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Normative Isomorphism: Is Irish Academic Work-Life the Same in Different Institutional Types in the Universal Phase of Higher Education?

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Abstract

Academic work-life in the universal phase of higher education has reportedly involved an extreme intensification and diversification of academic roles. International empirical research supports the hypothesis that academic staff are spending more time at work, are reporting diminishing morale, and are experiencing erosion of their values of academic freedom, autonomy and collegiality. What has not yet been adequately investigated is the extent to which this experience of academic work-life is the same or different depending on institutional type, thus identifying the research problem addressed in this thesis.

This study takes a historical investigative approach to the initial literature review, illustrating the fluid creation and re-creation of different institutional types, internationally and in Ireland, and describing the academic work-lives they define. The research employs social institutional theory to hypothesise that normative isomorphism is occurring at the academic staff level in different institutional types in Ireland, making them more homogenous. The study uses a comparative cross sectional research design to test a range of hypotheses through an extensive survey instrument. It employs a quantitative data analysis plan that facilitates controlling for other possible factors aside from institutional type that may influence academic work-lives, thereby isolating the particular influence of institutional type.

The findings show that academic staff, in the current universal phase of higher education in Ireland, are under considerable strain. However, the majority of the demands on academic staff are being experienced in different ways and at differing levels in different institutional types. The findings also show that the homogenous set of national objectives and strategies for higher education have not resulted in homogenous work-lives for academic staff overall.

This PhD study develops on the existing literature and the recent research in four key ways. Firstly, by providing data about Irish academic staff's characteristics, activities, outputs and perceptions about their work-lives. Secondly, by employing an analysis design that facilitates the particular isolation of the influence of institutional type on academic work-life. Thirdly, by re-instating institutional type, which had become increasingly overlooked in the recent literature about academic identity, as a primary shaping factor of academic work-life. And fourthly, by creating re-usable constructs to measure features of academic work-life in the universal phase which can be compared effectively between sectors.

Declaration

I certify that this thesis which I now submit for examination for the award of Doctor of Philosophy (PhD), is entirely my own work and has not been taken from the work of others, save and to the extent that such work has been cited and acknowledged within the text of my work.

This thesis was prepared according to the regulations for postgraduate study by research of the Dublin Institute of Technology and has not been submitted in whole or in part for another award in any other third level institution.

The work reported on in this thesis conforms to the principles and requirements of the DIT guidelines for ethics in research.

DIT has permission to keep, lend or copy this thesis in whole or in part, on condition that any such use of the material of the thesis be duly acknowledged.

Signature _____ Date 30th June, 2015
Candidate

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1 INTRODUCTION

Internationally, much has been written in the descriptive literature about the nature of academic work-life in the current universal phase of higher education. Trow (2005) identified three phases of higher education: the elite phase, the mass phase and the universal phase. He defined these phases as, 0-15% enrolment of the relevant age range, 16-50% enrolment of the relevant age range, and greater than 50% enrolment of the relevant age range respectively. Trow (2005) described the elite phase as shaping the mind and character of a ruling class; the mass phase as involving the transmission of skills and preparation for a broader range of technical and economic elite roles; and the universal phase as the adaptation of the whole population to rapid social and technological change, the interest of larger proportions of populations in what goes on in higher education institutions (HEIs) and the additional public accountability for finances and more management procedures. While Trow (2005) specified that the three phases could be understood as non-sequential phases, with previous ones persisting into the next, and as ideal types rather than empirical higher education systems, this thesis employs the phases as demarcations of the shifts in the proportion of the relevant age range enrolled in higher education, and as signifiers for the features of those stages.

The term 'academic work-life' will be used throughout this dissertation to portray the features of academic staff's experiences. The components of academic work-life include academic staff's values, activities, outputs, conditions, resources, and the expectations of them by their managers, administrators and students, as well as academic staff's subjective experiences of stress, satisfaction and motivation.

The higher education literature has used other terms to describe the experiences of academic staff such as 'academic identity' and 'academic work'. The term 'academic work' has referred primarily to the tasks of teaching, research, service and

administration and the academic values that inform those activities (Coaldrake & Steadman, 1999). The term 'academic identity' has mostly been used in the literature in the context of an interpretive theoretical perspective. Academic identity has had a variety of meanings ranging from an assemblage of traits, a process of interaction between an institution and an individual, the roles co-defined by individuals, communities and institutions, to an intellectual device used to concretize the interaction between academic staff and their various reference groups (see Chapter 3 for a comprehensive discussion of this term).

The term academic work-life was created for use in this dissertation in order to portray a larger spectrum of academic staff's experiences than 'academic work' alone. Academic work-life encompasses academic staff's experiences ranging from the professional to the personal. Furthermore, the term 'academic work-life' itself does not imply a particular theory about the origin of the features of academic staff's experiences, which 'academic identity' can be understood to imply, but rather the term 'academic work-life' aims to objectively reflect the many features of academic staff's experiences as they are reported.

Academic work-life in the current universal phase has reportedly involved an extreme intensification and diversification of academic roles (Henkel, 2000; Kinman, 2009; McInnis, 2000b; Trowler, 1998). Academic staff are experiencing a diversification of their tasks as they attempt to adopt new technologies and teach more students and a broader range of non-traditional students (Henkel, 2000; McInnis, 2000b). There are dwindling resources available to academic staff and this, coupled with more managerial practices, results in more individual accountability and larger administrative workloads (Henkel, 2000). There is increased pressure on academic staff to be research active due to the expectation on institutions to contribute marketable outputs to the knowledge economy (Enders & de Weert, 2004). Academic values are

said to be deteriorating (Becher and Trowler, 2001; Enders & de Weert, 2004; Slaughter and Rhoades, 2004; Macfarlane, 2005; Valimaa & Hoffman, 2008) and morale is reported to be also diminishing (Kinman, 2009; McInnis, 2000b) while the commercialization of academic teaching and research is on the rise.

Empirical research on academic work-lives during the universal phase has been scant and has mainly occurred in the unitary systems of the UK and Australia, as well as in the US. However, the empirical research does support the hypotheses that academic staff are spending more time at work, are reporting diminishing morale (Kinman, 2008; McInnis, 2000b) and are experiencing erosion of their values of academic freedom, autonomy and collegiality (Henkel, 2000; Slaughter & Rhoades, 2005). What has not been adequately investigated thus far is the extent to which this experience of academic work-life is the same or different depending on institutional type.

