was strongly "focused upon 'scientific' research, that is, the mathematical and natural sciences (where)… non-scientific research is believed (by those outside it) to lack the critical national importance of science (Charlton & Andras, 2007,p557). So in view of a stronger emphasis on research excellence in the natural sciences, the following hypothesis reflects the effects of an academics professional background on the positive relationship between research performance and the dual market of the British university sector.

Hypothesis 3b

In the academic psychological contract there is a positive relationship between the type of university an academic works in and performance, where research performance will be higher amongst academics in pre-1992 institutions. This is moderated by professional background, in a way that this relationship will be stronger between different academic faculties.

4.4.4.1 The relationship between academic responsibilities and performance

In section 4.2.5 of this chapter, reference was made to some seminal research which looked at how the responsibilities of an academic have become more managerial, and where a range of roles associated with research, teaching and administration have become the key responsibilities that shape an academics sense of identity (Baruch & Hall, 2004; Taylor, 1999; Cintron and Cantron, 2002). However, it is worth considering whether an adherence to the "trinity" of research, teaching and

administration *duties* (Boice, 2000) that have defined an academic's work can actually have a positive effect on research performance?

An interesting paper that addresses this question comes from a quite recent study by Terpstra and Honoree (2009) which examined the importance of teaching, research and administration in different departments of four universities in the United States,. This study established that the most successful academic faculties (in terms of the volume of research output) placed an equal weight to mainly research and teaching activities, with the most successful faculties operating a system that emphasises research in some fashion - such as a research only emphasis, a research and teaching emphasis, or a research, teaching and service emphasis. Moreover, the same study found that academic departments which place too much emphasis on teaching, would "fare poorly in terms of faculty teaching effectiveness (and) research performance" (Terpstra & Honoree, 2009, p175). Furthermore, in another study by Arnold (2008) on the relationship between research productivity and teaching effectiveness amongst 300 lecturers and 800 courses in a university in the Netherlands, it was established that a cross-fertilisation can occur between teaching and research, with teaching practices (especially on higher level courses) actually enhancing both the quality and quantity of research. Further evidence which supports the relationship between teaching effectiveness and research output comes from a review by Feldman (1987) and a meta-analysis based study by Hattie and Marsh (1996) which, overall, showed a positive relationship between good quality teaching and research.

In view of this evidence, it appears that the *multifaceted* responsibilities of working as a lecturer, (Gendron, 2008) will, to varying degrees, have a positive impact on an academics level of research output – in particular when research and teaching activities are combined. The following hypothesis therefore reflects the relationship between academic responsibilities and performance.

Hypothesis 4a

In the academic psychological contract there is a positive relationship between an employee's perceived academic responsibilities and performance.

4.4.4.2 The mediating role of emotions on the relationship between academic responsibilities and performance

While the multifaceted character of responsibilities ta lecturer may undertake could have a positive impact on research output, it is worth considering how the issue of "emotional intelligence" (Mayer and Salovey, 1997) may affect an academic's ability to carry out to carry out these responsibilities effectively. Indeed, role of emotional intelligence in shaping performance in the workplace has been

recognised, and a study by Tran (1998) revealed that there is "inevitably, a cost to the bottom line from low levels of emotional intelligence on the job" (Tran, 1998, p101). Moreover, the importance of emotions in facilitating performance in academia has been recognised in various studies. This has included the aforementioned study by Vandervoort (2008) which highlighted how emotional intelligence can facilitate a positive learning experience for academic members of staff (examined in section 4.2.6 of this chapter), and research by LaRocco and Bruns (2006) on career entry to academia amongst practitioners (where it was observed that emotional intelligence and support is fundamental for preparing academics for research tasks, and for developing lifelong habits of scholarship).

Therefore, in view of the mediating role that emotions plays in the positive relationship between an academics responsibilities and performance, the following hypothesis has been formulated.

Hypothesis 4b

In the academic psychological contract there is a positive relationship between an employee's perceived academic responsibilities and performance, which is mediated by emotions, where this relationship will be influenced by an academics level of "emotional intelligence".

4.4.5.1 The relationship between perceived competence and job satisfaction

In section 4.2.8 of this chapter, the significance of competence as a factor of the academic psychological contract was discussed. This factor not only reflects the "knowing how" dimension of the "intelligent career" framework (Arthur, Claman & DeFillippi, 1995) but also draws attention to skills that the modern academic is required to have, such as research ability, interpersonal skills, business acumen and organizational ability (Baruch & Hall, 2004). However, it is interesting to consider whether the perceived competencies that an academic associates with his or her work will have a positive effect on morale and job satisfaction. While a lot has been written about job satisfaction in academia, this has tended to focus upon areas that have included department/institutional reputation (Hagedorn, 2000), organisational culture (Sloan & Ward, 1999) and cohort effects (Sloan & Ward, 2001). But in the last few years research has emerged which has looked at how job satisfaction in academia is associated the competencies that academic believes they bring to their work.

For example, a study by Briggs (2006) on the changing roles and competencies of academic's in a United Kingdom (post-1992) university, found that a clarity and understanding of the key competencies that define a lectures role (such as researching, teaching, information technology and interpersonal skills) were essential in order to minimise job dissatisfaction and facilitate employee retention within the academic community. Furthermore, this study also established that academic staff feel more

satisfied if competencies are clearly defined, rather than being allowed to simply evolve over a period of time.

The relationship between perceived competence and job satisfaction in academia was also explored within the subtext of a study by Houston, Meyer and Paewai (2006) which examined the relationship between academic staff workloads and job satisfaction. This research found that job satisfaction in academia was more "intrinsic" in nature and associated with competencies linked to interpersonal skills, levels of responsibility and research, rather than teaching and administration. Moreover, in a study by Shahzad *et al* (2010) on the bearing of faculty workload, compensation management and academic quality on job satisfaction in academia, it was found that academics who could develop good (time management) competencies in managing their workload would generally feel generally more satisfied in their work – with bad management of academic workload leading to decreased job satisfaction and poor academic quality (in terms research, teaching, administration and pastoral support). However, probably the most relevant research that explored the relationship between perceived competence and job satisfaction in academia came from the aforementioned seminal study by Baruch and Hall (2004) on how the academic career has become a model for future careers in other sectors. This study recognised that job satisfaction in academia is conceptually grounded in a convergence between academic and corporate career models, with satisfaction not only associated with the competencies of traditional academic practice (such as research skills) ,but also with competencies that are found within a corporate environment (such as managerial skills, time management and synthesising knowledge).

These studies show that job satisfaction is positively related to different competencies that an academic believes they bring to their work, and on the basis this evidence, the following hypothesis is formulated.

Hypothesis 5a

In the academic psychological contract there is a positive relationship between an employee's perceived competence and job satisfaction.

4.4.5.2 The moderating role of professional background on the relationship between perceived competence and job satisfaction

Although the perceived competencies which an academic associates with his/her work may have a positive effect on job satisfaction, it is worth considering if this relationship could be moderated by the professional background that an academic member of staff identifies with (i.e. social science or natural

science), especially as research exists which suggests that an academic's ability to carry out the key competencies of their work is driven by the epistemological characteristics of their discipline (Becher, 2001; Becher & Kogan, 1992). Moreover, in Becher's (2001) seminal study entitled *Academic Territories: Intellectual Inquiry and the Culture of Disciplines* (2001) it was found that academic engagement and satisfaction was associated with the 'recognisable identities and cultural practices' of different disciplines (ibid), where the identities of academic staff were either recognised as "culturalists" equate their work with context-specific socialisation within a faculty, or "constructivists" who place more emphasis on the importance of individual agency in the their role as academics. Therefore, the following hypothesis reflects how the epistemological characteristics of an academic discipline can affect the positive relationship between job satisfaction and an academics ability to carry out the key competencies of their work.

Hypothesis 5b

In the academic psychological contract there is a positive relationship between an employee's perceived competence and job satisfaction, which is moderated by professional background, in a way that this relationship will be stronger between different academic faculties.

4.4.5.3 The mediating role future career expectations on the relationship between perceived competence and job satisfaction

Although the relationship between an academic's perceived level of competence and job satisfaction is interesting to explore as it reflects an emerging body of research in job satisfaction in academia, it must be appreciated that there is a changing agenda of future career expectations in academia, where a convergence may exist between the workplace expectations within the academic and the corporate environment. This was explored in section 3.3 of the last chapter, where research was evaluated which reflected how the competencies associated with an academic role may have been affected through the lecturer taking a more "protean" approach to his/her work, emphasising a more individually orientated approach to workplace expectations (Hall, 1976, 2001 ;Peiperl & Baruch, 1997; Arthur & Rousseau, 1996). Furthermore, the last chapter also documented how a convergence that may exist between the expectations of working in academia and the corporate environment can also be associated with the notion of empowerment and "free agency" (Baruch & Hall, 2004) and "new managerialism" (Clarke & Newman, 1997; Deem & Brehony,2005), which again, could affect the competencies associated with working in an academic role.

This evidence illustrates that the changing agenda of future career expectations may affect the positive relationship between job satisfaction and competence that exists in an academic environment, and in view of this, the following thesis is formulated.

Hypothesis 5c

In the academic psychological contract there is a positive relationship between an employee's perceived competence and job satisfaction, which is mediated by future career expectations.

4.4.5.4 The moderating role of age on the relationship between perceived competence, future career expectations and job satisfaction

Although a changing agenda of expectations can affect the relationship between an employee's competences and job satisfaction within academia, it must also be appreciated that numerous studies have demonstrated that factors which affect job satisfaction within different environments (including academia) are often moderated by age. For example, a study by Mannheim, Baruch, and Tal (1997) found age was positively related to job satisfaction within the information technology sector, and in the academic context it has been widely reported that job satisfaction is moderated by age – where research that has explored this relationship has *included* studies by Oshagbemi (1997), Dennis (1998), Ssesanga and Garrett (2005), Noordin and Jusoff (2009) and Paul and Phua (2011). Moreover, in a (1999) study by Oshagbemi study on job satisfaction amongst lecturers and their managers in British universities, it was revealed that younger academics tend to be more satisfied with their position. Although this study found the link between age and satisfaction could have been attributed to level of seniority and length of service, it also established that older academics who held "managerial" positions also tended to be more satisfied. Furthermore, a more recent study by Schroder (2008) found that academic employee's aged fifty years and over generally showed greater job satisfaction in their work, and this was reflected in a wide variety of areas, especially with regard to achieving high levels of competence in their duties.

This evidence shows that factors which positively affect job satisfaction in the academic context could well be moderated by age, and in view of this, the following hypothesis is formulated.

Hypothesis 5d

In the academic psychological contract there is a positive relationship between an employee's perceived competence and job satisfaction, which is mediated by future career expectations and moderated by age, in a way that this relationship will be stronger for older scholars compared with younger ones.

4.4.6 The relationship between psychological contract breach and job satisfaction

The negative effect of psychological contract breach on job satisfaction has been documented in numerous studies. As mentioned in section 2.5 of the second chapter, the emotional reaction of psychological contract breach is known as "violation" (Morrison & Robinson, 1997) and this can result in feelings associated with dissatisfaction (such as distress) - having detrimental consequences for an employee's level of commitment (Schalk & Roe, 2007) and resulting in a generally negative perception of an employee's organisation (Conway & Briner, 2006).

However, research in the field of academia has also recognised the significance of psychological contract breach and its negative effect on job satisfaction. One of the best studies that examined the effects of psychological contract breach in a university environment came Tipples and Krivokapic-Skoko's (1997) research on the role of psychological contracts to study low morale and disappointment amongst academics in New Zealand (as mentioned in section 3.6 of the previous chapter). The academic employee's in this study found that their university failed to meet its promised obligations to them, and this was consequently associated with a low level of satisfaction amongst academic staff. Furthermore, more recent research by Shen (2010) has revealed that failure to fulfil an academics psychological contract has led to dissatisfaction in a number of areas (including the provision of a safe working environment) and the study Gammie (2010) on psychological contacts in a post 1992 University Business School revealed an overall low level of satisfaction associated with breaching a psychological contract, even if academics did attempt to improve the quality of their working environment.

Therefore, on the basis of this evidence, the following hypothesis has been formulated which reflects how psychological contract breach has a negative effect on job satisfaction within the academic environment.

Hypothesis 6

In the academic psychological contract there is a negative relationship between an employee's perceived psychological contract breach and job satisfaction .

4.5 A conceptual model of the academic psychological contract and a summary of the hypotheses

Figure 3 (below) represents the conceptual model that maps out the overall terrain of this particular study, incorporating components that represent the foundation factors, intervening factors and outcome factors of the academic psychological contract (and how these have an impact on performance and job satisfaction). The relationships which exist between the different factors of the academic psychological contract are represented by the arrowed lines, illustrating how these capture the 13 hypothesis (H1a, H1b, H2a H2b, H3a, H3b, H4a,H4b, H5a, H5b, H5c, H5d, H6) that this research will be focused upon - a summary of these hypotheses is illustrated in table 5 below. The model also incorporates the moderating variables of age and professional background and the mediating variables of commitment, emotions and future career expectations. In the next (research methodology) chapter, attention will be drawn to how moderation and mediation will be tested using hierarchical regression procedures. (Baron & Kenny, 1986).

However, perhaps the most significant value of this conceptual model is that it challenges the idea that a psychological contract in academia is in some ways "unique". Although very little work has been carried out on the impact of psychological contracts within a university environment, Trowler (1997) suggests that contracts within academia are unique as "individuals bring sets of values, attitudes and expectations with them when they enter higher education (which) shift during their time in (their professional) situation".(Trowler, 1997, pp313-314). But this claim to uniqueness can be challenged as this research identifies factors of a psychological contract (in an academic context) which can apply to the professional activities of academic employee's from a range of different institutions, identifying relationships that might be of interest to human resource practices, contractual arrangements and aspects of organizational culture within the academic environment. Furthermore, by building upon the conceptual framework that is illustrated in figure 3 it will be possible to identify on how the individual and situational factors associated with the academic psychological contract have a distinct relationship with one another - reflecting upon ideas that have been overlooked in previous research in this area.

It should also be emphasised that this model adopts a distinctly "employee" perspective and reflects a range of implicit needs that captures the relationship between and the academic and his/her employer – taking account of a range of individual and situational factors that are reflected in the review of literature presented in chapters two and three. Moreover, as discussed in the next chapter, the questionnaire that has been created for the purposes of this research will measure an employee's perspectives about expectations from their employers.

Figure 3 – Conceptual model - the impact of the academic psychological contract on performance and job satisfaction

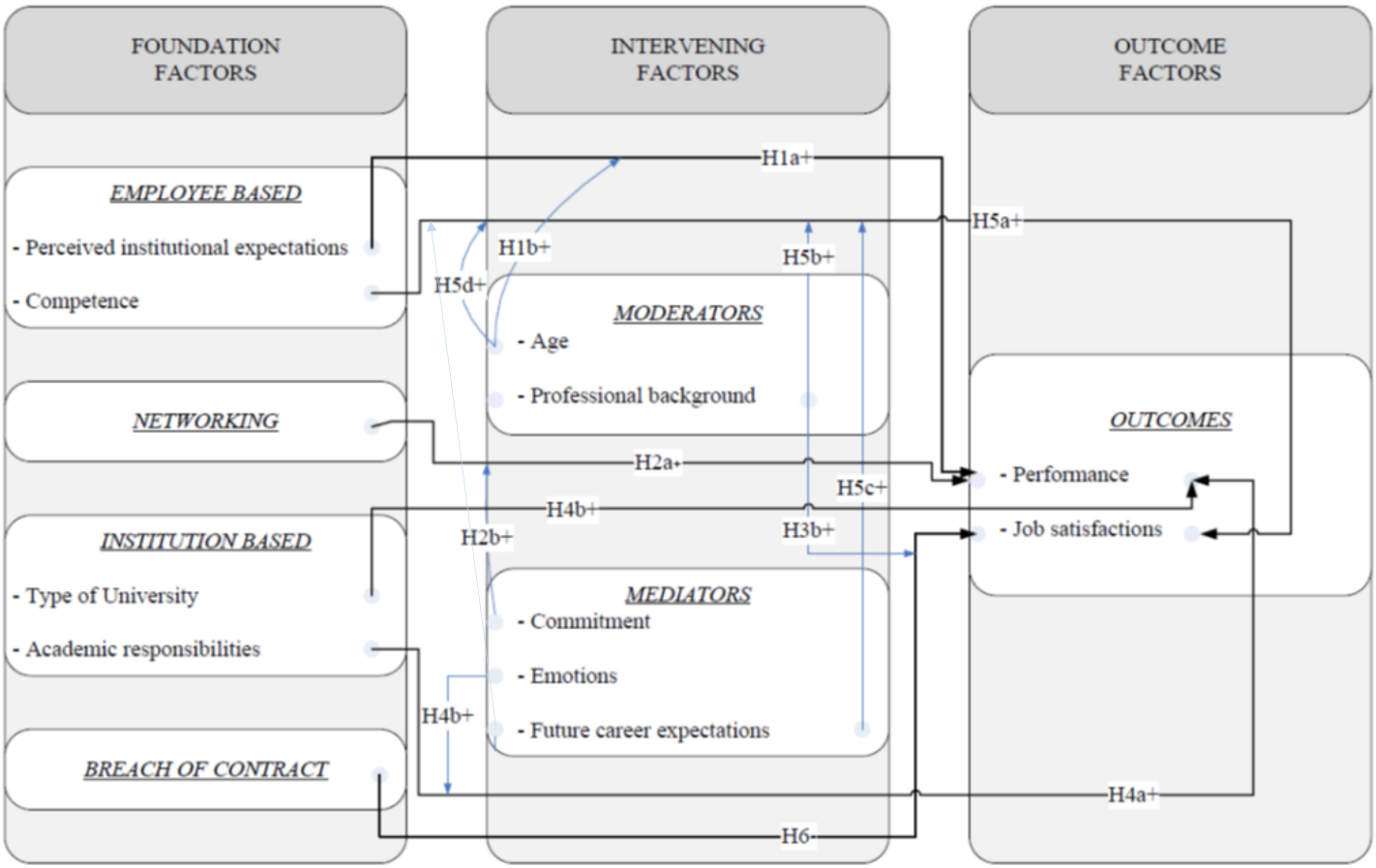


Table 5 - Summary of hypotheses

Hypothesis 1a
In the academic psychological contract there is a positive relationship between an employee's perceived institutional expectations and their performance.

Hypothesis 1b
In the academic psychological contract there is a positive relationship between an employee's perceived institutional expectations and performance, which is moderated by age, in a way that this relationship will be stronger for young scholars compared with older scholars.

Hypothesis 2a
In the academic psychological contract there is a positive relationship between an employee's networking and performance.

Hypothesis 2b
In the academic psychological contract there is a positive relationship between an employee's networking and performance, which is mediated by commitment, where this relationship will influenced by the obligations a scholar has to his/her institution.

Hypothesis 3a
In the academic psychological contract there is a positive relationship between the type of university an academic works in and performance, where research performance will be higher amongst academics in pre-1992 institutions.

Hypothesis 3b
In the academic psychological contract there is a positive relationship between the type of university an academic works in and performance, where research performance will be higher amongst academics in pre-1992 institutions. This is moderated by professional background, in a way that this relationship will be stronger between different academic faculties.

Hypothesis 4a
In the academic psychological contract there is a positive relationship between an employee's perceived academic responsibilities and performance.

Hypothesis 4b
In the academic psychological contract there is a positive relationship between an employee's perceived academic responsibilities and performance, which is mediated by emotions, where this relationship will be influenced an academics level of "emotional intelligence".

Hypothesis 5a
In the academic psychological contract there is a positive relationship between an employee's perceived competence and job satisfaction.

Hypothesis 5b
In the academic psychological contract there is a positive relationship between an employee's perceived competence and job satisfaction, which is moderated by professional background, in a way that this relationship will be stronger between different academic faculties.

Hypothesis 5c
In the academic psychological contract there is a positive relationship between an employee's perceived competence and job satisfaction, which is mediated by future career expectations.

Hypothesis 5d
In the academic psychological contract there is a positive relationship between an employee's perceived competence and job satisfaction, which is mediated by future career expectations and moderated by age, in a way that this relationship will be stronger for older scholars compared with younger ones.

Hypothesis 6
In the academic psychological contract there is a negative relationship between an employee's perceived psychological contract breach and job satisfaction.

4.6 Chapter summary

This chapter has presented an account of relevant literature than captures an employee's expectations, and the characteristics of working in an academic role, focusing on eleven factors which incorporate: (i) institutional expectations; (ii) networking; (iii) commitment; (iv) the type of university an academic work's in (i.e a Pre 1992/Post 1992 institution); (v) academic responsibilities; (vi) emotions; (vii) performance; (viii) competence; (ix) psychological contract breach; (x) future career expectations and (xi) job satisfaction. In the context of this chapter these factors have been recognised as part of a psychological contract that is unique to the academic environment, where the study of these factors has additionally exposed some interesting "gaps" in existing research, raising some interesting questions that are relevant to the study of academic careers and how an academic psychological contract may be conceptualised.

The relationships between these factors have been discussed (with reference to a wide range of appropriate literature) and this has culminated in the development of thirteen hypothesis that reflect the main conceptual focus of this study and the theoretical development of a conceptual model. In this model the relationships between the central factors of the academic psychological contract have been mapped out (including the moderating variables).

Overall, the intention of this chapter has been to reveal that the existence of a psychological contract that is unique to academia, which consists of different individual and situational factors which have a particular relationship with each other. This gives this study a distinctive quality, which reflects its contribution to small body of research that looks specifically at the existence of psychological contracts within the university environment (Tipples & Krivokapic-Skoko,1997; Bathmaker,1999; Newton, 2002; Dabos & Rousseau,2004; İnayet *et al*,2008; Krivokapic-Skoko & O'Neill, 2008, Shen, 2010).

The next chapter will represent an account of the methodology adopted in this study, where an empirical approach to measuring the relationship between the factors of the academic psychological contract will be adopted, utilising an attitudinal based questionnaire. The thirteen hypotheses that have been specified in this chapter will be tested using appropriate methods of statistical analysis, and the implications of the results will be evaluated.

Chapter 5

Research Methodology

This chapter presents the reader with account of research methodology that this study adopts. The reader will be introduced to the framework of inquiry that underlies this research, before a detailed examination of the research design and questionnaire development, preceded by a reflective account of the pilot study and its implications, the targeted population (and institutions) and the characteristics of the 337 respondents who took part in this research. The quantitative methods which underlie this research will be also be presented, paying attention to data screening, reliability and justifying how exploratory factor analysis, analysis or variance and multiple regression techniques will be adopted - the latter of these allowing the central hypothesis of this research to be addressed..

5.1 Adopting a framework of disciplined inquiry

According to Guba and Lincoln (1994) the *framework of disciplined inquiry* is a systematic and reflective approach to the pursuit of knowledge, where a very wide variety of approaches to scientific research are adopted that are characterised by their assumptions, choices, procedures and analytical techniques. Figure 4 illustrates how a framework of disciplined inquiry has been adapted to capture the paradigms, strategies, methodologies and analytical techniques that underlie this research on the academic psychological contract. A distinction between the four aspects of this research process is illustrated below:

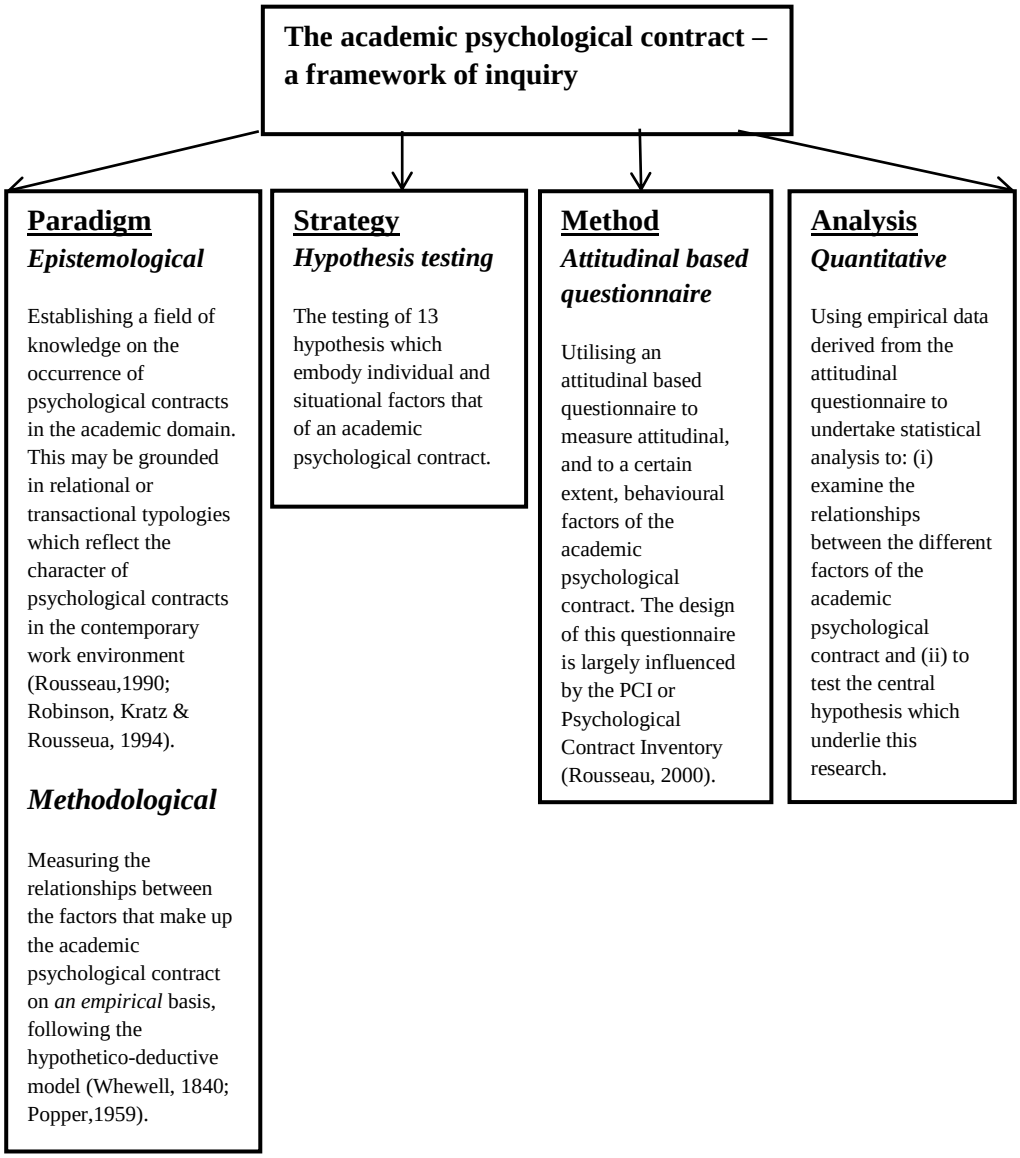
Paradigms refer to the basic theory or conceptual framework from which all theories are factored and define the limits of a particular research model (Khun, 1952, et al). Guba and Lincoln (1994) have additionally recognised paradigms might be characterised as ontological (reflecting the nature of reality), epistemological (reflecting a theory of knowledge) and methodological. In figure 4 an outline of the epistemological and methodological paradigms that characterise this research is given.

Strategies refer to the choices and options that are available to the researcher in how a particular study will proceed. These range from deciding how a particular phenomenon could be observed to formulating a research question and testing a hypothesis (Breakwell, et al, 1995). Figure 4 illustrates how the strategies of this research are concerned with testing hypothesis which reflect the individual and situational factors of an academic psychological contract.

Methods refer to the procedures adopted for the collection of data, and in this case an attitudinal questionnaire will be adopted to measure the factors of an academic psychological contract.

Analysis refers to the techniques available to analyse data, and in this case statistical analysis will be undertaken to examine the relationships between the factors of the academic psychological contract, testing this central hypothesis that underlie this research.

Figure 4 A framework in inquiry on the academic psychological contract (adapted from Guba & Lincoln,1994)



5.2 Research design

The overall approach to the design of this study is quantitative, where the *hypthetico-deductive method* (Whewell, 1840, Popper, 1959) will be utilised to test the relationships (represented by hypotheses), which exist between the factors of a conceptual model of the academic psychological contract (illustrated in the previous chapter, section 4.5). The quantitative method that will be applied to this study is a self-administered questionnaire (SQA) which is one of the most widely used methods of data collection in social science research (Dillman, 2007; Ziegler, 2006), and its design has been partly influenced by the Psychological Contract Inventory (PCI) which was originally operationalised by Rousseau (2000) for two specific purposes: (i) as a psychometrically sound tool for assessing the generalisable content of the psychological contract for use in organizational research, and (ii) as a self-scoring assessment to support executive and professional education.

A copy of Rousseau's PCI is illustrated in appendix 1. However, for the purposes of this study, it should be emphasised that while the role of the questionnaire will be useful in measuring relationships associated with the psychological contract in organizational research (within an academic domain), as a self-scoring instrument its application will be focused upon exploring the *character* of psychological contracts within academia, and whether they resemble contracts that have become a characteristic part of the modern working environment.

The most *visible* influence of the PCI in the design of the questionnaire used in this research relates to the following areas:

• Like the PCI, the questionnaire will be culturally neutral or *etic* in nature (Morey & Luthans, 1984), and designed to assess characteristics of employment relations in academia that are conceptually grounded in theories and research on the psychological contract.

• In a similar vain to the PCI, the questionnaire also contains both content and evaluation measures. The items relating to work competencies initially assess a variety of specific terms (i.e. supervising, time management, research skills) that can arise within work in the academic environment. It then assesses the extent to which the respondent believes that he or she has fulfilled these competencies.

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• The questionnaire assesses the individual subjective experience of working in an academic role along various frames of reference. The frames of reference in the PCI include items such as worker/employee

or supervisor, whereas the frames of reference in this questionnaire include items like educational background, research administration and teaching.

By utilising a methodology that takes a distinctly empirical approach towards measuring the factors of an academic psychological contract, this study not only challenges the paucity of previous empirical research into the psychological contract, but also provides the researcher with an objective and reliable method of inquiry that involves testing hypothesis, data collection and using appropriate statistical techniques for analysis (Morgan, 1998).

The range of research that utilises quantitative methodology to measure to the impact of psychological contracts has tended to fall within a number of areas, and these *include*: internal service networks (Llewellyn, 2001); the perception of "fairness" (Blancero,DelCampo & George, 2007); recent research that looks at the mediating role of contract violation (Suazo, 2009) and human resource practice and employee attitudes (Aggarwal & Bhargava, 2009), along with seminal empirical research that has identified psychological contract types along a transactional/relational continuum (Robinson, Kratz, & Rousseau, 1994; Rousseau, 1990). However, as Roehling (1997) has recognised that empirical studies which isolate the factors (factors) of a psychological contract can be "counted on one's fingers" it appears that there is a place for a research study which empirically measures the existence of psychological contract factors, in this case applying to the academic environment.

5.3 Measuring employee's perspectives about expectations from their employers

Although the questionnaire used in this study has been very much influenced by PCI (Rousseau, 2000) this instrument looked at both employee and employer expectations. It should be emphasised that in this particular case the questionnaire takes an *employee's* perspective, incorporating items that measure an employee's expectations from their employers. Indeed, it has been stated in the questionnaire that the scales used measure "what you expect from your employer". Although parallel scales have also been created for comparing what is received from an employer, these have been made for the purposes of measuring gaps in the psychological contract and psychological contract breach. By taking this approach the researcher will be able to clearly identify the expectations that an academic employee has, and what he/she expects from their employers.

5.4.1 Questionnaire development

As illustrated above, the questionnaire utilised by this research was largely influenced by Rousseau's (2000) PCI, but will incorporate items that will reflect the character of the psychological contract

within an academic domain. Like the PCI, this questionnaire will largely be structured around an attitudinal Likert Scale to measure the factors of a psychological contract that is grounded in organisational theory and research (Rousseau & Wade-Benzoni, 1994; Rousseau, 1995). However, unlike the PCI, this questionnaire will utilise a seven point (rather than a five point) scale to measure respondents preferences. This supports the findings of a study by Tang, Shaw and Vevea (1999) which demonstrated that the optimal rating scale for maximizing confidence in quantitative research has seven points.

Furthermore, as minor changes to questionnaire response formats do not seem to affect their validity (Matell & Jacoby, 1971), the seven point scales that will be used will be worded differently in various parts of the questionnaire. For example the response options will range from 1 (being *extremely low*) to 7 (being *extremely high*) and from 1 (being *agree strongly)* to 7 (being *disagree strongly*).

In addition to adopting a seven point Likert Scale, a number of other measures have also been adopted within different sections of the questionnaire. These include using a per centage scaling method, adopting a three point ranking scale and using simple closed questions. An overview of the measures used within different sections of the questionnaire can be found in the full account of the pilot study in appendix 2.

Using a variety of measures gives respondents of this questionnaire an opportunity to *comprehensively* assess both the content and features of their academic psychological contract (such as academic responsibilities), and also how they evaluate it (i.e. measuring the gap between their work expectations and what they have achieved). This reflects the findings of a study by Rousseau & Tijoriwala (1998) which suggests that effective psychological contract questionnaires should contain both content and evaluation measures. As already mentioned, the design of the PCI contains these measures, which in turn has been influential in the design on this questionnaire.

The *pilot* design of the questionnaire included 105 items and was divided into 8 sections. These comprised of: (1) work related expectations; (2) work competencies; (3) contacts and work rationale; (4) educational background; (5) work attitudes; (6) academic responsibilities; (7) personal data and (8) additional information. A full description of the original design of the questionnaire can be found in appendix 3. Each section of the questionnaire contains items which measure the different factors of the conceptual model of the academic psychological contract (as illustrated in section 4.5 of the previous chapter). A breakdown of how the different factors of the academic psychological contract are measured in the questionnaire is illustrated below:

5.4.2 Institutional expectations

A Likert scale containing eight items (in the *pilot* questionnaire, reduced to seven items in the final questionnaire) was created to enable the university employee to specify the institutional expectations they anticipate from their employer. In addition to this, a parallel scale was created to measure what an employee believes they actually receive from their employer, in terms of institutional expectations. The inclusion of this additional scale enables the researcher to examine the gaps in the psychological contract (as described in section 5.14) and to examine how the psychological contract is breached (in terms of institutional expectations) – comparing the institutional expectations a university employee anticipates from their employer, to what is actually received.

The relationship between the academic psychological contract and the "intelligent career" framework (Arthur, Claman & DeFillippi, 1995) will be explored here as these items will capture the *know why* dimension of knowledge. Furthermore, the items which measure institutional expectations are conceptually grounded in research which includes "best practice" (Philbin, 2008) management skills (Deem & Brehony, 2005), loyalty (Coaldrake, 2001) and learning (Senge,1990; Franklin, Hodgkinson & Stewart,1998). A sample item of institutional expectations is "An good indication of what best practice means within my organisation". Table nineteen, in the next chapter, gives the internal consistency value for items that measure institutional expectations (post factor analysis).

5.4.3 Networking

Networking was measured in a section of the questionnaire entitled "contacts" using the per centage scaling method (for 4 items) and the 7 point Likert scale (for 1 item). As an important part of this study is to explore the relationship between the academic psychological contract and the "intelligent career" framework (Arthur, Claman & DeFillippi, 1995) these items will capture the *know whom* dimension of knowledge and have been influenced by the "external marketability" items that are included in the "Employee Obligations" section of the PCI (Rousseau, 2000).

However, it should also be emphasised that the items created to measure networking take account of the expectations of employee's (i.e. academic staff) from their employers (i.e. university) - in this case focusing on the character of networking opportunities that might exist within an academic environment. A sample item of a per centage scale factor to measure networking is "Conducting research and publishing in my area" and the Likert scale item to measure networking is "I have many opportunities to network with leading academics within my area of research". The multivariate analysis (which was subsequently conducted in this study) used the single Likert scale item to measure networking. Although this makes the issue of reliability irrelevant (Nunnally, 1978), this single

measure has a "validated" role within the context of this research (Baruch, 2005). In section 6.2.3 of the next chapter, the issue of using "validated" measures will be addressed.

5.4.4 Commitment

As a factor of the academic psychological contract, commitment was measured in the section of the questionnaire entitled "work attitudes", using a 7 point Likert scale (for 5 items) and closed questions (for 4 items). Again, it should also be stressed that the items created to measure commitment take account of the expectations of employee's (i.e. academic staff) from their employers (i.e. university) - in this case focusing on the how commitment is characterised within an academic environment.

As mentioned in section 4.2.3 of the previous chapter, this factor will be measured by primarily focusing on how commitment is recognised within the academic environment (Baruch & Hall, 2004). For example, the item "I am proud to tell people I work for this university" reflects commitment to the institution, and the item "the work you have undertaken in academia has met with your career aspirations" reflects commitment to the notion of academia. However, items associated with measuring commitment will also be conceptually grounded in the components of commitment that were identified in a classic study by Meyer, Allen and Smith (1993). For example, the item "I am willing to put myself out for the department/faculty I work for" reflects the notion of normative commitment (associated with personal obligation) and the item "the offer of a bit more money from another university.." reflects the notion of continuance commitment (associated with the perceived costs of leaving an organisation). Table nineteen, in the next chapter, gives the internal consistency value for items that measure commitment (post factor analysis).

5.4.5 Type of University

The type of university an employee attended was measured by a single item that was nominally coded by the researcher for the purpose of differentiating between pre-1992 and post-1992 institutions. As mentioned in the last chapter and in chapter three, one of the most significant developments that has shaped the character of higher education in the United Kingdom has been the Further and Higher Education Act of 1992 which effectively created a duality between traditional universities (pre-1992 institutions) and former polytechnics (post-1992 institutions). The inclusion of an item that measures the type of university an academic attends is important as this study has the unique quality of examining the expectations of academic staff in the dual-sector higher education market that currently exists in the United Kingdom.

5.4.6 Academic responsibilities

The section of the questionnaire entitled "academic responsibilities" contained the items which measured this factor. These were represented by questions which consisted of: (a) a per centage scale where the respondent specifies the amount of time they devote to research, teaching and administration and (b) twelve questions (designed around 7 point Likert scales) that reflect the research, teaching and administrative *duties* that an academic member of staff undertakes. The items created to measure academic responsibilities will take account of the expectations of employee's (i.e. academic staff) from their employers (i.e. university) - in this case focusing on the trinity of research, teaching and administration duties that characterises work within the academic environment (Taylor, 1999; Boice, 2000; Jacobs, Cintron & Canton, 2002; Lee, 2003; Baruch & Hall, 2004) .

Furthermore, the items will also capture the "emergent educational role" of the academic which was identified by Taylor (1999). This is where the work of the lecturer was associated with finding a balance between academic and institutional values, priorities and practices (as specified in section 4.2.5 of the previous chapter). An example of an item to measure the academic responsibility associated with research is "I have excellent support from my colleagues to develop my research interests". Additionally, examples of items to measure the responsibilities associated with teaching and administration are "the teaching responsibilities I conduct are valued by my institution" and "I have excellent support from my colleagues to undertake my administrative responsibilities". Table nineteen, in the next chapter gives the internal consistency value for items that measure academic responsibilities (post factor analysis).

5.4.7 Emotions

A Likert scale containing eight items measured this factor by examining an employee's (i.e. academic staff's) expectations of emotions from their employer (i.e the university). In addition to this, a parallel scale was created to measure what an employee believes they actually receive from their employer, in terms of emotions. The inclusion of this additional scale, once again, enables the researcher to examine the gaps in the psychological contract (as described in section 5.1.4), and to examine how the psychological contract is breached (in terms of emotional expectations) – comparing the emotional expectations a university employee anticipates from their employer, to what is actually received.

The items associated with emotion are conceptually grounded in the four hierarchically arranged abilities associated with the Emotional Intelligence (EQ) factor identified by Mayer and Salovey in 1997, which have also formed the conceptual backbone of the Mayer-Salovey-Caruso Emotional

Intelligence Test (MSCEIT) that was developed in 2000 (Mayer, Salovey & Caruso, 2000). As mentioned in section 4.2.6 of the previous chapter, these are emotion perception, the emotional facilitation of thinking, understanding emotions and regulating (or managing) emotions. However, as this section of the questionnaire examines the impact of emotions in the university environment, items will reflect parts of the EQ factor that apply to the work of an academic. For example, emotional perception is reflected in the item "ability to express emotions openly" and regulating emotions is reflected in the item "can handle conflict situations that may arise within my work". Table nineteen, in the next chapter, gives the internal consistency value for items that measure emotions (post factor analysis).

5.4.8 Performance

Performance was measured in the "academic responsibilities" section of the questionnaire. As illustrated in section 4.2.7 of the previous chapter, an important property of a psychological contract in the university sector is the notion that career progression is based on performance (reflected by publication rate) rather than tenure (Baruch & Hall,2004). To address this, the 8 items that measured research performance consisted of: (i) five closed questions that measured publication output and (ii) a 7 point ordinal scale where the respondent specifies how their academic department would score on the Research Assessment Exercise (RAE), assuming all their colleagues had a similar level of research output – although as this questionnaire was developed before 2008 it adopted the older RAE scoring system.

