University teachers' self-efficacy for research and teaching and its relationship with their job satisfaction

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Abstract

Today, universities compete directly with one another to improve their overall "quality" and attempt to improve their position as measured against sector standards. The benchmarking of confidence among university teachers in relation to the skills associated with research and teaching is, however, an underdeveloped and somewhat sensitive field. Not only is there a dearth of research on the topic of university teachers' self-efficacy, but it also seems that no genuine attempt has been made to investigate the relationship between university teachers' self-efficacy and their job satisfaction. The primary aim of this study was to investigate the research and teaching self-efficacy beliefs of university teachers and its relation to demographic and environmental factors. A further focus of the study was to examine the association between self-efficacy and job satisfaction. A theoretical framework of social cognitive theory underpinned the study in which 528 university teachers completed teaching and research self-efficacy scales in Turkey and Azerbaijan followed by 14 qualitative interviews. The findings showed that university teachers' research self-efficacy varied according to their career stage and qualification level with no gender differences. Student achievement and feedback, work environment (university climate), workload, PhD supervision, and interpersonal relations were environmental factors affecting self-efficacy. There was a significant relationship between university teachers' self-efficacy and job satisfaction.

Contents

Chapter Four: Research Design and Methodology

Chapter Five: Results: Quantitative Data

Chapter Six: Results: Qualitative Data

Chapter Seven: Discussion

Chapter Eight: Conclusion and Recommendations

List of Tables

List of Figures

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Declaration

I hereby declare that no portion of the work referred to in this thesis has been submitted in support of an application for another degree or qualification of this or any other university or other institute of learning. I further declare that this thesis is my own original work, except where reference is made in the text of the thesis to the work of others.

Chapter One

Introduction

1.1 Introduction

This introductory chapter establishes background for this research, sets out the rationale and significance of the study, presents the objectives and research questions, outlines the organization of the thesis and defines key terms.

1.2 Background

In higher education, there is an international mandate for universities to become more competitive and increase market share. Doubtless, this has placed an additional pressure on senior managers and university faculty to raise overall performance levels. Effective instruction by university faculty has consistently been linked with quality student engagement and learning (BrckaLorenz et al., 2012; McKeachie, 2007; Pascarella & Terenzini, 2005). As significant competitors for research resources, university teachers also are the largest producers of innovative research that contributes to enhancing disciplinary progress and institutional visibility. Therefore, the contribution of university teachers to higher education institutions has implications for the quality of the institution (Enders, 1999; Teichler, 2009).

At the same time, these teaching and research demands may have a troubling impact on faculty development and on the motivation of faculty members. Teaching is often de-emphasized in faculty and institutional recognition and advancement, with even traditionally teaching-focused institutions coming under the pressure to meet challenging research expectations (Wilkesmann & Schmid, 2014). Improving performance in relation to higher education, research and teaching has been a major goal of governments in many countries (e.g., Australia, the UK, US, Canada etc.), with substantial resource investments being made (Biggs & Tang, 2007; Entwistle, 2009; Ramsden, 2003). The pressure of performance indicators, the growing practice of quantitatively measuring the output of departments, faculties and universities, and the multiple role expectations for university teachers in teaching and research suggests investigation of the factors that underpin university teachers' research and teaching self-efficacy. Self-efficacy refers to 'beliefs in one's capabilities to organize and execute the courses of action required to produce given attainments' (Bandura,

1997, p. 3). Teacher's self-efficacy beliefs do not, of course, operate in isolation from other psychosocial determinants that affect their performance and, eventually, the satisfaction that they draw from their profession (Caprara, Barbaranelli, Steca & Malone, 2006). Nevertheless, recent findings have shown that teachers' self-efficacy beliefs play an essential role in establishing and sustaining their job satisfaction (Caprara, Barbaranelli, Borgogni & Steca, 2003; Klassen et al., 2009).

University teachers are a key resource for higher education institutions and therefore play a major role in the achievement of institutional objectives. In other words, a highly qualified university faculty is the cornerstone of a successful education system. Attracting and retaining highly qualified university teachers is thus a primary requirement for an educational institution (Sharma & Jyoti, 2006). For the development of quality university teachers, one has to understand factors associated with university teachers' self-efficacy – and job satisfaction. Job satisfaction is a "decisive element" affecting teachers' attitudes and, in turn, their performance; and self-efficacy is an important contributor to teachers' job satisfaction (Caprara et al., 2003). Teachers with low self-efficacy tend to experience lower levels of job satisfaction (Klassen et al., 2009).

1.3 Statement of Problem

The literature concentrating on the notion of teachers' self-efficacy in higher education is relatively sparse. This is not the case when self-efficacy is considered at the primary (elementary) and secondary school levels. Unlike school teachers, university teachers' self-efficacy is comprised of not only teaching but also research. Very few studies have investigated the influence of teachers' self-efficacy in the population of college-level instructors (Fives & Looney, 2009). Moreover, previous studies have rarely taken into account the nature of environmental variables or their precise effects on measures of university teachers' self-efficacy for research and teaching in higher education.

Not only is there a dearth of research efforts on the topic of university teachers' research and teaching self-efficacy, but it also seems that no genuine attempt has been made to investigate the relationship between university teachers' research and teaching self-efficacy and their job satisfaction. Having exerted a great deal of effort to identify any relevant content in the literature, the researcher has concluded that no research has been undertaken on the topic of self-efficacy and job satisfaction in university settings and no research was found regarding the possible association between self-efficacy and job satisfaction. Thus, at the outset of this

study, it remained to be determined whether there is any association between self-efficacy and job satisfaction among university teachers.

Furthermore, a majority of previous studies on teachers' self-efficacy are single-country studies (Klassen, Usher & Bong, 2010). There has been little research exploring whether self-efficacy operates in similar ways in settings that provide different teaching and learning experiences and work conditions. University teacher self-efficacy in the areas of research and teaching, as well as their job satisfaction could be influenced by national context in several ways. Investigation in a cross-national context can provide answers on how demographic and environmental factors affect university teachers' research and teaching self-efficacy and as well as their job satisfaction in very dissimilar contexts.

In addition, although there is a significant quantity of research dealing with teachers' self-efficacy mainly in Western countries, there have been few studies in Turkey (Yilmaz, 2011; Calik et al., 2012; Cakiroglu, Cakiroglu & Boone 2005; Tekkaya, Cakiroglu & Ozkan, 2004; Demirel & Erdem, 2007) and no such studies in Azerbaijan – both non-Western countries. It is also important to mention that previous Turkish studies on self-efficacy mainly focused on pre-service and elementary school teachers. Against this background, the researcher's interest in university teachers' self-efficacy and job satisfaction-and her belief in the need for a deep analysis of this topic originates from her personal observations, interpretations and practice in this area, given, in particular, her previous experience as the quality assurance officer at an Azerbaijani university.

1.4 Aim and Objectives

The study aims to investigate the self-efficacy beliefs of university teachers with respect to research and teaching and to understand the relationship between self-efficacy and job satisfaction, potentially a key contributor to university teachers' self-efficacy. The objectives are:

- To determine the level of research and teaching self-efficacy among university teachers
- To identify demographic variables that are associated with university teachers' self-efficacy for research and teaching, and job satisfaction
- To determine whether there are differences in research and teaching self-efficacy as well as job satisfaction based on demographic variables

- To identify environmental factors that might influence the university teachers' self-efficacy for research and teaching, and their job satisfaction
- To determine whether there is a relationship between university teachers' research and teaching self-efficacy, and their job satisfaction
- To identify major similarities and differences between Azerbaijan and Turkey
- To make recommendations to the university administration regarding possible ways to enhance university teachers' self-efficacy for research and teaching, and job satisfaction in Azerbaijan and Turkey

1.5 Research questions

1. What is the level of self-efficacy for research and teaching amongst university teachers?
2. What demographic variables (e.g., academic qualification, gender etc.) are associated with university teachers' research and teaching self-efficacy, and job satisfaction?
3. Do research and teaching self-efficacy, and job satisfaction vary in terms of demographic variables?
4. What environmental factors (e.g., workload, salary etc.) affect university teachers' research and teaching self-efficacy, and job satisfaction?
5. Is there a relationship between university teachers' research and teaching self-efficacy, and job satisfaction?
6. What are the main similarities and differences in terms of research and teaching self-efficacy, and job satisfaction amongst university teachers in Azerbaijan and Turkey?

1.6 Significance of the Study

It is worthwhile to mention that there are several reasons for developing a substantial understanding of university teachers' research and teaching self-efficacy in higher education. The current study will be the first to investigate research and teaching self-efficacy and job satisfaction of university teachers by means of a mixed study considering both demographic and environmental variables. The study intends to make a contribution to knowledge by filling an apparent general gap in the literature. In addition, the current study also aims to bridge the gap in existing research literature specifically on Azerbaijani and Turkish university teachers' self-efficacy and job satisfaction. By addressing the need to identify the fundamental factors that may influence university teachers' self-efficacy for research and teaching, and their job satisfaction, this study seeks to contribute to the endeavours of university management in both countries to better address faculty and institutional

effectiveness in higher education.

In addition to demographic information, the study seeks to take into account the national and cultural values reported in the literature that might affect university teachers' self-efficacy for research and teaching, and job satisfaction. A cross-national assessment of self-efficacy and its effects on university teachers' job satisfaction can identify interesting commonalities and differences in each of the various contexts. Comparison of teachers' self-efficacy across different settings is educative because working conditions exhibit significant variations within and across countries, and these variations in teaching environments and teaching practices may affect teachers' beliefs about their roles and responsibilities (Ho & Hau, 2004). The current research also examines whether variations at the level of nation operate in similar ways, and discusses the country-level differences.

The significance of the study can be summed up in the following points:

- As the first study to use mixed methods in investigating self-efficacy for research and teaching, and job satisfaction among university teachers, this research gives university teachers the opportunity to express their feelings and views regarding self-efficacy and job satisfaction, facilitating a deeper understanding of these phenomena.
- The findings of the present study will extend understanding of the factors affecting university teachers' self-efficacy for research and teaching, and job satisfaction, thus helping to fill the research and knowledge gap in the literature on this topic.
- The study seeks to examine relationships between self-efficacy and job satisfaction and will be the first to do so in a university setting.
- It is hoped that cross-national studies of the influence of demographic and environmental factors on self-efficacy for research and teaching as well as job satisfaction will result in a more nuanced understanding of the ways in which university teachers' self-efficacy and job satisfaction can be increased.
- It is also hoped that the recommendations of the study will contribute to the formulation of new governmental and university policies aimed to enhance research and teaching self-efficacy and job satisfaction among university teachers.

1.7 Organisation of the Thesis

The remaining chapters of this thesis are organised as follows:

Chapter Two provides background to the study by presenting an overview of Azerbaijan and

Turkey, their educational systems, a discussion of recent developments in higher education and a rationale for cross-national study between two countries.

Chapter Three reviews the existing literature regarding self-efficacy and job satisfaction; it offers definitions of the concepts of self-efficacy and job satisfaction, introduces social cognitive theory and discusses the factors influencing self-efficacy and job satisfaction, including the demographic and environmental variables considered in the research.

Chapter Four offers a detailed description of the research design and methodology. It discusses diverse issues related to research design, including selection of the population, the sampling of study participants, the choice of data collection instruments and procedures, the conduct and outcome of the pilot study and the validity and reliability of the research.

Chapter Five presents an analysis of the findings of the quantitative phase, using data gathered by means of a questionnaire, while Chapter Six does the same for the qualitative findings.

Chapter Seven then offers a discussion and interpretation of the overall combined findings as these relate to the above research questions.

Finally, Chapter Eight summarises the findings, draws overall conclusions, considers the research contribution, makes recommendations for ways to enhance university teachers' research and teaching self-efficacy and job satisfaction in Azerbaijan and Turkey, considers the limitations of the present study and makes suggestions for future research.

1.8 Key Terms

Detailed definitions of self-efficacy and job satisfaction are discussed in Chapter Three; meanwhile, the following are brief definitions of some of the key terms and concepts used in the study.

Self-efficacy: In this study, university teachers' self-efficacy is defined as an estimation of confidence in one's capabilities to perform various tasks classified as research and teaching.

Job satisfaction: While the literature offers many definitions of this key term, in this study, job satisfaction refers to positive feelings and attitudes that university teachers hold towards their job, related to the needs they expect to be met by their work in the position.

University teacher: For the purposes of this study, university teacher refers to an individual holding a degree which qualifies him or her to teach in a university.

Chapter Two

Context

2.1 Introduction

This chapter aims to describe the general background of Azerbaijan and Turkey, the countries in which this research study was conducted, focusing particularly on specific features of the higher education system in each country integral to the project. The first sections place the study within the geographical context, with a brief description of the location and population of first Azerbaijan and then Turkey. The chapter then discusses the higher education system of the two countries, including their history, current structure and major challenges. It further provides a rationale for cross-national comparison between two countries.

2.2 Azerbaijan and its education system

Azerbaijan is a transcontinental country located at the crossroads of Eastern Europe and Western Asia. The country is part of the greater Caucasus Mountains, bound by the Caspian Sea to the East. Azerbaijan borders Turkey and Iran to the south, Russia to the north, Georgia to the northwest, and Armenia to the west. It is the largest country in the South Caucasus with more than 90 % of its residents of Muslim and Turkic background. The population of the nation was approximately 9.5 million in 2014.

Figure 2.1

Map of Azerbaijan

Source: Google

After breaking free from the Persian and then tsarist empires, Azerbaijan achieved its independence in the early twentieth century. The country first declared independence in 1918 with the establishment of Azerbaijan Democratic Republic (ADR). The nation turned to European nations as its model and became the first Muslim nation to adopt Western practices. The evolution of the Azerbaijani education system reflects the historical transformations of the country. The first university, Baku State University, was established by ADR in 1919. Although Azerbaijan had proclaimed its independence, it was soon occupied by Russian forces and became a Soviet Republic in 1922. The Azerbaijan Democratic Republic was short-lived, precluding the founders' power to direct expansion of the university and establish a broader higher education system (Isakhanli & Pashayeva, 2018). The communist revolution laid claim to the Caucasus.

Azerbaijani education system, as all post-Soviet systems, shared the legacies of the single Soviet approach to higher education provision: a centrally planned organization and financing, a national curriculum, a vocational orientation based on the combination of strong basic education and narrow specialized job-related training, tuition-free study places and guaranteed employment upon graduation combined with mandatory job placement. The higher education system was built into a larger economic planning system and had to respond to orders from higher authorities. Higher education was a system of training professional for the national economy (Kuraev, 2015; Smolentseva, 2016), and it was in many ways predominantly vocational.

Another prominent characteristic of the Soviet education system was the institutional separation of higher education from research (Johnson, 2008; Froumin et al., 2014). Most research was conducted in sectoral institutes that were directly linked to particular industries and subordinated to the corresponding ministries, as were most of the higher education institutions. The need to connect higher education and research was constantly discussed in Soviet policy documents (Smolentseva, 2016), but the dominant role of higher education remained the same, that of teaching highly qualified manpower (Kuraev, 2015). The higher education sector's share of research was very small.

After recovering its independence again in 1991, the republic has resumed petroleum exploitation, struggled to establish stability, and suffered with a longstanding conflict over Nagorno-Karabakh. Neighbouring Armenia supported the ethnic Armenians living in Karabakh region of Azerbaijan in the creation their own state, initiating an undeclared war

against Azerbaijan. As a result of this conflict, Azerbaijan has lost 20 % of its territory and has had to accommodate over a million of internally displaced people – mostly ethnic Azerbaijanis – from these occupied territories. Despite the United Nations Security Council resolutions (822; 853; 874 and 884) calling for immediate liberation of the occupied districts, they remain under occupation by the separatist regime established in Nagorno-Karabakh. A ceasefire was achieved by international mediation in 1994 and Azerbaijan achieved international support for recognition of the occupied territories as its de-jure part.

Since independence, the education system has aimed to respond to the needs of a market economy and democratic governance. As in other areas, the need for fundamental reforms in education emerged. The transition from the Soviet education system to one based on modern and international standards has begun. Reforms included efforts to overcome Soviet ideological legacies and align higher education systems with the goals of new nation building. Systematic reforms have focused on curriculum development and instructional improvements as well as legal and structural changes and infrastructure development. Thus, Soviet ideological courses were excluded from curricula. Along with the change of the official language, Azerbaijani language became predominant in higher education instruction, and the higher education programmes were supplemented by courses on national history and culture. New legislation governing education was drafted at the time of independence (hereafter "Education Law"), and several ministerial variations were attempted. By the mid-1990s, a single Ministry of Education (MoE) was formed.

Reforming the entire education system has been enormously difficult, invariably expensive and political. Azerbaijan brings to the task both advantages and disadvantages. On one hand, the rapid growth of the country's economy and Azerbaijan's historical cosmopolitanism provide the resources and a willingness to explore new approaches. But on the other hand, the continuing influence of Soviet-era traditions of low pay for academic staff, rigidity of rote learning, and widespread corruption have served as significant challenges to reform (Havaj, 2008). Higher educational institutions have often been reluctant to embrace changes and many maintain Soviet traditions of management, administration and teaching (Isakhanli & Pashayeva, 2018).

In Azerbaijan, the Cabinet of Ministers determines education strategy and supervises implementation of the Education Law and related legislative acts and documents. The MoE is the central management agency for education system of the Republic of Azerbaijan. The

MoE has responsible oversight for teaching and methodological practices, and the quality across all educational institutions functioning in Azerbaijan, regardless of ownership type (public or private).

Compulsory general education is organized into three levels. The first two levels include primary education (grades 1 to 4) and basic secondary education (grades 5 to 9). The third level of compulsory general education covers grades 10 and 11 (e.g., complete or upper secondary education). Upon successful completion of general secondary education students receive a certificate. To fight corruption, in 1992 Azerbaijan was the first former Soviet Union country to introduce standardized testing in university admission processes (Drummond & Gabrscek, 2012). Currently, the State Examination Centre (SEC) of the Republic of Azerbaijan is responsible for administering school graduation exams, conducting BA and MA admission exams for both public and private universities, and implementing student placements at higher education institutions (HEIs). It operates independently from the MoE and reports directly to the President.

2.2.1 Higher education

The three-cycle tertiary education structure (undergraduate, MA, PhD), permission process to establish private universities, the right to own property and permission to set tuition fees were among the first national legislative provisions on education adopted in October 1992 in the Education Law. The Law reflected the first post-communist government plans addressing the modernization and updating of the higher education system to meet international standards. The Law also spelled out the educational structure, the main tenets of higher education and the unification of scientific research and education within higher education institutions.

The Cabinet of Ministers of the Republic of Azerbaijan is an authorized supreme government agency responsible for the education sector, including higher education. The Cabinet determines the organizational structure of higher education system management and the procedures for establishment, restructuring and closing of higher educational institutions; and approves the list of qualifications and enrolment plans for higher education institutions. Within the Ministry of Education, the direct, day-to-day responsibility for higher education belongs to the department of higher and secondary specialized (professional) education. This department coordinates activities of all higher education institutions. HEIs report to the MoE.

Azerbaijan joined the Council of Europe in 2001 and has been a part of the European Neighbourhood Policy since 2004. Joining the Bologna Process in 2005 took higher education on a more defined development path. Following this process, many important reforms were directed towards harmonizing the higher education system with European standards. Accession to the Bologna Process also increased student mobility in higher education and positively affected internationalization by creating opportunities for participation in various exchange programmes and expanding university partnerships. Currently, Azerbaijani universities participate in European Union educational programmes such as Trans-European Mobility Programme for University Studies (TEMPUS) and Erasmus+ (Isakhanli & Pashayeva, 2018).

The First Education Law declared the unification of research and teaching within higher education. A slow increase in HEIs research activity followed, with the Azerbaijan National Academy of Sciences (ANAS) still playing a strong role in overseeing research. The Second Education Law was adopted in 2009. According to this Law, the primary goal of higher education is to provide education that integrates the demands of society and the labour market, developing highly specialized experts, researchers and academic staff for the country. The Law also made a clear division between Bachelor and Master degrees and classified institutions based on the degrees they offered. A new system for Doctoral education was established. As the leading educational document, the Law also aimed to clarify education structure and the educational system. It determines the characteristics of higher education institutions. According to the document, universities represent multi-profile institutions and, in addition to teaching, function as research institutes. By Presidential decree, "institute" is being replaced with "university" in HEI titles. The only HEI still carrying the "institute" title is the Nakhchivan Institute of Teachers (Isakhanli & Pashayeva, 2018).

There are currently 31 public and 11 private universities in Azerbaijan. The academic year is divided into two semesters.

2.2.2 Challenges facing higher education

The government's first major education reform initiative since the collapse of the Soviet Union came after the Education Reform Programme of 1999, which had as its primary focus the quality and relevance of general education. Nevertheless, higher education was not a priority until the country joined the Bologna Process in May 2005. The Presidential Decree

of January 31, 2008 on the "Integration of higher education institutions (HEIs) into the European Higher Education Area" (EHEA) heralded the beginning of major reforms in the higher education sector. The decree initiated the introduction of numerous initiatives in public universities, such as the credit system and changes in the curricula, as well as the assessment of student performance. Although the country has gradually stepped up its efforts to identify and address challenges in the higher education sector, fundamental flaws in the approach to higher education reforms in Azerbaijan continue to serve as serious impediments to progress and have yet to be eliminated. Azerbaijan lacks a system of comprehensive and proactive policy analysis to feed the decision-making process in areas critical to the efficient functioning of the education sector. This is a major setback as it undermines the Government's capability to fully comprehend and tackle challenges or effectively prioritize reform initiatives in higher education. This has also led to major problems in areas such as equity, which remain invisible to the higher education community (Aliyev, 2011).

HEI ranking is a new phenomenon for the higher education system in Azerbaijan. The ranking system was established in 2013 to increase competition among HEIs. The ranking is issued by SEC based on preference or choice of institution by student applicants and the average admission score of enrolling students. Recently, the MoE commissioned a study that yielded yet another in-country ranking of HEIs with the purpose of creating more competition in the nation’s higher education market. However, HEIs in Azerbaijan can only be compared to each other by using the Azerbaijani state’s institutional ranking system. Moreover, this ranking system incorporates only one dimension: student choice of institution after the admission exam. The ranking process fails to reflect other major institutional characteristics. For instance, the current ranking does not provide any information on research quality, international orientation or institutional interaction with industry (Isakhanli & Pashayeva, 2018). Although the introduction of national exams through the SEC relieved the admissions system of obvious corruption, problems still remain regarding the equity and equality of access to higher education. University admission is determined solely by using scores on the admission test administered by the SEC.

The rapid increase in higher education participation rates particularly in private institutions and the establishment of new public HEIs observed in most transition countries, such as Poland and Georgia, as well as in neighbouring Turkey, has not been the case in Azerbaijan. The gross enrolment rate in the tertiary education sector in 2008 was lower than the 1990

"pre-independence" levels, as well as considerably lower than the Europe and Central Asia (ECA) average of 55.37 %. The gap between the demand for higher education and its supply in terms of total number of places offered in universities (both public and private) has grown dramatically between 2002 and 2008. Access in higher education in Azerbaijan is mainly restrained by two interconnected factors: the low quality of secondary education in rural areas and the impact of socioeconomic and geographical factors of access in higher education (Aliyev, 2011). In 2014, the GER for tertiary education was 23 % (Isakhanli & Pashayeva, 2018).

Government support for students proceeding to higher education is provided mainly in the form of a tuition remission, which is granted on the basis of a student's performance on the university admission exam, and a monthly stipend, which is provided to students in tuition-free programmes who maintain good academic standing. Additionally, a limited number of merit-based scholarships as well as Presidential stipends are awarded for outstanding achievement. According to the latest figures, tuition for self-paying students may range between AZN 1.300 - 4.800 (USD 2000 - 7600 in mid-2016) depending on the type of the institution (Guliyev, 2016). The amount of self-paying places in higher education has seen a dramatic upward surge, so much that in the twelve-year period (2004-2016) self-paying quota has increased by almost 35 % (SEC, n.d), costs continue to constitute a serious barrier for students from low-income households.

Furthermore, despite the growth of the economy, educational funding did not keep pace with the overall economic improvements: the percentage of GDP allocated to education was 2.5 % in 2013 with just 0.2 % apportioned to higher education and science. This dearth of resources has led to lower quality at all levels of education. Reflecting the country’s Soviet past, universities mainly provide instruction, while Azerbaijan National Academy of Sciences (ANAS) retains the primary responsibility for the organization and implementation of science. Research is also carried out at universities, yet very few of them have sufficient capacity to pursue high-quality research. Doctorate level studies still remain largely unchanged since independence and joining the Bologna Process. Despite harmonizing its bachelor and master degree levels with the standards of the EHEA, Azerbaijan’s doctorate studies continue to resemble the old Soviet education system of two levels of doctoral degrees—PhD and Doctor of Science. More importantly, existing regulations limit universities in deciding doctoral research areas and format of studies. Strict regulations limit

HEIs in doctoral degree provision, hinders autonomous decision-making regarding their research priority areas and leads to potential inefficiencies in the deployment of research students (The World Bank, 2018).

Limited research funding is among the key challenges faced by universities in the country. Although expenditures on research have been increasing in absolute terms since 2000 in Azerbaijan, total research and development spending remains low as a share of GDP. The 118 million AZN allocated to science in the 2018 national budget accounts for less than 0.2% of GDP. Such levels of investment are not sufficient for a country to make a meaningful impact in advancing its innovation capabilities. Relatively little research produced in Azerbaijan has a notable impact on global knowledge creation. For instance, according to the H-index, Azerbaijan ranks 113th in the world based on the quality (impact) of its research. Much of the knowledge produced in Azerbaijan does not get disseminated outside of the country (The World Bank, 2018). Consequently, first, doctoral education with a soviet style content is not be able to prepare doctoral researchers with necessary research and teaching knowledge and skills that may lead to their research and teaching self-efficacy when they start their career as university teachers. Limited and less competitive public funding towards research may also affect research productivity and as well as research self-efficacy of university faculty in Azerbaijan. Moreover, quality assurance mechanisms and evaluation practices that promote higher quality research is absent in Azerbaijani universities and in its turn, it may affect university teachers' motivation towards research negatively.

According to Azerbaijani official statistics, the average nominal wage for professionals employed in education in 2015 was AZN 301 per month (USD 287 in mid-2015 dollars), which is the third lowest category after healthcare (AZN 204, USD 194) and agriculture (AZN 246, USD 234) and much lower than the average salary earned by those employed in other fields such as mining (oil and gas) (AZN 2,171, USD 2,068 in mid-2015 dollars), finance and insurance (AZN 1.210, USD 1.152) and even construction (AZN 678, USD 646). The government has obviously underinvested in education, and the salaries remain low (Guliyev, 2016). As a result, teaching and academia have never been considered attractive job options for graduates, especially among men, who are traditionally the 'breadwinners'. As long as salaries for university teachers are insufficient for meeting the basic costs of living corruption will continue to undermine the quality and value of higher education in the country (Dennis, 2009). Even some university teachers work in several universities in order

to earn additional money despite heavy teaching loads. Therefore, low salaries and workload may possibly affect job satisfaction levels of the majority of university teachers in Azerbaijan negatively.

2.3 Turkey and its education system

Geographically, Turkey, a mountainous Eurasian country with a strategic location, is situated on the Anatolian peninsula in Western Asia, Eastern Thrace and south-eastern Europe. It covers an area of approximately 780.580 square kilometres and is bordered by eight countries: Bulgaria to the northwest, Greece to the west, Georgia to the northeast, Armenia, Azerbaijan, and Iran to the east; and Iraq and Syria to the southeast; making a total of 2.648 kilometres. Turkey borders the Black Sea (to the north), the Mediterranean (to the south), the Aegean (in the west) and the Marmara Sea (Turkish Straits in the northwest separating Europe and Asia) and has a total sea coastline of 8.333 kilometres.

Figure 2.2

Map of Turkey

Source: Google

The Turkish Ministry of National Education has the overall responsibility for preschool, primary, and secondary education. Compulsory primary schooling is 4 years of uninterrupted basic education starting at age six. Secondary education covers general, vocational, and technical high schools that provide at least 4 years following the 4 years of pre-secondary education. Admission to higher education is centralized and based on a nation-wide single-stage examination, named the Student Selection Examination,

administered every year by the Student Selection and Placement Centre (SSPC) under the supervision of the Council of Higher Education (CoHE).

2.3.1 Higher education

Since the foundation of the Republic of Turkey in 1923, the country's higher education system has undergone rapid growth. The historical development of Turkish Universities continued with the foundation of new universities and faculties in Ankara and Istanbul until 1950s and, later, in different cities located in Anatolian part of Turkey. The higher education system in Turkey operates under the oversight of the CoHE which was established in 1981 within the framework of highly centralized governance. All activities and principles of governing bodies of higher education are regulated by the Higher Education Law No. 2547, dated November 4, 1981. Law No. 2547 imposes a very centralized structure intended to unify the existing higher education institutions. Before 1982, Turkey offered several diverse types of higher education institutions: universities, academies, technical colleges, etc. In an attempt to unify the system, Law No.2547 defined higher education institutions as "all post-secondary education consisting of at least four semesters, within the national education system, at every stage." Academies were converted to universities and technical colleges became junior colleges structured within universities. The law also introduced three-cycle education – BA, MA, PhD – and established graduate schools for the second and third cycles (Saglamer, 2013). Though modified in later years, Law 2547 can be viewed as one of the key turning points that drove Turkish higher education institutions into the global higher education market. Expansion of higher education throughout the country was achieved and a central university exam and placement were introduced.

Discrepancy between limited supply and growing demand has long been the greatest challenge for higher education in Turkey. The government's response to this discrepancy was, beginning in 2006, to establish 15 new universities, mostly in the less developed provinces of Turkey. The CoHE voiced concern that there was no infrastructure to establish so many new universities at once. Moreover, there was still a huge unmet demand for higher education. The government, in turn, passed new legislation in 2007 and 2008 to establish additional universities in the remaining 26 less developed provinces that still lacked a public university. Thus, by 2008, each province had at least one public university (Özoğlu, Gür, Gür & Gümüs, 2015).

This rapid growth of higher education triggered debates about the quality of higher education

in Turkey. Many have argued that establishing so many universities without the requisite infrastructure in such a short time would not only lower the educational quality but that these new institutions would face significant academic, financial, and administrative problems (Arap, 2010). Despite these debates over infrastructure, quality, and other challenges, the new public universities have been expected to undertake significant roles in local, regional, and national development (Altınsoy, 2011).

As part of this expansion of higher education, Turkey's national budget for higher education increased in a decade. Higher education's share of the Central Government's total national budget was about 3.3 % in 2005; by 2014 it was about 3.9 %. Similarly, the public budget for higher education increased from 0.8 percent to almost 1 % of the GDP (The Ministry of National Education, 2015). Both academic and administrative employees – the office staff and service personnel in public universities in Turkey – have civil servant status. Moreover, university teachers' salaries were increased by about 30 % in December 2014 by the government in order to attract talented people to academia. Salaries are linked to academic titles, and administration load has little effect, especially in public universities (Gunluk-Senesen, 2009). In addition to the university teachers' salary increase, beginning in January 2016 there is now additional pay based on an individual's academic performance. Together, the two wage increases have been great incentives for people to work in public universities. To add to the incentive, university teachers working at less developed regions receive extra pay. Still, there is a need for more targeted efforts to increase the number of university faculty as well as tackle regional imbalances in faculty quality.

The Constitution of Turkey allows for the establishment of non-profit private universities (or as they are also known "foundation universities"). Along with the public universities, the number of foundation (private) universities also increased in the last decade. After 2008, the CoHE openly encouraged and facilitated the establishment of new foundation universities. Between 2008 and 2015, the number of foundation universities more than doubled. However, while public universities charged a nominal fee until 2012 and no tuition fee after 2012, foundation universities charge tuition fees. From a fiscal sustainability perspective, encouraging the establishment of more private universities further supported the government's national drive to expand enrolment capacity (Gür, 2016).

Turkey signed the Bologna Declaration in 2001. To address the restructuring needs of the Turkish education system, in 2001, the country began to officially participate in the Bologna

Process as a national effort. The CoHE is the primary institution responsible for the implementation of Bologna Process in Turkey. As a signatory country, Turkish universities can be comparably analysed by degree structure, student mobility, lifelong learning programmes, quality assurance initiatives, and on the social dimension as influenced by the Bologna Process (Furuzan, 2012).

Until recently, there was no formal accreditation system in Turkish higher education. Universities were officially and centrally recognized only by CoHE. However, since 2003, all higher education degree programmes have been evaluated by the Commission of Academic Assessment and Quality Improvement in Higher Education. This Commission examines the academic assessment reports of the programmes as reported (by the institutions). The general purpose of quality assessment in Turkey has been for a combination of accountability, improvement, information sharing, and accreditation. The Turkish education system is grounded in the convergence of reflective principles of self-evaluation, peer review, performance measures, and published reports.

Today there are 206 universities, including 129 public universities, 72 private (foundation) universities, and 5 private vocational schools. There are around 115.000 academic staff (professors, associate professors, assistant professors, and instructors) working in these private and public higher education institutions (YÖK Bilgi Yönetim Sisemi, n.d). All these institutions accept students according to the results of a "student selection and placement examination" administered nationally every year in Turkey.

As mentioned earlier, the Turkish higher education system has a highly centralized structure. All universities (both public and foundation) are subject to the same laws and regulations. The universities are founded by law; and their affiliated faculties, institutes, and four-year vocational/professional high schools are established by a decision of the Parliament. The two-year vocational high schools and the departments affiliated to the universities are established by CoHE. The opening of a programme at any level needs to be approved by the CoHE. At the moment, with 7.5 million students, the Turkish higher education system is one of the largest in Europe (YÖK Bilgi Yönetim Sisemi, n.d).

2.3.2 Challenges facing higher education

Although Turkey expanded its higher education system and improved accessibility thereto, there remain some challenges. These challenges faced by higher education institutions in

Turkey have been explored in a number of academic studies. First of all, some have characterized the higher education system as "too centralized and highly rigid" and the legislation covering higher education "highly detailed, rigid and out-of-date" (The World Bank, 2007, p. 9). As a result of this centralization and rigidity, administrative and financial autonomy of universities is very limited in Turkey. Although the CoHE was initially modelled after state governing boards in the United States (Doğramacı, 2007), the current structure is not based on a lay governance. Unlike most regulatory bodies and boards of trustees at OECD member countries that have members from outside university (Fielden, 2008), all members of the CoHE of Turkey are either former or current academic and state officials. Accordingly, making the higher education system accountable to the public is problematic.

With participation rates in higher education continuing to increase rapidly, there remains significant unmet demand for higher education in Turkey. The disparity between the number of applicants seeking admission and the number of seats available is still large. During last several years, of the approximately 2 million applicants, only about half have been admitted to higher education programmes (Özoğlu et al., 2015). As of now, there is no clear strategy on how to meet the increasing demand for higher education in the coming years.

While the number of higher education students more than doubled in a decade, as of 2015, the number of all teaching and research faculty has only increased from approximately 80.000 to about 150.000. Since the rate of increase in the number of faculty is smaller than the rate of increase in the number of students, the average number of students per faculty increased modestly over the last decade. As of 2013, the average number of students per faculty had increased from 17 to 21 (Çetinsaya, 2014). The average number of students per faculty with PhD had increased from 44 to 48. Turkey continues to suffer from a chronic shortage of university faculty (Gür, 2016). For instance, a qualitative study based on surveys of 12 rectors of recently established public universities, Özoğlu et al. (2015) found that these universities faced significant difficulties recruiting high-quality university faculty and experienced administrative staff. Turkey needs at least 45.000 additional faculty in order to reach the OECD average for the number of students per faculty (Çetinsaya, 2014). Although each province has now at least one public university, there has always been an imbalance between regions and provinces in terms of the number of university teachers and students. Newly established universities located in the less-developed provinces experience extra

difficulty in attracting quality faculty (Özoğlu et al., 2015).

In order to overcome the faculty shortage, the government instrumentalized two programmes under oversight of and coordination between CoHE, Measuring, Selection and Placement Center and Ministry of National Education. The first programme, called Faculty Member Training Programme (Öğretim Üyesi Yetiştirme Programı – ÖYP), was introduced in 2010. The purpose of the programme was to provide master and doctoral education for potential graduate students in central universities and to define and meet demands of new universities by training candidate faculty members. However, the programme was abolished by Council of Higher Education in 2015 (Ayan, 2018). The second programme was Selection and Placement of Students for Post-Graduate Study Abroad. The programme was aimed at sending students to universities abroad, charging them with educational activities in universities located in various cities. The selection and assessment processes for these programmes were centralized and always discussed in the public and university bodies. There are about 2800 graduate students currently studying abroad who are to return and teach at these newly established universities (Ayan, 2018).

An additional complication for the Turkish system is that the way the university rectors are appointed is very complex. In November 2016, following the military coup attempt of July 2016, the government rescinded a system of university leadership elections that offered partial representation of faculty members (decree law no.676). Despite the fact that this was a questionable step in terms of representation of faculty members and autonomy of universities, none of the university senates were able to publish a message questioning the decision. The autonomy of universities and academic freedom had suffered serious setbacks. This was particularly problematic occurring just after the Academics for Peace petition and signature campaign of January 2016. Just a few months later, and just after the military coup attempt, many of the university teacher signatories to the earlier petition were harshly criticized by the government and removed from their positions through decree laws (Ayan, 2018).

The 15 July 2016 coup attempt in Turkey was undoubtedly one of the most significant events in the country's recent history. According to testimonies and popular news, a group of flag officers of Turkey's army attempted an overthrow the AKP government (Adams, 2016). Five days after the coup attempt, the AKP government declared a state of emergency for three months, with President Erdoğan announcing this move to the public as a positive step

and as an opportunity to scrub pro-Gülenist (a group led by Fatullah Gulen, a preacher living in the United States) people from the public sector (Jones & Kandemir, 2016).

Two days after the declaration of the state of emergency, the government ordered 15 universities closed, displacing some 60.000 students and leaving 2.808 academic staff unemployed. Since then, the government has issued nine separate decrees ordering the dismissals of higher education staff alleged to have been involved in the coup attempt through alleged association with the Gülenist movement. To date, these actions have rendered jobless some 8.535 university teachers, as well as at least 1.349 administrative personnel. Those individuals who have been permanently dismissed are also subject to a lifetime ban from applying to civil service positions, effectively ending their higher education careers in Turkey. Further, three emergency decrees have ordered the expulsion of 273 students studying abroad. Those decrees also provided that any scholarships supporting these students' studies abroad were to be cancelled, and that any degrees or certificates obtained abroad would not be recognized in Turkey. The decrees have had a particularly harsh impact on many smaller institutions, where the loss of junior and senior university faculty has upended many research and teaching activities (Scholars at Risk, 2018).

The impacts of these actions go far beyond simple job losses. The dismissal of these university teachers also denies Turkey's higher education community substantial human and intellectual capital – losses that will compound over time. Not only will the community lose these scholars' productive years of teaching and research, but the current targeting of higher education will lead fewer students to take up academic careers, and many university faculty still working in Turkey will likely seek opportunities elsewhere. These actions by the government after the attempted coup were not only attacks on individuals, but on the higher education sector in Turkey and on Turkish society generally. In addition to the harm to the immediate victims, such incidents had a chilling effect on academic freedom and university autonomy (Scholars at Risk, 2017).

Undeniably, despite all these challenges, Turkey has made some considerable improvements in higher education. For instance, as mentioned earlier national budget for higher education and salary of university teachers increased, and quality assurance and evaluation mechanisms were established. All these may possibly affect university teachers' research and teaching self-efficacy and as well as job satisfaction positively in Turkey.

2.4 Importance of cross-national study

Cross-national comparisons are useful theory-builders because they provide researchers with ‘‘a valuable heuristic basis to test the generalizability of their measures, theories, and models” (Marsh & Hau, 2004, p. 59) and because these comparisons offer a way of exploring the universality of psychological constructs and measures (Triandis, 1996). Comparison of teacher motivation across diverse settings is educative because teaching practices and conditions show considerable variation within and across countries, and variations in teaching environments and teaching practices may influence teachers’ beliefs about their roles and responsibilities (Ho & Hau, 2004).

Teachers’ efficacy is context-specific (Tschannen-Moran & Woolfolk Hoy, 2007) and it is likely that different educational systems pose dissimilar requirements for the work of university teachers. For instance, university teachers may feel efficacious about teaching certain subjects to certain students in certain settings, while perceiving themselves as less efficacious under different circumstances. The context-specific nature of teachers’ self-efficacy also makes it worthwhile to test the theoretical assumptions underlying self-efficacy in diverse contexts (Klassen, Tze, Bets & Gordon, 2011). Moreover, cross-national studies such as this are able to highlight some features that seem remarkably similar across quite different educational environments.

Additionally, the number of cross-national[1] investigations of teacher self-efficacy is currently very limited (Klassen et al., 2011). Against this background, the current study, which investigates the role demographic and environmental factors in university teachers’ self-efficacy beliefs by using mixed method data sets from two countries, makes a considerable effort to fill the gap in the existing research literature. In discussing cross-national findings, the present study distinguishes between structural and level-oriented studies (Van de Vijver & Leung, 1997). The former refers to studies involving a comparison of relationships with other variables (e.g., the association between university teachers’ self-efficacy and job satisfaction), whereas the latter refers to comparisons of means (e.g., cross-national comparisons of university teacher self-efficacy scores for research and teaching).

[1] The researcher uses the term cross-national rather than cross-cultural to describe the study because the primary defining comparison feature is country of residence, and cultural dimensions were not directly measured.

2.5 Rationale for cross-national comparison

This section explains the rationale for cross-national comparisons between Azerbaijan and Turkey. The section also focuses on the following themes:

- Turkey's role in the region and its developing education system
- Azerbaijan-Turkey relationships
- Major commonalities and differences between Azerbaijani and Turkish education systems

The breakdown of the Soviet Union and the emergence of newly independent states in the Caucasus and Central Asia presented Turkey with a unique opportunity to explore new regional roles. Turkey enjoys ethnic and linguistic ties with five states (Azerbaijan, Kazakhstan, Uzbekistan, Kyrgyzstan, and Turkmenistan), providing a solid foundation for co-operation in economic development, democratisation, and international networking. Turkey has also made a significant effort in the field of education. As a result of intensified co-operation in higher education with Turkic groups and former Soviet states, Turkey has become a regional 'core' hosting students and academics from these countries (Mizikaci, 2005).

The Turkish government also takes advantage of European integration. Being connected to the EU and/or EU programmes brings about undeniable opportunities for growth and competition for the country. As a signatory country of the Bologna Declaration, Turkey is therefore taking active steps to adopt the European Credit Transfer System (ECTS) and integrate into the European Higher Education Area (EHEA). The interest of Turkish universities in schemes such as European Region Action Scheme for the Mobility of University Students (ERASMUS) has grown sharply, along with instances of mobility by students and teaching staff, the use of ECTS, and the re-development of curricula. In order to participate and be integrated in the European initiatives, many Turkish universities have set up their own international offices. Highly reputed Turkish universities have gone further and signed bilateral co-operative agreements with European and North American universities. These agreements have initiated bilateral academic mobility programmes with European countries and the USA.

Dating back to historical origins, the relationship between Azerbaijan and Turkey is of great importance to both countries. After declaring its independence in 1991, reflecting its primary

importance to Ankara, Azerbaijan was the first post-Soviet state to receive Turkish recognition. After the collapse of the Soviet Union Baku was also the first among new capitals to receive a Turkish embassy with the signing of the protocol for that purpose on January 13, 1992. The strong relationship between the two countries – both Turkish nations – was even described as "one nation with two states" by the past president of Azerbaijan Heydar Aliyev. Undeniably, common culture, traditions, religion, and language have always strongly influenced the development of relationships in the political, economic, commercial, cultural and educational spheres. For example, the Turkish government has developed a large scholarship programme enabling about 7.000 foreign students per year to study in Turkish universities and the highest student enrolment is from Azerbaijan.