1.1 Research purpose and questions

National and international higher education (HE) strategies in the universal phase have been aiming at system level objectives such as promoting efficiency, implementing managerial processes, increasing research productivity, increasing student numbers and student types, and adopting new technologies (Council of The European Union, 2007). Some theorists have linked the transformation of academic work-lives directly to this socio-economic and policy context (Becher & Trowler, 2001; Coaldrake & Stedman, 1999; Locke & Teichler, 2007), which implies that academic work-lives are being affected the same way, regardless of institutional type. However, throughout the history of HE, the socio-economic environment has created or redefined the missions of different institutional types to meet the requirements of the day, and those institutional types are what shaped and defined academic work-life rather than the broader environment itself.

Irish HE strategy in the universal phase has mirrored European policies in endeavouring to increase research, efficiency and accountability, and student numbers and student types (Government of Ireland, 2000, 2006b, 2007, 2011). Yet, there is very little centrally available information about academic staff in Ireland, meaning that both the capacity to achieve the national objectives for HE and the potential impact of such policies on academic staff is unknown. Therefore, this research aims to address these lacunae in the national knowledge base and in the international literature, by answering the following three research questions:

- What are the characteristics of academic staff in Ireland? To what extent are they the same in each institutional type?
- What are the activities and outputs of academic staff in Ireland? To what extent are they the same in each institutional type?
- What are the perceptions of Irish academic staff about their work-lives? To what extent are they the same in each institutional type?

1.2 Plan of the Thesis

In Chapter 2, a historical investigative approach to the literature will be taken in order to explore the nature of differing higher education institutional types, their relationship to their broader environments and their influence on academic staff's work-lives. This approach to the literature enables an examination of the complex historical processes that have produced the types of HEIs and the features of academic work-lives that are emerging in the present. This type of historical investigative approach to the literature demonstrates that different institutional types have always been created or redefined depending on societal needs or ideologies, that they have often homogenised and differentiated due to their environmental pressures, and that the institutional type rather than the social environment provides the definitions of academic work-lives.

The first phase of higher education examined, the elite phase, will track how different institutional types were created in response to their environments and how the institutional types defined the work-lives of their academic staff. The second phase of higher education examined, the mass phase, will combine the insights of the international descriptive higher education literature, the Irish legislation, and the first empirical research into academic staff from the US, in order to arrive at the baseline definition of academic work-life in different institutional types. The first empirical research into academic staff operationalized measures of activities and beliefs of academic work-lives. In doing so, it provided some of the measurable ways to test the difference between academic work-lives in different institutional types which will be employed by this research. The third phase of higher education examined, the universal phase, will describe how the socio-economic environment is currently encouraging the homogenization of the missions of different institutional types while simultaneously requiring institutional types to adhere to the missions defined for them in the mass phase. It will explore how these contradictory forces are reportedly affecting academic work-lives in the universal phase and it will address the gap in the literature as to whether these effects are being experienced by academic staff homogenously or differently in different institutional types.

In Chapter 3, the prevalent structural functionalist and cultural conceptualisations of institutional type and its relationship with academic work-life will be described and the criticisms of each approach will be reviewed. Social institutional theory will be proposed as an alternative approach that both overcomes the weaknesses of structural functionalist and cultural theories and accounts for the homogenisation of institutional types. The nature of the relationship between institutional type and academic work-life in social institutional theory will then be explored.

Chapter 4 will describe how the research hypothesis, that academic work-lives do not differ in different institutional types, is deduced, from the claim of social institutional theory that institutional isomorphism can occur at the normative staff level. In order to translate this hypothesis into researchable entities, the chapter will provide a detailed description of the methodology employed by this research. This description will include the research design, which is comparative and cross sectional; the method used, which is a questionnaire; the issues and items of the questionnaire which were generated from Chapter 2 and Chapter 3 and which sought to gather data on academic staff's characteristics, activities and outputs and perceptions of their work-lives. Chapter 4 will go on to explain the measures used in the questionnaire, how they were summed into scales using principal component analysis and tested for reliability and validity.

The null hypothesis[1] for this study will be stated that academic staff in Institutes of Technology (IoTs) and universities will not differ in the measures of their activities or outputs, or in their scores of their perceptions of their work-lives. The experimental and null hypotheses will be stated for each of the variables measured by the questionnaire. The statistical tests used to compare the academic staff characteristics, activities and outputs, and perceptions about their work-lives between the IoTs and the universities will be described, including frequencies, the independent t-test and multiple linear regression. Lastly, the ethical recommendations that were adhered to in this research will be described.

The results from employing this cross sectional, comparative and, predominantly, quantitative research design and statistical analysis plan will result in

[1] Hypotheses or predictions come from a theory. A hypothesis that says an effect will be present is called the alternative (or experimental) hypothesis and is denoted by H1. A hypothesis that states that an effect is absent is called the null hypothesis and is denoted by H0. The reason that we need the null hypothesis is because we cannot prove the alternative hypothesis using statistics but we can reject the null hypotheses. The methodology chapter (Chapter 4) contains a detailed discussion of the hypotheses used in this research.

four seminal insights into the subject of academic work-life in Ireland. Firstly, the results of applying the methodology will provide information on academic staff in Ireland which is not currently available from any other source, including data about their characteristics, activities, outputs and perceptions. Secondly, the principal component analysis, applied to items relating to academic staff's perceptions about their work-lives in the universal phase, provides reliable ways to measure concepts including increasing workloads, academic values, managerialism, adequacy of resources, satisfaction and stress. The resultant constructs pass reliability testing and can be reused in future research concerning features of academic work-life in the universal phase of higher education. The quantitative statistical data analysis plan, which includes t-tests and multiple linear regression, demonstrates how to test for significant differences in academic work-lives between institutional types while also controlling for other possible factors that may contribute to those differences (such as discipline type, qualification, career level or gender). Lastly, the questionnaire instrument used in this research provided two areas to respondents where they could add their qualitative comments about their work-lives. These comments will be included throughout the discussion in Chapter 6, giving additional depth and detail to the quantitative findings.

Chapter 5 will describe the findings of the comparisons between institutional types in terms of academic staff characteristics, activities when classes are in session[2], activities when classes are not in session[3], outputs in terms of students served, outputs in terms of traditional[4] and non-traditional[5] research outputs, and the perceptions of academic staff about their work-lives in the universal phase.