The researcher created a weighting factor for published materials using SPSS, which were indicated by responses from 10 to 1 with: (i) 10 representing papers in top journals, 7 representing papers in other journals, 5 representing books, 3 representing book chapters and 1 representing conference papers. This weighted variable was then assessed for normality and this was found to not fulfil the criteria for normal distribution. Thereafter, the variable was broken into per centiles of 20 (5 categories), which were subsequently assigned values from 1 to 5. This new variable was used to reflect the research performance of academic employee's and yielded a .71 correlation coefficient for the subjective measure of RAE performance for the profile of publications. This increased the validity of the performance factor used in this study for subsequent analysis. Table nineteen, in the next chapter, gives the internal consistency value for items that measure performance (post factor analysis).

5.4.9 Competence

A scale containing seventeen items was created to measure competence. This scale measured this factor by examining an employee's (i.e. academic staff's) expectations of their competencies from their employer (i.e. university). Additionally, a parallel scale was also created to measure an employee's view of how far a particular competence was needed for their job. As described in section 5.14, the differences between the average scores of an employee's expectations of competence will be subtracted from their perceptions of needed competence to measure the "gap" between the perceptions and reality of competence in the academic environment. These items will again reflect how the academic psychological contract is related to the "intelligent career" framework (Arthur,Claman & DeFillippi, 1995), in this case capturing the *know how* dimension of knowledge. Furthermore, as specified in section 4.2.8 of the previous chapter, items will also be included that are recognised as a key part of an academic career, such as research skills, managerial skills, time management and synthesising knowledge (Baruch & Hall, 2004).

However, the instrument will also include items that could be recognised as the competencies associated with working in a "protean career" (that is characteristic of a modern transactional contract), embodying items such as leadership ability, empathy and the provision of emotional support (Maguire, 2003). Examples of sample items that measure competence include "interpersonal skills", "abstract thinking", "giving emotional support" and "managing others". Table nineteen, in the next chapter, gives the internal consistency value for items that measure competence (post factor analysis).

5.4.10 Psychological contract breach

Psychological contract breach was measured by utilising two scales that compares what an academic (as a university employee) expects from their employer, to what is actually received - again, this emphasises the expectations of an employee from their employer. Twenty four items measured this factor in the pilot questionnaire (reduced to twenty three items in the final questionnaire), where the average scores of employee expectations were subtracted from employee results. The items used in the measurement of psychological contract breach were associated with institutional expectations, emotions and individual ability. These items were included as previous research has indicated that breaching a psychological contract has a negative effect on an employee's expectations of an organisation and whether they can utilise their individual abilities (Conway & Briner, 2006).

Furthermore, breaching a psychological contract can also have a negative emotional effect on an employee (Weick *et al*, 2005; Parzefall & Coyle-Shapiro, 2011), and this includes an employee's ability to demonstrate pro-active behaviours and emotional intelligence (Bal, *et al*, 2005). Table nineteen, in the next chapter, gives the internal consistency value for items that measure psychological contract breach (post factor analysis).

5.4.11 Future career expectations

Future career expectations were measured in the section of the questionnaire entitled "work attitudes". In the *pilot* questionnaire, this was originally measured by employing a 7 point Likert scale for two items, which was subsequently increased to four items in the final questionnaire. Once again, the items created to measure this factor will take account of the expectations of employee's (i.e. academic staff) from their employers (i.e. university) - in this case focusing on the how future career expectations are characterised within an academic environment. As mentioned in section 4.2.10 of the previous chapter, career paths are now becoming the responsibility of the individual rather than the organisation (Rousseau, 1990) and this has resulted in the academic re-evaluating what the nature of their work represents (Richardson & McKenna, 2002). In view of this, items associated with this factor will be conceptually grounded in issues that reflect changes in the landscape of work in within the higher education environment. For instance, the item "I feel very well about my future within academia" reflects the notion of job security, and the item "I feel that I am getting ahead in my institution" reflects the notion of reward. Table nineteen, in the next chapter, gives the internal consistency value for items that measure future career expectations (post factor analysis).

5.4.12 Job satisfaction

Job satisfaction was measured in the section of the questionnaire entitled "work attitudes", using a 7 point Likert scale, for 5 items. As before, the items created to measure job satisfaction take account of the expectations of employee's (i.e. academic staff) from their employers (i.e. university) - in this case examining the character of job satisfaction within the academic environment.

As mentioned in section 4.2.11 of the previous chapter, high morale amongst academic staff has a generally positive outcome on the reputation of an academic department and an institution (Hagedorn, 2000) , and for this reason it seems logical to include items that capture the levels of morale/satisfaction that an academic feels about his or her work. Furthermore, some items that measure job satisfaction will be conceptually grounded in the concept a *career locus* (Rotter,1992; O'Neil, Bilimoria & Saatcioglu, 2004) which was also mentioned in section 4.2.11 of the previous chapter. For example, the

item “I frequently think of quitting my job” reflects an internal career locus where an individual takes responsibility for their career success or failure, whereas the item “people working in this job often think of quitting” reflects an external career locus where a career is determined by events outside individuals control such as organisational structure, culture or rules of engagement (ibid). Table nineteen, in the next chapter, gives the internal consistency value for items that measure job satisfaction (post factor analysis).

5.4.13 Control variables

The control variables of this study have been adopted in this study reflect the demographic trends which externally influence how an organisation (such as a university) is managed (Sparrow & Hiltrop, 1994). These are represented by items in the “personal data” section at the end of the questionnaire and incorporate age, gender, ethnicity and professional background (research area). However, gender and ethnicity have been excluded from the subsequent multivariate analysis undertaken for this study due to a poor distribution of responses in these areas. Professional background is included as the epistemological differences associated with working in either the social or the natural sciences may lead to fundamental differences in the process of learning and the acquisition knowledge (Balch, 2004).

5.4.14 Reasons for joining academic life

Although the questionnaire used in this study has predominately employed a unidimensional 7 point Likert scale for the purposes of measuring the factors of the academic psychological contract (as specified in section 5.3, above), a 7 point Likert scale has also been employed to investigate the reasons and motivations for joining academic life. This has been incorporated into this research as:
“Autonomy in the role”
“Convenient working hours and vacations”
“Internal urge to teach and educate the next generation in my area”
“Internal urge to conduct state of the art research in my area”
“Improving knowledge of my area of research”

The internal consistency value (Alpha reliability) of Likert scale items which measure the reasons for joining academic life is .84

5.4.15 Individual ability

Although individual ability is not recognised, by this research, as one of the factors of the academic psychological contract, the questionnaire has included items in this area because they relate to abilities that are conceptually grounded in the notion of a "new deal" that has infiltrated corporate life, with an emphasis on abilities that include tolerating change and ambiguity, flexibility at work and possessing a broad range of marketable skills (Herriot & Pemberton, 1995) – as mentioned in section 2.3 of the second chapter. Furthermore, as a range of studies have suggested that contemporary psychological contracts have been shaped by the idea of a new deal (Herriot & Pemberton, 1995; Marks, 2001; Wellin, 2007), it is worth exploring whether this has had an impact on the character of psychological contracts that are particular to the academic environment. Moroever, as Conway and Briner (2006) have recognised that violating a psychological contract can have negative effect on whether an employee can utilise their abilities (as mentioned in 5.3.9), it seems logical to include individual ability in the measurement of psychological contract breach. Therefore, individual ability will be measured by utilising two scales that incorporate eight items. The first scale will examine what an academic (as a university employee) expects from their employer (in terms of recognising their individual abilities), the second scale looks at what an academic receives from their employers (in terms of recognising individual ability). The average scores between employee expectations and results will measure psychological contract breach (in terms of individual ability). The internal consistency value (Alpha reliability) of Likert scale items which measure individual ability is .82.

5.5.1 The pilot study

The pilot phase of this study was conducted with two principle objectives in mind, which reflect the importance of pilot studies within social research (Baker, 1994): firstly, to investigate the feasibility of the proposed research by conducting a "small scale version, or trail run, done in preparation for the major study" (Polit *et al* 2001, p457); secondly, to pre-test or "try out" a particular research instrument, paying close attention to the issues of reliability and validity (Baker, 1994). In addition to this, carrying out a pilot study might provide some indication of the shortcomings of a project, with reference to issues such as inappropriate research protocols or inappropriate or complicated research instrument design. Therefore carrying out pilot research is essentially an exercise in risk reduction, which is nicely summarised in the following quote - "do not take the risk, pilot test first" (De Vaus, 1993, p54).

5.5.2 Description of the pilot study

In order to pre-test the research instrument used within this study, in the pilot phase of this research an attitudinal based questionnaire was created. This utilised a Likert scale design to measure a number of variables that represented the factors of the academic psychological contract. As the purpose of this questionnaire was to measure the factors of an academic psychological contract on an *empirical* basis, this reflects a methodological approach that appears to have been neglected in previous research. A full account of the pilot study used in this research, can be found in appendix 2. Furthermore, during this phase of this study, some interesting findings were made that will play an instrumental role in improving the feasibility and design of the research questionnaire, and these are described in the next section.

5.5.3 Suggestions for improving the design of the research questionnaire based upon the pilot study

The attitudinal questionnaire that will be adopted for this research will be modelled on the pilot questionnaire that is illustrated in appendix 3. However, in view of various shortcomings, which for the most part, were identified in the pilot phase of this research (in appendix 2), it is suggested that a number of issues need to be taken into consideration to improve the design of the final questionnaire used in this research (in appendix 4).

This is particularly important as various classic studies of questionnaire design (Oppenheim, 1955; Payne, 1951) have recognised that designing a questionnaire is and will remain an 'art' which will be influenced by a multitude of factors, and will require great attention to detail – especially as seemingly slight changes in wording or structure can dramatically influence the results. Therefore, the following points provide an overview of particular concerns that should be addressed within the design of the questionnaire used in this research.

5.5.4 Question wording

The content analysis that was undertaken in the pilot study revealed that the most significant shortcoming of the questionnaire related to a number of conceptual problems, which in turn, tended to be grounded within the wording of particular questions. For example, the wording of question 4 gave limited data on where academic attainted their qualifications, and excluded academics with international qualifications. Furthermore, question 6a did not fully address an academic's research activity through failing to account for chapters that have been published in books.

It is proposed that the final questionnaire will be modified to address this. As this questionnaire will be distributed to a wide range of academic staff from a variety of cultural backgrounds within the United Kingdom, it is important to be aware of how multi-cultural differences might affect the interpretation of particularly questions (Behling & Law, 2000). However, feedback on the pilot study revealed no problem in this respect.

5.5.5 Missing information

The issue of missing information is important as this can introduce bias into conceptual models that are being evaluated and hypothesis that are being tested (Little & Rubin, 1989). In the case of this questionnaire, feedback on the pilot study has revealed that the question on research failed to include any information about chapters in books. Furthermore, the pilot study additionally revealed that the question on educational background gave only limited data on the degrees that were completed in the United Kingdom, without accounting for academics who may have achieved qualifications from overseas institutions. In view of this, the design of the final questionnaire will be modified to address this.

5.5.6 Length of the questionnaire

Feedback from the content analysis (in the pilot study) has additionally revealed that the questionnaire was felt to be too long and took too much time to complete. Addressing this is important because numerous studies have suggested that attrition rates from self-administered questionnaires (SAQ's) can be reduced if particular attention is paid towards the length of the questionnaire (Labaw, 1980; Schwarz, 1999). Moreover, reducing questionnaire length has also found to have a positive effect on ensuring that respondents interpret and understand the same thing (Behling and Law, 2000). Based on feedback from the pilot study, it was felt that the question 2 on work competencies was too long, and in view of this it is proposed that items 19 to 23 of this question will be removed. Furthermore, it was also felt that items associated with work related expectations (question 1) were too long, and at times repetitive, and this was addressed in the design of the final questionnaire (appendix 4). In view of this, the number of items in the final questionnaire was reduced to 98 (as opposed to 105 in the pilot questionnaire).

5.5.7 Question sequence

The problem of context effects is important in addressing questionnaire design, as it has been found that the context in which a question is presented can influence the pattern of respondent's answers. (Schuman & Presser, 1981). This is particularly applicable to the design of the research questionnaire used in this study as feedback from the pilot study revealed that giving information on work related expectations at the start of the questionnaire (question 1), could bias the answers towards other questions. In view of this, the design of the final questionnaire used in this research will take this into account.

5.5.8 Checking internal consistency reliabilities

With regard to the internal reliability of the questionnaire used within this research, the pilot study has established that there is a fairly consistent pattern of reliability amongst the majority of the factors associated with the academic psychological contract. This is particularly important as it illustrates how a greater degree of confidence can be directed towards the generalisability of the data (Jick, 1979), illustrating how different social phenomena can affect large groups of people at any one time (Bilton, et al 2002). Table 1 (in appendix 2) presents the internal consistency reliabilities (Cronbach's alphas) of the measurement scales used in this study, with a description of what implications these figures will have on the design of the final questionnaire.

5.6.1 Target population

According to Fink (2003), to identify a suitable target population, a screening approach is required that is both operationally feasible and can provide a relevant set of standardised data. Furthermore, a suitable screening approach can also enhance the *factor validity* of a study, or the extent to which an instrument is really measuring the theoretical factor it is supposed to be measuring (Price, 1997) – in this case a psychological contract that characterises the work of an academic member of staff.

The target population was screened by ensuring that all participants of this study were employed as members of either a social science or natural science faculty in a university in the United Kingdom, and were able to understand English fluently. Social science faculties include subjects aligned to sociology, psychology, anthropology, politics and business studies and law whereas natural sciences faculties include subjects aligned to chemistry, pharmacy, physics, biology, medicine, zoology, geography and geology (Tight, 2000). Furthermore, the term "faculty member" designates that participants are employed in one of the following roles - Visiting lecturer, Teaching Fellow, Lecturer, Senior Lecturer,

Principal Lecturer, Reader and Professor. As the questionnaire includes measurements scales that assess the responsibilities of academic work and academic performance (William Blackstone & Metcalf, 1974; Boice, 2000), participants additionally will be involved in teaching, research or administrative duties to varying degrees. Furthermore, as working in an academic role requires the possession of at least a University Degree (up to doctoral level), all participants will hold relevant higher education qualifications. Overall, the following criterion was adopted to identify the relevant population for this research:

Eligibility criteria

All participants are faculty members of a targeted university in the United Kingdom and are fluent in English.

All participants are involved in teaching, research and administrative practices (to varying degrees).

All participants possess a relevant University Degree (up to doctoral level).

Exclusion criteria

The participants cannot understand English or are working for a University faculty where classes are not taught in English.

The participants do not possess the formal qualifications required for working as a faculty member of a University (at least a relevant degree).

The participants are not involved in at least one of the activities that represent the trinity of academic work (i.e. teaching, research and administration).

5.6.2 Targeted institutions

It is hoped that this study will highlight how the character of the academic psychological contract will change across the different sectors of the British university system, and in view of this institutions will be targeted which represent a sample "pre-1992" and "post-1992" establishments that emerged as a result of the 1992 *Further and Higher Education Act* (illustrated in section 3.2.3 of the third chapter). The institutions picked from the traditional (pre-1992) University sector are The University of East Anglia (UEA) The London School of Economics (LSE) and The University of Bristol. The institutions from the (post-1992) ex-Polytechnic sector are The University of Greenwich, The University of the West of England (UWE) and Westminster University. Furthermore, to ensure that it was logistically easy to distribute the questionnaires, the researcher had either a scholarly or professional association with particular institutions (UEA, UWE and The University of Greenwich), or had contracts with associations to institutions near to where the researcher has resided (LSE, Westminster University, Bristol University). Each of the six institutions that was targeted for this research has different profiles

according to criteria outlined by the *Times Good University* Guide (O' Leary,2009) – these included student satisfaction, research quality, entry qualifications and graduate recruitment. A brief overview of each targeted institution is given below.

The University of East Anglia (UEA)

The University of East Anglia was established in 1963 as an expandable "plate-glass" university, resulting from the expansion of higher education in the United Kingdom, which was brought about by the *Robbins Report* of the same year. There are approximately 15,600 students from an international market enrolled at UEA, studying a choice of over 300 courses shared across 23 schools of study in the faculties of science, social science, health, arts and the humanities. At the heart of UEA's approach to learning is the principle of "interdisciplinarity" where related subjects are taught in combination with each other (Sanderson, 2003). With regard to research, findings of the Research Assessment Exercise (RAE) of 2008 indicate that over 50% of UEA's research activity was recognised as "world leading" or "internationally excellent", with 87% of the university's research activity deemed to be of "international standing" (RAE, 2008). Furthermore, since the establishment of the National Student Survey in 2005 - which polls students opinions of matters such as teaching, assessment and learning resources (HEFCE, 2009) - UEA has consistently finished in the top ten (Dudgeon, 2010).

The London School of Economics (LSE)

The London School of Economics is one of the top research institutions in the world and a member of the elite *Russell Group* of universities (as mentioned in section 3.2.3 of the third chapter). The LSE was established in 1895 and by 1902 had become a consistent college of the University of London. With a student body of some 9105 home and overseas students, it describes itself as a world leader for social science teaching and research (Dahrendorf, 1995), and offers a choice of 250 courses shared across 22 academic departments (Dudgeon, 2010). According to the 2008 RAE, the LSE has the highest per centage of world-class research of any university in the country, ranking it first in research activity that is classified as "world-leading" and fourth in research activity that is classified as "internationally excellent" (RAE, 2008).

The University of Bristol

The University of Bristol is another member of the elite *Russell Group* of universities and was established by Royal Charter in 1909 - becoming of the original "red-brick" group of universities that developed in major industrial cities of England, with courses initially linked to the civic sciences and/or engineering (Brewster, Miller, & Vandone 2009). The University of Bristol has a student body of approximately 21,740 home and overseas students, with a choice of 537 courses available across the faculties of arts, engineering, medical and veterinary sciences, sciences, medicine and dentistry and

social sciences and law (Dudgeon, 2010). The RAE of 2008 revealed nearly 93% of the research activity of this institution was deemed to be of an international standard, with over 60% this research classified as either 'world-leading' or 'internationally excellent'(RAE, 2008).

The University of Greenwich

The University of Greenwich was established in 1992 as a "post-1992" ex-polytechnic that emerged from the 1992 *Further and Higher Education Act* (illustrated in section 3.2.3 of the third chapter). This institution was originally known as Woolwich Polytechnic (dating back to 1890) and then Thames Polytechnic, from 1970 (Hinde, 1996*).* Approximately 24,400 home and overseas students are enrolled on 473 courses across the schools of Architecture, Art/Design, Factorion, Engineering, Business, Computing/Mathematical Sciences, Education, Health /Social Care, Humanities, Pharmacy and Sciences, and the institutes of Natural Resources, Maritime Studies and Urban Renaissance (Dudgeon, 2010). Although the RAE profiles of many of this institutions schools/institutes are not high, based on the RAE of 2008, the University of Greenwich performed quite well in the fields of Engineering with over thirty per cent of research classified in the "world-leading category" and forty per cent classified as "internationally excellent" (RAE, 2008). However, the University of Greenwich has emerged as one of the top institutions in London for student satisfaction (including high quality teaching), based upon the National Student Survey of 2011 (HEFCE, 2011).

The University of the West of England (UWE)

The University of the West of England is another "post-1992" ex-polytechnic institution, formally known as Bristol Polytechnic. Approximately, 31,700 home and overseas students are studying 610 courses across the faculties of Creative Arts, Environment/Technology, Health/Life Sciences, Social Sciences/Humanities, and at Bristol Business School and Hartbury College, which specialises in Sports, Agriculture and Equine Studies. Furthermore, in terms of league table performance, UWE has remained in the top five of "new" universities in the United Kingdom. (Dudgeon, 2010). The RAE of 2008 revealed that almost half of the research undertaken by UWE averaged between research that falls short of being world leading and research which is recognised internationally in terms of originality, significance and rigour (RAE, 2008).

Westminster University

As a "post-1992" institution and ex-polytechnic, Westminster University was established in 1992, and was formally known as The Royal Polytechnic Institution (dating back to 1838) and (from 1970), the Polytechnic of Central London. Approximately 23,800 students from home and overseas are enrolled on a choice of 510 courses in the Schools of Architecture/Building Environment, Electronics/Computer Science, Law, Life Sciences, Media/Arts/Design and Business (Dudgeon, 2010). According to the

RAE of 2008, Westminster University confirmed that over 80% of the research output was judged to be of "international quality", with 20% of the research deemed to be "internationally excellent" and "world leading", especially in the fields of media, design and architecture (RAE, 2008).

5.7 Sample size

The notion of what an ideal sample size represents differs according to what type of statistical analysis is being adopted (Field, 2009). Therefore, it is important to emphasise that a sample size that satisfies the analysis adopted by this research is selected.

To conduct a factor analysis, some guidelines need to be followed to determine the adequacy of sample size. According to a study by Comrey and Lee (1992) 300 + respondents represents a good sample, which this study adheres to (N=337). However, according to MacCallum *et al* (1999), it also the nature of the data itself, most notably its 'strength' that can produce meaningful factor analysis results. The same authors established that strong data represents items communalities which are consistently high (.80+), and based upon an analysis of the 98 items in the final questionnaire, 93% of the items had communalities at .80 or above. Therefore, in addition to incorporating a good sample size, the data from this sample was consistently strong.

To conduct a multiple regression analysis, a common rule of thumb is that there should be between ten or fifteen cases of data per predictor (Stevens, 2002; Field, 2009). In this particular study, the maximum number of predictors for regression is thirteen (including the two control variables of age and professional background used in the multivariate analysis). Therefore, between 13x10=130 or 13x15=195 cases will be needed, which is considerably less than the number of respondents who completed the questionnaires. So while a larger sample is traditionally thought of as better for attitudinal based research (Field, 2009), it is not always practical (Fink, 2003), nor necessarily strong (MacCallum *et al*, 1999).

5.8 Selecting the sample and collecting the data

The questionnaires were distributed to academic staff working within the social and natural sciences in the targeted universities. Academics working in social sciences were compared to academics working within the natural sciences because it has been found that fundamental differences exist in the process of learning and contributing to knowledge. For instance, Balch (2004) recognised that academics in the social and natural sciences differed in a number of fundamental ways:

• Unlike the natural sciences, academics in the social sciences bring with them vastly stronger feelings about the answers they would prefer to find.
• Phenomena studied in the social sciences -- involving, as they do, the tangled skein of human action, are generally much more ambiguous and much more complex than the social sciences.
• Issues that occupy the social sciences are strenuously contested in the outside world academia, unlike natural sciences such as chemistry, biology or physics which operate in a paradigm of rigid empirical, scientific investigation with rationalist aspirations.

Therefore, in view of these differences it will be interesting to establish if the epistemological characteristics of working in the social or natural sciences has a moderating effect on the character of the academic psychological contract. To accommodate these differences the questionnaires were distributed to academics working within both the social sciences and the natural sciences, in post "pre-1992" and "post-1992" institutions. Furthermore, the questionnaires were also distributed amongst a wide section of age and ethnic cohorts, amongst a good male/female mix, and to individuals with different patterns of working experience within an academic role.

After amendments to the design of the questionnaire were made, 1000 self-administered attitudinal questionnaires were distributed at UEA, the LSE, the University of Bristol, The University of Greenwich, The University of the West of England and the University of Westminster. The questionnaires were distributed via internal mail systems or sent through the post to the targeted universities. All completed questionnaires were placed in either internal mail envelopes or stamped addressed envelopes and sent back to the researcher. Care was taken to ensure that the questionnaires were clear and unambiguous and had question-specific instructions because of their self-administered nature (Dillman, 1991). Out of the 1000 questionnaires that were created for this study, 400 were distributed to UEA with another 300 each distributed to the University of Greenwich and UWE. Furthermore, 100 each were distributed to the universities of Bristol, the LSE and the University of Westminster.

Out of the 1000 questionnaires which were distributed, 337 were returned completed and useable, representing an effective response rate of 34%. According to a study conducted by Baruch and Holtom (2008) on response rates in organisational research, the average response rate from data collected from organisational respondents was 35%.

The response rates conducted from the organisations targeted in this research (i.e. United Kingdom universities) was narrowly short of this. Furthermore, in a study of responses rates in organisational science conducted between 1995-2008, Anseel *et al* (2010) established that a response rate of 35% was

typical for organisational respondents of a high organisational status, which again this study reflected. However, the same authors also established that mean response rates varied across respondent types, and as there appears to be paucity in research that examines response rates of questionnaire based studies focused on the academic environment, it is difficult to ascertain whether this response rate is typical for a study of this type.

But based upon the small amount of research that has specifically looked at psychological contracts in the university environment, it appears that the number of respondents obtained for this research appears to lie within the parameters set by earlier studies which have utilised quantitative questionnaire based methodologies. For example, Inayet *et al's* (2008) study on the psychological contract of academic and non-academic staff from 11 universities in Turkey used 442 respondents; a survey from Krivokapic-Skoko's and O'Neill's study of academics psychological contracts in Australia by used 117 respondents and Dabos and Rousseau's (2004) study of mutuality and reciprocity in psychological contracts of academic staff used 96 respondents who had completed a survey adopted from Rousseau's (2000) Psychological Contract Inventory (PCI).

The reasons for the non-response rate of this questionnaire could be attributed to a number of factors that have been identified by studies on response behaviour in social research (Baruch 1999; Spitzmüller et al, 2006; Rose, Sidle, & Griffith, 2007). These include low conscientiousness, lower levels of satisfaction and the absence of a pre-paid monetary incentive. However, as there were up to 71 factors that could affect response rates in mailed self-completion questionnaires (Heberlein & Baumgartner, 1978), the non-response rates of this study should not bias the results or affect the subsequent analysis.

5.9 Characteristics of the sample

A breakdown of the demographic characteristics of the sample of this study is presented in table six. Overall the majority of the sample was made up of white (67.3%), male (90.8%) academics, working mainly in the social sciences as opposed to the natural sciences (73.9% and 26.1% respectively). Furthermore, most of the sample came from the traditional university sector (67.7%), as opposed to 32.3% from the former polytechnic sector. The entire sample possessed a first degree (i.e. a BA, BSc or BEd), with a large proportion (81%) of the sample possessing a master's degree (i.e. a MA, MSc, MPhil or MBA) and nearly all the sample (97.7%) possessing a degree up to doctoral level (i.e. a PhD, DSc or DBA).

The average age of the respondents was 45.4 years (ranging from 30 to 67 years), with 74.2% of the sample over 40 years. This is nearly consistent with data presented by the Higher Education Statistics

Agency (HSA) - from 2004/2008 the average age of an academic member of staff was between 43.2-43.7 years (HSA, 2010). In terms of work experience, the average amount of time the respondents spent working in an academic role was 20 years, with the range of work experience spanning from 4 to 40 years.

5.10 Methods of data analysis

As illustrated in the framework of inquiry in figure 4, appropriate statistical analysis of the empirical data from the attitudinal questionnaire will be quantifiably analysed for two main purposes: (i) to examine the relationships between factors of the conceptual model of the academic psychological contract, and (ii) to test the central hypothesis underlying this research. Furthermore, following the suggestions of Hussey and Hussey (1997), Neuman (2000) and Saunders, Lewis and Thornhill (2009), the procedures which will be discussed in this data analysis section will follow a particular format. Initially, the methods adopted to screen the data and to check the reliability of the research instrument will be discussed. An overview will then be made of how exploratory factor analysis will be used to discover the factor structure of the measures being used. Additionally, a descriptive analysis of the scales used in this research will be undertaken to examine their methodological robustness, along with measurements of the "gaps" in the expectations/perceptions vs. results/realities of a scale that measures a psychological contract that is unique to academia. The final part of this section will describe the methods adopted to test the central hypothesis of this research, incorporating an overview of analysis of variance (ANOVA) and multiple regression procedures.

Table 6 - Characteristics of the official sample

DEMOGRAPHIC VARIABLE	Frequency	Per centage
Gender		
Male	306	90.8%
Female	31	9.2%
Age (in years)		
30-34	48	14.2%
35-39	39	11.5%
40-44	62	18.3%
45-49	66	20%
50-54	60	17.8%
55-59	35	10.3%
60-64	26	7.7%
65-69	1	0.2%
Ethnic Background		
White	227	67.3%
Black	104	30.8%
Hispanic	5	1.5%
Missing	1	0.4%
University		
University of East Anglia	90	26.7%
University of Greenwich	106	31.4.%
University of West of England	92	27.2%
University of Westminster	30	8.9%
University of Bristol	10	2.9%
London School of Economics	9	2.6%
University Sector		
Traditional University – pre 1992	109	67.7%
Former Polytechnic – post 1992	228	32.3%
Professional Background		
Social sciences	249	73.9%
Natural sciences	88	26.1%
Work experience (in years)		
0-4	1	0.3%
5-9	63	18.7%
10-14	34	10.1%
15-19	80	23.7%
20- 24	4	1.2%
25 -29	37	11.0%
30>	95	28.2%
Missing	23	6.8%
Educational Background – highest qualification attained		
Bachelors degree (i.e. BA. BSc, BEd)	337	100%
Masters degree (i.e MA, MSc, MPhil,MBA)		
Doctoral degree (i.e. PhD, DSc, DBA,)	328	97.3%

5.11 Data screening

According to Odom and Henson (2002, p26) "Beginning a statistical analysis without a careful inspection of the research data may result in erroneous findings and/or conclusions" (Therefore) data screening provides the researcher with a means to detect potential problems by identifying data entry errors, missing values, possible outliners, non-normal distributions and other data features" (Odom & Henson, 2002, p3). Therefore, prior to any analysis that was undertaken, all of the variables were checked for accuracy of data entry using the descriptive statistics on the SPSS software (Statistical Package for the Social Sciences). This included analysing minimum and maximum values, means and standard deviations, examining missing data and calculating skewness and kurtosis values for each of the variables. Data that was missing was assessed by examining both the amount of missing data and the pattern of missing data. If the pattern of missing data was random and each variable has less than 10% of missing data, the general rule is that no remedy is needed for the missing data and/or listwise deletion is applied - i.e. excluding a record from the analysis (Hair *et al*., 2006).

5.12 Reliability

The reliability of a measurement scale is an important issue in any research which adopts the hypthetico-deductive method (Whewell, 1840; Popper, 1959; Nunnally, 1978). Measurement reliability is concerned with the extent to which a measure is repeatable, or the extent to which a measure is repeatable, where similar results are produced on different occasions, or by different observers, or by using similar or parallel tests (Nunnally, 1978; Streiner & Norman, 2003). Furthermore, when examining the reliability of a particular scale (such as a questionnaire that measures the relationships between the factors of an academic psychological contract), there might be numerous sources of error which may lead to variation in the data produced (Nunnally, 1978). What is known as "measurement error" can be represented by either systematic bias or by random errors. Systematic bias is the 'inherent tendency of a scaling method to favour particular outcomes' (idid) and this can be avoided through adopting correct methods of test factorion, administration, scoring and analysis or results (ibid). Random errors, on the other hand, are caused by 'any factors that randomly affect the measurement of a variable across a given sample' (ibid), and these are involved in *any* type of measurement and can never be entirely eliminated (ibid). For these reasons, a measurement scale could be said to be reliable is the level of measurement error is slight and if the level of reliability exceeds a particular level (ibid).

Numerous methods have been adopted to estimate how reliable a particular scale of measurement could be, but the most commonly adopted way of way of measuring internal reliability is to calculate the

Cronbach's Alpha Coefficient (Cronbach's α) from the single administration of a test (Nunnally, 1978; Cortina,1993; Easterby-Smith *et al*, 2008). As this has become routine practice in all social science and psychological research that adopts multiple-item attitudinal scales (Cortina, 1993; Streiner, 2003), Cronbach's α values will be calculated to examine the reliabilities of an instrument which measures the factors of an academic psychological contract, using the SPSS package. Interpreting reliability (based on Cronbach's α values) followed the recommendation by Nunnally and Bernstein (1994) where a level of .70 or higher was generally accepted, and this was applied to the different factors of the academic psychological contract that the questionnaire measured. In table nineteen in the next chapter, the internal consistency reliability of the factors that made up the academic psychological contract are presented (post factor analysis).

5.13 Exploratory factor analysis

Factor analysis is a statistical technique of data reduction that explains the correlations among different variables as the result of one (or several) underlying explanations, in addition to evaluating the "distinctiveness" of data (Morrison, 1990). Moreover, exploratory factor analysis (EFA) is employed to the reduce data to a smaller set of summary variables and to explore the underlining theoretical structure of data sets (Gorsuch,1982). Within the context of this current research, conducting an EFA is useful as it reveals the underlying factors which reflect, in this case, an *employee's* expectations of what they get from their employer (i.e. the university). Although a contemporary piece of research by Krivokapic-Skoko and O'Neill (2008) utilised a EFA to examine the content and formation of psychological contracts in a university environment, this study identified factors of academic psychological contract which reflected either a University's *obligations* to the its employee's or an employee's to obligations to their University. However, in the case of this particular study, a different approach will be adopted, as the factors of the academic psychological which have been identified will take account of the *expectations* of employee's (i.e. academic staff) from their employers (i.e. university). Moreover, in this case, the EFA was undertaken to assess the reflective indicators (Diamantopoulos and Winklhofer, 2001) of a psychological contact that was unique to academia, and as measure of data purification.

In the context of this research, the factorability of *all* of the eleven factors of the academic psychological contract was initially conducted - using principle components analysis as the standard method for undertaking an EFA, and adopting a varimax rotation method. In section 6.2.1 of the next chapter, an account of the EFA procedure that was applied to this research is presented, with a description of the factors that were dropped (due to being based upon single measures/weighted variables) and eliminated because of poor factor structure or failing to meet the criteria of having

commonalities of .40 or higher (Velicer & Jackson, 1990). Furthermore, in this section an overview of the items that were extracted from the remaining factors of the academic psychological contract will be given, showing factor loadings, the total variance explained and the results of the Kaiser-Meyer-Olkin test to examine sampling adequacy, and Bartlett's test to examine sphericity. As a general rule of thumb, the Kaiser-Meyer-Olkin measure of sampling adequacy should be above the recommended value of .600 (Costello & Osborne, 2005).

5.14 Descriptive analysis and measuring the "gaps" in the psychological contract

As documented in section 6.4 of the next chapter, a descriptive analysis has been undertaken of the different scales that have been adopted in this research, this is to establish that there are no constraints on variability, and as a way of determining initial predictions for multiple regression (Field,2009; Hair et al., 2006; Kline, 2005).

Furthermore, in section 6.5 of the next chapter, an analysis of the "gaps" in the psychological contract has been undertaken. This is to ensure that the differences between what an academic member of staff "perceives" or "expects" and what is "needed" or "received" is recognised – reflecting an approach which according to Porter *et* al (1998) represents an important artefact of research methodology in psychological contracts. In this particular case the gaps will be examined by: (i) examining the differences between an employee's perceived competence and their needed competencies and (ii) examining the differences between what an employee expects from their employer (in terms of institutional expectations, emotions and ability) from what is actually received (post factor analysis). An appropriate statistical test will be carried out to determine whether the inter-correlations between the gaps are significant, and in this case a Pearson correlation with a two-tailed test for significance will be applied – using the SPSS program.

5.15 Analysis of variance

The context of this research, it will be interesting to evaluate how the factors of the academic psychological contract will vary across different demographic differences (associated with gender, ethnicity and age), especially as these demographic trends will affect how an organisation such as a university is managed (Sparrow & Hiltrop, 1994). Furthermore, as mentioned in section 5.8 there are epistemological differences associated with working in either the social or the natural sciences, and this may lead to fundamental differences in the process of learning and the acquisition knowledge (Balch, 2004). In view of this, it will be interesting to evaluate how the factors of the academic psychological contract will also be influenced by an academic employee's current work position and the professional

background they work within (either social science or natural science). Therefore, this study will be interested in addressing the following questions:

(i) Do respondent's ratings vary according to gender, ethnicity and age?

(ii) Do respondent's ratings vary according to academic position (i.e. Visiting lecturer/Teaching Fellow, Lecturer, Senior Lecturer, Principal Lecturer, Reader, Professor) and professional background (i.e. social science or natural science)?

To address these questions a procedure known as analysis of variance ANOVA) was used. An ANOVA is defined as "a statistical technique for analysing measurements depending on several kinds of effects operating simultaneously,(and) to decide which kind of effects are important to estimate the effects" (Scheffé, p3,1999). In other words, this is a method for testing the differences between categories when there are two or more categories operating or when there are several categorical variables (Howell, 2002; Hair, et al, 2006). ANOVA's have been recognised as one of the most prolific statistical procedures used within psychological and sociological research (Howell, 2002), and have been adopted in numerous contemporary studies on the psychological contract. This has *included* research associated with: (i) managing the psychological contract of 1st year psychology students (Hornby-Atkinson *et al*, 2010); generational differences in psychological contracts (Hess & Jepsen, 2009) and (ii) profiling the desirable psychological contract for different groups of employees in Greece (Bellou, 2009). In this particular study, six categorical variables (gender, ethnicity, university sector, age, academic position and area of study) were measured using different respondents ratings. Therefore, factorial ANOVA's (Field,2009) were conducted in order to examine:

(i) If any effects (and interactions) exist between gender, ethnicity and age on respondents ratings.

(ii) If respondent's ratings vary according to academic position (i.e. Visiting lecturer/Teaching Fellow, Lecturer, Senior Lecturer, Principal Lecturer, Reader, Professor) and professional background (i.e. social science or natural science)?

To address this, two factorial ANOVA designs were used which consisted of:

(i) 2 x 2 x 2 ANOVA's (gender x ethnicity x age) that were run independently on all the factors of the academic psychological contract.

(ii) 2 x 2 ANOVA's (academic position professional background) which were run independently on all factors of the psychological contract.

The SPSS software package was used to conduct the ANOVA's in this study.

5.16.1 Multiple regressions

The main purpose of this study was to establish whether a significant relationship exists between the independent variables and the dependent variables which apply to this research (in this case the independent variables are institutional expectations, networking, commitment, type of university, academic responsibilities , emotions and competence, psychological contract breach and future career expectations, while the dependent variables are performance and job satisfaction). Therefore, multiple regressions will be used in this research – reflecting a methodological approach that has been widely applied contemporary studies on psychological contracts. This has *included* Svensson and Wolven's (2010) study of the psychological contracts of temporary agency workers and research by Matthijs *et al* (2010) which examined the relationship between psychological contract breach and work performance. Multiple regression analysis represents any technique for analysing and modelling numerous several variables, focusing on the relationship between a dependent variable and one (or several) independent variables (Fox,1997). The following section presents the procedures adopted to conduct a multiple regression analysis in the context of this study.

5.16.2 The multiple regression strategy adopted for this study

According to (Tabachnick & Fidell, 2007), three major three strategies can be adopted in order to conduct a multiple regression. These are standard multiple regression, sequential (or hierarchical regression) and statistical (or stepwise) regression. For the purposes of this research on the academic psychological contract, a hierarchical regression strategy will be adopted because it allows the researcher to control the development of the regression progress and as a model *testing* procedure, allows explicit hypotheses to be tested (in this case the hypothesis which are illustrated in the last chapter, section 4.5). Furthermore this strategy also allows the researcher to specify a fixed order of variable entry, to control for the effects of covariates and to test the effects of particular independent variables, free from the influence of others. (Raudenbush & Bryk, 2002). Measures associated with the multiple regression strategy adopted for this study are illustrated below, which were all calculated using the SPSS software package.

5.16.3 Collinearity and multicollinearity

Collinearity represents the correlation between two independent variables and multicollinearity represents correlations amongst three or more independent variables (Hair, et al, 2006). Both of these conditions can threaten the validity of a multiple regression analysis because, according to Hair *et al* (2006), 'independent variables become dependent variables which are consequently regressed against the remaining independent variables' and this makes it very difficult to determine how important an independent variable is within a regression model (Tabachnick & Fidell, 2007). For the purposes of this study the issue of Collinearity/multicollinearity was addressed by looking at variation in the confidence intervals of coefficients that measuring collinearity – which should not cross zero (Field, 2005), and examining the *variance inflation factor* (*VIF*) and the *tolerance statistic*. The VIF represents the degree of *uncertainty* of regression coefficients and provides an index of how the variance of a regression coefficient increases because of collinearity (Longnecker, 2004), whereas the tolerance statistic refers to the degree of accuracy of a regression coefficient and accounts for the amount of variance of an independent variable that is not explained by other independent variables (Hair *et al*, 2006). Studies have shown that any VIF with a value of 10 or more (which corresponds with a tolerance of 0.1 or less), reflects evidence of serious multicollinearity, and when an VIF is substantially larger than 1, the regression may be biased (Cohen, Cohen, West, & Aiken, 2003; Field, 2009; Hair *et al*, 2006). Consequently, these rules of thumb for interpreting VIF's and tolerance statistic values will be applied to this study.