It is also worthwhile to note that Azerbaijan and Turkey's education system share several major commonalities. One of the main similarities is centralization. The Turkish higher education system is a highly centralized system, in which the government exercises close and strict control through the CoHE. There is high demand for higher education in Turkey, where the only way to enter a university is to pass the annual nationwide university entrance examination. State universities and other state HEIs are funded by government resources. Similarly, education in Azerbaijan is centrally directed and controlled by the MoE. Access to higher education is based on the results of a centralized examination. Likewise, the autonomy of universities is obviously limited in both countries, centralized and strictly defined in accordance with educational policies made by the governments. Furthermore, both Azerbaijan and Turkey have been involved in the Bologna Process.

Alongside these commonalities there are also some major differences. For instance, the independent Commission for Academic Assessment and Quality Improvement in Higher Education was established in Turkey in 2005. Nine commission members are elected by UAK and one student member is appointed by the national student union. The Guide on Academic Assessment and Quality Improvement in HEIs are in line with the Standards and Guidelines for Quality Assurance in EHEA. According to the goals and objectives of the CoHE, Commission for Academic Assessment and Quality Improvement in Higher Education determines the procedures for the assessment and improvement of academic and administrative services of HEIs. Degree recognition, quality assurance, qualification framework, and a new accreditation system have been the major themes of the Bologna Process reform initiatives in Turkey. As a result of these activities, some leading universities

such as Middle East Technical University, Bosporus, Marmara and Istanbul Technical University are, for example, accredited by ABET (Accreditation Board for Engineering and Technology) to be recognized internationally as a measure of quality assurance (YOK, 2006; TUSIAD, 2003). Additional higher education institutions have followed the lead of these universities (Furuzan, 2012). Turkey now has 23 universities in the overall Times Higher Education World University Rankings. The highest-ranking university in Turkey is Sabanci University, which is ranked at number 351–400 (Times Higher Education, n.d.). This ranking takes the top institutions in the world and look at their performance across all of their core objectives: teaching, research, knowledge transfer and international outlook.

Unfortunately, no university from Azerbaijan is yet represented in world rankings. Universities in Azerbaijan are compared only by using the state's institutional ranking system, which does not give any information about research or teaching quality. This ranking system incorporates only one dimension: student choice of institution after the admission exam. Moreover, in 2007 and 2009, the Bologna Follow-up Group issued a report about the progress made by signatory countries. The twinning project of 2015-2017 (with the EU) contributed greatly to the development of a National Qualifications Framework (NQF) and the Standards and Guidelines for quality assurance in higher education in line with the European Qualification Framework. Nevertheless, the NQF has not yet been endorsed in legislation. Moreover, although universities have established units for internal quality assurance, no international and intermediary quality assurance agencies function in the country (The World Bank, 2018).

It is well recognized that Turkish higher education has changed profoundly over the last decade. These changes have manifested themselves in larger and more mature student populations, new teaching and research methods (including the use of information technology to mediate and facilitate instruction), and larger and more competitive arenas of operation (resulting from pressures to internationalize programmes and operations) (Council of Higher Education, 2001). The Turkish higher education sector as a whole continues to develop its international dimensions as a high priority. Its researchers continue to operate internationally at the highest possible levels. For instance, according to 2007 statistics of Thomson's ISI Web of Science index, Turkey is 19th in the World Ranking according to publications in scientific journals. The scientific publications of Turkey have increased from 15.347 to 21.273 between 2005 and 2007 (Furuzan, 2012). Moreover, according to the

SCImago (SJR—SCImago Journal and Country Rank, n.d) Turkey is in the 20th place for academic publication results, whereas Azerbaijan is in the 91th place in the world. Table 2.1 compares the number of publications between the two countries between 1996-2014.

Table 2.1

Number of publications in Azerbaijan and Turkey

Years	Azerbaijan	Turkey
1996	248	5440
1997	233	5818
1998	204	6258
1999	195	7420
2000	191	7394
2001	175	8987
2002	284	11462
2003	340	14104
2004	431	17274
2005	428	19460
2006	374	21604
2007	495	23656
2008	577	24473
2009	760	28708
2010	793	30842
2011	879	32460
2012	976	33487
2013	720	35899
2014	574	33450

The current study aims to investigate and explain university teachers' self-efficacy for research and teaching, and job satisfaction by using data collected from two countries, Azerbaijan and Turkey. These countries were chosen because although they share some cultural and linguistic traits, and so may offer results that can inform each other's work to improve higher education, they also differ in terms of history, size, and the approaches they have adopted to higher education, and thus it is reasonable to expect some informative variation between the results from these two locations. Moreover, taking into consideration Turkey's strong role in the region, its continual development in the higher education sector, and its close relationship with Azerbaijan, it is reasonable to choose Turkey rather than other countries bordering Azerbaijan (Georgia, Armenia, Iran, Russia) for comparison in this study. Undoubtedly, there are deficiencies in Turkish higher education system including university teachers' self-efficacy and job satisfaction. However, this particular cross-

national comparison may, first, allow for making a deep and critical analysis of university teachers' self-efficacy for research and teaching, and job satisfaction in both countries. Second, these analyses may reveal Turkey's best practices, which can, because of the commonalties between the countries, then be recommended to and well adapted in Azerbaijan.

2.5 Chapter summary

This chapter has presented general information about Azerbaijan and Turkey and their education systems. It has offered evidence of the great efforts which authorities in each country have made in recent decades to improve the quality of education. As a result, higher education in both countries has seen major developments. However, despite the acknowledged value of the profound changes in both countries' education systems, there have also been some criticisms of specific aspects of each of those systems of higher education. The views of study respondents regarding these criticisms and more particularly as related to the factors potentially affecting university teachers' research and teaching self-efficacy and as well as job satisfaction will be addressed at length in Chapters Five, Six and Seven. Finally, the chapter has also provided a rationale for cross-national comparison between Azerbaijan and Turkey.

Next, Chapter Three presents a review of the literature relevant to the study.

Chapter Three

Literature Review

3.1 Introduction

This chapter expounds upon the theoretical foundation and background of the present study, by reviewing literature relating to the topic of self-efficacy and job satisfaction in educational settings and among teachers. It begins by examining the concept of self-efficacy, its sources, and highlighting the importance of this concept, particularly for teachers. Based on prior research, the chapter further discusses the role of demographic and environmental variables influencing university teachers' self-efficacy. It then outlines the definitions of job satisfaction and its relationship to self-efficacy. The chapter concludes with a summary.

3.2 The Concept of Self-efficacy

This section explores the concept of self-efficacy, its definition and sources in general, before considering in particular teachers' self-efficacy, and demographic and environmental factors associated with it.

3.2.1 Definition of self-efficacy

Over a quarter century ago, Albert Bandura introduced the concept of self-efficacy defined as "people's judgments of their capabilities to organize and execute courses of action required to attain designated types of performance" (p. 391). Since that time, research in many arenas has demonstrated the power of efficacy perceptions in human learning, performance, and motivation. Self-efficacy theory has inspired a tremendous body of research on the treatment of emotional and behavioural problems, such as anxiety, depression, eating disorders, and alcohol and drug abuse (Bandura, 1997). The theory has also applications in educational settings.

Self-efficacy is grounded in the theoretical framework of social cognitive theory emphasizing the evolution and exercise of human agency – that people can exercise some influence over what they do (Bandura, 2006). In this conception, people are self-organizing, proactive, self-regulating, and self-reflecting. Moreover, Bandura (1982) states that strong self-efficaciousness intensifies and sustains the effort needed for optimal performance. Results from research on self-efficacy beliefs show that judgments of personal competence are often stronger predictors of behaviour than are prior accomplishments, skill, or

knowledge (Multon, Brown & Lent, 1991; Pajares, 1996; Schunk, 1991). In other words, Bandura (1986) strongly argues that having the knowledge and skills needed to perform an act does not guarantee that an actor will perform efficaciously. Instead, effective action depends also upon the personal judgment that one can mobilize such knowledge and skills to perform an act successfully under varied and unpredictable circumstances. Bandura defines this judgment as perceived self-efficacy, a cognition that mediates between knowledge and action.

Bandura proposes two types of expectations that influence the choice of activities and the effort individuals expend to reach certain outcomes: outcome expectancy, which is defined as a person's estimation that a given behaviour will lead to certain outcomes, and efficacy expectation, which is the conviction that one can successfully execute the behaviour required to produce the outcomes. Therefore, individuals can acknowledge that a course of action will produce certain outcomes, but if they have serious doubts about their ability to perform the action, then such information will influence their behaviour. The degree of individuals' conviction about their own effectiveness is not only likely to affect how much effort they will expend and how long they will persist in adverse circumstances; it is also likely to affect whether they will initiate a coping behaviour.

Self-efficacy is a predictor of performance (Bandura, 1997). Research shows that there is a significant correlation between self-efficacy and performance on specific tasks (e.g., Bandura, 1982). The effort invested in a task is regulated by an individual's belief in their ability to perform the task. Individuals' beliefs about their abilities in a given domain affect the choices they make, the effort they exert, and their inclinations to persist at certain tasks (Bandura, 1986). In other words, self-efficacy influences our choice of actions (Bandura, 1977). Tasks located within an experienced area of confidence are carried out successfully, while tasks outside it create problems (Bandura, 1977). Individuals avoid tasks they think they are not up to, and choose those that they assume themselves capable of accomplishing. It should be emphasized here that it is the expectations which have the effect, not ability or lack of ability to cope with the task.

Furthermore, self-efficacy has to do with self-perception of competence rather than actual level of competence. In other words, although effective functioning will require both skills and self-efficacy (Bandura, 1997), level of skill is less important than what one believes one can achieve under the circumstances. This is a principal distinction, because individuals

regularly overestimate or underestimate their actual abilities. In its turn, these estimations may have consequences for the courses of action they choose to pursue or the effort they exert in those pursuits. And more importantly, over- or underestimating competences may influence how well individuals use the skills they possess. The self-assurance with which individuals approach and accomplish difficult tasks determines whether they make good or poor use of their capabilities. “Insidious self-doubts can easily overrule the best of skills" (Bandura, 1997, p. 35). For instance, the researchers observed that women aptly competent in mathematics often fail to pursue mathematics-related careers because they have low self-efficacy perceptions about their competence (Hackett, 1985; Lent, Lopez & Bieschke, 1991, 1993; Phillips & Zimmerman, 1990).

Self-efficacy is a future-oriented belief about the level of competence an individual expects he or she will display in a given situation. Self-efficacy beliefs influence thought patterns and emotions that enable actions in which individuals put substantial effort in pursuit of goals, persist in the face of adversity, rebound from temporary obstacles, and exercise some control over events that affect their lives (Bandura, 1986; 1993;1997). However, high self-efficacy does not ensure an individual will perform better. If the individual does not have the requisite skills, or does not value the outcomes of the performance, they may not be able or willing to attain the expected level of performance, will become frustrated, and may give up (Bandura, 1982).

Self-efficacy is also influenced by one's actions and conditions in the given environment (Schunk & Meece, 2006). Efficacy beliefs determine how environmental opportunities and impediments are perceived (Bandura, 2006) and affect choice of activities, how much effort is expended on an activity, and how long people will persevere when confronting obstacles (Pajares, 1997). Bandura (1997, p. 42) points out that “if there are no obstacles to surmount, the activity is easy to perform, and everyone has uniformly high perceived self-efficacy for it.” Persistence in continuing with the task is correlated to self-efficacy (Bandura, 1977). Individuals with strong self-efficacy beliefs work harder and persist longer when they encounter difficulties than those who doubt their capabilities. By contrast, individuals with low self-efficacy invest less and give up sooner.

It is also important to note that self-efficacy is distinct from other conceptions of self, such as self-concept, self-worth, and self-esteem. Self-efficacy is specific to a particular task. For instance, "self-esteem usually is considered to be a trait reflecting an individual's

characteristic affective evaluation of self (for example, feelings of self-worth) whereas, “self-efficacy is a judgment about task capability that is not inherently evaluative" (Gist & Mitchell, 1992, p. 185). Bandura (1997) also clarifies the distinction between self-efficacy and Rotter's (1966) internal-external locus of control. He strongly argues that perceived self-efficacy and locus of control bear little or no empirical relationship to one another. In addition, perceived self-efficacy is a strong predictor of behaviour, whereas locus of control is typically a weak predictor. According to Bandura (1997), beliefs about whether one can produce certain actions (perceived self-efficacy) are not the same as beliefs about whether actions affect outcomes (locus of control). To clarify further, Rotter's scheme of internal-external locus of control is mainly concerned with causal beliefs about the relationship between actions and outcomes, not with personal efficacy. For instance, an individual may believe that a particular outcome is internal and controllable (caused by the actions of the individual) yet still have little confidence that he or she can perform the necessary actions.

According to Bandura (1997), making self-efficacy appraisals requires an individual to examine the context and then assess his or her capability to perform the task successfully. In particular, self- efficacy appraisals are made after the individual evaluates the requirements of the activity, estimates the level of difficulty of the task, and what it would take to succeed (Knoblauch & Woolfolk Hoy, 2008). In other words, self-efficacy is situational; it is not a generalized expectation. Although perceptions of efficacy can be modified by other sources of information, it develops primarily from a subject’s appraisal of past experience with a task or with similar activities (Bandura, 1997). In social cognitive theory, self-efficacy develops through reflection on sources of efficacy information which will be discussed in the next section.

3.2.2 Sources of self-efficacy

Given the pivotal role of self-efficacy beliefs in understanding human behaviour, it is important to understand how these beliefs are formed. Self-efficacy beliefs are the result of learning processes. Social relationships play an important role in these learning processes, which are based on four different sources of information (Bandura, 1997): (1) enactive mastery experiences that serve as direct indicators of capabilities, (2) vicarious experiences that alter efficacy beliefs by observing other people performing similar tasks, (3) verbal persuasion in which others can guide individuals to believe in their own capabilities, and (4) physiological arousal that indicates one's vulnerability to dysfunction.

3.2.2.1 Mastery experiences

Bandura (1986, 1997) strongly argues that the most important source of information comes from the interpreted results of one's past performance, which he called "mastery experience". When people believe that their efforts have been successful, their confidence to accomplish similar or related tasks is raised. Repeated failure, on the other hand, can lower efficacy beliefs, especially when such failures occur early in the course of events and cannot be attributed to lack of effort or external circumstances. In other words, continued success can create hardy efficacy beliefs that occasional failures are unlikely to undermine. Moreover, the frequent completion of a specific task successfully increases self-efficacy (Bandura, 1982). For example, faculty members who have been successful in publishing their research may have high research self-efficacy, whereas faculty members who have had their manuscripts rejected multiple times may begin to doubt their capabilities and have low research self-efficacy.

The study on self-efficacy has demonstrated that beliefs regarding one's ability to succeed are malleable, and therefore, can be trained (Gist & Mitchell, 1992). Self-efficacy beliefs are formed, in part, through an attributional analysis of why some level of performance has occurred in the past. In general, self-efficacy is raised through success and lowered when an individual experiences failure (Bandura, 1986). Therefore, over time the self-efficacy and performance relationship may cause an individual to become caught in a positive or negative self-efficacy spiral (Lindsley, Brass & Thomas, 1995; Shea & Howell, 2000). The development of teaching efficacy follows the same pattern. For example, a university teacher may experience a "failure" in a classroom (e.g., poor student learning, etc.). This may cause him/her to become less confident about succeeding in the classroom in the future; therefore, he/she puts less effort into classes, cares less about the students, and may be reinforcing the negative spiral. Conversely, a university teacher who experiences "success" in a class may have greater confidence about teaching that class and may take increasing interest in finding ways to promote student learning. This positive teaching efficacy spiral benefits both a university teacher and the students. Unless the success required such massive work that the individual feels unable to sustain this level of effort, the perception that teaching has been successful raises efficacy expectations that teaching will be proficient in the future. The perception that one's teaching has been a failure, on the other hand, lowers efficacy beliefs, contributing to the expectation that future performances will also be inept – unless the failure is viewed as providing clues about more potentially successful strategies. For novice

teachers, gaining mastery experience is an important source of efficacy beliefs (Mulholland & Wallace, 2001).

3.2.2.2 Vicarious experiences

The second source of self-efficacy information is the vicarious experience that individuals undergo when they observe others performing tasks. Observing the successes and failures of others contributes to individuals' beliefs about their own capabilities. The behaviour of models is particularly influential, and this is a prominent area of research in the study of self-efficacy. The degree to which the observer identifies with the model moderates the efficacy effect on the observer (Bandura, 1977). The more closely the observer identifies with the model, the stronger will be the impact on efficacy. When a model with whom the observer identifies performs well, the efficacy of the observer is enhanced. Similarly, when the model with whom the observer identifies performs poorly, the efficacy expectations of the observer decrease (Bandura, 1977).

Since the activity of teaching lacks absolute measures of adequacy, teachers must appraise their capabilities in relation to the performance of others (Bandura, 1997). The observer has the opportunity to appraise his or her own capabilities because the model provides a standard and this can help the observer set goals for his or her own teaching. The greater the assumed similarity between the observer and the model, the more persuasive will be the belief that the observer possesses capabilities to master comparable activities. In other words, Bandura asserts that depending on the similarity of the model's demographic characteristics, or the competence of the referent person, a sense of efficacy may be increased or lowered by the observation of others' successes or failures. Furthermore, vicarious experience information is most influential for those who have the least experience to judge their own capabilities. Observing others perform a task helps people evaluate in terms of observation their abilities to perform the same task. For instance, observing university teachers demonstrate effective classroom management practices, especially in the face of challenges, through perseverant effort that highlights the cognitive skills modelled, inspires and aids acquisition of new skills by the novice, and can raise their sense of efficacy. Conversely, observing competent university teachers struggle to manage situations using appropriate strategies can cause the novice to re-evaluate task difficulty. However, if the vicarious experience is limited to watching the presenter, it may be only minimally effective at increasing teaching skill (Joyce & Showers, 1988).

3.2.2.3 Verbal persuasion

Beliefs of personal competence are also influenced by the verbal persuasions an individual receives. Bandura (1977) defines verbal persuasion as the expression of faith in another's capabilities and it is often delivered as performance feedback by competent others. When people receive realistic appraisals from their significant others, i.e. ''evaluative feedback'' (Bandura, 1997, p. 101), in the form of verbal persuasion regarding their attainments, individuals seem to strengthen their beliefs in the capabilities they have to achieve what they want. He also points out that "it is easier to sustain a sense of efficacy, especially in times of difficulty, if significant others express faith in one's capabilities than if they convey doubts" (p. 101). Social or verbal persuasion may entail a ''pep talk'' or specific performance feedback from a supervisor, colleague, or students. For instance, student evaluations of teaching at the college level can be a form of verbal persuasion, for better or worse for university teachers (Heppner, 1994).

Verbal persuasion may be limited in its power to create enduring increases in self-efficacy, but it can bolster self-change if the positive appraisal promotes greater effort in the development of skills that subsequently lead to a stronger sense of efficacy. Verbal messages and social encouragement help individuals to put forth extra effort and maintain the persistence required to succeed, resulting in the continued development of personal efficacy. Nevertheless, verbally convincing people that they are indeed capable of accomplishing a particular task is hypothesized to have the greatest effect on those who already believe themselves (Bandura, 1997).

It is also important to mention that the potency of persuasion depends on the credibility, trustworthiness, and expertise of the persuader (Bandura, 1986). For instance, feedback from an administrator who does not have a research background may not have a strong impact on the research self-efficacy of a university teacher. By contrast, feedback from a highly published faculty member may influence the research self-efficacy of the recipient, especially if the recipient holds similar beliefs about his or her capabilities. For novice teachers, a potent source of efficacy is feedback from students in the form of enthusiasm and engagement as well as verbal persuasion from experienced teachers in the form of encouragement and advice (Mulholland & Wallace, 2001). In addition, verbal persuasion, assessed as the interpersonal support of administrators, colleagues, and members of the community, also appeared to be more influential for novice teachers' than for career

teachers' self-efficacy beliefs.

Social persuasion may counter occasional setbacks that would otherwise have instilled enough self-doubt to interrupt persistence. Possibly, messages can also work to undermine efficacy beliefs when used to convince people that they lack capabilities. For instance, when women receive social messages that they do not belong in a male-dominated field such as mathematics, they may be especially vulnerable to believing that they are not, and cannot be, competent in that field. Indeed, Bandura (1986; 1997) argues that verbal persuasions are more effective in undermining efficacy beliefs than strengthening them.

It is also important to note that verbal persuasion alone may not be a powerful source of self-efficacy; nevertheless, in partnership with other sources of efficacy, it may provide teachers the encouragement necessary to expend effort toward realistic goals aimed at strengthening their teaching and research skills.

3.2.2.4 Physiological arousal

Positive emotions signal self-assurance and the anticipation of future success (Bandura, 1996). Arousal, such as increased heart and perspiration, or trembling hands, can be read either positively as excitement or negatively as stress and anxiety, depending on the circumstances and the overall level of arousal (Bandura, 1997). Moderate levels of arousal can improve performance by focusing attention on the task. However, high levels of arousal can interfere with making the best use of one's skills and capabilities. Individuals perceive and attend differently to physical and emotional signals, attributing these signals to internal or external causes, and hence are differentially affected by them. Whereas in some, moderate arousal can be energizing, for others, attending to intense agitation can produce dysfunction, leading to failure or lowering efficacy of judgement. When tasks are complex or previous failures have occurred, it is more likely that individuals will be affected by arousal reactions that can interfere with performance. As teaching is a highly complex task, it is likely that some pre-service teachers' sense of efficacy will be adversely affected by this information source (arousal). However, as enactive mastery experiences increase, the effect of this source is thought to fade.

Physiological states have been posited to have the least influence on teaching efficacy (Bandura, 1997; Mulholland & Wallace, 2001; Poulou, 2007). The level of emotional and physiological arousal an individual experience in a teaching situation contributes to self-perceptions of teaching competence. Bandura (1997) claims that relevant information from

which belief about self-efficacy can be derived, no matter what its source, is filtered by thought processes and reflection before it affects self-efficacy. The type of information received, as well as the information source, are both obviously important. So, too, is the way in which individuals weigh and integrate this information coming from various sources. Weights assigned to different types of self-efficacy information may vary in different spheres of life and integration rules may differ in different situations. The context in which the sources of efficacy are experienced plays an important role in the development of self-efficacy beliefs.

As mentioned earlier, self-efficacy theory as applied in the educational realm has sparked a rich line of research into how teachers' self-efficacy beliefs are related to their actions and to the outcomes they achieve (Tschannen-Moran, Woolfolk Hoy & Hoy, 1998). However, very few studies have investigated the influence of teacher-efficacy in the population of college-level instructors. To better understand the potential role of efficacy beliefs in university settings, it is important to review what we currently know about teachers' self-efficacy in general.

3.3 Teachers' self-efficacy

Teachers' sense of efficacy appears to be a belief that affects teaching and learning and therefore, teacher educators, administrators, and policy makers are interested in the origins, supports, and enemies of self-efficacy. During the last decade, the research literature shows a growing interest in teacher self-efficacy (Soodak & Podell, 1996; Wheatley, 2005). Nevertheless, a problem with research on teacher self-efficacy is that there is no common consensus about the conceptualization and measurement of the construct. The major grounds for this lack of an agreed upon approach to characterizing and measuring self-efficacy rests on the assumption that the teacher's role is much more complex than can be represented in extant conceptualizations. Recent research findings support the idea that teacher self-efficacy should be conceptualized as a multidimensional construct. This seems to be true for research across various countries and cultural contexts.

Many educational researchers characterize teacher self-efficacy beliefs as an elusive construct (Tschannen-Moran & Woolfolk Hoy, 2001). With respect to the meaning and measurement of the concept of teacher efficacy, the researchers have often approached the study of teacher self-efficacy from two theoretical viewpoints. The first is grounded in Rotter's social learning theory of internal versus external control (Rotter, 1966). Based on

Rotter's (1966) distinction between external and internal control teacher self-efficacy has been assumed to increase if teachers believe that the students' achievement and behaviour can be influenced by education (Guskey & Passaro, 1994; Rose & Medway, 1981). Thus, teacher self-efficacy has also been assumed to decrease if teachers believe that factors external to teaching (e.g., students' abilities and home environments) are more important to the students' learning than the influence that a teacher may have. In other words, teachers who believe that they are competent to teach difficult or unmotivated students were considered to have internal control, whereas teachers who believe that the environment has more influence on student learning than their own teaching abilities were considered to have external control. These assumptions led some researchers to measure teachers' general beliefs about limitations to what can be achieved through education, which is often referred to as "teaching efficacy" (e.g., Soodak & Podell, 1996). The construct of teacher efficacy was first conceptualized in two Rand Corporation studies (Dembo & Gibson, 1985). These studies conclude that teachers' sense of efficacy is one of the best predictors of the "percentage of goals achieved, amount of teacher change, improved student performance, and continuation of both project methods and material" (Dembo & Gibson, 1985, p. 173).

This study focuses on the second strand of research on teacher efficacy which was grounded in Bandura's social cognitive theory and his construct of self-efficacy (Bandura, 1977). Consistent with the general formulation of self-efficacy, Tschannen-Moran et al., (1998) define teacher self-efficacy as, "a teacher's belief in her or his ability to organize and execute the courses of action required to successfully accomplish a specific teaching task in a particular context" (p. 117). Skaalvik & Skaalvik (2010) conceptualize teacher self-efficacy as individual teachers' beliefs in their own ability to plan, organize, and carry out activities that are required to attain given educational goals. Some other definitions relate teachers' self-efficacy to student learning or achievement. For instance, Guskey & Passaro (1994, p. 4) define teacher self-efficacy as "teachers' belief or conviction that they can influence how well students learn, even those who may be difficult or unmotivated". Similarly, Dembo & Gibson (1985, p. 173) describe it as "the extent to which teachers believe they can affect school learning." And Newman et al. (1989, p. 223) refers to it as "the teacher's perception that his or her teaching is worth the effort, that it leads to the success of students and is personally satisfying." More recently, Tschannen-Moran & Woolfolk Hoy (2001) define teachers' self-efficacy as beliefs regarding one's ability to teach, to regulate classroom behaviour, as well as to motivate students to learn. But how teachers' sense of efficacy

affects student achievement is the critical question. Ross (1994; 1998) reviewed 88 teacher efficacy studies and identified potential links between teachers' sense of efficacy and their behaviours. Ross suggests that teachers with higher levels of efficacy are more likely to (1) learn and use new approaches and strategies for teaching, (2) use management techniques that enhance student autonomy (3) provide special assistance to low achieving students, (4) build students' self-perceptions of their academic skills, (5) set attainable goals, and (6) persist in the face of student failure. Moreover, when teaching, individuals with a higher sense of efficacy are likely to demonstrate different instructional practices and feedback to students. Gibson & Dembo (1984) point out that those teachers with lower self-efficacy often criticize students who respond with incorrect answers. By contrast, teachers with higher self-efficacy praise the student for trying and then provide assistance and an additional opportunity to respond. Similarly, Ashton & Webb (1986) notes that greater efficacy enables teachers to be less critical of students when they make errors. They also find out that teachers with higher self-efficacy tend to exhibit warmth toward their students, are responsive to student needs, and are accepting of student initiatives. Bandura (1997) point out that "teachers who believe strongly in their ability to promote learning create mastery experiences for their students, but those beset by self-doubts about their instructional efficacy construct classroom environments that are likely to undermine students' judgments of their abilities and their cognitive development (p. 241). In addition, teachers who have a high sense of efficacy are more humanistic in their management (Woolfolk & Hoy, 1990), and adopt more positive classroom management strategies (Emmer & Hickman, 1991).

Teacher efficacy researchers traditionally have labelled the two sets of beliefs "teaching efficacy" and "personal teaching efficacy" (Ashton & Webb, 1986; Gibson & Dembo, 1984). This language may invite confusion. Hoy & Woolfolk (1990) opt to label these constructs "general teaching efficacy" and "personal teaching efficacy". This distinction is critical "because individuals can believe that a particular course of action will produce certain outcomes, but if they entertain serious doubts about whether they can perform the necessary activities such information does not influence their behaviour" (Bandura, 1977, p. 193). Hence, one may be confident in the abilities of the normative teacher and, at the same time, harbour considerable uncertainties about his or her own instructional skills.

Based on Bandura's definition of self-efficacy several instruments have been developed to measure (personal) teacher self-efficacy. Most of these instruments either do not measure

teacher self-efficacy as a multidimensional construct, do not reflect the variety of tasks and demands that are put upon a teacher, or do not follow Bandura's recommendation for item construction (Skaalvik & Skaalvik, 2007). Despite differences in item construction in these instruments teacher self-efficacy have broadly been shown to predict teachers goals and aspirations (Muijs & Reynolds, 2002), teachers' attitudes towards innovation and change (Fuchs, Fuchs & Bishop, 1992; Guskey, 1988), teachers' tendency to refer difficult students to special education (Meijer & Foster, 1988; Soodak & Podell, 1993), teachers' use of teaching strategies (Allinder, 1994; Woolfolk, Rosoff & Hoy, 1990), and the likelihood that teachers stay in the teaching profession (Burley, Hall, Villeme & Brockmeier, 1991; Glickman & Tamashiro, 1982).

Teacher efficacy influences behaviour through (a) cognitive processes (especially goal setting), (b) motivational processes (especially attributions for success and failure), (c) affective processes (especially control of negative feelings), and (d) selection processes (Bandura, 1993; 1997). A growing body of empirical evidence supports Bandura's (1977) theory that teachers' self-efficacy beliefs would be related to the effort teachers invest in teaching, the goals they set, their persistence when things do not go smoothly and their resilience in the face of setbacks (Tschannen-Moran et al., 1998). For instance, various research shows that teachers with a greater sense of efficacy persist longer when confronted with challenges, exhibit a greater enthusiasm for teaching, and generally are perceived by others as more effective teachers (Guskey, 1984; 1988; Hall et al., 1992). Moreover, teachers with a strong sense of efficacy tend to exhibit greater levels of planning, organization, and enthusiasm (Allinder, 1994), open to new ideas, more willing to experiment with new methods to better meet the needs of their students (Cousins & Walker, 2000; Guskey, 1988), and more committed to teaching (Coladarci, 1992). High self-efficacy also corresponds with a greater tendency to try out new approaches (Guskey, 1988; Stein & Wang, 1988). According to Tschannen-Moran & Woolfolk Hoy (2001) higher self-efficacy leads to better instruction due to self-efficacious teachers being more willing to invest effort in their teaching thereby creating mastery experiences that further bolster their self- efficacy.

Teachers' efficacy is a self-perception of capabilities, not an objective measure of teaching effectiveness. Bandura (1997) argues that teachers' perceptions of efficacy depend on more than simply their ability to teach subject matter. Teacher's effectiveness is, in part, determined also by their efficacy beliefs in maintaining classroom discipline that establishes

an environment of learning. Tschannen-Moran & Woolfolk-Hoy (2001) suggest that in order to be useful and generalizable, measures of teacher efficacy need to tap teacher's assessments of their competence across the wide range of activities and tasks they are asked to perform. The dimensions have often been associated with classroom management, instruction, motivating and engaging students, and, more recently, cooperating with colleagues and parents (Klassen et al., 2009; Romi & Leyser, 2006; Skaalvik & Skaalvik, 2007; 2010; Tschannen-Moran & Woolfolk Hoy, 2001; 2007).

Tschannen-Moran et al. (1998) proposed an integrated model of teacher self-efficacy, which included two dimensions. The first was teaching tasks and their context, and the second was the teacher's self-perception of teaching competencies. In analysing the first dimension, the relative importance of factors that make teaching difficult or act as constraints is weighed against an assessment of the resources available that facilitate learning. In assessing the second dimension, teachers judge personal capabilities such as skills, knowledge or personality traits balanced against personal weaknesses or liabilities in a particular teaching context. Bandura (1997) suggests that it is most fruitful when teachers slightly overestimate their actual teaching skills, as their motivation to expend effort and to persist in the face of setbacks will help them to make the most of the skills and competences they possess. The goals teachers set for themselves, the effort they put into achieving these goals, and their persistence when facing difficulties all influence teachers' performance level. The cyclical nature of teacher efficacy implies that lower levels of efficacy lead to lower levels of effort and persistence, which lead to a deterioration in performance, which in turn lead to lower efficacy (Tschannen-Moran et al., 1998).

Grounded in Bandura's conceptualization of self-efficacy, researchers (Emmer & Hickman, 1990; Tschannen-Moran & Woolfolk Hoy, 2001; Tschannen-Moran et al., 1998) strongly argue that teacher efficacy is multidimensional, subject-matter specific, and therefore, varies across tasks. Thus, teachers form perceptions about their personal capabilities in light of the requirements of a particular teaching task (Tschannen-Moran et al., 1998). In assessing beliefs about their teaching capability in a particular context, teachers make two related judgments: the requirements of an anticipated teaching task and an assessment of their personal teaching competence in light of those requirements (Tschannen-Moran et al., 1998). The assessment of the teaching task requirements will include the resources available; student factors such as their perceived ability, motivation, and socioeconomic status; and

contextual factors such as school leadership, collegial support, and the availability of resources. Judgements of personal competence are those a teacher makes about his or her capabilities based on an assessment of internal strengths and deficits. For example, a novice middle-school teacher may judge that her sense of humour will be an asset in working with students of that age-group, but also judge that her tendency to be disorganized will be an impediment.

After having a comprehensive understanding of teachers' self-efficacy, now attention turn to self-efficacy in a university setting.

3.4 Self-efficacy in the higher education context

In a university setting, self-efficacy is defined as an estimate of confidence in one's ability to perform various tasks classified as research, teaching, and service (Landino & Owen, 1988). More specifically, in their research within a higher education context, Major & Dolly (2003, p. 91) note that self-efficacy "...encapsulates the way that faculty members see themselves as teachers, researchers, and academic citizens as well as their beliefs about whether they can successfully complete tasks in each of these areas". Studies conducted in Australia, the USA, and the UK (Hemmings, Kay, Sharp & Taylor, 2012; Pasupathy & Siwatu, 2014; Wright & Holttum, 2012) attest to this definition. Researchers have investigated the role of self-efficacy in improving university-level teaching (e.g., Preito & Meyers, 1999; Young & Kline, 1996). University faculty with a strong sense of self-efficacy seem likely to increase the individual's performance (Heslin & Klehe, 2006) and this may help the institution's overall effort to achieve quality.

According to Hemmings & Kay (2009), university teachers' self-efficacy is comprised of three broad dimensions: teaching, research, and service self-efficacy. Each of these dimensions are represented by a cluster of related work tasks. Until very recently, however, there appears to have been little attempt to systematically measure university teachers' self-efficacy in relation to research, teaching and service-related activities, including confidence in the many skills, tasks and other elements commonly associated with each. Such research could be very valuable. Benchmarking self-efficacy in the core functions of research, teaching and other academic or service-related activities at tertiary levels may, for instance, shed light on institutional culture by providing valuable information concerning workload distribution and confidence in key operational areas. With this, it would be possible to more effectively evaluate and inform policy implementation, performance management,

professional development and training, resource allocation and investment decisions (Hekelman, Zyzanski & Flocke 1995; Bazeley, 2003; Major & Dolly 2003; Kamler, 2008; Laudel & Glässer, 2008).

According to Bandura (1977) self-efficacy beliefs are perceptions of confidence in ability to perform a specific task and these perceptions vary according to the task and its performance contexts. In the higher education context, Bailey (1999) examined the relationship between self-efficacy for research and self-efficacy for teaching and argued that the two constructs were essentially independent. Therefore, it may be possible for a faculty member to be highly efficacious as a teacher and yet not be efficacious as a researcher. Some university teachers may allocate greater amounts of their time to research and less to other academic work-related tasks because of the apparent influence of a series of periodic national research assessment exercises (Talib, 2002). Finding a balance between research and teaching is pivotal for a successful and satisfying career. However, faculty members face perplexing choices in balancing their workload among teaching, research, and service activities nowadays. Despite gaining some intrinsic and extrinsic rewards by engaging in teaching and service activities, the greatest rewards (such as tenure, promotion, and professional standing) flow to those faculty members who publish scholarly work (Watty, Bellamy & Morley, 2008). Nevertheless, it is probably easier, as Bandura (1997) suggests, to involve one's self in teaching, a more immediately manageable and gratifying experience, than research, a more complex, long-term activity. According to Bandura (1997, p. 464) research "requires considerable creativity, staying power ... (and) ... researchers must proceed on a strong sense of personal efficacy, believing that their efforts will eventually prove successful".

Although productivity in higher education is obviously multidimensional, dependent as it is on both knowledge production and knowledge dissemination, accomplished through the various forms of research, teaching, and outreach activities, research productivity in particular has attracted perhaps the greatest amount of attention and concern. Therefore, most of the attention given to university teachers' self-efficacy has focused on research self-efficacy and how it can be strengthened to support higher degrees of accomplishment by research students (Lambie et al., 2013) and university lecturers (Zhao, McCormick & Hoekman, 2008).

3.4.1 Research self-efficacy

Research tends to be valued over teaching and service in many higher education settings (Bazeley, 2003; Star, 2004; Armstrong & Goodyear, 2005; Sykes, 2006), where faculty members commonly feel the pressure to research and to disseminate the findings of their research. Research productivity is now an increasingly important requirement for faculty members in all types of institutions of higher education (Lucas & Murry, 2007). The axiom 'publish or perish' refers to the widely accepted understanding that the path to success in academia is through productive publication of research findings (Silverman, 1999). Without publications, tenured faculty members at research institutions risk stagnation in their present ranks and tenure-track faculty members endanger their chances of tenure and promotion. However, there is still a dearth of information on research self-efficacy and the sources of research self-efficacy within educational environments.

Research self-efficacy is an individual's belief or confidence in his or her ability to successfully perform tasks associated with conducting research (Forester, Kahn & Hesson-McInnis, 2004; Bishop & Bieschke, 1998). In the literature that does exist, research self-efficacy has been studied in relation to research experience, interest in research, time spent in graduate school, research training environment, gender and research productivity (Bieschke, Bishop & Garcia, 1996; Bishop & Bieschke, 1998; Brown, Lent, Ryan & McPartland, 1996; Gelso, 1993; Kahn, 2001; Kahn & Scott, 1997; Landino & Owen, 1988; Phillips & Russell, 1994; Unrau & Beck, 2004; Wright & Holttum, 2012). However, the majority of these studies have been conducted with graduate students, not with tenure track or tenured faculty.

Despite developing the knowledge and skills needed for research, faculty members may still not be confident in their abilities to conduct and publish research (Hanna, Haug & Krabbenhoft, 2005). According to Akerlind (2007) successful faculty members should not only build up a range of research skills but should also have the confidence to apply these skills in an appropriate and meaningful fashion. Poor publication record appears to be linked to a lack of confidence in research, especially as related to writing and converting writing into a publishable form (Gething & Leelarthaepin, 2000; Seyyed et al., 2004). The critical question is: What is the relationship between faculty members' research self-efficacy beliefs and their research productivity? An examination of the little literature that exists on this topic reveals a consistent association between research self-efficacy and research productivity.

University teachers' confidence in their research capabilities is positively correlated with research productivity (e.g., Kahn & Scott, 1997). This positive relationship suggests that as beliefs about research capabilities increase so does research productivity. To clarify further, studies (e.g., Gething & Leelarthaepin, 2000; Seyyed et al., 2004; Vasil, 1992) have shown that university faculty with low levels of self-efficacy for research, or who lack the confidence to perform research tasks, tend to have low research output, as measured by refereed publications. The opposite also appears to be true: Those with high levels of research self-efficacy are more likely to be the most productive of research in the academy (Bailey, 1999; Schoen & Winocur, 1988).

What is the best way to improve self-efficacy for research? Adams (2004) contends that research self-efficacy can be enhanced by observing a peer modelling a specific skill, particularly if the observer and peer share common characteristics. Similarly, Major & Dolly (2003) suggest that vicarious experiences (e.g., observing an experienced academic prepare a budget for a research project) and mastery experiences (e.g., delivering a well-received conference paper) are ways of developing research self-efficacy. They further argue that self-efficacy for research can be increased through tailored workshops and/or short training sessions, particularly if they are run in a non-threatening manner. In addition, LaRocco & Bruns (2006) argues that emotional, informational and instrumental supports are all critical in preparing academics for research tasks and developing life-long scholarly habits.

Some faculty members have a lower level of self-efficacy regarding most aspects of the research process and it is interesting to determine the reasons for this low level of self-efficacy – is it a skill deficiency, or is there a value framework which is different? Does it follow that self-efficacy increases if one has the skills to research? Lent et al. (1994) suggest that interest in research is a function of personal characteristics, environmental influences, research self-efficacy, and research outcome expectations. Personal characteristics such as investigative, artistic, and social interests as well as gender and age affect interest in research directly and indirectly through research self-efficacy, research outcome expectations, and environmental influences.

There is a strong rationale reinforcing the claims that research should contribute to teaching. University teachers who are active researchers are more likely to be on the cutting edge of their discipline and aware of international perspectives in their field. Braxton (1996) argues

that the roles of teaching and research are similar, they involve common values and they should be mutually reinforcing. University teachers, even those who are the most productive researchers, support normative structures that place a high value on teaching effectiveness (Sullivan, 1996). Examining the teaching efficacy of university teachers may yield valuable information about what shapes their teaching successes and setbacks.

3.4.2 Teaching self-efficacy

Undoubtedly, teachers perform at different levels, and an important step in improving instructional quality is to understand the factors that influence teachers' ability to teach successfully or effectively. Most departments expect their new university teachers to step in and successfully teach a class, often with little or no teaching experience or training. Even experienced university teachers will perform at different levels, and an important step in improving teaching quality is to understand the factors that influence teachers' ability to teach. As mentioned earlier, the literature concentrating on the notion of teaching self-efficacy in higher education is relatively sparse. This is not the case when teaching self-efficacy is considered at the primary (elementary) and secondary school levels.

Extant studies on effective teaching in higher education have focused on practitioner conceptions of teaching (e.g., Brown 1993; Gow & Kember 1993). For instance, Brown (1993) suggests that the idea of teaching encompasses course design, class management, teacher-student interaction, the provision of other learning opportunities, assessment and feedback to students. Chang, Lin & Song (2011) provides a framework for university teaching which contains six dimensions; course design, instructional strategy, technology usage, class management, interpersonal interaction, and learning assessment. Bandura (1997) pointed out that teachers' sense of efficacy is not necessarily the same across all areas of the work because of the many different types of tasks teachers are asked to perform. By integrating the definition of teacher efficacy by Tschannen-Moran & Woolfolk Hoy (2001) and the conception of university teaching by Chang et al. (2011), the faculty teaching efficacy is defined as the university teachers' judgment of their capabilities in the defined (if sometimes overlapping) areas of course design, instructional strategy, technology usage, classroom management, interpersonal relation, and learning assessment.

There is consistent evidence that university lecturers are more confident (and therefore more efficacious) in performing teaching-related tasks compared with research and service tasks. Studies dating back some decades (Schoen & Winocur, 1988) and those conducted much

more recently (Sharp et al., 2013) show that university teachers report relatively high levels of confidence when engaging in teaching activities such as preparing teaching materials, presenting lectures, leading tutorials, and marking assigned work. The prevailing view is that these higher levels of confidence are the result of practice effects and mastery learning (Bailey, 1999). Higher level of confidence about teaching is held by university teachers who have strong education backgrounds, and is associated with those that, on average, devote significantly more time to teaching preparation, delivery and assessment tasks compared to their research and service activities (Hemmings et al., 2012).

Because of greater lecturer autonomy and more isolating conditions, teaching in a higher education context can encompass different experiences compared to teaching at elementary and high school levels, (Fives & Looney, 2009), thus resulting in different self-efficacy levels. However, teachers in university settings also typically repeat teaching tasks such as the delivery of a course or providing advice during a student consultation session. Such repetition can arguably result in the mastery of tasks and therefore a strengthening of self-efficacy.

Usually people assume that a teacher who is knowledgeable about a particular subject will be confident teaching that subject, but this is not necessarily the case. In fact, knowledge of a particular subject does not correspond to increased confidence in one's ability to teach the subject (Tosun, 2000a, 2000b; Cannon, 1999). Teachers with higher efficacy judgments spend more time on teaching in subject areas where their sense of efficacy is higher (Riggs & Enochs, 1990), whereas teachers tend to avoid subjects when efficacy is lower (Riggs, 1995). In conducting an analysis of the teaching task, teachers often consider variables such as the availability of resources, time constraints, quality of instructional materials, and student characteristics (Tschannen-Moran et al., 1998; Tschannen-Moran & Woolfolk Hoy, 2007). Several studies focus on the practical implications of trying to strengthen the self-efficacy of university lecturers. To illustrate, Major & Dolly (2003) suggest that teaching self-efficacy can be grown through an effective graduate-programme experience or teaching fellowship scheme.