[2] During the academic year when classes are being taught.
[3] During the calendar year when classes are not being taught.
[4] Traditional research outputs included: books authored or coauthored, books edited or co-edited, articles published in an academic journal, chapters published in an academic book, research report monograph written for a funded project, policy paper, and paper presented at a scholarly conference.
[5] Non-traditional research outputs included: Professional article written for a newspaper or magazine, patent secured on a process or invention, computer program written for public use, artistic work performed or exhibited, video or film produced.

Chapter 6 will contextualize the quantitative findings of this PhD research in the qualitative comments from respondents relating to each of the measures reported. It will discuss the findings in terms of their implications for current Irish higher education policy, their consistency with the international research reported, and their rejection of the overall hypothesis of normative isomorphism.

2 THE HISTORY AND LITERATURE ABOUT ACADEMIC WORK-LIVES IN DIFFERENT INSTITUTIONAL TYPES

In order to address the question of whether academic staff's work-lives in the current phase of higher education are being shaped by institutional type, the recent literature was reviewed. In doing so, it became clear that a historical investigation into the nature of academic work in different institutional types would be informative to the question for two reasons. Firstly, the prevalent depiction of present academic work-life in the recent literature was that it involved a diminishment of how academic work-life was previously defined in the past. And, secondly, the role that institutional type played in shaping academic work-life was not prominent in the current literature, despite the continuing strong binary divide[6] between the two main institutional types in Ireland and elsewhere. The determining role of institutional type on academic work-life was much more frequently referenced during the previous mass phase of higher education rather than the current universal phase.

In order to understand the types of HEIs and the features of academic work-lives that are emerging in the present, a historical examination of the complex processes that have resulted in them provides a comprehensive account of their nature and relationship to each other and to their broader environment. This type of historical investigative approach to the literature can be viewed as genealogical[7] in the Foucaultian sense. It problematizes[8] the definitions of institutional types and academic work-lives and it demonstrates the contingencies of their emergence, with the aim of

[6] A higher education system in which two parallel higher education systems develop, one consisting of the universities and the other based on 'alternative' institutions is defined as a binary higher education system (Kyvik, 2004).

[7] Genealogy is an historical mode of inquiry into complex processes, which cannot be subordinated to some very general narrative; they must be dealt with in their specificity and locality. Its concern is diagnosing or understanding the present (Sharp, 2011).

[8] Foucaultian genealogy problematizes things (that is, renders some things problematic that were not previously considered as such) and it articulates problematizations (that is, things that have become problematic and the process by which they have become so) (Koopman, 2013).

providing a "history of the present" (Foucault, 1979, p. 31) which can transform the understanding of both institutional type and academic work-life by grasping (more fully) what it is (Foucault, 1984).

Trow (2005) identified three phases of higher education which will be employed in this historical investigation and literature review to categorize the socio-economic and political environment of each time period that resulted in HEIs being created or redefined and academic work-life being affected as a result. As stated in the Introduction, Trow (2005) identified the phases as: the elite phase (0-15% enrolment of the relevant age range), the mass phase (16-50% enrolment of the relevant age range) and the universal phase (greater than 50% enrolment of the relevant age range). He asserted that the aim of the elite phase was to educate "students for broad elite roles in government and the learned professions" (Trow, 2005, p.17). The aim of the mass phase was to provide a broader range of technical and economic elite roles. The aim of the universal phase was to prepare large numbers of students for "life in an advanced industrial society…to maximize the adaptability of that population to a society whose chief characteristic is rapid social and technological change" (Trow, 2005, p. 18). While he described the stages as sequential, he also allowed for the possibility that each phase persisted into the next and that one stage did not replace another, i.e. "there are definite possibilities of examples of elite forms surviving in the mass and universal stages" (Trow, 2005). The historical investigation of each of the three phases will focus primarily on Europe and Ireland where the forms of the different institutional types that are still informing Irish HEIs today were originally conceived and realised (Barnett, 1990)[9]. The United States is included in the historical investigation due to the first

[9] Similar to Barnett (1990) statement on his history of higher education, the concern is the idea of higher education and to demonstrate that that there are certain elements of continuity across centuries. Historical institutional forms are identified where the idea of the institutional form is contained within itself and where no obvious articulate writer is available. While other institutional forms from other countries could have been examined as part of the continuity, comprehensiveness is not the point, rather the point is identifying the seminal ideas of different institutional types persisting through history.

empirical research on academic staff in different institutional types being initiated in the USA where the expansion of tertiary education had begun earlier than in Europe, and where the community colleges were already 1000 strong by the 1970s

The historical exploration of the elite phase (section 2.1) in Europe and Ireland will reveal three important discoveries that inform the question of whether institutional type is currently affecting academic work-life. Firstly, that different institutional types have always been created or redefined depending on societal needs or ideologies. Secondly, that the institutional type rather than the social environment, provided the definitions of academic work-lives. And thirdly, that contrary to the prevalent assumption in the literature that academic work-life only began to differentiate in the 19th century (Cummings & Finkelstein, 2012) with the subdivision of knowledge into disciplines, institutional type had, in fact, been a prominent dividing factor in academic work-lives for centuries beforehand.

The historical exploration of the mass phase (section 2.2) and the review of the first literature that investigated the effect of institutional type on academic work-life will provide the baseline definition of academic work-life in each institutional type through examining the European descriptive literature, the Irish legislation and the US empirical research. These baseline beliefs and activities of academic staff in different institutional types will serve as the starting point for understanding the features of academic work-life that are said to have diminished and homogenized in the universal phase.

The review of descriptive and empirical literature in the current universal phase (section 2.3) will describe how the social and political demands on higher education in Europe and Ireland are encouraging a homogenization of the missions of different institutional types, while, at the same time, governments ostensibly commit themselves to maintaining the binary divide. It will further summarize how the literature reports that the social and political demands are directly affecting academic staff by

diminishing the features of academic work-life that were defined in the elite and the mass phases. This section will identify the gaps in the current literature by demonstrating that institutional type, as a structure influencing academic work-life and acting as a filter between the social environment and academic staff, is no longer as prominent in the analysis as it was in the mass phase[10]. The hypothetical question is consequently raised as to whether the work-lives of academic staff in the universal phase have become homogenous in the different institutional types.