5.16.4 R^2 and Adjusted R^2 values

The R^2 value is the measure of how the proportion of variance in the dependent variable is explained by the independent variables in a sample. Furthermore, significance of an R^2 value is determined by examining the *p*-value of the *F*-ratio. An R^2 is significant if its p-value is < .05. Adjusted R^2 values represent an estimate of the R^2value from the population rather than a sample. For an adjusted R^2 to be significant its p-value is again < .05, and generally speaking, adjusted R^2 values match or are very close to R^2 values (Fox, 1997; Cohen, Cohen, West, & Aiken, 2003; Howell, 2002; Tabachnick & Fidell, 2007).

5.16.5 Testing for serial correlation using the Durbin-Watson statistic

A crucial test in hierarchical regression is to establish whether error values are not serially correlated. This was addressed in the context of this research using the Durbin-Watson statistic. This establishes whether errors in regression are independent, and this assumption is generally met if the value of the Durbin-Watson statistic is close to 2, and between 1 and 3 (Cohen, Cohen, West, & Aiken, 2003).

5.16.6 Interpreting regression coefficients (*B*i & *β*i)

As a general rule of thumb, if the relevant p_i-value of a regression coefficient (*B*i) is less than 0.05, the coefficient could be interpreted as significant and the independent (Xi) variable will make a contribution to a regression model – therefore the smaller p_i-value the larger the contribution of *X*i.

5.16.7 Testing the mediating relationship

According to Baron and Kenny, (1986) mediating variables account for the all or part of the relationship between independent variable(s) and dependent variable(s), and mediation is supported if four conditions are met, and this will be applied to this study: (1) the independent variable is significantly related to the mediator; (2) the independent variable is significantly related to the dependent variable; (3) the mediator is significantly related to the dependent variable; and (4) after entering the mediator, the relationship between the independent variable and the dependent variable reduces but remains significant, and the mediator is still related to the dependent variable (Baron and Kenny, 1986).

5.16.8 Testing the moderating relationship

According to Baron and Kenny (1986), a moderator is a variable that affects the direction and/or strength of a relationship between the independent variable and the dependent variable. The process of testing moderating relationships is to test for the interactions between predictors, and many researchers believe that this has been at the heart of theory testing in the social sciences. (Cohen, Cohen, West & Aiken, 2003; Howell, 2002; Tabachnick & Fidell, 2007). The most common procedure to test for moderation has been to regress the independent variable (Y) on the dependent variable (X) and the moderating variable (M), then in the next step, add the interaction XM into the equation (Dawson and Richter, 2006; Howell, 2002). In this study, the moderating relationship was tested using hierarchical regression procedures which are illustrated below. Initially, all of the variables are centered to maximise interpretability and to lessen problems that can occur due to multicollinearity (Aiken & West, 1991). The centred independent (X_{center}) variable and moderating variables (M_{center}) and then entered into the regression model. The interaction between these two variables is entered into the equation (X_{center} x M_{center}). If R^2 becomes higher when the interaction between the two variables is entered (and the coefficient for the interaction is significant), this suggests that the moderator variable does moderate the relationship between the independent variable and the dependent variable.. The moderating variables which have been used for this research are age and professional background (or area of

research). As mentioned in section 5.4.13, gender and ethnicity have been excluded due to a poor distribution of responses in these areas.

5.17 Chapter summary

This chapter has discussed and described the research methodology used for this study. This has consisted of: (i) an overview of the "framework of inquiry" (Guba and Lincoln, 1994) that has been adopted for undertaking this research; (ii) an account of the research design of this study, where a quantitative hypothetico-deductive approach (Whewell, 1840; Popper, 1959) has been utilised to test the relationships (represented by thirteen hypothesis) between the factors of an academic psychological contract; (iii) an account of the how the questionnaire was developed, with a breakdown of how the different factors of the academic psychological contract were measured; (iv) a summary of the pilot phase of this study, with suggestions about how the questionnaire was developed from this; (v) an account of the target population; (vi) an account of the targeted institutions; (vii) a description of how this study's sample size was methodologically strong; (viii) an overview of how the sample was selected and the data was collected; (ix) an breakdown of the characteristics of the sample and (x) a description of the methods of data analysis employed. As already mentioned in section 5.2 of this chapter, there does appear to be a paucity of research that utilises a quantitative methodology to measure the factors of a psychological contract (Roehling, 1997), especially in the academic domain. Moreover, as mentioned in section 3.6 of the Chapter 3, the only piece of research that has isolated the different components of a psychological contract associated with academia came from Krivokapic-Skoko and O'Neill's (2008) study which explored the formation and content of psychological contracts amongst university staff in New Zealand and Australia.

It is hoped that this particular research will build upon this by looking at the content of a psychological contract that applies to British higher education, but by also providing a sound method of testing hypothesis which reflect the relationships between the different factors of an academic psychological contract. The central hypotheses of this research were tested using the hierarchical multiple regression methods that have been described in section 5.16.1 of this chapter. However, before conducting the main data analysis, the data was screened for the purposes of examining accuracy, missing values, and variable distribution. Subsequently an exploratory factor analysis (EFA) was undertaken to examine the distinctiveness of some of the factors being measured in this study, and ANOVA's were used to evaluate how factors of an academic psychological contract varied according to demographic differences. All of these statistical analyses were undertaking using the SPSS software, and the results are presented in the following chapter.

Chapter 6 - Results

This chapter presents the reader with an overview of the empirically based methods which were used to interpret the findings of this study. This includes an account of the procedures which were used to screen the data, the results of an exploratory factor analysis, and an examination of how issues associated with reliability were addressed. Furthermore, this chapter also includes an overview of how descriptive statistics have been used to evaluate the robustness of the data, and how the questionnaire used in this research measures the "gaps" between expectations/results which characterise an academic psychological contract (with an overview of what these represent). The effects of gender, ethnicity, age, present academic position and professional background on the factors of the academic psychological contract were also presented (using analysis of variance techniques), along with an account of the multiple regression procedures that tested the thirteen hypothesis which were formulated for this research.

6.1.1 Data screening – individual ability

In addition to including items which specifically measured the factors of the academic psychological contract (which were refined using exploratory factor analysis), the questionnaire additionally incorporated a number of other items that measured important aspects of an academic's work. The first of these relates to "individual ability" using a unidimensional 7 point Likert scale which initially consisted of 8 items that compare expected abilities to abilities that are delivered, which was subsequently refined to 4 items after the factor analysis had been carried out. The table in appendix 5 shows the frequencies of these items, where the frequencies function of the SPSS program was adopted (incorporating measures of central tendency such as mean, modal, median, standard deviation, minimum/maximum range, in addition to values of variance, skewness and kurtosis). From looking at this information, it can be seen that the Likert scale items had the expected minimum/maximum values (between 1 and 7) with no missing values. Furthermore, the items that measured the expectations and results associated with "adopting a flexible attitude" and "valuing a working knowledge of expertise" had the highest mean values (M=5.37, SD=0.06, M=5.30, SD=0.06; M=5.48, SD=.09, M=5.22, SD=.06). The implications of these findings will be evaluated in the next chapter, looking specifically at an *employee's* perceptions of their expected abilities as an academic member of staff.

The multivariate normality of items which measured individual ability was again examined, with the results reported in appendix 5 and summarised in table 7. While these results appear to show deviations from perfect normality, the averages of the skewness and kurtosis indexes fall within parameters identified by Kline (2005) there supporting the assumption of multivariate normality and allowing further multivariate analyses to conducted.

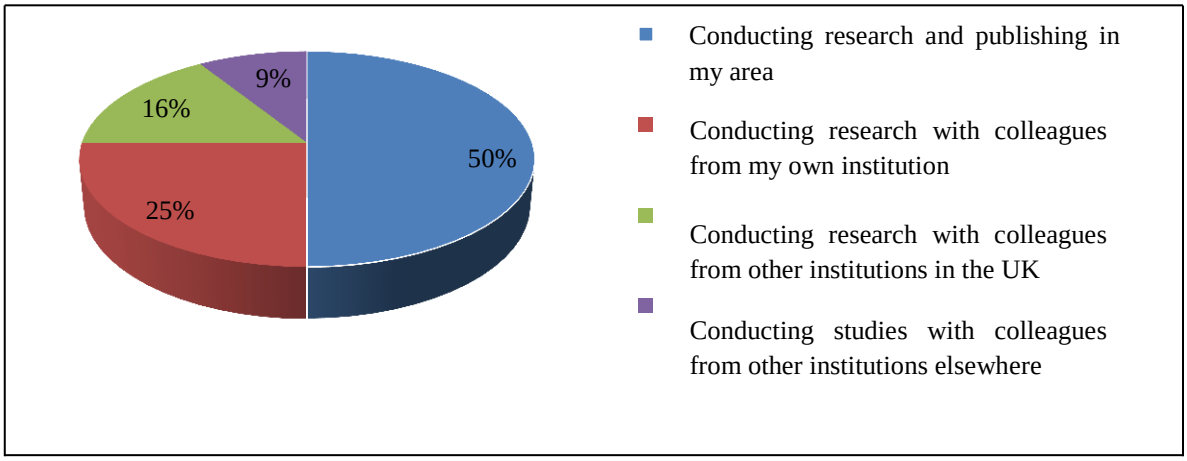
Table 7 - Frequencies of Skewness and Kurtosis – individual ability

	Skewness		Kurtosis	
N	16		16	
Mean	-3.35		-0.01	
Std. Deviation	0.13		0.27	
Minimum	-1.40		-1.22	
Maximum	0.55		2.06	
Absolute values	Frequency	Per cent	Frequency	Per cent
0 < – < 0.5	14	87.5 %	11	68.7%
0.5 – <= 1	2	12.5 %	1	6.3%.
> 1	0	0%	4	25.0%

6.1.2 Data screening – contacts in academia

Although the questionnaire used in this research was predominately structured around a unidimensional 7 point Likert scale, a per centage scaling method was used (for 4 items) to measure how an academic uses contacts to conduct research activities. The use of per centage scaling methods in social research provides the researcher with an effective method of predicting the extent to which a population might express a particular attitude or behaviour (McCormick, 1945) – in this case the amount of time spent on research activities alone, or with colleagues from their own institutions or elsewhere. The pie chart in figure 6 provides an overview of the distribution of responses amongst the 337 academic staff who participated in this study, showing an overall (50%) preference for conducting research and publishing alone, rather than with colleagues at home or in different institutions

Figure 5 – contacts in academia (research activities)



6.1.3 Data screening – reasons for joining academic life

The use of a unidimensional 7 point Likert scale to measure items that were not factors of the academic psychological contract was also employed to measure items association with the reasons for joining academic life (as mentioned in section 5.4.14 of the previous chapter). The table in appendix 6 shows the frequencies of these items, using the frequencies function of SPSS software package (again, incorporating measures of central tendency such as mean, modal, median, standard deviation, minimum/maximum range, and values of variance, skewness and kurtosis of the data). The Likert scale items again had the expected minimum/maximum values (between 1 and 7) and no missing values. Moreover, the items entitled "Internal urge to conduct state of the art research in my area" and "Improving knowledge of my area of research" had the highest mean values (M=5.54, SD=1.36 and M=5.31,SD=1.54). The implications of this finding will again be evaluated in chapter seven - discussion and conclusion.

Appendix 6 shows the multivariate normality of the items which measured the reasons for joining academic life, which are summarised in table 8 below. Again, although the results show some deviations from perfect normality, the mean scores of the skewness/kurtosis indexes fall within parameters identified by Kline (2005), ensuring that this data can be subject to further multivariate analyses.

Table 8 - Frequencies of Skewness and Kurtosis – reasons for joining academic life

	Skewness		**Kurtosis**	
N	5		5	
Mean	-1.10		1.41	
Std. Deviation	0.13		0.27	
Minimum	-2.44		-1.37	
Maximum	0.40		5.79	
Absolute values	Frequency	Per cent	Frequency	Per cent
0 < – < 0.5	5	100 %	2	40%
0.5 – <= 1	0	0%	1	20%.
> 1	0	0%	2	20%

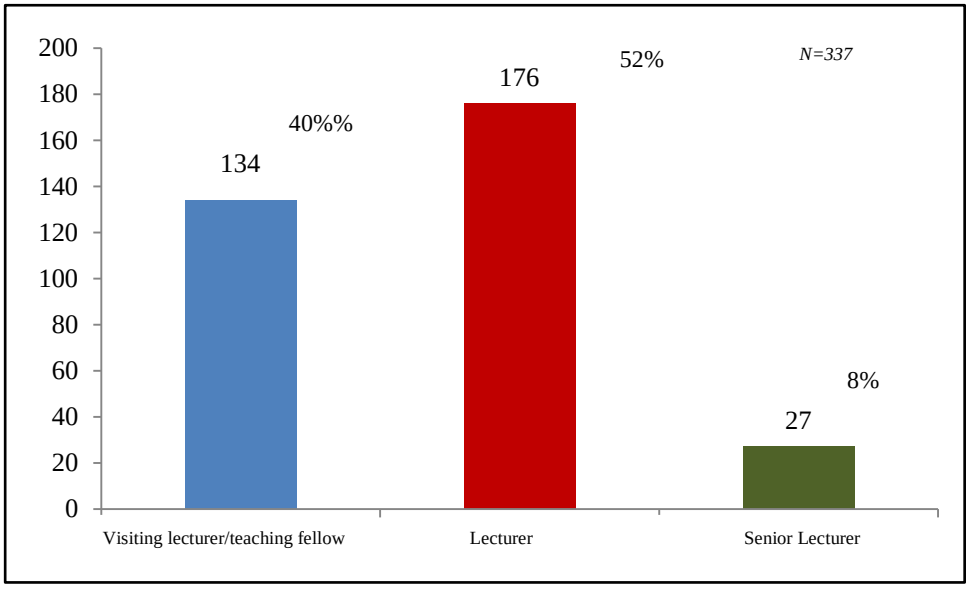
6.1.4 Data screening – academic position

The questionnaire measured academic position by utilizing three closed questions that identified the respondent's first position in academia, their present position and the final position they are predicted to reach. The answers to these closed questions were coded numerically (Foody, 1994), where Visiting

lecturer/Teaching Fellow was coded as 1, Lecturer was coded as 2, Senior Lecturer was coded as 3, Principal Lecturer was coded as 4, Reader was coded as 5 and Professor was coded as 6. The table in appendix 7 shows the distribution of frequencies for the items that measured academic position - again using the frequencies function of SPSS software package (specifying modal, median, standard deviation values, the minimum/maximum range, variance and the skewness and kurtosis of the data). For each of the questions, the minimum/maximum values were as expected (between 1 and 6), and the question which examined academic position the respondent was predicted to reach had 11 missing values.

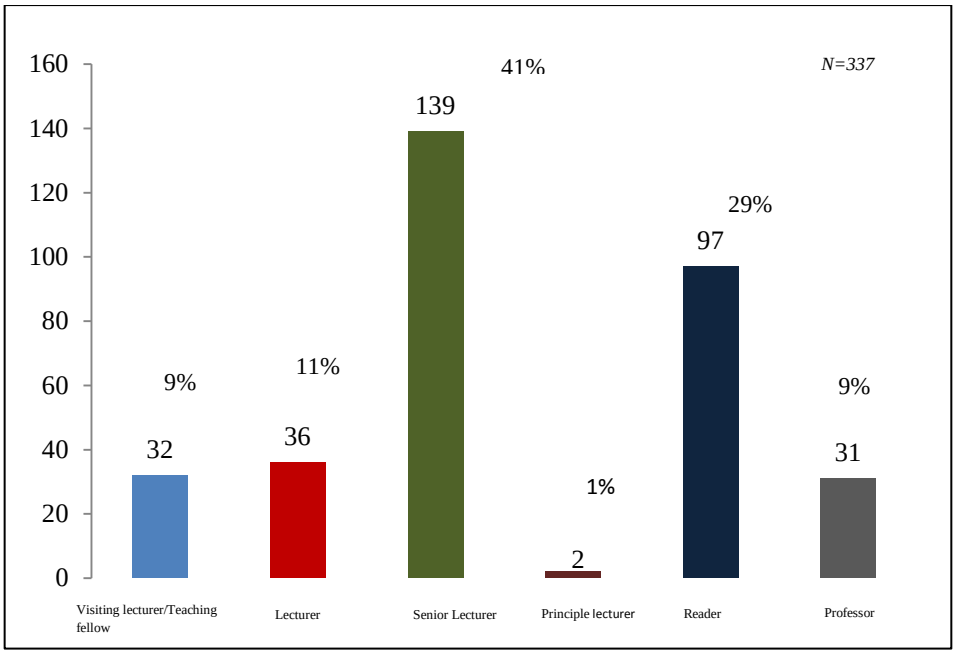
The histogram in Figure 6 shows the distribution of answers associated with the respondents first academic position. The results indicate that: (i) 134 academics (or 40% of the respondents) started their careers as either visiting lecturers or teaching fellows; (ii) 176 academics (or 52% of the respondents) started their careers as lecturers and (iii) 27 academics (or 8% of the respondents) started their careers as senior lecturers.

Figure 8 - first position in academia



The histogram in Figure 6 shows the distribution of answers associated with the respondents present academic position. The results indicate that: (i) 32 academics (or 9% of the respondents) work as either teaching fellows or visiting lecturers; (ii) 36 academics (or 11% of the respondents) work as lecturers; (iii) 139 academics (or 41% of the respondents) work as senior lecturers, (iv) 2 academics (or 1% of the respondents) work in the position of principal lecturer; (v) 97 academics (or 29% of the respondents) work in the position of reader and (vi) 31 of the academics (or 9% of the respondents) occupy a professorial position. Furthermore, the findings revealed that most of the respondents reached their present position in 1989 (with dates that ranged from 1970 to 2005).

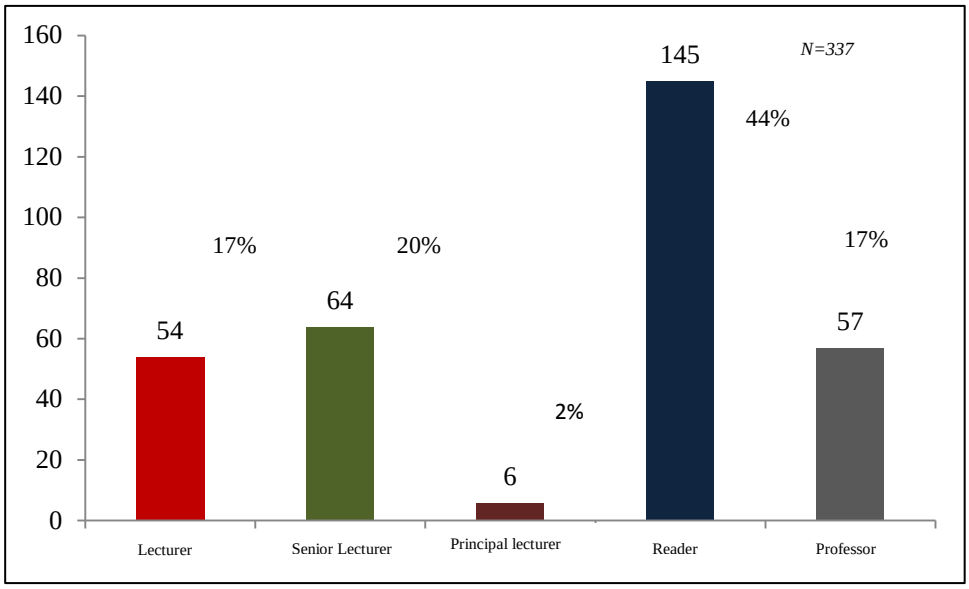
Figure 7 - present academic post



The histogram in Figure 8 shows the distribution of answers associated with the final position an academic member of staff is predicted to reach, assuming that their personal development follows their personal plans. The results indicate the following: (i) 54 academics (or 17% of the respondents) believe they will reach the position of lecturer; 64 academics (or 20% of the respondents) believe they will reach the position of senior lecturer; (iii) 6 academics (or 2% of the respondents) believe they will reach the position of principal lecturer; (iv) 145 academics (or 44% of the respondents) believe that they will reach the position of reader and (v) 57 academics (or 17% of the respondents) believe they will eventually reach a professorial position.

Of the 337 respondents who took completed the questionnaire, 11 individuals did not indicate what they believed their final academic position would be. Although this represents a low attrition rate (3%), it perhaps suggests that some respondents simply "didn't know" what their final academic position could be, reflecting that missing data in quantitative research could be related to "uncertainty" when interpreting a question (Babbie, 2006). The implications of this inference and of the distribution of the aforementioned results will be further discussed in chapter seven – discussion and conclusion.

Figure 8 – final position academic member of staff predicted to reach



Appendix 7 shows the multivariate normality of items that measured academic position, which are summarised in table 9 below. There are some deviations from deviations from perfect normality, but again the mean scores of the skewness/kurtosis indexes fall within limits identified by Kline (2005 to support further multivariate analyses.

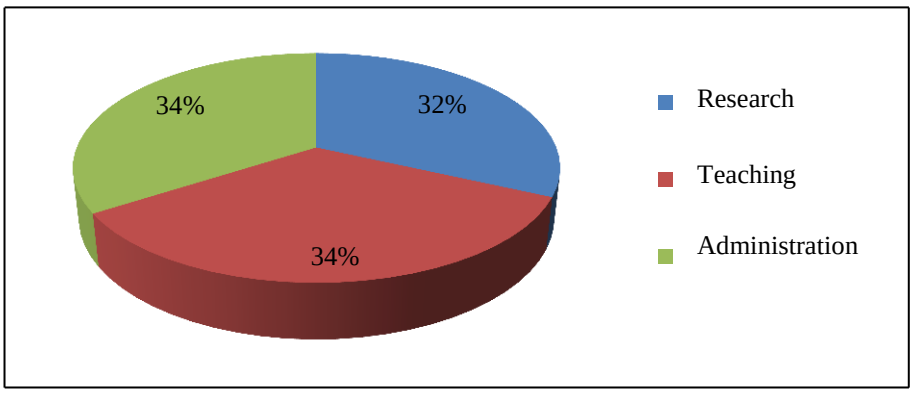
Table 9 - Frequencies of Skewness and Kurtosis – academic position

	Skewness		**Kurtosis**	
N	3		3	
Mean	-0.04		-0.97	
Std. Deviation	0.13		0.27	
Minimum	-0.47		-1.24	
Maximum	0.32		-0.65	
Absolute values	Frequency	Per cent	Frequency	Per cent
0 < – < 0.5	3	100 %	3	100 %
0.5 – <= 1	0	0 %	0	0 %
> 1	0	0 %	0	0 %

6.1.5 Data screening – academic responsibilities

In addition to using Likert scale items to measure the factor of academic responsibilities, a per centage scaling method was used to measure the amount of time of staff devoted to research, teaching and administration. The pie chart in figure 9 shows the distribution of responses amongst the 337 academic staff who took part in the study, showing that academics spend 32% of their working time on administration tasks, with 34% of their time spent on both research and teaching. The implications of these findings will be further discussed in chapter 7 (conclusion and discussion).

Figure 9 – academic responsibilities



6.2.1 Exploratory factor analysis (EFA)

The exploratory factor analysis (EFA) was conducted post-hoc by adopting a varimax rotation method and using the SPSS software package to undertake a "principal components analysis", which is the standard procedure for undertaking an EFA using statistical packages such as SPSS (Costello & Osbourne, 2005). As a general rule of thumb, patterns of items which have commonalities of .40 or higher will be further examined (Velicer & Jackson, 1990), and this has been applied to the EFA that was carried out for this study.

The factorability of *all* the items related to the eleven factors of the academic psychological contract were initially examined, namely: institutional expectations, networking, type of university, commitment, performance, academic responsibilities, emotions, competence, psychological contract breach, future career expectations and job satisfaction.

However, networking and type of university was dropped during the EFA as these were based on single measures, and performance was excluded as this was based upon a single weighted variable that was created by the researcher to measure publication and RAE output. However, as illustrated in section 6.2.3 (below) these factors were still used in this research as they represented "validated" items (Baruch, 2005) to measure networking, university category and performance in the academic environment.

Furthermore, all the items associated with the following factors of the academic psychological contract were eliminated because they did not have a simple factor structure and failed to meet the criteria of having commonalities of .40 or higher. These items related to factors that were associated with: (i) academic responsibilities; (ii) psychological contract breach and (iii) competence. But although these factors were eliminated during the EFA, they were still used in this research as they represented "formative indicators" of the academic psychological contract (Diamantopoulos & Siguaw, 2006), and a justification for this is presented in the next section.

In addition to having commonalities of .40 or higher, items were further examined if they had (i) Eigen values greater than 1 and (ii) there are no cross loadings (Velicer & Jackson, 1990). As a result of this, for factors associated with work related expectations 11 items were subsequently extracted – this was made up of 4 items associated with institutional expectations, 3 items associated with expectations about emotions and 4 items associated with expectations about individual ability (although the last of these was not included as a factor of the academic psychological contract). Furthermore, for factors associated with work attitudes 9 items were extracted (made up of 3 items associated with job satisfaction, 3 items associated with future career expectations and 3 items associated with commitment). Tables 10 to 18 (below) show the factor loadings, total variance explained and the results of the Kaiser-Meyer-Olkin and Bartlett's test's for work related expectations (institutional, emotions and individual ability) work attitudes (job satisfaction and future career expectations) and work attitudes (commitment). With regard to work related expectations, the rotated Eigen values showed that institutional expectations account for 25.9% of the variance in results, with emotions accounting for 50.4% of the variance, and individual ability accounting for 73.2% of the variance. Furthermore, the Kaiser-Meyer-Olkin measure of sampling adequacy was .760, which was above the recommended value of .600 (Costello & Osborne, 2005) and Bartlett's test of sphericity was highly significant - χ^2 (55) =2157.879, $p \leq .000$.

Table 10 - Exploratory factor analysis of work related expectations

Rotated component matrix

	Component		
	1	2	3
Institutional			
An indication of what best practices means within my organisation		.874	
Good learning opportunities exist within my organisation		.748	
A feeling of satisfaction in my work		.703	
Managing others in my present work		.783	
Emotional			
An ability to express emotions openly			.832
Receiving emotional support from my colleagues			.898
The existence of support groups to address personal problems			.896
Individual ability			
To make me aware of the competencies associated with work I am engaged in	.647		
To adopt a flexible attitude towards the work undertaken	.839		
To value a working knowledge of my field of expertise	.913		
To take an active interest in my professional development	.801		

Extraction Method: Principal Component Analysis. Rotation Method: Varimax with Kaiser Normalization. Components converged in 5 iterations.

Table 11 - Exploratory factor analysis of analysis of work related expectations - total variance explained

nents	Initial Eigen values			Extraction Sums of Squared Loadings			Rotation Sums of Squared Loadings		
	Total	% of Variance	Cumulative %	Total	% of Variance	Cumulative %	Total	% of Variance	Cumulative %
1	4.477	40.702	40.702	4.477	40.702	40.702	2.856	25.965	25.965
2	1.837	16.704	57.406	1.837	16.704	57.406	2.692	24.475	50.439
3	1.740	15.817	73.223	1.740	15.817	73.223	2.506	22.784	73.223
4	.751	6.823	80.046						
5	.558	5.069	85.116						
6	.443	4.024	89.139						
7	.342	3.107	92.246						
8	.308	2.798	95.044						
9	.250	2.273	97.316						
10	.168	1.529	98.845						
11	.127	1.155	100.000						

Table 12 - Exploratory factor analysis of work related expectations - KMO and Bartlett's Test

Kaiser-Meyer-Olkin Measure of Sampling Adequacy.		.760
Bartlett's Test of Sphericity	Approx. Chi-Square	2157.879
	df	55
	Sig.	.000

Table 13.- Exploratory factor analysis of work attitudes (job satisfaction and future career expectations)

Rotated component matrix

	Component	
	1	2
Job satisfaction		
Generally speaking, I am satisfied with my current work	.863	
I frequently think of quitting my job	.586	
I'm generally satisfied with the kind of work that I do for my job	.906	
Future career expectations		
I feel very well about my future in academia		.710
My feelings about the future within my institution influence my overall attitude towards the future		.880
I feel that I'm getting ahead in my institution		.773

Extraction Method: Principal Component Analysis. Rotation Method: Varimax with Kaiser Normalization. Rotation converged in 3 iterations.

Table 14 - Exploratory factor analysis of work attitudes (job satisfaction and future career expectations) – total variance explained

Component	Initial Eigenvalues			Extraction Sums of Squared Loadings			Rotation Sums of Squared Loadings		
		Variance	lative %		Variance	lative %		Variance	Cumulative %
1		54.503	54.503		54.503	54.503	2.273	37.884	37.884
2		17.847	72.350		17.847	72.350	2.068	34.466	72.350
3		12.689	85.039						
4			91.907						
5			96.782						
6	.193	3.218	100.000						

Table 15 - Exploratory factor analysis of work attitudes (job satisfaction and future career expectations) – KMO and Bartlett's Test

Kaiser-Meyer-Olkin Measure of Sampling Adequacy.		.751
Bartlett's Test of Sphericity	*Approx. Chi-Square*	*2372.223*
	df	36
	Sig.	.000

Table 1 6 - Exploratory factor analysis of work attitudes (commitment)

Component Matrix

	Component 1
I'm proud to tell people I work at this university	.835
In my work I feel like I'm making some effort, not just for myself, but my subject area as well (i.e. management, biochemistry)	.959
I'm willing to put myself out to help the department/ faculty I work for	.956

Extraction Method: Principal component Analysis. 1 component extracted.

Table 17 - Exploratory factor analysis of work attitudes (commitment) - total variance explained

	Initial Eigenvalues			Extraction Sums of Squared Loadings		
	Total	% of Variance	Cumulative %	Total	% of Variance	Cumulative %
1	2.531	84.379	84.379	2.531	84.379	84.379
2	.418	13.940	98.320			
3	.050	1.680	100.000			

Table 18 - Exploratory factor analysis of work attitudes (commitment) - KMO and Bartlett's Test

Kaiser-Meyer-Olkin Measure of Sampling Adequacy.		.673
Bartlett's Test of Sphericity	**Approx. Chi-Square**	**976.379**
	df	3
	Sig.	.000

The rotated Eigen values for work attitudes showed that job satisfaction accounted for 37.8% of the variance of results, with future career expectations accounting for 78.3 of the variance., and the Kaiser-Meyer-Olkin measure of sampling adequacy was at an acceptable level (. 751), with also a highly

significant result in the Bartlett test of sphericity - in this case $\chi^2(56)=2157.879$, $p < .000$. Finally, the rotated Eigen values for work attitudes associated with commitment showed that this factor accounted for 84.3% of the variance of results, with the Kaiser-Meyer-Olkin measure (again) at an acceptable level to establish sampling adequacy (.673), and with also a highly significant result in the Bartlett test of sphericity - $\chi^2= (3)\ 976.37$, $p < .000$.

In the next chapter, discussion will be directed towards how these findings shed light on the character of a psychological contract that could exist within the academic environment.

6.2.2 The inclusion of academic responsibilities, psychological contract breach and competence as "formative indicators" of the academic psychological contract

As mentioned in the previous section, items associated with the factors of academic responsibilities, psychological contract breach and competence were not factor analysed because they represent "formative indicators" of the academic psychological contract (Diamantopoulos & Siguaw, 2006), and a *theoretical* justification of this is presented below.

A "formative indicator" represents the determinants (rather than the manifestations) of a construct (or factor) (MacCallum and Browne, 1993) and according to Diamantopoulos and Winklhofer (2001) formative indicators are adopted when the researcher's desire is to explain the abstract or the unobserved variance of a construct, while reflective indicators should be used when the desire is to account for variance among observable indicators of a construct. Moreover, because formative indicators have a number of specific properties, procedures which are used to measure the purification of reflectively measured constructs (such as factor analysis) are not appropriate for constructs with formative indictors (ibid). The following properties of formative indicators are outlined below, with a explanation of why the factors of academic responsibilities, psychological contract breach and competence are recognised as formative indicators of the psychological contract, where it would be inappropriate to to use factor analysis for these items.

First of all, whereas reflective indicators are interchangeable (where removing an item does not change the essential nature of a construct), omitting an item from a formative indicator is omitting part of a construct (Bollen & Lennox,1991) - where formative measures are designed to capture the latent construct in its entirety, and as a natural consequence, dropping items could alter a constructs conceptual meaning. With regard to the formative indicator of academic responsibilities, this is particularly relevant as evidence suggests that this is linked to research output (Terpstra & Honoree,

2009; Beikzad *et al*, 2012) and removing items from a scale which measures these factors could affect the relationship between academic responsibilities and performance which may exist within an academic psychological contract. With regard to psychological contract breach, this is also relevant as research has shown that scales which measure psychological contract breach expose low levels job satisfaction in both the public and private sectors (Raja, et al, 2004) and more recently the Australian HE sector (Shen, 2010), and removing items from a scale that measures these factors could affect the relationship between psychological contract breach and job satisfaction which could exist with an academic psychological contract. Furthermore, with regard to competence, this observation is also applicable as research has indicated that measures of competence can have a noticeable impact on job satisfaction in the HE sector (Shahzad, *et al*, 2010) and removing items which measure these factors could affect a relationship which may exist between competence and job satisfaction within a psychological contract that is unique to academia.

Secondly, in a formative indicator the issue of internal consistency is not important as two (or more) uncorrelated indicators can both serve as meaningful indicators of the same construct (Diamantopoulos & Winklhofer, 2001). This applies to the issue of academic responsibilities as evidence from Terpstra and Honoree's (2009) study on academic responsibilities indicates that scales which measure different aspects of academic responsibility (such as research, teaching and administrative duties) can independently effect research output, whether they are correlated or not – therefore strengthening the case of why academic responsibilities could be regarded as a formative indicator of an psychological contract within academia. Furthermore, with regard to psychological contract breach, research has indicated that different scales that measure psychological contract breach can independently effect job satisfaction in both the private and public sector (Morrison, 2000; Raja, et al, 2006) and in academia, (Shen, 2010) – indicating that measures or psychological contract breach are more formative (rather than reflective) indicators psychological contracts in both academia and elsewhere. Finally, with regard to competence, Shahzad *et al's* (2010) research on the relationship between academic competence and job satisfaction revealed that different aspects of academic competence (such as research, teaching and curriculum development) independently effected job satisfaction in academia – indicating that a measure of competence may be more of a formative (rather than reflective) indicator of a psychological contract in academia.

Therefore, as measures of academic responsibilities, psychological contract breach and competence have the characteristics that have been described above, conventional procedures to measure data purification (such as exploratory factor analysis) would be inappropriate in this case, although these will still be included in subsequent multivariate analysis as they represent formative indicators of the academic psychological contract.

6.2.3 Using validated items to measure networking, university category and performance

Only one Likert scale item was used to measure the factor of networking, therefore this factor could was excluded from the EFA, and as indicated in the last chapter, the issue reliability becomes irrelevant (Nunnally, 1978). However, while single-item measures are generally discouraged in social science research, this should not necessarily be perceived as a 'fatal error' (Wanous et al 1997). For example, research that has looked at the antecedents of organizational commitment (Morris et al, 1993) and employee aggression (Greenberg & Barling,1999) has included single item measures. Furthermore, a study on bullying on the internet by Baruch (2005) established that single items could be used if they were clearly validated. The single item used to measure networking was "*I have many opportunities to network with leading academics within my area of research*", which clearly validates the issue of networking in an academic environment. Furthermore, the item used to measure university category consists of a single item that was nominally coded by the researcher, yet this clearly validates the differences between pre-1992 and post-1992 institutions in the academic environment. And although six items were created to examine the factor of research based performance (with an alpha reliability of .70), it was measured by a single weighted variable (of these items) that was created by the researcher to measure publication and RAE output, and this clearly validates the role of research output in the academic environment. Therefore, for these reasons, these factors will be included in subsequent multivariate analysis adopted in this study.

6.3 Internal consistency reliability

Table 19 presents and overview of the internal consistency reliabilities (Cronbach's alphas) of the Likert scale items used in this study which measured the different factors of the academic psychological contract, after particular items had undergone factor analysis*. Networking was excluded as it was based on a single measure (see below) and university category was excluded as this was nominally coded by the researcher. Additionally, reliability coefficients from research on psychological contracts, which examined some of these factors, have also been included. The values of all the Cronbach's alphas were generally over the threshold of .70 (Nunnally & Bernstein, 1994) which was encouraging, and from examining empirical studies in the area of psychological contracts, it appeared that this study had reliability coefficients which were generally slightly lower (with the exception on future career expectations). It is interesting that no alpha reliability values were found in factors that related to competence or academic responsibilities from other studies, which reflects a paucity of research these areas.

Table 19 Internal consistency reliabilities of the factors of the academic psychological contract

Factor	Number of items	Cronbach Alpha	Previous Cronbach Alpha
Academic responsibilities	12	.70	Not reported
Commitment (2 items removed) *	3	.88	.84[7]; .93 [8]
Competence	17	.85	Not reported
Emotion (5 items removed)*	3	.88	.80 [5]
Future career expectations (1 item removed) *	3	.78	.78 [1]
Institutional expectations (3 items removed) *	4	.80	.82[6]
Job satisfaction (2 items removed) *	3	.78	.74 [2] ; .77 [3]
Performance (research-based)	6	.70	.84[4]; .86[8] ; .86[9]
Psychological contract breach	11	.77	.90[10]; .83[11]

(1)Rousseau (1990); (2)(Rousseau (2000) ; (3) Chrobot-Mason (2002); (4) Zhao and Chen (2008); (5) Wolf-Morrison & Robinson (1997); (6) Coyle-Shapiro and Neuman (2004) ; (7) Tallman & Bruning (2008); (8) Bal et al (2010) ; (9) Suazo (2009); (10) Robinson and Morrison (2000); (11) Matthijs.B, Chiaburu.D and Jansen.P (2010).

6.4 Descriptive analysis of the scales adopted in this study

Table 20 presents an overview of the means and standard deviations of the undimensional 7 point Likert scales that were adopted in this study, post factorial analysis. Overall, the minimum and maximum and maximum values show that: (i) the scales that measured the factors of competencies (work competencies and competencies needed), emotions (expectations and results), joining academic life and academic responsibilities (research, teaching and administration) had a range from 1 to 7; (ii) the scales that measured institutional results, ability (expectations and results) and work attitudes (future career expectations) had a range from 2 to 7; (iii) the scales that measured institutional expectations, work attitudes (job satisfaction) and work attitudes (commitment) had a range of 3 to 7 and (iv) the single scale the measured the factor of networking had a score from 4 to 7. Furthermore, the value of the standard deviation scores would indicate a variation of at least 1.29 in the value of each variable. This supports an assumption of multiple regression were all variables and unbounded with non-zero variance (Field, 2009).

Based on the mean results reported, the following observations can be made: (i) the scales that measure *needed* academic competence yield the highest result, which are slightly higher than the scales which identify an academic's *perceived* level of competence; (ii) the item that measures contacts/networking has a high value, which reinforces the idea that networking in academia is fundamental to career success associated with producing publications (Altbach, 1997; McAdam & Marlow, 2008); (iii) the scales that measure work attitudes associated with future career perceptions and commitment have high, yet very similar values, indicating that there are similarities between how academics *perceive* these two factors; (iv) there are similarities in the mean values of scales that measure the work related expectations/results associated with emotions and ability, reflecting *some* commonality between what an academic expects from their institution and what they receive in terms of understanding these factors and (v) a low mean value in the scale that measures academic responsibilities associated with administration, indicating that administration is perhaps losing its importance within the academic domain (Terpstra & Honoree, 2009).

The similarities and differences between scales that measure perceived competence and needed competence and work related expectations versus results will be explored in section 6.5 (below) which measures the "gaps" in the academic psychological contract.

Table 20 Descriptive statistics of scales

Scales		N	Min	Max	Mean	Standard Deviation
1. WCMY	Work competencies (my competence)	337	1.00	7.00	5.04	1.15
2. WCNE	Work competencies (competence needed)	337	1.00	7.00	5.63	1.07
3. WEIN	Work related expectations (institutional)	337	3.00	7.00	5.28	1.22
4. WRIN	Work related results (institutional)	337	2.00	7.00	4.45	1.17
5. WEEM	Work related expectations (emotions)	337	1.00	6.00	3.63	1.51
6. WREM	Work related results (emotions)	337	1.00	6.00	3.80	1.30
7. WEAB	Work related expectations (ability)	337	2.00	7.00	5.00	1.43
8. WRAB	Work related results (ability)	337	2.00	7.00	4.80	1.27
9. COAC	Contacts (networking with academics)	337	4.00	7.00	5.55	0.98
10. JOAC	Joining academic life	337	1.00	7.00	4.75	1.67
11. WAJS	Work attitudes (job satisfaction)	337	3.00	7.00	5.37	1.15
12. WACP	Work attitudes (future career perceptions)	337	2.00	7.00	5.15	1.37
13. WACO	Work attitudes (commitment)	337	3.00	7.00	5.47	0.95
14. ARRE	Academic responsibilities (research-based)	337	1.00	7.00	3.98	1.45
15. ARTE	Academic responsibilities (teaching)	337	1.00	7.00	4.78	1.46
16. ARAD	Academic responsibilities (admin)	337	1.00	6.00	3.19	1.53

The correlation matrix in Table 21 shows the relationships between the different empirical scales that have been adopted for this research, after the exploratory factor analysis was conducted. Analysing the correlation matrix will provide a good method for determining initial predictions for multiple regression, where for maximum prediction, independent variables should have low correlations with other independent variables, but high correlations with dependent variables (Hair, *et al*, 2006). The analysis indicates that correlations among scales that measure independent factors of the academic psychological contract are, on the whole, reasonably low.