One of the aims of the present research is to examine an association between demographic variables (e.g., gender, academic qualification etc.) and self-efficacy. Having examined university teachers' self-efficacy, let us turn to demographic variables related to it.

3.5 Demographic variables

Since one concern of this study is the relationship of self-efficacy with university teachers' demographic variables, this section examines such variables. It considers in turn and in detail the main demographic variables identified in the literature: gender, academic qualification, length of experience, and age.

3.5.1 Gender

In the literature gender is frequently mentioned as a major issue related to self-efficacy. Within the academic domain, females report higher teaching self-efficacy than males (Anderson, Greene & Lowen, 1988; Greenwood, Olejnick & Parkay, 1990; Lee, Buck & Midgley, 1992; Raudenbush et al., 1992) Similarly, Brennan et al. (1996) point out that women have higher levels of efficacy for teaching. In addition, Vasil (1992) found that male university teachers report stronger research self-efficacy beliefs than their female counterparts

There are a number of interpretations as to why these trends – with women reporting higher self-efficacy in teaching and men reporting higher self-efficacy in research – occurs. For instance, Schneider (1998) argues that women often have child-bearing and child-rearing responsibilities that lead to employment instability and subsequent challenges in maintaining a research concentration and profile. Similarly, Stack (2004) suggests that this gender differential in research self-efficacy may be the result of females, compared to their male counterparts, giving more attention to partner and other family responsibilities, being afforded fewer opportunities for co-authorship, and facing difficulties in a male-dominated work environment. An alternative viewpoint is that women generally gain less recognition and support than men for comparable output, principally because of a power imbalance by gender at universities (Long & Fox, 1995; Tierney & Bensimon, 1996). Moreover, Skolnik (2000) emphasizes that female university teachers devote more time and attention to their teaching, advising, and counselling duties, thereby sacrificing valuable time that could be allotted to research and publishing endeavours. This is possibly because teaching is viewed as a female occupation (Apple & Jungck, 1990) and females are viewed as and may therefore be more satisfied with the teaching area of their academic positions.

Furthermore, women have been found to possess higher self-efficacy for tasks associated with working with people than for tasks associated with working with things (Whiston, 1993). In traditionally male domains, women may lack opportunities to engage in mastery

experiences, to learn vicariously from professional role models, or to be encouraged by significant others to pursue non-stereotypical careers (Eccles, 1989; Betz & Hackett, 1981). In an academic framework, female academics may, for example, reassign their investment of time and energy from a research environment from which there are few sources of feedback to a teaching environment where they no longer need to rely solely on male colleagues for positive responsiveness but can obtain positive feedback from wider sources that include students.

3.5.2 Academic qualification

Another demographic variable associated with research output is academic level or qualification. Researchers have generally reported a positive correlation between academic qualification and publication output (Blackburn & Lawrence, 1995; Green, 1998; Smeby & Try, 2005); that is, as qualification increases, so does output. Academic qualification is widely regarded as a critical first step towards 'academic socialization' and the construction of an academic identity, and beyond the thesis is a predictor of future research productivity and various measures of personal, professional and institutional performance (Kamler (2008). Bazeley (2003) and Hemmings & Hill (2009) suggest that completing a doctorate fosters the requisite research skills, builds self-assurance and spawns publications. Earlier studies have shown some support for such a proposition. For instance, Landino & Owen (1988) mention that holding a PhD contributes to higher self-efficacy for research. Similarly, Bailey (1999) reports that holders of doctorates, compared to those with masters' qualifications, are more prone to have higher level of research self-efficacy. In addition, university teachers who research and publish, compared with those who do not, have higher levels of confidence and are more likely to hold higher academic qualifications and be in more senior academic appointments (Hemmings & Kay, 2009).

3.5.3 Experience (career stage)

A closer look into Bandura's theorizing about the nature of the self-efficacy construct reveals that these beliefs are not a stable trait (Bong, 2006; Dellinger, Bobbett, Oliver & Ellett, 2008). A teacher's self-efficacy beliefs, in fact, can be expected to fluctuate (Bandura, 1977). Research shows that teachers' self-efficacy may vary according to their career stage (Tschannen-Moran & Woolfolk Hoy, 2007; Wolters & Daugherty, 2007; Woolfolk Hoy & Burke-Spero, 2005). A recent study by Klassen & Chiu (2010) showed a curvilinear relationship between teachers' self-efficacy and experience, with self-efficacy increasing in early and mid-career, and declining in later career stages.

Teaching self-efficacy increases with experience (Dembo & Gibson, 1985; Hoy & Woolfolk, 1993; Rubeck & Enochs, 1991), particularly during the preservice years (Housego, 1992; Hoy & Woolfolk, 1990). Bandura's theory of self-efficacy suggests that efficacy may be most malleable early in learning, thus the first years of teaching could be critical to the long-term development of teachers' efficacy. Bandura (1997) further claims that self-efficacy beliefs are most in flux early in learning and tend to become fairly stable and resistant to change once set. Similarly, some studies indicate that (Guskey, 1984; 1988; Pajares, 1992; Woolfolk Hoy & Murphy, 2001) that experienced teachers' beliefs of efficacy tend to be ''stable'' and hard to change once they have been established.

Tschannen-Moran & Hoy (2007) report that experienced teachers rate themselves significantly higher than novice teachers on instructional strategies and classroom management. Moreover, they mention that compared to career teachers, novice teachers' self-efficacy does seem to be more influenced by contextual factors and the availability of resources. Thus, the analysis of the teaching task at hand may be most explicit for novice teachers and for those entering a new teaching assignment, while experienced teachers are likely to rely more heavily on memories and interpretations of similar past teaching experiences (Gist & Mitchell, 1992; Tschannen-Moran et al., 1998). Some of the most powerful influences on the development of teachers' sense of efficacy are experiences during student teaching (Mulholland & Wallace, 2001).

Efficacy beliefs of first-year teachers are related to the stress and commitment associated with teaching, as well as to satisfaction with support and preparation. Novice teachers completing their first year of teaching who had a high sense of efficacy found greater satisfaction in teaching, demonstrated a more positive reaction to teaching, and experienced less stress. Efficacious beginning teachers rated the quality of their preparation higher and the difficulty of teaching lower than those who were less efficacious. And efficacious novices demonstrated greater optimism that they would remain in the field of teaching (Burley et al., 1991). After the drop during the first year of teaching, there is a consistent increase in efficacy beliefs with increased experience (Soodak & Podell, 1997). Nevertheless, several other researchers found a negative correlation between teaching efficacy and teaching experience (Dembo & Gibson, 1985; Ghaith & Yaghi, 1997; Hoy & Spero, 2005; Pas, Bradshaw & Hershfeldt, 2012). Because efficacy beliefs are shaped early,

it would be useful to better understand what it is that either supports or undermines efficacy in the early years.

3.5.4 Age

Age has been found to be both a positive and negative predictor of university teachers' research productivity (Bentley & Blackburn, 1990; Blackburn et al., 1991). Landino & Owen (1988) reported that younger university faculty were more likely to be confident about research tasks, possibly because they were closer to their doctoral training and the practice of research. They suggested that with age, some faculty might not keep up with new developments in research. Similarly, Tien (2000) point out that that faculty members who publish journal articles tend to be younger and probably are driven by the need to secure tenure or promotion. By contrast, Bayer & Dutton (1977) found the opposite – that age and tenure status are poor predictors of professional research activity.

In summary, the usual demographic variables of interest while examining university teachers' self-efficacy include gender, academic qualifications, length of experience, and age. However, in addition to demographic variables, it also important to mention that self-efficacy beliefs are a context-specific rather than a generalized expectancy (Bandura, 1997). Therefore, there is also a need for greater understanding about the context variables linked to a higher self-efficacy (Labone, 2004).

3.6 Environmental factors of self-efficacy

Self-efficacy is a key concept in Bandura's social cognitive theory. It indicates that behaviour is best understood in terms of a triadic reciprocal system. The triadic reciprocal system consists of three components; cognition, environment, and behaviour. Reciprocal determinism refers to the notion that cognition (perceived ability to perform the task), environment (the setting), and behaviour (the task being performed) are bidirectional and interact to one another dynamically. According to Bandura (1982), a responsive environment that rewards performance attainment in conjunction with a high sense of personal efficacy fosters assured, active responsiveness on the part of the recipient. A highly efficacious person who finds himself/herself in an environment of low responsiveness will not necessarily cease behaving, but may try to change his/her immediate environment. This effort to change may take the form of reassigning personal commitments from a less responsive environment to an environment of high responsiveness. Social cognitive theory (Bandura, 1986; 1997) proposes that behaviour, personal factors, and the environment

interact to influence each other through the process of reciprocal determinism. Therefore, it is essential to examine reciprocal relationships between context (environment) and teacher efficacy beliefs (personal factors).

Based on Bandura's theory of self-efficacy, teacher performances reciprocally influence and are influenced by their perceptions of the environments in which they teach. Tschannen-Moran et al., (1998) suggest that teachers make efficacy judgments, in part, by assessing the resources in their teaching contexts. In addition, resources in the form of feedback and support from colleagues and administrators could serve as social persuasion, a source of efficacy information identified by Bandura (1997).

Efficacy is multidimensional and context variables represent important dimensions of that construct. Existing research demonstrates the ways that a teacher's sense of efficacy changes across contexts and even from one subject or group of students to the next. Efficacy beliefs determine how environmental opportunities and impediments are perceived (Bandura, 2006) and influence choice of activities, how much effort is expended on an activity, and how long people will persist when confronting obstacles (Pajares, 1997). A number of researchers have chosen a combination of interview and survey research methods to enrich their understanding of the role that context plays in the development and maintenance of teachers' sense of efficacy (Hipp & Bredeson, 1995; Webb & Ashton, 1987). Nonetheless, only a few studies have endeavoured to determine the nature of environmental variables or their precise effects on measures of teacher efficacy in higher education. Of these, for instance, Landino & Owen (1988) consider that an encouraging and rewarding work environment is one of the factors that promote university teachers' research self-efficacy. In other studies, different pressures, however, such as early career academics encountering high teaching loads (Lucas & Turner, 2007), heavy scrutiny from their seniors (Baron, 2000), workload (Debowski, 2006; Lucas & Turner, 2007), probation, performance, and job security issues (Star, 2004), poor or limited access to resources (Bazeley, 2003), and even academic isolation (Norrell & Ingoldsby, 1991) can reduce the confidence or self-efficacy. In these cases, university teachers' productivity in a number of areas (e.g., research and teaching) could be affected to such an extent that some do not produce publishable works following their initial appointment as a university teacher.

To examine the environmental factors that might tend to diminish teachers' sense of efficacy, in a secondary school context, Webb & Ashton (1987) found a number of factors that

contributed to lower teacher efficacy. These factors include excessive role demands, poor morale, inadequate salaries, low status, and lack of recognition. In addition, professional isolation, uncertainty, and alienation tended to weaken teachers' self-efficacy beliefs. Moreover, Friedman's study (2000) identifies criticisms from colleagues, isolation, work overload, lack of recognition or reward, and inappropriate initial teacher training as sources of stress and threats to efficacy.

Extending the reciprocal determinism of Bandura's theory, university teachers are affected by the formative values, expectations, resources, and sanctions of the universities. Universities shape their faculty members through a variety of mechanisms designed to make personal beliefs and values conform to the norms of the universities. Therefore, it can be reasonably speculated that some aspects of faculty perception of teaching support from their universities contribute to their teaching efficacy. However, few studies on faculty members' teaching efficacy have investigated their perceptions of teaching support.

Schunk & Meece (2006) strongly argue that self-efficacy affects one's goals and behaviours and is influenced by one's actions and conditions in the environment. Considering that one of the objectives of this study is to understand how university teachers' interpretation of their contextual environment influences their self-efficacy for research and teaching, a number of environmental variables will be examined in the next sections. These environmental variables may provide some initial clues as to how environment may impact the development of university teachers' efficacy beliefs. For example, teachers' self-efficacy is related to a number of school-level variables, such as organizational structure or climate, principal leadership, sense of school community, and decision-making structures. One expects that the role of teachers at the college level may be differentiated from the role of those who work with younger students in school settings. Nevertheless, we can be guided by the research conducted with the traditional school-level teaching population and find linkages as to how this work may serve to improve education at the college level.

3.6.1 Work environment (university climate)

School climate has been a topic of research for many decades and has been referred to as "the atmosphere, culture, resources, and social networks of a school" (Loukas & Murphy, 2007, p. 293). Perceptions of school climate have also been associated with work commitment among teachers (Collie, Shapka & Perry, 2011). School climate influences the experiences of individuals within the system (Cohen, McCabe, Michelli & Pickeral, 2009).

Literature suggests that teachers' perceptions of school climate are an important contributor to their teaching efficacy (Hoy & Woolfolk, 1993; Pas et al., 2012) as well as job satisfaction (Taylor & Tashakkori, 1995). Stronger self-efficacy beliefs have been found among teachers who perceived a positive school atmosphere (Moore & Esselman, 1992). School climate has been shown to be determined by the quality of relationships between individuals, the teaching and learning that takes place, collaboration between teachers and administrative staff, and the support present in a particular school (Cohen et al., 2009). School climate is also viewed as the quality and character of a school (Cohen et al., 2009). There are four dimensions of school climate: physical and social–emotional safety, quality of teaching and learning, relationships and collaboration, and the structural environment (Cohen et al., 2009). In addition, the leadership of the principal has been related to teachers' self-efficacy. Teachers who felt that their principals were sufficiently influential may have higher teaching efficacy. For instance, Hipp & Bredeson (1995) point out that principals' capacity to inspire a common sense of purpose among teachers is tied to higher teaching self-efficacy. They also add that when the principal demonstrates appropriate behaviour and provides rewards contingent on performance, teaching efficacy is higher. Moreover, Hoy & Woolfolk, (1993) emphasize that principals who use their leadership to provide resources for teachers and allow teachers flexibility in classroom affairs create contexts that allow efficacy to develop.

Furthermore, organizational structures that create a cohesive culture – where administrators are responsive to teachers' concerns and encourage them to try new ideas, and where teachers encourage one another in their attempts to address student needs – may reverse this cycle (Hoy & Sabo, 1998). As academic achievement is improved, efficacy beliefs are enhanced, which then further enhances student achievement. That is, the features of school organization that promote a teacher's sense of efficacy may, in turn, promote that teacher's commitment to the organization and, therefore, to teaching (e.g., Rosenholtz, 1989).

In a higher education context, the culture of a department or institution has been found to be an important factor in determining research performance of an individual university teacher. Culture relates to shared attitudes and values in an academic unit. A research-oriented culture exists when all faculty members are socialized to be strong researchers during their graduate training, value research, maintain continuous internal and external communication with other researchers, and when new faculty with strong research credentials are hired (Creswell, 1986). Literature also reveals the influences of the work environment on individuals'

engagement with research and publishing. For instance, research shows that university managers should offer rewards such as conference travel assistance and sabbatical leave as a means of influencing publishing intention and behaviour (Budd, 1995; Diamond, 1993). A supportive and stable environment affording opportunities for collaborative research contributes to research output (Grbich, 1998). In addition, Major & Dolly (2003) highlight the importance of context, organizational culture, support by mentors and other experts, previous and new training, and the opportunities to engage in research in a low threat environment. These findings also suggest what, if the aforementioned elements associated with research efficacy are lacking, might be the perceived barriers faced by university teachers, particularly in an early career stage. Hemmings, Rushbrook & Smith (2007), writing within an Australian context, identified workload, lack of support, and an underdeveloped research culture as potential barriers university teachers wishing to conduct and publish research. One of the most important factors associated with predicting research productivity has been revealed as the current research activities and environment of the university faculty (Hekelman et al., 1995).

Just as productive research can be dependent on available resources, university teachers' teaching efficacy may be influenced by teaching resources. The perceived teaching resources variable does not appear to contribute to teaching efficacy in the use of technology; nevertheless, it does influence university teachers' self-efficacy in other teaching dimensions (Chang et al., 2011). Moreover, just as environment affects research efficacy, it appears to be crucial for administrators to both create and maintain a warm and friendly working environment where their faculty members can communicate and support each other in promoting teaching quality (Chang et al., 2011).

3.6.2 Student achievement and feedback

Teachers at all levels, from elementary through postsecondary classrooms, are concerned with increasing student engagement and learning – in their self-efficaciousness. Students have, in turn, been found to have better academic performance with self-efficacious teachers (Abernathy-Dyer, Ortlieb & Cheek, 2013). The importance of teachers' self-efficacy has been established through numerous research studies focusing on the influence of teacher efficacy on student learning and achievement. For instance, Gibson & Dembo's (1984) study of teachers' self-efficacy found significant differences between high efficacious and low efficacious teachers. High efficacious teachers persisted with low achieving students, criticized students' incorrect answers less, and were more effective in guiding students to

correct answers through their questioning. Nevertheless, low efficacy teachers, spent more time in non-academic activities and made use of less effective techniques to guide students to correct responses. Moreover, Woolfolk, Rosoff & Hoy (1990) argue that teachers with higher levels of self-efficacy can be predicted to engage in more autonomy-supportive and less controlling behaviours with students. By contrast, less self-efficacious teachers were more authoritarian in their classrooms.

Bandura (1997) points out that teachers' low self-efficacy leads to student low efficacy and low academic achievement, which in turn leads to further declines in teachers' self- efficacy. Smylie (1988) claims that the proportion of low-achieving students in a classroom have a direct negative effect on teachers' self-efficacy. These studies confirm that teachers' sense of efficacy is strongly – and probably reciprocally – related to student outcomes such as achievement (Ashton & Webb, 1986; Moore & Esselman, 1992; Ross, 1992), motivation (Midgley et al., 1989), and sense of efficacy (Anderson et al., 1988). Receiving positive feedback from students is also highlighted as a mechanism strengthening university teachers' self-efficacy (Hemmings, 2015).

3.6.3 Doctoral programmes (PhD supervision)

A graduate experience is essential in the development of good scholarly habits and therefore a platform for building confidence. Doctoral study experiences characterized by collaborative supervisor-supervisee relationships also appear to have confidence-building influences on early career academics (Dever et al., 2008). Sutherland & Petersen (2009) argue that although support from supervisors is usually sound and welcome, of course, not all early career academics have that relationship. If this type of relationship has been established, then research and writing skills may be enhanced through co-authorship. Thus, self-efficacy beliefs may be strengthened through a rich postgraduate programme experience characterized by low threat and high support (Major & Dolly, 2003).

Studies indicate that effective doctoral supervision is a mix of two types of support: academic support, including being available to help with academic activities and providing timely feedback, and personal support, like being emotionally supportive and boosting confidence when students encounter difficulties (Engebretson et al., 2008; Epstein, Boden, & Kenway, 2005; Green, 2005; Wisker, 2005). Although greater academic guidance and personal support will boost self-efficacy, a central challenge of supervision involves balancing guidance and support with student autonomy (Delamont, Parry & Atkinson, 1998;

Manathunga & Goozee, 2007). Students have greater research self-efficacy when their supervisors provide direct help to complete research tasks but also support students' autonomy by encouraging the students to be open with their ideas and providing opportunities for students to make their own decisions. Overall, Deane & Peterson (2011) point out that supervisors who encourage their doctoral students to think and act autonomously by acknowledging students' perspectives, encouraging them to be open with their ideas and providing opportunities for them to make their own decisions is predictive of higher research self-efficacy. Moreover, autonomy support enhances persistence and academic success because this type of learning environment cultivates greater efficacy and professional competence (Black & Deci, 2000; Williams & Deci, 1996). Thus, receiving supervision that encourages autonomous learning and decision-making is most likely to cultivate students' confidence in their research abilities. By contrast, when supervisors provide high personal support but low autonomy support, students were less confident in their research abilities. It appears that high levels of personal support might, in fact, hinder the development of students' research self-efficacy when supervisors do not also provide opportunities for students to explore and act upon their own ideas. Students with the highest research self-efficacy are those whose supervisors provided high levels of both autonomy and academic support. An excessive nurturing style that limits students' opportunity to explore their own ideas will undermine students' beliefs in their abilities to become independent researchers (Overall et al., 2011). Supervisors need to actively teach students necessary skills but also foster the development of an autonomous researcher who has confidence in their own skills and abilities.

Furthermore, more positive appraisals of research-focused activities such as skills acquisition and publication in students' training environment are associated with greater research self-efficacy and, in turn, greater interest in research and productivity (Bishop & Bieschke, 1998; Brown et al., 1996; Hollingsworth & Fassinger, 2002; Kahn & Scott, 1997; Phillips & Russell, 1994). Troup-Leasure et al., (1992) reports that higher rates of publication activities during the doctoral program are predictive of increased scholarly productivity following graduation. Increased levels of research skills learned during the programme are predictive of higher post-graduate scholarly productivity (Platow, 2011). In other words, if students learn and conceptualize advanced research methodology skills and engage in research activities such as conducting empirical research investigations and disseminating the study findings in refereed journals, they will be more productive in

research, supporting their success in future academic positions. Additionally, higher interest in research and research knowledge of students was a predictor of a higher level of research self-efficacy. Therefore, PhD programmes may want to integrate specific pedagogical strategies that promote their students' interest in research and research knowledge with the intent of developing competent faculty members in higher education (Lambie et al. 2013).

3.6.4 Workload

In higher education, in addition to the expectations projected upon them by others, university teachers have complex professional roles, identities and expectations of themselves (Major & Dolly 2003). Hemmings et al. (2007) point out that one of the obvious factors discouraging university teachers from research and publications is workload. University teachers need to be able to manage their time effectively and establish a balance in their workplace duties and responsibilities. However, recent intensification of the work of university faculty has made the process of balancing research, teaching, and service duties more difficult. This is especially critical in the case of early career academics who usually face weighty teaching loads (Lucas & Turner, 2007), carry their own high expectations as well as those of others – their students for instance (Bellas & Toutkoushian, 1999), and may have restricted access to resources (Bazeley, 2003). The fact is, research and teaching in particular were often viewed by faculty as competing rather than complementary activities and saw them as rewarded separately (Sharp et al., 2013).

According to Sayyed et al. (2004), the time management skills and time allocated to research are found to be different for university teachers who are categorised as more productive as compared to those defined as less productive. Finkelstein (1984) argues that faculty at the higher ranks tend to publish at a higher rate than lower ranked colleagues because they have greater control over their workload. Similarly, in a sample of UK university teachers, Sharp et al. (2013) report that those faculty holding doctoral-level qualifications and experienced in higher education spend more time on research than do other faculty. Interestingly, they also emphasize that those experienced in higher education spend more time on service-related activities than those who report being less confident in both internal and external academic events.

While recent changes brought on by drawing attention to the need for integration between research and teaching are generally viewed positively (Elton 2001; Rowland 2002; Brew

2003), not all of these attempts to further teaching-enhanced research and research-enhanced teaching have met with approval.

3.6.5 Interpersonal (collegial) relations

In addition to these other factors affecting teacher self-efficacy, such as work environment, doctoral programme design and mentoring support, research indicates that higher teaching self-efficacy is associated with teacher collaboration (Ross, 1992; Miskel, McDonald & Bloom, 1983; Moore & Esselman, 1992; Raudenbush et al., 1992; Rosenholtz, 1989). The greater the opportunity for collaboration with other adults, the greater the resulting sense of efficacy. However, collaboration is not the same as "help." Indeed, self-efficacy beliefs are likely to be lower for people who rely on a great deal of assistance early in learning (Bandura, 1997). It may be that teachers who are struggling in their early years in their careers tend to lean more heavily on the assistance of their colleagues. A teacher who perceives his or her teaching ability to be lower than the ability of other teachers may feel less confident regarding his or her own teaching ability. Others have found that interpersonal support – which can also be distinguished from "assistance" – contributes more to the self-efficacy of novice teachers than to those who are experienced (Tschannen-Moran & Hoy, 2007). Together, this research confirms that peer interaction – whether collaborative, supportive, or as assistance – plays an important role in the relationship between university teachers perceived teaching support and teaching efficacy. While "assistance" from peers may work negatively on self-efficacy, collaboration and support from colleagues seems to not only broaden and deepen university teachers' teaching predilection to promote teaching efficacy but also enhances their socialization within the universities (Chang et al., 2011).

3.6.6 Section summary

It can be concluded from the above literature review that various demographic and environmental variables seem to affect self-efficacy in primary and secondary school as well as in higher education contexts. Although the extent of this influence appears somewhat inconsistent and varies in extent, nature and polarity from one study to another and is, therefore, perhaps especially sensitive to setting, such research nonetheless broadly indicates the potentially important effects of these variables on teachers' self-efficacy, which suggests that they should be taken into account in the present study.

Attention now turns to teachers' job satisfaction and to its relationship with self-efficacy.

3.7 Job Satisfaction

This section first explores the definition of job satisfaction, then considers its importance in general and for teachers in particular.

3.7.1 Definitions of job satisfaction

Satisfaction represents a multifaceted, complicated construct. There have been many attempts to define the term "job satisfaction" over the last few decades (Giese & Cote, 2000; Okaro, Eze & Ohagwu, 2010). In the research literature, job satisfaction is regarded as the positive or negative evaluative judgments people make about their jobs (Weiss, 2002). Locke (1976) defines job satisfaction as a pleasurable or positive emotional state resulting from the appraisal of one's job. However, many researchers point out that there is no clear agreement about the concept of job satisfaction (Evans, 1997; Giese & Cote, 2000; Monyatsi, 2012; Oplatka & Mimon, 2008; Zembylas & Papanastasiou, 2006). Differences in culture, beliefs, values and environment among researchers can significantly affect their understanding of the concept. Similarly, the difficulty of defining job satisfaction can be attributed to the use of the term in different contexts and settings, where it can be conceptualised as a need, attitude, feeling or attribute. These four perspectives are now explored in order to broaden the understanding of job satisfaction.

3.7.1.1 Job satisfaction as a need

Some definitions are linked with the concept of individual needs and whether they are being met in the work environment. This view is consistent with the earlier ideas of job satisfaction addressed by Maslow's theory (1954) of hierarchical needs (security, social needs, needs for esteem and self-actualisation) and the two-factor or motivational-hygiene theory of Herzberg et al. (1957). From this perspective, Bader (1997) defines job satisfaction as "the degree of satisfaction of the needs of the individual as a result of engaging in that work or occupation" (p. 155). Others similarly state that job satisfaction represents the working environment that meets individuals' needs (Tewksbury & Higgins, 2006). Nevertheless, by focusing only on satisfaction of an individual's needs, it can be argued that these theorists ignore other related factors which may affect satisfaction, such as feelings, attitudes and the job itself.

3.7.1.2 Job satisfaction as an attitude

According to a second perspective, job satisfaction is viewed as an attitude. For instance, Luthans (1998) defines it as an attitude developed by an individual towards a job and its conditions. Numerous studies (e.g., Oshagbemi, 1999; Oplatka & Mimon, 2008; Roelen, Koopmans & Groothoff, 2008) agree that job satisfaction is an attitude. Such attitudes may

be positive or negative. Weiss (2002) point out that a positive or negative attitude depends upon the judgement of an individual towards the work environment. Ilies and Judge (2004) claim that although job satisfaction has been defined as an emotional state, it is an attitudinal construct based on one's evaluation of a job.

3.7.1.3 Job satisfaction as a feeling

Job satisfaction is also referred as a person's subjective feelings about their work and how satisfied they are with it (Griffin et al., 2010). In other words, job satisfaction represents the extent to which people like their jobs (Ganai & Ali, 2013). An alternative hypothesis links job satisfaction to a feeling about the satisfaction of needs. Hence, Evans (1998) defines job satisfaction as "a state of mind encompassing all those feelings determined by the extent to which the individual perceives her/his job-related needs to be being met" (p.12). From a rather different viewpoint, Schultz (1982) states that job satisfaction is "the psychological disposition of people toward their work and this involves a collection of numerous attitudes or feelings" (p. 287). For Oshagbemi (1999), job satisfaction is related to an individual's positive emotional reactions towards their occupation, based on comparing the actual activities carried out by the individual with their desired outcomes.

3.7.1.4 Job satisfaction as specific aspect of the job

Individuals usually have a number of tasks they must complete at work. According to Lawler (1973), job satisfaction can be seen as an effective response to particular features or tasks of the job role. Similarly, Ashour (1988) empathises that job satisfaction is more or less the level of gratification that can be attained through the different aspects or components of the job or occupational roles. Finally, Ladebo (2005) explores job satisfaction in terms of its positive impact and benefits acquired through the various stages of an employee's service, or upon fulfilling certain elements of the job.

3.8 Teachers' job satisfaction

With respect to teachers, several varying definitions of job satisfaction have been discussed, including the feelings that they hold toward the job (Taylor & Tashakkori, 1995). For example, teachers' job satisfaction has been conceptualized as teachers' affective reactions to their work or to their teaching role (Skaalvik & Skaalvik, 2010; Zembylas & Papanastasiou, 2006). Evans (1997) defines teacher job satisfaction as a "state of mind determined by the extent to which the individual perceives his/her job-related needs being met". She also points out that "job satisfaction" is an ambiguous term and has been studied both as an overall construct and as teachers' satisfaction with differing circumstances. A

problem with measuring teachers' satisfaction is that there are not only these varying descriptions but also no agreement about how to measure the construct (Skaalvik & Skaalvik, 2009; 2010), which has been studied as both: (1) a facet-specific job satisfaction measuring the extent to which teachers are satisfied with specific aspects of their job, and (2) an overall sense of satisfaction with the job (Moè, Pazzaglia & Ronconi, 2010; Sargent & Hannum, 2005). A problem with the facet-specific approach is that different circumstances may be important to different teachers. As a result, such measures overlook the fact that the impact of different circumstances on overall job satisfaction is dependent on how important each of the circumstances is to the individual teacher. This study, therefore, first measured teachers' overall sense of job satisfaction and then also analysed the degree to which teachers' perception of context (environmental) variables predicted job satisfaction.

But how can teachers increase their level of job satisfaction? Moè et al. (2010) strongly argue that they should: (a) be able to teach effectively, (b) experience high self-efficacy regarding their job, which means feeling able to handle a variety of teaching tasks, and c) experience positive affect. Positive affect can be defined as a state of pleasure and high energy (Watson & Tellegen, 1985) characterized by emotions such as interest, excitement, and pride. The literature demonstrates that teachers who feel more efficacious in their job are more satisfied (Caprara et al., 2003; Klassen et al., 2009). Research has shown that teachers are generally satisfied with the aspects of their job that relate to their teaching work (e.g., work tasks, professional growth) but dissatisfied with the aspects that surround the performance of their job (e.g., working conditions, interpersonal relations, salary; Crossman & Harris, 2006; Dinham & Scott, 1996). Research shows that successful teachers not only teach well and are able to create optimal learning environments, but also experience well-being and job satisfaction (Klusmann et al., 2008).

3.8.1 Importance of job satisfaction in education

Studies conducted worldwide found that teachers' job satisfaction was the strongest factor that affected their overall life satisfaction (Zembylas & Papanastasiou, 2006). Therefore, topic of teachers' job satisfaction has attracted the interest of many researchers. Perrachione Rosser & Peterson (2008) point out that job satisfaction studies in the field of education have revealed effects on at least three important related outcomes: retention, attrition and absenteeism. Some studies (e.g., Bogler, 2002; De Nobile & McCormick, 2008; Roos & Eden, 2008; Shann, 1998) report that teachers' job satisfaction may affect their retention. This leads DeStefano (2002) to suggest that researchers should examine teachers' job

satisfaction from the human resources development and promotion perspective, as it may enable educational institutions and principals to improve retention rates. Therefore, one way of perceiving teachers' satisfaction is in terms of the factors of attrition and retention. This view is supported by Monyatsi (2012), who argues that high job satisfaction among teachers motivates them to remain in the teaching sector. Perhaps predictably then, lack of job satisfaction is a strong predictor of leaving a position at a school (Popoola, 2009). Consequently, job satisfaction can to a large extent determine teachers' commitment, absenteeism and turnover (De Nobile & McCormick, 2008; Shann, 1998).

Job satisfaction is also a key factor in enhancing teachers' welfare. Several studies (e.g., Borg and Riding, 1991; Davis & Wilson, 2000; Klassen & Chiu, 2010; Kyriacou & Sutcliffe, 1979) have reported a significant association between teachers' job satisfaction and stress, whereby teachers with high stress were found to be less satisfied with teaching. Research have also found a relationship between burnout and lack of job satisfaction (Popoola, 2009; Skaalvik & Skaalvik, 2009; Tsigilis, Zachopoulou & Grammatikopoulos, 2006). Furthermore, job satisfaction can influence teachers' performance. According to Shann (1998), satisfied teachers are more likely to perform well. The reverse is also true: Abdullah, Uli & Parasuraman (2009) argue that dissatisfied teachers may not perform to the best of their abilities. Job satisfaction is linked not only to performance, but also to teachers' involvement, commitment and motivation (Akhtar, Hasmi & Naqvi, 2010). In other words, job satisfaction motivates teachers to perform their tasks effectively, thereby improving the educational process (Ostroff, 1992). Hurren (2006) strongly argues that job satisfaction is highly important in education, since satisfied teachers will be more willing and enthusiastic. This in turn, can lead also to students being more satisfied and enthusiastic about the learning process and influencing their performance. Consequently, unmotivated teachers result in unmotivated students and the teachers' inability to satisfy their students' needs for autonomy, competence and relatedness (Ryan & Deci, 2000). Conversely, high satisfaction increases a teacher's motivation. Motivated or even enthusiastic teachers raise intrinsic motivation in students and promote their levels of vitality (Day et al., 2000). Nguni, Sleegers & Denessen (2006) further suggest that satisfied teachers will be more willing to invest extra time and energy in their work. Their greater involvement in performing educational tasks and in spending time with students can have a positive impact on overall student attainment (Cerit, 2009). Conversely, dissatisfied teachers are less effective in the classroom (Bennell & Akyeampong 2007; Csikzentmihalyi & McCormack, 1986; Ganai & Ali, 2013). In the

Turkish context, Gençer (2002) correlated teachers' burn-out level with their job satisfaction. He emphasizes that the more highly teachers are satisfied with their jobs, the lower their burn-out level is.

In all these ways, from their own efficacy to that of their students, teachers' job satisfaction contributes substantially to the growth and development of the educational system (Gupta & Gehlawat, 2013; Perie & Baker, 1997; Sharma & Jyoti, 2009). Accordingly, educational authorities and the systems they oversee will benefit from understanding what it is that satisfies university teachers and how they can enhance university teachers' satisfaction with their jobs; such information and understanding is what the present study attempts to investigate among university teachers in Azerbaijan and Turkey.

3.8.2 Job satisfaction in higher education

Job satisfaction is a widely studied factor in management literature. It is even more important to study in educational institutions, especially in universities, which are the sources of human resources and solely responsible for educating the adult and workforce intellect of nations. The objectives of higher education are to provide in-depth knowledge, educate students, seek academic development, and coordinate national development demands (Johnes & Taylor, 1990). Consequently, university teachers' job satisfaction is related to carrying out these higher education functions (Chen et al., 2006). University teachers typically work in environments that are high-pressured, multifaceted, and without clear borders. Studies show that the stress of the university teachers combined with a lack of satisfaction with the work environment can lead to high rates of faculty turnover (Hagedorn, 2000; Rosser, 2004). Moreover, a lack of satisfaction, even among those faculty still at the institution, has trickle-down effects for others (Ambrose, Huston & Norman, 2005). Armed with knowledge of the determinants of university teachers' job satisfaction, university administrators can devise more effective strategies for recruitment and retention (Johnsrud & Heck, 1994; Seifert & Umbach, 2008; Smart, 1990; Weiler, 1985).

The overall performance of universities depends upon their teachers and ultimately their level of commitment and job satisfaction. Higher job satisfaction among university faculty is positively associated with achieving the goals of education (Eyupoglu & Saner, 2009). University faculty with high job satisfaction are likely to be more innovative and motivated to develop an environment conducive to student learning (Cano & Miller, 1992; Truell, Price & Joyner, 1998). Moreover, satisfied university teachers are inclined to be more industrious,

inspired, and dedicated to their work (Syptak, Marsland & Ulmer, 1999). Consequently, understanding their behaviours and attitudes needs more attention in organizations (Tsui & Cheng, 1999). Understanding of how university teachers become satisfied and to what degree various factors contribute to their level of commitment and satisfaction, is really important to boosting their performance for research and teaching. Although, there have been numerous publications on job satisfaction, there has been relatively little empirical data gathered on the job satisfaction of university teachers. We do know that university teachers show wide variations in the satisfaction levels they enjoy for various dimensions of their jobs. Areas of variations in job satisfaction levels may include: research, teaching, administration and management, pay, promotion, co-workers' behaviour, head of department's behaviour, and facilities available in their institutions (Oshagbemi, 1997). The present study will mainly consider the teaching and research aspects of faculty job satisfaction in relation to demographic and environmental factors.

The degree of satisfaction with a task may influence the amount of discretionary resources (time, energy) that a person invests in a task. There might be constraints perceived by university teachers as to why they cannot involve themselves more in teaching or research. One constant complaint is that research interferes with teaching capabilities and productivity or, similarly, that time spent teaching is a major constraint on improving research productivity. The more satisfaction a university teacher derives from teaching, the higher the expected teaching quality – the same is true for research, and also for those who are committed to *both* teaching and research. It is possible that the relation between satisfaction derived from research and that derived from teaching may be one determinant of the relation between teaching and research outcomes (Marsh, 1987). For example, Boyer (1990) reports that academics at US research universities believe that the pressure to conduct research reduces the quality of university teaching.

Higher education is not immune to the problem of low job satisfaction and educational leaders have increased the number of research studies that try to identify factors that influence job satisfaction (Davis, 2001; Grace & Khalsa, 2003). The study of university faculty satisfaction rates is essential because dissatisfaction with any aspect of a faculty position can result in decreased productivity and quality of work (Tack & Patitu, 1992). An understanding of the factors involved in job satisfaction is also fundamental to improving the happiness of workers. Moreover, there is a need to understand the attitudes of university

teachers towards their work. Determining job satisfaction factors relevant to university teachers could lead to improvements and innovations in teaching that would help retain them (Okpara, Squillace & Erondu, 2005). The factors associated with teachers' job satisfaction is discussed in next section.

3.9 Job satisfaction Factors

From the overview of job satisfaction presented in the previous section, it is clear that a variety of factors can influence job satisfaction. This diversity may be seen as reflecting the complex nature of the concept. Mullins (2008) point out that there is some doubt whether job satisfaction consists of a single dimension or a number of separate dimensions. For instance, workers may be satisfied with certain aspects of their work and dissatisfied with other aspects. Hence, job satisfaction itself a complex concept and difficult to measure objectively. Many researchers view job satisfaction as multidimensional (Conklin & Desselle, 2007; Roelen et al., 2008; Smith et al., 1969; Wharton, Rotolo & Bird, 2000; William, McDaniel & Ford, 2007). Multiple studies have sought to determine which factors contribute to satisfaction and which to dissatisfaction. Factors most appreciated by university teachers are involvement, co-worker cohesion, supervisory support, and autonomy (Doughty, May, Butell, and Tong, 2002). Furnham (2005) suggests that the factors proposed in most studies of job satisfaction can be categorised into three main groups: organizational policies and procedures, such as rewards, supervision, decision-making and practices; the specific aspects of a job, such as workload, variety, autonomy and the physical working environment; and personal characteristics, such as self-esteem and overall life satisfaction. Alternatively, Mullins (2008) identifies five groups of variables that affect job satisfaction:

1) Individual factors, such as character, education, qualifications, age and marital status;

2) Social factors, including relationships with colleagues, group working and standards and scope for communication;

3) Factors connected with culture, such as value systems and beliefs;

4) Organisational factors, including working conditions, management systems and the nature of the work;

5) Environmental factors (e.g., economic, social, political and technical influences);

Other researchers, such as Buitendach & De Witte (2005) and Armstrong (2006), propose two broad groups: intrinsic and extrinsic. Intrinsic factors apply to the individual and include

personality, education, age and marital status, whereas extrinsic factors, located outside the individual, include promotion, colleagues, supervisors and recognition.

In educational contexts, teacher job satisfaction is influenced by a number of variables. For instance, Dinham & Scott (1996) suggest that the sources of job satisfaction and dissatisfaction may be classified into three domains: (a) intrinsic rewards of teaching, (b) factors extrinsic to the school, and (c) school-based factors. The intrinsic rewards of teaching concern the actual work of teaching, working with the students, and seeing students learn and develop. Factors extrinsic to the school include imposed educational change, external evaluation of schools, negative portrayal of teachers in the media, and a decrease in the status of teaching. School-based factors or contextual variables at school may include relations with colleagues, parents, and the school leadership, as well as time pressure, disruptive student behaviour, and the values emphasized at the local school.

Since the late 1950's numerous researchers have theorised the nature of job satisfaction and developed models to explain differences in job satisfaction. According to Herzberg (1959), intrinsic elements of the job such as achievement and responsibility are related to the actual content of work. These elements are referred to as 'motivational' factors and are significant elements in job satisfaction. By contrast, Herzberg describe extrinsic factors as elements associated with the work environment, such as working conditions, salary, class size, staff assessment and supervisory practices, and benefits. These were referred to as 'context' or 'hygiene' factors, which are related to job dissatisfaction. According to Herzberg's theory (1959), hygiene factors cannot create job satisfaction independently, but their absence can lead to job dissatisfaction. The hygiene factors are the following: supervision, salary, work environment, organizational policies, and interpersonal relations.

By adopting Herzberg's two-factor theory Hill (1986) assesses the utility of the theory for explaining university teachers' job satisfaction. He argues that university teachers' job satisfaction is related to intrinsic factors (in particular, ministering to students and the work itself), and dissatisfaction is related to extrinsic factors, and arises from factors external to the job. Researchers have investigated university teachers' job satisfaction across both these intrinsic and extrinsic categories and has tried to identify factors and the relationship of these factors to the teachers' job satisfaction (Dee, 2002; VanderPutten & Wimsatt, 1999). These variables may range from organizational support and personal support to overall compensation packages.

Hagedorn (2000) hypothesizes two types of constructs that affect university teachers' job satisfaction—triggers and mediators. Triggers are significant individual life events that may or may not be related to the faculty's job. Mediators moderate the relationship between satisfaction and the context in which job satisfaction must be considered. She identifies six triggers: changes in life stage, in family-related circumstance, in rank or tenure, in institutional setting, in perceived justice, and in emotional state. The three types of mediators mentioned are motivators, demographics, and environmental conditions. In short, the triggers cause satisfaction to increase or decrease but they occur within a specific context (the mediator) that may add to or subtract from the magnitude of the effect of the trigger.

Furthermore, university teachers' job satisfaction was related to autonomy (Maynard & Joseph, 2008), instructional support (Antony & Hayden, 2011), compensation (Maynard and Joseph, 2008; Seifert & Umbach, 2008; Toutkoushian & Bellas, 2003), quality of students (Rosser, 2005), and colleagues (Maynard and Joseph, 2008; Seifert & Umbach, 2008; Ssesanga & Garrett, 2005). As the present study is concerned with the factors affecting university teachers' job satisfaction, the following subsections discuss the most commonly cited factors, with special emphasis on higher education. In this study, the factors affecting teachers' job satisfaction are broadly categorized as demographic or environmental.

3.9.1 Demographic factors

Following the above review of factors identified in the literature as affecting job satisfaction and motivation, this section discusses the role of demographic variables. There have been many studies to investigate the relationship between job satisfaction and demographic variables and literature supports the important role of demographics in job satisfaction (Hagedorn, 1994; Hagedorn, 1996; Hagedorn & Sax, 1999; Olsen, Maple & Stage, 1995; Smart, 1990). Since one concern of this study is the relationship of job satisfaction with university teachers' demographic variables, this section discusses such variables. It considers in turn and in detail the main demographic variables identified in the literature: gender, experience, academic qualification and age.