All of the phases of the historical investigation into institutional type and academic work-life provide concepts that will be operationalised into measures that will be employed in this research. Furthermore, an additional value of conducting the historical investigation is that it firstly provides a unique perspective on the fluid definition and redefinition of institutional types based on society's needs which has been a continuous feature of higher education's history. And, secondly, it provides a description of the powerful influence that institutional type has always had on shaping academic work-life.

2.1 Elite phase

Different institutional types have existed in higher education since the very beginning of its provision, resulting from differing ideologies and societal needs. Academic staff have always embodied the principles and values defined by their institutional type and enacted the roles and norms associated with them. While recent theorists have cited the 19th century subdivision of knowledge into disciplines as the beginning of a non-homogenous academic profession (Cummings & Finkelstein, 2012), the history described in this section will show that diverse experiences of academic

[10] While some studies of some aspects of academic work-life assess the effect of institutional type, not many of the features of academic work-life in the universal phase are measured in the research that includes institutional type.

work-lives have always existed and have been associated with diverse institutional types.

This section will track the evolution of higher education during the elite phase in Europe (section 2.1.1) and in Ireland (section 2.1.3). It will demonstrate that different institutional types have always been emerging, depending on societal needs or ideologies. It will also demonstrate that while the social or cultural context affected academic staff, it was not directly, but rather indirectly, through giving rise to different institutional types, in which different academic work-lives were experienced. The specific activities and beliefs of academic staff in each institutional type during the elite phase in Europe and in Ireland will be described, demonstrating that, as institutional types were created and re-created, academic work-lives both shared commonalities and were defined by the specifications of their institutional type (in sections 2.1.2 and 2.1.4).

2.1.1 Elite phase in Europe

The elite phase of higher education arguably began with the Academy founded by Plato in 393BC. The Academy was composed of male and female members devoted to studying what Plato considered First Philosophy, including mathematics, metaphysics and ethics. The mission of the Academy was to "educate good citizens and capable politicians in general society, and many [of Plato's pupils] did in fact play a role in the public life of Greece" (Pedersen, 1997, p. 10). The Academy was a community of scholars and students lacking in hierarchy or boundaries to entry which was very much the opposite approach taken by other schools of the time such as the Pythagorean societies which practiced very strict ways of life (including the prohibition of beans, for example (Audi, 1995)). The method of instruction and enquiry at the Academy was dialectical, involving arguments conducted by question and answer and aimed at refuting an opponent by deriving contradictory consequences (Audi, 1995). For Plato,

this method established non hypothetical conclusions using logical reasoning and led philosophers to the knowledge of the Forms – the source of all moral inspiration. The Academy thus sought to educate for leadership through teaching within a community of scholars and advocated the application of reason to arrive at truthful conclusions.

The Lyceum was founded later in 335 BC by Aristotle, a former student of the Academy, and was similar, in that both were organised as communities rather than a single master leading his students. However, where Plato endeavoured to educate by teaching, Aristotle aimed to educate by research (Pedersen, 1997). Aristotle amassed a collection of manuscripts and scientific materials and rejected the dialectic method in favour of investigation, recommending for his "students to go out and seek information from people such as hunters and fishermen who had experience in the natural world. He also advised them to follow the procedure of collecting information, classifying it, and adding further material as one goes along" (Lynch, 1972, p. 87). While all scientific work had previously been carried out under the common name of Philosophy, Aristotle added new topics of research that lead to the establishment of new independent sciences focused on the material world, nature and biology. The union Aristotle established between teaching and research and the addition of new disciplines, as well as his mission to "educate good and harmonious member[s] of society" (Pedersen, 1997, p. 13), provided a model for the development of universities in the Middle Ages (Pedersen, 1997).

Dating back to the 4th century BC then, there were two types of institutions with differing missions and perspectives on the content and methods of higher education. While the values of a supportive community of scholars, equality of access to education and the application of reason to discover reality were all in evidence at this early stage, the types of knowledge to be studied, the role of research in informing the curriculum and whether education should be delivered through teaching or research were already in

dispute. The ancient scholars thus already embodied the academic values of community, collegiality[11] and the priority of reason, but their early differentiating questions about curriculum content and the combination of research and teaching were an early example of the ideologies of different institutional types that has persisted for millennia.

In the Middle Ages (5^{th} – 15^{th} century) different institutional types re-emerged in the founding of universities in Paris (1158) and Bologna (1180)[12], whereby the former emphasised the study of theology and philosophy and was run by guilds of the masters, while the latter was more secular, focused on civil law and medicine and run by guilds of students, with their masters being little more than hired men (Hofstadter, 1955). These two archetypal universities informed the structures of all medieval universities and, while they differed on the status of academic staff and the types of disciplines to be emphasised, they converged in their traditions on the values of institutional autonomy and academic freedom (Hofstadter, 1955). They were self-governing corporations who elected their own officials and set the rules for the teaching craft. They were consulted on issues of law and doctrine and were expected to intervene in ecclesiastical and social affairs. The individual academic staff members embodied these new values and experienced an intellectual freedom (defined as the objective freedom to express novel or critical ideas without the threat of punishment and the subjective freedom to feel that he/she is free to say what he/she wishes (Hofstadter, 1955)) that was "large enough to make possible creative work of great value but limited enough to bring creative thinkers into conflict with authority – most commonly the authority of their own university colleagues" (Hofstadter, 1955, p. 16). They also enjoyed an individual autonomy in that

[11] The academic values of community and collegiality are often defined together meaning both feeling part of a respectful community of colleagues who value one another's contributions to the institution and have concern for one another's well-being and participating in the decision making process of the institution (Gappa, Austin, & Trice, 2005).

[12] The universities of Paris and Bologna are mentioned specifically because they were the embryonic universities (Barnett, 1990) and those on which the later European universities were modeled.

their universities were "all were members of a 'super-national' intellectual unity devoted to the cultivation of knowledge, enjoying a certain degree of independence from the papacy, the empire and the municipal authority" (Geuna, 1996, p. 22).