These include low significant correlations between scales that measure job satisfaction and work related expectations of ability (-.616**) and low significant correlations between scales that measure institutional expectations and academic responsibilities associated with teaching (-.473**). Furthermore, according to various studies, before a regression is conducted correlations higher than .9 (Hair et al., 2006; Kline, 2005) or higher than .8 (Field, 2005) are considered to be too high and items with these values should eliminated. However, the values in table 21 clearly lie below this threshold.

The highest significant correlations have been underlined and these reflect relationships between:: (i) the expectations and results associated with emotions (.757**); (ii) work attitudes associated with future career expectations and commitment (.699**) and (iii) academic responsibilities associated with administration and age (.623**). These results reflect the academic employee's perceptions of: (i) how expectations and results associated with emotionally intelligent behaviour (in the university environment) are converging; (ii) a convergence between future career expectations and commitment and (iii) the notion that academic responsibilities associated with administration are influenced by age.

6.5 Measuring the "gaps" in the psychological contract

The idea of measuring a "gap" in the expectations/results associated with psychological contracts was given prominence in a study by Porter *et al* (1998). This study examined the relationship between psychological contracts and inducements – focusing on the gaps existing between an employee's views of inducement and the level of inducement offered by an employer. The approach adopted by this study to measure the "psychological contract gap" (ibid) will be used in this research on the academic psychological contract where average scores associated with expectations and perceptions will be subtracted from average scores associated with what is needed and received.

Table 21 Correlation matrix

*** $p < .05$ (2-tailed) ** $p < .01$ (2-tailed)**

	1.	2.	3.	4.	5.	6.	7.	8.	9.	10.	11.	12.	13.	14.	15.	16.	17.	18.	19.	20.	21.
1.University category	1																				
2.Age	.060	1																			
3.Ethnicity	-.059	.020	1																		
4.Gender	.043	.203**	.200**	1																	
5.Professional background	.094	.051	.191**	-.096	1																
6. WCMY	.027	.250**	.230**	-.095	.282**	1															
7. WCNE	.048	-.045	-.079	-.103	.298**	.265**	1														
8. WEIN	.126*	.373**	.059	-.156**	.147**	.504**	.512**	1													
9.WRIN	.190**	.303**	.052	.409**	.113*	.303**	.307**	.470**	1												
10.WEEM	-.043	.210**	.171**	.052	-.024	.054	.336**	.284**	-.126*	1											
11.WREM	-.073	.159**	.251**	-.017	-.018	.005	.309**	.059	-.073	.757**	1										
12.WEAB	-.027	-.027	.356**	.027	-.233**	-.024	.143**	.384**	.139*	.388**	.301**	1									
13.WRAB	.031	-.048	.126*	-.237**	.086	.165**	.208**	.211**	.358**	.145**	.219**	.532**	1								
14.COAC	-.016	.202**	-.091	-.128*	.373**	.361**	.387**	.184**	.052	.026	.155**	-.334**	.024	1							
15.JOAC	-.008	.370**	.135*	.089	-.274**	.035	-.216**	-.145**	-.157**	.246**	.061	-.010	-.320**	-.405**	1						
16. WAJS	.025	-.114*	.268**	.022	.068	-.317**	-.096	-.468**	-.247**	-.355**	-.224**	-.616**	-.419**	.113*	-.176**	1					
17.WACP	.003	-.043	.492**	-.163**	.318**	-.198**	.167**	-.320**	-.013	-.313**	-.165**	-.533**	-.021	.284**	-.433**	.553**	1				
18. WACO	-.011	.008	.414**	-.021	.232**	-.264**	.308**	-.187**	-.118*	-.047	.074	-.281**	.020	.310**	-.409**	.428**	.699**	1			
19.ARRE	-.017	.515**	.206**	.404**	-.012	-.147**	-.166**	-.443**	-.329**	-.100	-.103	-.265**	-.149**	-.071	.116*	.351**	.279**	-.058	1		
20 ARTE	.052	.191**	.368**	-.118*	-.421**	-.263**	-.473**	-.257**	-.158**	-.013	-.027	.130*	-.247**	-.454**	.474**	.022	-.463**	-.508**	.139*	1	
21.ARAD	-.009	.623**	.337**	.205**	-.244**	-.080	-.149**	-.220**	-.281**	.387**	.313**	.225**	-.008	-.223**	.575**	-.186**	-.434**	-.388**	.387**	.510**	1

6.WCMY=Work competencies (my competence)
7.WCNE=Work competencies (competence needed)
8.WEIN= Work related expectations (institutional)
9.WRIN= Work related results (institutional)
10.WEEM= Work related expectations (emotions)
11.WREM= Work related results (emotions)
12.WEAB= Work related expectations (ability)
13. WRAB= Work related results (ability)
14. COAC= Contacts (networking with academics)
15. JOAC=Joining academic life
16. WAJS= Work attitudes (job satisfaction)
17. WACP= Work attitudes (future career perceptions)
18.WACO=Work attitudes (commitment)
19.ARRE= Academic responsibilities (research-)
20.ARTE= Academic responsibilities (teaching)
21.ARAD= Academic responsibilities (admin)

However, in the case of this particular research on the academic psychological contract, the "gaps" will be calculated in two different ways. Initially, the average scores of the employee's perceived competence will be subtracted from their needed competence in order to measure the gap between the perceptions and reality of competence in the academic environment. Secondly, the gaps in the psychological contract will also be examined by adopting the main method of measuring psychological contract breach in this study (as illustrated in chapters 4 and 5) – i.e. by subtracting the average scores of what an academic (as a university employee) expects from their employer to what is actually received. In this particular case, this will be done subtracting the average scores of an employee's expectations associated with their institution, their emotions and their ability, from the average scores of what is received in these areas, post factor analysis. Furthermore, a "positive gap" indicates that expectations have higher scores than results, whereas a "negative gap" illustrates that expectations have lower scores than results (ibid).

The tables in appendices 8-11 show the means, standard deviations and the inter-correlations for items that measured "gaps" associated with the academic psychological contract. The table in appendix 8 illustrates the gaps for each of the 17 items associated with competence, with the tables in appendices 9, 10 and 11 showing the gaps for the 4 items associated with institutional expectations/results, the 3 items associated with emotions (expectations/results) and the 4 items associated with individual ability (expectations/results) – all post factor analysis. Moreover, to check whether the inter-correlations between the gaps are significant, an appropriate statistical test has been carried out. In this particular case a Pearson correlation with a one tailed test for significance was applied using the SPSS program - where needed competences were compared against perceived competencies, and where institutional expectations, exceptions associated with emotions and expectations associated with ability were compared with what is received in these areas.

Appendix 8 shows mean gaps for each of the 17 items associated with competence, as well as the standard deviations of the gaps and the inter-correlations. It appears that there are statistically significant negative correlations for competencies associated with "research" (-0.42^{*}; -0.77^{**}) "interpersonal skills"(-0.63^{**}) and "synthesising knowledge"(-0.76^{**};-0.70^{**}) across a number of areas, where the levels of needed competence have higher overall scores that perceived competence. This finding is interesting as it illustrates that the academics who took part in this study may not appreciate the importance of these competencies, which, which according to Baruch and Hall (2004) make up a key part of the academic career.

Furthermore, it is interesting that there exist statistically significant positive correlations between empathy and nearly half the items measured on this scale. This may illustrate that the competencies of

working as an *employee* in the academic environment, might reflect the competencies associated with a "protean career", where the provision of empathy is recognised as important attribute (Maguire, 2003).

The table in appendix 9 shows the mean gaps, standard deviations and inter-correlations for the four items that compared an academics institutional expectations to what is received in the workplace, post factor analysis. The overall findings suggest that a small positive gap exists where the institutional expectations of an academic are slightly higher than what an institution can actually provide. This is reflected in the statistically significant low correlations in items that measure "best practice" (0.33^{**}; 0.12^{*}; 0.27^{**}) and "learning opportunities"(0.18^{**}). These findings may suggests that the *expectations* an academic has of his/her institution might have a slight conceptual grounding in the idea of "new managerialism" which has emerged in the academic arena and reflects a rhetoric where ideas such as "best practice" and "learning opportunities" are expressed (Deem & Brehony, 2005; Philbin,2008).

In appendix 10 the mean gaps, standard deviations and inter-correlations for the three items that compare an academics expectations of emotions, to what is received, are shown (post factor analysis). Overall, the results indicate that statistically significant correlations exist in items that measure "the ability to express emotions openly" (0.51^{**}; 0.28^{**}) and "receiving emotional support from colleagues" (0.46^{*}). This finding is interesting as it suggests that an academics expectations about expressing emotions (i.e. emotional perception) are higher than the ability to receive emotional support and to use support groups to address personal problems. Therefore, as a dimension of the emotional intelligence (EI) framework that was originally identified by Mayer and Salovey (1997), emotional perception may play an important role in shaping the character of an academic psychological contract , whilst also being also recognised as an important part of evolving psychological contracts where employees adopt a "protean" approach to career management (Poon, 2004).

The mean gaps, standards deviations and inter-correlations for the four items (post factor analysis) that compare an academics expectations of individual ability, to what is actually received is illustrated in the table in appendix 11. Overall, the results indicate that statistically significant positive correlations exist in items that compare an "awareness of competencies associated with work" with "adopting a flexible attitude towards work" (0.40^{**}) and "taking an interest in my professional development (0.28^{**}). These findings would suggest that the notion of a "new deal" has a slight impact on the abilities an academic member of staff is expected to possess (Herriot & Pemberton, 1995; Marks, 2001; Wellin, 2007). If this is the case, it could be suggested that a psychological contract associated with academia is characterised by abilities linked to a "self-reliance" orientation (Hiltrop, 1995) where an awareness of the key competencies of work are important, and directed by individual needs and values. Further discussion of the implications of these findings will be discussed in section 7.3 of chapter seven – discussion and conclusion.

6.6 Analysis of variance

6.6.1. Effects of gender, ethnicity and age

Before examining how the factors of the academic psychological contract varied across the effects of gender, ethnicity and age (and the interactions between them), variance of homogeneity was assessed by adopting Levene's test (as shown in Table 22). Homogeneity of variance was highly significant in all eleven factors of the academic psychological contract (job satisfaction). This suggests that the variance of the sample was homogeneous in terms of gender, ethnicity and age. The results of the ANOVA's for all the factors of the academic psychological contract are presented in appendix 12 which show the significant values of the main, and the interaction effects for gender, ethnicity and age.

Table 22

Levene's test for homogeneity of variance

Factor	**F**	**df1**	**df2**	***Sig.***
Institutional expectations	1.935	48	289	**.001*****
Networking	1.688	48	289	**.001*****
Type of University	2.674	48	289	**.001*****
Commitment	6.492	48	289	**.001*****
Performance	10.366	48	289	**.001*****
Academic responsibilities	5.928	48	289	**.001*****
Emotions	2.217	48	289	**.001*****
Competence	2.066	48	289	**.001*****
Psychological contract breach	2.351	48	289	**.001*****
Future career expectations	7.770	48	289	**.001*****
Job satisfaction	1.094	48	289	**.001*****

Design: Intercept + Gender + Ethnicity + age , Gender*Ethnicity, Gender *age

*** p < .001 (2-tailed)

6.6.1.1 Main effects

Table 23 presents the mean results for gender, ethnicity and age, with table 24 illustrating the main effects of these variables. From looking at table 23, it appears that both male and female participants obtained higher mean results for networking, commitment and competencies, with male respondents also obtaining slightly higher mean scores than females in all of these areas. In terms of ethnicity, it appears that mainly white and black respondents obtained higher mean results for institutional expectations, along with (again) networking and competencies, and to a certain extent, commitment, with white respondents obtaining higher mean scores for all of these areas apart from competencies. With regard to age, it appears that higher mean results were obtained for institutional expectations, networking, commitment and competence, with the younger age cohort (30≤ obtaining higher mean

scores in these areas. Furthermore, as shown on table 24, it appears that both gender and ethnicity appear to have an effect on a number of different factors, with gender effecting institutional expectations, networking, performance, emotions, competence, psychological contract breach and future career expectations, while ethnicity effects networking, commitment, performance, academic responsibilities, emotions, psychological contract breach, future career expectations, and job satisfaction. interesting

Table 23 – Mean results for gender, ethnicity and age

Factor	**Gender**		**Ethnicity**				**Age**	
	Male	Female	White	Black	Asian	Hispanic	30≤	≥31
Institutional expectations	5.37	4.97	5.38	5.29		4.60	5.79	5.33
Networking	5.59	5.16	5.65	5.33			5.71	5.55
Type of university	1.31	1.39	1.34	1.29		1.20	1.43	1.32
Commitment	5.47	5.41	5.72	4.97			5.57	5.46
Performance	3.24	1.91	3.61	2.14			3.00	3.22
Academic responsibilities	4.22	4.30	4.03	4.61			4.21	4.22
Emotions	3.61	3.85	3.45	4.01		3.93	4.62	3.61
Competence	5.36	5.16	5.31	5.39		5.70	5.57	5.34
Psychological contract breach	0.36	0.81	0.33	0.53		0.96	0.86	0.39
Future career expectations	5.21	4.54	5.54	4.39			4.43	5.16
Job satisfaction	5.37	5.44	5.57	4.96		5.00	4.95	5.38

However, the most noticeable finding is how age appears to a high overall effect on all eleven factors of the academic psychological contract. From this it could be inferred that, as an employee of a university, an academic perceives the factors of the academic psychological contract in a uniform manner across different age cohorts.

Table 24 - Main effects of gender, ethnicity and age

Factor	**Gender *p*-value**	**Ethnicity *p*-value**	**Age *p*-value**
Institutional expectations	**.019***	.136	**.001*****
Networking	**.019***	**.001*****	**.001*****
Type of university	.428	.555	**.002****
Commitment	.710	**.001*****	**.001*****
Performance	**.001*****	**.001*****	**.001*****
Academic responsibilities	.522	**.001*****	**.001*****
Emotions	**.001*****	**.002****	**.001*****
Competence	**.001*****	.075	**.001*****
Psychological contract breach	**.001*****	**.016***	**.001*****
Future career expectations	**.003****	**.001*****	**.001*****
Job satisfaction	.690	**.001*****	**.001*****

* $p < .05$ (2-tailed) ** $p < .01$ (2-tailed) *** $p < .001$ (2-tailed)

6.6.1.2 Interaction effects - Gender*Ethnicity

Table 25 compares the mean results of all the factors of the academic psychological contract according to two interactions, namely gender and ethnicity and gender and age. With regard to the interactions between gender and ethnicity it can be seen that both white and black male respondents obtained higher mean results for institutional expectations, and competence, with networking and job satisfaction scoring high mean results across the (male) white, black and hispanic population who participated in this study. Moreover, white female respondents only scored high mean results for networking, commitment, competence and job satisfaction. Furthermore, from looking at the interaction effects of gender and ethnicity (as illustrated in table 26), it appears that all eleven factors of the academic psychological contract had a significant effect on the interaction between these variables.

Table 25 - Comparing means for the interaction effects of university category, gender and ethnicity

Factor	**Gender*Ethnicity**								**Gender*Age**			
	Male				**Female**				**Male**		**Female**	
	White	Black	**Asian**	**Hispanic**	**White**	**Black**	**Asian**	**Hispanic**	**30≤**	**≥31**	**30≤**	**≥31**
Institutional expectations	5.66	5.56		4.56	4.94				5.82	5.12		4.94
Networking	5.85	5.33		6.00	5.16				5.67	5.68		5.16
Type of university	1.41	1.31		1.20	1.39				1.42	1.27		1.39
Commitment	6.25	4.50		4.33	5.41				5.38	5.02		5.41
Performance	4.18	1.59		1.00	1.90				2.75	2.35		1.90
Academic responsibilities	4.02	4.52		4.67	4.30				4.24	4.42		4.30
Emotions	4.13	4.11		3.93	3.85				4.57	3.76		3.85
Competence	5.50	5.40		5.70	5.16				5.54	5.47		5.16
Psychological contract breach	0.74	0.79		0.96	0.81				0.88	0.57		0.81
Future career expectations	5.85	3.39		3.00	4.54				4.16	4.38		4.54
Job satisfaction	5.22	5.03		5.00	5.44				4.97	5.19		5.44

Table 26 - Interaction effects of, gender, ethnicity and age

Factor	Gender*Ethnicity(*p* value)	Gender *Age (*p* value)
Institutional expectations	**.001*****	.513
Networking	**.001*****	.054
Type of university	**.001*****	.871
Commitment	**.001*****	**.001*****
Performance	**.001*****	**.001*****
Academic responsibilities	**.001*****	.055
Emotions	**.001*****	.363
Competence	**.001*****	.126
Psychological contract breach	**.001*****	.728
Future career expectations	**.001*****	**.007****
Job satisfaction	**.001*****	.928

* $p < .05$ (2-tailed) ** $p < .01$ (2-tailed) *** $p < .001$ (2-tailed)

6.6.1.3 Interaction effects - Gender *Age

From looking at table 25, it can be seen that male respondents scored high mean results for institutional expectations, networking and commitment and competence, with the younger age cohort (30≤) obtaining higher mean results for these factors (apart from networking). Furthermore, amongst female respondents the highest mean results were obtained for networking, commitment, competence and job satisfaction, but these were all amongst the older age cohort (≥31). Moreover, from examining the interaction effects of gender and age (as shown on table 26), it can be seen that this has a limiting effect on the factors of the academic psychological contract, with only commitment, performance and future career expectations having significant effects.

6.6.2.1 Effects of present academic position and professional background

Before examining the main effects and interactions between these variables, the assumption of variance homogeneity was again assessed, adopting Levene's test (as shown in table 27). Homogeneity of variance was significant in ten out of the eleven factors of the academic psychological contract (.001 level), with the exception of job satisfaction. This suggests that the sample was largely homogeneous in terms of academic position and professional background.

The results of the AVONA's for all the factors of the academic psychological contract are presented in appendix 13 which show the significant values of the main, and the interaction effects of present academic position and professional background.

Table 27 - Levene's test for homogeneity of variance

Factor	**F**	**df1**	**df2**	***Sig.***
Institutional expectations	1.935	48	289	**.001*****
Networking	1.688	48	289	**.001*****
Type of University	2.674	48	289	**.001*****
Commitment	6.492	48	289	**.001*****
Performance	10.366	48	289	**.001*****
Academic responsibilities	5.928	48	289	**.001*****
Emotions	2.217	48	289	**.001*****
Competence	2.066	48	289	**.001*****
Psychological contract breach	2.351	48	289	**.001*****
Future career expectations	7.770	48	289	**.001*****
Job satisfaction	1.094	48	289	.321

Design: Intercept + Present academic position + Professional background , Present academic position*Professional background *** p < .001 (2-tailed**)**

6.6.2.2 Main effects

Table 28 shows the mean results for present academic position and professional background, with table 29 showing the main effects of these variables. From looking at table 28, all academic positions (from teaching fellow/visiting lecturer to professor) scored high results for institutional expectations, competence and job satisfaction , with networking scoring high mean results amongst all academic positions (apart from principal lecturer). In terms of professional background, it appeared that higher mean results were obtained for institutional expectations, networking, commitment, competence and job satisfaction, with academic employee's working in the natural sciences scoring higher results in these areas. Furthermore, as shown on table 29, it appeared that present academic position has an effect on nearly all of the factors of the academic psychological contract (apart from type of university) , while the professional background of academic employee only has an effect on networking, type of university, commitment, academic responsibilities and future career expectations.

Table 28 – Mean results for present academic position and professional background

Factors	Present academic position						Professional background	
	TF/VL	L	SL	PL	R	PR	Social science	Natural science
Institutional expectations	4.83	4.94	5.54	5.38	5.35	5.35	5.18	5.76
Networking	5.22	4.14	5.65		5.96	5.87	5.34	6.17
Type of university	1.31	1.39	1.32		1.32	1.32	1.30	1.40
Commitment	5.20		5.19	5.00	5.87	5.10	5.34	5.81
Performance	1.44	3.42	2.55	1.50	3.81	4.97	2.92	3.66
Academic responsibilities	4.32	4.28	4.03	4.33	4.49	4.03	4.39	3.73
Emotions	3.84	2.63	3.81	4.17	4.19	1.91	3.65	3.57
Competence	5.19	4.86	5.52	5.38	5.29	5.41	5.24	5.63
Psychological contract breach	0.84	0.49	0.36	0.82	0.54	-0.52	0.46	0.21
Future career expectations	4.18		4.80	4.00	5.22	6.58	4.92	5.78
Job satisfaction	5.35	6.03	4.94	4.67	5.56	6.06	5.34	5.49

TF/VL=Teaching Fellow/Visiting Lecturer, L=Lecturer, SL=Senior Lecturer, PL= Principal Lecturer, R=Reader, PR=Professor

Table 29 - Main effects of present academic position and professional background

Factor	Present academic position *p*-value	Professional background *p*-value
Institutional expectations	**.007****	.054
Networking	**.001*****	**.047***
Type of university	.129	**.004****
Commitment	**.001*****	**.021***
Performance	**.001*****	.311
Academic responsibilities	**.001*****	**.005****
Emotions	**.001*****	.688
Future career expectations	**.001*****	**.005****
Competence	**.001*****	.184
Psychological contract breach	**.001*****	.067
Job satisfaction	**.001*****	.809

6.6.2.3 Interaction effects –Present academic position*Professional background

Table 30 shows how the mean results of the factors of the academic psychological differ according to the interaction between present academic position and professional background. From looking at these results, it appears that academic employee's in the more senior positions (from senior lecturer to professor) scored higher mean results for institutional expectations, networking, commitment and

competence, with academic employee's in the natural sciences scoring high results in these areas. Furthermore, from examining the interaction effects of present academic position and professional background, it (as shown on table 31), it can be seen that the type of university, academic responsibilities, emotions, competence and psychological contract breach have statistically significant effects. Further discussion of the findings of both factorial ANOVA designs used in this research will be included in section 7.4 of chapter seven – discussion and conclusion.

Table 30 - Comparing means for the significant interaction effects of present academic position and professional background

Factor	TF/VL		L		SL		PL		R		PR	
	SS	NS	SS	NS	SS	NS	SS	NS	SS	NS	SS	NS
Institutional expectations	4.79	5.06	4.93	5.12	5.36	6.11	5.38	5.38	5.18	5.83	5.45	5.30
Networking	5.25	5.00	4.14	4.00	5.46	6.26	5.00	5.00	5.75	5.64	5.60	6.00
Type of university	1.21	2.00	1.35	2.00	1.30	1.37	1.00	1.00	1.28	1.42	1.50	1.23
Commitment	5.18	5.33	6.00	6.00	5.01	5.73	5.00	5.00	5.62	6.54	5.10	5.09
Performance	1.43	1.50	3.41	3.50	2.56	2.51	1.50	1.50	3.58	4.46	4.90	5.00
Academic responsibilities	4.32	4.25	4.28	4.25	4.32	3.19	4.33	4.33	4.63	4.12	4.10	4.00
Emotions	3.82	4.00	2.65	2.33	3.81	3.80	4.17	4.17	3.90	5.00	2.87	1.46
Future career expectations	4.15	4.33	6.00	6.00	4.57	5.49	4.00	4.00	5.02	5.74	5.57	6.59
Competence	5.19	5.18	4.86	4.93	5.45	5.70	5.38	5.38	5.11	5.77	5.26	5.48
Psychological contract breach	0.84	0.82	0.50	0.23	0.36	0.38	0.82	0.82	0.50	0.67	0.01	-0.78
Job satisfaction	5.25	6.08	6.08	5.17	4.92	4.95	4.66	4.66	5.54	5.62	5.93	6.13

TF/VL=Teaching Fellow/Visiting Lecturer, L=Lecturer, SL=Senior Lecturer, PL= Principal Lecturer, R=Reader, PR=Professor
SS=Social Science, NS=Natural Science

Table 31 - Interaction effects - present academic position and professional background

Factor	Present academic position*Professional background(*p* value)
Institutional expectations	.145
Networking	.066
Type of university	.006**
Commitment	.031*
Performance	.058
Academic responsibilities	.001***
Emotions	.001***
Future career expectations	.169
Competence	.002**
Psychological contract breach	.026*
Job satisfaction	.262

* p < .05 (2-tailed) ** p < .01 (2-tailed) *** p < .001 (2-tailed)

6.7 Testing the hypothesis using multiple regression procedures

6.7.1 Predictors of performance (research output)

The predictors of performance (in terms of research output) were measured by adopting a hierarchical regression strategy (Cohen, Cohen, West, and Aiken, 2003; Howell, 2002; Tabachnick & Fidell, 2007). This allows the researcher to control the development of the regression progress, and as a model testing procedure, allows explicit hypothesis to be tested (as mentioned in the previous chapter). Moreover, the procedures used to test for mediation, which was also illustrated in the last chapter, will be applied to the regression strategy utilised for this study (Baron and Baron and Kenny, 1986).

Hypothesis, 1a, 1b, 2a, 2b, 3a, 3b, 4a and 4b (which were developed in chapter 4), all reflect the predictors of performance in the academic psychological contract where: (i) hypothesis 1a examines the relationship between an employee's perceived institutional expectations and performance, with hypothesis 1b examining the same relationship but taking account of the moderating effects of age; (ii) hypothesis 2a examines the relationship between an employee's networking and performance, with hypothesis 2b looking at the mediating effect of commitment on this relationship;(iii) hypothesis 3a examines the relationship between the type of university an academic works in and academic performance, with hypothesis 3b looking at the moderating effect of professional background on this relationship and (iv) hypothesis 4a examines the relationship between an employee's perceived academic responsibilities and performance, with hypothesis 4b looking at the mediating effect of emotions on this relationship.

The strategy that was employed in this study to measure the predictors performance and the moderating effects of age and professional background, involved a three-step hierarchical multiple regression procedure (Baron & Kenny, 1986; Howell, 2002) which consisted of the following:

- Model 1: The control variables of age and professional background (as specified in section 5.4.13 of the last chapter) were entered into the prediction of the dependent variable (in this case academic performance).

- Model 2: The independent variables of institutional expectations, networking, university category and academic responsibilities were entered into the prediction of the dependent variable

- Model 3: The moderating effects of age and professional background were measured by entering the interaction between institutional expectations and age and the interaction between university category and professional background into the prediction of the dependent variable.

The findings of the hierarchical regression procedure that has been used to measure the predictors of academic performance are illustrated in table 32 below. However, before these results are presented, there are assumptions that this data must be able to meet in order for a regression procedure to be considered valid (Cohen, Cohen, West, & Aiken, 2003). An overview of the checks made on the data is therefore presented below.

6.7.2 Checking assumptions

The assumptions that have been checked with regard to adopting a hierarchical regression procedure to measure the predictors of academic performance consisted of: (i) addressing the conditions of collinearity and multicollinearity; (ii) using Mahalanobis distance and Cook distance diagnostics to determine whether the regression equation fits the sample data; (iii) utilising the Durbin-Watson test to determine if error values are not serially correlated and (iv) testing the normality of residuals using graphical methods, which has become common practice in regression analysis (Cohen, Cohen, West, & Aiken, 2003; Field, 2005).

To address collinearity, the table in appendix 14 shows that all of the coefficients have tight confidence intervals and nearly all the confidence intervals do not cross zero. This indicates that the estimates for this regression are likely to be representative of true population values (Field, 2005). With regard to the issue of multicollinearity, the VIF (variance inflation factor) values are below 10 (ranging from 1.003 to 3.235). This confirms that multicollinearity did not distort the regression results (Cohen, Cohen, West, & Aiken, 2003; Hair et al., 2006). Furthermore, as mentioned in section 5.16.3 of the previous chapter, the question of whether a regression equation fits the sample data needs to be addressed (Cohen, Cohen, West, & Aiken, 2003; Field, 2005), and in view of this, Mahalanobis distance and Cook distance diagnostics have been conducted with the results presented in appendix 14 Based on the guidelines for Mahalanobis distance (for this sample of 337), values greater than 25 are generally viewed to be problematic (Barnett & Lewis, 1984).

From looking at the distribution of Mahalanobis distances values in appendix 14, it appears that there are no cases above this criterion, with values ranging from 1.560 to 24.551 with an aggregate value of 7.976. The regression diagnostic of Cooks distance suggests that values of 1 or more should be considered for closer examination (Field, 2005; Stevens, 2002), and in this case there is little cause for concern. As indicated in appendix 14, Cooks distance values range from .001 to .101 (with an aggregate value of .003). The value of the Durbin-Watson statistic for this regression (illustrated in table 32 below) is 1.987 which falls within the parameters specified by Cohen, Cohen, West and Aiken (2003) – supporting the assumption that any errors in regression are independent (as mentioned in section 5.16.5 of the previous chapter). Finally, the histogram and a normal probability plot (normal P-

P plot) for the normality of residuals (for the predictors of performance) is displayed in appendix 14. The shape of the histogram is close to a normal distribution curve with the same mean and standard deviation values as the data. Moreover, in the normal probability plot, nearly all the points lie close to the straight line, which suggests that the distribution of residuals is roughly normal (ibid). In summary, based on the information presented above, the hierarchical regression procedure that has been adopted, appears, in most senses, to be both accurate for the sample and generalisable to the population. It also accounts for 28 per cent of the total variance in measuring the predictors of academic performance.

6.7.3 Results of the hierarchical regression procedure – predictors of performance

The findings of the hierarchical regression procedure that has been used to measure the predictors of academic performance are presented in table 32 below. With regard to hypothesis H1a, the results indicate that institutional expectations had a positive significant effect on academic performance (β=3.111; *p*=.000), thus supporting this hypothesis. Furthermore, when the moderator of age was introduced into the regression equation, the coefficient of the interaction between institutional expectations and age also had a significant effect (β= -.069; *p*=.000), thus supporting hypothesis H1b, and indicating that the moderating effect of age (on the positive relationship between an employee's perceived instructional expectations and performance), is indeed stronger for *younger*, as opposed to older scholars. Hypothesis 2a looks at the relationship between an employee's networking and academic performance, and the results indicate that networking does indeed have a significant effect on academic performance (β=.442; *p*=.000) .This supports hypothesis 2a and indicates that that the positive relationship between an employee's networking and performance is indeed influenced by the obligations a scholar has to his/her institution.

However, the relationship between the type of university an academic works in and academic performance (hypothesis 3a) does not have a significant effect (β=.900; *p*=.053) and when the moderating variable of professional background has introduced into the regression equation, the coefficient of the interaction between university category and professional background also did not have a significant effect (β=-.654; *p*=.064). Therefore hypothesis 3a and hypothesis 3b were not supported and the type of university an academic works in has no effect on performance, and this relationship is not moderated by an academic employee's professional background. Finally, hypothesis 4a examined the positive relationship between the perceived academic responsibilities of an academic employee and performance, and the results would indicate that this hypothesis is, indeed, supported (β=.509; *p*=.000).

Table 32 - Predictors of performance (research output)

	M1			M2			M3		
	B	β	*Sig*	*B*	β	*Sig*	*B*	β	*Sig*
Control variables									
Constant	2.661		.000	-1.004		.367	- 17.801		.000
Age	-.011	-.065	.222	-.011	-.068	.231	.372	2.267	.000
Professional background	.746	.232	.000	.516	.160	.006	1.393	.433	.006
Main effects									
Institutional expectations				-.064	-.041	.465	3.111	2.021	.000
Networking				.532	.370	.000	.442	.307	.000
University category				.121	.040	.433	.900	.298	.053
Academic responsibilities				. 283	.149	.023	.509	.005	.000
Moderators									
Institutional expectations* age							-.069	-3.562	.000
University category* Professional background							-.654	-.424	.064
Model *F*		10.004			10.708			15.642	
R^2		057			.163			.276	
R^2 Change					.106			.113	
F Change					10..492**			25.645**	
Durbin Watson									1.987

6.7.4 The mediating effect of commitment on performance

The statistical method used for testing the mediation effects was hierarchical regression (Howell, 2002), and as illustrated in section 5.16.7, mediation is supported if four conditions are met. In this case: (1) the independent variables (i.e. institutional expectations, networking, university category and academic responsibilities) are significantly related to the mediating variable of commitment; (2) the independent variables are significantly related to the dependent variable (i.e. research output); (3) the mediator is significantly related to the dependent variable and (4) after entering the mediator, the relationship between the independent variables and the dependent variable reduces but remains significant, and the mediator is still related to the dependent variable(Baron and Kenny, 1986).

The findings of the hierarchical regression procedure that has been used to measure the mediating effects of commitment on performance are illustrated in table 33 below. However, before these results are presented, the same assumptions that have been specified in section 6.7.2 must be able to meet in order for a regression procedure to be considered valid (Cohen, Cohen, West, & Aiken, 2003). An overview of the checks made on the data is therefore presented below.

6.7.5 Checking assumptions

The same assumptions (as specified in section 6.7.3) have been checked with regard to adopting a hierarchical regression procedure to measure the mediating effects of commitment on performance. With regard to collinearity, the table in appendix 15 shows that all of the coefficients have tight confidence intervals and nearly all the confidence intervals do not cross zero. Once again, this indicates that the estimates for this regression are likely to be representative of true population values (Field, 2005). With regard to the issue of multicollinearity, the VIF (variance inflation factor) values are below 10 (ranging from 1.003 to 1.442). Again, this confirms that multicollinearity did not distort the regression results (Cohen, Cohen, West, & Aiken, 2003; Hair et al., 2006). Furthermore, from looking at the distribution of Mahalanobis distances values in appendix 15, it appears that there are no values greater than the 25 (Barnett & Lewis,1984) with values ranging from 1.552 to 21.442 (with an aggregate value of 6.779). The regression diagnostic of Cooks distance suggests that values of 1 or more should be considered for closer examination (Field, 2005; Stevens, 2002), and in this case there is little cause for concern. As indicated in appendix 15, Cooks distance values range from .000 to. 430 (with an aggregate value of .003). The value of the Durbin-Watson statistic for this regression (illustrated in table 32 below) is 2.003 which falls within the parameters specified by Cohen, Cohen, West and Aiken (2003) – supporting the assumption that any errors in regression are independent (as mentioned in section 5.16.5 of the previous chapter).

Finally, the histogram and a normal probability plot (normal P-P plot) for the normality of residuals (for the predictors of performance) is displayed in appendix 15. The shape of the histogram is close to a normal distribution curve with the same mean and standard deviation values as the data. Moreover, in the normal probability plot, nearly all the points lie close to the straight line, which suggests that the distribution of residuals is roughly normal (ibid). In summary, based on the information presented above, the hierarchical regression procedure that has been adopted, appears, in most senses, to be both accurate for the sample and generalisable to the population. It also accounts for 20 per cent of the total variance in measuring the mediating effect of commitment on performance (research output).

6.7.6 Results of the hierarchical regression procedure – the mediating effects of commitment on performance (research output)

The results indicate that in this case, all four elements of Barron and Kenny's (1986) conditions of mediation are met. Namely: (i) the independent variables of institutional expectations, networking, university category and academic responsibilities are significantly related to the mediating variable of commitment (β=.084, p=.032; β=.469, p=.000; β=.070, p=.010; β=.126; p=.000) (ii) the independent variables of institutional expectations, networking, university category and academic responsibilities

are significantly related to the dependent variable of research output (β=.096, p=.046; β=.531, p=.000; β=.119, p=.045; β=.284; p=.023); (iii) the mediating variable of commitment is significantly related to the dependent variable of research output (β=.433, p=.000) and (iv) the relationship between the independent variables of institutional expectations, networking, university category and academic responsibilities and dependent variable of research output has clearly reduced (but remains significant) with the mediating variable of commitment still related to the dependent variable. Therefore, based upon this information, commitment has a mediating effect on research based performance, and as the relationship between networking and commitment is significant (β=-.469, p=.000), hypothesis 2b is supported.

Table 33 – The mediating effects of commitment on performance (research output)

	M1			**M2**			**M3**		
	B	β	*Sig*	*B*	β	*Sig*	*B*	β	*Sig*
Control variables									
Constant	2.656		.000	-.994		.372	-5..605		.000
Age	-.010	-.063	.235	-.011	-.066	.247	.001	-.008	.887
Professional background	.742	.231	.000	.515	.160	.006	.503	.156	.006
Main effects									
Institutional expectations				.096	-.043	.046	.084	.054	.032
Networking				.531	.370	.000	.469	.326	.000
University category				.119	.039	.045	.070	.023	.010
Academic responsibilities				.284	.149	.023	.126	.329	.000
								.	
Mediator									
Commitment					.		.433	.267	.000
Model *F*		9.844			10.610			11.928	
R^2		056			.162			.203	
R^2 Change					.106			.041	
F Change					10.435**			16.674**	
Durbin Watson									2.003

N=337 ** p ≤ .01

6.7.7 The mediating effect of emotions on performance (research output)

The mediating effect of emotions on performance was again tested using hierarchical regression techniques (Howell, 2002), where again mediation is supported Baron and Kenny's (1986) four conditions of mediation are met, as illustrated in section 5.16.7. The findings of the hierarchical regression procedure that has been used to measure the mediating effects of emotions on performance are illustrated in table 34 below. However, before these results are presented, again the same

assumptions that have been specified in section 6.7.2 must be met in order for a regression procedure to be considered valid (Cohen, Cohen, West, & Aiken, 2003) and an overview of the checks made on the data is presented below.

6.7.8 Checking assumptions

Again, the same assumptions (as specified in section 6.7.3) have been checked with regard to adopting a hierarchical regression procedure to measure the mediating effects of emotions on performance. With regard to collinearity, the table in appendix 16 shows that all of the coefficients have tight confidence intervals and nearly all the confidence intervals do not cross zero. Once again, this indicates that the estimates for this regression are likely to be representative of true population values (Field, 2005). With regard to the issue of multicollinearity, the VIF (variance inflation factor) values are below 10 (ranging from 1.012 to 1.751). Again, this confirms that multicollinearity did not distort the regression results (Cohen, Cohen, West, & Aiken, 2003; Hair et al., 2006). Furthermore, from looking at the distribution of Mahalanobis distances values in appendix 16, it appears that there are no values greater than the 25 (Barnett & Lewis,1984) with values ranging from 1.667 to 21.243 (with an aggregate value of 6.979). The regression diagnostic of Cooks distance suggests that values of 1 or more should be considered for closer examination (Field, 2005; Stevens, 2002), and in this case there is little cause for concern. As indicated in appendix 16, Cooks distance values range from .000 to .610 (with an aggregate value of .003). The value of the Durbin-Watson statistic for this regression (illustrated in table 32 below) is 2.031 which falls within the parameters specified by Cohen, Cohen, West and Aiken (2003) – supporting the assumption that any errors in regression are independent (as mentioned in section 5.16.5 of the previous chapter).

Finally, the histogram and a normal probability plot (normal P-P plot) for the normality of residuals (for the predictors of performance) is displayed in appendix 16. The shape of the histogram is close to a normal distribution curve with the same mean and standard deviation values as the data. Moreover, in the normal probability plot, nearly all the points lie close to the straight line, which suggests that the distribution of residuals is roughly normal (ibid). In summary, based on the information presented above, the hierarchical regression procedure that has been adopted, appears, in most senses, to be both accurate for the sample and generalisable to the population. It also accounts for 23 per cent of the total variance in measuring the mediating effect of commitment on performance (research output).

6.7.9 Results of the hierarchical regression procedure – the mediating effects of emotion on performance (research output)

The results indicate that again in this case, all four elements of Barron and Kenny's (1986) conditions of mediation are met. Namely: (i) the independent variables of institutional expectations, networking, university category and academic responsibilities are significantly related to the mediating variable of emotions (β= -.113, p=.020; β=.524, p=.000; β=.071, p=.031; β= .246; p=.000) (ii) the independent variables of institutional expectations, networking, university category and academic responsibilities are significantly related to the dependent variable of research output (β= -.064, p=.040; β=-.532, p=.000; β=.121, p=.043; β=.383; p=.023); (iii) the mediating variable of commitment is significantly related to the dependent variable of research output (β=-.299, p=.000) and (iv) the relationship between the independent variables of institutional expectations, networking, university category and academic responsibilities and dependent variable of research output has clearly reduced (but remains significant) with the mediating variable of commitment still related to the dependent variable. Therefore, based upon this information, commitment has a mediating effect on research based performance, and as the relationship between academic responsibilities and emotions is significant (β= .246; p=.000) hypothesis 4b is supported.