3.9.1.1 Gender

Gender is often included as an individual characteristic in studies of job satisfaction, nevertheless no conclusive findings regarding levels of satisfaction by gender have been reported (Fields & Blum, 1997; Klecker & Loadman, 1999; Mueller & Wallace, 1996; Oshagbemi, 1997; 1999; 2000; Tang & Talpade, 1999; Tuntufye, 1997). Contradictory evidence exists regarding the relationship between gender and job satisfaction. Some studies

suggest that men and women exhibit similar levels of satisfaction (Brush et al., 1987; Clark, Oswald & Warr, 1996). By contrast, according to a number of studies female teachers exhibit higher levels of job satisfaction than male teachers (Chaplain, 1995; Klecker & Loadman, 1999; Poppleton & Riseborough, 1991; Oshagbemi, 1999). This latter finding might be explained by the possibility that women have lower expectations and are more easily satisfied at work (Witt & Nye, 1992). Another reason might be that men, who, according to Kremer-Hayton & Goldstein (1990), attach more importance to their careers than women, are disappointed by the low status of the teaching profession.

On the other hand, in some studies, female university teachers have reported lower satisfaction in areas of pay, promotion, supervision, and overall job satisfaction than have male faculty members (Oshagbemi, 2001; Mason, 1995; Jones and Nowotny, 1990; Fiorentino, 1999; Hagedorn, 1996; Tang and Talpade, 1999). If university administrators want to increase teachers' job satisfaction, performance, and productivity while reducing turnover and absenteeism, some argue that salaries of both sexes must be comparable for comparable work assignments (Okpara et al., 2005).

3.9.1.2 Academic qualification

Studies display little agreement regarding the relationship between job satisfaction and academic qualification. In the educational context, there is no consensus on the association between educational qualifications and the overall job satisfaction of teachers: some studies have found a negative association, some a positive one and others none at all. For instance, Akhtar et al. (2010) point out that teachers with a BSc are more satisfied with their job than teachers with masters' degrees. Similarly, Michaelowa (2002) argue that when teachers are highly qualified, job satisfaction is reduced, explaining this by a supposed mismatch between professional expectations and work realities. The positive effects of higher qualifications, such as increased self-confidence, are counterbalanced by this negative effect, even if teachers hold a pedagogical degree.

On the other hand, Abdullah et al. (2009) are among those finding a positive association with educational qualifications and job satisfaction, reporting that graduate teachers are more satisfied with their jobs than non-graduates. Wong & Heng (2009) report that teachers holding a doctoral degree are more satisfied with their salary than those with lower qualifications. Nevertheless, many other studies (e.g., Gupta & Gehlawat, 2013; Castillo, Conklin & Cano, 1999; Mora, Garcia-Aracil & Vila, 2007) were unable to find an

association between job satisfaction and educational level. Overall, the extremely varied results of the above studies suggest that any association between the qualifications of teachers and their job satisfaction may depend on the contribution of other factors, such as the differences in the income and status accorded to teachers as a result of their qualifications.

3.9.1.3 Experience (career stage)

Experience is another variable which appears to play an important role in determining job satisfaction, although again, the relevant studies arrive at varied conclusions. Some studies have found no indication of a significant relationship between teaching experience and job satisfaction (Crossman & Harris, 2006; Green-Reese, Johnson & Campbell, 1991), while others have demonstrated that the longer teachers stay in the job, the less satisfied they are (Van Houtte, 2006; Ma & MacMillan, 1999). From this perspective, one would expect more experienced teachers to have lower levels of job satisfaction than those with less experience. There have, however, been a limited number of studies into the relationship between length of experience and job satisfaction. Nevertheless, many studies report a more or less straightforward positive relationship between length of experience and job satisfaction. For instance, Chimanikire et al. (2007) found that teachers with longer experience were more likely to be satisfied with their jobs than those with less experience. Similarly, Bishay (1996) found a positive correlation between length of tenure in the teaching field and job satisfaction and motivation.

For Koustelios (2001), the explanation for the correlation of experience with teachers' satisfaction lies in the positive relationship between length of service and promotion, which suggests that like qualifications, experience may be related to satisfaction via salary or status. Liu and Ramsey (2008) offer an explanation similar to that of Oshagbemi (2000): that university teachers who are less satisfied leave the profession in the early years of their careers. It seems that this relationship is also influenced by relations with the school administration. Teachers with longer experience were found to be more satisfied and had a better relationship with the school's administrators than did their less experienced colleagues (Ma & MacMillan, 1999; Abdullah et al., 2009).

Some studies, however, reported an inverse relationship, whereby teachers who remained in their jobs for a long time displayed consistently higher levels of dissatisfaction (Fraser, Draper & Taylor, 1998; Hulpia, Devos & Rosseel, 2009). Teachers with less than five years'

service are the most satisfied while those who have been teaching for between 15 and 20 years are the least satisfied (Poppleton & Risborough, 1991). Similarly, Skaalvik & Skaalvik (2009) and Chen (2010) claim that teachers with less experience are more highly satisfied with their jobs than those with more experience. This might be explained by the enthusiasm of newer teachers or by changes in the expectations of more experienced teachers (Luthans & Thomas, 1989).

In contrast to the associations discussed above, some studies did not find a significant relationship between experience and job satisfaction (Abd-El-Fattah, 2010; Oshagbemi, 2003, Zembylas & Papanastasiou, 2006). It is also important to mention that the sources which contribute to teachers' job satisfaction might differ according to years of teaching experience. Mastery experience is the most powerful source of this self-efficacy (Bandura, 1997; Tschannen-Moran & Hoy, 2007), and accordingly a predictor of job satisfaction. The fewer years of teaching experience, the less mastery experiences a teacher has. Therefore, less experienced teachers might need different sources to build their self-efficacy and job satisfaction when compared to more experienced teachers. One such source of efficacy could be verbal or social persuasion, denoting the information that a teacher receives about her/his performance and prospects for success from others (colleagues, students etc.) who are important in the teaching context (Bandura, 1997; Tschannen- Moran & Hoy, 2007).

3.9.1.4 Age

Many studies have documented an association between job satisfaction and age (e.g., Hickson & Oshagbemi, 1999; Sharma & Jyoti, 2009). Other studies suggest a U-shaped relationship or non-significant relationships between age and overall job satisfaction (Herzberg et al., 1957, Singh & Singh, 1980). Herzberg et al. (1957) suggests a U-shape, with three distinct stages. At the start of their careers, employees show high levels of satisfaction, which declines in middle age, then increases again in the years before retirement. Clark et al. (1996) present strong evidence for this pattern and note that younger employees tended towards intrinsic satisfaction and older ones towards extrinsic. However, age and its effect on job satisfaction and the relationship between these remains unclear (Spector, 1997).

In educational context, Akhtar et al. (2010) discovered a positive association between age and job satisfaction. Similarly, Bishay (1996) found that job satisfaction and motivation are related to a teacher's age. With regards to higher education, Oshagbemi (2000) argues that

older university teachers are more likely to be satisfied with their job than younger ones. In the Portuguese university context, Machado-Taylor et al. (2016) found that faculty members who are at the beginning of their careers as well as those who were older (aged 61 years or more) indicated the greatest satisfaction. In Turkey, Toker (2011) reported that university teachers at least 61 years of age and over have significantly higher levels of job satisfaction than those 21-40 years old. Sloane & Ward (2001) found that women university teachers under the age of 35 have significantly lower job satisfaction. In other studies, however, no age and job satisfaction relationship among university teachers was found (Oshagbemi, 1997; 2003). Likewise, Tu et al. (2005) found that Taiwanese and Chinese faculty members did not significantly differ in their overall job satisfaction with relation to their age.

3.9.2 Environmental factors

In a university setting, faculty members generally have a high degree of control over content factors, including the process of teaching or research. By contrast, the same university teachers generally have limited control over environmental factors, such as the university environment in which the teaching and research processes take place. Because university teachers have high degree of control over content elements, perceptions of the job are particularly dependent on the degree of satisfaction with the context factors (Pearson & Seiler, 1983). The environment is significant because these environmental factors combined create a more holistic view of variables influencing university teachers' job satisfaction (Hagedorn, 2000).

3.9.2.1 Work environment (university climate)

University teachers' job satisfaction represents one of the strongest predictors regarding their intention to leave the institution or leave academe as a whole (Daly & Dee, 2006; Gardner, 2012; Xu, 2008). Scholars have, therefore, focused a great deal of attention on university teachers' job satisfaction because of the relationship to organizational commitment, intention to remain at the institution, and productivity. Work environment has been shown to relate to teachers' job satisfaction (Skaalvik & Skaalvik, 2011). Research from Lacy & Sheehan (1997) examined aspects of university teachers' job satisfaction across eight nations, namely Australia, Germany, Israel, Hong Kong, Mexico, Sweden, the UK and the USA. Results indicated that the greatest predictors of job satisfaction were related to the environment in which university faculty work. Similarly, previous research suggests that there is a correlation between a supportive institutional environment that provides resources and rewards and university teachers' satisfaction and productivity (Bland et al., 2005).

University administrators need to be supportive of their academic staff. In some cases, the causes of job dissatisfaction may include the lack of understanding and communication with university administration and lack of communication from top to bottom (Saner & Eyupoglu, 2012). Moreover, positive college environments produce important positive outcomes for all players, including students (Hagedorn, 2000).

University support is a variable that faculty members rate as highly valuable in consideration of job satisfaction factors in faculty positions at an institution. Another important variable in university teachers' job satisfaction is the role of department chairs (i.e., supervision) (Miller, Jackson & Pope, 2001; Nienhuis, 1994). Miller et al. (2001) surveyed department chairs at a community college in the United States. The top three methods used by chairs related to increased faculty job satisfaction were on-campus faculty development, mentoring programmes, and workload flexibility. Miller et al. found the top three perceived challenges to job satisfaction were financial resources, workload, and technology impact.

Empowerment (Lok & Crawford, 2004) as well as autonomy, recognition, communication, working conditions, interpersonal relationships, and supervisory support working within a team environment (Mosadegh Rad & Yarmohammadian, 2006) all have been found to affect job satisfaction. University administration and academic staff need to work together to provide an atmosphere that is conducive to the education process. When decisions effecting the working environment are being discussed, having one's opinion solicited and feeling that some value is placed on that opinion provides university teachers with some ownership in the resulting decision, and along with it a desire to help make the decision a success (Noordin & Jusoff, 2009). Indeed, when such decisions are made by the university administration without seeking ideas or opinions from the university teacher this eventually results in job dissatisfaction. Such teacher autonomy is not only directly related to job satisfaction but also to self-efficacy and emotional exhaustion (Skaalvik & Skaalvik, 2009; Crosso & Costigan, 2007). Research has shown that lack of autonomy (which is negatively linked to self-efficacy) fosters burnout. Lack of autonomy may mean that some teachers have to use teaching methods and work towards goals that they do not believe in or that would not be their personal priority. Perception of autonomy may therefore be particularly important in the teaching profession.

3.9.2.2 Salary

Salary can be assumed to be a major consideration for anyone seeking employment as it

contributes greatly to their personal financial standing (Milkovich & Newman, 2008). Employees' remuneration is an incentive central to their personal finances and their social standing. Unless employees are happy with their salary, their attitudes and behaviour may be affected (Milkovich & Newman, 2008; Singh & Loncar, 2010; Mhozya, 2007). Therefore, pay can be considered an important component affecting job satisfaction. Two-factor theory (Herzberg, 1957) suggests that increasing pay could prevent worker dissatisfaction, while equity theory (Adams, 1963) states that people will be satisfied when they view a reward structure such as pay as fair. In this view, not surprisingly, pay inequity is linked to low satisfaction (Sweeney, 1990). Likewise, expectancy theory (Vroom, 1964) views pay as a reward that should meet employees' expectations.

In line with job satisfaction studies in general (Terpstra & Honoree, 2004; Spector, 1997; Munyon, Hochwarter, Perrewe & Ferris, 2010), pay has been found to have influence on teachers' satisfaction. Some studies report that pay contributes positively (Mora et al., 2007; Kearney, 2008; Tickle, Chang & Kim, 2011; Wisniewski, 1990). However, others correlate pay with teachers' dissatisfaction (Abdullah et al., 2009; Akiri & Ugborugbo, 2009; Akpofure, Ikhifa, Imide & Okokoyo, 2006; Hean & Garrett, 2001; Koustelios, 2001; Ladebo, 2005; Mhozya, 2007; Monyatsi, 2012; Santhapparaj & Alam, 2005; Shah, Ali & Khan, 2012; Ofili, Usiholo & Oronsaye 2009).

There are additional arguments that pecuniary factors are determinant to university teachers' job satisfaction. For instance, Grace & Khalsa (2003) suggest that professional development and salary packages as the most important job satisfaction factors in higher education. Specifically, salary plays a large part in faculty turnover intentions and actual turnover; satisfaction with salary is positively associated with rank, tenure status, and retention (Schuster & Finkelstein, 2006; Weiler, 1985). Nevertheless, salary alone is rarely the most important mover in university teachers' decisions to leave (Gartshore, Hibbard & Stockard,1983; Johnsrud & Rosser, 2002; Matier, 1990; Smart,1990; Toombs & Marlier, 1981).

Significantly, some studies (Noble & Mears, 2000; Okpara et al., 2005; Hagedorn, 1996) present evidence that the job satisfaction of female faculty is lower when their earnings fall below the earnings of comparable males. Female university teachers were less satisfied with their work overall, possibly because they are conscious of the salary gap. Several reasons have been given for the gender wage gap. One explanation could be that senior faculty

members and university administrators, who are predominately male, make recommendations for promotions and pay increases and may be biased against women.

It would be difficult to draw general conclusions from these studies, since they were conducted in many different countries with diverse cultures. Money seems to have varying levels of importance in different cultures and can be more critical for workers who are unsatisfied with other aspects of their work (Gruneberg, 1979; Miner, 2007). For instance, in poorer countries where teaching takes place outside and teachers have to take on additional jobs to provide for their families, pay may be more important. Teachers in these circumstances link job satisfaction or overall happiness with their salary (Michaelowa, 2002). By contrast, Robbins et al., (2009) point out that when employees attain a comfortable standard of living greater earnings increase satisfaction only up to a certain point, beyond which pay rises do not affect it. One might assume that pay motivation is extrinsic and straightforward – that people want to be paid more. But in fact, research shows that the amount of pay often is less important to workers than perceptions in the fairness of pay and the expectation of relationship between pay and performance (Erez & Isen, 2002; Hagedorn, 1996).

Oversimplified and naive explanations of job satisfaction abound in all sectors of the workforce. Most typical is the mistaken belief that pay incentives alone create effective levels of motivation and thus overall job satisfaction. Serious research, however, has revealed that the concept of job satisfaction is a complex collection of variables that interact in myriad ways.

3.9.2.3 Interpersonal (collegial) relations

Organizational theory research reveals that satisfying working conditions as well as positive social and working relationships are conducive to increased levels of job-related satisfaction (Carnevale & Rios, 1995). Previous research consistently suggest that the quality of collegial relationships is a substantial indicator of satisfaction for university teachers (Hagedorn, 1996; Riger, Stokes, Raja & Sullivan, 1997). Good co-worker rapport can both encourage and predict satisfaction (Bernal et al., 2005; Wall, 2008; Van der Heijden, 2005). By contrast, negative work relationships will have a detrimental effect on job satisfaction (Harden Fritz & Omdahl, 2006).

Many educational researchers have identified interpersonal relationships as a source of job satisfaction for teachers, and this factor mostly emerges as a satisfier, rather than a

dissatisfier (Abdullah et al., 2009; Abraham, Ememe & Egu, 2012; Benmansour, 1998; Huberman & Grounauer, 1993). Nevertheless, Zembylas & Papanastasiou (2006) report that while some teachers acknowledged their relationships with colleagues as contributing a great deal to their satisfaction with teaching, where others had a largely negative view of their co-workers, and did not want to cooperate with them, they were more dissatisfied. One's interactions and views about one's colleagues and the department play an important role in faculty job satisfaction (August & Waltman, 2004; Hagedorn, 2000; Rosser, 2004).

3.9.2.4 Physical condition/facilities

Physical conditions and working facilities such as a beautiful campus, good library facilities, technical support, and computing facilities also affects university teachers' job satisfaction (Osagbemi, 1997). On the other hand, poor working conditions like poor building design and maintenance create situations for teachers that affect not only academic outcome but health too. Poor lighting, dirty and in-operational windows and dirty restrooms are in these cases a significant source of teachers' dissatisfaction (Schneider, 2003). Pilananandanond, Laksana & Jose (2004) point out that physical environment can be a predictor of job satisfaction.

3.10 Studies of university teachers' job satisfaction in Turkey and Azerbaijan

An exhaustive search has yielded only few studies of university teachers' job satisfaction conducted in Turkey and no studies in Azerbaijan. The following Turkish studies have been identified as most relevant to the present study:

Toker (2011) investigated the levels of job satisfaction among academicians in eight universities of Turkey and examined the effects of demographic variables on levels of satisfaction among them. University teachers' job satisfaction levels were found to be moderately high. Social status was ranked as having the highest effect and compensation was ranked as the lowest effect of the examined items. Instructors at the level of "professors" reported a higher level of job satisfaction as compared to "instructors" and "research assistants." Among the demographic variables studied, age and length of experience were significantly related to job satisfaction. However, marital status and gender were not significantly related to job satisfaction. This study was limited to quantitative data.

Saner & Eyupoglu (2012) conducted a study to provide empirical evidence on whether gender differences exist in relation to the job satisfaction of male and female university

teachers in Turkish universities in North Cyprus. The study instrument used was the short form Minnesota Satisfaction Questionnaire (MSQ) which measures job satisfaction using 20 facets of the job. A total of 412 university teachers took part in the study. The results demonstrated that, on average, university teachers were only moderately satisfied with their job. Out of the 20 facets of the job examined, 7 were found to have a statistically significant relation to gender. The study concluded that gender differences do exist in relation to the job satisfaction of university teachers. Again, the study was limited to quantitative data and other demographic variables were not considered in the study.

Kusku (2003) explored the differences in satisfaction dimensions between the academic and administrative employees in higher education institutions in Turkey. A total of 291 academic and administrative employees participated in the research and answered an original questionnaire. It was found that there are certain differences according to factors such as "colleague relations satisfaction", "colleague competition level satisfaction", "other work group satisfaction", "professional satisfaction", "work environment satisfaction", and "salary satisfaction" with respect to the job satisfaction of academic and administrative employees. One of the major limitations of this study is that its small sample size – just one university –prevents generalisation.

Baş & Ardıç (2002) investigated the job satisfaction of public and private university teachers with respect to ten satisfaction dimensions in order to determine the relative difference in job satisfaction levels between public and private university teachers. The population for this study was comprised of university faculty from 26 universities in Turkey. The empirical analysis indicated that public and private university teachers differed significantly with respect to the levels of satisfaction that they derive from many aspects of their jobs. Sources of these differences were identified, and the general conclusion was that private university teachers' job satisfaction was higher in many respects than that of university teachers working at public universities. One weakness of this study is that it does not indicate whether job satisfaction differed according to demographic characteristics such as gender, age, experience and so on.

The present study differs from previous studies by including an investigation of the relationship between self-efficacy and job satisfaction in higher education. Moreover, while all other Turkish studies have solely employed quantitative methodologies, the present study employs mixed methods, using a questionnaire as its primary instrument followed up with

interviews to collect deeper, multifaceted data. It is thus the first research to be carried out in both Turkish and Azerbaijani universities and utilizing mixed methods. As such, it is hoped that it will better enhance understanding of university teacher' self-efficacy and its relationship to job satisfaction with new comparative data and richer contextual details than either method alone.

3.11 Relationship between teachers' job satisfaction and self-efficacy

Job satisfaction is important in revitalizing staff motivation and in keeping their enthusiasm alive. A sense of satisfaction is an important basis of motivation. Well-motivated university teachers can, with appropriate support, build a national and international reputation for themselves and for their institutions (Capelleras, 2005). Consequently, such a positive profile may impact the quality of higher education institutions. At the same time, institutions and their leaders who understand the complicated tapestry of organizational culture have an opportunity to tap into the multiple resources at their disposal and hence manage job satisfaction and employee motivation more successfully (Machado-Taylor et al., 2016). Although several studies have examined the relationship between self-efficacy and job satisfaction around the world, little is known about the context of higher education in general, and in Azerbaijan and Turkey.

Self-efficacy is a strong predictor for motivation and a strong determinant of an individual's performance in all their undertakings (Heslin & Klehe, 2006). The relationship between teachers' self-efficacy and job satisfaction is especially important because job satisfaction has been shown to be significantly related to job performance across a wide range of work settings (Judge, Thoresen, Bono & Patton, 2001). If an individual has low self-efficacy, the individual will become demoralised, and it will lead to low job performance, hopelessness and ineffectiveness (Heslin & Klehe, 2006). Therefore, self-efficacy, as a set of beliefs that determine how people feel, think, motivate themselves and behave, is a critical area for attention by educational institutions.

A teacher's self-efficacy is a major source of motivation and commitment in all aspects of teaching (Tschannen-Moran et al., 1998) and so relevant to the teacher's own job satisfaction (Caprara et al., 2003; 2006), for teaching efficacy has been shown to influence job satisfaction (Klassen & Chiu, 2010). Teachers easily become dissatisfied with their work if they believe they are unable to confront challenges. Teachers with high self-efficacy instead show greater enthusiasm for teaching (Allinder, 1994). Self-efficacy ultimately determines

how an individual behaves, thinks and becomes motivated to be involved in a particular task. For this reason, individuals with high self- efficacy tend to behave more positively, think more creatively which also interacts with motivation. Consequently, such teachers are relatively more satisfied with their jobs (Akomolafe & Ogunmakin, 2014). Individuals with high levels of self-efficacy have the ability to effectively handle various tasks, obligations and challenges related to their professional role. Moè et al. (2010) emphasize that job satisfaction depends on positive affect and on self-efficacy beliefs. They further add that harmonious and passionate teachers are not only those who can teach well but also who experience positive affect, self-efficacy and job satisfaction. Caprara et al. (2003) considers job satisfaction a "decisive element" (p. 823) influencing teachers' performance and found self-efficacy to be an important contributor to teachers' job satisfaction.

Recent research findings indicate that a teacher's objective teaching ability does not predict job satisfaction directly, but rather that perceptions of teaching-related self-efficacy lead to greater positive affect and job satisfaction (Italy: Moè et al., 2010; Canada: Klassen & Chiu, 2010). Similar results were reported by Caprara et al. (2003) who found that teachers who believed in their ability to accomplish teaching tasks and cope with classroom difficulties to report greater value and happiness concerning the teaching profession. Similarly, Skaalvik & Skaalvik (2010) point out that higher self-efficacy in Norwegian teachers is predictive of lower levels of burnout symptoms (depersonalization, emotional exhaustion) as well as greater job satisfaction. In Turkish context, Karabiyik & Korumaz (2014) found a significant positive relationship between teachers' self-efficacy and job satisfaction. Exploring the relationship between teaching self-efficacy and job satisfaction may have implications for teachers' job performance, and by extension, the academic achievement of students.

Klassen et al. (2009) found relationships between self-efficacy and job satisfaction for teachers from five North American and Asian countries. They further suggest that teachers' nationality and associated cultural beliefs can influence the relationships among job stress, job satisfaction, and teachers' efficacy. The evaluations of teachers' self-efficacy and job satisfaction certainly may depend on the context. However, regardless of the specific setting of teaching, these wellbeing-related aspects of the profession have been shown to be very significant steps toward good teaching in a large body of research carried out in various countries including Germany (Klusmann et al., 2008), the Netherlands (Näring, Briët & Brouwers, 2006), Australia (O'Connor, 2008), United States (Tschannen-Moran & Woolfolk

Hoy, 2001), Greece (Poulou, 2007), France (Leroy, Bressoux, Sarrazin & Trouilloud, 2007), United Kingdom (Brady & Woolfson, 2008), Canada (Carbonneau et al., 2008), Norway (Skaalvik & Skaalvik, 2009) and Italy (Caprara et al., 2006). One of the objectives of this study is to explore the relationship between these aspects in higher education settings in Azerbaijan and Turkey.

3.12 Chapter summary

This chapter has explored the concepts of self-efficacy and job satisfaction, discussed and reviewed the worldwide literature regarding studies of self-efficacy and job satisfaction in general and among university teachers in particular. It has revealed a lack of consensus on definitions of teachers' self-efficacy and job satisfaction, due to their multifaceted nature and their complex interrelations. The chapter has also identified a wide range of factors and variables which have been argued to affect self-efficacy and job satisfaction. Many of these factors are related to the job environment (context) and others to personal characteristics or demographic variables. The studies reviewed were conducted in many different educational settings worldwide, with consequent cross-national differences. The results of these studies also differ considerably, which suggests that there is no fixed set of factors or variables having the same effect on university teachers' self-efficacy and job satisfaction everywhere and at all times. In other words, differences in culture may well be responsible for some of the variability in the results of studies.

Thus, in order to address certain gaps in knowledge identified by this literature review, the current study adopts mixed quantitative and qualitative methods, employing a questionnaire as its primary instrument and following it up with interviews, in order to collect both comprehensive and in-depth multifaceted data regarding self-efficacy and job satisfaction among university teachers in Azerbaijan and Turkey. The research strategy, design and methodology employed are described and explained in detail in the following chapter.

Chapter Four

Research Design and Methodology

4.1 Introduction

This chapter presents the methodological strategy and design of the study, describing in detail and justifying the particular methodological choices made. After reiterating the aim and research questions, it offers a brief description of alternate quantitative and qualitative methodologies, discusses their respective advantages and drawbacks. It next justifies the adoption of mixed methods to overcome the disadvantages and take advantage of the complementary the strengths of each. Then it considers in turn and in a detailed consideration of the quantitative and qualitative phases of the study.

4.2 Aims and Research questions

The study aims to investigate the self-efficacy beliefs of university teachers with respect to research and teaching and to understand the relationship between self-efficacy and job satisfaction, potentially a key contributor to university teachers' self-efficacy.

1. What is the level of self-efficacy for research and teaching amongst university teachers?
2. What demographic variables (e.g., academic qualification, gender etc.) are associated with university teachers' research and teaching self-efficacy, and job satisfaction?
3. Do research and teaching self-efficacy and job satisfaction vary in terms of demographic variables?
4. What environmental factors (e.g., workload, salary etc.) affect university teachers' research and teaching self-efficacy, and job satisfaction?
5. Is there a relationship between university teachers' research and teaching self-efficacy, and job satisfaction?
6. What are the main similarities and differences in terms of research and teaching self-efficacy, and job satisfaction amongst university teachers in Azerbaijan and Turkey?

4.3 Research Methods

Design of research methodology can be described as a prototype entailing theoretical values as well as a structure that offers strategies about how research is carried out within a specific paradigm (Sarantakos, 2013). It is important to decide on the most appropriate methodology or combination of methodologies for a particular study. There are three broad groups of

research methodologies: historical, descriptive and experimental (Gilbert, 2008; Verma & Mallick, 1999). Although Verma & Mallick (1999) point out that all three can be used in educational research, descriptive methods are most widely employed in this field (Cohen, Manion & Morrison, 2011). The present study adopts descriptive techniques because this technique is well suited to the study's aims to explore university teachers' self-efficacy for research and teaching and the relationship of this self-efficacy to their job satisfaction; and to identify respondents' related opinions and attitudes. It is thus appropriate to first offer an overview of descriptive research. This kind of research seeks to discover 'what is', i.e. to contend with present phenomena and describe them precisely and realistically (Gall, Gall & Borg, 2007; Cohen, Manion & Morrison, 2011; Procter, 2001). Gary (2009) considers that "descriptive studies aim to 'draw a picture' of a situation, person or event or show how things are related to each other" (p.53). On the other hand, Ary, Jacobs, Sorensoen & Razavieh (2010) and Gay (1996) claim that descriptive methods are suitable for investigating opinions, beliefs, demographic data, circumstances and processes. Given the objectives to describe existing university teachers' self-efficacy and its relationship to their job satisfaction, and the variables factoring into these beliefs, attitudes and relationships, these methods are therefore appropriate for the current study.

4.4 Qualitative and Quantitative Approaches

The most frequent categorisation of research distinguishes quantitative from qualitative methodologies (Creswell, 2014; David & Sutton, 2011). Data can be categorised as qualitative if they are presented in word form and depict circumstances, people or situations related to a certain phenomenon and as quantitative when they are presented as precise figures, calculations or measurements with a number of interpretations (Blaxter, Hughes & Tight, 2010; Huberman & Miles, 2002).

4.4.1 Quantitative approach

A quantitative study can be defined as "an inquiry into a social or human problem, based on testing a theory composed of variables, measured with numbers, and analysed with statistical procedures, in order to determine whether the predictive generalizations of the theory hold true" (Creswell, 1994, p. 2). Gall et al. (2007) define quantitative methodology as an analysis based on the postulation that aspects of the social environment comprise an unbiased reality that is comparatively persistent across time and contexts. The overriding methodology is to define and elucidate aspects of this reality by gathering and analysing statistical data on performance and conduct. Bryman (2012) points out that quantitative research employs a

particular language largely to clarify how scientists go about examining natural variables, controls, measurements and experiments.

According to Bell (2010), in quantitative research facts are gathered in order to examine the association of one group of facts to another, using methods that may generate quantifiable and sometimes generalizable findings. Therefore, the quantitative paradigm is useful in this study to obtain sets of facts about university teachers' demographic profiles and their opinions about self-efficacy for research and teaching, and job satisfaction in a consistent form. These can then be studied in detail to measure the frequency of specific opinions and of the likelihood of associations between variables. This methodology is helpful, for instance, to determine whether perceptions may vary with a particular demographic variable such as experience or gender. Another use for this approach is for the examination of the relationship between university teachers' self-efficacy and job satisfaction. It can also allow the researcher to investigate a sizable sample. Undeniably, one of the major benefits of a quantitative approach is that it enables the possible measurement of the responses of a large number of people to a limited number of questions. This can facilitate data comparison and statistical aggregation (Patton, 2002). Quantitative findings can be subjected to a wide range of statistical approaches (Baker & Charvat, 2008; Rubin & Babbie, 2013). Thus, quantitative study can yield a comprehensive and generalizable set of findings, in a presentable form.

As to the limitations of this method, Baker & Charvat (2008) claim that quantitative instruments can have low response rates. The design of quantitative research can also be more challenging than qualitative research, as it initially requires a more categorical description of the kinds of data to be gathered. However, once collected, quantitative data can be more straightforwardly analysed (Verma & Mallick, 1999). The advantages of the quantitative method thus make it appropriate to address the research questions of this study.

4.4.2 Qualitative approach

The qualitative approach can be outlined as an investigative procedure to understand a social or human issue that is carried out in a natural location and serves to construct a multifaceted picture shaped with words, recording and detailing the ideas and opinions of subjects (Creswell, 2014). Qualitative research normally investigates small groups of people, who provide explanations for purposes and meanings. Qualitative methods include unstructured, detailed interviewing, group interviews and observation (Rubin & Babbie, 2013; Williams, 2003). These methods offer a rich, in-depth examination of chosen social or educational

issues, providing valuable insights of problematic areas. Qualitative researchers seek to understand individuals' feelings and views of the world around them. To clarify further, they seek insights instead of statistical information. They are concerned with achieving a more detailed understanding of human behaviour and its underlying motives than a strictly quantitative 'scientific' methodology can offer (Bell, 2010; Solomon & Draine, 2010). Qualitative research is flexible, for the researcher has the opportunity to alter questions in the process of data collection; and its findings are easier for general readers to understand, being less formal and statistically focused (Hancock, 1998). Hence, qualitative research may give rise to richer meanings and content than quantified data (Babbie, 2013; Rubin & Babbie, 2013). One of the major aims of the current study was to investigate the key issues underlying environmental factors affecting university teachers' self-efficacy and job satisfaction; a qualitative approach was considered useful in explaining these issues in nuanced ways. Keats (2000) proposes that qualitative interviews can effectively identify the factors and motivations behind the perceptions and beliefs of individuals. Nevertheless, the qualitative approach also has drawbacks; it has been critiqued for being able to support only small-scale projects and for not being generalizable. It has also been criticised for being dependent on the personal explanations of researchers, for not allowing reproduction by other investigators, for requiring time-consuming data collection and for subsequent difficulties with its analysis (De Vaus, 2014; Fellows & Liu, 2008). In order to mitigate both these limitations and those of the quantitative approach, and in considering the strengths each methodology offers, the researcher decided to adopt a mixed methods design. The next section discusses the ways in which qualitative and quantitative methods can be successfully combined to give particular attention to the questions under investigation.

4.4.3 Mixed method

In mixed-method research, "the researcher mixes both qualitative and quantitative research approaches within one stage of the study or across two of the stages" (Mishra, 2005, p. 261). Gary (2009) points out that quantitative and qualitative methods may be utilised interdependently and in a variety of sequences. Moreover, they can be used independently, concentrating either on one main research question or on various questions. Design selection will depend on the type of research question being posed and on how the mixing of methods can support robust data collection and more complex understanding of the study results.

While each approach has its limitations and benefits, their combination not only acknowledges the significance of conventional quantitative and qualitative research models,

but also provides for a significant third model that frequently will offer the most instructive, comprehensive, well-organised and beneficial research findings (Johnson & Christensen, 2007). While using the combined paradigms, the mixed-method researcher is less likely to leave out key findings or commit errors. A number of authors consider this mixed-method research more precise and its outcomes more credible than would either traditional method be alone. Using mixed methods can strengthen research by filling the gaps in data left by single-approach methods (David & Sutton, 2011; Johnson & Christensen, 2011; Creswell & Plano Clark, 2011). Additionally, mixed-methods are employed as part of study design development, enabling the researcher to construct more effective and dependable measurement instruments and to confirm the findings across approaches, both of which can result in greater understanding of the research problem at hand (Bryman, 2012; David & Sutton, 2011). Williams (2003) suggests that a mixed-method study is more likely than a single method to reach answers to the research questions. Indeed, in most cases, the mixed-method offers deeper interpretations and facilitates the investigation of a wider variety of conflicting viewpoints (Tashakkori & Teddlie, 1998).

As to its limitations, the mixed-method approach may involve lengthy data collection and analysis. It can be demanding and challenging in terms of both time and money (Creswell & Plano Clark, 2011; Hall, 2008). However, it is considered sufficiently useful to employ mixed methods in the current study to warrant incurring these extra costs, in order to use the best method for each data source. University teachers' self-efficacy and job satisfaction have not before been studied by using mixed-methodology. A mixed-method approach may therefore add new perspectives to this research area as well enhance the depth and dependability of the data gathered in this study. With this approach, the researcher is better able to explore and highlight both individual and generalizable aspects of the research aim. Creswell (2014) suggests six strategies for combining quantitative and qualitative methods, as follows:

A sequential explanatory strategy entails the gathering and analysis of quantitative data in the first stage, followed by a second stage where qualitative data are collected and analysed to strengthen and validate the findings of the quantitative phase.

A sequential exploratory strategy includes a first stage of qualitative data collection and analysis, followed by a quantitative stage that depends on the findings of the initial stage.

A sequential transformative strategy involves a two-stage project with a hypothetical perspective such as gender, race or social science theory covering the processes. There is a

first quantitative or qualitative phase, followed by a qualitative or quantitative one relying on the initial stage.

A concurrent triangulation strategy requires the researcher to gather both quantitative and qualitative data, remarking similarities and variations, so as to benefit from the strengths and overcome the limitations of each.

A concurrent nested strategy is where the researcher brings together quantitative and qualitative data so that a wide-ranging analysis of the research question is provided.

A concurrent transformative strategy is determined by the researcher's reference to a particular theoretical viewpoint in addition to the simultaneous collection of both quantitative and qualitative information.

The sequential explanatory strategy has been chosen for the present study, on the basis of the aim and research questions. Hence, data collection began with the collection and analysis of quantitative data, followed by the collection and analysis of qualitative data. While the former was given priority in analysis, both methods are combined throughout the interpretation stage of the research. The researcher also considered the advice of Creswell & Plano Clark (2011): that decisions about the descriptive design should be comprised of the respondents who are in the second stage and what sample sizes will be utilised for each component or phase.

There are several reasons for choosing the sequential explanatory strategy for this study. The sequential explanatory strategy is the most straightforward of six main mixed-method strategies, being simple to apply because the steps fall into clear and distinct phases. The design aspects of this strategy make it favourable in terms of description and reporting (Creswell, 2014). Additionally, analysing the quantitative data and studying the initial findings can contribute to deciding which aspects to pursue qualitatively, such as by addressing quantitatively important findings or statistically significant outcomes and differentiating among demographic features (Creswell & Plano Clark, 2011; Gary, 2009).

4.5 Data Collection Methods

The current study consists of two stages, quantitative and qualitative, using questionnaires and interviews respectively to collect data. This section offers an overview of these methods and their importance.

4.5.1 Questionnaires

A method of data collection commonly used in social research is the questionnaire (Adler & Clark, 2011; Hall, 2008; Rea & Parker, 2005). This self-report method relies on each respondent following instructions set out in the research procedure (Johnson & Christensen, 2011). Such an instrument can provide primary data or valuable complementary information (Clarke, 1999; Gray, 2009). Among their benefits, questionnaires allow a large body of data (Wimmer & Dominick, 2011; Denscombe, 2010) to be collected relatively quickly (Bell, 2010; Bryman, 2012; Sarantakos, 2013). Another benefit is that all participants receive standard written guidelines, limiting the impact on the outcome of the researcher's conduct (Ary et al., 2010; Bryman, 2012). The analysis and discussion of statistical data are also quite straightforward and objective (Cohen et al., 2011). Finally, questionnaires are appropriate for gathering data on people's feelings, stimuli, opinions, endeavours and knowledge (Gall et al., 2007; Rea & Parker, 2005), which the present study required.

As with all research instruments, questionnaires also have drawbacks. For instance, some participants may not respond to all questions (Denscombe 2010; Gray 2009). Some may not return the questionnaires (Bell, 2010), lowering the response rate and limiting the generalisability of the data (Denscombe, 2010). Moreover, Frankfort-Nachmias & Nachmias (1996) and Sarantakos (2013) note that questionnaires do not provide the opportunity to search for supplementary data or to elucidate the issues at hand. Despite these drawbacks, the researcher decided that a questionnaire was the most appropriate primary data collection instrument to study the large target population and to come to generalizable answers to the research questions. In order to overcome the above-mentioned disadvantages, the researcher personally administered the questionnaires. As discussed next, she also used interviews to collect further data in order to understand the issues at hand more comprehensively.

4.5.2 Interviews

Another technique commonly employed in qualitative research is the interview (Bryman, 2012; Holstein & Gubrium, 1998). Cohen et al. (2011) describe the process as a two-person conversation initiated by the researcher in order to gather research-based data. However, Kvale (1996) refers to it as an exchange of opinions around a topic of shared interest. Cohen et al. (2011) lists three purposes of interviews: as the main data-collecting tool, having a direct bearing on the research aims; to assess theories, to propose new ones, or to help determine variables and relationships; and to supplement other methods of data collection.

Respondents are encouraged to reveal their opinions, approaches and explanations of what they have experienced with the help of the interactive process (Gray, 2009). Therefore, interviews can offer a richer and more profound view of a specific subjects or issues. More significantly, they can provide valuable data that may not be obtained otherwise.

Depending on the kind of data, hypotheses and aims that they want to investigate, researchers can choose among structured, semi-structured and unstructured interviews. They mainly differ in the manner and extent to which the researcher and the respondent are committed to the communicative act (Clark-Carter, 2010; Gall et al., 2007; Gray, 2009; Robson, 2011). In a structured interview, the questions are closed and asked in a fixed order, ensuring that each participant is given a formally and structurally identical set of questions (Bryman, 2012; Merriam, 2009; Rubin & Babbie, 2013). Cohen et al. (2011) and Gray (2009), point out that the questions must be prepared beforehand so that a set of well-structured questions is articulated. Hence the interviewer determines in advance exactly the type of data considered valuable to answer the research question. A weakness of this kind of interview is its inability to elicit more profound data (Cohen et al., 2011; Sarantakos, 2013), or to take into account what the subjects of the research may consider the types of information important and pertaining to the research question.

Conversely, unstructured interviews are characterised by flexibility and freedom (Wilkinson & Birmingham, 2003), questions being generated as the dialogue progresses (Adler & Clark, 2011; Gall et al., 2007). The researcher is able to bring new resources into the conversation as the interview proceeds, to elicit key data of which he/she might not have had the prior knowledge needed to ask about (Hitchcock & Hughes, 1995). The drawbacks include difficulty in designing the instrument and predicting the time required. Additionally, it can be hard to control a discussion which drifts away from the subject at hand, and extremely challenging to analyse the often-diffuse data (Adler & Clark, 2011).

Semi-structured interviews offer an intermediate method favoured by educational researchers. It enables them to elicit in-depth information by responding to interviewees' feedback within a general structure (Hitchcock & Hughes, 1995). Gray (2009) and Gall et al. (2007) note that a number of structured questions and some more open ones are combined to investigate the matter more deeply and to elicit additional data. In other words, semi-structured interviews focus on a number of prearranged questions; still, their administration and phrasing can be altered so that what appears unsuitable for a particular interviewee can

be deleted or extra questions added (Robson, 2011). The interviewer needs to be flexible and imaginative, leaving room for any unanticipated modifications in the course of the conversation (Wilkinson & Birmingham, 2003).

Underlying the current researcher's decision to use an interview method is the potential to ask participants to provide more detailed answers. In addition, a large number of open-ended questions can be asked, often providing rich qualitative data without participants feeling unencumbered by having to write lengthy responses (Bryman, 2012; Gray, 2009). Another advantage is that the researcher can explain any question that a participant struggles to answer (Bryman, 2012; Oppenheim, 1998). Moreover, in contrast to written procedures, the face-to-face nature of the interaction allows the researcher to modify the field of enquiry, to follow up an attention-grabbing answer or to explore key components.

The interview method also has potential drawbacks. For example, analysis and arrangement of the interview data can be significantly more challenging than the presentation of figures derived from quantitative questionnaire data, in table form; the latter may be displayed with minimal explanation (Cohen et al., 2011). Moreover, the analysis of interview data will unavoidably be negotiated from the researcher's point of view (Verma & Mallick, 1999). Oppenheim (1998) also points out that interviews can prove more demanding, costly and time-consuming than questionnaires in social research.

In light of the above considerations, the researcher chose to employ semi-structured interviews, as best serving the purposes of this study. The main reason for choosing semi-structured interviews is the desire to elicit accurate, in-depth data by giving respondents the freedom to interact at their leisure over a reasonable period of time. The issues to be discussed in the interviews are determined in accordance with the objectives of the research.

In short, after considering the benefits and drawbacks of questionnaires and interviews, the researcher decided to use both instruments in order to maximise the benefits of each while limiting their shortcomings. The questionnaire allowed the researcher to gather a large body of uniform data from many university teachers. She then used a small number of interviews to add depth and richness to the research by exploring the ground more comprehensively. Figure 4.1 depicts the research design for the study.