By the Renaissance (14^{th} -16^{th} century), the academic staff of universities already shared fundamental values of community, collegiality, application of reason, academic freedom and autonomy, but during this period there emerged a shared curriculum and a common language. The Renaissance was characterized by a renewed interest in the world of the ancient Greeks and Romans, in the subjective world of the emotions and in the natural world. It also marked a return to the objectives for higher education of the ancient Greeks; to educate students for participation in a civilised society. The more secular curriculum was composed of ancient literature on subjects including grammar, rhetoric, history, poetry and moral philosophy (Kristeller, 1961) which were read and interpreted in classical Latin. Indeed, Latin remained the main vehicle for learning and instruction and while the Italian universities emphasized Cicero as the authority on Latin vocabulary and style, the Northern European universities argued that Cicero's Latin was restrictive and narrow. Instead, they argued for the adaptation of ancient Latin to reflect the realities of the current period. Eventually, this disagreement was the dividing factor of higher education in the Renaissance resulting in northern Europe fusing the Renaissance ideals with the Reformation movement and attempting social reform to remove common ignorance, whereas the Italian renaissance "degenerated into 'ciceronianism', a narrow, stiff, grammatical and stylistic discipline" (Cordasco, 1963, p. 42).

During the Enlightenment (17^{th}-18^{th} century), which was characterized by the advancement of knowledge through reason and the scientific method, a very definite alternative institutional type was established with the creation of the learned societies

and the academies;[13] "These, and other institutions alternative to the university, were the centre of the development of new knowledge" (Geuna, 1996, p. 23). Initially, the academies were established when the universities resisted the new learning of the humanistic tradition of the Renaissance and aligned themselves with the church. After the universities accepted humanism and the scientific revolution of the enlightenment was underway, the academies became the locus where scientific research was disseminated and where developments in knowledge were discussed. Meanwhile, the universities maintained "narrow and antiquated curriculum and methodologies, made few contributions to thought, and opposed the ideologies spawned by the Enlightenment" (Rudy, 1984, p. 87).

From the Renaissance through to the Enlightenment, the universities demonstrated their resistance to change to the point that other types of institutions, the academies and societies, were required to enter the higher education system in order to facilitate the advances in society and technology. The numbers of academies and societies in Europe reached over a hundred by the end of the 18th Century and only when the new institutions were unable to cope with the increasing and expanding fields of scientific research did the universities emerge from their inertia and develop into new kinds of institutions that incorporated scientific research (Geuna, 1996). As a result, at the beginning of the 19th century, old universities were renewed and new universities were established.

The universities of the 19th Century were characterized by the subdivision of knowledge into disciplines and it was this, some have argued (Cummings & Finkelstein, 2012), that marked the disappearance of a unified academic profession. Academic staff were no longer masters able to teach all the required subjects, united in their common

[13] The Royal Society was founded in London in 1662 and the Académie Royale des Sciences was founded in Paris in 1666. While the London Royal Society was controlled by its members without state intervention or financial support, the Académie Royale was financed by the state, enabling the construction of libraries and laboratories as well as the provision of salaries for scientists to carry out research.

language, training, ethical principles and body of classical knowledge. Academic staff were instead "specialized, single-discipline professors focused on the transmission of a specific, well defined portion of knowledge" (Geuna, 1996, p. 28). However, they still shared the values of academic freedom and autonomy (Skilbeck, 2001, p. 39), and they combined teaching and research (Geuna, 1996) and they carried out 'pure science' (Geuna, 1996).

Different institutional types were again in evidence in the higher education systems of the 19th century. The first secular university, University College London, established in 1886, inspired the civic universities model in the UK. The mission of the civic universities included professional education and utilitarian subjects such as architecture, as well as liberal education and were more responsive to the technological and scientific needs of society (Geuna, 1996). In France, les Grandes Ecoles focused their research and teaching on the utilitarian subjects, whereas the universities focused theirs on the liberal arts (Geuna, 1996).

2.1.2 Academic work defined by institutional type in Europe

By the 19th century, Wilhelm von Humbolt in 1810 (1970), in Germany, and John Henry Newman in 1852 (1976), in Ireland, outlined their principles for the university. They both based the foundational idea of the university on the universality of truth (Newman, 1976) and the pursuit of knowledge as a value in itself (Skilbeck, 2001). The assumption was that "the idea of the university gave a collective identity to the institution which was embodied by the academic profession" (Delanty, 2008, p. 125) and that the pursuit of knowledge required the freedom and independence provided by the university as a place of inquiry (Skilbeck, 2001). Both Humbolt and Newman are often accredited with the definition of the academic profession (Skilbeck, 2001; Delanty, 2008), however, as described above, academic activities and beliefs had been

evolving for many centuries. Furthermore, their evolution was dependent on institutional type from the very beginning, but the recognition that institutional type was a distinguishing factor was generally overlooked.

Table 2.1 describes the academic beliefs and activities that were both shared and divided between institutional types throughout the stages of the elite phase. Academic staff of ancient Greece shared the values of community, collegiality and the priority of reason, whereas they were divided on the content of the curriculum, methods of teaching and the priority of research. The academic staff working in the universities in Paris (1158) and Bologna (1180) during the middle ages shared the beliefs of autonomy and academic freedom, but were divided by the curriculum of theology and philosophy in the former and secular curriculum focused on civil law and medicine in the latter. The academic staff of the northern European universities and the Italian universities during the Renaissance shared the common language of Latin and a common secular curriculum of ancient literature on subjects including grammar, rhetoric, history, poetry and moral philosophy, but they diverged based on the Italian universities emphasis of 'Ciceronionism'. The activities and beliefs of academic staff working in the universities and the academies during the Enlightenment were completely divided based on the latter's involvement in research and scientific method and the former's persistence with antiquated curriculums and methodologies. Academic staff working in the civic universities, like the ones in University College London and les Grandes Ecoles in Paris during the 19th century, performed both teaching and research, as did their traditional university counterparts. Where they differed was in the focus on utilitarian disciplines and technology.