Table 34 – The mediating effects of emotions on performance (research output)

	M1			**M2**			**M3**		
	B	β	*Sig*	*B*	β	*Sig*	*B*	β	*Sig*
Control variables									
Constant	2.661		.000	-1.004		.367	-.507		.636
Age	-.011	-.065	.222	-.011	-.068	.231	-.024	-.144	.011
Professional background	.746	.232	.000	.516	.160	.006	.433	.135	.016
Main effects									
Institutional expectations				-.064	-.041	.040	-.113	.073	.020
Networking				.532	.370	.000	.524	.385	.000
University category				.121	.040	.043	.071	.024	.031
Academic responsibilities				.383	.149	.023	.246	.182	.004
								.	
Mediator									
Emotions					.		-.299	-.288	.000
Model *F*		10.004			10.708			14.154	
R^2		057			.163			.231	
R^2 Change					.106			.068	
F Change					10.492**			29.316**	
Durbin Watson									2.031

6.7.10 Predictors of job satisfaction

In this particular case, hypothesis, 5a, 5b, 5c, 5d and 6 (which were developed in chapter 4), all reflect the predictors of job satisfaction in the academic psychological contract where hypothesis 5a examines the relationship between an employee's perceived competence and job satisfaction performance, with hypothesis 5b examining how this relationship is moderated by professional background, hypothesis 5c examining how this relationship is mediated by age, and hypothesis 5d examining how this relationship is both mediated by future career expectations and moderated by age. Furthermore, hypothesis 6 examines the relationship between an employee's psychological contract breach and job satisfaction. Once again, the procedures used to test for mediation, which was also illustrated in the last chapter, will be applied to the regression strategy utilised for this study (Baron and Baron and Kenny, 1986).

The strategy that was employed in this study to measure the predictors job satisfaction, again, involved a three-step hierarchical multiple regression procedure (Baron & Kenny, 1986; Howell, 2002) which consisted of the following:

- Model 1: The control variables of age and professional background (as specified in section 5.4.13 of the last chapter) were entered into the prediction of the dependent variable (in this case job satisfaction).

- Model 2: The independent variables of competence and psychological contract breach were entered into the prediction of the dependent variable.

- Model 3: The moderating effects of professional background were measured by entering the interaction between competence and professional background.

The findings of the hierarchical regression procedure that has been used to measure the predictors of job satisfaction are illustrated in table 35 below. But once again, before these results are presented, an overview of the assumptions that this data must be able to meet in order for a regression procedure to be considered valid is documented below(Cohen, Cohen, West, & Aiken, 2003).

6.7.11 Checking assumptions

The same assumptions have been checked with regard to adopting a hierarchical regression procedure to measure the predictors of job satisfaction. With regard to collinearity, the table in appendix 17 shows that all of the coefficients have tight confidence intervals and nearly all the confidence intervals do not cross zero. Once again, this indicates that the estimates for this regression are likely to be

representative of true population values (Field, 2005). With regard to the issue of multicollinearity, the VIF (variance inflation factor) values are below 10 (ranging from 1.024 to 8.094). Again, this confirms that multicollinearity did not distort the regression results (Cohen, Cohen, West, & Aiken, 2003; Hair et al., 2006). Furthermore, from looking at the distribution of Mahalanobis distances values in appendix 17, it appears that there are no values greater than the 25 (Barnett & Lewis,1984) with values ranging from 0.465 to 20.310 (with an aggregate value of 4.979). The regression diagnostic of Cooks distance suggests that values of 1 or more should be considered for closer examination (Field, 2005; Stevens, 2002), and in this case there is little cause for concern. As indicated in appendix 17, Cooks distance values range from .000 to .660 (with an aggregate value of .003). The value of the Durbin-Watson statistic for this regression (illustrated in table 32 below) is 1.842 which falls within the parameters specified by Cohen, Cohen, West and Aiken (2003) – supporting the assumption that any errors in regression are independent (as mentioned in section 5.16.5 of the previous chapter).

Finally, the histogram and a normal probability plot (normal P-P plot) for the normality of residuals (for the predictors of performance) is displayed in appendix 17. The shape of the histogram is close to a normal distribution curve with the same mean and standard deviation values as the data. Moreover, in the normal probability plot, nearly all the points lie close to the straight line, which suggests that the distribution of residuals is roughly normal (ibid). In summary, based on the information presented above, the hierarchical regression procedure that has been adopted, appears, in most senses, to be both accurate for the sample and generalisable to the population. It also accounts for 34 per cent of the total variance in measuring the mediating effect of commitment on performance (research output).

6.7.12 Results of the hierarchical regression procedure – predictors of job satisfaction

The findings of the hierarchical regression procedure that has been used to measure the predictors of job satisfaction are presented in table 35 below. With regard to hypothesis H5a, the results indicate that no positive relationship exists between an employee's perceived competence and job satisfaction (β= -.029; *p*=.310), thus failing to support this hypothesis. Furthermore, when the moderator of professional background was introduced into the regression equation, the coefficient of the interaction between competence and professional background also had no significant effect (β= -.007; *p*=.743), thus failing to support hypothesis 5b. This indicates that an employee's perceived level of competence has no effect at all on job satisfaction, and the professional background of an academic employee also has no moderating effect on this relationship.

Finally, hypothesis 6 examined the negative relationship between an employee's perceived psychological contract breach and job satisfaction, and the results would indicate that this hypothesis is,

indeed, supported (β= -.313; *p*=.000). As the regression co-efficient for the effect of psychological contract breach on job satisfaction is negative, this would also indicate that there is a negative relationship between psychological contract breach and job satisfaction.

Table 35 - Predictors of job satisfaction

	M1			**M2**			**M3**		
	B	β	*Sig*	*B*	β	*Sig*	*B*	β	*Sig*
Control variables									
Constant	5.772		.000	7.018		.000	6.721		.000
Age	-.013	-.118	.030	-.009	-.084	.071	- .040	-.357	.000
Professional background	.162	.074	.174	.173	.079	.117	.155	.071	.824
Main effects									
Competence				-.042	-.215	.000	-.029	-.152	.310
Psychological contract breach				-.594	-.454	000	-.313	-.239	.000
Moderator									
Competence* Professional background							-.007	-.129	.743
Model *F*		3.159			35.966			36.541	
R^2		019			.302			.339	
R^2 $_{Change}$					.284			.079	
F $_{Change}$					67.514**			26.599**	
Durbin Watson									1.842

6.7.13 The mediating effect of future career expectations on job satisfaction

The mediating effect of future career expectations on job satisfaction was again tested using hierarchical regression techniques (Howell, 2002), where again mediation is supported Baron and Kenny's (1986) four conditions of mediation are met, as illustrated in section 5.16.7. The findings of the hierarchical regression procedure that has been used to measure the mediating effect of future career expectations on job satisfaction are illustrated in table 36 below.

However, before these results are presented, again the same assumptions that have been specified in section 6.7.2 must be able to be met in order for a regression procedure to be considered valid (Cohen, Cohen, West, & Aiken, 2003) and an overview of the checks made on the data is presented below.

6.7.14 Checking assumptions

Again, the same assumptions have been checked with regard to adopting a hierarchical regression procedure to measure the mediating effect of future career expectations on job satisfaction. With regard to collinearity, the table in appendix 18 shows that all of the coefficients have tight confidence intervals and nearly all the confidence intervals do not cross zero. Once again, this indicates that the estimates for this regression are likely to be representative of true population values (Field, 2005). With regard to the issue of multicollinearity, the VIF (variance inflation factor) values are below 10 (ranging from 1.024 to 2.453). Again, this confirms that multicollinearity did not distort the regression results (Cohen, Cohen, West, & Aiken, 2003; Hair et al., 2006). Furthermore, from looking at the distribution of Mahalanobis distances values in appendix 18, it appears that there are no values greater than the 25 (Barnett & Lewis,1984) with values ranging from 0.845 to 21.094 (with an aggregate value of 5.982). The regression diagnostic of Cooks distance suggests that values of 1 or more should be considered for closer examination (Field, 2005; Stevens, 2002), and in this case there is little cause for concern. As indicated in appendix 18, Cooks distance values range from .000 to .168 (with an aggregate value of .004). The value of the Durbin-Watson statistic for this regression (illustrated in table 32 below) is 1.781 which falls within the parameters specified by Cohen, Cohen, West and Aiken (2003) – supporting the assumption that any errors in regression are independent (as mentioned in section 5.16.5 of the previous chapter).

Finally, the histogram and a normal probability plot (normal P-P plot) for the normality of residuals (for the predictors of performance) is displayed in appendix 18. The shape of the histogram is close to a normal distribution curve with the same mean and standard deviation values as the data. Moreover, in the normal probability plot, nearly all the points lie close to the straight line, which suggests that the distribution of residuals is roughly normal (ibid). In summary, based on the information presented above, the hierarchical regression procedure that has been adopted, appears, in most senses, to be both accurate for the sample and generalisable to the population. It also accounts for 41 per cent of the total variance in measuring the mediating effect of commitment on performance (research output).

6.7.15 Results of the hierarchical regression procedure – the mediating effects of future career expectations on job satisfaction and the moderating effect of age

Based upon the results of the results of this hierarchal regression, it is once again clear that all four elements Barron and Kenny's (1986) conditions of mediation are met. Namely: (i) the independent variables of competence and psychological contract breach are significantly related to the mediating variable of future career expectations (β= -.038, p=.000; β= -.314; p=.000) (ii) the independent

variables of competence and psychological contract breach are significantly related to the dependent variable of job satisfaction (β= -.042, p=.000; β= -.594, p=.000); (iii) the mediating variable of future career expectations is significantly related to the dependent variable of job satisfaction (β=-.491, p=.023) and (iv) the relationship between the independent variables of competence and psychological contract breach and dependent variable of job satisfaction has clearly reduced (but remains significant,) with the mediating variable of future career expectations still related to the dependent variable. Therefore, based upon this information, future career expectations has a mediating effect on job satisfaction, and as the relationship between an academic's perceived competence and future career expectations is significant (β= -.038; p=.000) hypothesis 5c is supported.

Furthermore, when the moderating effects of age was entered into this regression model (by entering the interaction between future career expectations) no significant results were yielded, therefore indicating that hypothesis 5d was not supported.

Table 36 – The mediating effects future career expectations on job satisfaction and the moderating effect of age

	M1			**M2**			**M3**		
	B	β	*Sig*	*B*	β	*Sig*	*B*	β	*Sig*
Control variables									
Constant	5.772		.000	7.018		.000	4.458		.000
Age	-.013	-.118	.030	-.009	-.084	.071	.009	.080	.668
Professional background	.162	.074	.174	.173	.079	.117	-.047	-.021	.663
Main effects									
Competence				-.042	-.215	.000	-.038	-.196	.000
Psychological contract breach				-.594	-.454	.000	-.314	-.240	.000
Mediator									
Future career expectations							.491	.607	.023
Moderator									
Future career expectations* age							-.003	-.241	.459
Model *F*		3.159			35.996			37.952	
R^2		019			.302			.408	
R^2 Change					.284			.106	
F Change					67.514**			29.552**	
Durbin Watson									1.781

6.8 Chapter summary

This chapter has evaluated the findings of this research using a variety of appropriate quantitative methods which have served different purposes. The data analysis techniques adopted by this study fell within the following areas, revealing some interesting findings which are reiterated below.

Data screening procedures

The multivariate normality of the demographic variables and factors of the academic psychological were examined through looking at the skewness and kurtosis index values. The findings revealed that items which measured the factors of the academic psychological contract fell (overall) in the correct parameters for supporting multivariate normality and for ensuring that the data is suitable for additional multivariate analysis, such as ANOVA's and hierarchical regression procedures (Anderson & Gerbing, 1988).

Furthermore, the data screening procedures also exposed some interesting findings associated with additional areas that were measured in the questionnaire. This consisted of: (i) higher preferences in items associated with adopting a flexible attitude and valuing working knowledge in the measurement of individual ability; (ii) a higher preference for conducting research alone (in the measurement of contacts in academia); (iii) the revelation that conducting state of the art research and improving research knowledge were the most reasons for joining academic life and (iii) the revelation that academic staff who participated in this research started their careers at "lecturer" level, were currently employed, on the whole, at "senior lecturer" level and anticipated that the final position they predicted to reach would, for the most part, be at "reader" level.

Furthermore, it was also found that the academics who participated in this study spent an equal amount of time on research and teaching (with slightly less time on administrative tasks), and the skewness and kurtosis index values of items associated with individual ability, reasons for joining academic life and academic position were also within the normal parameters for supporting multivariate normality (ibid).

Exploratory factor analysis

The EFA conducted in this study, the factorability of *all* the items related to the eleven factors of the academic psychological contract were initially, with networking and type of university dropped from the EFA (as these were based on single measures) and performance excluded (as this was based on a single weighted variable created by the researcher to measure publication and RAE output) – although

these were still used in this research as they represented "validated measures", (Baruch, 2005) and a justification of this was presented.

Furthermore, although the factors of academic responsibilities, psychological contract breach and competence were also excluded from the EFA, they nevertheless represented "formative indicators" of the academic psychological contract (Diamantopoulos & Siguaw, 2006), and a justification of this was again presented.

In the EFA 11 items associated with work related expectations were subsequently extracted – this was made up of 4 items associated with institutional expectations, 3 items associated with expectations about emotions and 4 items associated with expectations about individual ability (although the last of these was not included as a factor of the academic psychological contract). Moreover, 9 items were extracted for factors associated with work attitudes – this consisted of 3 items associated with job satisfaction, 3 items associated with future career expectations and 3 items associated with commitment).

The measurement of reliability

After the exploratory factor analysis (EFA) was conducted, it was found that the internal reliability of the Likert scale items used in this study were generally acceptable, although slightly lower than a range of contemporary empirical studies that have examined psychological contracts (Rousseau ,1990,2000 ; Chrobot-Mason.2002; Zhao & Chen,2008; Wolf-Morrison & Robinson,1997; Coyle-Shapiro & Neuman ,2004;Tallman & Bruning,2008; Bal et al, 2010; Suazo, 2009; Robinson & Morrison,2000; Matthijs, Chiaburu & Jansen 2010).

Descriptive analysis and "gaps" in the psychological contract

A descriptive analysis of the mean and standard deviations (of the undimensional 7 point Likert scales used by this study) revealed some interesting findings. This included high values in scales that measured needed academic competence and perceived academic competence and networking, similarities in scales that measured future career perceptions and commitment, similarities in scales that measured the expectations and results associated with emotions and ability and a low aggregate value in the scale that measured the academic responsibilities associated with administration. Furthermore, a correlation matrix of the different empirical scales adopted for this research revealed that correlations of the scales that measure the independent variables of the psychological contract have, on the whole, relatively low values, suggesting that they are suitable for determining initial predictions for hierarchical regression. (Hair, *et al*, 2006).

Moreover, as none of the correlations have higher values than .9 (Hair et al., 2006; Kline, 2005) or .8 (Field, 2005) the data is, again, suitable for hierarchal regression - with the highest values associated with institutional expectations/work related expectations (emotions), work attitudes associated with future career expectations and commitment and academic responsibilities associated with administration and age

To measure the "gaps" in the academic psychological contract a similar methodology to Porter *et al's* (1998) study of psychological contracts and inducements was adopted – i.e. subtracting average expectation or perception scores from what is needed or received (post factor analysis).

The gaps which were measured in the case of this study consisted of: (i) seventeen items associated with competences, with statistically significant results in the items linked to "research", "interpersonal skills" and "synthesising knowledge"; (ii) four items associated with institutional expectations, with statistical significant results in items linked to "best practice", "learning opportunities" and a "feeling of satisfaction in my work";(iii) three items associated with emotions, with statistically significant in item linked to "the ability to express emotions openly" and "receiving emotional support from colleagues" and (iv) four items associated with individual ability, with statistically significant correlations in the items linked to "an awareness of competencies associated with work", "adopting a flexible attitude towards work" and "taking an interest in my professional development".

Analysis of variance

The analysis of variance conducted in this study looked at the effects of (i) gender, ethnicity and age and (ii) present academic position and professional background on the eleven different factors of the academic psychological contract (including the interactions between them). With regard to the first set of variables, it appeared that both males and females yielded high mean results for networking, commitment and competencies (with males obtaining slighter higher mean scores in these areas), and mainly black *and* white respondents yielded higher mean results for institutional expectations, networking, competencies and commitment. Moreover, higher mean results were also obtained for respondents in the 30< age category for institutional expectations, networking, commitment and competence. Furthermore, the interactions between gender and ethnicity yielded statistically significant effects for all eleven factors of the academic psychological contract, with only commitment, performance and future career expectations yielding significant effects for the interactions between gender and age.

With regard to the second set of variables, it appears that all academic positions yielded high mean results institutional expectations, competence and job satisfaction ,with networking yielded high mean results amongst all academic positions (apart from principal lecturer). Moreover, higher mean results

were yielded amongst academic employee's working in the natural sciences for institutional expectations, networking, commitment, competence and job satisfaction. Furthermore, the interactions between present academic position and professional background yielded significant effects for type of university, academic responsibilities, emotions, competence and psychological contract breach.

Testing the hypothesis of this research using multiple regressions

The thirteen hypothesis that underlie the conceptual model of the academic psychological contract (as illustrated in section 4.5 of the fourth chapter) were tested using hierarchical regression analysis techniques (Cohen, Cohen, West, and Aiken, 2003; Howell, 2002; Tabachnick & Fidell, 2007), which including testing procedures for moderation (Baron & Kenny, 1986; Howell, 2002). All of the relevant independent variables of performance were entered into appropriate regression equations, including the control variables of age and professional background, the mediating factors of commitment and emotions and the moderators (examining the interactions between institutional expectations and age and university and professional background). A regression equation which looked at the predictors of performance was created to test hypothesis 1a, 1b, 2a, 3a, 3b, and 4a and additional regression models were created to test for the mediating effects of commitment on performance (hypothesis 2b) and the mediating effects of emotion on performance (hypothesis 4b) – where the conditions of mediation specified by Baron and Kenny (1986) were followed.

Furthermore, a regression equation which examined the predictors of job satisfaction was created to test hypothesis 5, 5b, and 6 and an additional regression model was created to test for the mediating effects of future career expectations on job satisfaction, and the moderating effect of age (hypotheses 5c and 5d). Again, all of the relevant independent variables were entered into appropriate regression equations, including the control variables of age and professional background, the mediating factor of future career expectations and the moderators (examining the interactions between competence and professional background and future career expectations and age). However, *before* these hierarchical regression procedures were undertaken, tests of the assumptions of regression were adopted – incorporating tolerance statistics, VIF values, casewise diagnostics (i.e. Mahalanobis distance/ Cook's distance) and Durbin-Watson values, which all fell within the correct parameters for both the predictors of academic performance and the predictors of job satisfaction. Overall, six of the hypothesis associated with the predictors of academic performance were supported, and two hypothesis associated with the predictors of job satisfaction were also supported. The implications of the above findings will now be discussed in the final chapter (discussion and conclusion). Furthermore, the final chapter will also include a number of themes that according to Bunton (2006) should be incorporated within the concluding chapter of a PhD thesis. This *includes* a discussion (which restates the purposes of the research), contributions to knowledge, limitations and caveats, and implications for future research.

Chapter 7 – Discussion and conclusion

This chapter presents an overview of this study. Initially a discussion of various issues that reflect the *value* of this research will be presented - incorporating: (i)) an account of the relevance of this study to a small body of work which evaluates the impact of psychological contracts in academia; ii) an evaluation of how this study examines the "factorability" of the academic psychological contract, (ii) an overview of how this study takes a *British* perspective; (iii) an examination of how this research moves away from orthodox views of the study of this subject; (iv) an overview of how this research recognises the influence of the "intelligent career" framework and additionally identifies the value of (v) "emotional intelligence" and employee commitment, and (vi) an account of how this study reinforces the findings of a small body of studies which have examined psychological contract breach. Furthermore, this chapter also presents an evaluation of the thirteen hypotheses that form the conceptual focus of this study – providing some interesting insights into the character of an academic psychological contract and its impact on (research-based) performance and job satisfaction. This chapter will also examine the "gaps" in the academic psychological contract, review the ANOVA's conducted for this research, and evaluate the "rules of engagement" associated with work in academia – concluding with an overview of the caveats and limitations of this study and directions for future research.

7.1. Discussion

The purpose of this study has been to examine what the character of an psychological contract that is unique to the academic environment and to identify that factors of an "academic psychological contract" and how these impact performance and job satisfaction. Moreover, within the context of this research, relationships between the individual and situational factors of the academic psychological contract have been identified and this has formed the thirteen hypotheses that form the conceptual focus of this study.

Before looking at these findings in more detail, there are a number of issues that this study has addressed which are worth further examination, as they give an indication of the value of this research. The first of these concerns the relevance of this study to a small body of research that examines the impact of psychological contracts in academia. Most of the research in this area comes studies which are conducted mainly within Pacific Rim Countries, and this has included work by Tipples and Krivokapic-Skoko (1997), Bathmaker (1999), Newton (2002) Dabos and Rousseau (2004) İnayet *et al* (2008) Krivokapic-Skoko and O'Neill (2008) and Shen (2010) However , (as already mentioned) no other studies, apart from the research carried out by Krivokapic-Skoko and O'Neill (2008) and Shen (2010) have appeared to isolate the different components (or factors) of a psychological contract that is particular to a university environment, and in this respect this research is fairly unique. Furthermore, this study is also uniquely placed for looking at the "factorability" of the elements of a psychological contract which is distinctive to the British higher education sector – with the only work that has taken a

similar methodological approach coming from Krivokapic-Skoko's and O'Neill's (2008) study of the formation and content of psychological contracts amongst staff at a University in New Zealand. Therefore, as a piece of research it could be inferred that the relevance of this study is associated with both its contribution to a small body of research which isolates the factors of an academic psychological contract (and the subsequent methodological approach that has been adopted)

While this study is uniquely placed for looking at the factorability of psychological contracts in the academic domain, must be stressed that an important contribution made by this research relates to how it has facilitated an understanding of psychological contracts in academia from a *British* viewpoint, - indeed, the only other studies (to date) that have looked at the impact of psychological contracts in the British higher education market have come from a study by Bathmaker (1992) on the changing state of psychological contracts in a British university, and a Doctorate of Education thesis by Gammie (2010) on the psychological contracts of lecturers in a British business school.

Studying academic psychological contracts from a British perspective is especially interesting as the Further and Higher Education Act of 1992 effectively created a *duality* in the British higher education market, where ex-polytechnics and colleges of higher education become universities and exist alongside traditional institutions – hence the existence of pre-1992 and post-1992 institutions. Moreover, as already mentioned in section 4.2.4 of the fourth chapter, the most visible effects of this duality has been a stronger research culture (based on RAE ratings) in "pre-1992" institutions, and a culture more associated with teaching and vocationally relevant knowledge in "post-1992" institutions (Fulton,1996; McKenna, 1996; MacFarlane, 1997; Henkel, 2000:Breakwell & Tytherleigh,2010). This duality in the British higher education market has also had noticeable effect on academic performance, and a study by Shattock (2001) has revealed that pre-1992 institutions are under more pressure from the RAE to produce younger, energetic, staff known for their impressive research profiles. However, contrary to the findings of existing research, this study has found that research performance is *not* higher amongst academics in pre-1992 institutions, and the implications of this will be discussed in more detail in the next section.

Another issue which has been explored within the context of this research is associated with how this study has represented a conceptual shift from orthodox research on the psychological contract (which has placed an emphasis on the continuum between relational and transactional contracts within a variety of work settings - as mentioned in section 2.8 of the second chapter). There have been numerous studies in this area and this *included* research by MacNeil (1974) Rousseau (1990) Milward and Hopkins (1998) and Raja, Johns & Ntalianis (2004).

Moreover, within the academic domain, a seminal study by Baruch and Hall (2004) recognized that psychological contracts which exist in universities may reflect the character of modern transactional contracts that exist within the contemporary business environment (Herriot & Pemberton 1995, Rousseau 1996). Therefore, as it could be inferred that the transactional character of psychological contracts in academia has been recognised, this research represents an important development of research in this area, building upon an exploratory framework to examine the individual and situational factors that make up a psychological contract that is unique to the academic domain.

Furthermore, within the context of this research, the notion that a study on the academic psychological contract reflects elements of the "intelligent career" (Arthur, Arthur,Claman & DeFillippi, 1995) has also been evaluated, and it is interesting how this research can be de-constructed with relevance to its applicability to the different dimensions of this concept. For example, the *knowing how* dimension of knowledge could be associated with *competencies* that are necessary for effective leadership and job satisfaction in higher education, especially with regard to the scholarly pursuits of research and teaching (Spendlove,2007).

However this research has discovered that there is generally no positive relationship between an academic employee's perceived competencies and job satisfaction, (although this relationship exists when mediated by an academic's future career expectations). This finding will have interesting implications for understanding the relationship between job satisfaction and competence within the academic environment and the influence of a changing discourse of future career expectations (and this will be discussed in more detail in section 7.2.1 below).

Another dimension of the intelligent career framework that has been particularly applicable to this study has been the *knowing whom* dimension of knowledge (Arthur, Arthur,Claman & DeFillippi, 1995). This has been looked at quite extensively within the context of this research (Hall, 1976, 2002; Taylor, 1999; Arthur & Rousseau, 1996; Forret & Dougherty, 2004), and the relevance of networking to work in the academic environment has also been discussed (Baruch & Hall, 2004; Dowd & Kaplan, 2005; McAdam & Marlow,2008). As this study has found that a positive relationship exists between an academic employee's networking behaviours and performance (which is mediated by commitment) the relevance of networking as an important factor of the academic psychological contract (that enhances academic performance) should be self-evident, and this will be discussed in more detail in the next section.

The suggestion that psychological contracts in academia are influenced by an "emotional" dimension and an employee's level of commitment are issues that have also been examined quite extensively in the context of this study. With regard to emotions, this study has examined research that has evaluated

the role of different dimensions of "emotional intelligence" (Mayer & Salovey 1997; Goleman, 1996) in the university environment (Poon,2004; Vandervoort ,2008), and as it has been found that emotional intelligence mediates the relationship between an employee's academic responsibilities and their (research related) performance this highlights the importance of emotional intelligence in enhancing performance in the academic environment.

Moreover, commitment has been evaluated by examining research which evaluates its influence on psychological contracts (Robinson, Kraatz & Rousseau, 1994; Baruch and Winkelmann-Gleed,2002,p344) and by how it is represented in various ways within an academic role – such as commitment to one's university, to the notion of academia, to a specific work group to an academic department (Baruch & Hall, 2004). As this study found that commitment mediates the relationship between an employees's networking behaviours and their (research related) performance, it appears to have quite an influential role with regard to understanding performance in the academic context. In the next section, the role of commitment and emotional intelligence in enhancing (research related) performance in the academic environment will be discussed further.

The final issue that is worth examining in the context of this research concerns how this study has exposed the effects of "breaching" a psychological contract that exists within the British higher education environment, and the effects that this has had on job satisfaction. As pointed out in section 4.3 of chapter four, a handful of studies have examined the effects of psychological contract breach in a university environment, and this has included research by Tipples and Krivokapic-Skoko (1997), Shen (2010),) and Gammie (2010) which have all revealed that if a university fails to meet the expectations of an academic employee, this will generally lead to low levels of job satisfaction. As this study has established that there is a negative relationship between an employee's perceived psychological contract breach and job satisfaction, this reinforces this finding, which (again) will be discussed in more detail in the next section.

So a number of important issues have been isolated in the context of this study which reflect the value of this research. These consist of: (i) the relevance of this study to small body of work which has examined the impact of psychological contracts in academia (Tipples & Krivokapic-Skoko,1997;Bathmaker,1999; Newton, 2002; Dabos & Rousseau,2004; İnayet *et al* (2008) Krivokapic-Skoko & O'Neill, 2008; Shen, 2010), and being uniquely placed for being one of the few studies which examines the "factorability" of different elements of an academic psychological contract; (ii) the fact that this study represents one of the few pieces of research which facilitates an understanding of psychological contracts in academia from a *British* perspective, with particular relevance to the "duality" which exists in the British higher education environment and the influence that this has on academic performance; (iii) the issue of how this study represents a conceptual shift away from

orthodox research in this area which recognises psychological contracts in terms of a relational/transactional continuum (MacNeil, 1974; Rousseau, 1990; Milward & Hopkins, 1998; Raja, Johns & Ntalianis, 2004); (iv) the notion of how this research can be de-constructed to reflect different dimensions of the "intelligent career" (Arthur, Arthur,Claman & DeFillippi, 1995) – specifically looking at how the *knowing how* and *knowing whom* dimensions of knowledge and the implications they have for an employee's job satisfaction and academic performance; (v) the notion of how this research has exposed the importance of "emotional intelligence" (Mayer & Salovey 1997; Goleman, 1996) and an employee's level of commitment for enhancing performance in the academic environment and (vi) the notion that this research reinforces the findings of a handful of studies which have found that psychological contract breach negatively affects job satisfaction in the academic environment (Shen, 2010; Tipples & Krivokapic-Skoko, 1997; Gammie, 2010). Within the subtext of the next section, the implications of these issues will be discussed (as part of a wider evaluation of the findings of this study, and its contribution towards understanding psychological contracts in academia). Furthermore, as discussed in section 4.3 of the fourth chapter, one of the most important requirements of a doctorate study is the "creation and interpretation of new knowledge" (QAA, 2012), and to address this, attention will now be directed towards looking at the findings of the hypothesis that have been formulated within the context of this research and their contribution to knowledge (specifically the impact of the academic psychological contract on performance and job satisfaction).

7.2. Contributions to knowledge

The thirteen hypothesis that map the conceptual framework of this study address a number of key areas associated with the expectations a university employee may have towards working in an academic role, and how these impact (research based) performance and job satisfaction. A summary of these hypothesis and whether they have been supported (or not) within the context of this research are presented in table 34 below. Furthermore, in the following sections, the specific contributions to knowledge that these findings bring to understanding psychological contracts in the academic domain will be discussed.

7.2.1 The relationship between institutional expectations and performance

This study established that a positive relational exists between the expectations an academic employee has of his/her institution and (research based) performance. Moreover, it was also found that this relationship was moderated by age – where the impact of this relationship will be stronger for younger (compared with) older scholars. These findings are interesting as they reinforce the findings of Gendron's (2008) study on academic performance, where the mechanisms used to regulate and manage individuals in an academic environment (such as expectations associated with working conditions or the notion of "best practice") contribute towards research-based performance. Moreover, as previous

research by Simmon (2003) has additionally found that research output in academia generally increases if different work-related expectations of an academic employee are met (such as the provision of good learning opportunities), the findings of this study also reinforce the importance of what university can provide in order to facilitate the research profile of an academic employee.

Table 37 Hypotheses and results

Hypothesis 1a
In the academic psychological contract there is a positive relationship between an employee's perceived institutional expectations and their performance. **(supported)**

Hypothesis 1b
In the academic psychological contract there is a positive relationship between an employee's perceived institutional expectations and performance, which is moderated by age, in a way that this relationship will be stronger for young scholars compared with older scholars. **(supported)**

Hypothesis 2a
In the academic psychological contract there is a positive relationship between an employee's networking and performance. **(supported)**

Hypothesis 2b
In the academic psychological contract there is a positive relationship between an employees' networking and performance, which is mediated by commitment, where this relationship will influenced by the obligations a scholar has to his/her institution. **(supported)**

Hypothesis 3a
In the academic psychological contract there is a positive relationship between the type of university an academic works in and performance, where research performance will be higher amongst academics in pre-1992 institutions. **(not supported)**

Hypothesis 3b
In the academic psychological contract there is a positive relationship between the type of university an academic works in and performance, where research performance will be higher amongst academics in pre-1992 institutions. This is moderated by professional background, in a way that this relationship will be stronger between different academic faculties.**(not supported)**

Hypothesis 4a
In the academic psychological contract there is a positive relationship between an employee's perceived academic responsibilities and performance. **(supported)**

Hypothesis 4b
In the academic psychological contract there is a positive relationship between an employee's perceived academic responsibilities and performance, which is mediated by emotions, where this relationship will be influenced an academics level of "emotional intelligence". **(supported)**

Hypothesis 5a
In the academic psychological contract there is a positive relationship between an employee's perceived competence and job satisfaction. **(not supported)**

Hypothesis 5b
In the academic psychological contract there is a positive relationship between an employee's perceived competence and job satisfaction, which is moderated by professional background, in a way that this relationship will be stronger between different academic faculties **(not supported)**

Hypothesis 5c
In the academic psychological contract there is a positive relationship between an employee's perceived competence and job satisfaction, which is mediated by future career expectations. **(supported)**

Hypothesis 5d
In the academic psychological contract there is a positive relationship between an employees' perceived competence and job satisfaction, which is mediated by future career expectations and moderated by age, in a way that this relationship will be stronger for older scholars compared with younger ones. **(not supported)**

Hypothesis 6
In the academic psychological contract there is a negative relationship between an employees' perceived psychological contract breach and job satisfaction. **(supported)**

So as this study has established that a psychological contract in the academic environment is characterised by a positive relationship between an employee's perceived institutional expectations and their (research-based) performance, this finding illustrates that the expectations of an academic member of staff has a valuable currency in the university environment. So while Baruch and Hall's (2004) seminal research on the academic career recognised that a psychological contract (in a university environment) is characterised by expectations that include professional challenges, social status, job security, professional development, good working conditions and flexibility (as mentioned in section 4.2.1 of the fourth chapter), it must be emphasised that this represents a very small section of research on what an academic psychological contract consists of. Indeed, within the context of this research it appears that an employee's expectations are extended to areas that are traditionally associated with working in an academic role (such as research skills), in addition to areas that reflect a dichotomy between pragmatism and scholarship, such as the notion of "best practice", learning opportunities and managing others.

But more significantly, this study has recognised that these expectations have a positive effect on (research-based) *performance*, and this has some interesting implications for understanding the notion of an "academic career". For example, Baruch and Hall (ibid) recognised that a convergence between academic and corporate career models has evolved in many ways (as illustrated in section 3.3 of the third chapter), with the notion of "best practice" embodying the rhetoric of "new managerialism" (Clarke & Newman, 1997) which has now entered the academic arena (Deem & Brehony, 2005). And as this study has established that expectations associated with best practice have a positive effect on academic performance, this might indicate that the convergence between academic and corporate careers may actually have a *positive* impact on the research productivity of an academic employee. Furthermore, as it was also established that the positive relationship between an employee's institutional expectations and performance is moderated by age, this supports the findings of Shen's (2010) research on psychological contract fulfilment in an Australian University, which established that older academic's might be becoming more apathetic about what is occurring within their workplace.

Although this study targeted universities in the United Kingdom, this nevertheless illustrates that a certain degree of apathy could exist amongst older academic staff, where less emphasis is placed on institutional expectations (such as "best practice") to facilitate academic performance. In view of this, it would be interesting to speculate on how universities (in the United Kingdom) could re-address the balance of how research productivity appears to be more abundant within the early years of an academic's career (Heward *et al*, 1997).

7.2.2 The relationship between (academic) networking and performance

Within an academic psychological contract, the importance of networking was recognised as this research established that a positive relationship exists between the networking behaviours of an academic employee and their (research-based) performance. Furthermore, it was also found that this relationship was mediated by commitment (reflecting the obligations a scholar has to his/her institution).

The relevance of these findings towards understanding the importance of networking in the academic context can be recognised in various ways, which is worth examining. First of all, this reinforces how the "know whom" dimension of the "intelligent career" framework (Arthur, Arthur,Claman & DeFillippi, 1995) does indeed have important implications for understanding how research performance is developed in academia. While Baruch and Hall's (2004) study on the academic career acknowledged that networking was a key characteristic of a transactional psychological contract (that might be present in the university environment), this research has more specifically recognised that networking additionally has a real value in *facilitating* (research-based) performance. This is particularly interesting as it echoes the findings of a small body of research which has specifically looked at the relationship between networking and academic performance (as mentioned in section 4.4.2.1 of the fourth chapter) – this includes Harris and Kane's (1994) study on the determinants of research based performance in an Australian University, Raddon's (2002) study on the "discourse" of academic success and Wasserman and Faust's (1994) study on the relationship between an academic's networking behaviours and performance, from a "social network" perspective.

Secondly, these findings also illustrate that academic employee's (in pre-1992 and post-1992 institutions in the United Kingdom) take an increasingly "protean" approach to their career related behaviours (Hall, 1976, 2002; Taylor, 1999), where networking is not only recognised as an important part of career development (O'Sullivan, 2002), but also as an significant aspect of their identity as *research active* members of staff. This is interesting as it suggests that research productivity in both pre-1992 and post-1992 institutions in the United Kingdom could be enhanced by embodying practices associated with encouraging network-related behaviours amongst academic staff. As mentioned in section 4.4.2.1 of the fourth chapter, recent research by Coromina *et al* (2011) recognised that effective practices for enhancing network relationships have included the establishment of research groups within faculties (Gulbrandsen, 2004), avoiding isolation in conducting research (Rudd, 1984) and socialising an academic member of staff into becoming *part* of a research group (Austin, 2002). However, it will be interesting to speculate on whether academic employees in British Universities will

embody these practices to develop their research profile, or engage in other networking activities that might be fundamental towards enhancing academic performance.

As the relationship between networking and academic performance was also found to be mediated by commitment (reflecting the obligations a scholar has to his/her institution), this has some interesting implications for understanding how academic employee's in British universities may have a real commitment to various aspects of their work and will use networking-related activities to strengthen this relationship. The EFA conducted in this research revealed that items associated commitment to one's university, commitment to a subject area and commitment to an academic department/faculty had the highest commonalities. In view of this, it could be inferred these areas of commitment may have an influential role in understanding the *character* of networking-related behaviour's amongst academic employees in the British university sector.

7.2.3 The relationship between type of university (i.e. pre-1992 vs. post-1992 institutions) and performance

The "duality" that exists in the British higher education environment (between pre-1992 and post-1992 institutions) is a unique aspect of this research on psychological contracts within academia. And this study established that no positive relationship exists between the type of university an academic works in and (research-based) performance – which was not moderated by the professional background of the academic employee. This finding is interesting as it challenges research which suggests that a gap exists between pre-1992 and post-1992 institutions - where the former have a strong research culture and the latter have a stronger teaching and administrative culture - providing skills to a mass market (Fulton,1996; McKenna, 1996; MacFarlane,1997; Henkel,2000, Breakwell & Tytherleigh, 2010). Furthermore, this finding also challenges the findings of a classic study by Shattock (2001) on the effects of the Further and Higher Education Act of 1992 on the academic profession in Britain, which suggests that an academic's expectations of research-based performance will be positively if they are working in a pre-1992 institution (as mentioned in section 4.4.3.1 of the fourth chapter).

So on the basis of this evidence, does this evidence indicate that the "dual market" character of the British higher education sector could be questioned, and is the "gap" between the research orientated activities of pre-1992 institutions and the teaching/administrative activities of post-1992 institutions closing? To address this, a recent article in *The Guardian* by Tom Patlow (chief executive of the university think-tank *Million+*), suggested that twenty years on from the implementation of the 1992 Act, modern universities have changed the landscape of the British higher education sector, with the results of the 2008 RAE confirming that modern universities support world class research in niche's which are not found in more traditional institutions. Moreover, Patlow's article also suggests that modern universities are highly successful in bidding for European research funding, and in developing

transnational research partnerships – coming to the conclusion that modern universities have come of age and there are no longer "new" or "post-1992" universities (Patlow, 2012). So if the notion of a "dual market" in the British higher education sector could be becoming an anachronism, it will be interesting to speculate on how academic employee's in post-1992 institutions will develop *practices* to ensure that their research profiles are prolific and whether the *character* of their research will be greatly differentiated from academics who work in more Britain's "traditional" institutions.

Furthermore, as this research also found that the professional background of an academic employee has no moderating effect on the relationship between the type of university an academic works in and their (research-based) performance, this challenges the findings of Charlton and Andra's (2007) study which suggests that research quality of British universities was strongly focused on 'scientific' research within areas like mathematics and the natural sciences. However, with the notion of a "dual-market" in the British higher education sector possibly becoming outdated, it will be interesting to speculate on whether research productivity in *both* the pre and post 1992 sectors of the British higher education environment will be more associated with developing niches in academic practice (such as pedagogical research), rather than work which falls within the disciplines of either natural or social science.

7.2.4 The relationship between an employee's perceived academic responsibilities and performance

This research established that within a psychological contract (which is unique to the academic environment), an employee's perceived academic responsibilities will have a positive relationship to (research-based) performance, which is mediated by an employee's level of "emotional intelligence. This is interesting as it indicates that adherence to the "trinity" of research, teaching and administrative responsibilities (Boice,2000) that an academic undertakes might actually have a positive effect on academic performance. As mentioned in section 4.4.4.1 of the fourth chapter, Terpstra and Honoree's (2009) study on the importance of teaching, research and administration institutions in the United States, revealed that the most successful academic faculties (in terms of research output) placed equal weight to mainly research and teaching activities, but without too much emphasis on teaching. Moreover, another study conducted in the Netherlands by Arnold (2008) revealed that a cross-fertilisation between teaching and research within a university environment could actually enhance the quality and quantity of an academics and a departments research output. As this research found that employee's perceived academic responsibilities (of his/her employers) will facilitate research-based performance, this appears to reinforce some of the findings of these studies and emphasises that academic performance is determined by a relationship between good quality research and teaching practices, and in the case of this research, possibly administrative duties – however, unlike these studies, this research was carried out in pre-1992 and post-1992 institutions within the United Kingdom.