Figure 4.1

Visual model of research design

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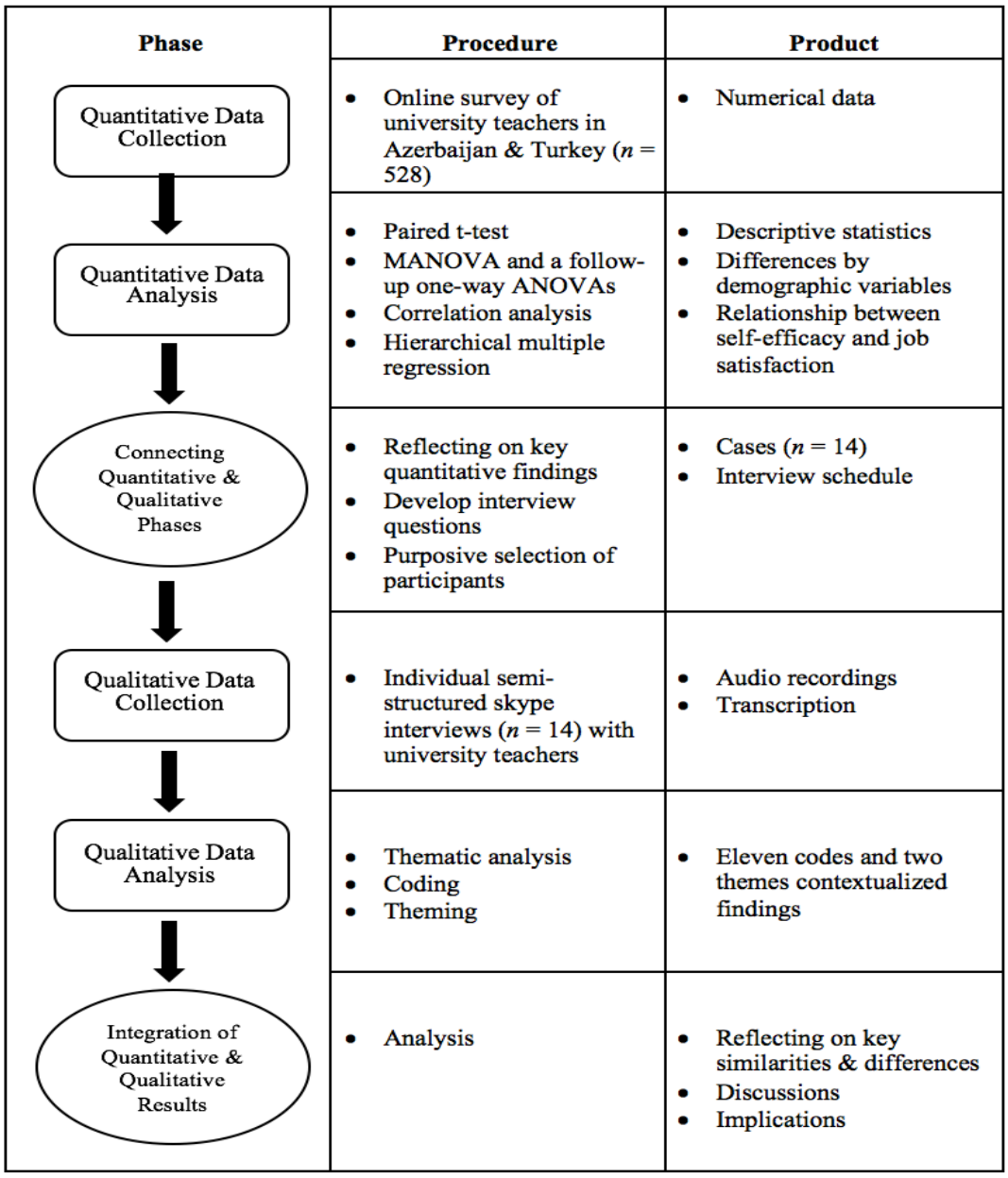


4.6 Ethical Issues

A number of ethical issues are likely to arise in any social research project, whether involving people or documents, so researchers must take these issues into account and consider ways to tackle them (Blaxter et al., 2010). Some of the most significant are informed consent, voluntary participation, confidentiality and protection of respondents from being harmed (Bell, 2010). In order to protect the rights of participants in the present research, the researcher paid due consideration to these ethical issues and adhered strictly to

the ethical procedures of the University of York. Therefore, before conducting the research study, the ethical approval was sought and granted by the university.

The ethical issue concerns participants' consent. According to Anderson & Arsenault (1998), consent involves "the written or verbal permission of a subject stating that they agree to participate in a research activity" (p. 253). Furthermore, potential contributors should be made aware of what they are consenting to participate in (Thomas, 2013). Thus, the first page of the present questionnaire introduced the researcher to respondents and clearly elucidated the objectives and the significance of the research. The researcher then gave other personal details at the end of the questionnaire so that respondents could contact her with any queries pertinent to the research study. Before distributing the questionnaire, the researcher introduced herself in the emails and clarified the purpose of the research.

In the second phase of data collection, potential participants were informed in writing of the aims and significance of the research. Those who were willing to be interviewed were asked to sign a consent form. Hatch (2002) emphasises the need to ensure that genuine informant consent is obtained. Before each interview, the researcher also assured participants that they were under no obligation to continue with the research process and could withdraw at any time without explanation. The researcher also recognised that the importance of confidentiality and anonymity should not be underestimated. According to Rubin & Babbie (2013), the distinction between these concepts is that anonymity is a procedure making it difficult for a researcher to link any research information to a certain research respondent, whereas confidentiality means that where the researcher can identify the person associated with a particular answer, he or she pledges not to have that identity published or accessible by anyone else. In the present study, as the questionnaires were sent via email and all the responses were anonymous. Non-disclosure of personal or business details was carefully considered during and after the study was carried out. In order to ensure confidentiality in the interviews, the researcher promised to each participant that his or her responses would be treated in strictest confidence and used for no purpose other than this study. Moreover, their names would not be revealed, thus protecting them from consequences in terms of their careers or professional prospects. Respondents' names are not used in the study, but are, rather, encoded so that it is impossible for anyone to identify them.

4.7 Quantitative phase of the study

As mentioned in section 4.4.3, the current study adopts a mixed-method approach as being most appropriate to address the aim and research questions. The following section begins with quantitative phase covering measures, sampling, procedure and data analysis.

4.7.1 Development of the questionnaire

Before choosing the questionnaire as a data collection instrument, the researcher reviewed the literature on teachers' self-efficacy in general and in university teachers in particular. In doing so, she was able to identify an existing questionnaire fitting the aims of the current study and its context of Azerbaijan and Turkey. The amended version of 70-item lecturer self-efficacy questionnaire (Hemmings & Kay, 2009) was used in this study. The lecturer self-efficacy questionnaire has a theoretical framework located in Bandura's social cognitive theory. The final version of the questionnaire was divided into three sections: Section 1 provides demographic information on respondents; Section 2 elicits respondents' levels of confidence in relation to performing identified work-related tasks using a 10- point scale ranging from 0 (low and not confident at all) to 9 (high and completely confident); and Section 3 allows respondents to state the importance of and satisfaction derived from research, teaching and other academic or service-related activities, as well as providing details of published research output. Section 2 is partly based on an updated version of an earlier questionnaire on university teachers' self-efficacy presented by Schoen & Winocur (1988).

The original questionnaire was developed for use in a different country context (the UK and Australia), albeit in higher education. Its application for this study necessitated some changes to the terminology and language employed within the original questionnaire, as well as its structural layout. For instance, the researcher removed the 'service' section in the second section of the questionnaire since the only focus of the present study was self-efficacy for research and teaching in higher education. In addition, the researcher removed section 3 and added questions particular to measuring job satisfaction. Specifically, job satisfaction was measured with four items drawn from Caprara et al. (2003) on a 9-point scale. Items consist of (a) "I am fully satisfied with my job" b) "I am happy with the way my colleagues and superiors treat to me" c) "I am satisfied with what I achieve at work", and (d) "I feel good at work." This measure demonstrated adequate reliability and validity in Caparara et al.'s (2003) study. Results using this measure have been shown to be related to self-efficacy in

previous studies (e.g., Klassen et al., 2009; Klassen and Chiu, 2010). Thus, the questionnaire of the present study consisted of three parts (Appendix A):

- Part 1, designed to gather data relating to respondents' demographic characteristics: gender, age, qualifications, experience.
- Part 2, comprising 49 statements designed to elicit responses regarding level of confidence for research and teaching.
- Part 3, comprising 4 statements related to job satisfaction.

4.7.2 Translation of the questionnaire

The original questionnaire was in English. However, its application in Azerbaijan and Turkey required it be translated into Azerbaijani and Turkish. Following the guidance of Rubin & Babbie (2013), the original text was translated into Azerbaijani and Turkish and the translation was edited and proofread for grammatical precision. The Azerbaijani and Turkish version was then back-translated into English and the resultant text was matched against the original. This procedure can be time-consuming, given the effect of cultural differences and the difficulty in finding direct Azerbaijani and Turkish correspondences for some English words. Nevertheless, the researcher considered it was important to dedicate time and consideration to it, so as to avoid any problems arising from incompetent or inadequate translation, since "a poorly translated questionnaire may produce data which are misleading" (Bradley, 1994, p. 43). The translation was then double-checked by two university teachers in Azerbaijan and Turkey to identify any obstacles to comprehending the questionnaire. After some minor but necessary modifications, the Azerbaijani and Turkish versions of the questionnaire were finalised (Appendix A).

4.8 Reliability and Validity

Validity and reliability are two significant features of measuring tools that must be taken into consideration by all researchers. According to Ary et al. (2010), research has no value and misses its target if it is not meticulous. Therefore, close attention should always be paid to reliability and validity (Morse et al., 2002; Thomas, 2013). In practice, the two concepts overlap and seem to be interconnected: to be valid, a measure must be reliable, although the converse is not necessarily true (Oppenheim, 1998; Sarantakos, 2013).

Reliability is defined as "the consistency of a measure of a concept" (Bryman & Bell, 2011, p. 158). It is crucial in research, as it reflects the dependability of the findings (Berg & Latin,

2008). Alternatively, it is the degree to which a test or process yields similar outcomes under comparable conditions in all instances (Bell, 2010; Clark-Carter, 2010; Oppenheim, 1998; Thomas, 2013). This section discusses reliability and validity with particular reference to the questionnaire instrument.

4.8.1 Face Validity of the questionnaire

In the current study, face validity of the questionnaire was investigated, with help from specialists in the area. There was a preliminary evaluation of these criteria prior to the pilot stage, in meetings and discussions with the researcher's supervisor and with two Azerbaijani and Turkish university teachers. It was found that the questionnaire largely encompassed the correct areas for this study. Connaway & Powell (2010) recommend that when the first draft of a questionnaire has been finalised, and before its application, it should be assessed by one or more expert observers. A person familiar with the topic of the questionnaire can assist in appraising the face validity of the items. In order to assess face validity, the collaborators from Azerbaijan and Turkey were asked to indicate whether the questionnaire appeared appropriate for its purpose. The referees agreed that all questionnaire items were clearly formulated, understandable and relevant to the aims of the study. Therefore, none were changed or deleted from the questionnaire.

4.8.2. Internal consistency

Internal reliability is described as "the degree to which the indicators that make up the scale or index are consistent" (Walliman 2006, p. 34). This issue is specifically significant in the framework of multiple-item measures, in which the question may arise as to whether the basic indicators, together, form a single dimension (Bryman, 2012). A test will achieve internal reliability if there is high correlation between its items (Oppenheim, 1998). Various techniques have been suggested to assess internal reliability. Nevertheless, the statistic most widely used to determine internal reliability is Cronbach's alpha, a coefficient of internal consistency, assessing the degree to which the scores on individual items are in agreement with each other. Its values differ from 0 to 1.0, with a value of 0.80 or higher typically taken as a sign of high reliability (Ary et al., 2010; Morrow, Jackson, Disch & Moood, 2011). While there is no consensus upon the cut-off values for suitable levels of the alpha coefficient, a figure of 0.70 or higher is often sought in social science research (Pole & Lampard, 2002; Heppner, Wampold & Kivlighan, 2008). More specifically, reliability is

widely accepted and perceived as being very high at $r > 0.90$, high at $r > 0.80$ and acceptable in the range $0.66 < r < 0.79$ (Bauer, 2000).

4.8.2.1 Reliability of the scales

Cronbach's alpha was used to evaluate the reliability of this study's questionnaire as a whole. Monette, Sullivan & DeJong (2011) and Wiersma & Jurs (2005) recommend that measures of internal reliability need only one testing session and no control group. It is one of the reasons that the researcher utilized these techniques whenever applicable in the present study – to check the reliability of the questionnaire items. The reliability of each section of the questionnaire was thus determined by using the SPSS programme to calculate Cronbach's alpha. The values of the coefficient were 0.95 for research and teaching self-efficacy (whole scale) and, 0.83 for job satisfaction (see table 4.1).

Table 4.1

Reliability of the scales

Scale and item content	α	*M*	SD
Research self-efficacy	.95	7.99	1.48
Literature & Writing	.80	8.05	1.56
Data collection & analysis	.85	8.26	1.35
Leading	.86	7.22	2.06
Disseminating	.91	8.34	1.62
Supervising	.83	7.75	2.48
Teaching self-efficacy	.95	9.04	1.01
Lecture & Instruction	.80	8.90	1.12
Course planning	.87	9.06	1.08
Assessment	.92	9.11	1.11
Job satisfaction	.83	8.27	6.38

These values demonstrate that the tool was reliable. According to the typical Cronbach's alpha values referred to above, the extent of the similarity or internal reliability within the constituents of the questionnaire can be said to be high or very high (Pole & Lampard, 2002; Heppner et al., 2008).

4.9 Pilot study of the questionnaire

Before using the questionnaire in the main study, it is important to ensure that it is appropriate to the purpose. A number of scholars claim that in order to refine the content and presentation of a questionnaire, it is usually worthwhile to carry out a pilot study

(Bryman & Bell, 2011). As explained by Adler & Clark (2011) and Peterson (2000), pilot studies represent a small-scale research endeavour which usually consists of using a draft of a questionnaire or other instrument with survey participants comparable to those chosen for the main study, under real or simulated research conditions. A pilot study should offer valuable data on many elements of the research project, such as providing the opportunity to assess the time needed to administer the instrument (Pole & Lampard, 2002). Moreover, a pilot study also helps the researcher to find potential defects, insufficiencies, uncertainties or problems in the research instruments. Thus, this preliminary study was particularly significant in the research approach to determine problematic areas that may impact on the value and rationality of the questionnaire (Blessing & Chakrabarti, 2009; Bryman & Bell, 2011; Pole & Lampard, 2002). It is important to note that the thirty university teachers who completed the pilot questionnaires for this study were not included in the sample who later took part in the main study, following the advice of Bryman (2012) that the "pilot should not be carried out on people who might have been members of the sample that would be employed in the full study" (p. 264).

The researcher conducted a small-scale pilot study in order to ensure that the items of the questionnaire are clearly understandable and likely to elicit the responses needed to answer the research questions. Respondents were chosen by a convenient sampling technique among 6 universities in Azerbaijan and 2 universities in Turkey. The researcher e-mailed the link of the questionnaire to 45 university teachers, including a cover letter explaining the aim of the research and how to respond to the questions. All respondents to the pilot questionnaire participated voluntarily. A total of 5 days was allowed for finalising the process of responding to the questionnaires. A total of 26 were completed and returned. The validity and reliability of the questionnaire were then determined, as explained in sections 4.8.1 and 4.8.2 respectively. The findings of this pilot study led to a very few minor changes being made to the questionnaire as a whole. For instance, with regard to the questions 2.15 and 2.16 about participation and delivering a paper in conferences in section two, four university teachers reported that it would be better to make a distinction between local and international conferences. Some university teachers may feel confident to participate or present a paper in local conferences but may feel less confident for international conferences due to English language proficiency. So, this option was added to the questionnaire.

4.10 Questionnaire Sample and Administration

This section discusses the principles of sampling, procedure and its administration, and data analysis.

4.10.1 Participants

The participants were part of a convenience sample of 528 university teachers (54% women, 46% men). Two samples of university teachers participated in this study. Sample A (205 university teachers) was driven from a larger number of public and private universities in Azerbaijan. Participants were asked to indicate their gender, academic qualification, age and years of experience. In the areas of age and experience, the researcher created three proportional categories. Participants' gender, academic qualification, age and years of experience are listed in Table 4.2 for Azerbaijan and in Table 4.3 for Turkey.

Table 4.2

Demographic characteristics of sample in Azerbaijan

Variable	N	Percentage
Gender		
Male	106	52
Female	99	48
Qualification		
MA	32	16
PhD candidates	64	31
PhD	109	53
Years of experience		
0-7 years	61	30
8-15 years	60	29
16 years and more	84	41
Age		
35 years or below	74	36
36-45 years	60	29
46 years or above	71	35

Sample B consisted of 323 university teachers from various public and private universities in Turkey.

Table 4.3

Demographic characteristics of sample in Turkey

Variable	N	Percentage
Gender		
Male	177	55
Female	146	45
Qualification		
MA	10	3
PhD candidates	13	4
PhD	300	93
Years of experience		
0-7 years	104	32
8-15 years	105	33
16 years or more	114	35
Age		
35 years or below	74	23
36-45 years	123	38
46 years or above	126	39

4.10.2 Sampling procedure and administration

Due to difficulties in accessing data, the researcher used convenience sampling, which is a type of non-probability sampling approach. Before leaving the UK to conduct the questionnaire survey, the researcher contacted the relevant department of the Ministry of Education of the Republic of Azerbaijan for assistance in the data collection process. This research study is government-funded and the Ministry supports doctoral students' research initiatives in the country. The researcher travelled to Azerbaijan in order to better plan and facilitate the data collection process. She arranged a data collection process in Turkey with the assistance of ADA University, where she previously was employed for more than 5 years, and through colleagues working in Turkish universities. ADA University has signed MoU with Turkish universities with respect to collaboration on research and teaching.

The researcher e-mailed questionnaires to university teachers working in higher educational institutions in Turkey (n = 500) and Azerbaijan (n = 400). From Turkey, a total of 323 questionnaires were completed and returned, yielding a response rate of 64.6%. From Azerbaijan 205 questionnaires were completed and returned, yielding a response rate of

51.2%. Thus, data from a total 528 questionnaires were used for the quantitative data analysis.

4.10.3 Analysis of the questionnaire data

Online-survey was analysed using the SPSS programme. The data was first merged and analysed together in order to see more comprehensive understanding of the issues concerning university teachers' research and teaching self-efficacy and job satisfaction. As one of the objectives of the study was to make cross-national comparison, the data was then split into two files in order to examine some major similarities and differences between Azerbaijan and Turkey. As for the statistical analysis techniques, they were as follows:

- Cronbach's alpha was calculated to determine the internal reliability of the scales.
- Descriptive statistics were employed to study the basic characteristics of the sample data.
- Paired sample t-test was used to assess the level of self-efficacy for research and teaching among university teachers.
- Pearson's correlation coefficient was used to determine whether demographic variables (qualification, experience and age) were related to research and teaching self-efficacy, and job satisfaction.
- Hierarchical multiple regression was used to assess whether demographic variables (experience and qualification) were predictive of research and teaching self-efficacy.
- A multivariate analysis of variance (MANOVA) and a series of one-way ANOVAs were used to determine statistically significant differences among groups of university teachers, based on demographic variables and in terms of their research and teaching self-efficacy, and job satisfaction.
- Pearson's correlation coefficient was also used to examine a relationship between self-efficacy and job satisfaction.
- One-way multivariate analysis of variance MANOVA was used to examine the difference by country in the level of research and teaching self-efficacy, and job satisfaction between Azerbaijan and Turkey.

This concludes consideration of the quantitative phase of data collection and analysis; attention now turns to the secondary, qualitative phase.

4.11 Qualitative phase of the study

The qualitative phase of the study was designed to elaborate and provide deeper analysis of the quantitative findings. Deductive measures used in phase one afforded a limited understanding of university teachers' self-efficacy for research and teaching and job satisfaction. Despite its value in the quantitative phase, of course, no simple questionnaire can ever lay claim to capturing anything of the complexity of higher educational institutions and how they operate, nor can it fully probe the attitudes, values and beliefs of those university teachers who work within them. In phase two, alongside consideration of demographic variables, the researcher wanted to dig deeper to explore the environmental factors that university teachers understood to influence their research and teaching self-efficacy and job satisfaction. The researcher recognized that by combining a small-scale interview and a large-scale questionnaire, she might explore environmental factors that contribute to university teachers' self-efficacy and job satisfaction. Compared to the use of a single method, this mixed-method can help expand the scope of our understanding of the topic. The researcher conducted individual interviews with 14 university teachers (7 Azerbaijani and 7 Turkish). This section considers all aspects of data collection tools including sample, data collection and data analysis.

4.11.1 Sample

As the overall purpose of the mixed-method sequential explanatory strategy is to clarify initial quantitative findings, participants in the qualitative stage of such a study should be chosen from the population sampled in the initial quantitative phase (Creswell & Plano Clark, 2011). Hence, quantitative data derived from the questionnaire served as criteria to discerningly sample the individuals to be interviewed. Moreover, the central idea in this strategy is to use qualitative data in order to provide more detail about the quantitative findings and so to choose participants to interview who can best provide this detail. It is also important to mention that qualitative studies normally utilise a much smaller sample than quantitative ones (Bryman, 2012; Hartas, 2010). The principal idea of a qualitative study is to provide detailed views of individuals and of the particular contexts in which they hold these views. Considering this, the researcher identified a small number of respondents who provided in-depth information. The participants for the interview were recruited during the survey phase. When e-mailing the online survey link, the respondents were asked whether they would be interested in being interviewed in order to discuss issues that had not been fully explored in the online-survey. Contact was established with all university teachers who

were interested in the follow-up interview immediately after questionnaires were received, thanking them for their interest. Of the 528 respondents who replied to the online questionnaire, 31 university teachers (of various ages and levels of experience) agreed to be interviewed face-to-face. After reviewing the list of 31 interested university teachers, 14 were (n = 7 from Azerbaijan and n = 7 from Turkey) selected for the final interview to represent varied university locations (big and small cities) and the demographic variables of qualification level, years of experience and age. These variables were chosen to reflect the range and typicality of the questionnaire respondents. For instance, quantitative findings indicated that university teachers' levels of experience and qualification were related to their research self-efficacy. And, considering the fact that university teachers experience and age was also strongly correlated, the researcher selected participants to represent various experience and age groups. The critical idea was that if participants were purposefully selected to be different, then their views would reflect this difference and provide a good qualitative study (Creswell & Plano Clark, 2011). Thus, the participants' experience ranged from 1.5 years to 23 years (see table 4.4).

Table 4.4

Demographic information for participants

Experience	***Group 1*** *0-7 years*	***Group 2*** *8-15 years*	***Group 3*** *16 years+*
	Male (1,5 years) Female (3 years) Male (3 years) Female (4 years) Female (5 years) Male (6 years)	Female (8years) Male (8 years) Female (11 years) Male (13 years) Female (15 years)	Female (18 years) Male (20 years) Male (23 years)
Qualification	***Group 1*** *MA*	***Group 2*** *PhD candidate*	***Group 3*** *PhD*
	Male (13 years) Female (4 years)	Female (5 years) Male (3 years) Female (11 years)	Female (18 years) Male (20 years) Male (23 years) Male (1,5 years) Female (3 years) Male (6 years) Female (8years) Male (8 years) Female (15 years)

4.11.2 Semi-structured interviews

Generally, the type of interview carried out is determined by the nature and aim of the research objectives, as different research aims necessitate different levels of structure and types of questions (Gall et al., 2007). Careful consideration was therefore given to the aims and research questions of the current study. As mentioned earlier, in a sequential explanatory strategy qualitative data are collected as a follow-up to the quantitative results. Using semi-structured interviews, the researcher decided to start by elaborating on issues emerging from the quantitative data about the association of experience and qualification with university teachers' self-efficacy and, then, to further investigate issues related to the environmental factors affecting university teachers' self-efficacy and job satisfaction. The reasons for these choices were multiple. First, the researcher believes that this technique allows for more efficiently collating the particular data needed for the research. Using predetermined questions enables the researcher to best guide and focus the interviews towards the study aims. It also provides the opportunity to expand upon participants' responses, allowing the researcher to delve deeper into participants' personal experiences to gain more detailed information. In doing so, participants can be directed throughout the process to voice their opinions and elucidate their ideas of the most relevance to the study. Finally, semi-structured interviews can facilitate precise, in-depth data, as participants are given the freedom to interact at their leisure within a reasonable time and without being interrupted.

Semi-structured interviews are moderately flexible. Hence, they provide ample opportunity for the researcher to investigate certain features yet continue to stay focused on the same subject. Likewise, by posing their own questions, participants can acquire a more accurate and fuller understanding of the questions, as the researcher is able to clarify any ambiguous points. This enables participants to provide responses in keeping with their own experience. Therefore, for this study, semi-structured interviews were considered an appropriate instrument for gaining substantial data that would not otherwise be accessed (Cohen et al., 2011; Thomas, 2013).

4.11.3 Interview schedule

Considering that one of the aims of the second, qualitative phase was to explore and elaborate on the results from the quantitative phase of the study (Creswell, 2014), the researcher, first, wanted to examine the association of experience and qualification with self-efficacy and then understand what environmental factors contributed to university teachers'

research and teaching self-efficacy, and job satisfaction. The researcher therefore carefully prepared a semi-structured schedule of eight interview questions to cover specific features that required closer attention and a deeper investigation. The first part of the interview schedule (Appendix B) began with questions on the assessment of participants' research and teaching self-efficacy level and the influence of their experience and qualification on their self-efficacy. The second part of the interview schedule mainly focused on environmental factors that might affect university teachers' research and teaching self-efficacy and as well as job satisfaction. The final question invited participants' suggestions as to how university teachers' self-efficacy could be enhanced. The development of the interview schedule was mainly guided by a comprehensive review of literature and quantitative data results. Thus, open-ended questions were utilised in order to give participants the opportunity to contribute what they see as relevant in a richer and more spontaneous manner (Oppenheim, 1998). The wording and arrangement of the questions were designed carefully so that each participant had same questions in the same sequence, thus ensuring fairness and consistency in the interviews (Patton, 2002).

4.11.4 Face validity of the interview schedule

To ensure the face validity of the interview schedule, an initial assessment was carried out before the pilot study. This was done through initial discussions with the researcher's supervisor, followed by presenting the interview schedule to several specialists in the field for their assessment. This process elicited feedback and suggestions regarding the objectives and appropriateness of the questions. It was suggested by reviewers to structure questions in a simpler way. After slight modifications and additional review, the referees agreed that the interview schedule seemed to be pertinent and suitable for the study's purpose.

4.11.5 Translation of the interview schedule

The interview schedule was originally drafted in English, and then translated into Azerbaijani and Turkish, the participants' first languages. As with the questionnaire the technique of back-translation was used to ensure accuracy (section 4.7.2).

4.11.6 Pilot study of interview

Before using the schedule to interview the main study sample, it was important to check if there were any ambiguities or other difficulties relating to the questions. A pilot study was therefore conducted to give the researcher additional feedback on how the interview schedule would be perceived by the respondents and on how long it would take to pose and

record responses to all the questions. For this pilot stage, the researcher selected a sample of two university teachers in Azerbaijan and Turkey in order to carry out an interview. Before each interview, the researcher gave the participating university teacher a brief explanation of the aims of the study, assured him/her of confidentiality and sought consent to record the session. Throughout the interviews, the researcher listened attentively to the participants' responses, and towards the end of forty to fifty minutes that it took them to answer all of the questions, she asked whether they had encountered any ambiguities or difficulties in doing so. All feedback during this process was positive and no changes were deemed necessary.

4.11.7 Conduct of the interviews

Upon selection of the interview sample, the researcher contacted 14 selected participants well in advance, by email in order to identify a suitable date and time for the interviews. All 14 participants agreed to be interviewed face-to-face via Skype video call. Face-to-face interviews was preferred because response rates tend to be higher for this type of interview (David & Sutton, 2011; Gary, 2009). Furthermore, having personal interaction and building some kind of rapport with the interviewees may enable the researcher to achieve a deeper analysis of the subject (Ary et al., 2010; Denscombe, 2010; Gary, 2009).

The researcher ensured that she e-mailed each participant a copy of the participant information sheet to read before taking part in the interview (Appendix C). After reading this information sheet, which highlighted the purpose of the research and provided all the details pertaining to the interview, participants were asked to sign a consent form, agreeing to participate in the interview. She also explained the significance of the participants' opinions – that they would provide the researcher with a holistic understanding of the topic and enrich the study. Moreover, the researcher highlighted the points outlined in the information sheet that all information would remain confidential and that they would have the right to withdraw at any time.

Prior to beginning the interview, permission was sought from each participant to record the interview, with assurances of confidentiality. Recording interviews saves time and avoids interruptions associated with taking notes (Gray, 2009; Wilkinson & Birmingham, 2003). The recording allowed the researcher to document the interview data more accurately. When each interview was complete, the researcher thanked the participants for the responses and for their cooperation in the process. The researcher also gave all participants her contact details in the UK in case they should have any further queries regarding the interviews and

offered to send them a short abstract of the major findings as soon as the study was completed. In general, each interview lasted between forty-five minutes and an hour depending on how detailed and diverse the replies were and on the number of examples given by the participants.

4.11.8 Analysis of the interview data

As each interview was completed, the researcher imported the audio recordings to her own computer and began transcription, using headphones to listen to the digital recording and typing the transcription into a separate Word file for each interview. The researcher often found it necessary to listen to a section more than once in order to transcribe all that participants said and to verify the accuracy of the transcript. While this procedure was time consuming, it gave the researcher an excellent opportunity to become fully familiar with the data by listening repeatedly to the recordings and rereading the text of each interview many times. After transcribing all of the interviews, the researcher analysed the qualitative data in the original Azerbaijani and Turkish, which were the mother tongues of all interviewees. Merriam (2009) recommends that a useful strategy for analysing interviews conducted in a different language is to analyse the data in the original language, then translate the findings into English. Willig (2012) claims that this strategy can reduce any issues related to the analysis of a translated copy of the interview transcript while keeping the analysis as close as possible to the original data.

The researcher used thematic analysis that included coding procedure. As one of the aims of the interviews was clarification of the findings from the questionnaire data, thematic analysis was deemed best suited for this purpose because:

a) thematic analysis, as flexible and useful research tool provides a purely qualitative, a rich, detailed and in-depth understanding of the data (Braun & Clarke, 2006),
b) thematic analysis is also based on the "factist" perspective which assumes data to be more or less accurate (Sandelowski, 2010),
c) as the study entailed a small scale-interview instrument, there was not a large quantity of textual data, and
d) there was a less danger of missing data in thematic analysis.

Coding is the process of grouping evidence and labelling ideas so that they reflect broader perspectives (Creswell & Plano Clark, 2007). Therefore, the researcher started qualitative analysis by coding the data. The coding process required the researcher to determine the

main themes and sub-themes of the data representing university teachers' views about the influence of experience and qualification on their self-efficacy and environmental factors affecting their self-efficacy for research and teaching, and job satisfaction. With this list of these themes, the researcher then attached one or more illustrative excerpts from interviewees' responses to each of the thematic categories.

Table 4.5

Code names and descriptions

Codes	Description
experience	years of experience
self-efficacy	any reference to teachers' confidence
student achievement	references to students' performance, lower level achievement
qualification	degree obtained
collegial relations	relationship with a fellow member
university climate	atmosphere or spirit at the university
salary	the amount of money teachers earns per annum
workload	duties assigned to teachers at the university
doctoral programme experiences	specific reference to quality of doctoral programmes offered
job satisfaction	satisfaction from teaching or research
physical condition	references to physical facilities at the university

Eleven codes were reported in this study, with two foundational codes (self-efficacy and job satisfaction). The two foundational codes reflected data that were relevant to university teachers' work in general, but not specifically discussed in qualitative phase.

In qualitative research, it is common to have multiple coders code the same data set to establish reliability of the coding categories. For this purpose, inter-rater reliability (IRR) was used as a means to "mitigate interpretative bias" and ensure a "continuous dialogue between researchers to maintain consistency of the coding" as suggested by Walther, Sochacka & Kellam, (2013, p. 650). The researcher asked two colleagues to code the second section of the data in which environmental factors affecting university teachers' self-efficacy and job satisfaction were presented. The first section of the data was the clarification of the issues emerged from the questionnaire findings concerning the association of experience and qualification with self-efficacy. Because not many codes emerged from the first section, the researcher asked two colleagues from Azerbaijan and Turkey to code only the second section of the data. As a result, only minor differences were found. For instance, one of the

researcher coded “work environment” as “institutional climate”. The researcher and her colleagues agreed that these did not significantly affect the meaning of the interview data and that confidence could be placed in the reliability of the codes.

4.12 Methodological Limitations

This final section briefly reviews some concerns regarding the methodology employed in this study. First, the questionnaire and interview methods have known weaknesses, as indicated in section 4.5. Nevertheless, adopting a mixed-method approach to data collection helped to overcome these issues, as using multiple techniques can potentially mitigate the limitations of individual methods. Language represents a second limitation: as the participants’ first language was Azerbaijani and Turkish, both questionnaire and interview materials had to be translated from English into Azerbaijani and Turkish. While the researcher put an effort to ensure accuracy and matched meanings, through the use of back-translation, it might be possible that the translated questionnaire was not exactly identical to the original, given the structural and idiomatic differences between English and Azerbaijani and Turkish. As to the interviews, the researcher repeatedly compared transcripts with the original information so that accuracy was ensured.

4.13 Chapter summary

This chapter has explained the research strategy and methods, offered a rationale for choosing the methods, described in some detail the two instruments employed to collect data and highlighted their strengths and weaknesses. The current study is a descriptive survey combining the use of a questionnaire to gather quantitative data and subsequent semi-structured interviews to collect qualitative data. The chapter has detailed the development of these instruments and discussed the translation. The target population and procedures for selecting the study sample of university teachers in Azerbaijan and Turkey have been explained and the methods of data analysis described and justified. The next chapter presents the quantitative findings obtained from the quantitative data.

Chapter Five

Results

Quantitative Data

5.1 Introduction

This chapter presents an analysis of quantitative data gathered by means of the questionnaire, using the SPSS software version 22, and is divided into main sections. Section 5.2 reproduces the aims of the study and the research questions, and then section 5.3 presents the descriptive statistics, and 5.4 the details of composite scores, and 5.5 relationship between demographic variables, self-efficacy, and job satisfaction. This is followed by section 5.6, which discusses the predictors of research and teaching self-efficacy, and job satisfaction. Section 5.7 presents the overall score for research and teaching self-efficacy, and 5.8 discusses differences based on demographic variables. Section 5.9 presents the relationship between research and teaching self-efficacy and job satisfaction, followed by section 5.10 on similarities and differences between Azerbaijani and Turkish data. The chapter concludes with a summary.

5.2 Study Aims and Research Questions

The study aims to investigate the self-efficacy beliefs of university teachers with respect to research and teaching and to understand the relationship between self-efficacy and job satisfaction, potentially a key contributor to university teachers' self-efficacy.

1. What is the level of self-efficacy for research and teaching amongst university teachers?
2. What demographic variables (e.g., academic qualification, gender etc.) are associated with university teachers' research and teaching self-efficacy, and job satisfaction?
3. Do research and teaching self-efficacy and job satisfaction vary in terms of demographic variables?
4. What environmental factors (e.g., workload, salary etc.) affect university teachers' research and teaching self-efficacy, and job satisfaction?
5. Is there a relationship between university teachers' research and teaching self-efficacy, and job satisfaction?
6. What are the main similarities and differences in terms of research and teaching self-efficacy, and job satisfaction amongst university teachers in Azerbaijan and Turkey?

5.3 Descriptive statistics

This section presents the results of the descriptive data analysis, revealing the relevant demographic characteristics of the sample. Descriptive statistics are defined by Vogt & Johnson (2011) as "summarising, organising, graphing, and, in general, describing quantitative information" (p. 104). The table 5.1 presents descriptive statistics for research, teaching self-efficacy, and job satisfaction for the overall sample, and divided by gender experience and qualifications.

Table 5.1

Descriptive statistics for research and teaching self-efficacy, and job satisfaction

	Research SE		**Teaching SE**		**Job satisfaction**	
Category	*M*	*SD*	*M*	*SD*	*M*	*SD*
Overall	7.99	1.48	9.04	1.09	8.27	1.59
Gender						
Male (*n* = 283)	8.03	1.42	9.04	1.06	8.28	1.64
Female (*n* = 245)	7.95	1.55	9.09	1.03	8.25	1.53
Experience						
0-7 years (*n* = 165)	7.79	1.51	8.97	1.01	8.17	1.41
8-15 years (*n* = 165)	7.83	1.49	8.96	1.13	7.94	1.85
16 + years (*n* = 198)	8.30	1.42	9.16	1.01	8.62	1.44
Qualification						
MA (*n* = 42)	7.95	1.70	9.40	1.01	8.95	1.48
PhD candidates (*n* = 77)	6.77	1.75	8.91	1.36	8.07	1.75
PhD (*n* = 407)	8.23	1.28	9.03	1.02	8.23	1.53

5.4 Composite scores (subscales) of research and teaching self-efficacy

Before conducting correlation analysis, research and teaching items in section two were combined to form eight multi-item groups: five research groups and three teaching groups (see table 5.2). According to social cognitive theory, self-efficacy is specific to a particular task. As mentioned in the literature, teachers' self-efficacy is multi-dimensional and therefore varies across activities or tasks. In higher education, university teachers perform research and teaching tasks and there are various dimensions of these tasks. Hence, in addition to total scores for research and teaching, it was interesting to explore university teachers' self-efficacy beliefs according to various dimensions of research and teaching. The subscale groups were based on the findings of a principal component analysis reported by

Sharp et al. (2013). The subscales were derived from each group of items by adding the raw scores of each item and dividing by the number of items in the subscale. These composite scores helped to measure specific dimensions of research and teaching self-efficacy.

Table 5.2

Description of subscales

Label	Description and # of items
Research Subscale 1	Data collection and analysis; 7 items
Research Subscale 2	Literature and writing; 5 items
Research Subscale 3	Leading research; 6 items
Research Subscale 4	Supervising research; 3 items
Research Subscale 5	Disseminating research; 9 items
Teaching Subscale 1	Lecture and Instruction; 5 items
Teaching Subscale 2	Assessment; 8 items
Teaching Subscale 3	Couse planning; 6 items

5.5 The relationship among variables

To establish the relationship between three demographic variables (age, academic qualification and experience) and dependent variables (research, teaching self-efficacy including eight subscales, and job satisfaction), the bivariate correlation with a one-tailed Pearson correlation coefficient was calculated. Table 5.3 indicates the existence of statistically significant relations between demographic variables and research and teaching self-efficacy, eight subscales, and as well as job satisfaction as follows: Age was correlated to research self-efficacy (r = .13, p < .01). With respect to Cohen's (1988) effect size benchmarks for Pearson's r = (0.1 = a small effect; 0.3 = a medium effect; and 0.5 = a large effect), this coefficient signifies a small effect. Age also showed a significant correlation to the literature and writing (r = .17, p < .001; a small effect), supervising (r = .22, p < .01; a small to medium effect) subscales of research self-efficacy. In addition, age was correlated to the leading (r = .09, p < .05; a small effect), and disseminating (r = .09, p < .05; a small effect) subscales of research self-efficacy.

Qualification was correlated to research self-efficacy (r = .20, p < .01; a small effect*)* and to its literature and writing (r = .12, p < .01; a small effect), leading (r = .20. p < .01; a small effect), disseminating *(*r = .16, p < .01; a small effect), and supervising (r = .36, p < .01; a medium to large effect) subscales. It also negatively correlated to job satisfaction (r = -.09,

$p < .05$; a small effect). Experience correlated to research self-efficacy ($r = .11$, $p < .01$; a small effect) and as well as to its literature and writing ($r = .16$, $p < .01$; a small effect), disseminating ($r = .10$, $p < .01$; a small effect), and supervising ($r = .12$, $p < .01$; a small effect) subscales. Moreover, experience correlated to the course planning subscale of teaching self-efficacy ($r = .12$, $p < .01$; a small effect). Experience also showed a correlation to job satisfaction ($r = .17$, $p < .01$; a small effect).

Table 5.3

Correlation between demographic variables, self-efficacy, and job satisfaction

Variables	**1**	**2**	**3**	**4**	**5**	**6**	**7**	**8**	**9**	**10**	**11**	**12**	**13**	**14**
1. Age														
2. Qualification	.02													
3. Experience	.82**	-.04												
4. Literature & writing	.17**	.12**	.16**											
5. Data collection & analysis	.03	.04	.05	.67**										
6. Leading research	.09*	.20**	.07	.75**	.69**									
7. Disseminating research	.09*	.16**	.09*	.74**	.62**	.68**								
8. Supervising research	.22**	.36**	.12**	.63**	.48**	.75**	.57**							
9. Lecture & Instruction	-.02	-.05	-.09	.47**	.56**	.40**	.43**	.31**						
10. Course planning	.11**	-.06	.12**	.51**	.52**	.38**	.42**	.33**	.79**					
11. Assessment	.04	-.05	.07	.40**	.43**	.30**	.36**	.22**	.74**	.76**				
12. Research self-efficacy	.13**	.20**	.11**	.88**	.81**	.91**	.88**	.78**	.51**	.50**	.40**			
13. Teaching self-efficacy	.05	-.06	.07	.49**	.54**	.38**	.44**	.30**	.89**	.92**	.93**	.50**		
14 Job satisfaction	.20**	-.09*	.17**	.27**	.25**	.17**	.24**	.09*	.29**	.31**	.25**	.24**	.30**	

* $p < .05$. ** $p < .01$. *** $p < .01$

5.6 Predictors of self-efficacy and job satisfaction

An examination of correlations revealed that three demographic variables (age, experience, and academic qualification) were associated with university teachers' research self-efficacy and job satisfaction. Age and experience correlated with the course planning subscale of teaching self-efficacy. Moreover, all research and teaching self-efficacy subscales showed positive relations to job satisfaction. Therefore, a number of hierarchal multiple regression analysis were conducted to determine the best predictors of research, teaching self-efficacy, and job satisfaction.

A hierarchical multiple regression analysis was first conducted to analyse whether experience and qualification were predictive of research self-efficacy. The first step of regression consisted of experience, and qualification was added as the second step. The rationale for entering experience as a first step was that, it showed a correlation to both research and to the course planning subscale of teaching self-efficacy. Moreover, according to social cognitive theory, mastery experiences are one of the most important sources of self-efficacy and it is interesting to test whether qualification added anything to the model. The results revealed that in step one, experience contributed significantly to the regression model $F(1, 526) = 11.12$, $p = .001$, and accounted 2.1 % of variance in research self-efficacy. Adding qualification to the regression model explained an additional 3.9 % of the variation in research self-efficacy and this change in R^2 was significant, $F(1, 525) = 21.57$, $p < .001$. The results revealed that experience and qualification were the important predictors of research self-efficacy (see table 5.4).

Table 5.4

Summary of hierarchal multiple regression analysis showing demographic variables (experience & qualification) as the predictors of research self-efficacy

Variable	R^2	R^2 change	β	*t*	Sig.	*F*	*p*
Step 1	.021	.021				11.12	.001
Experience			.144	3.33	.001		
Step 2	.059	.039				21.57	< .001
Experience			.134	3.15	.002		
Qualification			.197	4.64	< .001		

A two-stage hierarchical multiple regression was next conducted to test whether experience and qualification were predictive of teaching self-efficacy. Again, the first step of regression consisted of experience and qualification was added as the second step. Experience predicted 0.7 % of variance in teaching self-efficacy $F(1, 526) = 3.45$, $p = .064$. After controlling for experience, step two predicted an extra 0.4 % of variance in teaching self-efficacy $F(1, 525) = 2.21$, $p = .138$. Table 5.5 reveals that qualification and experience did not reach any significance in teaching self-efficacy.

Table 5.5

Summary of hierarchal multiple regression analysis showing demographic variables (experience & qualification) as the predictors of teaching self-efficacy

Variable	R^2	R^2 change	β	*t*	Sig.	*F*	*p*
Step 1	.007	.007				3.45	.064
Experience			.081	1.85	.064		
Step 2	.011	.004				2.21	.138
Experience			.084	1.93	.053		
Qualification			.065	1.48	.138		

Finally, a three-stage hierarchical multiple regression was performed to explain whether experience, qualification, research and teaching self-efficacy were predictive of job satisfaction. The first step of regression consisted of experience and qualification, research self-efficacy was added as the second, and teaching self-efficacy was entered as the third step. Experience and qualification predicted 2.5 % of variance in job satisfaction, $F(2, 525)$

= 6.60, p = .001. In step two, research self-efficacy predicted an extra 6.6 % of variance in job satisfaction, $F(1, 524) = 38.01$, $p < .001$. In step three, teaching self-efficacy predicted an extra 3.5 % of variance in job satisfaction, $F(1, 523) = 20.97$, $p < .001$. The results demonstrated that experience, qualification, research, and teaching self-efficacy contributed significantly to job satisfaction (see table 5.6).