Table 2.1 Shared and differing academic activities and beliefs between institutional types in the elite phase

PHASE	EPOCH	SHARED BELIEFS & ACTIVITIES	DIFFERING BELIEFS AND ACTIVITIES
ELITE	Ancient Greece	Community	Curriculum content
		Collegiality	Teaching methods
		Priority of reason	Priority of research
	Middle Ages	Institutional and individual autonomy	Status of academic staff
		Academic freedom	Discipline focus
	Renaissance	Shared curriculum	Ciceronionism
		Common language	
	Enlightenment		New knowledge
			Scientific research
			Technology
	19th century	Subdivision of knowledge into disciplines	Professional education
		Combination of teaching and research	Technology
			Liberal arts v utilitarian subjects

In spite of the influence of institutional type on academic staff work-lives, described in this history of the elite phase, the notion of a homogenous academic staff experience persists to this day. Recent higher education theorists often point to a basic level of universally shared characteristics of the academic profession: "While affirming the diversity of faculty functions, we wish also to underscore the point that some dimensions of scholarship are universal-mandates that apply to all" (Boyer, 1990, p. 27). Even while recognizing the diversity of the profession due to disciplinary types, "some would argue that the fragmenting nature of disciplines can be exaggerated, that there are overlapping communities or common norms that bind across disciplinary fragmentation" (Henkel, 2000, p. 21). As a result, umbrella terms to describe academic work-life proliferate in the literature, such as 'academic profession' (Kolsaker, 2008), 'faculty' (O'Meara, Terosky, & Neumann, 2008), the 'professoriate' (Kogan &

Teichler, 2007), 'academics' (Barnett & di Napoli, 2008; Evans, 2002; Kolsaker, 2008) and 'faculty members' (Boyer, 1990).

The activities of the homogenous academic profession are cited to include the roles of teaching and research (Henkel, 2000), developing curriculum and setting themes and standards for research, pursuing new advances in subject knowledge and participating in institutional governance (Kogan & Teichler, 2007). The homogenous academic staff's beliefs are described as: "In Europe particularly, the ideals of professional autonomy combined with academic freedom in the classroom and laboratory have been hallmarks of the professoriate and remain primary values of the profession" (Altbach, 2000c, p. 3). Other key beliefs include "altruistic concern for students, education expertise, generation of new knowledge, application of logic, use of evidence, conceptual and theoretical rigour and the disinterested pursuit of truth" (Kolsaker, 2008, p. 516).

Referring back to the historical evolution of academic work-life throughout the elite phase of higher education can inform how the definition of homogenous academic work developed. Many of the 'hallmarks of the professoriate' such as, autonomy, academic freedom, collegiality, and community, reflect the culmination of beliefs that came to be shared between academic staff in all institutional types by the 19th century. However, the ongoing historical tension between institutional types based on the prioritization of research versus teaching and the focus on utilitarian versus liberal curriculums have been persistent dividing features of academic work-lives, as shown by this exploration of higher education's early history. While different institutional types were regularly created or redefined in order to adapt to changing societal needs and ideologies, it was the institutional type, rather than the social environment, that directly defined academic work-lives throughout the elite phase.

2.1.3 Elite phase in Ireland

In Ireland, the beginning of the elite phase (0-15% enrolment of the relevant age range) of higher education didn't commence until the end of the 16th century when the first higher education institution was finally established under the religious and political influences that would continue to shape Irish higher education for the next 400 years. Trinity College Dublin (1592) was founded by Queen Elizabeth I, with the express objective to promote Protestantism and English culture (Coolahan, 2004). Nevertheless, Trinity's mission was expressed in a letter from Queen Elizabeth I to Lord Fitzwilliam, her deputy in Ireland, as the provision of liberal arts education as well as the "cultivation of virtue and religion" (French, 2010, p. 1). As such, Catholics were banned from attending Trinity and it wasn't until two centuries later, and chiefly in an attempt to discourage catholic students from travelling to revolutionary Europe for their studies[14], that the second higher education institution was established in Ireland in 1795, St. Patrick's College, Maynooth. By 1817, the lay college in St Patrick's College Maynooth was closed and it functioned chiefly as a catholic seminary for the next 150 years.

In 1849, the English established the Queen's University as a federal institution with three constituent colleges in Belfast, Cork and Galway. Their mission was to provide non-denominational, non-residential, affordable education in modern and applied learning (Coolahan, 2004), as well as in traditional subjects. The mission of the three colleges was inspired by the secular University College London (1836), which emphasised professional education and utilitarian subjects over liberal arts education. However, just when it seemed that the religious grip on Irish higher education may be loosening, the catholic hierarchy became dissatisfied with the secular nature of the

[14] Between 1578 and 1680, 29 Irish colleges were established in university cities to cater for their needs. The colleges in Leuven, Paris, Rome and Salamanca were the most well-known, with Salamanca being the last to close its doors as late as 1951 (French, 2010).

Queens colleges, and, in 1854, the Archbishop, Paul Cullen, invited Cardinal John Henry Newman, who was a prominent academic at Oxford and a convert to Catholicism, to take the leadership of a Catholic University in Dublin.

John Henry Newman set out his perspective of the role of higher education in a series of lectures delivered in Dublin in 1852 entitled, 'The Idea of a University'. Here, he justified his argument for catholic control of the university by claiming that religion was the 'science of sciences' and it would serve to integrate the curriculum as a whole (French, 2010). He also objected to a utilitarian curriculum in higher education, claiming that it may bring economic success but that the individual is degraded: "to prepare a person for excelling in any one pursuit is to fetter his early studies and cramp the first development of his mind", so that finally "a man [may] be usurped by his profession" (Newman, 1996, p. 122). He believed liberal education was best for the individual himself; it best enables him to discharge his duties to society. He concluded that "if then a practical end must be assigned to a university course, I say it is that of training good members of society" (Newman, 1996, p.125).

With these values, reminiscent of Ancient Greece and in line, albeit belatedly, with European Renaissance thought, Newman's 'Idea of a University' detailed his conception of the university as a pedagogical and intellectual institution rather than a religious training or research focused institution; "If its object were scientific and philosophical discovery I do not see why a University should have students; if religious training I do not see how it can be the seat of literature and science" (Newman, 1852, p. ix). He described the autonomy of the university by claiming that he had "no intention of, in any thing I shall say, of bringing into the argument the authority of the Church or any authority at all; but I shall consider the question simply on the grounds of human reason and human wisdom" (Newman, 1852, p. 3). He described academic freedom in terms of the universality of knowledge and the removing of restrictions against any

types of knowledge, claiming that the very name of University is inconsistent with restrictions of any kind (Newman, 1852). He also emphasised the value of the community of a university stating that "an academical system without the personal influence of teachers upon pupils is an arctic winter; it will create an ice-bound, petrified, cast-iron university, and nothing else" (National Institute for Newman Studies, 2007).