So if the perceived responsibilities of an academic employee do have a positive relationship on research-based performance, is this indicative of how the convergence that may have occurred between "academic" and "corporate" career models in academia (Baruch & Hall, 2004) applies to the (current) British higher education environment and may have a *positive* effect on productivity? In view of this, it could be inferred that higher education institutions in the United Kingdom should direct more resources towards encouraging teaching practices that inform good quality research, and this should be instilled within the culture of an academic faculty.

As it was also found that the relationship between employees's perceived academic responsibilities and their (research-based) performance was mediated by an employee's level of emotional intelligence or EI (Mayer & Salovey, 1997), this might demonstrate that within the British higher education sector, EI might hold real currency in determining an academic's ability to carry out their responsibilities to full effect. The value of EI on an academic's work has been demonstrated in a range of studies (as mentioned in section 4.4.4.2 of the fourth chapter) and this has included Tran's (1998) research on the costs of low levels of emotional intelligence in academia, Vandervoort's study on how EI can facilitate a positive learning experience amongst academic staff, and LaRocco and Bruns's (2006) study on how EI is fundamental for preparing career entry academic's for future work. However, in a recent paper by CoCo (2011), it was revealed that EI has real "*strategic* implications within higher education" (CoCo, 2011, p115) where EI can help academic employee's to manage complex situations associated with planning, organising, leading and controlling the various responsibilities associated with their work. So in view of this, it will be interesting to speculate on *how* academic employee's in both pre-1992 and post 1992 institutions in the United Kingdom will use EI to both manage their work responsibilities and enhance their academic performance.

7.2.5 The relationship between an employee's perceived competence and job satisfaction

This study found that within an academic psychological contract, no positive relationship exists between the perceived competence of an academic employee and job satisfaction, and this relationship is not moderated by professional background, although it is mediated by their future career expectations. Furthermore, the mediating influence of an academic's future career expectations on the relationship between perceived competence and job satisfaction is not moderated by age.

These findings challenge the relevance of a growing body of research on how the "knowing how" dimension of the "intelligent career" framework (Arthur, Claman & DeFillippi, 1995) may have a positive effect on morale and job satisfaction. As illustrated in section 4.4.5.1 of the fourth chapter, this has included: (i) research by Brigg's (2006) on academic competence in a British (post-1992 university) where academic staff feel more satisfied if their competencies are clearly defined; (ii) a study by Houston, Meyer and Paewai (2006) which established that job satisfaction in academia is associated with "intrinsic" competencies associated with interpersonal skills, levels of responsibility

and research; (iii) a study by Shahzad *et al* (2010) which found that job satisfaction in academia is associated with good (time management) competencies and (iv) Baruch and Hall's (2004) classic study on academic career's, which recognised that job satisfaction was associated with both traditional academic practices (such as research skills) and competencies which are more associated with work in a corporate environment.

So as the findings of this research indicate that the perceived competence of an academic does not appear to have a relationship to academic performance, perhaps this indicates that the significance of an academic's competencies and what they represent (in the higher education sector of Britain), could be questioned.

However, it is interesting that this study found that the relationship between an employee's perceived competence and job satisfaction *is* mediated by their future career expectations – which echoes the findings of Baruch and Hall's (ibid) study that suggests that the academic career has become a role model for future careers in other sectors, with academic career expectations taking a more "protean" approach (Hall, 1976, 2002; Taylor, 1999), emphasising the importance of "free agency" (Baruch & Hall, 2004) and "new managerialism" on the perceived competencies associated with working as an academic employee.

However, this study also found that the relationship between an academic's perceived competencies and job satisfaction was not moderated by professional background, and this challenges the findings of Becher's (2001) classic study on intellectual inquiry and the culture of academic disciplines, where the epistemological characteristics of an academic discipline can affect the relationship between an academic's job satisfaction and their ability to carry out the key competencies associated with their work. So as the perceived competence's of an academic employee does not affect job satisfaction, *regardless* of professional background, this might question the relevance of academic practices (within either the natural or social sciences) to the work of a university employee within the current climate of the British university sector.

Additionally, as this research found that the mediating influence of an academic's future career expectations (on the relationship between perceived competence and job satisfaction) is not moderated by age, this challenges the findings of various studies which have suggested that older academic staff tend to be more satisfied with their position, especially amongst those who have achieved high levels of competence in their work (Schroder, 2008) and those who adopt a "managerial" approach to their work Oshagbemi (1999). Furthermore, a study Hickson and Oshagbemi (1999) revealed that the effect of age on job satisfaction in academia depends on whether an employee adopts a primarily teaching or a research role, with more satisfaction generally seen amongst older employees who are research active. So in view of these findings, it would be interesting to speculate on what role age really has in facilitating job satisfaction in the higher education sector of the United Kingdom.

7.2.6 The relationship between the psychological contract breach of an academic employee and job satisfaction.

This study confirmed that breaching a psychological contract that is unique to the academic environment in the United Kingdom has a negative impact on job satisfaction, and with the exception on Gammie's (2006) study on psychological breach within a British university business school, this study appears to be uniquely placed as it examines the impact of contract breach within pre-1992 and post-1992 institutions in Britain.

The results of this research reinforce the findings of Tipples and Krivokapic-Skoko's (1997) research on the effect of psychological contract breach in a university environment (in New Zealand), where a university's failure to meet its obligations to its employee's resulted in low levels of job satisfaction and morale amongst academic staff. Furthermore, this research also reinforces the findings of Shen's (2010) study on the contents of an academic's psychological contract and their fulfilment in Australia, where it was found that failure to fulfil to an academic's psychological contract generally led to dissatisfaction in a number of different areas.

But while the results of this study appear to reinforce the findings of research into psychological contract breach in academia (which have mainly taken place in Pacific Rim countries), it is interesting to think about *how* contract violation will specifically impact job satisfaction in the academic environment. In Gammie's (2006) study it was found that one of the most salient aspects on psychological contract breach on the job satisfaction of an academic employee was "accepted sufferance", where the work context was less than satisfactory for the employee, but tolerated in order to remain in their job. However, in the present study, while the impact on psychological contract breach was not associated with the "sufferance" of an employee, the EFA revealed that items associated with general satisfaction in one's current work, the possibility of quitting work, and satisfaction with one's *kind* of work had the highest commonalities.

With respect to this finding, it could be inferred that this study reveals how the negative effects of psychological contract breach on job satisfaction (in pre-1992 and post-1992 institutions in the United Kingdom) is associated with: (i) an academic employee's sense of general satisfaction; (ii) with an employee's decision to stay in their work (iii) and with the kind of work an employee is involved with. This is interesting as it broadens an understanding of how breaching a psychological contract in academia could negatively impact job satisfaction, and perhaps reflects how the concept of psychological contract breach in academia has a real currency for understanding some of the problems which affect the quality of life for an academic employee in the United Kingdom. For example, in a study that examined the job satisfaction of English academics and their intentions to quit academia by the *National Institute of Economic and Social Research* (Stevens, 2005), it was found that career

breaks, high workloads and opportunities outside of academia were the main determinants for leaving academia.

However, this research established that violating the psychological contract of a British academic employee also had an influence of an academic's decision to leave their profession. In the context of this study, psychological contract breach was measured by subtracting the expectations of an academic employee from what they expect from their employer (i.e. the university). It was found that these expectations/results incorporated items which included the institutional expectations of an academic employee, an employee's expectations of emotional intelligence, and an employee's expectations of individual ability. In view of this, it could be inferred that employer's at both pre-1992 and post 1992 institutions should be encouraged to understand how breaching an academic employee's expectations in these areas could possibly have detrimental consequences for staff turn-over.

Furthermore, this study has also revealed that breaching an academic psychological contract will also negatively impact an employee's general sense of satisfaction, and satisfaction associated with the work an academic employee is involved with. As already mentioned, Baruch and Hall's (2004) classic study on the academic marketplace revealed that satisfaction in academia is associated with *both* traditional academic practices (such as research skills) and corporate competencies, while more recent research has study by Shahzad *et al* (2010) found that satisfaction in academia is associated with more specific (corporate) competences such as time management. So in view of this, it is worth considering *how* psychological contract violation in the academic environment will negatively impact these aspects of job satisfaction, and other areas - reflecting how expectations associated with work in both the academic and corporate environment are possibly converging (Baruch and Hall, 2004).

Therefore, the unique relationships that exist between the factors of the academic psychological contract reflect the expectations that an academic employee has of his/her role and how these impact (research-based) performance and job satisfaction. These have consequently exposed a number of issues that make a useful contribution towards understanding the character of a psychological contract which is exclusive to the current academic climate in the United Kingdom. An overview of these is presented below:

- The notion of how the expectations of academic employee have a positive effect on (research-based) performance. These expectations encompass areas associated with the traditional academic role (including research skills), in addition to areas reflecting the dichotomy between pragmatism and scholarship (such as "best practice" and learning opportunities). Moreover, this relationship is moderated by age, in favour of younger scholars – supporting the findings of research by Shen (2010) which recognised that older academic's might are becoming more apathetic about their work.

- The importance of networking in facilitating (research-based) performance in the academic environment – reflecting how academic employee's in British institutions adopt an increasingly "protean" approach to career related behaviours (Hall, 1976, 2002; Taylor, 1999), where networking is recognised as an important part of this, and has a real value in developing an academic's research profile. It was also found that this relationship was mediated by commitment to an employee's university, to their subject area, and to their academic department or faculty.

- The notion that a positive relationship does *not* exist between the type of university an academic works in and their (research-based) performance. This questions the existence of the so called "dual market" which exists between pre-1992 and post-1992 institutions in the United Kingdom, since the inception of the *Further and Higher education Act* of 1992. Furthermore, an employee's professional background has no moderating effect on this relationship, which questions the notion of research quality in British universities being strongly associated with "scientific" studies (Charlton & Andra, 2007).

- The idea that a positive relationship exists between an employee's perceived academic responsibilities and (research-based) performance, which supports the notion that academic performance in pre-1992 and post-1992 institutions in the United Kingdom is determined by an association between good quality research and teaching practices – reinforcing the findings of research on academic responsibilities which has been conducted in the United States and the Netherlands (Terpstra & Honoree, 2009; Arnold, 2008). This relationship is also mediated by an employee's level of emotional intelligence (Mayer & Salovey, 1997), reflecting how this might hold real currency in determining an academic's ability to effectively carry out their responsibilities.

- The notion that *no* positive relation exists between an employee's competencies and job satisfaction within pre-1992 and post-1992 institutions in the British university sector – challenging the findings of a range of research which have examined the role of academic competencies on job satisfaction in academia (Briggs, 2006; Houston, Meyer & Paewai, 2006; Shahzad *et al* , 2010). Although this relationship is not moderated by professional background, it *is* mediated by an academic's future career expectations, which highlights the idea that academic careers are becoming a role model for careers in other sectors (Baruch & Hall, 2004), and with academic staff taking a more "protean" approach to their career related behaviours (Hall, 1976, 2002; Taylor, 1999). However, the mediating influence of an academic's future career expectations (on the competence/job satisfaction

relationship) is not moderated by age – challenging the findings of research which suggests that older academic staff are generally more satisfied with their position (Schroder, 2008).

- The notion of how psychological contract breach has a negative impact job satisfaction – this finding being unique for examining the impact of contract breach within pre-1992 and post-1992 institutions in the United Kingdom. In the case of this research, it could be inferred that psychological contract breach could affect the general sense of satisfaction of an academic employee, their decision to stay in their work, and their sense of satisfaction associated the kind of work they are involved with.

7.3 An examination of the "gaps" in the academic psychological contract

Within the context of this research, a number of "gaps" which exist in the academic psychological contract were examined. As mentioned in section 5.14 of the fifth chapter, looking at the gaps enables the researcher to examine the differences between what an academic member of staff "perceives" or "expects" and what is "needed" or "received" - in the case of this particular research, taking an *employee's* perspective of what is expected from their employer. As pointed out in section 6.5 of the sixth chapter, this methodological approach to the study of psychological contracts was given prominence through Porter *et al's* (1998) study of psychological contracts and inducements, where average scores associated with an employee's expectations and perceptions were subtracted from average scores of what is received from an employer.

This research on psychological contracts looked at the gaps between: (i) an employee's perceived competencies versus what they think they need from their employer and (ii) the differences between what an employee expects from their employer and what is actually received (in terms of institutional expectations, emotions and ability – post factor analysis). An appropriate statistical test was carried out to determine whether the inter-correlations between the gaps are significant - in this case a Pearson correlation with a one-tailed (using the SPSS program).

Some interesting results were found. Firstly, with regard to competencies, it was discovered that statistically negative correlations existed in areas associated with research, interpersonal skills and synthesising knowledge. As mentioned, this might challenge the importance these competencies, which according to Baruch and Hall (2004) are fundamental parts of the academic career. So although these might be recognised as key features of an academic career (especially research), it could be inferred that this study additionally exposes how academic staff in both pre-1992 and post-1992 institutions may not necessarily place the same emphasis on competencies which have traditionally played a pivotal role in work within academia.

Secondly, with regard to the differences between institutional expectations and results, it was found that statistically significant low correlations existed in areas associated with "learning opportunities" and "best practice". This might demonstrate that this study recognises that the expectations an academic employee associates with his/her work is indeed reflected in a rhetoric of "new managerialism" which could be making an impact on the higher education sector in the United Kingdom (Deem & Brehony, 2005; Philbin,2008) and gives some credence to Baruch and Hall's (2004) claim that "we are..seeing a convergence between the academic and the corporate views of 'success in the (academic) career"(Baruch & Hall 2004, p16). With regard to the differences between the emotional expectations of an academic employee (compared to what is received from their employer), the results indicate that statistically significant correlations exist in items associated with "expressing emotions" and (to a lesser degree) "receiving emotional supporting". So while psychological contracts in academia might be influenced by an "emotional" dimension, the preference academics have for expressing emotions, known as emotional perception, (Mayer & Salovey, 1997) might be the most significant aspect of EI in the changing shape of work that an academic employee undertakes in pre-1992 and post-1992 institutions in Britain.

Finally with regard to the differences between the expectations associated with an employee's individual ability (compared with what is received from their employer), the results indicate that statistically significant correlations occur in items associated with an "awareness of competencies", "adopting a flexible attitude" and "in professional development". It is interesting that these items reflect the rhetoric of a "new deal" in academia, where traditional ideas associated with loyalty, conformity, commitment, career prospects and training are replaced by a more self-reliance orientation to work, reflecting individual needs and values (Hiltrop, 1995). If this is the case, does this mean that employee's in both pre-1992 and post-1992 universities have a different agenda of personal development, where their skills and aptitudes align to their to a university's commercial interests and where a more a more individually orientated approach to their work is adopted?

7.4 Review of the analysis of variance conducted for this research

The results of the ANOVA's conducted for this study were presented in section 6.6 of the sixth chapter, where factorial ANOVA's (field,2009) were conducted in order to examine: (i) the effects (and interactions) between gender, ethnicity and age on respondents rating and (ii) if respondents ratings vary according to academic position (i.e. Visiting lecturer/Teaching Fellow, Lecturer, Senior Lecturer, Principal Lecturer, Reader, Professor) and professional background (i.e. social science or natural science).

With regard to the first factorial ANOVA, the most noticeable finding revealed that age had a significant effect on all eleven factors of the academic psychological contract, although the interaction between gender and age had a limiting effect - with significant results for only commitment, performance and future career expectations. So although the hypothesis that have been formulated for this research demonstrates that age has different moderating effects on the relationships between employee expectations/performance and competence/job satisfaction, this study additionally demonstrates that academic employee's across different age cohorts (amongst pre-1992 and post-1992 institutions in the United Kingdom) might perceive the factors of the academic psychological contract in quite a uniform manner. This is an interesting finding as it reveals that more attention needs to be directed towards examining how the different expectations of an academic's work might apply to *all* age cohorts, allowing for some differences between males and females.

The results of the second factorial ANOVA also revealed some quite interesting findings about how respondent's answers differ according to present academic position and professional background. For example, while it shown that present academic position has an effect on all of the factors of the academic psychological contract (*apart from type of university*), the effects of an employee's professional background has a more limited effect – associated with areas which include networking, commitment, academic responsibilities and future career expectations. This finding is interesting as it reinforces the notion that the "dual market" in the British higher education sector is closing, suggesting that all levels of academic staff across both pre-1992 and post-1992 institutions in the United Kingdom might hold similar views about the expectations associated with their role. Furthermore, this finding also suggests that the influence of key developments in the study of careers - such as the role of networking in the "intelligent career" (Arthur, Arthur,Claman & DeFillippi, 1995) and "protean career" (Adamson, Doherty & Viney 1998) frameworks, and the convergence between academic and corporate career models (Baruch & Hall, 2004) – might apply more to academic's from particular professional backgrounds, rather than universally.

7.5 What does this study reveal about the "rules of engagement" associated with work in academia?

The contribution to knowledge made by this research clearly has an association with the hypothesis that have tested in this study and a number of debates, which have implications for understanding how the academic psychological contract impacts job satisfaction and (research-based) performance, and for additionally furthering knowledge associated with academic careers. However, it should also be recognised that this research has exposed some interesting ideas about the "rules of engagement" associated with work in the academic context.

The first of these is concerned with the population who undertook this study, and considering why they were attracted to work in an academic environment. The evidence from this study seems to suggest

that the most important reasons for joining academic life were associated with an urge to create state of the art research and to improve knowledge in an area of research, although most academics in the study preferred to conduct research alone, rather than with colleagues. So although the respondents in this study did not equate the academic responsibility of research with performance, it still appears that the urge to conduct research is an important reason for embarking on an academic career, even though the reality of working in a university environment may associate performance with other ideas. Does this suggest that the rules of engagement associated with effective (research-based) performance in academia go beyond skills that reflect the trinity of research, teaching and administration? (Taylor, 1999; Boice, 2000; Jacobs, Cintron & Canton, 2002; Lee, 2003; Baruch & Hall, 2004). If this is the case, perhaps more attention should be paid towards re-evaluating Taylor's (1999) claim that the "emergent educational role" of an academic is associated with skills and competencies in these three areas.

The second idea to examine concerns the notion of individual ability, which was also examined within the context of this research. From looking at the aggregate scores of items which measured this, it appeared that respondents associated ability with adopting a flexible attitude, valuing expertise and managing self. This reflects the suggestion that ability in academia has a "self-reliance" orientation, where the employee functions as as a "free agent and (has) transactional contracts with their university employers" (Baruch & Hall, 2004, p256). This also gives credence to some the findings of Taylors (1999) *Making Sense of Academic Life* (1999) which illustrated how the rules of engagement associated contemporary academic work are moulded by the transactional character of the working environment within higher education, where the determinants of academic success are associated with individual ability and self-development.

7.6 Conclusion

This study has examined the existence of a psychological contract that is unique to the academic environment, and how this impacts (research-based) performance and job satisfaction. It is hoped that this study has made an important contribution to the small body of research that has been conducted in this area and has raised some interesting findings that can contribute towards furthering knowledge in this area. However, before evaluating the implications that this study has for future work, it is worth initially looking at the caveats and limitations that could affect the validity of this research.

7.6.1 Caveats and limitations of this research

As mentioned in section 5.2 of the fifth chapter, through utilising a methodology that takes a distinctly empirical approach this provides the researcher with an objective and reliable method of inquiry that involves testing hypothesis, data collection and using appropriate statistical techniques for analysis (Morgan, 1998). However, through utilising this approach, a number of methodological concerns emerge.

The first of these concerns relatively low response rate of the academic staff who were targeted for this research, where only 337 *useable* questionnaires (out of 1000) were returned from the academic employee's working in the five universities that were targeted in this study – namely the University of East Anglia, the University of the West of England, the University of Greenwich, the University of Westminster, the University of Bristol and the London School of Economics. This might have been because the researcher distributed the questionnaires via the internal mail systems at the chosen institutions, with little or no contact with individuals who participated in this research. Although contacting the respondents was logistically difficult due to the large size of the study, initiatives such as preliminary notification of intended research, foot-in-the-door techniques of contacting departments, personalising information about the research, and follow-up letters may have yielded a better response rate (Yu & Cooper, 1983) - however, the response rate of 34% (which characterises this study) is quite close to the response rate of 36%, which according to Baruch (1999) was fairly typical of a piece of research which involved organisational representatives (such as academic employees).

Furthermore, as mentioned in section 6.1.4 of the previous chapter, out of the 337 respondents who took completed the questionnaire, 11 individuals failed to indicate what they believed their final academic position would be. While this attrition rate is very small (3%) it does show that a certain level of "uncertainty" can occur when interpreting a question (Babbie, 2006). Therefore, if researching psychological contracts in the academic environment is affected by a degree of uncertainty in answering exploratory questions, there might be scope for using more open ended questionnaires in future research.

Another methodological concern is centred on the *construct validity* (Price, 1997) of this study, which could be affected if the empirical measurement of an academic psychological contract is not consistent with theory. One way of addressing this is to ensure that a process of triangulation (Kekale, 2001) is used in future research in this area, where the findings of a questionnaire is corroborated with other findings in order to evaluate the central hypothesis being tested. This could be achieved through adopting *focus group* methodology (Morgan, 1988 *et al*) to provide a platform for critical debate on the findings of this empirical research (especially in relation to the performance of an academic employee and their job satisfaction), and to maybe establish whether similarities exist between the character of psychological contracts within both the academic and the corporate environment.

The final methodological concern to draw attention to concerns the issue of whether a questionnaire (which measures the expectations and results of an academic psychological contract), is not actually measuring the manifestations of the same underlying variable. In view of this, additional research in this area should very clearly look at how distinctive a measure of academic expectations should be. Furthermore, when empirically measuring the relationship between two or more different factors, one would expect the measures of one factor to correlate with another. However, if the process of measuring this relationship shares common methods, those methods can sometimes exert a bias on the

correlations between the methods. This problem is known as *common method bias* (Podsakoff, *et al*, 2003) and refers to how an alternative explanation for an observed relationship between different factors could occur that is independent from the one hypothesised. To address this, the researcher should be very specific about obtaining the measures of a particular factor from a wide variety of sources. Although this can sometimes be difficult to do, further work on academic psychological contract could utilise questionnaires which are individually coded so that it is possible to in identify the respondents.

However, in addition to the methodological limitations associated with this research, attention should also be directed towards exploring how this study might be limited on a *theoretical* level – with specific reference to how this study adopts an *employee's* perspective, and incorporates items that measure an employee's expectations from their employers. Although, it might be interesting to examine psychological contracts in academia from the perspective of the academic employee, Rousseau (1995) recognises that the psychological contract reflects an individual's beliefs about the *mutual* obligations between the employer *and* the employer, and Schein (1965) recognises the importance of understanding employment relationships from both parties, giving precedence to both the role of an organisation and the expression of individual expectations. Indeed, over the last decade, the study of the psychological contract has been sometimes been framed in terms of both employee and employer perspectives (Coyle-Shapiro & Kessler, 2002; Winter & Jackson, 2006), yet in reality, a vast amount of contemporary research that examines psychological contracts looks at the employee's viewpoint at the expense of the perspective of the employer (Tekleab and Taylor, 2003; Robinson and Morrison, 2000). According to recent research by Nadin and Williams (2012) the reason behind this reflects "a consequence of the complexity of contemporary employment relationships and the difficulty in defining who represents the organisation" (Nadin & Williams, 2012, p113), and it could be inferred that this is why this study has taken employee perspective towards studying the existence of a psychological contract in the British university sector.

However, Shen's (2010) study on psychological contracts amongst academics in a middle-ranked Australian University suggested that "exploring the psychological contract from both employee and employer perspectives will assist in the development of mutual expectations" (Shen, 2010, p588), and in view of this, further research on psychological contracts in academia should take account of what the mutual expectations between an academic employee and his/her employer could represent.

7.6.2 Implications for future research

While the implications that this study has for future research is multifaceted, a range of ideas are presented below which give an indication of how further research in this area could develop. These reflect: (i) how this study has a real currency for adopting an original approach to researching this area; (ii) how this research promotes an understanding of how (research-based) performance and job

satisfaction is facilitated amongst British academic employees; (iii) how this research recognises the role of emotional intelligence to facilitate academic performance; (iv) the relevance of this research to the "intelligent career" framework; (v) the cross national implications of this study and (vi) the policy implications of this study, and implications for managing staff development.

7.6.2.1 Developing an understanding of the "factorability" of the academic psychological contract

This research has adopted a unique role as it moves away from a perspective that defines a lot of the more orthodox research on psychological contracts, which recognises this concept along a relational versus transactional continuum. (MacNeil, 1974; Rousseau, 1990; Milward & Hopkins, 1998;Raja, Johns & Ntalianis, 2004). This particular research has been built along an *exploratory* framework in order to identify "factors" that make up a psychological contract that is unique to the academic domain, and as suggested earlier, the only research (to date) that has adopted a similar approach comes research carried out in from Pacific Rim countries (Krivokapic-Skoko and O'Neill, 2008 & Shen, 2010). While this is very interesting research, it is limited in terms of identifying the relationship between different elements of academic psychological contracts and does not apply to the British academic market. In view of this, this research will hopefully facilitate an interest in what expectations reflect academic practices in British institutions, whilst also creating an interest in how the relationship between these expectations affects performance and job satisfaction in the academic context.

However, more significantly, this study also has the unique distinction of being few pieces of research that recognises the "factorability" of different elements of an academic psychological contract, the only other study being Krivokapic-Skoko's and O'Neill's (2008) study on the role of psychological contracts to study low morale and disappointment amongst academics in New Zealand. However, as this study examined the factorability of an academic psychological contract amongst both "pre-1992" and the "post-1992" institutions in the United Kingdom, and it is hoped that future research will continue to adopt this approach in to better understand the contents and nature of a psychological contract that is unique to the British higher education market.

7.6.2.2 Developing an understanding of how (research-based) performance and job satisfaction is facilitated amongst academic staff in the United Kingdom

The thirteen hypotheses that represented main conceptual focus of this study yielded some interesting findings, that might have interesting implications for facilitating (research-based) performance and job satisfaction amongst academic employee's in the United Kingdom. For example, with regard to performance, it was found that the expectations of an academic employee, their networking behaviours and their perceived academic responsibilities all seem to have a positive impact on research productivity. In view of this, it will be interesting to see if a body of research could develop that would

more explicitly identify how these areas could facilitate an academic's research profile in the current higher education climate that exists in the United Kingdom – resulting in effective *initiatives* that would improve research productivity amongst both pre-1992 and post-1992 institutions.

However, another very interesting finding was that the type of university an academic works has no positive impact on their (research-based) performance. As mentioned, this challenges the idea that a "dual market" continues to exist between pre-1992 and post-1992 institutions in the United Kingdom. So if the "duality" of the British academic market is becoming an anachronism, future research could look at what could be steps could be taken to encourage academic employee's at post-1992 institutions to develop a stronger research profile, and to form collaborative research projects with more traditional establishments.

With regard to job satisfaction, no positive relationship generally exists between an employee's competencies and job satisfaction, contrary to the findings of a range of research in this area. In view of this, future research that examines job satisfaction in the academic environment could perhaps adopt a broader perspective towards understanding what really needs to be done in order to facilitate satisfaction and job morale amongst academic employees. Whether the convergence between academic and corporate career models (Baruch & Hall, 2004) will play any role in this is maybe a matter of speculation, but as academic staff appearing to be taking a more "protean" approach towards their career related behaviours ((Hall, 1976, 2002; Taylor, 1999), the influence of this change in the character of the academic marketplace cannot be disregarded.

Furthermore, this study also revealed that psychological contract breach has a negative impact on job satisfaction in a number of ways, and it would be interesting to see whether further research *continues* to examine the effects of contract breach amongst pre-1992 and post 1992 institutions in the United Kingdom – perhaps exposing a range issues that affect the quality of life amongst British academic employees.

7.6.2.3 Recognising the role of emotional intelligence to facilitate academic performance

This research revealed that EI plays an important role in enhancing research productivity in the academic environment – mediating the relationship between academic responsibilities and (research-based) performance. Although recent research by CoCo (2011) recognised that EI has real strategic implications within higher education and can help the academic employee to manage their work effectively, the findings of this study revealed that particular dimensions of EI might have a real currency in facilitating academic performance, and this might be associated with emotional perception, or the preference one has for expressing emotions ((Mayer & Salovey, 1997). Because of this, future research could focus on examining *how* emotion perception could recognised for facilitating effective academic performance, and this could operate on a number of levels – ranging from the dyad level

(within a mentoring relationship) to an organisational level (associated with the implication of a variety of staff development initiatives).

7.6.2.4 The relevance of the "intelligent career" framework

According to Baruch and Hall (2004), the "intelligent career" framework (Arthur, Arthur, Claman & DeFillippi, 1995) has "always been part of the intrinsic nature of the work in academe", (Baruch & Hall, 2004, p8), and within the context of this research it continues to be highly relevant – especially as the "knowing whom" and "knowing how" dimensions of knowledge have been mainly de-constructed in the context of this study, focusing on the networking behaviours of academic employee's and their competencies. However, it was found that the dimensions of "knowing whom" (reflecting networking) and the "knowing how" (reflecting competencies) had a positive relationship to (research-based) performance and no relationship to job satisfaction. So in view of this evidence, would it be right to assume that future research on academe continues to be conceptually grounded in this framework, especially, as this study questions the role of academic competences in facilitating job satisfaction?

7.6.2.5 Cross national implications

Although this research is aimed at examining the character of psychological contracts within higher education in the United Kingdom, it should also be emphasised that the impact of this research could facilitate an interest in academic psychological contracts internationally as there are many different systems of higher education worldwide, with different academic disciplines operating within them (Becher, 1989). While this study has focused very much on exploring how the relationships between different factors of the psychological contract impact (research-based) performance and job satisfaction in Britain, it would be interesting to see if similar results could apply to different countries – where academics from different countries might maintain the values of their host cultures values and adopt an "integrationist" approach to their work, or reject them in favour of a "separationist" approach (Leong & Leung, 2004).

7.6.2.5 Policy implications and implications for staff development

The formulation of a psychological contract that identifies what academics expect from their working environment and what they value most in terms of academic output and job satisfaction will have some interesting implications for policies that have been directed towards higher education. For example, the *Strategic Plan 2003/2008* that was devised by the Higher Education Funding Council for England (HEFCE), recognised that quality in the provision of higher education in the United Kingdom was linked to "four drivers" – namely, research, teaching, widening participation and community engagement. With respect to this, it could be inferred that the findings of this study present some interesting insights into how the "driver" of research could be facilitated in the present academic climate that exists in the United Kingdom – with an emphasis on understanding recognising the

expectations of an academic employee, valuing the importance of networking, recognising that the "dual-market" in the British university environment might be changing, and recognising the importance of an academic's responsibilities.

In view of this, it is hoped that the findings of this study will play a valuable role in the creation of appropriate staff development and appraisal schemes that capture the eclectic role of an academic's work, leading to new insights into how academic staff can be effectively managed. As the academic climate in the United Kingdom might be moving from a collegial (or professional) model of governance, towards a market based and social utility model (Kogan, et al, 1994) new "changing mandates" may arise that will have interesting implications for whether the factors which impact research-based performance and job satisfaction will still be relevant. However, as academics still take on a number of different roles that include lecturing, research, administration, applications for research grants and consultancy, it seems work in the university environment is still recognised as a source of "intellectual labour" (Arthur,Inkson & Pringle,1999), and it is hoped that this study has exposed some interesting ideas about what factors influence the productivity (of this type of labour) and how this impacts individual morale.

To close, in the final part of Baruch and Hall's (2004) study on the academic career, the authors state that:

"*although academics have always jealously guarded their academic freedoms, it remains to be seen how adaptable they will be in using this freedom to change themselves, so they can better serve the new demands of their students, the university, and the community*" (Baruch & Hall, 2004)

It is therefore hoped that the findings of this study will give some indication of what academic freedoms a university employee in the United Kingdom has, and how he or she will use these freedoms to positively elicit change in the current academic climate of Britain.

End

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APPENDICES

Appendix 1 – The Psychological Contract Inventory (Rousseau, 2000)

THE HEINZ SCHOOL CARNEGIE MELLON UNIVERSITY

Psychological Contract Inventory

Employee and Employer Obligations

Denise M. Rousseau

This document contains four sets of psychological contract scales: Employee Obligations, Employer Obligations, Fulfilment, and Contract Transition Indicators. Please email denise@cmu.edu with any questions. Best wishes, Denise.

I. Employee Obligations

To what extent have you made the following commitments or obligations to your employer?
Please answer each question using the following scale:

1	2	3	4	5
Not at all	Slightly	Somewhat	Moderately	To a great extent

EE SHORT-TERM
_____ Quit whenever I want
_____ I have no future obligations to this employer
_____ Leave at any time I choose
_____ I am under no obligation to remain with this company

EE LOYALTY
_____ Make personal sacrifices for this organization
_____ Take this organization's concerns personally
_____ Protect this organization's image
_____ Commit myself personally to this organization

EE NARROW
_____ Perform only required tasks
_____ Do only what I am paid to do
_____ Fulfill a limited number of responsibilities
_____ Only perform specific duties I agreed to when hired

EE PERFORMANCE SUPPORT
_____ Accept increasingly challenging performance standards
_____ Adjust to changing performance demands due to business necessity
_____ Respond positively to dynamic performance requirements
_____ Accept new and different performance demands

EE DEVELOPMENT
_____ Seek out developmental opportunities that enhance my value to this employer
_____ Build skills to increase my value to this organization
_____ Make myself increasingly valuable to my employer
_____ Actively seek internal opportunities for training and development

EE EXTERNAL MARKETABILITY
_____ Build contacts outside this firm that enhance my career potential
_____ Build skills to increase my future employment opportunities elsewhere
_____ Increase my visibility to potential employers outside this firm
_____ Seek out assignments that enhance my employability elsewhere

EE STABILITY
_____ Remain with this organizational indefinitely
_____ Plan to stay here a long time

_____ Continue to work here
_____ Make no plans to work anywhere else

II. Employer Obligations

Consider your relationship with your current employer. To what extent has your employer made the following commitments or obligations to you? Please answer each question using the following scale:

1	2	3	4	5
Not at all	Slightly	Somewhat	Moderately	To a great extent

ER SHORT-TERM
_____ A job only as long as this employer needs me
_____ Makes no commitments to retain me in the future
_____ Short-term employment
_____ A job for a short time only

ER LOYALTY
_____ Concern for my personal welfare
_____ Be responsive to my personal concerns and well-being
_____ Make decisions with my interests in mind
_____ Concern for my long-term well-being

ER NARROW
_____ Limited involvement in the organization
_____ Training me only for my current job
_____ A job limited to specific, well-defined responsibilities
_____ Require me to perform only a limited set of duties

ER PERFORMANCE SUPPORT
_____ Support me to attain the highest possible levels of performance
_____ Help me to respond to ever greater industry standards
_____ Support me in meeting increasingly higher goals
_____ Enable me to adjust to new, challenging performance requirements

ER DEVELOPMENT
_____ Opportunity for career development within this firm
_____ Developmental opportunities with this firm
_____ Advancement within the firm
_____ Opportunities for promotion

ER EXTERNAL MARKETABILITY
_____ Help me develop externally marketable skills
_____ Job assignments that enhance my external marketability
_____ Potential job opportunities outside the firm
_____ Contacts that create employment opportunities elsewhere

ER STABILITY

_____ Secure employment
_____ Wages and benefits I can count on
_____ Steady employment
_____ Stable benefits for employees' families

III. Psychological Contract Transitions

To what extent do the items below describe your employer's relationship to you? Please answer each question using the following scale:				
1	2	3	4	5
Not at all	Slightly	Somewhat	Moderately	To a great extent

NO TRUST
_____ Withholds information from its employees
_____ Acts as if it doesn't trust its employees
_____ Introduces changes without involving employees
_____ Doesn't share important information with its workers

UNCERTAINTY
_____ Difficult to predict future direction of its relations with me
_____ An uncertain future regarding its relations with me
_____ Uncertainty regarding its commitments to employees
_____ Uncertainty regarding its commitments to me

EROSION
_____ Demand more from me while giving me less in return
_____ Decreased benefits in the next few years
_____ Stagnant or reduced wages the longer I work here
_____ More and more work for less pay

IV.Psychological Contract Fulfillment

Please answer each question using the following scale:				
1	2	3	4	5
Not at all	Slightly	Somewhat	Moderately	To a great extent

EMPLOYEE FULFILLMENT
_____ Overall, how well have you fulfilled your commitment to your employer
_____ In general, how well do you live up to your promises to your employer

EMPLOYER FULFILLMENT
_____ Overall, how well does your employer fulfill its commitments to you
_____ In general, how well does your employer live up to its promises

Appendix2

Pilot study

A) Structure of the research questionnaire

The pilot questionnaire that has been adopted in this study is illustrated in appendix 3. The purpose of this questionnaire has been to measure the relationships (represented by hypothesis) of the factors of the academic psychological contract. These hypothesis underlie this research and are conceptually grounded within the conceptual model of the academic psychological contract that is illustrated in figure 3 and table 5 of the fourth chapter.

A description of the structure of questionnaire in its original pilot format is illustrated below, with some sample items included.

Work related expectations

The first set of items in the questionnaire uses to a multiple item Likert scale to measure what is expected from an employer and compares these with what is received. Items covered in this first set relate to constructs associated with "institutional expectations", "emotions" and "workplace competence and ability".

Expectations							*Category*	*Results*						
1	2	3	4	5	6	7	*Institutional*	1	2	3	4	5	6	7
							A clear indication of what "best practice" means within my organisation							

Work Competencies

The second set of items measured the factors associated with competence and ability. By using a simple scale, an employee's individual perceptions of competence are compared with how far a particular kind of competence is needed to carry out a task. Items included in this set relate to areas that include time management, career management, research skills, and as illustrated below, supervising skills.

My competence							*How far this competence is needed for this job*						
1	2	3	4	5	6	7	1	2	3	4	5	6	7

Contacts and work rationale

This section uses both a per centage scaling method and a multiple item Likert scale to measure the factor associated with networking. An example of the per centage scaling method is given below.

Conducting research and publishing in my area	
Conducting studies with colleagues from my own institution:	
Conducting studies with colleagues from other institutions in the UK	
Conduct studies with colleagues from other institutions elsewhere	
	100%

Educational background

This section uses a three point ranking scale and simple closed questions to measure this demographic variable.

Degree		*Institution*	*Sector – please tick one box*			*Level/reputation of the institution*
			Old University	*New University/ Ex-polytechnic*	*Other*	
First (i.e. BA/BSc)						*Considered top ___ % in the area*
Second (i.e. MSc, MBA)						*Considered top ___ % in the area*
Third (i.e. PHD, DBA)						*Considered top ___ % in the area*

Work attitudes

This section of the questionnaire uses a combination of multi-item Likert scale and closed questions to measure factors associated with job satisfaction (below), future career perceptions and commitment.

Job Satisfaction

Generally speaking, I am satisfied with my current work 1 2 3 4 5 6 7

Academic responsibilities

This section used a combination of per centage scaling, simple Likert scales and closed questions to measure the construct associated with academic responsibility. An example of a Likert scale item used to measure research (a variable of academic responsibility) is illustrated below.

Research

Research represents a significant part of my current work	1	2	3	4	5	6	7

Personal (demographic) data

This section was used to elicit more information associated with demographic constructs associated with age and gender.

Age		
Gender	*Male*	*Female*

Additional information

The final section of the questionnaire provided respondents with an opportunity to comment on the overall quality of this pilot study, providing a rich source of information of the caveats and shortcomings of this study.

B) Distribution

The pilot questionnaire was distributed to academic staff in the Schools of Management and Chemistry at the University of East Anglia. The questionnaire was distributed to these different schools to reduce *subject bias* associated with different approaches to teaching, scholarship and research between these subject areas. A total of 35 respondents out of 75 completed the questionnaire (a response rate of 47%) Out of this sample, 81% of the respondents were male and 19% of the respondents were female, with 81% of the sample representing the School of Management and 19% of the sample representing the School of Chemistry. The average age of the sample was 39 years, and respondents had an average of 13 years' experience of working within an academic role. The year in which the highest per centage of the sample (19%) achieved their highest educational degree qualification was in 1991. The ethnic background of the sample possibly represented ethnocentric character of the Schools of Management and Chemistry, with a sample that was 94% white, 3% black and 3% Hispanic.

It is interesting to speculate on whether the data from the pilot questionnaire is a representative indicator of the demographic and ethnocentric character of academic staff within the UK, especially as only 19% of the population were female and 19% of the sample received their highest educational

qualification in 1991. However, this will be addressed through distributing the final design of the questionnaire to a wider male/female mix and to academics with different patterns of work experience.

C) The internal reliability of the pilot questionnaire

During the pilot phase of this research, the reliability of the different associated with the academic psychological contract were tested using the *SPSS* Statistical package. The measurement of reliability focuses on whether the findings of a particularly piece of research are *consistent* (Easterby-Smith *et al*, 2008), and in this particularly case a Cronbach Alpha test will be used to measure the *internal reliability* of this test – *or the extent to which a measure yields similar results amongst it different parts as it measures the same phenomenon* (Easterby-Smith *et al*, 2008).