Table 5.6

Summary of hierarchal multiple regression analysis showing demographic variables (experience & qualification), research and teaching self-efficacy as the predictors of job satisfaction

Variable	R^2	R^2 change	β	*t*	Sig.	*F*	*p*
Step 1	.025	.025				6.60	.001
Experience			.129	2.99	.003		
Qualification			.095	2.21	.027		
Step 2	.091	.066				38.01	< .001
Experience			.094	2.23	.026		
Qualification			.148	3.46	.001		
Research self-efficacy			.265	6.16	< .001		
Step 3	.126	.035				20.97	< .001
Experience			.091	2.21	.028		
Qualification			.110	2.57	.010		
Research self-efficacy			.145	2.93	.004		
Teaching self-efficacy			.221	4.58	< .001		

5.7 Level of self-efficacy

Before exploring differences in the level of research and teaching based on demographics, this section addresses research question one, about identifying the level of overall self-efficacy for research and teaching. A paired sample t-test was conducted to compare self-efficacy level in research and teaching. The result demonstrated that there was a significant difference between the scores for teaching (M = 9.04; SD = 1.02) and research (M = 7.99; SD = 1.48) self-efficacy, $t(525) = 18.33$, $p < .001$, with teaching self-efficacy being greater than research self-efficacy.

5.8 Differences based on demographic variables

A multivariate analysis of variance (MANOVA) was conducted to test the hypothesis that there would be differences amongst university teachers in their research and teaching self-

efficacy, and as well as job satisfaction based on gender, experience, and qualification. Because age and experience were strongly correlated age was excluded in the analysis.

The MANOVA results revealed a significant multivariate effect of experience on research self-efficacy, $F(2, 510) = 5.280$, $p = .005$, partial $\eta^2 = .020$, and on job satisfaction $F(2, 510) = 2.402$, $p = .042$, partial $\eta^2 = .029$, but not on teaching self-efficacy $F(2, 510) = .482$, $p = .618$, partial $\eta^2 = .002$. The MANOVA also demonstrated a significant multivariate effect of qualification on research self-efficacy, $F(2, 510) = 26.76$, $p < .001$, partial $\eta^2 = .095$, and on job satisfaction $F(2, 510) = 3.263$, $p = .039$, partial $\eta^2 = .013$, but not on teaching self-efficacy $F(2, 510) = 1.155$, $p = .316$, partial $\eta^2 = .005$. Gender had no multivariate effect on any of the three dependent variables (research and teaching self-efficacy, and job satisfaction).

There were no significant multivariate two or three-way interactions: gender x qualification, $F(2, 525) = 2.748$, $p = .247$, partial $\eta^2 = .016$; gender x experience, $F(2, 525) = .499$, $p = .810$, partial $\eta^2 = .003$; qualification x experience, $F(2, 525) = 2.748$, $p = .195$, partial $\eta^2 = .010$; gender x qualification x experience, $F(2, 525) = .737$, $p = .716$, partial $\eta^2 = .006$.

In addition, since experience and qualification demonstrated a significant overall effect on research self-efficacy, a MANOVA was also conducted to test for multivariate effects of these variables on the five subscales of research self-efficacy. The results demonstrated that there was a significant multivariate effect of experience on the literature and writing, $F(2, 519) = 8.893$, $p < .001$, partial $\eta^2 = .033$, on the leading, $F(2, 519) = 6.302$, $p = .002$, partial $\eta^2 = .024$, on the disseminating, $F(2, 519) = 6.075$, $p = .002$, partial $\eta^2 = .023$, and on the supervising, $F(2, 519) = 7.071$, $p = .001$, partial $\eta^2 = .027$, subscales of research self-efficacy. Table 5.7 indicates descriptive statistics and comparison according to university teachers' career stages.

Table 5.7

Descriptive statistics and comparison according to career stages

	Career stage					
	0-7 years		8-15 years		16+ years	
Variables	***M***	**SD**	***M***	**SD**	***M***	**SD**
Literature & writing	7.97	1.54	7.84	1.53	8.43	1.55
Data collection & analysis	8.17	1.30	8.17	1.34	8.41	1.40
Leading research	7.11	2.05	7.11	2.07	7.59	2.01
Disseminating research	8.18	1.67	8.18	1.72	8.61	1.46
Supervising research	7.32	2.58	7.57	2.56	8.27	2.23

A further MANOVA result indicated that there were significant multivariate effects of qualification on the literature and writing, $F(2, 519) = 17.486$, $p < .001$, partial $\eta^2 = .063$, on the data collection and analysis, $F(2, 519) = 5.174$, $p = .006$, partial $\eta^2 = .020$, on the leading, $F(2, 519) = 21.599$, $p < .001$, partial $\eta^2 = .077$, on the disseminating, $F(2, 519) = 24.611$, $p < .001$, partial $\eta^2 = .087$, and on the supervising, $F(2, 519) = 67.463$, $p < .001$, partial $\eta^2 = .206$, subscales of research self-efficacy. Table 5.8 indicates that university teachers with PhD degree had higher self-efficacy for the leading, disseminating and supervising subscales of research compared to those with MA degree and who were PhD candidates.

Table 5.8

Descriptive statistics and comparison according to qualification levels

	Qualification					
	MA		PhD candidates		PhD	
Variables	***M***	**SD**	***M***	**SD**	***M***	**SD**
Literature & writing	8.30	1.82	6.93	1.76	8.23	1.41
Data collection & analysis	8.47	1.34	7.79	1.64	8.33	1.28
Leading research	6.93	2.42	5.76	2.34	7.53	1.83
Disseminating research	8.38	1.84	7.19	2.03	8.56	1.41
Supervising research	6.86	3.19	4.91	2.87	8.38	1.84

A series of one-way ANOVAs on research self-efficacy and job satisfaction were conducted as a follow-up to the MANOVA tests results. These are discussed in turn below.

5.8.1 Differences by experience or career stage

A first one-way ANOVA was used to determine differences concerning research self-efficacy among university teachers based on their experience. The career stages were divided into three groups. The first group consisted of university teachers with 0-7 years of experience, the second group consisted of university teachers with 8-15 years of experience, and the third group consisted of university teachers with 16 years and more of experience. The groups were chosen based on three proportional categories and can be considered to be early, mid and late career stages.

The ANOVA results revealed that there was a significant main effect of experience on research self-efficacy, $F(2, 525) = 6.837$, $p = .001$, partial $\eta^2 = .025$. To evaluate the nature of the differences between the three groups, the ANOVA was followed up with Bonferroni post-hoc tests. The results revealed that university teachers with 16 years and of more experience had higher self-efficacy for research compared to those with 0-7 and 8-15 years of experience. However, there was no significant difference in research self-efficacy between university teachers with 8-15 years of experience and those with 0-7 years of experience (see table 5.9).

Table 5.9

Bonferroni test results of university teachers' research self-efficacy versus experience

Dependent Variable	(I) Experience group	(J) Experience group	Mean Difference (I-J)	*p*
Research self-efficacy	0-7 years	8-15 years	.9939	1.00
		16 years and more	-15.1434*	.004
	8-15 years	16 years and more	-14.1495*	.007

Another one-way ANOVA was next used to determine differences concerning job satisfaction among university teachers based on their experience. The results revealed a significant main effect of experience on job satisfaction, $F(2, 525) = 9.076$, $p < .001$, partial $\eta^2 = .033$. To evaluate the nature of the differences between the three groups, the ANOVA was again followed up with Bonferroni post-hoc tests. The results indicated that university

teachers with 16 years and of more experience were more satisfied with their job compared to those with 0-7 years and 8-15 years of experience. However, again, there was no significant difference in job satisfaction between university teachers with 0-7 years of experience and those with 8-15 years of experience (see table 5.10).

Table 5.10

Bonferroni test results of university teachers' job satisfaction versus experience

Dependent Variable	(I) Experience group	(J) Experience group	Mean Difference (I-J)	*p*
Job satisfaction	0-7 years	8-15 years	.9394	.526
		16 years and more	-1.8121*	.019
	8-15 years	16 years and more	-2.7515*	.001

5.8.2 Differences by qualification

Another one-way ANOVA was used to determine differences concerning research self-efficacy among university teachers based on their qualification. The first group consisted of university teachers with an MA degree, the second group consisted of university teachers who were PhD candidates and third group consisted of university teachers with a PhD degree. The ANOVA results revealed that there was a significant main effect of qualification on research self-efficacy, $F(2, 525) = 34.827$, $p < .001$, partial $\eta^2 = .117$. To evaluate the nature of differences between the three qualification groups, the ANOVA was again followed up with Bonferroni post-hoc tests. The results revealed that university teachers with a PhD qualification had greater research self-efficacy than those who were PhD candidates but not those with an MA qualification. Also, university teachers with an MA qualification had more self-efficacy for research compared to those who were PhD candidates (see table 5.11)

Table 5.11

Bonferroni test results of university teachers' research self-efficacy versus qualification

Dependent Variable	(I) Qualification group	(J) Qualification group	Mean Difference (I-J)	*p*
Research self-efficacy	MA	PhD candidates	35.1861*	<.001
		PhD	-8.3442	.662
	PhD candidates	PhD	-43.5303*	<.001

A final one-way ANOVA was used to determine differences concerning job satisfaction among university teachers based on their qualification. The results indicated that there was a significant main effect of qualification on job satisfaction, $F(2, 525) = 5.076$, $p = .007$, partial $\eta^2 = .019$. To evaluate the nature of differences between the three qualification groups, the ANOVA was again followed up with Bonferroni post-hoc tests. The results indicated that university teachers with an MA qualification were more satisfied with their job compared to those with a PhD degree and those who were PhD candidates. University teachers who were PhD candidates and holders of PhDs did not differ in their level of job satisfaction (see table 5.12).

Table 5.12

Bonferroni test results of university teachers' job satisfaction versus qualification

Dependent Variable	(I) Qualification group	(J) Qualification group	Mean Difference (I-J)	*p*
Job satisfaction	MA	PhD candidates	3.6775*	.008
		PhD	3.0349*	.010
	PhD candidates	PhD	-0.6426	1.000

5.9 The relationship of job satisfaction to self-efficacy

In order to address research question five, on the relationship of university teachers' job satisfaction to research and teaching self-efficacy, the data were subjected to a calculation of bivariate correlation with a one-tailed Pearson correlation coefficient. The result revealed that job satisfaction correlated to both research self-efficacy ($r = .24$; $p < .01$; a small to medium effect), and teaching self-efficacy ($r = .30$; $p < .01$; a medium effect). The results also indicated that job satisfaction showed a correlation to all the subscales of research and teaching self-efficacy (see table 5.13).

Table 5.13

Correlation matrix between research, teaching self-efficacy and job satisfaction

	1	**2**	**3**	**4**	**5**	**6**	**7**	**8**	**9**	**10**	**11**
1. Job satisfaction											
2. Research self-efficacy	.24**										
3. Teaching self-efficacy	.30**	.50**									
4. Literature & writing	.27**	.88**	.49**								
5. Data collection & analysis	.25**	.81**	.54**	.67**							
6. Leading research	.17**	.91**	.38**	.75**	.69**						
7. Disseminating research	.24**	.88**	.44**	.74**	.62**	.68**					
8. Supervising research	.09*	.78**	.30**	.63**	.48**	.75**	.57**				
9. Lecture & Instruction	.29**	.51**	.89**	.47**	.56**	.40**	.43**	.31**			
10. Course planning	.31**	.50**	.92**	.51**	.52**	.38**	.42**	.33**	.79**		
11. Assessment	.25**	.40**	.93**	.40**	.43**	.30**	.36**	.22**	.74**	.76**	

5.10 Similarities and differences between Azerbaijan and Turkey

The data was also analysed separately to examine some major similarities and differences on a cross-national level.

5.10.1 Relationship among variables

The correlation coefficients were also calculated for Azerbaijani and Turkish data separately (see table 5.16). Age and experience was strongly correlated both in Azerbaijani ($r = .90$, $p < .001$) and Turkish ($r = .73$, $p < .001$) context. Age also correlated to job satisfaction in Azerbaijan ($r = .17$, $p < .05$; a small effect), and Turkey ($r = .25$, $p < .01$; a small to medium effect). Age showed a positive correlation to the supervising subscale of research self-efficacy in Azerbaijan ($r = .29$, $p < .01$; a small to medium effect) and Turkey ($r = .20$, $p < .01$; a small effect). Qualification did not show any correlation to teaching and research self-efficacy in both countries. However, it showed a positive correlation to the supervising subscale of research self-efficacy in Azerbaijan ($r = .18$, $p < .01$; a small effect), and in Turkey ($r = .18$, $p < .01$; a small effect).

Experience showed correlation to research self-efficacy in Azerbaijan ($r = .21$, $p < .01$; a small to medium effect), and as well as in Turkey ($r = .12$, $p < .05$; a small effect). Similarly, experience positively correlated to job satisfaction in Azerbaijan ($r = .15$, $p < .05$; a small effect), and Turkey ($r = .17$, $p < .01$; a small effect).

Age correlated to research self-efficacy in Azerbaijan ($r = .20$, $p < .01$; a small effect), however, it did not show any correlation in the Turkish sample. Age also showed correlation to the literature and writing ($r = .23$, $p < .01$; a small to medium), and disseminating ($r = .23$, $p < .01$; a small to medium), subscales of research self-efficacy in Azerbaijan but not in Turkey. Qualification correlated to research self-efficacy in Azerbaijan ($r = .20$, $p < .01$; a small effect), but not in Turkey. Qualification was negatively correlated to job satisfaction in the Turkish context ($r = -.13$, $p < .05$; a small effect) however, it did not show any correlation in the Azerbaijani context.

Table 5.14

Correlation matrix for Azerbaijani and Turkish data

	Azerbaijan							Turkey						
	1	**2**	**3**	**4**	**5**	**6**	**7**	**8**	**9**	**10**	**11**	**12**	**13**	**14**
1. Age	1	0.5	.73**	0.9	.05	.09	.08	.20**	.08	.10	.09	.04	.10	.25**
2. Qualification	.07	1	.05	.03	.03	.01	.02	.18**	.02	-.11*	-.12*	.02	.10	-.13*
3. Experience	.90**	0.1	1	.17**	.10*	.18**	.09	.19**	.11*	.11*	.11*	.12*	.12*	.17**
4. Literature & writing	.23**	.05	.23**	1	.66**	.74**	.67**	.63**	.44**	.55**	.40**	.86**	.50**	.21**
5. Data collection & analysis	.01	.04	.05	.66**	1	.75**	.61**	.50**	.54**	.56**	.48**	.84**	.56**	.20**
6. Leading research	0.1	.07	.10	.72**	.64**	1	.65**	.67**	.45**	.47**	.43**	.90**	.48**	.22**
7. Disseminating research	.23**	.08	.25**	.77**	.60**	.66**	1	.51**	.43**	.44**	.33**	.86**	.42**	.19**
8. Supervising research	.29**	.18**	.25**	.61**	.45**	.73**	.56**	1	.37**	.40**	.32**	.72**	.38**	.15**
9. Lecture & Instruction	.10	.01	.09	.50**	.58**	.39**	.45**	.33**	1	.81**	.74**	.53**	.89**	.18**
10. Course planning	.12	.06	.14*	.50**	.50**	.35**	.43**	.38**	.78**	1	.80**	.57**	.93**	.27**
11. Assessment	.01	.02	.04	.43**	.41**	.25**	.41**	.24**	.73**	.73**	1	.46**	.93**	.15**
12. Research self-efficacy	.20**	0.8	.21**	.88**	.79**	.89**	.88**	.76**	.53**	.50**	.41**	1	.55**	.23**
13. Teaching self-efficacy	.01	.06	0.4	.51**	.53**	.35**	.47**	.34**	.89**	.90**	.92**	.52**	1	.21**
14. Job satisfaction	.17*	.03	.15*	.43**	.37**	.27**	.39**	.24**	.43**	.36**	.36**	.40**	.41**	1

* $p < .05$. ** $p < .01$. *** $p < .01$

The correlation coefficient was also calculated for Azerbaijani and Turkish data separately to examine the relationship between research and teaching self-efficacy and job satisfaction in each country. The results demonstrated that, for both countries, correlations were positive and significant, job satisfaction increasing with all aspects of self-efficacy, and coefficients ranging from $r = .153$ (a small effect) for the correlation between job satisfaction and the assessment subscale for teaching self-efficacy in the Turkish sample, to $r = .43$ (a medium to a large effect) for the correlation between job satisfaction and the literature and writing subscale for research self-efficacy in the Azerbaijani sample (see Table 5.15). Interestingly, in all cases the correlations for the Azerbaijani sample were larger than those for the Turkish sample and the Fisher's *z* test results in the table show that the Azerbaijani coefficients were significantly greater than the Turkish coefficients in all cases apart from the supervising and leading subscales of research self-efficacy and course planning subscale of teaching self-efficacy.

Table 5.15
Correlations between job satisfaction and research, teaching self-efficacy in Azerbaijani and Turkish data and the results of Fisher's z test for significant differences

	Job satisfaction					
	Azerbaijan		Turkey			
Variables	*(n = 205)*		*(n = 323)*		Fisher's *z*	
		sig		*sig*	*z*	*p*
Research self-efficacy	.40**	< .001	.23**	< .001	2.11	.035
Teaching self-efficacy	.41**	< .001	.21**	< .001	2.48	.013
Literature & writing	.43**	< .001	.21**	< .001	2.75	.006
Data collection & analysis	.37**	< .001	.20**	< .001	2.07	.038
Leading research	.27**	< .001	.22**	< .001	0.59	.555
Disseminating research	.39**	< .001	.19**	< .001	2.44	.014
Supervising research	.24**	< .001	.15**	.004	1.04	.298
Lecture & instruction	.43**	< .001	.18**	.001	3.09	.002
Course planning	.36**	< .001	.27**	< .001	1.11	.267
Assessment	.36**	< .001	.15**	.004	2.51	.012

5.10.2 Differences by country

A MANOVA was also conducted to examine differences in research, teaching self-efficacy, and job satisfaction on a cross-national level. The results demonstrated that there was a significant multivariate effect of country on research self-efficacy, $F(1, 526) = 83.05$, $p < .001$, partial $\eta^2 = .139$, and on job satisfaction $F(1, 526) = 9.171$, $p = .002$, partial $\eta^2 = .017$.

However, the effect of country was not significant on teaching self-efficacy $F(1, 526) = .316$, $p = .574$, partial $\eta^2 = .001$). University teacher in Turkey scored higher research self-efficacy ($M = 8.44$) compared to their counterparts in Azerbaijan ($M = 7.31$). However, university faculty in Azerbaijan were more satisfied with their job ($M = 8.53$) compared to university faculty in Turkey ($M = 8.11$). There was not a difference in teaching self-efficacy between two countries.

5.11 Chapter summary

This chapter has presented an analysis of the quantitative data collected by means of the questionnaire. Apart from total scores of research and teaching, composite scores were used to reduce the large number of items to five research and three teaching self-efficacy subscales in order to enable deeper analysis. The level of self-efficacy for teaching was higher compared to that of research amongst university teachers. Demographic variables were found to affect self-efficacy and job satisfaction of university teachers. Age, experience, and qualification correlated to research self-efficacy. Moreover, those three demographic variables were also found to be related to job satisfaction. However, demographic variables did not show correlation to teaching self-efficacy. Only experience was correlated to the course planning subscale of teaching self-efficacy.

There were statistically significant differences in research self-efficacy and job satisfaction according to university teachers' experience and qualification level with no differences attributable to gender differences. For example, university teachers having a PhD had higher self-efficacy for research than those who were PhD candidates. On the other hand, university teachers with MA degree were more satisfied with their jobs when compared to the either of the other two qualification levels. There were also statistically significant differences according to experience: those with 16 and more years of experience had more self-efficacy for research and were more satisfied with their jobs compared to other two groups. There was not a difference in research self-efficacy and job satisfaction between university teachers with 8-15 years of experience and those with 0-7 years of experience. Job satisfaction was positively correlated to research and teaching self-efficacy and to all eight subscales of research and teaching.

With regards to differences between two countries, Turkish university teachers had more self-efficacy for research compared to university teachers in Azerbaijan. Azerbaijani university teachers were, however, more satisfied with their jobs compared to their Turkish

counterparts. Yet, there were not significant differences in the level of self-efficacy for teaching. Research and teaching self-efficacy showed correlation to job satisfaction in both countries.

In order to explore some of the areas covered in this chapter in more depth, and to explore environmental factors affecting university teachers' self-efficacy for research and teaching, and their job satisfaction, Chapter Six presents the qualitative findings derived from a series of interview.

Chapter Six

Results

Qualitative Data

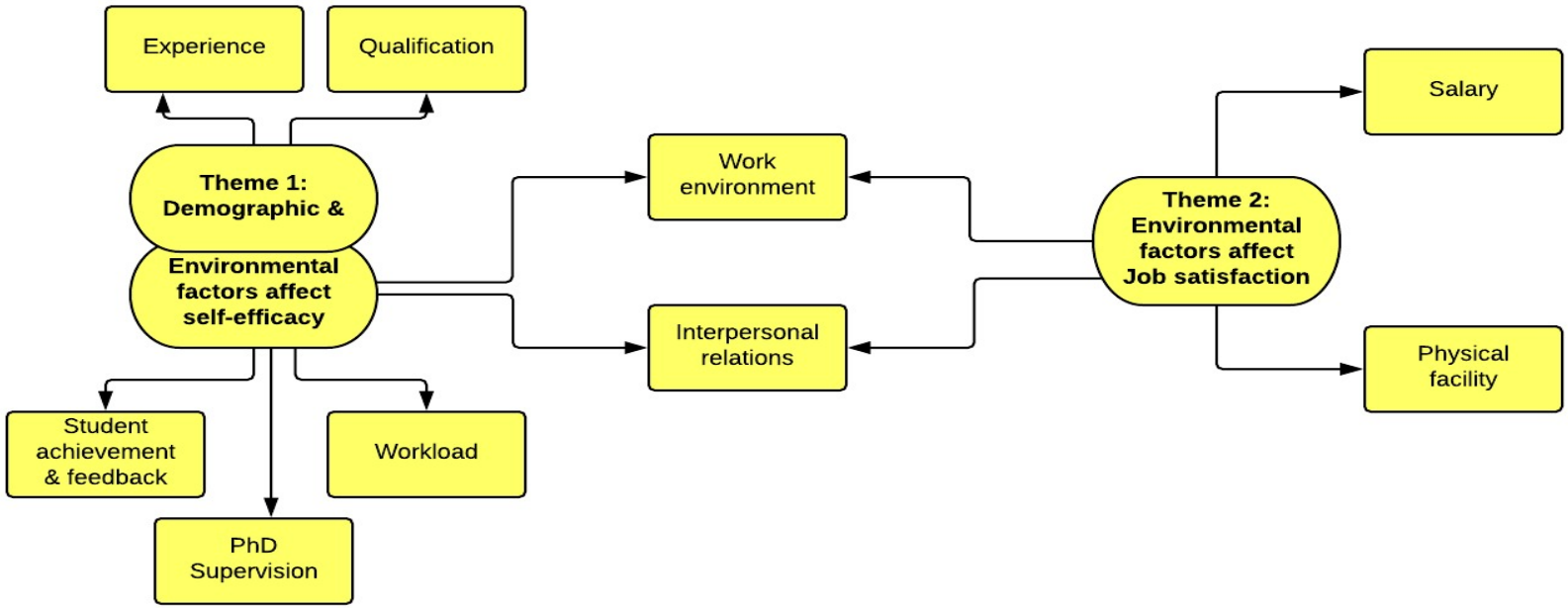
6.1 Introduction

Following the analysis of the quantitative data gathered by means of the questionnaire, this chapter analyses the qualitative data elicited in semi-structured interviews with 14 university teachers from Turkey (n = 7) and Azerbaijan (n = 7). The researcher used thematic analysis that included coding procedure. The codes were further distilled into two themes using procedures described by Miles & Huberman (1994) in which the coded data were manipulated and then graphically shown in order to identify relationships and themes (see fig 6.1). Due to the multiple relationships between codes, the researcher allowed themes to share codes; that is, one code could be represented under two themes. This kind of network mapping provides a way for readers to better understand the researcher's analysis and interpretation of qualitative data (Daley, 2004; Jackson & Trochim, 2002).

The first theme is concerned with demographic and environmental factors influencing university teachers' self-efficacy for research and teaching. Factors affecting university teachers' job satisfaction were considered next followed by interviewees' suggestions for improving teachers' research and teaching self-efficacy. At the end, some major similarities and differences between the Azerbaijani and Turkish sample were presented. Finally, the findings of the data analysis were translated into English. Quotes were provided to reflect the voices of participants and verify analysis procedure (Creswell & Plano Clark, 2007). The participants own words exemplified key points or arguments and retained the integrity and substance of what was said. Finally, the qualitative findings were summarized.

Figure 6.1

Conceptual model of themes and codes



6.2 Theme 1: Demographic and environmental factors affect self-efficacy

All of the participants (14) interviewed expressed that they had a high level of teaching self-efficacy. Similarly, the majority of teachers stated that they felt high self-efficacy concerning research. However, three university teachers reported that they had low self-efficacy for research. Interviewed university teachers mentioned that demographic and environmental factors influenced their research and teaching self-efficacy immensely. The codes that suggested the influence of demographic factors on research and teaching self-efficacy included experience and qualification and the codes that suggested the influence of environmental factors on research and teaching self-efficacy were student achievement and feedback, workload, doctoral programme experiences (PhD supervision), work environment (university climate), and interpersonal (collegial) relations.

6.2.1 Experience

Quantitative findings of the current study revealed that experience is related to self-efficacy (see table 5.3). As a matter of fact, all of the participants recounted how their previous experiences gave them confidence to teach and carry out research in a university context. Most of them emphasized that their expertise generated their confidence and their level of teaching and research self-efficacy had increased over time. Their responses identifying causal factors for this change can be divided into two groups: reasons related to university teachers' personal traits (characteristics) and environmental factors. All teachers interviewed (14) explained that early in their careers, they lacked the necessary skills and experience, and so did not have the confidence required to adequately cope with teaching and research tasks. This adversely affected their teaching and research self-efficacy. However, they also expressed that as they gained experience by learning and practicing, combined with hard work and enthusiasm, they felt more comfortable, more confident and more involved in their work, which enhanced their self-efficacy levels. One of the participants said:

> *"When I started my career, I lacked experience, especially in teaching courses which were not in my area of research interests. I was afraid that I might not be able to answer some questions that students asked during the class. I spent a lot of time on course planning, syllabus design, student assessment and so on. I had low self-efficacy, which made me feel concerned. Gradually, with experience and working hard on myself, I had the ability and self-efficacy to deal with these issues".* [Tr.6]

With regard changes in research self-efficacy due to experience, one of the participants highlighted:

> *"One learns research by doing. I do remember, each time my papers were rejected in peer-reviewed journals I used to cry for many hours (she laughed). However, through time and experience, I understood that rejection is also normal – especially if you are in an early stage of your career. I think all academicians pass through this stage."* [Tr.3]

Environmental factors affecting university teachers' self-efficacy is presented in the next section.

6.2.2 Qualification

All interviewed university teachers with PhD qualification (9/14) considered their doctoral journeys as truly transformational experiences impacting directly on their passion for research:

> *"I became enthusiastic about something which I always felt was beyond me. Having a doctorate helped me talk to colleagues with confidence; it also helped me supervise my students in their projects with more confidence".* [Tr.2]

Interestingly, some university teachers who were PhD candidates (3/14) indicated, however, negative experiences concerning their studies. They expressed the influence of these negative experiences on their research output and lower research self-efficacy. All participants did not fully benefit from the expertise of their doctoral supervisors. They expressed a desire to work with their supervisors to gain mentoring to write for publication:

> *"I have done a couple of conference presentations, but have not written any papers. I have never been asked or encouraged by my supervisor, so I lack confidence in any form of the research."* [Az.2]

One of the participants raised the issue of loneliness and isolation, stating his preference for working in teams:

> *"It's quite lonely doing a PhD so I think collaborative research is something that sounds quite attractive to me. ... Because I strongly believe it may help to develop self-efficacy for research."* [Az.5]

University teachers with MA degrees (2) expressed low self-efficacy for research.

6.2.3 Student feedback and achievement

Student achievement and feedback was viewed as one of the most prominent factors affecting teaching self-efficacy among university teachers. For instance, according to five

out of the fourteen interviewed university teachers, student feedback was considered to be one of the important factors contributing to changes in self-efficacy for teaching:

> *"I used to get positive feedback from my students when I started my career and it affected my teaching self-efficacy positively indeed. As a result, I tried to do my best. To be honest, I believe, self-efficacy can be felt when people do their best within their abilities. There are no specific standards or guideline to achieve self-efficacy."* [Tr.5]

The university teachers (8/14) also expressed dismay and deep dissatisfaction with students' attitudes towards learning and with students' low achievement, opining that it did not reflect the efforts exerted by the teacher, either in course preparation or in delivering and explaining the subject content in class. As a result, the experience of low student achievement and unmotivated students affected the university teachers' self-efficacy in a negative way:

> *"The majority of students show no interest in their studies and have very low motivation. I spend a lot of time on course planning and delivery and put a lot of effort into student learning, but get no result. There are extremely poor exam marks... I personally believe there are individual differences between students, and I am not saying that all my students should be outstanding, but the real problem is when a high percentage of those students are low achievers and irresponsible. I always try to avoid being demoralized. However, when the term finishes unsuccessfully in terms of student achievement, it affects my teaching self-efficacy in a negative way."* [Az.3]

By contrast to the expression above, student achievement could also positively influence teaching self-efficacy:

> *"Since my university is one of the high-ranking universities, it is competitive and it attracts quality students. Student achievement is an undisputable factor influencing my teaching self-efficacy in a positive way."* [Tr.5]

Student selection process is centralized in Azerbaijan and Turkey. The teachers explained that the centralized examination process for student selection dissuades young people from developing career aspirations and has been one of the major barriers in their self-development and achievement. Students have been placed at departments according to their university entrance exam scores and in most cases, they are not happy with the placement. As a result, it affects their achievement and motivation immensely. One of the university teachers further added:

> *"There is a tendency to focus on filling placements at universities and nobody cares about the quality. Another thing is, parents influence their children's career decision. They want their children to get accepted into any department according to their score – no matter what."* [T7]

6.2.4 Workload

Workload was clearly one of the most prominent factors affecting university teachers' self-efficacy. The university teachers mentioned that a heavy teaching load and burdensome administrative duties discourage them from research and publications. Half of the interviewed university teachers (7/14) complained that their research self-efficacy was affected negatively by the teaching loads assigned to them. They expressed their displeasure with teaching tasks, arguing that their allocated weekly teaching load was too large:

> *"The teaching workload is excessive. I am being stressed by my teaching tasks. This is not confined to explaining the subject material, but includes assigning homework, as well as preparing and marking exam papers, which requires a massive effort. I also have to carry out supervisory tasks. I feel exhausted and tired after classes. I'm not satisfied with that, because I can hardly find time for doing a research."* [Az.3]

Several university teachers (5/14) indicated that tasks related to the organizational aspects of university life – which they considered administrative – increased the burden on university faculty. As a result, they complained that administrative duties influenced their research self-efficacy in a negative way:

> *"My administrative tasks have been increased for the last five years and it is unfortunate. It is overwhelming. The workload does not allow much time, if any, for research. For instance, I collect data but cannot find time for writing up research findings. Therefore, I always try to engage in co-authorship with my colleagues in order not to be lose sight of research. I am concerned that this may decrease my research self-efficacy."* [Tr.3]

6.2.5 Doctoral programme experiences (PhD supervision)

The university teachers (6/14) highlighted that their doctoral programme experiences (its content, supervisor-student relationship etc.) had affected their research and teaching self-efficacy in a negative way. They mentioned that the balance between academic guidance, personal support and autonomy support would be essential. A high level of academic and personal support could, nevertheless, minimize doctoral students' self-efficacy if supportive supervisors leave little room for students to engage in research tasks independently:

> *"When I was a doctoral student my supervisor did not give me autonomy. My supervisor decided everything on my behalf concerning my research and I did not have a chance to work independently. I strongly believe it influenced my research self-efficacy negatively. Autonomy could have boosted my self-efficacy for research during those years."* [Az.1]

When it comes to the content of the doctoral programme, one of the university teachers said:

> *"Research methods – specifically the statistic courses offered during my doctoral education – were not useful. For instance, I was able to collect data but I did not know how to analyse it. I experienced many difficulties and it affected my research self-efficacy during those years and spilled over even when I started my career as a university teacher."* [Tr.3]

Similarly, one of the interviewed university teachers added, when talking about the supervisor-student relationship and its negative influence on research self-efficacy:

> *"Unfortunately, the supervisor student relationship was hierarchical. My supervisor did not guide and support me enough with my research or when I worked as his teaching assistant. I was very stressed during my doctoral studies and now I support my own PhD students as much as I can. I guide them but at the same time give them autonomy. I believe autonomy during the PhD studies can boost one's self-efficacy for research and as well as for teaching."* [Tr.6]

Conversely, three university teachers who obtained their doctoral degree abroad have different views on this matter:

> *"My doctoral education abroad contributed immensely to my research self-efficacy. I was highly motivated, enthusiastic and hardworking. My supervisor was great and apart from my dissertation, he engaged me in another research project and all those experiences boosted my research self-efficacy. When I started my career as a university teacher, I possessed the necessary research and teaching skills."* [Tr.1]

6.2.6 Work environment (university climate)

The university teachers stated that work environment (university climate) was another very influential factor affecting their teaching and research self-efficacy for a variety of reasons such as rewards, recognition, and supervisory support. University teachers described both negative and positive scenarios concerning work environment.

The quotes that follow exemplify the negative views' effects on self-efficacy:

> *"I do not feel any encouragement at my work place. My institution does not care whether I do research or not and as a result it affects my research self-efficacy in a negative way. I trust, various encouragement strategies and recognition can boost my self-efficacy for both research and teaching."* [Tr.2]

> *"There is lack of financial incentives such as travel to conferences. It is left up to me to find my own funding."* [Az.3]

Conversely, the level of self-efficacy was higher for those participants who reported more favourably on the environment in which they worked. For instance, one of the participants emphasized:

> *"There is academic freedom and systematic performance evaluation at the university I work. The university also supports research projects financially. For this purpose, there exists clear and transparent funding criteria. These practices motivate me and increase my self-efficacy for research."* [Tr.5]

6.2.7 Interpersonal relations

The university teachers who were happy with the collegiality in their departments characterized their colleagues as supportive of and invested in each other's work (i.e., willing to listen and provide feedback on ideas, proposals, papers and teaching). Encouragement and support from colleagues may contribute to teachers' self-efficacy in a positive way. Most of the university teachers (8/14) were happy with the collegial relations. For example, one of the participants delighted with the nature of relationships with colleagues reported:

> *"My colleagues always help me when I need them. Particularly, senior colleagues who have higher self-efficacy always guide me in teaching and research."* [Tr.6]

Conversely, one of the participants pointed out possible negative effects of collegial relations when comparing research success:

> *"When I see one of colleagues reaping success concerning research or teaching it decreases my self-efficacy. For instance, when they get published and my articles are refused, I start thinking that I do not have necessary skills and confidence for research."* [Tr.2]

The existence of organizational behaviours such as mutual trust, respect, certain warmth, and rapport between the faculty members was a predictive factor in the development of university teachers' self-efficacy.

6.3 Theme 2: Environmental factors affect job satisfaction

Having dealt in detail with research and teaching self-efficacy, the interviews turned to the environmental factors affecting university teachers' job satisfaction. Two of the codes that suggested the influence of environmental factors on university teachers' job satisfaction were the same as codes of teaching and research self-efficacy such as work environment (university climate) and interpersonal (collegial) relations. In addition, there were a few

other factors affecting university teachers' job satisfaction/dissatisfaction such as salary and physical conditions or facilities.

6.3.1 Work environment

Work environment (university climate) was one of the fundamental factors influencing university teachers' job satisfaction. The responses covered areas such as a) recognition b) supervisory support and c) participation in decision-making. Most university teachers (8/14) felt they get little or no recognition for their work.

> *"Neither myself nor other faculty members receive recognition for our accomplishments." [Az2]*

Others did report receiving recognition in the form of verbal praise, or during their annual evaluations from their administration. Two of the interviewed university teachers expressed their dissatisfaction with their department chairs' expectations, explaining that university teachers were forced to sit at the departments from 9 am till 6 pm despite the fact that there were no available resources for work productivity. As a result, they could not spend their time free from teaching on their research. Conversely, one of the participants said:

> *"I currently have a department chair who allows me the freedom to do my job and he is very supportive. Administration is available to help and I received an excellent mentorship. It makes me greatly satisfied with my job."* [Tr.3]

Moreover, university teachers also expressed that they valued the opportunity to have input and influence in decisions at their departments. Their morale was highest when they participated in governance and decision-making. Three of the university teachers complained that they did not take part in decision-making at their departments and it affected their job satisfaction negatively.

6.3.2 Interpersonal (collegial) relations

The question about interpersonal relations was an area in which faculty highlighted the relationships they had with co-workers, the improvement in their interpersonal skills, and their own ability to deal with a difficult situation. Those who feel they have the respect of their faculty colleagues will have higher job satisfaction. The majority of university teachers (8/14) stated that relationships with colleagues contributed positively to their job satisfaction. Although there were a few negative responses, personal relationships between co-workers were reported as mostly positive. The following statements were typical of the participants' views towards their collegial relationships:

"My relationships with other faculty members are tolerant, respectful, fair, open-minded and collegial." [Az.8]

"My co-workers are supportive, and one of the reasons I haven't left yet." [Tr.3]

"As faculty, we all share a deep commitment to the goals for a high-quality programme." [Tr.1]

Several faculty described the welcoming atmosphere they experienced when they first arrived, explaining that their colleagues took the time to orient them and help them find resources within their departments. In contrast, others reported a pronounced lack of collegiality when senior faculty lacked time for or interest in junior faculty endeavours. Nevertheless, several faculty members shared that they had developed close relationships and friendships among their co-workers. Examples of these comments were the following:

"I have worked with a variety of faculty and many are now my close friends." [Az.3]

"I've developed a close friend and many other friendships that I would hate to lose." [Tr.5]

6.3.3 Salary

Pay was considered as a strong factor influencing university teachers' job satisfaction. Almost half of the interviewed university teachers (8/14) stressed that salary influenced their job satisfaction in a positive way:

"Being highly paid gives university teachers a sense of respect and superiority compared to other professions and reflects the interest and appreciation that the state shows towards them, which in turn is reflected positively in their motivation and job satisfaction." [Tr.7]

Another participant mentioned:

"Teachers' salaries are satisfying. Teachers receive a salary considered high compared to many other professions. Without any doubt, being financially comfortable also affects my job satisfaction." [T2]

However, six out of fourteen teachers were stated that they were very dissatisfied with their salaries and it affected job satisfaction negatively:

"I am really dissatisfied with my salary… I cannot fulfil my financial, personal and family needs without a need to look for extra work. Nobody works for nothing. These days, money is essential in people's lives. …For me a reasonable and adequate salary is quite important for my motivation and job satisfaction…" [Az.3]

Another interviewee told:

> *"University teachers' salary are extremely low and, as a result, teachers are trying either to teach in several universities or do private tutoring in order to earn some extra money. It definitely affects my job satisfaction. If you are spending all of your time on teaching how you will be able to find time and energy for doing research? Another thing is that too heavy of a teaching load affects the quality of my teaching which makes me dissatisfied with my job".* [Az.3]

6.3.4 Physical condition or facilities

A serious issue contributing to low job satisfaction, according to four university teachers was poor facilities at universities, such as libraries and labs. Those participants suggested that improvements in physical resources would increase their satisfaction with their jobs:

> *"I'm not happy with the university library, especially with the quantity and quality of the books. They're old and most have nothing to do with what the students study. University libraries are not supporting and enriching the subjects I teach and also cannot provide me with the knowledge and information that I need."* [Az.2]

Some university teachers (3/14) also mentioned that they were even not provided with desks or office space in their departments and it hindered their productivity immensely. The non-availability of computers was another concern.

> *"I am happy with what I am doing. But the fact that I am doing my job in this particular university with poor working condition makes me unhappy and leads to my job dissatisfaction*." [Tr.2]

6.4 Similarities and differences between Azerbaijan and Turkey

In both countries, the university teachers expressed that the same level of self-efficacy for teaching. Moreover, all participants highlighted that their self-efficacy for teaching and research have changed throughout their career stage. In Turkey, almost all interviewed faculty members demonstrated high level of self-efficacy for research while in Azerbaijan some of the university teachers could not. One stated:

> *"I am very enthusiastic about my teaching, but I cannot say the same for my research. Honestly, I feel less confident for my research compared to teaching. I guess my limited English language skill is the main obstacle for less research involvement."* [Az.1]

The nature of all environmental factors affecting university teachers' self-efficacy was similar in both countries with the exception of workload. The Turkish university teachers mentioned administrative (service) tasks as the main obstacle affecting their research self-

efficacy, while in Azerbaijan it was heavy teaching loads. Moreover, the factors influencing university' teachers job satisfaction were almost the same in two contexts, with the exception of salary. Interestingly, pay negatively influenced university teachers' job satisfaction in Azerbaijan, whereas it was a positive factor in Turkey. In Azerbaijan, almost all interviewed university teachers (6/7) mentioned that salary negatively affected their job satisfaction, since it did not meet their needs and was not commensurate with the effort that they put into their work.

> *"I really enjoy my job as a university teacher, however, low faculty salaries in Azerbaijan affect my job satisfaction negatively. I have to do private tutoring to earn extra money, as a result."* [Az.5]

In Turkey, the case was the opposite.

> *"I am quite happy with my salary as a university teacher. Both salary and high prestige of the profession in Turkey satisfies me."* [Tr.2]

6.5 University teachers' suggestions

At the end of the interviews, the university teachers were given an opportunity to offer their own proposals for the improvement of research and teaching self-efficacy among university teachers, in response to the following question: *"Do you have any suggestions that might enhance university teachers' research and teaching self-efficacy?"* Responses included the following:

- A need for better performance evaluation system was mentioned by four interviewees in both countries, who stressed that teachers need continuous encouragement, whether remunerative or moral. This could be achieved by establishing clear criteria on the basis of which university teachers would be evaluated. A clear performance evaluation may encourage teachers in the areas of research and teaching and in turn help to increase their self-efficacy.
- A need for a decentralized student selection system in Azerbaijan and Turkey was suggested by five interviewees. Decentralized student selection may help to improve student level and achievement and lead to enhancement of teaching self-efficacy among university teachers.
- A need for the establishment of collaboration and mobility among university teachers in terms of research was identified by four university teachers. This can increase their research self-efficacy immensely.

- A need for improving the quality of doctoral programmes (in terms of both design and content) was suggested by five university teachers. This might help to cultivate more skilled university teachers and researchers for the future.
- A need for the development of professional training or support programmes for research was mentioned by two university teachers.

6.6 Chapter summary

This chapter has presented an analysis of the qualitative interview data in order to extend understanding of the issues related to university teachers' self-efficacy and job satisfaction by participants. With regard to teaching, responses indicated that university teachers shared high level of self-efficacy. Only a few interviewed university teachers demonstrated low self-efficacy for research. The university teachers also indicated that their research and teaching self-efficacy level had changed over the course of their careers. Higher qualification of university teachers contributed to research self-efficacy. Student feedback and achievement, workload, doctoral programme (PhD supervision), work environment (university climate), and interpersonal relations were considered to be the main factors influencing university teachers' self-efficacy in university settings. The factors influencing their satisfaction/dissatisfaction most strongly were work environment, interpersonal relations, salary and physical condition or facilities. Interestingly, work environment and interpersonal relations were both factors influencing university teachers' teaching and research self-efficacy, and as well as their job satisfaction.

In the following chapter, these qualitative findings are further discussed and integrated with the quantitative findings derived from questionnaire responses, in relation to the research questions.

Chapter Seven

Discussion

7.1 Introduction

This chapter seeks to discuss and interpret, in the light of the research questions, the quantitative and qualitative findings presented in Chapters Five and Six respectively, based on the data obtained from the questionnaire and interview responses of university teachers in Azerbaijan and Turkey. In doing so, this discussion draws on the literature review for relevant comparisons with the findings from previous studies. In order to take due account of both quantitative and qualitative results, discussion of the research questions (section 1.5) begins by considering the quantitative findings. The most pertinent qualitative findings are then examined in light of the possible interpretations of these quantitative results, taking into account social cognitive theory and related findings covered in the literature review.