While John Henry Newman did succeed in thus articulating the elite phase ideals for Irish higher education, the Catholic University failed in its own aims; firstly, it failed in its aim to prioritize Catholicism due to the belated influence of the European Renaissance and Enlightenment leading to secularization. And, secondly, it failed in its aim to provide Catholics with higher education as the Catholic University was too small to fulfil this task (French, 2010). The 1908 *Universities Act* legislation addressed both issues by establishing the federal National University of Ireland (NUI) whose constituent colleges were to be the Queens colleges in Galway and Cork and the Catholic University in Dublin, which had been renamed as University College Dublin. The *Universities Act* stated that the governance and curriculum of the NUI and its constituent colleges would be non-denominational. Queens University Belfast was to remain separate.

The only higher education institution that remained heavily influenced by religion in the early 20th century, then, was Trinity College, which preserved its protestant ethos and articulated it clearly at its 300th anniversary in 1892: "Trinity 'was founded by Protestants, for Protestants and in the Protestant interest … and Protestant might it ever more remain" (McCartney, 1999, p. 1). Even though Trinity had removed all barriers to entry for Catholics in 1793, the Catholic hierarchy imposed a ban on Catholics attending the university which lasted until the 1970s (French, 2010).

As the religious influence on higher education abated, fervent political nationalist ideologies exerted their influence on the colleges of the National University. All of them, and University College Dublin in particular, were caught up in the nationalist movement, providing several of its leaders and many of the government leaders throughout the twentieth century. University College Dublin was colloquially known as "the national" until the 1960s (McCartney, 1999, p. 3). Trinity, on the other hand, retreated into its shell and let events pass it by (French, 2010).

2.1.4 Academic work defined by institutional type in Ireland

During the elite phase, the academic staff in all the HEIs in Ireland engaged in the activities of teaching and administration. In Trinity College Dublin, the staff, who were governed by a provost (often an ordained clergyman of the Church of England), were called 'fellows', and worked as both teachers and administrators. The academic staff of the Catholic University of Ireland worked under the rectorship of Dr John Henry Newman, who attempted to establish his interpretation of the ideal student tutor relationship amongst his fellow educators. In this ideal tutorial system, which he had attempted and failed to initiate at Oxford, each tutor was able to select and teach the most gifted pupils rather than having them randomly assigned. Newman thus established communities of scholars, one at 86 St Stephen's Green, which was known as St. Patrick's or University House, under the care of Rev. Dr Michael Flannery, a second at 16 Harcourt Street, known as St Lawrence's under the care of Rev. Dr James Quinn, who also had his school there and third, Newman's own house, 6 Harcourt Street, known as St Mary's under Newman's personal supervision (Barr, 2003). After the 1908 Irish Universities Act, the academic staff of the NUI colleges were called "officers", as were the presidents, fellows, lecturers, secretaries, bursars, registrars and any "other

officer engaged in the teaching or management of the business" (Edward VII, 1908) of the colleges.

Just as in the elite phase of higher education throughout Europe, different institutional types in Ireland influenced the activities and beliefs of the academic staff that constituted them. While the academic staff of Trinity College and the Catholic University taught a liberal curriculum, the Queens colleges focused on a more utilitarian curriculum. By the end of the 19th century, the body of classical knowledge taught in Trinity and the Catholic University began to subdivide into disciplines and academic staff were no longer teachers of all the required subjects, but instead became specialised professors of a single well defined proportion of knowledge.

The religious, political and curricular differences between the higher education institutions influenced the beliefs of their academic staff, however, many of the activities and values of academic staff were common to all Irish higher education educators. All the institutional types of the elite phase of higher education in Ireland emphasised the role of teaching over research which was reminiscent of the European wide resistance of universities to undertaking research during the Enlightenment period. However, in 19th century Europe, universities had begun to incorporate scientific research into their mission, but Ireland was behind on this trend. Coolahan (2004) noted that, traditionally, Irish higher education institutions were predominantly teaching institutions, with relatively limited attention devoted to research, doctoral and post-doctoral studies (Coolahan, 2004).

According to French (2010), Newman subscribed to the perception that: "scientists were generally…madmen, their discoveries as wild and likely to mislead into the narrow paths of specialism, particularly unsuitable at undergraduate level" (French, 2010, p. 6). The academic values or beliefs articulated in Newman's lectures of

academic freedom, autonomy and community were also shared by academic staff in all the higher education institutions during the elite phase in Ireland.

Table 2.2 describes the academic beliefs and activities that were both shared and divided between institutional types throughout the stages of the elite phase in Ireland. Academic staff of Trinity College in 16th century Ireland were charged with promoting Protestantism and providing a liberal arts education. In the 19th century, academic staff of the federal Queens University focused on providing professional education and utilitarian subjects over liberal arts education. Also, in the mid-19th century, University College Dublin was established to provide liberal arts education to Catholics. Its leader John Henry Newman described the ideal university as autonomous where academic staff focused on teaching over research, where knowledge was without restriction and where there was an academic community. In the early 20th century, NUI colleges comprised of Galway, Cork and Dublin, promoted nationalist ideals. While the academic staff of all the universities of Ireland engaged in the activities of teaching and administration during the elite phase, none of them incorporated research into their missions.

Table 2.2 Shared and differing academic activities and beliefs in the different institutional types during the elite phase of higher education in Ireland

PHASE	SHARED BELIEFS AND ACTIVITIES	DIFFERING BELIEFS AND ACTIVITIES
ELITE	Subdivision of knowledge into disciplines	Protestantism v Catholicism
	Teaching	Liberal arts v utilitarian curriculum
	Administration	Nationalism
	Absence of research	Role of the master
	Academic freedom	
	Autonomy	
	Community	
	Collegiality	

Just as was the case in European higher education, the division of academic staff work-lives based on the different institutional types had already begun during the early religious, political and curriculum related oppositions between institutions in Ireland. Nevertheless, shared activities of teaching and administration, and shared beliefs about academic freedom, autonomy, collegiality and community in all the institutional types in Ireland informed the notion of a homogenous Irish academic profession. One interesting distinction between the Irish and European histories is that research was not an activity in either institutional type in Ireland during the elite phase. Nevertheless, as it was in Europe, the early influence of institutional type on academic work-life during the elite phase was and still is, generally overlooked.

2.1.5 Section summary

This section described the evolution of higher education during the elite phase in Europe and in Ireland in order to highlight how institutional types have always been created and redefined by social forces and have, in turn, created and redefined academic work-life. This section also described the shared and differing activities and beliefs of academic staff depending on their institutional type. This historical context provides two key insights; firstly, that societal demands on higher education are addressed by adapting the HEIs mission to society's needs rather than directly affecting academic staff and, secondly, that academic work-lives have always been defined in part by their institutional type.