Table 1 represents an overview of the Cronbach Alpha reliability tests across the different factors that were *originally* measured within the 7 scale Likert scale that was adopted in the pilot phase of this study, and how these results will have implications for the design of the final questionnaire. However, it should also be mentioned that in the latter part of this research psychological contract breach and type of university were also added as factors of the academic psychological contract. The reliability scores for psychological contract breach are illustrated in table 12 in chapter six, and as illustrated in chapter five, type of university was excluded from an analysis of reliability as this was based upon a single item that was nominally coded by the researcher for the purpose of differentiating between pre-1992 and post-1992 institutions. Furthermore, although networking was also included as a factor of the academic psychological contract, this was also excluded from an analysis of reliability as it was measured by a single Likert scale item.

Table 1 - Internal reliabilities of the pilot questionnaire

Factor	Variables within questionnaire	Cronbach Alpha reliability (number of items)	Implications for questionnaire design
Institutional expectations	Institutional expectations	0.84 (8)	
	Institutional results	0.60 (8)	
Academic responsibilities	Research	0.80 (4)	
	Teaching	0.78 (6)	
	Administration	0.48 (4)	Reduce items associated with this variable in questionnaire and reworded
Competence	My competence	0.80 (17)	
	Competence needed for job	0.88 (17)	
	Individual ability expectations	0.84 (8)	
	Individual ability results	0.78 (8)	
Emotion	Emotion expectations	0.73 (8)	
	Emotion results	0.74 (8)	
Commitment	Work attitudes -commitment	-0.15(6)	Take out and replace in final questionnaire
Future career expectations	Work attitudes –future career expectations	0.37(5)	Take out and replace in final questionnaire
Job satisfaction	Work attitudes –job satisfaction	0.73(5)	
Performance		0.70 (6)	

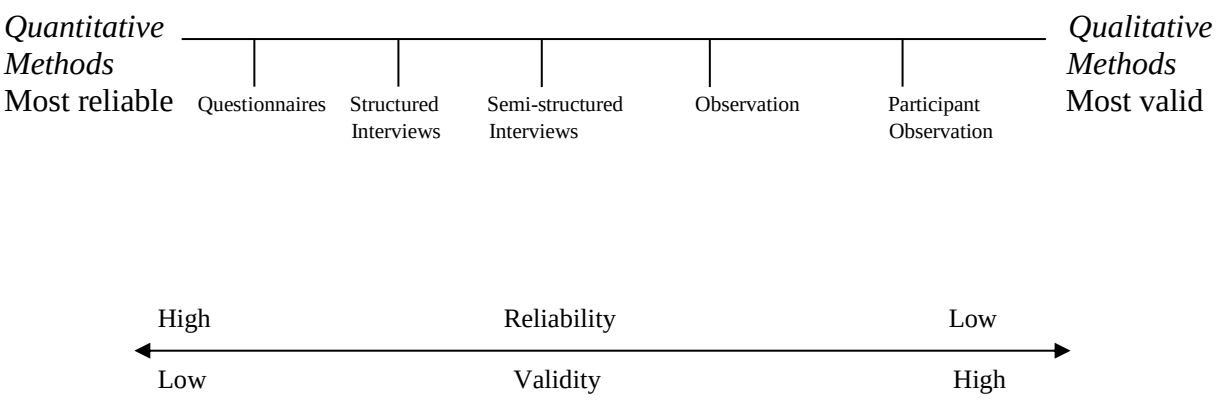
According to Nunnally (1978) reliability alpha values should equal or exceed .70. Table 1 illustrates that four constructs have reliabilities below the threshold of .70 which are associated with commitment, future career expectations and networking. These will affect the design of the final questionnaire that will be adopted within this research and these changes are reflected in the design of the final questionnaire that is illustrated in appendix four. The issue of validity is concerned with the *accuracy* of a method of scientific measurement (LeCompte & Goetz, 1982), and with regard to measuring the validity of the pilot study this has proved to be statistically difficult because of the small sample size. However to address this, section 5.4.1 of the fifth chapter will look how issue of validity when examining how the final questionnaire used in this research was developed.

E) Shortcomings and caveats of the pilot study

The pilot study that was undertaken was particularly valuable as it exposed a number of methodological shortcomings and potential problems that should be addressed within the overall design of this research. These include the validity of the pilot study, practical and technical issues (associated with question clarity and ambiguity) and conceptual issues (associated with important ideas that might be missing and the inclusion of irrelevant and superfluous material). With regard to the validity, it is worth emphasising that adopting a empirical quantitative approach towards measuring psychological contracts places less of an emphasis on the phenomena that an individual experiences (Bryman, 1989, Bilton *et al* 2002), but does generate a greater degree of confidence in the generalisability and reliability of results, especially within a scenario where the intention is to evaluate how a particular social phenomena would affect large groups of people. Figure 1 illustrates the reliability and validity of a number of different techniques that can be adopted within a particular research programme (Bilton *et al*., 2002).

While it should be emphasised that this continuum of reliability and validity will vary according to the target measure, it could still be inferred that an empirical examination of the psychological contract in academia would give more reliable results than a qualitative study. But it may be naive to suggest that the idea of reliability necessarily applies to phenomena like the psychological contract, especially if there are many variables that reflect constructs of the contract (such as emotion) that cannot be controlled. In view of this, a possible caveat of this study relates to whether the inclusion of a qualitative style of research would enable this research to capture the rich variety of data associated the psychological contract phenomena. An important factor that could enhance both the reliability and validity of this research is "triangulation'. This refers to using a combination of methodologies to enhance the construct validity, internal validity, external validity and reliability of a programme of research (Kekale, 2001).

Figure 1: Research Techniques and their Reliability and Validity



Source: Adopted and modified from Bilton, T, Bonnet, K., Jones, P., Lawson, T., Skinner, D., Stanworth, M., & Webstre, A. 2002. *Introductory Sociology.* Palgrave Macmillan
.

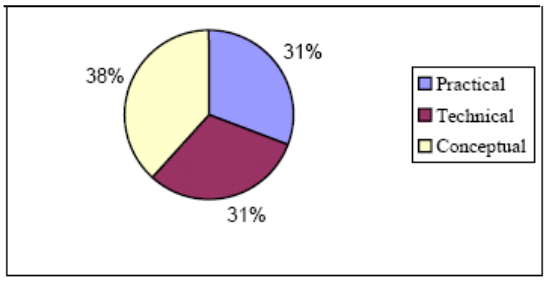
Although a number of important factors should be considered when considering how the pilot phase of this research addresses reliability and validity, it should also be stressed that pilot phase of this research provides a good test-bed for addressing a number of practical, technical and conceptual problems that might arise. In view of this, one of the most valuable sources of information were comments made by respondents on a range of practical, technical and conceptual issues that could improve the design of this research.. A brief *content analysis* of these comments has been undertaken in order to create a simple system of classifying and summarising this information. (Weber, 1990). This is illustrated in Table 2 below).

Table 2 Content analysis of pilot study comments

Category	**Comments**	**Action taken**
Practical	***"Questionnaire was too long, there were too many questions "*** ***"Section on work competencies, too long"*** ***"Questionnaire took too long to complete, information on completing questionnaire not clear"*** ***"Giving information on expectations your organisation should address at the start of the questionnaire will bias answers to other questions"***	Final questionnaire reduced in *overall* length and questions on competencies reduced to 17 items. Question on work related expectations moved in sequence in final questionnaire
Technical	***"Why was a quantitative design used?"*** ***"The questionnaire could have explained why different items linked with expectations, competencies rational etc were used"*** ***"The title 'contacts and work rationale' was misleading – which questions fell within these areas?"*** ***"I cannot understand why there was not a more consistent use of The Likert Scale in this questionnaire"***	Brief explanation in final questionnaire on *why* quantitative design was used. Items on contacts and work rationale made into two questions in final questionnaire
Conceptual	***"In the question on research there was nothing on chapters in books!"*** ***"The question on educational background limited the data to Degrees that were undertaken in the UK only – what about academics with International qualifications?"***	Question on *Research* in final questionnaire incorporates an item on book chapters. Question on *Educational Background* in final questionnaire incorporates an on overseas institutions

The chart in figure 2 represents a simple breakdown of how the "latent content" (Esterberg, 2001) of the comments page could be represented by emergent themes associated with technical, practical and conceptual problems.

Figure 2 – A breakdown of technical, practical and conceptual problems of this research



This evidence seems to indicate that the final design of the instrument used within this research should devote slightly more attention towards ensuring that conceptual problems associated with ambiguous questions, questions of limited value and missing information are addressed. Furthermore, it could also be inferred that creating a research instrument to measure the academic psychological contract needs to

pay equal attention to ensuring that practical and technical problems associated with questionnaire length, clarity of information, question design and consistency are fully addressed.

F) Summary of the pilot study

The preliminary study that has been undertaken during this pilot phase has not only provided a good source of information to expose the shortcomings and caveats of this research, but has also proved to be very useful in ensuring that the final questionnaire used within this research is reliable and conceptually sound.

Appendix 3 – Pilot Questionnaire

Pilot questionnaire - The academic psychological contract – antecedents and outcomes

Attached is a questionnaire that will serve as a research tool to investigate the existence and character of the "academic psychological contract". Psychological contracts reflect the unspoken promises and the nature of relationships that exist between employee and employer (Levinson *et al* 1962, Schein, 1982) and this research focuses on how this is represented within the academic environment.

The purpose of this exercise is to serve as a pilot for a larger study, and at this point we would like to gather data and additionally gain feedback from you to improve the quality of this research. We would particularly welcome your feedback on:

Practical/Technical issues	*Is the questionnaire easy to fill in? Are the questions clear and unambiguous How much time will it take to complete?*
Conceptual issues	*Are there any important issues missing? Is there irrelevant/superfluous material included?*
Other questions	*Are there any other questions or ideas that this study could have addressed?*

Could you please return this questionnaire to either:

Max Tookey
Bristol Business School
University of the West of England
Coldharbour Lane, Bristol, UK BS16 1QY

e-mail – Max.Tookey@uwe.ac.uk

Prof Yehuda Baruch
School of Management
University of East Anglia
Norwich NR4 7TJ

e-mail - Y.Baruch@uea.ac.uk

Before you start the questionnaire could you please indicate any expectations that your organisation should address with regard to your work, and why this is important to you:

……
……
……
……
……
……
……

1- Work related expectations

The table below is designed on a simple scale that measures what you expect from your employer and compares these to what you receive. Could you please provide a rating for each of these categories (1 being the lowest, 7 being the highest).

Expectations							**Category**	**Results**						
1	2	3	4	5	6	7	***Institutional***	1	2	3	4	5	6	7
							Good opportunities are provided for self development							
							A clear indication of what "best practice" means *within my organisation*							
							Good learning opportunities within my organisation							
							A feeling of satisfaction in my work							
							Attitudes, values and motives are influenced are influenced by my employer							
							Being managed well in my present work							
							Manage others in my present work							
							Loyalty" towards my future career							

1	2	3	4	5	6	7	***Emotion***	1	2	3	4	5	6	7
							Ability to express emotions openly							
							Receiving emotional support from colleagues							
							Emotional support I give is valued							
							Emotional issues do not affect the quality of my work							
							The existence of support groups to address personal problems							
							A feeling of self motivation within my work							
							Can handle "conflict" situations that may arise within my work							
							Value a feeling of trust within my work							

1	2	3	4	5	6	7	***Individual ability***	1	2	3	4	5	6	7
							To manage my own self development effectively							
							To provide me with a wide range of skills that lie beyond the scope of my formal working contract							
							To tolerate change and ambiguity							
							To provide me with skills that are highly marketable							
							To make me *aware* of the competencies associated with the work I am engaged in							
							I adopt a flexible *attitude* towards the work I undertake							
							To value a working knowledge of my field of expertise							
							To take an active interest in my professional development							

2 - Work Competencies

In the table below are several competencies to which you may have. Please evaluate yourself on these competencies using the simple method

Evaluation scales:

1	2	3	4	5	6	7
extremely low	→					*extremely high*

	My competence							**How far this competence is needed for this job**						
1.Supervising	1	2	3	4	5	6	7	1	2	3	4	5	6	7
2.Computing skills	1	2	3	4	5	6	7	1	2	3	4	5	6	7
3.Time management	1	2	3	4	5	6	7	1	2	3	4	5	6	7
4.Analytical ability	1	2	3	4	5	6	7	1	2	3	4	5	6	7
5.Working in teams	1	2	3	4	5	6	7	1	2	3	4	5	6	7
6.Stress management	1	2	3	4	5	6	7	1	2	3	4	5	6	7
7.Career management	1	2	3	4	5	6	7	1	2	3	4	5	6	7
8.Research skills	1	2	3	4	5	6	7	1	2	3	4	5	6	7
9.Interpersonal skills	1	2	3	4	5	6	7	1	2	3	4	5	6	7
10.Managing Change	1	2	3	4	5	6	7	1	2	3	4	5	6	7
11.Abstract thinking	1	2	3	4	5	6	7	1	2	3	4	5	6	7
12.Leadership	1	2	3	4	5	6	7	1	2	3	4	5	6	7
13.Empathy	1	2	3	4	5	6	7	1	2	3	4	5	6	7
14.Mentoring	1	2	3	4	5	6	7	1	2	3	4	5	6	7
15.Synthesising Knowledge	1	2	3	4	5	6	7	1	2	3	4	5	6	7
16.Giving emotional support	1	2	3	4	5	6	7	1	2	3	4	5	6	7
17.Managing others	1	2	3	4	5	6	7	1	2	3	4	5	6	7

Can you indicate other competencies you feel are relevant to your profession and job:

19 ……	1	2	3	4	5	6	7		1	2	3	4	5	6	7
20…… ….	1	2	3	4	5	6	7		1	2	3	4	5	6	7
21…… ……	1	2	3	4	5	6	7		1	2	3	4	5	6	7
22…… ……	1	2	3	4	5	6	7		1	2	3	4	5	6	7
23…… ……	1	2	3	4	5	6	7		1	2	3	4	5	6	7

Questions 3 – 7 contain a number of statements associated with contacts and work rationale, attitudes, research and teaching. Please indicate the extent to which you agree or disagree with the statements. Indicate your answer by writing in a number between 1-7 according to the scale below on every line.

disagree strongly	*disagree*	*Disagree Slightly*	*neutral*	*agree slightly*	*agree*	*agree strongly*
1	*2*	*3*	*4*	*5*	*6*	*7*

3 - Contacts and work rationale

In the first part of this section could you indicate how much of your time is spent in each of the following activities. Please express this as a percentage for each of the items.

Contacts

Conducting research and publishing in my area	
Conducting studies with colleagues from my own institution:	
Conducting studies with colleagues from other institutions in the UK	
Conduct studies with colleagues from other institutions elsewhere	
	100%

Having very good personal contact with leading scholars in my area	1	2	3	4	5	6	7
Having very good personal contact with leading practitioners in my area	1	2	3	4	5	6	7

I joined academic life for the following reasons:

Autonomy in the role	1	2	3	4	5	6	7
Convenient working hours and vacations:	1	2	3	4	5	6	7
Internal urge to teach and educate the next generation in my area	1	2	3	4	5	6	7
Internal urge to conduct state of the art research in my area	1	2	3	4	5	6	7
Improving knowledge of my area of research	1	2	3	4	5	6	7

4 - Educational background

Degree

Degree		Institution	Sector – please tick one box*			Level/reputation of the institution
			Old University	New University/ex polytechnic	Other	
First						Considered top ___ % in the area
Second						Considered top ___ % in the area
Third						Considered top ___ % in the area

**Only applicable to UK institutions*

When did you finish your highest degree studies? …… / have not finished (yet)
….

How many years experience do you have now in your area | | |

5 – Work attitudes

a) **- Job Satisfaction**

Generally speaking, I am satisfied with my current work	1	2	3	4	5	6	7
I frequently think of quitting my job	1	2	3	4	5	6	7
I am generally satisfied with the kind of work that I do in my job	1	2	3	4	5	6	7
Most of the people in similar jobs are satisfied with it	1	2	3	4	5	6	7
People working in this job often think of quitting	1	2	3	4	5	6	7

b) - Future career perceptions

People working within my role often think of quitting the profession or changing career	1	2	3	4	5	6	7
I am happy to stay within my present role	1	2	3	4	5	6	7

c) - Commitment

I am proud to tell people that I work for this university	1	2	3	4	5	6	7
In my work I feel that I am making some effort, not just for myself, but for my subject area as well (i.e. management, bio-chemistry)	1	2	3	4	5	6	7
I am willing to put myself out to help the department/faculty I work for	1	2	3	4	5	6	7
The offer of a bit more money from another university would make me think seriously about leaving my job	1	2	3	4	5	6	7

"The work you have undertaken in academia has met with your career aspirations"

How far to you agree with this statement?

1 2 3 4 5 6 7

What your first position in academia? _____ When did you reach this position?

19…

What is the position of your present post? _____

Assuming that you will develop yourself according to your plans, what do you think will be the final position that you will reach?

_____

6 – Academic responsibilities

(a) Research

In the last five years I published:
_____ papers, out of them ___ were in top refereed journals
_____ books …
_____ conference papers

If all my colleagues would have a similar level of academic research output, the RAE score my department would gain should be:

1 2 3a 3b 4 5 5*

Research represents a significant part of my current work	1	2	3	4	5	6	7
The research I conduct is valued by my institution	1	2	3	4	5	6	7
I have excellent support from my colleagues to develop my research interests	1	2	3	4	5	6	7
Suitable resources exist within my institution to support my research interests	1	2	3	4	5	6	7

Are there any other issues that this pilot study could have addressed with regard to research……

……

……..

(b) Teaching

Teaching represents a significant part of my current work	1	2	3	4	5	6	7
The teaching responsibilities I conduct are valued by my institution	1	2	3	4	5	6	7
The student feedback I receive on the quality of my teaching is very good	1	2	3	4	5	6	7
The feedback I receive plays a valuable role in enhancing the quality of my teaching	1	2	3	4	5	6	7
I feel that I conduct my teaching responsibilities to a high standard	1	2	3	4	5	6	7
I value a "peer review" process to monitor the quality of my teaching	1	2	3	4	5	6	7

Are there any other issues that this pilot study could have addressed with regard to teaching?

……

……

……

……..

(c) Administration

Administration represents a significant part of my current work	1	2	3	4	5	6	7
I feel that I conduct my administrative responsibilities to a high standard	1	2	3	4	5	6	7
The administrative responsibilities I conduct are valued by my institution	1	2	3	4	5	6	7
I have excellent support from my colleagues to support my administrative duties	1	2	3	4	5	6	7

Are there any other issues that this pilot study could have addressed with regard to teaching?……

……

……

7 - Personal Data

Age | | |

Gender | Male | Female |

Please tick box

Ethnic Origin

White	Black	Asian	Hispanic	Other……

Please tick box if appropriate

The academic psychological contract

Attached is a questionnaire that will serve as a research tool to investigate the distance and character of the academic psychological contract. Psychological contracts reflect the unspoken promises and nature of relationships that exist between employee and employer (Levinson et al 1962, Schein, 1982) and this research focuses on how this is represented within the academic environment.

The questionnaire is intended to measure the factors that make up an academic psychological contract on an *empirical* basis, in order to generate a greater degree of confidence in the generalisability and reliability of results. This reflects a methodological approach that appears to have been largely neglected previous research. As a member of academic staff of the university this research tool has been distributed to, please fill in the questionnaire by following the directions specified below.

Could you please return this questionnaire to:

Max Tookey

University of Greenwich (Business School)

Old Royal Naval College

Park Row, Greenwich SE10 9LS

e-mail tm64@gre.ac.uk

1-Work competencies

In the table below are several competencies you may have. Please evaluate yourself on these competencies using the simple method

Evaluation scale:

1	2	3	4	5	6	7
Extremely low →						← Extremely high

	My competence							**How far this competence is needed for this job**						
1.Supervising	1	2	3	4	5	6	7	1	2	3	4	5	6	7
2. Computing skills	1	2	3	4	5	6	7	1	2	3	4	5	6	7
3.Time management	1	2	3	4	5	6	7	1	2	3	4	5	6	7
4. Analytical ability	1	2	3	4	5	6	7	1	2	3	4	5	6	7
5. Working in teams	1	2	3	4	5	6	7	1	2	3	4	5	6	7
6. Stress management	1	2	3	4	5	6	7	1	2	3	4	5	6	7
7. Career management	1	2	3	4	5	6	7	1	2	3	4	5	6	7
8. Research skills	1	2	3	4	5	6	7	1	2	3	4	5	6	7
9. Interpersonal skills	1	2	3	4	5	6	7	1	2	3	4	5	6	7
10. Managing change	1	2	3	4	5	6	7	1	2	3	4	5	6	7
11. Abstract thinking	1	2	3	4	5	6	7	1	2	3	4	5	6	7
12. Leadership	1	2	3	4	5	6	7	1	2	3	4	5	6	7
13. Empathy	1	2	3	4	5	6	7	1	2	3	4	5	6	7
14 Mentoring	1	2	3	4	5	6	7	1	2	3	4	5	6	7
15. Synthesising knowledge	1	2	3	4	5	6	7	1	2	3	4	5	6	7
16. Given emotional support	1	2	3	4	5	6	7	1	2	3	4	5	6	7
17. Managing others	1	2	3	4	5	6	7	1	2	3	4	5	6	7

2 - Work-related expectations

The table below is designed on a simple scale that measures what you expect from your employer and compares this to what you receive. Could you please provide a rating for each of these categories (1 being the lowest, 7 being the highest).

Expectations							**Category**	**Results**						
1	2	3	4	5	6	7	***Institutional***	1	2	3	4	5	6	7
							An indication of what best practices means within my organisation							
							Good learning opportunities exist within my organisation							
							A feeling of satisfaction in my work							
							Values, attitudes and motives are influenced by my employer							
							Being managed well in my present work							
							Managing others in my present work							
							Loyalty towards my future career							

Expectations							**Category**	**Results**						
1	2	3	4	5	6	7	***Emotional***	1	2	3	4	5	6	7
							An ability to express emotions openly							
							Receiving emotional support from my colleagues							
							The emotional support I get is valued							
							Emotional issues do not affect the quality of my work							
							The existence of support groups to address personal problems							
							A feeling of self-motivation within my work							
							Can handle “conflict” situations that may arise within my work							
							I value a feeling of trust within my work							

Expectations							**Category**	**Results**						
1	2	3	4	5	6	7	***Individual ability***	1	2	3	4	5	6	7
							To manage my own self-development effectively							
							To provide me with a range of skills that lie beyond the scope of my formal working contract							
							To tolerate change and ambiguity							
							To provide me with skills are highly marketable							
							To make me aware of the competencies associated with work I am engaged in							
							To adopt a flexible attitude towards the work undertaken							
							To value a working knowledge of my field of expertise							
							To take an active interest in my professional development							

Questions 3 to 6 contain a number of statements associated with contacts, educational background, work attitudes (i.e. job satisfaction, future career perceptions, commitment) and academic responsibilities, (i.e. research, teaching and administration) that apply to your work. Please specify the extent to which you agree or disagree with the statements. Indicate your answer by writing in a number between 1-7, according to the scale below.

Disagree strongly	*Disagree*	*Disagree slightly*	*Neutral*	*Agree slightly*	*Agree*	*Strongly agree*
1	*2*	*3*	*4*	*5*	*6*	*7*

3 – Contacts

Please could you indicate how much of your time is spent on each of the following activities? Please express this as a per centage of each of the items.

Conducting research and publishing in my area	
Conducting research be colleagues from my own institution	
Conducting research with colleagues from other institutions in the UK	
Conduct research with colleagues from other institutions elsewhere	
	100%

I have many opportunities to network with leading academics within my area of research 1 2 3 4 5 6 7

<u>I joined academic life of the following reasons:</u>

Autonomy in the role 1 2 3 4 5 6 7

Convenient working hours and vacations 1 2 3 4 5 6 7

Internal urge to teach and educate the next generation in my subject area 1 2 3 4 5 6 7

Internal urge to conduct state-of-the-art research in my area 1 2 3 4 5 6 7

Improving knowledge of my area of research 1 2 3 4 5 6 7

4- Educational background

Degree		Institution	Sector-please tick one box				Level/reputation of the institution
			Old university (pre-1992)	New University/ex-polytechnic (post-1992)	Other	Overseas institution	
First (i.e. BA/BSc)							Considered top___% in the area
Second (i.e. MSc/MBA)							Considered top___% in the area
Third (i.e. PhD/DBA)							Considered top___% in the area

When did you finish your highest degree studies? ……/have not finished (yet)

How many years' experience do you have in now in your area? ☐☐

5- Work attitudes

a) Job satisfaction

Generally speaking, I am satisfied with my current work	1	2	3	4	5	6	7
I frequently think of quitting my job	1	2	3	4	5	6	7
I'm generally satisfied with the kind of work that I do for my job	1	2	3	4	5	6	7
Most of people in similar jobs to mine are satisfied with it	1	2	3	4	5	6	7
People working in this kind of job often think of quitting	1	2	3	4	5	6	7

b) Future career expectations

I feel very well about my future in academia	1	2	3	4	5	6	7
My feelings about the future within my institution influence my overall attitude towards the future	1	2	3	4	5	6	7
I'm satisfied about my future within my institution at the present time	1	2	3	4	5	6	7
I feel that I'm getting ahead in my institution	1	2	3	4	5	6	7

c) Commitment

I'm proud to tell people I work at this university	1	2	3	4	5	6	7
In my work I feel like I'm making some effort, not just for myself, but the my subject area as well (i.e. management, biochemistry)	1	2	3	4	5	6	7
I'm willing to put myself out to help the department/ faculty I work for	1	2	3	4	5	6	7
The offer is a bit more money from another university would make me think seriously about leaving my job	1	2	3	4	5	6	7

"The work you have undertaken in academia has met with your career expectations"

How far do you agree with this statement?

1 2 3 4 5 6 7

What was your first position in academia?_____When did you reach this position?

19…./20….

What is the position of your present academic post?_____

Assuming that you will develop yourself according to your plans, what do you think will be the final position that you will reach?

_____

6- Academic responsibilities

Please could you indicate how much of your time in teaching, research and administration? Please express these as a per centage of each of the items.

Research	
Teaching	
Administration	
	100 %

(a) Research

In the last five years that I have published:

_____ papers, out of them, _____were in top refereed journals

_____ books

_____ book chapters

_____ conference papers

If all my colleagues would have a similar level of academic research output, the RAE score my department would gain should be?:

1 2 3 4 5 5*

Research represents a significant part of my current work	1	2	3	4	5	6	7
The research I conduct is valued by my own institution	1	2	3	4	5	6	7
I have excellent support from my colleagues to develop my research interests	1	2	3	4	5	6	7
Suitable resources exist within my institution to support my research interests	1	2	3	4	5	6	7

(b) Teaching

Teaching represents a significant part of my current work	1	2	3	4	5	6	7
The teaching responsibilities I conduct are valued by my institution	1	2	3	4	5	6	7
The student feedback I received on the equality my teaching is very good	1	2	3	4	5	6	7
The feedback I receive plays a valuable role in enhancing the quality of my teaching	1	2	3	4	5	6	7
I feel that I conduct my teaching responsibilities to a high standard	1	2	3	4	5	6	7
I value a "peer review" process to monitor the quality of my teaching	1	2	3	4	5	6	7

(c) Administration

A large part of my current work is concerned with administration	1	2	3	4	5	6	7
I have excellent support from my colleagues to undertake my administrative responsibilities	1	2	3	4	5	6	7

7 – Personal data

Age

Gender

Ethnic origin-please tick the appropriate box

White | Black | Asian | Hispanic | Other……..

Professional background – please tick the appropriate box

Social sciences (including business, sociology, psychology, politics)

Natural sciences (including chemistry, pharmacy, physics, biology, medicine, zoology, geography, geology)

Appendix 5 – Data frequencies, individual ability

	To manage my own self-development effectively (expectations)	Provision of skills beyond formal contract (expectations)	To tolerate change and ambiguity (expectations)	Provision of marketable skills (expectations)	Awareness of competencies (expectations)	Adopting a flexible attitude (expectations)	Knowledge of field of expertise (expectations)	Interest in professional development (expectations)	To manage my own self-development effectively (results)	Provision of skills beyond formal contract results)	To tolerate change and ambiguity (results)	Provision of marketable skills (results)	Awareness of competencies (results)	Adopting a flexible attitude (results)	Knowledge of field of expertise (results)	Interest in professional development (results)
N Valid	337	337	337	337	337	337	337	337	337	337	337	337	337	337	337	337
Mean	5.2967	4.0267	5.3412	3.8605	4.1128	5.3680	5.4777	5.0475	4.7774	3.8249	4.7270	3.7537	4.0386	5.3027	5.2255	4.3739
Std. Error of Mean	.05252	.08088	.04988	.07048	.09359	.06179	.09285	.06396	.03809	.07271	.05389	.05828	.06973	.05632	.05661	.05785
Median	5.0000	4.0000	6.0000	4.0000	4.0000	6.0000	6.0000	5.0000	5.0000	4.0000	5.0000	4.0000	4.0000	5.0000	5.0000	4.0000
Mode	6.00	4.00	6.00	4.00	4.00[a]	6.00	6.00	6.00	5.00	3.00	5.00	3.00[a]	4.00	6.00	6.00	4.00
Std. Deviation	.96413	1.48480	.91573	1.29381	1.71800	1.13438	1.70441	1.17418	.69930	1.33483	.98935	1.06982	1.28000	1.03384	1.03920	1.06191
Variance	.930	2.205	.839	1.674	2.952	1.287	2.905	1.379	.489	1.782	.979	1.145	1.638	1.069	1.080	1.128
Skewness	.017	-.282	-.167	-.087	-.605	-1.399	-1.384	-.359	-.662	-.280	.495	.548	-.355	-.632	-.094	-.297
Std. Error of Skewness	.133	.133	.133	.133	.133	.133	.133	.133	.133	.133	.133	.133	.133	.133	.133	.133
Kurtosis	-1.090	-.848	-1.019	-.081	-.706	2.060	1.240	-.517	1.890	-.180	.072	-.157	.328	-.119	-1.218	.182
Std. Error of Kurtosis	.265	.265	.265	.265	.265	.265	.265	.265	.265	.265	.265	.265	.265	.265	.265	.265
Range	3.00	5.00	3.00	5.00	5.00	5.00	6.00	5.00	4.00	5.00	4.00	4.00	6.00	4.00	4.00	4.00
Minimum	4.00	1.00	4.00	1.00	1.00	2.00	1.00	2.00	3.00	1.00	3.00	2.00	1.00	3.00	3.00	2.00
Maximum	7.00	6.00	7.00	6.00	6.00	7.00	7.00	7.00	7.00	6.00	7.00	6.00	7.00	7.00	7.00	6.00

Appendix 6 Reasons for joining academic life

	Autonomy in the role	Convenient working hours and vacations	Internal urge to teach and educate the next generation in my subject area	Internal urge to conduct state-of-the-art research in my area	Improving knowledge of my area of research
N Valid	337	337	337	337	337
Mean	4.9139	3.3116	4.6439	5.5460	5.3116
Std. Error of Mean	.09823	.11851	.07937	.07421	.08407
Median	6.0000	3.0000	5.0000	6.0000	6.0000
Mode	6.00	1.00	6.00	6.00	6.00
Std. Deviation	1.80319	2.17554	1.45699	1.36226	1.54331
Variance	3.252	4.733	2.123	1.856	2.382
Skewness	-.753	.403	-1.048	-2.442	-1.671
Std. Error of Skewness	.133	.133	.133	.133	.133
Kurtosis	-.527	-1.370	.723	5.791	2.461
Std. Error of Kurtosis	.265	.265	.265	.265	.265
Range	6.00	6.00	6.00	6.00	6.00
Minimum	1.00	1.00	1.00	1.00	1.00
Maximum	7.00	7.00	7.00	7.00	7.00

Appendix 7- Data frequencies – academic position

	First academic position	Current academic position	Position predicted to reach
N Valid	337	337	337
Mean	1.6825	3.5608	4.2669
Std. Error of Mean	.03349	.08013	.07710
Median	2.0000	3.0000	5.0000
Mode	2.00	3.00	5.00
Std. Deviation	.61486	1.47095	1.39205
Variance	.378	2.164	1.938
Skewness	.319	.038	-.465
Std. Error of Skewness	.133	.133	.135
Kurtosis	-.648	-1.010	-1.236
Std. Error of Kurtosis	.265	.265	.269
Range	2.00	5.00	4.00
Minimum	1.00	1.00	2.00
Maximum	3.00	6.00	6.00

Appendix 8 Means, standard deviations and inter-correlations between gaps in the academic psychological contract – competence

	Mean gap[1]	Gap S.D	1.	2.	3.	4.	5.	6.	7.	8.	9.	10.	11.	12.	13.	14.	15.	16.	17.
1.Supervising	-0.08	1.24	-																
2.Computing skills	-0.81	1.40	-0.10	-															
3.Time management	-1.29	0.80	0.20	-0.71*	-														
4.Analytical ability	-0.67	0.71	0.45	-0.37	0.52	-													
5.Working in teams	0.04	1.21	0.05	-0.56	-0.80	-0.05	-												
6.Stress management	-0.83	1.13	-0.02	0.65	-0.17	-0.09	0.12*	-											
7.Career management	-0.80	1.03	0.10	0.70	-0.31	0.14**	0.23**	-0.21**	-										
8.Research skills	-1.32	0.74	0.08	-0.42*	0.12*	0.07	0.04	0.02	-0.77**	-									
9.Interpersonal skills	-0.53	1.27	-0.28	-0.63**	-0.59	-0.05	0.06	-0.04	0.23**	-0.15**	-								
10.Managing change	-1.09	0.89	-0.18**	-0.25**	-0.87	0.07	0.03	-0.04	0.23**	-0.23**	-0.12*	-							
11.Abstract thinking	-0.51	0.89	-0.21*	-0.99	0.43	0.21**	0.13*	0.18**	-0.11*	0.16**	-0.07	0.43**	-						
12.Leadership	-0.19	1.54	0.14	-0.13**	-0.44	0.09	0.05	-0.28**	0.41**	-0.06	0.20**	0.25**	0.14*	-					
13.Empathy	- 0.15	1.11	0.25**	0.28	0.13*	0.11*	0.18**	-0.12*	0.37**	0.06	0.54**	0.73	0.22**	0.47**	-				
14.Mentoring	-0.13	1.37	0.61	-0.80	-0.43	0.02	0.03	-0.19**	0.41**	-0.13*	0.25**	-0.11*	-0.43	0.23**	0.30	-			
15.Synthesising knowledge	-1.03	0.96	-0.40	-0.76**	0.12*	0.14**	0.25**	0.06	- 0.70**	0.13*	0.20**	0.41**	0.39**	0.05	0.37**	0.11	-		
16.Giving emotional support	- 0.16	1.46	0.33	0.18	-0.42	-0.04	0.09	-0.14**	0.25**	-0.07	0.12*	-0.18**	-0.10	0.05	0.12*	0.31**	-0.16**	-	
17.Managing others	- 0.54	1.22	0.14*	0.15**	-0.31	-0.20	0.20**	-0.27**	0.37**	0.03	0.26**	0.16**	0.85	0.10	0.02	0.12*	0.02	0.08	-

n=337 *p ≤ .05 (1-tailed) **p ≤ .01 (1- tailed)

Gap[1]= The average score of a respondents perceived competence minus the average score of their needed competence

Appendix 9 Means, standard deviations and inter-correlations between gaps in the academic psychological contract – institutional expectations/results

		Mean gap[2]	Gap S.D	1.	2.	3.	4.
1.	A clear indication of what "best practice" means within my organisation	0.92	1.06	_--			
2.	Good "learning opportunities" exist with my organisation	0.54	1.52	0.33**	_--		
3.	A feeling of satisfaction in my work	1.00	1.03	0.12*	0.06	_--	
4.	Managing others in my present work	0.81	1.18	0.27**	0.18**	0.22**	-

n=337 *p ≤ .05 (1-tailed) **p ≤ .01 (1-tailed)

Gap[2]= The average score of a respondents institutional expectations minus the average score of their what is received

Appendix 10 Means, standard deviations and inter-correlations between gaps in the academic psychological contract – emotions (expectations/results)

		Mean gap[3]	Gap S.D	1.	2.	3.
1.	Ability to express emotions openly	-0.30	1.33	-		
2.	Receiving emotional support from colleagues	-0.11	1.43	0.51**	-	
3.	The existence of support groups to address personal problems	-0.11	1.42	0.28**	0.46**	-

*p ≤ .05 (1-tailed) **p ≤ .01 (1-tailed)

n=337

Gap[3]= The average score of a respondents emotional expectations minus the average score of their what is received

Appendix 11 Means, standard deviations and inter-correlations between gaps in the academic psychological contract – individual ability (expectations/results)

	Item	Mean gap[4]	Gap S.D	1.	2.	3.	4.
1.	To make me aware of the competencies associated with the work I am involved with	0.07	1.50	-			
2.	I adopt a flexible attitude towards the work I undertake	0.07	1.08	0.40**	-		
3.	To value a working knowledge of my field of expertise	0.25	1.37	-0.98	0.11	-	
4.	To take an active interest in my professional development	0.68	1.12	0.28**	0.08	0.28	-

*p ≤ .05 (1-tailed) **p ≤ .01 (1=tailed)

n=337

Gap[4]= The average score of a respondents expectations (associated with ability), minus the average score of their what is received