7.2 Level of self-efficacy for research and teaching

This section addresses the first research question: "*What is the level of self-efficacy for research and teaching amongst university teachers?"* The quantitative findings indicated that, in this study, university teachers' teaching self-efficacy levels were higher than that of their research-self efficacy levels (section 5.7). The finding of the present study is consistent with Hemmings & Kay (2009) who reported that the level of self-efficacy for teaching was higher when compared with that of research. Similarly, in earlier studies, Schoen & Winocur (1988) and Bailey (1999) reported that university teachers had higher levels of self-efficacy for teaching than for other academic tasks. The study by Chang et al. (2011) found that university teachers were most confident in the course design aspect of teaching self-efficacy.

This quantitative finding was not different from the qualitative results, as all of the fourteen participants interviewed responded positively about their teaching self-efficacy. With regards to research self-efficacy, however, only three out of fourteen university teachers expressed low self-efficacy. One of the possible explanations offered for the finding of the current study about teaching vs. research self-efficacy is that teaching is performed more frequently and therefore more opportunities are afforded to successfully master this activity. This also can be supported by social cognitive theory. According to Bandura (1982) the frequent completion of a specific task successfully increases self-efficacy. Thus, similarities

between quantitative and qualitative findings about higher levels of confidence for teaching, when compared with confidence levels reported about research, may be the result of practice effects and mastery learning.

In addition, perhaps, in contrast to other environments within academia, the teaching environment provides a wider range of sources for positive feedback, which may include students. As mentioned in social cognitive theory, positive verbal persuasion can also encourage an individual to persist in attempting and completing a task and therefore affect self-efficacy. This could explain further the stronger efficacy found for teaching tasks in interviews.

7.3 Demographic variables

This section addresses the second research question: "*What demographic variables (e.g., academic qualification, gender etc.) are associated with university teachers' research and teaching self-efficacy and job satisfaction*?*"* One aim of this question was to determine which of the demographic variables identified by the present study are associated with university teachers' self-efficacy and job satisfaction.

7.3.1 Demographic variables associated with self-efficacy

The findings of the current study demonstrated that demographic variables were associated to self-efficacy (section 5.5). Academic qualification was related to research self-efficacy and all its subscales with the exceptions of data collection and analysis. This result is consistent with study by Landino & Owen (1988) who reported that highest earned degree had a direct effect on research self-efficacy. The results of the present study also found a positive relation between age and research self-efficacy. This finding contradicts the research by Landino & Owen (1988) who found a negative relationship between age and research self-efficacy, meaning the younger the person the higher the research self-efficacy. In literature, age has been found to be both a positive and negative predictor of faculty research productivity (Bentley & Blackburn, 1990; Blackburn, Bieber, Lawrence & Trauvetter, 1991).

7.3.2 Demographic variables associated with job satisfaction

The demographic characteristics of faculty members were related to job satisfaction (section 5.5). The result of the present study demonstrated that the length of experience was significantly related to job satisfaction. The finding is consistent with those of Oshagbemi (2000) who found that the job satisfaction of university teachers was significantly related to length of experience. The study also found that among the demographic variables, age and

experience was strongly correlated and these two variables were also associated with university teachers' job satisfaction. The findings of the current study echo the findings of Toker (2011) and Oshagbemi (2003). In these studies, a positive correlation between university teachers' age and job satisfaction and length of experience was reported. Interestingly, the results of the current study demonstrated that qualification was negatively related to university teachers' job satisfaction. This particular finding contradicts the study by Sharma & Jyoti (2009) who found a positive relation between university teachers' academic qualification level and job satisfaction. Finally, the findings of this study indicated that gender was not related to job satisfaction. This finding is consistent with Oshagbemi (2000; 2003) who found that gender was not directly related to the job satisfaction of university teachers.

7.4 Differences based on demographic variables

The third research question was: *"Do research and teaching self-efficacy and job satisfaction vary in terms of demographic variables?"* To address this, a MANOVA and a series of one-way ANOVAs were performed to identify any statistically significant differences among university teachers in research and teaching self-efficacy and as well as job satisfaction according to gender, experience and qualification. According to Bandura (1977) self-efficacy beliefs are perceptions of confidence of ability in performing a specific task and vary due to a task generality. As mentioned earlier, it is important to emphasize that research and teaching tasks cover different activities or dimensions (e.g., course planning, data analysis, supervision etc.). Bandura (1997) pointed out that teachers' sense of efficacy is not necessarily always the same because of the many different types of tasks teachers are asked to perform. Therefore, a MANOVA was also run to explore differences in research and teaching self-efficacy subscales in relation to experience and qualification. The following subsections consider each of these demographic variables in turn.

7.4.1 Gender

The MANOVA was conducted to assess the gender differences for the three dependent variables (teaching, research self-efficacy, and job satisfaction)

7.4.1.1 Gender differences in research self-efficacy

The findings of the current study indicated that there was not a significant difference between male and female university teachers in their research self-efficacy levels (section 5.8). The result is aligned in some respects to the results reported by Bieschke et al. (1996) who reported no differences between male and female doctoral students with regards to research

self-efficacy. However, the findings cannot be said to fully agree with those of Vasil (1992) who found significant differences between men and women university faculty in terms of research productivity and research self-efficacy. Similarly, Schoen & Winocur (1988) and Hemmings & Kay (2009) found that female university teachers were less confident in performing a range of research tasks. The gender difference was explained by the fact that male university teachers were performing research tasks significantly more frequently than did their female counterparts. Moreover, women tend to spend more time on service and less time on research than their male colleagues (Link, Swann & Bozeman, 2008). Therefore, women at research universities may need faculty development incentives to feel more efficacious about research. Examples of such incentives may be workshops or research development programmes, research consultants working with individual departments, and time and money to support participation in functional networks both on and off campus.

According to Landino & Owen (1988), although gender is not a direct contributor to research self-efficacy, gender becomes significant indirectly through some of the influences. Being female contributes to feeling less efficacious about research tasks because of the mediating effects of producing fewer articles, participating in fewer networks, feeling less mentored, and feeling undernourished and unrewarded by a department. For university teachers, academic advancement usually depends on academic research and publications. Such opportunities for advancement might be considered equal for male and female university teachers. Nevertheless, because most female university teachers have to balance the demands of their family and the demands of their work simultaneously (work-family conflict) means that researching and publishing can be more demanding for them when compared to their male counterparts, who do not face the problem of work-family conflict to the same extent as female university teachers. Support for these points can be found in the work of Stack (2004). He strongly argues that this gender differential may be the result of women, as compared men, giving more attention to partner and other family responsibilities, being afforded fewer opportunities for co-authorship, and facing difficulties in a male-dominated work environment.

7.4.1.2 Gender differences in teaching self-efficacy

The findings of the present study demonstrated that there were no marked differences between male and female university teachers with regards to teaching self-efficacy. This particular finding resonates with the results found by Hemmings & Kay (2009) and Vera et al. (2011). However, the finding is somewhat different from the finding of Brennan et al.

(1996) who identified women as having higher levels of efficacy for teaching and of Bailey (1999) who reported that female university teachers showed a higher self-efficacy for course delivery. Similarly, in the US context, Fives & Looney (2009) reported that male and female university teachers differ significantly in their levels of efficacy for student engagement and overall efficacy with females reporting higher levels of efficacy. In Taiwanese university context, females scored significantly higher self-efficacy for learning assessment than their male counterparts (Chang et al., 2011). A possible explanation with regard to self-efficacy for assessment is that female university teachers tend to put more effort in detailed descriptions concerning every aspect of the course, particularly assignments and assessment. This might explain why women feel more confident in their capacity to assess students' performances. Another possible explanation for this finding suggested by Schoen & Winocur (1988) was that female faculty members had a greater frequency of teaching activities than male counterparts. High levels of expended effort coupled with persistence are likely to lead to more successful performance accomplishments, which also will contribute to higher levels of perceived self-efficacy (Bandura, 1984).

7.4.1.3 Gender differences in job satisfaction

Gender is the most widely researched demographic characteristic in relation to job satisfaction due to the increasing numbers of women who have been joining the work force in recent years. The current study did not find any differences based on job satisfaction between male and female university teachers. This finding particularly resonates with Toker (2011) and Koyuncu et al. (2006), who reported no significant differences in job satisfaction between male and female university teachers in Turkey. The result of the study also coincides with results of other studies done by Ward & Sloane (2000), Santhapparaj & Alam (2005), Ssesanga & Garrett (2005), and Machado-Taylor et al. (2016) who found that women and men expressed similar levels of job satisfaction in higher education. However, Ward & Sloane (2000) also point out that the fact that overall job satisfaction is the same for male and female university teachers does not mean that they necessarily have similar preferences. The determinants of job satisfaction are markedly different by gender. For instance, for men pay is a more significant determinant of overall satisfaction and of what is considered to be an important aspect of work than it is for women. According to Okpara et al. (2005) male university teachers are more satisfied with their pay, promotion opportunities, and supervision, whereas their female counterparts are more satisfied with the work itself and co-workers. Differences in the determinants of job satisfaction between male and female

university teachers may justify the need to adapt human resource policies to take into account the discrepancies that may exist according to gender (Bernal et al., 2005).

On the other hand, the present finding is inconsistent with those of Okpara et al. (2005), Hickson & Oshagbemi (1999), Al-Ajmi (2006), Sharma & Jyoti (2009), Egbule (2003), and Saner & Eyupoglu (2012) who found that there were indeed apparent gender differences in the job satisfaction levels of university teachers; women faculty members being slightly more satisfied with their jobs than men faculty members. The inconsistencies in findings concerning the relationship between gender and job satisfaction may be due to a variety of reasons. For instance, according to Clark (1997), women may be happier than men because they have lower expectations of the work-place than do men. Chiu (1998) argues that the central paradox in studies of gender and job satisfaction is why women's job satisfaction is not lower than men's, given that women's jobs are often inferior in terms of pay, autonomy, and promotional opportunities. Another explanation is that most female employees do not fully shoulder the economic burden of a family, so therefore their expectations and their aspirations level may be lower, and consequently, female employees experience greater satisfaction with their job (Sirin, 2009).

By contrast, according to some studies (Bozeman & Gaughan, 2011; Sabharwal & Corley, 2009) women faculty appear to have lower job satisfaction than men in academia. One of the reasons for this might be due to salary. Some studies show that female university teachers are indeed paid less and are less satisfied with their pay (Halpin & Johnston, 2004; Tang & Talpade, 1999; Noble & Mears, 2000; Okpara et al., 2005), which in turn influences their overall job satisfaction.

In conclusion, given the overall results from these studies, it is apparent that when other variables are taken into account, there is very little evidence to suggest that gender directly affects job satisfaction. There is no convincing reason to believe that given equal education, employment and advancement opportunities, and an equal chance to apply their skills to appropriate challenges, women should be any less satisfied than men with their jobs or the opposite. For instance, Okpara et al. (2005) and Oshagbemi (1997) found that female faculty members in higher academic ranks expressed more satisfaction with their jobs than their male peers.

7.4.2 Career stage (experience)

The MANOVA and a follow-up one-way ANOVA was performed to examine the career stage differences for three dependent variables (research, teaching self-efficacy, and job satisfaction).

7.4.2.1 Career stage (experience) differences in research self-efficacy

The findings of the present study demonstrated that there was a difference for research self-efficacy among university teachers based on their experience. University teachers with 16 years or more of experience showed greater self-efficacy for research compared to university teachers with 0 to 7 years and 8 to 15 years of experience. However, there was not a significant difference between university teachers with 0 to 7 years and those with 8 to 15 years of experience. Additionally, the results indicated that university teachers with 16 years and of more experience showed a higher self-efficacy for the leading and disseminating subscales of research self-efficacy (section 5.8.1). The result is not surprising because self-efficacy for effective presentation of research or publishing can indeed be achieved over period of a time. The finding of the study is aligned with Bieschke and colleagues (1996) who report that research experience is a predictor of research self-efficacy.

This result was also supported by qualitative interviews. The majority of interviewed university teachers expressed that their self-efficacy for research changed over the course of their careers (section 6.2.1). According to Bailey (1999) it is sensible to assume that a low level of experience or success in research will produce low levels of self-efficacy about one's capacity to research. However, the critical question is whether research self-efficacy derives from skill, experience or success in research, or whether the attribution is entirely unrelated to skill, experience and success. According to Bandura (1997) self-efficacy has to with self-perception of competence rather than actual level of competence. This means level of skill is less important than what one believes he/she can achieve under the circumstances. With regards to experience and success in research, it is definitely related to research self-efficacy. The study on self-efficacy has demonstrated that success can create and raise efficacy beliefs (Bandura, 1986). In other words, faculty members who have successful experiences in carrying out research projects may have high research self-efficacy (mastery experiences). For example, university teachers who have conducted and quantitatively analysed data for their research may have higher self-efficacy for quantitative research studies. Similarly, university teachers who have experiences in presenting their research in conferences may have more self-efficacy for disseminating their research.

Furthermore, efficacy enhancement can also be considered a skill-based attribution and university teachers may gain confidence in research through observation (vicarious learning). For instance, observing an experienced university faculty preparing a budget for a research project or observing him or her delivering an effective conference presentation may help to develop junior university teachers' self-efficacy for research. LaRocca & Bruns (2006) point out that support for early career university teachers needs to be multifaceted and draw on emotional, informational, and instrumental supports. Obviously, university faculty can develop self-efficacy for research not only through intrinsic motivation but also through extrinsic or environmental mechanisms. The role of environmental factors in the development or enhancement of research self-efficacy will be discussed later in this chapter.

7.4.2.2 Career stage (experience) differences in teaching self-efficacy

Teaching experience can be considered a strong feature of university teachers' self-efficacy. However, the findings of the current study showed that there was not a difference between university teachers for teaching self-efficacy based on their experiences (career stage). The result of the current study is consistent with a study by Fives & Looney (2009) who reported no significant relationship between university teachers' experience and teaching self-efficacy. Similarly, among Spanish university faculty, Vera et al. (2011) found no differences in terms of teaching self-efficacy based on their experience.

However, the finding of the current study is inconsistent with work conducted by Soodak & Podell (1997) who examined the teaching self-efficacy of pre-service teachers and found that teachers report a gain in confidence following classroom experience. Similarly, in the Taiwanese context, Chang et al. (2011) reported that faculty members with between 16 and 20 years of experience showed higher self-efficacy scores for teaching than did faculty members with five or fewer years. In addition, they found that faculty members with 21 or more years of teaching experience have higher scores in instructional strategy and learning assessment than those with five or fewer years of experience. Faculty members with five or fewer years of teaching experience show lower self-efficacy scores in course design than those in other levels (Chang et al., 2011).

Interestingly, the above quantitative finding in this study was different from the qualitative data. In interviews, all participants expressed that previous teaching experiences gave them the confidence to teach in a university context and their expertise, in turn, generated their sense of self-efficacy (section 6.2.1). The results of the qualitative study are also in line with

Hemmings (2015) who reported that previous teaching experiences generate self-efficacy for university teaching. Initial doubts about one's ability to succeed in teaching can therefore be allayed through appropriate training, and initial confidence can be increased. In other words, repetition can arguably result in the mastery of tasks and therefore a strengthening of self-efficacy. As mentioned in literature, mastery experience is the most powerful source of this self-efficacy (Bandura, 1997; Tschannen-Moran & Hoy, 2007). The fewer years of teaching experience, the less mastery experiences a teacher has. Indeed, mastering skills and techniques is a way of strengthening self-efficacy, and this is supported by the findings of Bandura (1982, 2001), and Zimmerman (2000).

In addition, the qualitative results demonstrated that self-efficacy was weakened when university teachers were asked to teach subjects and topics outside their areas of expertise at the beginning of their careers. Hemmings (2015) suggests that supervisors need to be careful of this, especially when allocating teaching duties in the first semester or two of an appointment. Doubtless, course design, the main part of knowledge transmission, is associated with university teachers' knowledge of their subject (Chang et al., 2011). Teaching efficacy addresses the degree to which a university teacher's specialty matches the courses that he/she offers. Understandably when a university teacher perceives that the content of a course falls within his or her specialized area, their level of self-efficacy in teaching increases, and vice versa. When the latter occurs, and course content is not in their perceived area of specialty, university teachers tend to feel less comfortable with the course materials and are resistant to and very likely less enthusiastic about the teaching assignment. Consequently, as their teaching efficacy decreases, student learning may also be affected.

Bandura (1997) claims that self-efficacy beliefs are most in flux early in learning and tend to become fairly stable and resistant to change once set. For instance, verbal persuasion, in the form of interpersonal support from administrators, makes significant contributions in explaining junior university teachers' self-efficacy beliefs. On the other hand, verbal persuasion can make little contribution to career university teachers. Therefore, building the self-efficacy of university teachers in the early stages of their careers should be of utmost importance for university managers.

It is generally agreed that the level of university teachers' self-efficacy regarding their teaching will increase with increasing teaching experience. The qualitative study provides some evidence that university teachers' sense of teaching efficacy in course planning,

instructional strategy, and assessment indeed develops with increasing teaching experience. Usually, it requires years for a new faculty member to become familiar with the practices involved in knowledge transmission and learning facilitation. It seems that most of the university teachers in this study are learning about teaching by teaching, specifically in the area of course planning. However, for the experienced university teachers, course planning is the area in which they reported higher self-efficacy. This certainly points to the importance of creating opportunities where experienced and early career university teachers can engage in dialogue. For instance, verbal persuasion in the form of interpersonal support from colleagues is very important in developing one's self-efficacy. For junior university faculty, a potent source of efficacy is verbal persuasion offered by experienced teachers in the form of encouragement and advice (Mulholland & Wallace, 2001).

Vicarious learning is also important in building teaching self-efficacy beliefs of junior university faculty. Observing an experienced faculty member delivering a course or preparing a course syllabus may help junior faculty members to develop their own self-efficacy for teaching. Career stage also seems to affect the role played by environmental variables that contribute to self-efficacy. For instance, environmental factors such as the availability of teaching resources were found to contribute more to the self-efficacy beliefs of novice teachers than of experienced teachers who had a wealth of mastery experiences to rely on (Tschannen-Moran & Woolfolk Hoy, 2007).

The precise relationship between the experience variable and self-efficacy is, however, unclear, and different studies offer contradictory results. In higher education, Benz et al. (1992) indicated that university teachers who present a higher degree of self-efficacy were those with little experience. In elementary and high school teachers, Klassen & Chiu (2010) showed a nonlinear relationship with years of teaching experience; self-efficacy increased from 0 to about 23 years of experience and then declined as years of experience increased.

7.4.2.3 Career stage (experience) differences in job satisfaction

Contrary to the previous studies which identified a curvilinear relationship between job satisfaction and experience (Crossman & Harris, 2006; Poppleton & Riseborough, 1991; Sharma & Jyoti, 2006; 2009), the result of the present study indicated a positive linear relationship. The results showed that university teachers with 16 years and of more experience were more satisfied with their job compared to those with 0 to 7 years and 8 to 15 years of experience (section 5.8.1). This result is consistent with Toker (2011) who

reported the difference in job satisfaction for experience of 21 years and over was statistically different and higher than 1-5 and 6-10 years in Turkish university teachers. This could be due to a combination of several reasons. One possible explanation is related to the annual increase in salary, which means that salary increases with experience and, in turn, affects overall job satisfaction. Another possible explanation might be that promotion is associated with length of experience, a recognition of expertise from which job satisfaction might arise (Hickson & Oshagbemi, 1999). An additional reason satisfaction may increase with age may be linked to a combined effect of age and experience. Today, there is increased pressure on university faculty to achieve and so stress around how they manage their time; they are expected to make significant professional achievements within relatively short periods of time. Moreover, in addition to teaching, the administrative workload that university teachers are currently asked to shoulder can be very time-consuming. Moreover, this additional workload does not come with any relaxing of the effort required to prepare for expected research output. It is worthwhile to mention that the present study found a strong positive correlation between age and experience (see table 5.3). This means those in the longer experience band are likely to be older and perhaps more able to cope with the changing demands of universities, a finding also suggested by Oshagbemi (1999). Older and more experienced university teachers may be better able to adjust their expectations to the realistic returns the job can provide. The relationship of age to length of experience and to the overall job satisfaction among university teachers was also found by Oshagbemi (2003), who argued that age, on its own, did not appear to provide a reliable estimate of the level of overall job satisfaction in university faculty.

Furthermore, for those university teachers anticipating retirement in five years or less job satisfaction was best predicted through positive relationships with administration as well as by appropriate compensation (Hagedorn, 1994). The results of current study also indicated that university teachers with 0 to 7 years and 8 to 15 years of experience did not differ significantly in their levels of job satisfaction. This result of the current study contradicts the previous research by Poppleton & Risborough (1991) and Sharma & Jyoti (2009) who reported that those university teachers with less than 5 years of experience were the most satisfied with their job. Their findings might be explained by the relatively high enthusiasm of newer teachers, in line with Herzberg et al.'s (1957) findings, where teachers in the 15–20 years band may be experiencing some mid-career stress (Kinman, 2001).

The results of the present study are inconsistent with Oshagbemi's (2003), who found that length of experience in higher education was negatively and significantly related to overall job satisfaction. This means that the longer an academic worked in higher education, the less overall job satisfaction the academic enjoyed. Moreover, the findings of the present study do not agree with those of Skaalvik & Skaalvik (2009), Crossman & Harris (2006), Klassen & Anderson (2009), and Perrachione et al. (2008), none of whom found a significant relationship between the two variables, length of experience and job satisfaction.

7.4.3 Academic qualification

The MANOVA and a follow-up one-way ANOVA was performed to test the academic qualification differences for the three dependent variables (research, teaching self-efficacy, and job satisfaction).

7.4.3.1 Qualification differences in research self-efficacy

While a doctoral level qualification is certainly not a prerequisite to engaging in research, qualification level can be important to research engagement and often there is a clear association between the two (Hemmings & Kay 2009; 2010). The findings of the current study revealed that the holders of doctorates have higher research self-efficacy compared to those who were PhD candidates. However, the difference with the holder of MA qualification was not significant. Moreover, university teachers with PhD qualifications showed a higher self-efficacy for the leading, disseminating and supervising subscales of research self-efficacy than university teachers with MA qualifications and those who were PhD candidates (section 5.8.2). This finding seems to agree with previous studies (Landino & Owen, 1988; Bailey, 1999; Bazeley, 2003; Hemmings & Hill, 2009; Vera et al., 2011) reported in the literature, which found that completing a doctorate fosters requisite research skills, builds self-assurance and spawns publications. In fact, none of these results is surprising. Few people would pursue and persist in obtaining a doctorate degree unless they were capable and interested in research. In most cases, completing doctoral degree develops both research skills and confidence in one's research ability. University teachers with a Master's degree only rarely have the skill or experience to be effective in research. Bailey (1999) emphasized that it is reasonable to assume that a low level of skills will produce low levels of self-efficacy about one's capacity to conduct research.

Congruently, qualitative results of the present study support the quantitative findings that as the level of academic education increases, self-efficacy also increases. Therefore, the highest levels of research self-efficacy were found among university faculty who held a doctoral

degree (section 6.2.2). The result of the qualitative finding echoes the qualitative study by Hemmings et al. (2007) who found that limited academic qualification was one of the hindrances of research productivity, which itself is a positive predictor of research self-efficacy.

One of the interesting findings of the study is that university teachers who were PhD candidates expressed a lower self-efficacy level for research as compared to those with an MA. One possible explanation could be linked to the stress, isolation, loneliness or negative PhD study experiences that doctoral students often undergo throughout their studies. The character of PhD study and supervision was also confirmed by the qualitative findings of the study to affect research self-efficacy among doctoral students. This indicates that encouragement and incentives need to be offered to those university teachers pursuing PhD degrees. Sharp et al. (2015) suggest that research networks and supportive interactions with others, including supervisors and research mentors, are widely regarded as essential both during and after doctoral study.

7.4.3.2 Qualification differences in teaching self-efficacy

The findings of the present study showed that there was not a difference in teaching self-efficacy among university teachers based on their academic qualification (section 5.8). This result is consistent with the findings of Hemmings & Kay (2009), who reported no significant differences between those holding PhDs and those holding MAs in relation to teaching self-efficacy in higher education. Similarly, Vera et al. (2011) found that academic qualification made no differences to teaching self-efficacy among Spanish university faculty. However, in an elementary school context, teachers with a higher level of academic education usually showed greater self-efficacy (Hoy & Woolfolk, 1993).

7.4.3.3 Qualification differences in job satisfaction

The findings of the study showed that there were significant differences in job satisfaction between university teachers based on academic qualifications. Interestingly, those university teachers with MA qualifications felt more satisfied with their jobs as compared to those with PhDs or those who were PhD candidates. There was not a difference between PhDs and PhD candidates in their levels of job satisfaction (section 5.8.2). One possible explanation might be that education has a negative impact on job satisfaction because increased education is associated with higher expectations, and a person may therefore become dissatisfied with a job not meeting those expectations. The results of the current study, however, are inconsistent with the findings of Hickson & Oshagbemi (1999), who found that job

satisfaction increases with qualification. Similarly, Sharma & Jyoti (2009) found that the job satisfaction levels of university faculty increase with increases in the level of qualification. They reported that university teachers with a PhD degree showed higher job satisfaction than those with MPhil and postgraduates.

7.5 Environmental factors

This section addresses the fourth research question: *"What environmental factors (e.g., workload, salary etc.) affect university teachers' research and teaching self-efficacy and job satisfaction?"* One aim of the qualitative phase of the present study was to determine which of environmental factors influences university teachers' self-efficacy for research and teaching, and as well as their level of job satisfaction (section 1.4 and 1.5).

7.5.1 Environmental factors affecting self-efficacy

The qualitative findings showed that participants expressed that the environmental factors affecting their self-efficacy were student achievement and feedback, workload, doctoral programme experiences (PhD supervision), work environment, and interpersonal relations. In the literature review, no qualitative studies were found on the relationship between environmental factors and university teachers' self-efficacy for research and teaching. Therefore, the results of the open-ended questions in this section cannot be directly connected to the previous literature. However, some general comparisons can be made from existing literature on studies of teachers in secondary or high school settings. The following subsections consider environmental factors affecting university teachers' self-efficacy.

7.5.1.1 Student feedback and achievement

The qualitative findings indicate that student achievement and feedback is one of the stronger factors affecting university teachers' self-efficacy for teaching (section 6.2.3). This finding about the effect of student feedback resonates, in particular, with the ideas expressed by Heppner (1994). He claims that student evaluations of teaching at the college level can be a form of verbal persuasion, for better or for worse, for university teachers. Doubtless, student evaluations and the overall tone of any evaluative comments can have a marked effect on university teachers' self-efficacy for teaching (Hemmings, 2105). Moreover, receiving positive feedback from students was highlighted as a mechanism to strengthen self-efficacy in higher education (Hemmings, 2015). Moreover, the qualitative results revealed that low motivation among students was one of the factors contributing most strongly to university teachers' teaching self-efficacy levels. Evidence in the qualitative findings collated from the interviews suggesting that teachers were unhappy with the

typically low level of motivation of students (section 6.2.3). It was perceived that students did not pay adequate attention when carrying out class activities, were not interested when given tasks and prepared poorly for exams. In addition, some students even tended to ignore the value and importance of academic attainment and knowledge. Such behaviour is likely to play a major role in creating a state of frustration and stress among university teachers, and thus may, as explicitly stated in some interviews, contribute to decreased levels of teaching self-efficacy. This result is partially aligned with Kiziltepe (2008) who confirmed the importance of students as the primary factor affecting university teachers' motivation in Turkey. Similarly, Oshagbemi (1997) reported that students' attitudes towards learning (specifically a lack of interest shown by students) was among the teaching-related demotivating factors in university settings.

Furthermore, Guskey & Passaro (1994) reported that enthusiastic teachers always work harder to make learning more meaningful for their students. However, if they cannot find what they were looking for in the profession, they become demoralized. In other words, unprepared students or students who attend university for the reasons other than interest in and commitment to learning the subject matter are among the sources of faculty stress (Gates, 2000). The flip side of this effect is that feedback from students in the form of enthusiasm and engagement is a potent source of university teachers' self-efficacy (Mulholland & Wallace, 2001). It is important to mention that self-efficacy is related to behavioural changes often through its effect on motivation and Bandura (1993) himself refers to self-efficacy beliefs as playing a key role in motivational processes.

7.5.1.2 Workload

Today's universities are complex organizations and it may be that there has long existed a certain tension between research and other academic tasks in higher education. The duties and even the timing of the academic year calendar for university teachers within the same university can vary considerably, such that any attempt to standardize workload expectations can be fraught with these different realities. The results of the qualitative interviews showed that workload was clearly one of the factors affecting university teachers' research self-efficacy (section 6.2.4). The responses indicated that teaching and administrative duties are time-consuming and fatiguing, and that such duties therefore maneuvered university faculty away from research. The multiple role expectations for faculty in the triumphirate of teaching, research, and service have a great potential to conflict with one another, which in turn may impact university teachers' self-efficacy. The profession's combination of teaching

and research, and the productive interactions between these roles is a foundation of universities. Obviously, creating time and space for research activities, as well as teaching and service, is critical. If conditions are not created to give more time for research, then the pressure is on the university teacher to make their time "count" or on managers to implement more supportive time management programmes for those struggling to find an appropriate balance among research, teaching and service activities.

The results in the current study also demonstrated that administrative (service) tasks affected university teachers' research self-efficacy in a negative way. This finding is somewhat in line with the work of Hemmings et al. (2007) who reported that male university teachers identify administrative duties as a major barrier to their research productivity and publications. Similarly, Oshagbemi (2000) found that the time spent on administrative duties directly reduces the time left for research.

The contemporary intensification and prioritization of research activities over teaching, increasingly driven by standardized comparative measures of research performance, has profoundly influenced and shaped the identities and career trajectories of many university teachers. Low levels of research confidence (as a proxy for self-efficacy) combined with the relatively low amount of time devoted to research overall might suggest that research is widely perceived as something of little interest or perhaps even as a threat (Sharp et al., 2013). Several authors (Creamer, 1998; Bellas & Toutkoushian, 1999; Hassan, Tymms & Ismail, 2008) argue that time devoted to research is one of the best predictors of research productivity. Unsurprisingly, university teachers devoting more of their time to teaching and service activities had less research output. And, as discussed in the relevant literature, there is a significant relation between research productivity and research self-efficacy. It is therefore no stretch to see that less research output may lead to lower research self-efficacy.

Research self-efficacy may also be affected by teaching self-efficacy. When confident in their teaching, university faculty are more likely to devote time and energy to other work tasks such as research and publishing (Hemmings, 2015). Hence, departmental managers can play a pivotal role, both through their approach to workload allocation. Given the difficulties of quantifying work done by university faculty, these work load negotiations and staff consultation factors might be integral to the success of workload allocation models at universities. Eventually, unless workloads are managed well and, for instance, time is explicitly set aside for research as well as teaching and service, the self-efficacy of university

teachers will be affected. Of course, universities may encourage time allocation models be adjusted to be consistent with particular institutional goals or missions (research or teaching-led). University administrators may want to encourage research productivity to increase their institution's reputation. They may also want to maintain a balance of research productivity and teaching effectiveness under the belief that research and teaching are complementary activities.

7.5.1.3 Doctoral programmes (PhD supervision)

Research performance post PhD remains an important marker for university teachers' self-efficacy. The findings of the qualitative interviews indicated that doctoral study experiences and PhD supervision played an important role in the development of university teachers' research and teaching self-efficacy (section 6.2.5). This result is in line with Major & Dolly (2003) who identified that a doctoral study experience is essential in the development of good scholarly habits and to grow self-efficacy. Moreover, the interviewed faculty members highlighted that their research self-efficacy could be shaped by the nature of the supervision they receive. The findings of the current study seem to agree with previous studies reports that greater supervisor availability and feedback is associated with more positive student evaluations of supervision quality (Kam, 1997; Zhao, Golde & McCormick, 2007). More importantly, the supervisory relationship is associated with greater research self-efficacy and, in turn, greater interest in research and productivity (Bishop & Bieschke, 1998; Hollingsworth & Fassinger, 2002; Kahn & Scott, 1997; Phillips & Russell, 1994). Accordingly, dissatisfaction or negative experiences with early research endeavours may increase anxiety and lead to avoidance of research-related activities and decreased research self-efficacy.

The results of the current study further revealed that experiencing less autonomy during doctoral studies diminished self-efficacy. High levels of support might in fact hinder the development of doctoral students' research and teaching self-efficacy when supervisors do not also provide the opportunity for students to explore and act upon their own ideas. Despite the fact that greater academic guidance and personal support will tend to augment self-efficacy, supervisors also should foster the development of an autonomous researcher who has confidence in their own skills and abilities. Thus, consistent with the findings of Black & Deci (2000) and Overall et al. (2011), autonomy is a fundamental element of supervision. Conversely, high levels of autonomy without appropriate academic guidance may not provide enough direct teaching of essential skills for doctoral students to become competent.

There should, therefore, be a balance between autonomy and academic guidance in supervision of advanced degree candidates.

Furthermore, the results also demonstrated that university teachers who possessed higher research self-efficacy during their PhD studies displayed stronger efforts in research and scholarly activities than did their colleagues who possessed lower levels of research self-efficacy. This finding is aligned in some respects to the results reported by Geisler (1995). The author points out that research self-efficacy appears to be a significant component in the preparation of future scholar-researchers. The research training environment – such as early involvement in research activities – can be associated with positive changes in the research attitudes of doctoral students.

In order to prepare doctoral students for academic positions, doctoral programmes are tasked with designing pedagogical environments that promote teaching, research self-efficacy, interest in research, and research knowledge. Lambie & Vaccaro (2011) argue that higher levels of research self-efficacy correlate with greater interest in research in doctoral students; how this research interest can be promoted among doctoral students is the critical question. For instance, Bard et al. (2000) suggest that faculty modelling may be important to developing and fostering doctoral students' research interests. In addition, personality characteristics also correlate with levels of research self-efficacy. For instance, doctoral students' own characteristics, such as intellectual curiosity, cognitive complexity, and introversion, have been found to be related to research interest (Bishop & Bieschke, 1998; Kahn & Scott, 1997).

7.5.1.4 Work environment

The findings of the qualitative study demonstrated that work environment affected university teachers' self-efficacy for research and teaching enormously (section 6.2.6). This included components of recognition, reward and supervisory support. The results suggested that feeling nourished and rewarded by a department for engaging in research contributes greatly to research and teaching self-efficacy. On the flip side, the absence or ambiguity of reward and recognition resulted in low research and teaching self-efficacy. This particular finding resonates with the study by Landino & Owen (1988) who found that feeling encouraged and rewarded by a department contributes to higher self-efficacy. As discussed in literature, publication may well be a predictor of future research productivity and research self-efficacy (section 3.4.1). However, Kamler (2008) points out that writing for publication only

"flourishes when it receives serious institutional attention, and skilled support from knowledgeable supervisors and others who understand academic writing as complex disciplinary and identity work" (p. 284). Indeed, research self-efficacy may grow or be undermined depending on the supports university teachers find in the workplace. If a university financially reward their research-active faculty members, and present the publication achievements by them publicly, it may influence university teachers' research self-efficacy positively.

The results of the current study also revealed that encouraging and warm attitudes of department chairs affected university teachers' self-efficacy for research and teaching in a positive way. One possible explanation is that those department chairs or supervisors who are perceived as supportive by the faculty members are also those who are concerned with reducing time pressure, who place confidence in the faculty, and who provide professional development incentives such as a teaching trainings, conference travel assistance and sabbatical leave etc. Moreover, supportive department chairs often have the power to help develop a departmental research culture by establishing incentive schemes, systems and structures to help improve research output. Additionally, good relations with and emotional support from department chairs may have the psychological effect of reducing the feeling of stress and increasing the feeling self-efficacy for research and teaching.

7.5.1.5 Interpersonal (collegial) relations

Finally, the findings of the qualitative interviews revealed that interpersonal or collegial relations affected university teachers' self-efficacy for research and teaching (section 6.2.7). The results indicated that those university teachers who spent less time working alone and who have a higher number of collaborators tend to have higher self-efficacy. As mentioned in the literature, one of the sources of efficacy is verbal or social persuasion, denoting the information that a teacher receives about her/his performance and success from others who are important in the teaching context (Bandura, 1997; Tschannen-Moran & Hoy, 2007). For this type of efficacy source to be effective, positive interactions with others in a university setting or teaching context are crucial. This may support the finding that interpersonal or collegial support contributes more to the self-efficacy. Indeed, support from colleagues is one of the ways of strengthening self-efficacy of university teachers (Hemmings, 2015). However, verbal persuasion, assessed as the interpersonal support of colleagues appears to be more pertinent for junior university teachers' than for career university teachers' self-efficacy beliefs. According to social cognitive theory, self-efficacy beliefs are most in flux

early in learning and tend to become fairly stable and resistant to change once set.

Hoy & Woolfolk (1993) argue that although environments that are warm and supportive interpersonally may make teachers to feel more satisfied with their jobs, they appear to have less effect on self-efficacy. Nevertheless, such findings might be different for a study conducted in the context of higher education where university teachers are also involved in research tasks that are more time-consuming and complex and tend to require collaboration. Collaboration or support from colleagues in various research and teaching dimensions or tasks can indeed boost university teachers' self-efficacy. For instance, sharing experiences with various research or data analysis methods, research presentations in department seminars (vicarious learning), or encouragement for dissemination of research or conference attendance (verbal persuasion) may, in fact, increase self-efficacy.

7.5.2 Environmental factors affecting job satisfaction

The qualitative findings showed that participants noted that the environmental factors affecting their job satisfaction were work environment, interpersonal relations, salary and physical conditions. The following subsections will consider each of these factors in turn.

7.5.2.1 Work environment (university climate)

The findings of the present study revealed that work environment was one of the most important factors related to university teachers' job satisfaction (section 6.3.1). According to interview results, recognition, supervisory support and taking part in decision-making were mentioned as important components of a good work environment – which might, in turn, lead to job satisfaction. Undeniably, one of the components of a work environment concerns how well faculty members perceive they are valued and recognized by their university. For instance, if a department puts great emphasis on teaching and ignores the recognition of research, university teachers perceive a negative working climate, with it comes to research activities. Consequently, this may affect their job satisfaction in a negative way. Therefore, recognition for key aspects of faculty work is significantly related to job satisfaction of university teachers. But what are the forms of validation? The results demonstrated that validation included receiving rewards as well as perceiving an adequate and equitable allocation of such resources as research support and so on. This particular finding resonates with the results of work reported by Johnsrud & Des Jarlais (1994) and Ambrose et al. (2005).

The results also revealed that department chairpersons were an important source of

supervisory support and how well a chairperson supported and interacted with faculty members was another component of a good work environment. The result is aligned with the study of Sharma & Jyoti (2009) who indicated that positive attributes and behaviour of a leader heightens the degree of satisfaction of his or her subordinates. Thus, there is a positive association between the attitude of the senior supervisor or university leader and the job satisfaction of university teachers. This association is also in line with previous research by Sharma & Jyoti (2006) who found that the mentoring approach of supervisors can increase job satisfaction. Similarly, the relationship of a faculty member with their immediate boss (Ssesanga & Garrett, 2005) and to upper-administration were cited as significant predictors of job satisfaction (Lacy & Sheehan, 1997). Moreover, good faculty and administration relations could also help to meet institutional goals. Greater personal investment by university teachers in their work, greater organizational commitment and more creative communication among faculty members, and better teaching and learning environments are therefore of benefit to the institutions.

When universities make decisions and it is clear that faculty members' opinions are neither needed nor wanted, or if there is no value placed on them, they can feel demoralized and there is, subsequently, no motivation to support administration decisions. This is an indication of the presence of job dissatisfaction, which may have negative consequences such as low productivity, voluntary absenteeism, and low job performance. The bottom line is lack of faculty "buy-in" on decision-making may lead to a lose-lose situation which is detrimental to the university. On the other hand, particularly when decisions affecting the work environment are being discussed, having one's opinion solicited and feeling that some value is placed on that opinion provides faculty members with some ownership in the resulting decision. Not surprisingly, the results of the current study revealed that participation in decision-making was considered another important component of a good work environment, which, in turn, leads to job satisfaction in higher education. This finding in the current study was supported by the work of Lacy & Sheehan (1997) who found that those things which develop a sense of community, support and appropriate levels of participation in decision making were important to university teachers' job satisfaction. However, the finding of the current study is inconsistent with Castillo & Cano (2004) who reported that the work itself is the most important factor contributing to job satisfaction, with working conditions being the least important.

7.5.2.2 Interpersonal relations

The findings of the present study revealed that interpersonal relationships were related to university teachers' job satisfaction (section 6.3.2). The result is unsurprising, since the majority of studies conducted in educational settings have identified interpersonal relationships as a source of job satisfaction for teachers. Relationships with colleagues are considered to constitute one of the most important factors influencing job satisfaction; good communication with colleagues and their support are necessary for job satisfaction, since these relationships play an important role in achieving goals at work (Luthans, 1998; Mullins, 2008). The results demonstrated that most university faculty reported a general satisfaction with their relationships in their workplace. Many of the relationships described were professional and stimulating. Those university teachers who felt they had the respect of their faculty colleagues had higher job satisfaction. The current study also found that professional and sometimes friendly relationships increased job satisfaction. The result of the present study is consistent with a qualitative study of faculty at a large university by Ambrose et al. (2005) who found that collegiality was the most frequently cited factor that influenced job satisfaction. Similarly, collegial relations were one of the important sources of university teachers' job satisfaction in Ugandan context (Ssesanga & Garrett, 2005). In the Turkish context, Baş & Ardıç (2001) reported that relationship with colleagues was among the significant factors influencing university teachers' job satisfaction. On the other hand, the present finding is inconsistent with those of Wriqi (2008) who found that that collegial relations were weakly related to job satisfaction.

Job satisfaction is very much dependent on one's views about colleagues' perceptions of oneself and one's work. The job of being a university teacher is considered to involve a great deal of autonomy over work activities. Nevertheless, such autonomous activity should not be confused with working in isolation. Rather, the job of being a university teacher involves a complex array of social relationships. Bozeman & Gaughan (2011) suggest that faculty members tend to be satisfied if they have the respect of their co-workers. Collegial relationships are also a mechanism of building networking capability for faculty members (Hagedorn, 1996). Lack of team spirit and collegial interrelationships may lead to job dissatisfaction (Sharma & Jyoti, 2005).

7.5.2.3 Salary

As mentioned in the literature review, researchers have published mixed and inconsistent findings concerning the influence of salary on satisfaction at work: some have found it to be

a satisfier and others a dissatisfier. The findings of the qualitative results demonstrated that salary was one of the important factors related to university teachers' job satisfaction or dissatisfaction (section 6.3.3). This was consistent with previous studies (Truell et al., 1998; Lane et al., 2010; Bender & Heywood, 2006), which demonstrated that salary was one of the important factors associated with job satisfaction. The results of the current study revealed that those university teachers with higher earnings reported greater job satisfaction. Particularly, the results are in line with those of Ambrose et al. (2005) who reported adequate salary as one of the important source of job satisfaction in their qualitative study of university faculty. Similarly, university faculty with higher salary showed higher job satisfaction compared to those with lower salaries in Malaysian context (Noordin & Jussoff, 2009). In Turkish university context, Baş & Ardıç (2001) reported that salary affected university teachers' job satisfaction. In Ugandan faculty context, the most frequently mentioned factors contributing to job dissatisfaction were inadequate and irregular salary (Ssesanga & Garrett, 2005).

Undeniably, salaries facilitate one's ability to show up for a job, and faculty salaries may directly contribute to the job that university teachers are doing through providing personal ability to support one's research activities, and therefore, have the effect of raising job satisfaction. In other words, to ignore salary is to ignore university teachers' feelings of satisfaction and productivity. However, is it the actual amount of pay that is determinative or pay relative to one's colleagues or peers? Or is it the relationship of pay to expected pay or the pay one feels one deserves? Most likely, the perception of being paid what one is worth predicts job satisfaction. Bozeman & Gaughan (2011) suggest that faculty members tend to be satisfied with their job if they feel their pay reflects their market value. From an administrative perspective, salaries have the advantage of relative concreteness compared to the other factors in the motivational context surrounding university faculty. Salaries' potential as a lever for changing faculty behaviour is significant (Hearn, 1999). Nevertheless, that a high salary always contributes to university teachers' job satisfaction is arguable.