Appendix 12 - ANOVA's – Gender, Ethnicity, Age

Factor =Institutional expectations

Source	Type III Sum of Squares	df	Mean Square	F	Sig.	Partial Eta Squared	Noncent. Parameter	Observed Power[b]
Corrected Model	170.147[a]	48	3.545	8.295	.000	.581	398.141	1.000
Intercept	1089.394	1	1089.394	2549.155	.000	.899	2549.155	1.000
Gender	.007	1	.007	.016	.899	.000	.016	.052
Ethnicity	2.866	2	1.433	3.353	.036	.023	6.705	.630
Age	82.014	27	3.038	7.108	.000	.401	191.910	1.000
Gender * Ethnicity	.000	0	.000	.000	.000	.000	.000	.000
Gender * Age	2.292	6	.382	.894	.500	.018	5.363	.353
Error	122.651	287	.427					
Total	9978.560	336						
Corrected Total	292.798	335						

a. R Squared = .581 (Adjusted R Squared = .511)

b. Computed using alpha = .05

Factor = Networking

Source	Type III Sum of Squares	df	Mean Square	F	Sig.	Partial Eta Squared	Noncent. Parameter	Observed Power[b]
Corrected Model	184.930[a]	48	3.853	7.892	.000	.569	378.819	1.000
Intercept	1243.550	1	1243.550	2547.347	.000	.899	2547.347	1.000
Gender	1.035	1	1.035	2.119	.147	.007	2.119	.306
Ethnicity	1.494	2	.747	1.530	.218	.011	3.061	.324
Age	60.462	27	2.239	4.587	.000	.301	123.853	1.000
Gender * Ethnicity	.000	0	.000	.000	.000	.000	.000	.000
Gender * Age	6.125	6	1.021	2.091	.054	.042	12.546	.749
Error	140.106	287	.488					
Total	10688.000	336						
Corrected Total	325.036	335						

a. R Squared = .569 (Adjusted R Squared = .497)

b. Computed using alpha = .05

Factor = University category

Source	Type III Sum of Squares	df	Mean Square	F	Sig.	Partial Eta Squared	Noncent. Parameter	Observed Power[b]
Corrected Model	16.278[a]	48	.339	1.707	.004	.222	81.950	1.000
Intercept	98.351	1	98.351	495.140	.000	.633	495.140	1.000
Gender	.477	1	.477	2.400	.122	.008	2.400	.339
Ethnicity	.502	2	.251	1.264	.284	.009	2.529	.274
Age	12.214	27	.452	2.277	.000	.176	61.490	.999
Gender * Ethnicity	.000	0	.000	.000	.000	.000	.000	.000
Gender * Age	.492	6	.082	.412	.871	.009	2.475	.171
Error	57.008	287	.199					
Total	660.000	336						
Corrected Total	73.286	335						

a. R Squared = .222 (Adjusted R Squared = .092)

b. Computed using alpha = .05

Factor = Commitment

Source	Type III Sum of Squares	df	Mean Square	F	Sig.	Partial Eta Squared	Noncent. Parameter	Observed Power[b]
Corrected Model	212.785[a]	48	4.433	29.372	.000	.831	1409.835	1.000
Intercept	1142.852	1	1142.852	7572.134	.000	.964	7572.134	1.000
Gender	.080	1	.080	.529	.468	.002	.529	.112
Ethnicity	11.159	2	5.580	36.968	.000	.205	73.936	1.000
Age	109.469	27	4.054	26.863	.000	.717	725.306	1.000
Gender * Ethnicity	.000	0	.000	.000	.000	.000	.000	.000
Gender * Age	3.855	6	.642	4.257	.000	.082	25.540	.980
Error	43.166	286	.151					
Total	10252.667	335						
Corrected Total	255.950	334						

a. R Squared = .831 (Adjusted R Squared = .803)

b. Computed using alpha = .05

Factor = Performance

Source	Type III Sum of Squares	df	Mean Square	F	Sig.	Partial Eta Squared	Noncent. Parameter	Observed Power[b]
Corrected Model	548.567[a]	48	11.428	26.471	.000	.816	1270.624	1.000
Intercept	253.932	1	253.932	588.173	.000	.672	588.173	1.000
Gender	6.122	1	6.122	14.180	.000	.047	14.180	.964
Ethnicity	62.079	2	31.040	71.896	.000	.334	143.792	1.000
Age	150.189	27	5.563	12.884	.000	.548	347.877	1.000
Gender * Ethnicity	.000	0	.000	.000	.000	.000	.000	.000
Gender * Age	9.426	6	1.571	3.639	.002	.071	21.832	.955
Error	123.907	287	.432					
Total	3935.000	336						
Corrected Total	672.473	335						

a. R Squared = .816 (Adjusted R Squared = .785)

b. Computed using alpha = .05

Factor =Academic responsibilities

Source	Type III Sum of Squares	df	Mean Square	F	Sig.	Partial Eta Squared	Noncent. Parameter	Observed Power[b]
Corrected Model	150.972[a]	48	3.145	26.549	.000	.816	1274.330	1.000
Intercept	727.092	1	727.092	6137.251	.000	.955	6137.251	1.000
Gender	.137	1	.137	1.153	.284	.004	1.153	.188
Ethnicity	2.137	2	1.068	9.018	.000	.059	18.036	.973
Age	88.414	27	3.275	27.640	.000	.722	746.286	1.000
Gender * Ethnicity	.000	0	.	.	.	.000	.000	.
Gender * Age	1.637	6	.273	2.303	.035	.046	13.818	.796
Error	34.001	287	.118					
Total	6166.458	336						
Corrected Total	184.974	335						

a. R Squared = .816 (Adjusted R Squared = .785)

b. Computed using alpha = .05

Factor =Emotions

Source	Type III Sum of Squares	df	Mean Square	F	Sig.	Partial Eta Squared	Noncent. Parameter	Observed Power[b]
Corrected Model	238.205[a]	48	4.963	3.688	.000	.381	177.017	1.000
Intercept	618.089	1	618.089	459.318	.000	.615	459.318	1.000
Gender	4.490	1	4.490	3.336	.069	.011	3.336	.445
Ethnicity	3.755	2	1.877	1.395	.249	.010	2.790	.299
Age	103.747	27	3.842	2.855	.000	.212	77.097	1.000
Gender * Ethnicity	.000	0	.000	.000	.000	.000	.000	.000
Gender * Age	8.894	6	1.482	1.102	.361	.023	6.609	.434
Error	386.206	287	1.346					
Total	5049.333	336						
Corrected Total	624.411	335						

a. R Squared = .381 (Adjusted R Squared = .278)

b. Computed using alpha = .05

Factor = Competence

Source	Type III Sum of Squares	df	Mean Square	F	Sig.	Partial Eta Squared	Noncent. Parameter	Observed Power[b]
Corrected Model	42.079[a]	48	.877	7.490	.000	.556	359.543	1.000
Intercept	1166.775	1	1166.775	9969.506	.000	.972	9969.506	1.000
Gender	.083	1	.083	.708	.401	.002	.708	.134
Ethnicity	.898	2	.449	3.835	.023	.026	7.670	.693
Age	14.693	27	.544	4.650	.000	.304	125.544	1.000
Gender * Ethnicity	.000	0	.000	.000	.000	.000	.000	.000
Gender * Age	1.178	6	.196	1.677	.126	.034	10.061	.636
Error	33.589	287	.117					
Total	9652.148	336						
Corrected Total	75.668	335						

a. R Squared = .556 (Adjusted R Squared = .482)

b. Computed using alpha = .05

Factor=Psychological contract breach

Source	Type III Sum of Squares	df	Mean Square	F	Sig.	Partial Eta Squared	Noncent. Parameter	Observed Power[b]
Corrected Model	107.800[a]	48	2.246	8.941	.000	.599	429.184	1.000
Intercept	14.278	1	14.278	56.845	.000	.165	56.845	1.000
Gender	1.105	1	1.105	4.398	.037	.015	4.398	.552
Ethnicity	1.622	2	.811	3.229	.041	.022	6.458	.613
Age	45.080	27	1.670	6.647	.000	.385	179.479	1.000
Gender * Ethnicity	.000	0	.000	.000	.000	.000	.000	.000
Gender * Age	.912	6	.152	.605	.726	.012	3.630	.241
Error	72.087	287	.251					
Total	233.545	336						
Corrected Total	179.887	335						

a. R Squared = .599 (Adjusted R Squared = .532)

b. Computed using alpha = .05

Factor =Future career expectations

Source	Type III Sum of Squares	df	Mean Square	F	Sig.	Partial Eta Squared	Noncent. Parameter	Observed Power[b]
Corrected Model	389.038[a]	48	8.105	26.794	.000	.818	1286.090	1.000
Intercept	850.377	1	850.377	2811.195	.000	.907	2811.195	1.000
Gender	3.718	1	3.718	12.292	.001	.041	12.292	.938
Ethnicity	34.817	2	17.408	57.549	.000	.286	115.098	1.000
Age	152.857	27	5.661	18.715	.000	.638	505.318	1.000
Gender * Ethnicity	.000	0	.000	.000	.000	.000	.000	.000
Gender * Age	5.155	6	.859	2.840	.011	.056	17.041	.885
Error	86.817	287	.302					
Total	9373.000	336						
Corrected Total	475.854	335						

a. R Squared = .818 (Adjusted R Squared = .787)

b. Computed using alpha = .05

Factor = Job satisfaction

Source	Type III Sum of Squares	df	Mean Square	F	Sig.	Partial Eta Squared	Noncent. Parameter	Observed Power[b]
Corrected Model	190.681[a]	48	3.973	9.445	.000	.612	453.383	1.000
Intercept	1068.334	1	1068.334	2540.178	.000	.898	2540.178	1.000
Gender	.123	1	.123	.293	.589	.001	.293	.084
Ethnicity	6.612	2	3.306	7.860	.000	.052	15.721	.951
Age	102.196	27	3.785	9.000	.000	.458	242.993	1.000
Gender *Ethnicity	.000	0	.	.	.	.000	.000	.
Gender * Age	.802	6	.134	.318	.928	.007	1.906	.139
Error	120.705	287	.421					
Total	10007.889	336						
Corrected Total	311.386	335						

a. R Squared = .612 (Adjusted R Squared = .548)

b. Computed using alpha = .05

Appendix 13 - ANOVA's – Present academic position, Professional background

Factor = Institutional expectations

Source	Type III Sum of Squares	df	Mean Square	F	Sig.	Partial Eta Squared	Noncent. Parameter	Observed Power[b]
Corrected Model	43.169[a]	10	4.317	5.847	.000	.152	58.470	1.000
Intercept	1644.580	1	1644.580	2227.479	.000	.872	2227.479	1.000
Present academic position	11.813	5	2.363	3.200	.008	.047	16.000	.884
Professional background	2.796	1	2.796	3.786	.053	.011	3.786	.492
Present academic position * Professional background	5.181	4	1.295	1.754	.138	.021	7.017	.534
Error	240.691	326	.738					
Total	9876.750	337						
Corrected Total	283.860	336						

a. R Squared = .152 (Adjusted R Squared = .126)

b. Computed using alpha = .05

Factor = Networking

Source	Type III Sum of Squares	df	Mean Square	F	Sig.	Partial Eta Squared	Noncent. Parameter	Observed Power[b]
Corrected Model	126.976[a]	10	12.698	20.879	.000	.390	208.790	1.000
Intercept	1661.583	1	1661.583	2732.175	.000	.893	2732.175	1.000
Present academic position	37.931	5	7.586	12.474	.000	.161	62.371	1.000
Professional background	2.430	1	2.430	3.996	.046	.012	3.996	.513
Present academic position * Professional background	5.470	4	1.367	2.249	.064	.027	8.994	.656
Error	198.258	326	.608					
Total	10724.000	337						
Corrected Total	325.234	336						

a. R Squared = .390 (Adjusted R Squared = .372)

b. Computed using alpha = .05

Factor = University Category

Source	Type III Sum of Squares	df	Mean Square	F	Sig.	Partial Eta Squared	Noncent. Parameter	Observed Power[b]
Corrected Model	4.313[a]	10	.431	2.025	.030	.058	20.250	.885
Intercept	116.962	1	116.962	549.168	.000	.627	549.168	1.000
Present academic position	1.849	5	.370	1.736	.126	.026	8.682	.597
Professional background	1.822	1	1.822	8.557	.004	.026	8.557	.831
Present academic position * Professional background	3.129	4	.782	3.673	.006	.043	14.694	.879
Error	69.432	326	.213					
Total	664.000	337						
Corrected Total	73.745	336						

a. R Squared = .058 (Adjusted R Squared = .030)

b. Computed using alpha = .05

Factor = Commitment

Source	Type III Sum of Squares	df	Mean Square	F	Sig.	Partial Eta Squared	Noncent. Parameter	Observed Power[b]
Corrected Model	72.837[a]	10	7.284	12.907	.000	.284	129.073	1.000
Intercept	1751.520	1	1751.520	3103.824	.000	.905	3103.824	1.000
Present academic position	33.075	5	6.615	11.722	.000	.153	58.611	1.000
Professional background	3.049	1	3.049	5.403	.021	.016	5.403	.640
Present academic positions* Professional background	6.074	4	1.519	2.691	.031	.032	10.764	.745
Error	183.401	325	.564					
Total	10288.667	336						
Corrected Total	256.238	335						

a. R Squared = .284 (Adjusted R Squared = .262)

b. Computed using alpha = .05

Factor=Performance

Source	Type III Sum of Squares	df	Mean Square	F	Sig.	Partial Eta Squared	Noncent. Parameter	Observed Power[b]
Corrected Model	312.312[a]	10	31.231	28.268	.000	.464	282.679	1.000
Intercept	544.642	1	544.642	492.965	.000	.602	492.965	1.000
Present academic position	224.934	5	44.987	40.718	.000	.384	203.591	1.000
Professional background	1.149	1	1.149	1.040	.309	.003	1.040	.174
Present academic position * Professional background	10.116	4	2.529	2.289	.060	.027	9.156	.665
Error	360.175	326	1.105					
Total	3944.000	337						
Corrected Total	672.487	336						

a. R Squared = .464 (Adjusted R Squared = .448)

b. Computed using alpha = .05

Factor=Academic responsibilities

Source	Type III Sum of Squares	df	Mean Square	F	Sig.	Partial Eta Squared	Noncent. Parameter	Observed Power[b]
Corrected Model	51.798[a]	10	5.180	12.678	.000	.280	126.784	1.000
Intercept	993.874	1	993.874	2432.664	.000	.882	2432.664	1.000
Present academic position	18.187	5	3.637	8.903	.000	.120	44.516	1.000
Professional background	3.225	1	3.225	7.893	.005	.024	7.893	.800
Present academic position * Professional background	10.097	4	2.524	6.179	.000	.070	24.715	.987
Error	133.189	326	.409					
Total	6185.236	337						
Corrected Total	184.987	336						

a. R Squared = .464 (Adjusted R Squared = .448)

b. Computed using alpha = .05

Factor=Emotions

Source	Type III Sum of Squares	df	Mean Square	F	Sig.	Partial Eta Squared	Noncent. Parameter	Observed Power[b]
Corrected Model	201.669[a]	10	20.167	15.518	.000	.322	155.179	1.000
Intercept	691.215	1	691.215	531.872	.000	.620	531.872	1.000
Present academic position	118.410	5	23.682	18.223	.000	.218	91.114	1.000
Professional background	.200	1	.200	.154	.695	.000	.154	.068
Present academic position * Professional background	34.348	4	8.587	6.607	.000	.075	26.430	.992
Error	423.666	326	1.300					
Total	5056.444	337						
Corrected Total	625.335	336						

a. R Squared = .322 (Adjusted R Squared = .302)

b. Computed using alpha = .05

Factor=Future career expectations

Source	Type III Sum of Squares	df	Mean Square	F	Sig.	Partial Eta Squared	Noncent. Parameter	Observed Power[b]
Corrected Model	171.674[a]	10	17.167	18.355	.000	.360	183.550	1.000
Intercept	1611.212	1	1611.212	1722.669	.000	.841	1722.669	1.000
Present academic position	73.633	5	14.727	15.745	.000	.195	78.727	1.000
Professional background	3.195	1	3.195	3.416	.065	.010	3.416	.453
Present academic position * Professional background	6.172	4	1.543	1.650	.161	.020	6.599	.506
Error	304.908	326	.935					
Total	9409.000	337						
Corrected Total	476.582	336						

a. R Squared =.360 (Adjusted R Squared=.341)
b. Computed using alpha = .05

Factor=Psychological contract breach

Source	Type III Sum of Squares	df	Mean Square	F	Sig.	Partial Eta Squared	Noncent. Parameter	Observed Power[b]
Corrected Model	40.516[a]	10	4.052	9.311	.000	.222	93.106	1.000
Intercept	9.336	1	9.336	21.455	.000	.062	21.455	.996
Present academic position	22.003	5	4.401	10.112	.000	.134	50.562	1.000
Professional background	.754	1	.754	1.733	.189	.005	1.733	.259
Present academic position * Professional background	4.874	4	1.218	2.800	.026	.033	11.200	.764
Error	141.864	326	.435					
Total	234.942	337						
Corrected Total	182.381	336						

a. R Squared = .222 (Adjusted R Squared = .198)

b. Computed using alpha = .05

Factor=Competence

Source	Type III Sum of Squares	df	Mean Square	F	Sig.	Partial Eta Squared	Noncent. Parameter	Observed Power[b]
Corrected Model	2626.131[a]	10	262.613	14.847	.000	.313	148.472	1.000
Intercept	47204.637	1	47204.637	2668.783	.000	.891	2668.783	1.000
Present academic position	621.832	5	124.366	7.031	.000	.097	35.156	.999
Professional background	129.865	1	129.865	7.342	.007	.022	7.342	.771
Present academic position * Professional background	261.892	4	65.473	3.702	.006	.043	14.806	.882
Error	5766.191	326	17.688					
Total	289497.467	337						
Corrected Total	8392.322	336						

a. R Squared = .313 (Adjusted R Squared = .292)

b. Computed using alpha = .05

Factor=Job satisfaction

Source	Type III Sum of Squares	df	Mean Square	F	Sig.	Partial Eta Squared	Noncent. Parameter	Observed Power[b]
Corrected Model	65.789[a]	10	6.579	8.700	.000	.211	87.000	1.000
Intercept	1718.506	1	1718.506	2272.581	.000	.875	2272.581	1.000
Present academic position	36.996	5	7.399	9.785	.000	.130	48.924	1.000
Professional background	.041	1	.041	.055	.815	.000	.055	.056
Present academic position * Professional background	4.018	4	1.005	1.328	.259	.016	5.314	.414
Error	246.518	326	.756					
Total	10048.000	337						
Corrected Total	312.307	336						

a. R Squared = .211 (Adjusted R Squared = .186)

b. Computed using alpha = .05

Appendix 14

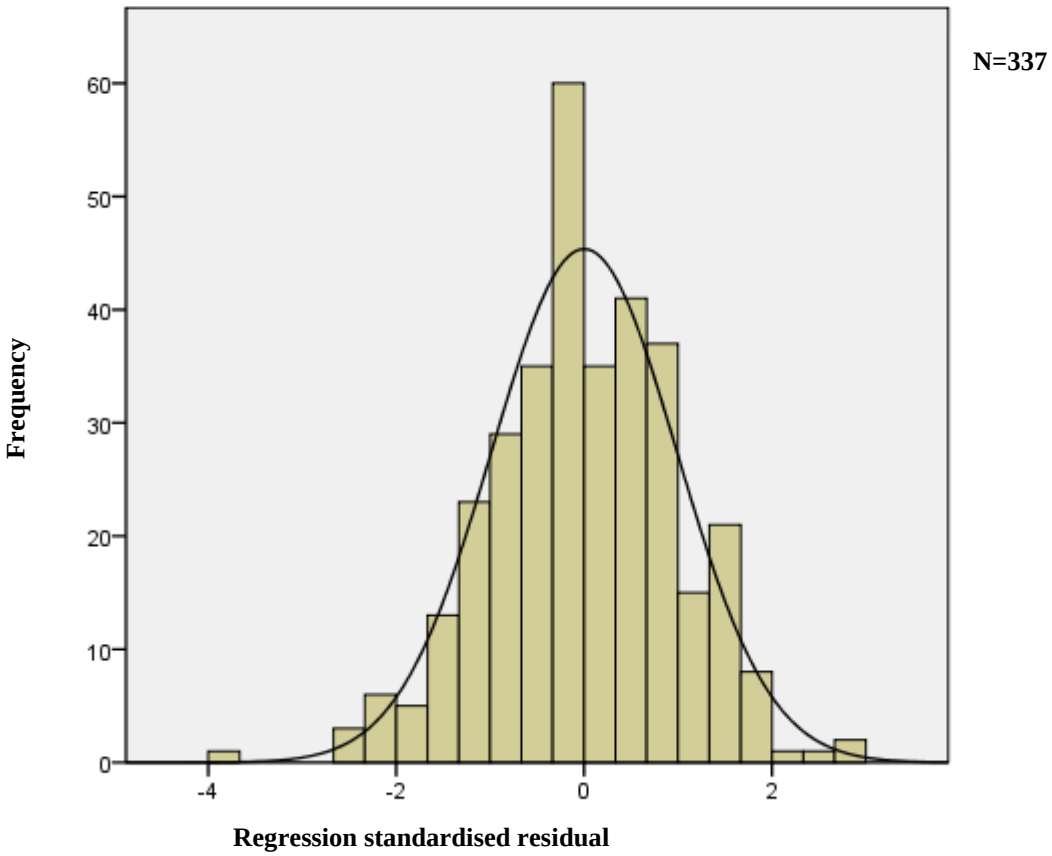
Confidence levels and collinearity statistics – Predictors of academic performance

Lower Bound	Upper Bound	Tolerance	VIF
1.778	3.543		
-.028	.006	.997	1.003
.409	1.083	.997	1.003
-.029	.007	.798	1.253
.149	.883	.753	1.327
-.234	.107	.797	1.255
.369	.696	.757	1.320
-.183	.426	.966	1.035
.039	.528	.598	1.673
.261	.483	.019	3.325
.411	2.375	.092	0.916
2.190	4.032	.024	1.938
.287	.596	.737	1.358
.027	1.773	.102	2.780
-.239	.258	.503	1.988
-.089	-.049	.008	1.544
1.298	-.010	.049	2.040
.405	1.080	.997	1.003

Residuals statistics

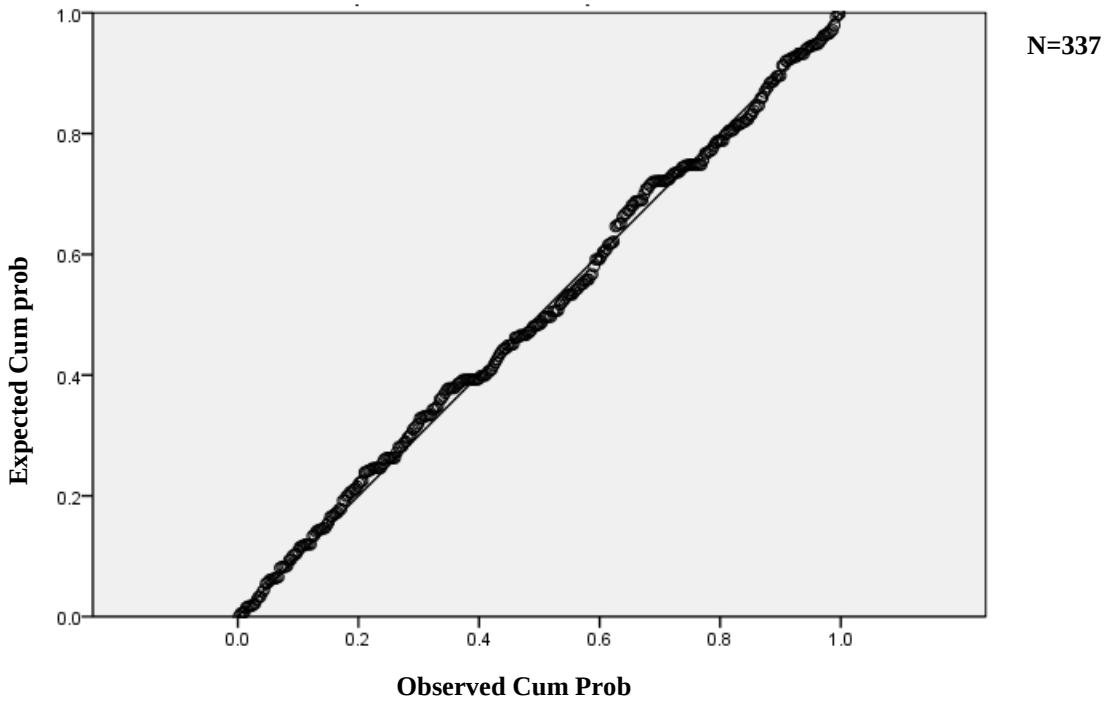
	Minimum	Maximum	Mean	Std. Deviation	N
Mahal. Distance	1.560	24.551	7.976	5.192	337
Cook's Distance	.001	.101	.003	.009	337

Histogram (Standardised residuals – Predictors of academic performance



Normal P-P plot of regression (standardised residuals)

Predictors of academic performance



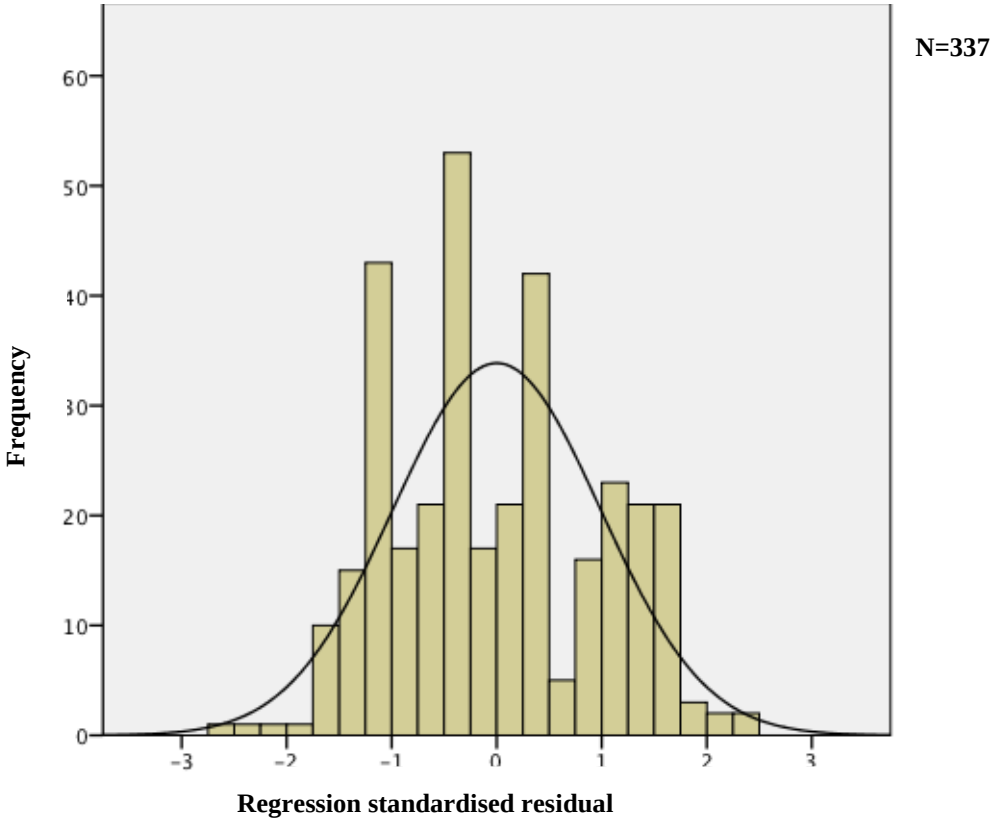
Appendix 15 - Confidence levels and collinearity statistics – Mediating effect of commitment on performance

Lower bound	Upper bound	Tolerance	VIF
1.159	3.385		
-.025	-.001	.997	1.003
-.072	.396	.997	1.003
1.196	2.348		
-.017	.002	.964	1.029
.267	.153	.755	1.325
-.585	-.204	.792	1.262
-.440	-.169	.646	1.248
.251	.423	.614	1.127
.249	3.125		
-.034	.054	.045	1.100
-.835	-.762	.020	1.406
-.753	.391	.088	1.398
-.438	-.162	.625	1.099
.086	.937	.025	1.376
-.059	.025	.013	1.028
-.012	.005	.017	1.442

Residuals statistics

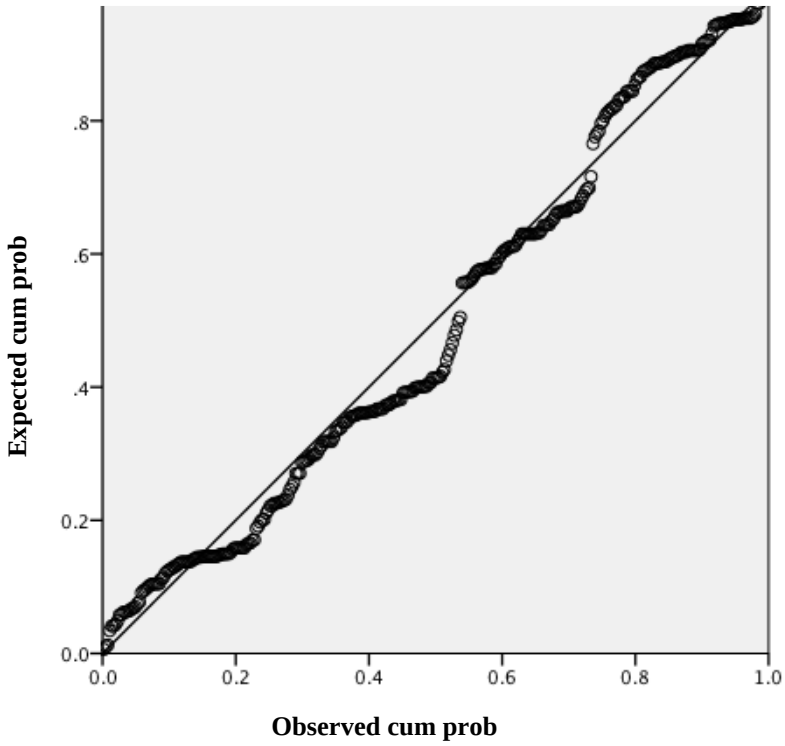
	Minimum	Maximum	Mean	Std. Deviation	N
Mahal. Distance	1.552	21.442	6.779	3.486	337
Cook's Distance	.000	.043	.003	.005	337

Histogram (standardised residuals – mediating effect of commitment on performance



Normal P-P plot of regression standardised residuals:

Mediating effects of commitment on performance



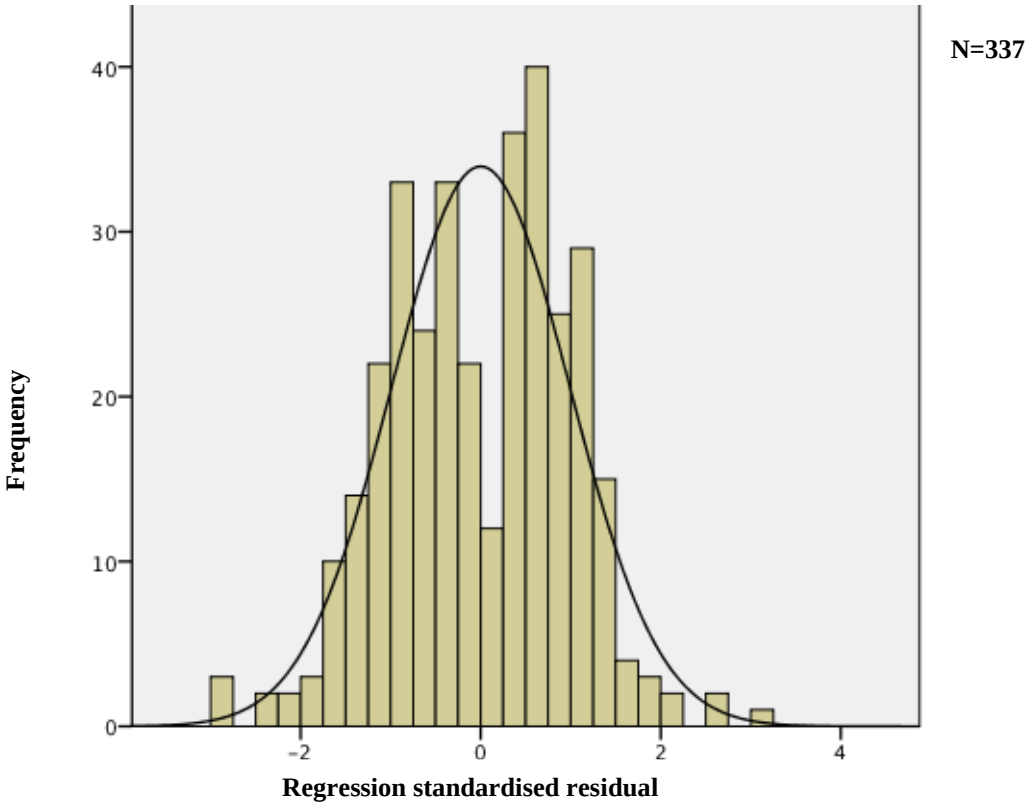
Appendix 16 - Confidence levels and collinearity statistics – Mediating effect of emotions on performance

Lower bound	Upper bound	Tolerance	VIF
1.160	3.523		
-.025	-.001	.997	1.012
-.075	.368	.997	1.012
1.230	1.456		
-.019	.002	.972	1.029
.270	.153	.746	1.325
-.585	-.230	.235	1.565
-.464	-.180	.646	1.235
.260	.450	.614	1.564
.249	3.732		
-.034	.065	.045	1.103
-.840	-.685	.089	1.410
-.754	.380	.124	1.645
-.434	-.164	.668	1.099
.086	.937	.025	1.376
-.035	.025	.018	1.028
-.013	.005	.017	1.751

Residuals statistics

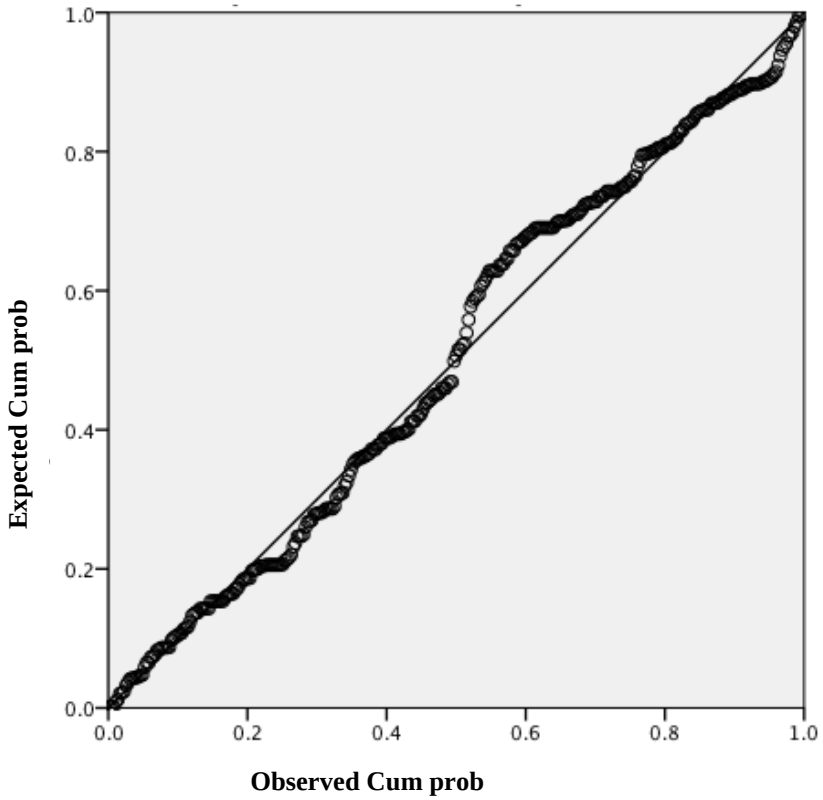
	Minimum	Maximum	Mean	Std. Deviation	N
Mahal. Distance	1.667	21.243	6.679	3.361	337
Cook's Distance	.000	.610	.003	.007	337

Histogram (standardised residuals – mediating effect of emotions on performance



Normal P-P plot of regression standardised residuals:

Mediating effects of emotions on performance



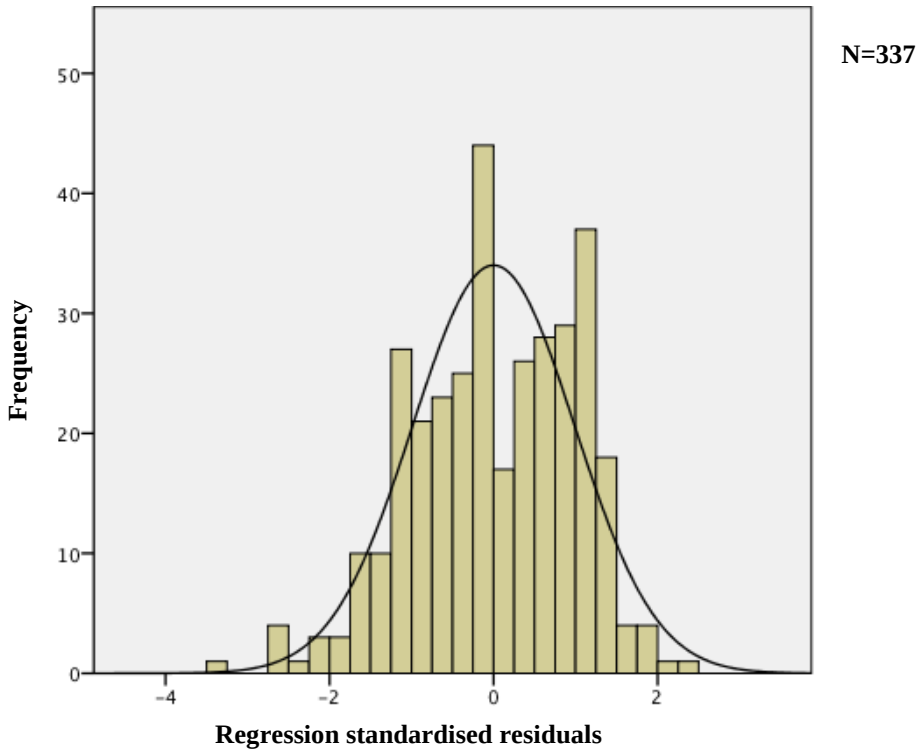
Appendix 17 - Confidence levels and collinearity statistics – Predictors of job satisfaction

Lower bound	Upper bound	Tolerance	VIF
1.390	3.398		
-.025	-.001	.902	1.024
-.075	.368	.902	1.024
1.231	1.503		
-.029	.002	.987	1.038
.270	.153	.723	1.454
-.485	-.120	.80	1.580
-.469	-.175	.646	2.345
.245	.423	.614	3.564
.223	3.653		
-.065	.065	.034	1.456
-.840	-.685	.054	1.210
-.754	.380	.176	3.645
-.434	-.164	.685	2.223
.086	.937	.035	6.359
-.035	.025	.020	5.720
-.013	.005	.018	8.095

Residuals statistics

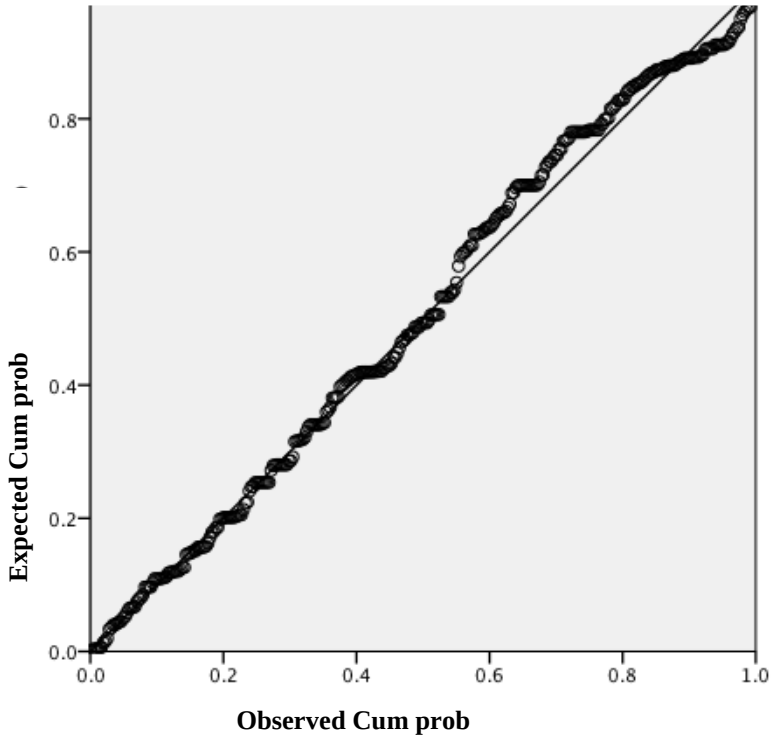
	Minimum	Maximum	Mean	Std. Deviation	N
Mahal. Distance	0.465	20.310	4.979	4.321	337
Cook's Distance	.000	.660	.003	.005	337

Histogram (standardised residuals – predictors of job satisfaction



Normal P-P plot of regression standardised residuals:

Predictors of job satisfaction



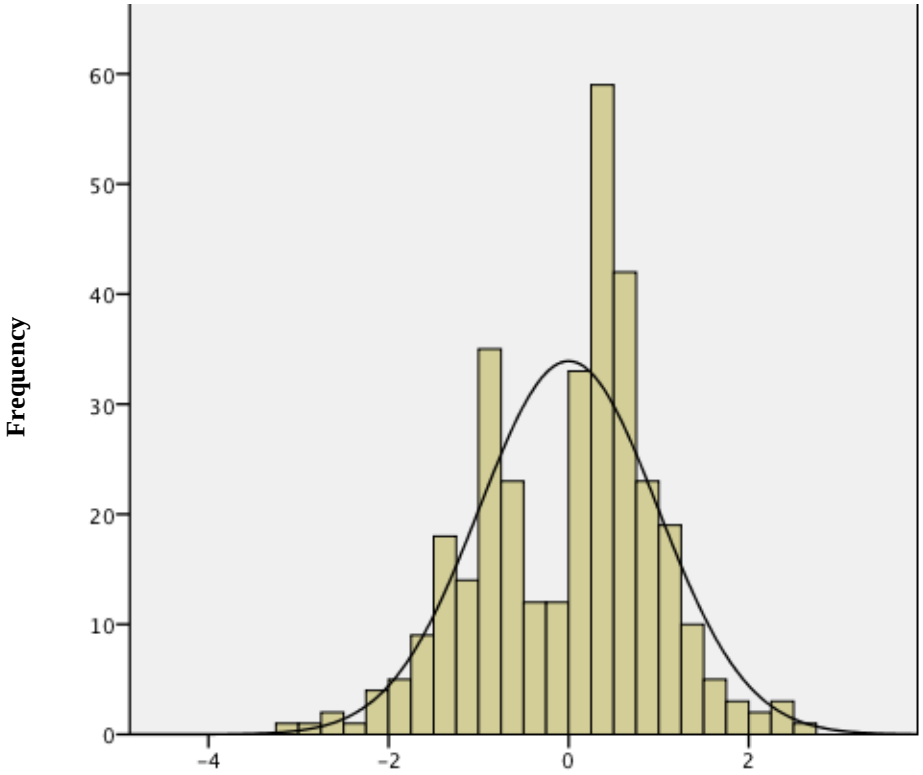
Appendix 18 - Confidence levels and collinearity statistics –
The mediating effects of future career expectations on job satisfaction and the moderating effect of age

Lower bound	Upper bound	Tolerance	VIF
1.356	3.387		
-.045	-.001	.876	1.024
-.048	.368	.876	1.024
1.284	1.598		
-.089	.002	.756	1.038
.234	.187	.723	1.476
-.498	-.120	.454	1.578
-.489	-.175	.654	2.375
.264	.423	.623	3.643
.234	3.653		
.078	.065	.034	1.424
-.890	-.685	.075	1.329
.789	.380	.183	1.378
-.456	-.189	.679	2.242
.090	.980	.035	1.389
-.037	.025	.020	2.125
-.017	.005	.018	2.463

Residuals statistics

	Minimum	Maximum	Mean	Std. Deviation	N
Mahal. Distance	0.845	21.094	5.982	4.924	337
Cook's Distance	.000	.168	.004	.013	337

Histogram (standardised residuals – mediating effects of future career expectations on job satisfaction and the moderating effects of age



N-337

Normal P-P plot of regression standardised residuals:

Mediating effects of future career expectations on job satisfaction and the moderating effects of age