7.5.2.4 Physical condition

Proper physical environment makes the job comfortable. Overall, university teachers felt their physical working environment was conducive to their job. The results demonstrated that only a few faculty members were unhappy with physical conditions of their universities (limited office spaces, poor library facilities, etc.) (section 6.3.4). These results are somewhat aligned with the study of Egbule (2003) who in Nigerian universities found that good

physical working conditions were a reason for the faculty to be satisfied with their jobs. On the other hand, the results of that study contradict earlier research by Sharma & Jyoti (2009), who reported that physical environment is not a predictor of job satisfaction.

7.6 The relationship of self-efficacy to job satisfaction

This section addresses the fifth research question: *"Is there a relationship between self-efficacy and job satisfaction among university teachers?"* In the current study, correlations between job satisfaction and all of the teaching and research self-efficacy subscales were found to be, respectively, more strongly and less strongly correlated (see table 5.13). No prior research appears to have yet investigated the relationship between self-efficacy and satisfaction in higher education settings. However, the results of the present study strongly support the conclusions reported by previous studies in primary and secondary school contexts (Caprara et al., 1999; 2003; Malinen & Savolainen, 2016; Federici & Skaalvik, 2012; Avanzi et al., 2013). Those studies reported that self-efficacy beliefs exert an influence on teachers' job satisfaction, both directly and indirectly. Thus, the findings of the present study are novel in that it extended the relationship of self-efficacy beliefs to the aspect of university teachers' job satisfaction, a relationship that had received little or no attention thus far at the level of higher education.

In other words, university teachers' job satisfaction can also be considered as an important outcome of their self-efficacy beliefs and predicts higher job satisfaction. Some of these insights were noted by Moè et al. (2010). In their study, they mentioned that job satisfaction depends on positive affect and on self-efficacy beliefs. Teachers who teach well have a high self-concept and consequently expect to achieve high levels of satisfaction from their job. For those who lack self-efficacy or positive affect (the better one teaches the more positive emotions one can expect to feel) the relationship can turn negative. This finding is also supported by Klassen et al. (2009) who reported that teachers who feel more efficacious in their job are more satisfied.

In school (vs. university) contexts, research studies show that a positive work environment, autonomy, and feelings of self-efficacy are all predictive of teachers' job satisfaction (Badri et al., 2013; Caprara et al., 2003; Klassen et al., 2010; Lent et al., 2011; Skaalvik & Skaalvik, 2009; 2014). Similarly, in university settings, the results of the current study demonstrated that two of the environmental factors; work environment and collegial relations also predicted university teachers' self-efficacy as well as their job satisfaction. Further research

needs to examine the relationship between environmental factors affecting university teachers' self-efficacy and job satisfaction. For instance, in this study, students' achievement was mentioned as of the factors influencing university teachers' self-efficacy. Previous research studies have shown that most faculty members tend to receive much of their job satisfaction from various student interactions and experiences (Hagedorn, 1996; Kuh & Hu, 2001).

7.7 Cross-national comparison

One of the objectives of this study was to identify major similarities and differences between two countries. This section addresses the last research question*: "What are the main similarities and differences in terms of research and teaching self-efficacy and job satisfaction amongst university teachers in Azerbaijan and Turkey?* The following subsections will consider major similarities and differences in a cross-national context.

7.7.1 Similarities between Azerbaijan and Turkey

The results of the quantitative study demonstrated that there was no significant difference between Azerbaijan and Turkey with regards to teaching self-efficacy (section 5.10.2). This result was also supported by qualitative interviews where all fourteen university teachers expressed the same level of teaching self-efficacy despite differences in national contexts and environmental factors. One possible explanation for this finding could be that as suggested by Bandura (1997) it is likely easier to become involved in teaching, a more immediately manageable and gratifying experience, than in research, a more complex, long-term activity. Of the few studies that have compared teachers' self-efficacy internationally, however, some found comparatively low average scores for teachers in East Asian sites, such as Taiwan (Lin et al., 2002), Singapore (Klassen et al., 2009), and Hong Kong (Ho & Hau, 2004), which was not in a higher education context.

Furthermore, the study found that university teachers' self-efficacy was related to their job satisfaction in both countries. The result is somewhat consistent with the study of Klassen et al. (2009) who found similar cross-national patterns of correlations between teacher self-efficacy and job satisfaction in a sample of 1212 elementary/middle school and secondary school teachers in five countries: Canada, Cyprus, Korea, Singapore, and the United States.

7.7.2 Differences between Azerbaijan and Turkey

The results of the quantitative findings indicated that Azerbaijani university teachers' self-efficacy for research was lower than their counterparts in Turkey (section 5.10.2). This was

also supported by the qualitative findings where some Azerbaijani university teachers expressed low self-efficacy for research (section 6.2). There might be several reasons for this. First of all, the nature of doctoral education still retains the soviet characteristics. For instance, in doctoral education in Azerbaijan, the supervisor-student relationship is very hierarchal due to historical (being a part of the Soviet education) and as well as cultural reasons. As a result, from the outset, it negatively affects the development of self-efficacy for research and teaching among doctoral students. Moreover, the Azerbaijani education system, in general, still maintains the legacy of Soviet style education. The separation of research from higher education was an established structural design of Soviet higher education. During Soviet times, the National Academy of Sciences was the key authority carrying out research projects. Even today, the majority of older university teachers still complain that research is the responsibility of the National Academy of Sciences but not of universities, and they find it difficult to balance their teaching and research duties. In 2016 the Azerbaijani government passed a Law on "Science" with the aim of stimulating and supporting research initiatives in the country. However, whether there are enough capable university teachers who can meet the standards of modern research methodologies and publish in peer-reviewed journals worldwide is the critical question. The majority of older university faculty are no longer involved in research. Junior faculty members who have studied for their doctoral degrees in local universities do not have the necessary research skills or knowledge base to conduct empirical research and disseminate their findings internationally. The Azerbaijani government introduced a "State programme on education of Azerbaijani youth abroad for 2007-2015" through which students received funding to pursue doctoral level education internationally. However, unlike in Turkey, in Azerbaijan there are no clear mechanisms or indications of how and where those internationally educated graduate students can engage and share their internationally acquired knowledge and research skills. As a result, when the lack of mechanism for sharing their research and knowledge is combined with the very low university teacher salaries, there are no incentives for graduates who received funding to study under this programme to return to Azerbaijan to work as university teachers in academia.

Another element that may affect differences found between Turkish and Azerbaijani faculty in research could be that most higher education institutions in Azerbaijan are teaching-led and they tend to value teaching over research. The qualitative results revealed that the majority of university teachers in Azerbaijan mentioned their teaching loads as one of the

main barriers to their research activities (section 6.4). Exacerbating the problem of teaching load is that due to low salaries university teachers often work in more than one university. The time involved in working at several different universities hinders their research productivity – a predictor of research self-efficacy. Bandura (1997, p. 464) argue that research "requires considerable creativity, staying power ... (and) ... researchers must proceed on a strong sense of personal efficacy that their efforts will eventually prove successful". Faculty research productivity is not considered as factor in in-country higher education university rankings and, likely as a result, not a single Azerbaijani university is represented in world ranking lists. International rankings concentrate mainly on research outcomes of leading research universities; the quality of teaching plays a minor role in such rankings (Berndtson, 2013). By contrast, a number of universities in Turkey, such as Middle East Technical University, Koc University, Hacettepe University etc., appear in world-rankings. Moreover, funds supporting research are very limited in Azerbaijan when compared to Turkey, with the result that obtaining the required equipment for higher education research and teaching is sometimes difficult.

The qualitative findings of the current study indicated that in Turkey university teachers receive relatively high salaries compared with their counterparts in Azerbaijan. However, perception of salary level as well as research resource adequacy is relative, and so the relatively higher salaries in Turkey have not always led to higher job satisfaction for those faculty. This is seen in a study by Kiziltepe (2008) who reported that low salaries and not having much opportunity to do research among the factors contributing to university teachers' demotivation in Turkey.

Recently, the Turkish government increased the salary of university teachers in order to attract and retain talented people in academia. In Azerbaijan, salaries and other material aspects of university environment and research support are similarly determined by the economic and political policies of the government. However, in Azerbaijan, still a developing country when compared to Turkey, the government has not chosen or, perhaps, been able, to make the same investments as has the Turkish government. The rather low satisfaction level from salary and physical conditions from the Azerbaijani participants is thus perhaps not surprising in a developing country like Azerbaijan, where financial and economic resources are limited. It is difficult to improve the salary levels for university teachers in Azerbaijan and this causes some difficulties in attracting and keeping qualified

people at the higher educational institutions. Lack of English language proficiency and limited access to international research databases and journals can be considered another obstacle for research productivity and research confidence in Azerbaijan.

The common challenge in terms of research was that in most cases, university teachers in both countries conduct their research in isolation from colleagues; very few of even have a research assistant to help them with their work. Opportunities to work collaboratively with or alongside more experienced colleagues in established communities of research practitioners were somewhat limited in both countries. This finding is supported by Kiziltepe (2008) in the Turkish university context. Grbich (1998) claims that a supportive and stable environment affording opportunities for collaborative research contributes to research productivity. Neither internal nor external research networks have yet fully developed and matured in either country, which affects university teachers' self-efficacy for research in a negative way.

Furthermore, although research self-efficacy was higher in Turkey, the quantitative finding indicated that the level of job satisfaction was slightly lower in Turkey when compared to Azerbaijan. One of the essential reasons for this could be due to the recent political situation in Turkey and corresponding political pressure experienced within universities. The Turkish authorities have recently taken a range of actions against the members of the higher education community, allegedly intended to identify and dismiss university faculty thought to be involved with the 2016 coup attempt, and to eliminate what the government perceives as the Gulen movement's influence within several Turkish institutions (section 2.3.2). As a result, fifteen Turkish universities were recently shut down. The government and university administrations have also intervened in faculty affairs, seeking to prevent university faculty from carrying out research or attending conferences on issues deemed critical of the current government. Undoubtedly, all these actions threaten the academic freedom, reputation and autonomy of Turkey's higher education institutions.

The critical question is: what was the level of autonomy of Turkish universities before the coup attempt in 2016? It is worthy to note that all these attacks on faculty and universities have been taking place within a university system which has already been centralized and hierarchically regulated by the government, mainly by way of the Higher Education Law (HE law) and the Council of Higher Education (CoHE), which were established in 1981 after the military coup in 1980. The CoHE had already restricted the autonomy of universities

substantially by establishing the powers to control them.

Despite recent events in Turkey, the autonomy of universities in Azerbaijan cannot be said to be in better shape when compared to Turkey. As mentioned earlier, both public and private universities in Azerbaijan are controlled by the Ministry of Education and the role of government still remains crucial for the development of higher education sector. However, since Azerbaijan was the part of the Soviet Union for almost 70 years, the notion of "autonomy" or "academic freedom" can be perceived a little bit differently than it might be in the Turkish context, where faculty have recently experienced a significant shift in these areas. Most university teachers in Azerbaijan, especially older ones habituated to a highly regulated system under the Soviet system, may not see limited academic freedom or autonomy as a barrier to their job satisfaction.

Despite their dissatisfaction with low salaries, physical facilities and their work environment, the qualitative interviews show that Azerbaijani university teachers were overall more satisfied with their jobs when compared to their Turkish counterparts. Another possible explanation might be that job satisfaction for Azerbaijani teachers may relate more to intrinsic aspects of their positions. That is, a key reason for their job satisfaction might be their positive feeling towards teaching profession itself. Nevertheless, they are less happy with the extrinsic aspects of their positions when compared to their Turkish colleagues. Importantly, some inconsistencies found between the quantitative and qualitative findings on job satisfaction may simply be attributed to the difference in sample sizes between the two phases**.**

7.8 Chapter summary

This chapter has discussed the quantitative and qualitative results presented in Chapters Five and Six, systematically addressing the research questions. Both the quantitative and qualitative results revealed that university teachers' teaching self-efficacy levels were higher than their levels of research self-efficacy. Academic qualification, experience, and age were the demographic variables associated with university teachers' self-efficacy and job satisfaction. In addition, with regards to demographic variables, there were statistically significant differences in research self-efficacy and job satisfaction among university teachers based on their experience and qualification levels. However, gender was not statistically significantly related to either research and teaching self-efficacy or job satisfaction. The environmental factors affecting university teachers' self-efficacy for

research and teaching were student feedback and achievement, workload, doctoral programme experience (PhD supervision), work environment, and interpersonal relations. The most frequently mentioned environmental factors influencing university teachers' job satisfaction were work environment, interpersonal relations, salary, and physical condition.

Universities with excellent working environments and excellent co-workers are more likely to have faculty members who were highly efficacious and more satisfied with their job. In addition, job satisfaction was related to teaching and research self-efficacy in university settings.

The findings also demonstrated that due to various environmental, historical and social factors, Azerbaijani university teachers' research self-efficacy was low when compared to their Turkish counterparts. However, there was no difference in the levels of teaching self-efficacy among university teachers in Azerbaijan and Turkey. The levels of job satisfaction were slightly higher in Azerbaijan compared to Turkey.

The next chapter, which concludes the thesis, will offer suggestions as to how the university administration in both countries might address the issues raised by this study to enhance university teachers' self-efficacy and job satisfaction.

Chapter Eight

Conclusion and Recommendations

8.1 Introduction

The current study has investigated self-efficacy and job satisfaction among university teachers in Azerbaijan and Turkey with a number of aims: to determine their overall level of self-efficacy for research and teaching, to identify demographic and environmental factors that might influence their self-efficacy and job satisfaction, to determine whether self-efficacy and job satisfaction vary according to demographic variables such as gender, experience and academic qualification, to establish whether there is any relationship between self-efficacy and job satisfaction, and finally, to make a cross-national comparison to discover any major similarities and/or differences between the two countries. This chapter summarizes the main findings, discussed in Chapter Seven, draws general conclusions, outlines the contribution of this research to knowledge in this area, offers some recommendations for university managements to enhance university teachers' self-efficacy and job satisfaction in Azerbaijan and Turkey, discusses the limitations of the study and makes suggestions for future research.

8.2 Summary of Findings

The findings summarized here are drawn from the quantitative data gathered during the first phase of the study, when total 528 university teachers in Azerbaijan (n = 205) and Turkey (n = 323) completed a questionnaire survey, and a subsequent qualitative phase, comprised of semi-structured interviews with 14 of the participant university teachers. Both instruments were piloted and tested to ensure their face validity and reliability. The response rate for the survey was 51.2 % in Azerbaijan and 64.6% in Turkey. Eight composite scores (subscales) were used to reduce the large number of variables represented by 49 questionnaire items on research (literature and writing, data collection and analysis, leading, supervising, disseminating) and teaching self-efficacy (lecture and instruction, course planning, and assessment). The quantitative findings showed that overall level of teaching self-efficacy was higher than overall level of research self-efficacy amongst university teachers. The qualitative findings supported this result, with teaching self-efficacy being

higher than research self-efficacy. The questionnaire data indicated that age, academic qualification and experience were all associated with university teachers' research self-efficacy and job satisfaction. Age and experience were strongly correlated. However, three of the teaching self-efficacy subscales, only the course planning subscale of teaching self-efficacy was significantly associated with any variable – and that was with experience. Of note, academic qualification was not a predictor of teaching self-efficacy. Like the quantitative findings, the qualitative findings similarly indicated that university teachers' self-efficacy changed over a period of time and qualification related to their research self-efficacy.

Furthermore, the interview data demonstrated that environmental factors affected university teachers' self-efficacy for research and teaching, and job satisfaction. University teachers' self-efficacy for research and teaching were related to their job satisfaction. As one of the objectives of the current study was to make cross-national comparison between Azerbaijan and Turkey, the study found some major similarities and differences between the two countries. The next five subsections consider these findings briefly.

8.2.1 The effect of demographic variables

As to variation related to demographic variables, experience had a significant effect on university teachers' research self-efficacy and job satisfaction. University teachers with 16 years or more experience had more self-efficacy for research than those with 0-7 and 8-15 years of experience. However, there was not a significant difference between university teachers with 0-7 and 8-15 years of experience with regards to research self-efficacy. University teachers with more than 16 years and of more experience were more satisfied with their job when compared to the other two groups with 0-7 and 8-15 years of experience.

Statistically significant differences were also found in university teachers' research self-efficacy and job satisfaction according to their level of academic qualification. Those holding PhD degrees were found to have higher research self-efficacy than their peers who were PhD candidates. Interestingly, university teachers with MAs have higher research self-efficacy than their PhD candidate colleagues. Those with MAs also were more satisfied with their jobs compared to the other two groups. The job satisfaction level of PhDs and PhD candidates did not differ. Research and teaching self-efficacy and job satisfaction were not

significantly affected by gender. Finally, experience and qualification did not demonstrate any significant effect on teaching self-efficacy.

8.2.2 Environmental factors affecting self-efficacy

The qualitative results revealed that environmental factors affected university teachers' self-efficacy. Student achievement and feedback appeared to influence university teachers' self-efficacy for teaching both positively and slightly negatively, while in interviews, university teachers were mostly dissatisfied with their students' motivation and achievement. They considered low student achievement and negative feedback from students as a major environmental factor affecting their self-efficacy for teaching. Interestingly, the results also demonstrated that university teachers' previous doctoral programme experiences (PhD supervision) played an abundant role in the development of their initial self-efficacy beliefs for research and teaching, and later its fulfilment when they started their career as a university faculty. The participants who had less autonomy and less supportive supervisor during their doctoral studies expressed lower self-efficacy whereas university teachers who had positive and balanced supervisory support and academic guidance expressed higher self-efficacy both for research and teaching.

Participants reported that their workload – with regards to their assigned teaching tasks – influenced their self-efficacy for research negatively. Similarly, university teachers were also not happy with having to do organizational and administrative tasks, which they considered unrelated to their teaching and research tasks. They consider this workload of teaching and administrative tasks as a central obstacle to their research output and sense of self-efficacy.

Work environment (university climate) was another significant factor, primarily influencing university teachers' self-efficacy for research and teaching. The most commonly cited elements of the work environment were reward, recognition and support from department chairs or supervisors. Those university teachers who received recognition or reward for their research or teaching were more motivated and felt high self-efficacy, whereas those receiving no recognition or encouragement from the university management were demoralized and felt low self-efficacy for research and teaching.

Finally, interpersonal relations were found to influence university teachers' self-efficacy for research and teaching. Most university teachers remarked upon their collegial relations as positive, supportive and encouraging – and that this in turn boosted their self-efficacy.

8.2.3 Environmental factors affecting job satisfaction

A high-quality university faculty is the cornerstone of a successful educational system. An understanding of environmental factors affecting the job satisfaction of university teachers is therefore of utmost importance for the implementation of a successful and innovative educational system. The qualitative findings of the present study revealed that work environment, interpersonal relations, salary and the physical conditions or facilities of the workplace were environmental factors that all affected university teachers' job satisfaction.

The results clearly showed that the work environment (university climate) affected job satisfaction. Recognition, supervisory support and participation in decision-making were found to be the important components of a work environment. University teachers complained that not getting recognition for their accomplishments lead to their job dissatisfaction. Moreover, lack of involvement in university decision-making and poor support from department chairs (supervisors) affected university teachers' job satisfaction negatively.

The interview data demonstrated that interpersonal relations also influenced job satisfaction. On the whole, university teachers considered their colleagues to be supportive and cooperative, ready to help each other and to work as a team, and felt that they exhibited mutual respect. The importance of this factor in this context was not surprising, since Azerbaijani and Turkish societies are collectivist and university teachers would be expected to give priority to interpersonal relationships at work when reflecting on their job satisfaction.

The salary was another factor contributing to university teachers' job satisfaction. Qualitative findings suggested that university teachers who considered their pay adequate or moderate were more satisfied with their job as compared to those who were not happy with their pay. Finally, the physical conditions under which they worked appeared to influence university teachers' job satisfaction. Some university teachers complained

specifically, that poor facilities such as labs, libraries etc., affect their job satisfaction negatively.

8.2.4 Relationship between self-efficacy and job satisfaction

The quantitative findings revealed a correlation between university teachers' self-efficacy for research and teaching, and job satisfaction. The questionnaire findings of the study were also somewhat supported by the qualitative data. The qualitative results indicated that work environment and interpersonal relations were the environmental factors predicting both university teachers' self-efficacy and as well as job satisfaction.

8.2.5 Similarities and differences between Azerbaijan and Turkey

Both quantitative and qualitative findings demonstrated that university teachers in Turkey have higher research self-efficacy compared to their Azerbaijani counterparts. The levels of teaching self-efficacy did not differ between Azerbaijan and Turkey. Moreover, the quantitative data indicated that Azerbaijani university teachers were more satisfied with their jobs compared to their Turkish counterparts. Experience was related to research self-efficacy and job satisfaction for both country groups. Moreover, there was a relation between self-efficacy and job satisfaction in both countries. With regards to environmental factors, the nature of related environmental factors was the same in both countries, with the two exceptions of salary and workload. In Turkey, adequate salary was mentioned as a factor affecting job satisfaction positively, whereas in Azerbaijan low pay or irregular salary was highlighted as a factor affecting university teachers' job satisfaction negatively. In addition, the interview data revealed that the nature of the workload factors affecting self-efficacy was somewhat different in two countries. In the Azerbaijani context, teaching workload was felt to be the main obstacle for research self-efficacy, whereas in Turkey, university faculty complained mainly about their administrative workload.

8.3 General Conclusions

This study has investigated self-efficacy for research and teaching and its relationship with job satisfaction among university teachers. As discussed in Chapter Three, there is no consensus amongst researchers on defining these complex concepts, whose understanding is complicated by the many different variables that may directly or indirectly influence them. Indeed, many authors have concluded that self-efficacy and job satisfaction are

multidimensional concepts which can be seen as a dynamic paradigm influenced by a number of factors, including demographic and environmental factors.

The variation in findings among studies of university teachers' self-efficacy and job satisfaction reported in the literature may be partly explained by this conceptual complexity, partly by differences in definitions and measurements, partly by the range of quantitative, qualitative and mixed research methods and partly by the use of different sample sizes. In addition to these theoretical and methodological factors, other potentially relevant variables include the cultural or national determinants of the settings.

A final point worth highlighting is that this study has attempted to build its theoretical and methodological framework on other studies while taking the specific Azerbaijani and Turkish contexts into consideration. Therefore, it was essential to focus on both cross-national values and socio-economics, making it important to use both quantitative and qualitative methods to address the research questions fully and empirically.

8.4 Contribution to Knowledge

The current study makes a significant contribution to knowledge regarding self-efficacy for research and teaching, and as well as job satisfaction among university teachers, not only in the context of Azerbaijan and Turkey but at the international level. Taken all together, the findings from this study have significantly and usefully contributed to, and extended the literature related to self-efficacy in higher education. For instance, the results demonstrate that not only demographic but also environmental factors impact self-efficacy and job satisfaction in higher education settings. This kind of evidence supports the argument that workplace circumstances exist that can be altered to better support the development and improvement of both job satisfaction and self-efficacy for university faculty. While this study has built on reports in the literature of previous studies of university teachers' self-efficacy and job satisfaction, this study distinguishes itself from these earlier ones not only by its focus on a combination of demographic and environmental factors but also by discovering a relationship between university teachers' self-efficacy and their job satisfaction. More specifically, the present findings may further elucidate the paths through which self-efficacy beliefs influence job satisfaction and can suggest directions for interventions aimed at improving university effectiveness. In addition, the findings can help

in the planning of effective professional training designed to increase job satisfaction, with particular emphasis on self-efficacy beliefs.

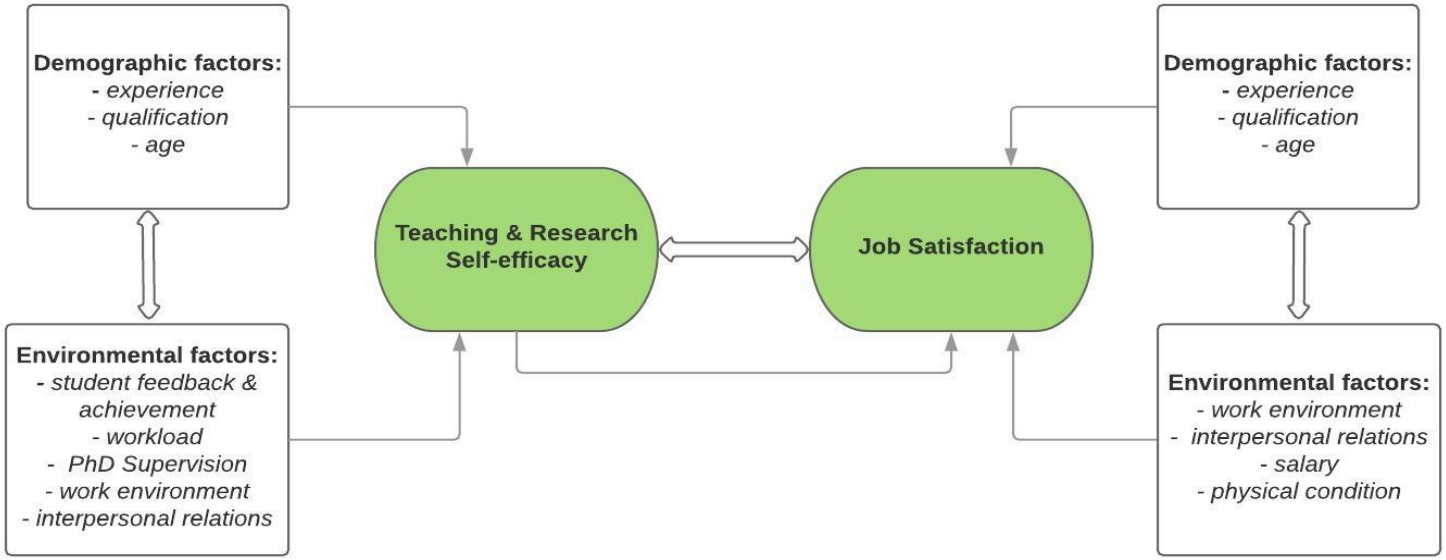
Furthermore, most published studies of self-efficacy and job satisfaction have been conducted in Western countries, such as the USA (e.g., Perrachione et al., 2008), Australia (e.g., Dinham & Scott, 1996) and the UK (e.g., Crossman & Harris, 2006; Klassen & Anderson, 2009). No studies in Azerbaijan and Turkey have examined both self-efficacy for research and teaching, and job satisfaction in university settings. Thus, by providing evidence of demographic and environmental factors affecting self-efficacy for research and teaching, and finding a strong relationship between university teachers' self-efficacy and job satisfaction, the present study makes an original contribution to the body of knowledge at the international level, as well as filling a gap in the literature regarding such studies in non-Western countries.

8.5 Conceptual Framework

This section presents the conceptual framework derived from the study findings. Figure 8.1 shows that university teachers' self-efficacy and job satisfaction has two dimensions and is affected by several factors and variables. These factors were identified from the questionnaire and interview results, many having been derived from the reviewed literature and adapted to the present context.

The two dimensions of the framework are demographics and environmental factors, which are interrelated. The first dimension was comprised of three demographic variables: academic qualification, experience and age. The demographic factors are the same for self-efficacy and job satisfaction. The second dimension of self-efficacy consists of environmental factors, such as student feedback and achievement, workload, PhD supervision, work environment and interpersonal relations. The second dimension of job satisfaction consists of environmental factors such as work environment, interpersonal relations, salary and physical conditions, the interaction of which reflects the nature of job satisfaction as a multidimensional construct. Two of the environmental factors (work environment and interpersonal relations) connect or overlap with each other in self-efficacy and job satisfaction. The first arrow in Figure 8.1 indicates a significant relationship between research and teaching self-efficacy and job satisfaction.

Figure 8.1
Conceptual framework for the study



The second arrow points to job satisfaction as an outcome of research and teaching self-efficacy in higher education settings. The latter result suggests that if self-efficacy is achieved it may lead to increased job satisfaction among university teacher.

8.6 Limitations of the study

Notwithstanding the researcher's attempts to follow valid and reliable research procedures, using mixed methods to gather data from a large sample with a relatively high response rate, like other empirical studies, this study had some limitations. Since the data was collected by the convenience sampling method it cannot be generalised to all parts of Turkey and Azerbaijan. The geography of Azerbaijan and Turkey would have made it difficult for the researcher to target a population representative of the whole country affordably and in the limited time of approximately three months available for field study. Therefore, it was necessary to limit the study to higher educational institutions in a single area of Azerbaijan – Baku – where the majority of universities are located and to several cities in Turkey. While the sample was large enough to be considered representative of the target area, the results cannot be generalised to all parts Azerbaijan and Turkey. In particular, this study was not able to collect data from faculty in other smaller towns and rural areas of Azerbaijan; this far flung survey work would have been very difficult to undertake in the study for the abovementioned reasons of cost and distance. Nonetheless, because the national education system is centralized in both Turkey and Azerbaijan, the results may, cautiously, be generalised to other cities. All sectors of education are under the control and supervision of the government agencies, and, thus, university teachers in these cities are likely to work under broadly the same conditions in both countries.

8.7 Implications for practice

Developing an understanding as to how university teachers assess their skills and abilities in performing research and teaching related tasks will be of great interest to policy makers employed in higher education sector. Study of self-efficacy and job satisfaction may help university management and as well as university faculty to better develop the quality of higher education. The results of the study can guide university management to understand the specific demands faced by university teachers related to self-efficacy for research and teaching, and job satisfaction, both demographic and environmental factors. This information can help university management to increase the level of self-efficacy and job satisfaction among their university faculty. This study may therefore have considerable implications for university management in Azerbaijan and Turkey. On the

basis of the findings, the following detailed policy recommendations are made in the hope that they may assist university management in both countries to improve research and teaching self-efficacy as well as job satisfaction, the latter itself being a key contributor to self-efficacy.

8.7.1 University teachers' workload

The findings of the study showed that university teachers perceived their teaching and administrative workloads as major barriers to their research productivity and research self-efficacy. It is recommended that university managements initiate comprehensive reviews of faculty workloads with the goal of seeking creative and innovative solutions to workload challenges that might promote more sustained research activity without compromising teaching quality. Supporting university faculty to find an appropriate balance between their three primary task areas – research, teaching and administrative or service work – may help lead to increased satisfaction with their jobs and in turn, to higher institutional effectiveness and productivity.

8.7.2 Research development trainings and programmes

The findings of the study demonstrated that university teachers' previous doctoral study experiences (PhD supervision) affected their self-efficacy. The study, first, recommends that educational authorities review both the current structure and the content of doctoral programmes. In addition to re-thinking the hierarchical structure and support mechanisms, courses or specific modules focusing on quantitative and qualitative research methods are necessary for building research knowledge.

Given the clear link between self-efficacy for research and research output, and the current imperative within the higher education sector to ratchet up research performance, it is vital that any research development programme targeting research skills emphasise self-efficacy. Moreover, these programmes need to be based on three key features clearly aligned with self-efficacy: suitably trained university faculty to provide valuable modelling, timely and constructive feedback, and experiences which lead to task mastery. In other words, it is recommended that, where resources allow, university management identify and develop more formal networks of research mentors, role models, and common interest groups internally. Networks of like-minded faculty members seems a useful and popular way to generate research ideas and build university teachers' confidence to work on research projects based on those ideas. Moreover, embedding research in continuing professional development courses where examples of best disciplinary practices and their particular applications in research can be disseminated and shared. These activities help to reduce isolation and loneliness and may be especially

important to allow young university faculty to promote themselves and test their ideas. In addition, it is recommended that developing writing self-confidence be a prominent aspect of research development programmes designed primarily for early career university faculty and those needing some renewal. Specifically, a stronger focus on research writing skills for the international academic audience will be required. Supporting academic writing may improve the quality, quantity and level of measurable research output, and help bring significant work with demonstrable impacts to the attention of national and international audiences.

8.7.3 Organizational climate survey

The findings of the study indicated that the working environment or university climate was an important predictor of both university teachers' self-efficacy and job satisfaction. It seems clear that a supportive organizational climate or culture can boost self-efficacy for research and teaching, and increase job satisfaction levels. This suggests that, for many universities, the proper administration of an organizational climate survey may provide valuable information that can be used to guide and increase its success. Specifically, in light of this study, consideration of the results of properly administered organizational climate surveys may allow university management to be more proactive in managing the university faculty workloads and work environment. When used on a scheduled basis, organizational climate surveys can help pinpoint problems areas within the work environment that can be addressed thoughtfully before they grow into crises that must be reacted to in the moment.

To be a world class university, the university needs to have confident and motivated university teachers that are dedicated, competent, knowledgeable, and above all committed to the university and their careers. All these positive attributes may eventually diminish if these same university teachers perceive that they are not satisfied with their university positions. Hence, it is strongly recommended that universities in Azerbaijan and Turkey should consider implementing a regularly scheduled university-wide organizational climate survey to gather and analyse data critical to guiding and increasing the success of efforts to achieve a world class university in the future. To this end, it is essential that universities that choose to implement such a survey must be prepared to see the value in and respond to both positive and negative results, and to use the results to work with the university faculty to make improvements in the work environment. Indeed, given this study's findings on the importance to faculty of being included in decision-making efforts, any failure to respond in good faith to university teachers'

feedback may ultimately increase the number of problems and negative repercussions experienced within that university.

8.7.4 Reward and recognition system

A further priority is the need to re-evaluate faculty reward systems. In recognition of faculty need for job satisfaction, such systems must be both maintained and continually reviewed and updated. University managers should evaluate the reward system in light of the many contemporary changes taking place in higher education to determine if the current reward systems are meeting the needs of faculty members. To enhance the context in which faculty members are supervised, funds should be sought and secured to provide leadership development opportunities for department chairs. Moreover, policies aiming at improving job satisfaction should ensure that university management involve university teachers in major policy and university decisions. University faculty should be given the opportunity to offer input in policy-and-decision-making – and also know that their feedback will be respected. The increased communication that follows such exchanges will foster mutual trust and respect between university teachers and university management.

8.7.5 Resources and facilities

The findings of the study also showed that several university teachers were not happy with the physical conditions of their workplaces and the resources provided. University management can play an important role in the creation of job satisfaction by identifying the factors that cause low job satisfaction and dissatisfaction and using these data to identify ways to improve. Addressing areas of teacher job dissatisfaction is crucial because job satisfaction has significant impact on university teachers' commitment, job performance, and as well as self-efficacy for research and teaching. Resources and the support to use them, including labs, facilities, equipment, library, and grant funding services provided by the department and the institution, are among the many improvements the institution can make to attract, retain and grow quality university faculty.

8.8 Suggestion for future study

The current study used both quantitative and qualitative research methods to investigate university teachers' self-efficacy for research and teaching and the relationship of these self-efficacies with their job satisfaction, yielding valid and reliable results. Based on the study's findings and conclusions, a number of suggestions can be made for other researchers who wish to investigate self-efficacy and job satisfaction, particularly in the

higher education settings. Constraints in domains such as culture, time and resources have meant that the study has not addressed a number of important issues that it is recommended future researchers investigate.

Self-efficacy expectations are dynamic, meaning that they can change over time. The present study sampled university teachers at only one "snapshot" in time, which limits the researcher's ability to track changes in teaching and research self-efficacy throughout academic year. A longitudinal examination of teaching and research self-efficacy could provide valuable information about the nature of these variables over time, which would allow university management to design more appropriate interventions and strategies to address university teachers' self-efficacy expectations.

Furthermore, for some universities, the prioritization of research activity over teaching or vice versa profoundly influences and shapes the identities and career trajectories of many individuals working within them. A next crucial step would be to conduct a similar study comparing universities or colleges that explicitly focus on either teaching or research. Comparison of such environments with acknowledged and differing emphases, may reveal greater variation in university teachers' efficacy for research and teaching.

In addition, this study has been based upon university teachers' self-reports of their sense of teaching efficacy rather than upon their actual teaching efficacy. Based on social cognitive theory, the latter can be inferred from the former or vice versa (Bandura, 1997). However, Brown & Bakhtar (1988) maintained that teachers' self-reports might not match their real teaching behaviour. In other words, what university teachers believe to be their capabilities in some dimensions of teaching might be at variance with their actual abilities and practices. The link between university teachers' conceptions of self-efficacy and their teaching practices could be confirmed in future studies by direct observation.

Last, but not least, future studies of university teachers' self-efficacy and job satisfaction could take into consideration other potentially related demographics such as rank, marital status, or type of a university (public or private), which might provide a useful comparison to the findings of previous studies.

Appendices

Appendix A: Questionnaire

Appendix B: Interview schedule

Appendix C: Participant information sheet and consent form

Appendix A: Questionnaire

University Teachers' self-efficacy
QUESTIONAIRRE

SECTION 1:

1.1 Gender:

Male Female

1.2 Your age:

1.3 What is your highest qualification?

Doctoral Masters Other (Specify): _____

1.4 How many years have you been employed as a university teacher? _____ year (s)

SECTION 2:

Two key aspects of your work are considered in this section: research and teaching. You are asked to note how confident you are in performing the following work-related tasks on the scale *0 = Not at all confident* to *9 = Completely confident.*

How confident are you?

RESEARCH (R) *Not confident at all* ⟷ **Completely confident**

0 **9**

2.1 Keeping up to date with research literature
2.2 Generating research ideas
2.3 Reviewing literature for a research project
2.4 Designing research
2.5 Conducting pilot studies
2.6 Collecting data
2.7 Using computer software
2.8 Analysing research results
2.9 Leading research projects
2.10 Collaborating with colleagues about research
2.11 Working with research assistants
2.12 Delivering research findings at staff seminars
2.13 Presenting research papers in other departments and universities
2.14 Preparing conference papers
2.15 Attending local conferences
2.16 Attending international conferences
2.17 Delivering papers at local conferences
2.18 Delivering papers at international conferences
2.19 Writing journal articles
2.20 Writing research-based books
2.21 Writing textbooks
2.22 Reviewing journal articles
2.23 Reviewing books
2.24 Examining theses
2.25 Supervising students' research projects
2.26 Supervising postgraduate research students
2.27 Submitting papers for publication
2.28 Resubmitting papers for publication
2.29 Applying for research grants
2.30 Preparing a research budget

TEACHING (T) ***Not confident at all***  **Completely confident**

0 **9**

2.31 Delivering lectures
2.32 Keeping up to date and revising lecture materials
2.33 Preparing course materials
2.34 Using information technologies (ICT)
2.35 Selecting reading materials
2.36 Preparing handouts
2.37 Revising teaching strategies
2.38 Facilitating student discussion in class
2.39 Consulting with students
2.40 Designing assessment criteria
2.41 Preparing exams questions
2.42 Preparing assignments
2.43 Marking assignments
2.44 Assessing students' skills
2.45 Providing feedback on assessment items
2.46 Assigning grades
2.47 Responding to student feedback
2.48 Updating the content of course materials
2.49 Consulting with colleagues about coursework

SECTION 3:

Strongly disagree  **Strongly Agree**

0 **9**

4.1 I am fully satisfied with my job
4.2 I am happy with the way my colleagues and superiors treat to me
4.3 I am satisfied with what I achieve at work
4.4 I feel good at work

Thank you again for taking the time to complete the questionnaire!

Appendix B: Interview Schedule

1. Are you confident in your teaching?
2. Are you confident in your research?
3. How has your research and teaching self-efficacy changed throughout your career/experience? Did you notice any change?
4. Do you think your qualification level affects your self-efficacy for research?
5. Could you please talk about the environmental factors that you think boost or hinder your research and teaching self-efficacy?
6. In general, do you think your self-efficacy level are relates to your job satisfaction?
7. Could you please talk about the environmental factors that you think affect your job satisfaction?
8. Do you have any suggestions that might enhance university teachers' research and teaching self-efficacy in Azerbaijan (Turkey)?

Appendix C: Participant information sheet and consent form

DEPARTMENT OF EDUCATION

PARTICIPANT INFORMATION SHEET

Research title: University teachers' self-efficacy for research and teaching and its relationship with their job satisfaction

Researcher: Khayala Ismayilova

Dear Colleague,
I would like to invite you to take part in the investigation that I am currently undertaking as a requirement to obtain a PhD degree in Education from the University of York in the United Kingdom. Before deciding to participate in this research, it is important for you to understand why the research is being carried out and what exactly it will involve. Please take your time to read and consider this information carefully. Do not hesitate to ask the researcher if there is anything that is not clear or if you would like more information. Please take your time to decide whether or not you wish to participate in this research.

1. **What is the purpose of this research?**

The study aims to investigate the self-efficacy beliefs of university teachers with respect to research and teaching and to understand the relationship between self-efficacy and job satisfaction, potentially a key contributor to university teachers' self-efficacy.

Why have I been chosen?

You have been chosen to be involved in this study as you are a university teacher.

What data do you intend to collect?

I am aiming to gather information from university teachers on demographic and environmental factors affecting their self-efficacy (confidence) for research and teaching and its relationship with their job satisfaction.

How will you collect the data?

The data will be collected with the help of the questionnaire in the quantitative phase and by asking a group of participant a number of questions in a face-to-face interview in the qualitative phase of the study.

What will happen to the data afterwards?

Any data obtained will be primarily used for the purpose of supporting the researcher's application for a PhD degree. Additionally, the data may be used in subsequent publications related to this research. The anonymous data may be used in presentations, online, in research reports, in project summaries or similar.

2. **Who will see the data and how it will be stored?**

All the information which has been obtained will be kept and treated in strictest confidence. No one except the researcher will have access to it, and it will not be used for any purpose other than this research. To ensure confidentiality you will be assigned with a random ID code so that your name and university are not used or represented in the findings of the study. The data will be stored on the researcher's personal computer, which is password protected. Once the research has been completed, all data will be immediately deleted.

3. **What will happen if I do not wish to take a part or if I change my mind?**

Participation in this study is completely voluntary and it is your decision to take part. If you are interested and decide to take part, you will be given this information sheet to keep and will be asked to sign a consent form. If you decide to continue with the interview, you are still free to change your mind and withdraw at any time without providing a reason and without detriment to yourself.

4. Are there any benefits in my taking part?

There are no direct personal benefits from your participation in this research. However, your co-operation in taking part in this interview will be of great help in understanding demographic and environmental factors related to university teachers' research and teaching self-efficacy and job satisfaction in Azerbaijan and Turkey. Hopefully, the results of this study may help decision-makers and contribute to the formulation of new policies to enhance university teachers' research and teaching self-efficacy beliefs and as well as job satisfaction.

5. How I can get further information?

If you would like any further information, or have any further questions concerning the research study, please contact:

Khayala Ismayilova
Department of Education
The University of York
United Kingdom
Email: ik613@york.ac.uk

or

Chair of the Education Ethics Committee
Department of Education
University of York
YO10 5DD
Email: education-research-administrator@york.ac.uk

CONSENT FORM

Research title: University teachers' self-efficacy for research and teaching and its relationship with their job satisfaction.

Name of researcher: Khayala Ismayilova

Dear Colleague,
Pease read this form. If you are happy to proceed, please sign your consent below.
I confirm that the researcher has given me my own copy of the information sheet for the above study, which I have read and understood. This information sheet sufficiently explains the nature and purpose of this research and what I am being asked to do as a participant. I understand that the confidentiality of the information I provide will be safeguarded. No information that may identify me will be included in the research report, and my responses will remain confidential. The researcher has discussed the contents of the information sheet with me and has provided me with several opportunities to ask questions about it.

By signing this form,
I agree to participate in this study and fully understand that my participation is voluntary. I also understand that I am free to withdraw at any time without providing a reason and without detriment to myself.

Participant's Name: .....
Signed: ..... **Date:** .....

Researcher

I, the researcher, confirm that I have discussed with the participant the contents of the information sheet.
Signed: ..... **Date:** .....

Abbreviations

CoHE – Council of Higher education

EU- European Union

EHEA- European Higher Education Area

ECTS- European Credit Transfer System

ERASMUS- European Region Action Scheme for the Mobility of University Students

HEI- Higher Education Institution

MoE- Ministry of Education

NQS- National Qualification Framework

OECD- Organization for Economic Co-operation and Development

SEC- State Examination Centre

SSPC- Student Selection and Placement Centre

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