2.2 Mass phase

The mass phase involved greater societal demands on higher education, resulting in the creation of a binary system, and the two distinct institutional types that still exist

in Ireland and in many other European countries today. In Ireland, the two institutional types defined academic work very differently in their missions and staff contracts, implying diversified academic work-lives. However, due to the lack of research into higher education in Ireland or in Europe during this time, there were few measures operationalised to test the differences in academic work-lives in each institutional type and there was no empirical evidence to support assumptions about those differences. For this reason, I will refer to research undertaken in the USA during this period, which is where academic research into higher education institutions and staff began[15]. This research provided both theoretical ways to conceive of the relationship between institutional type and academic work (which will be explored in detail in Chapter 3) and also the empirical evidence to support the assumptions about how academic work differed in each institutional type.

This section will provide the descriptions of academic work-lives in each institutional type as they were initially defined in both Europe and Ireland (2.2.1.); it will review the first research into academic work-lives which operationalized the measures of activities and beliefs of academic work-lives. In doing so, this research provided measurable ways to test the difference between institutional types, as well as provide the empirical data to support the assumptions about the activities and beliefs of academic staff in each institutional type (2.2.2).

Examining the mass phase fulfils the purpose of providing the baseline description of academic work-life in each institutional type. The literature of the current universal phase which will be examined in section 2.3 asserts that the activities and beliefs of academic work-life have become homogenous between institutional types and that they are being degraded by the societal demands on higher education. This section

[15] Boyer et al.'s (1994) study was initiated in the USA, but European countries participated in the study and the results from those countries will also be examined here.

defines the baseline beliefs and activities of academic staff and how they differ between institutional types before this degradation is said to occur.

2.2.1 Mass phase in Europe and Ireland

Trow (2005) claimed the mass phase occurred when higher education shifted from a primarily elite activity (<15% enrolment of the age group) to a mass activity (>15% enrolment of the age group). This shift occurred in tandem with other socio-economic demands on higher education after World War II and up until the end of the 1970s. It involved four factors; firstly, the successful application of scientific discoveries made in the second world war encouraged governments to invest in university research; secondly, the increase in disciplines and in research instrumentation required more practitioners; thirdly, there was a shift in the range of skills required by industry; and fourthly, the number of students finishing secondary school increased (Geuna, 1996). As was the case in the elite phase, these socio-economic conditions initiated institutional diversification and resulted in the founding of the non-university institutions of higher education (Geuna, 1996) that, along with the universities, are the subject of this research.

During the mass phase of higher education in Europe in the 1960s and 1970s, alternative institutions to universities were established which were more teaching focused and aimed to educate manpower for the jobs being created by advancing economies. Britain, France, Germany, Ireland and Norway were among the first countries to establish these alternative institutions, which were termed Polytechnics, Instituts Universitaires de Technologie (IUT), Fachhochschulen, Regional Technical Colleges and District colleges, respectively. In the 1980s, the Netherlands created the Hogescholen and in the 1990s Austria and Finland reused other nations' terminology by creating the Fachhochschulen and Polytechnics respectively. The collective term for

these institutions has ranged from 'short cycle higher education' (OECD, 1973), 'alternatives to universities' (OECD, 1991) and 'post-secondary institutions' (Geuna, 1996), but none of them has been wholly accepted and this research will most frequently refer to them as non-universities[16].

In Europe, the non-universities were created in order to "educate and train the intermediate level manpower requirements of advancing economies where tertiary level qualifications were being required in an increasing number of jobs" (Taylor et al., 2008, p. 247). It was thought that non-universities could also fulfil the objectives of regional development and networking with economic and social activities (Taylor et al., 2008). As well as a different disciplinary focus, non-universities differed from the universities in that they were teaching focused, without a research orientation, they did not have equivalent degree granting powers, they offered shorter study programmes, they had less autonomy, different governance and different funding to the universities (Geuna, 1996; Taylor et al., 2008).

Ireland was not an industrialised country in the middle of the 20th century, and the 1950s saw a new generation come to power that prioritised the economic development of the nation over the nationalist goals of the previous leadership (French, 2010). To that end, the development of technical education became the subject of national plans and the OECD reports of 1964 and 1965 (OECD, 1964, 1965) led to the establishment of nine Regional Technical Colleges (RTCs) and two National Institutes of Higher Education (NIHE).

A steering committee was appointed to advise the Minister for Education on technical education and it produced its report in 1967. The report described the role of the RTCs as providing education for trade and industry over a broad spectrum of occupations ranging from craft to professional level, notably in engineering and science,

[16] The non-university label will be employed while recognizing that some higher education theorists oppose it as derogatory (Taylor, Ferreira, Machado, & Santiago, 2008).

but also in commercial, linguistic and other specialties. It was assumed that the colleges would provide: senior cycle post primary courses leading to the leaving certificate, junior and senior trade certificate courses, courses for technician qualifications at various levels, courses leading to higher education qualifications, or, in some cases, to professional level, and adult education courses (Coolahan, 2004). As Coolahan (2004, p. 78) noted, "the role envisaged for the RTCs by the steering committee was more focused on second-level and further education than on tertiary education". The NIHEs were established for more advanced level technological studies. Both the NIHEs and the RTCs were intended to be more technical and applied than the university sector and to come more directly under state control.

Prior to the appointment of the steering committee, the Minister for Education, Patrick Hillery had also appointed a commission on higher education in 1960. The commission's brief was to survey every feature of higher education in relation to the education needs and to the financial resources of the country, and to make recommendations in relation to university, professional, technological and higher education generally (Coolahan, 2004). The commission took seven years to produce its report, a delay which has been attributed to its wide scope. In 1967, the commission's report defined the university in an emphatically liberal tradition as a place for study and communication of basic knowledge. It declared uncompromisingly that "universities as centres of learning, scholarship and liberal education should not be allowed to become overwhelmed by the claims upon them to provide the country with its requirements of skilled manpower" (White, 2001, p. 44), thereby uniting the universities' previously opposing approaches of liberal and utilitarian curriculums in the elite phase and remaining true to Newman, who was aloof from the calls to use education to develop skills for economic development (Coolahan, 2004). The management of the universities was to be autonomous.

In addition to the establishment of the nine RTCs and the two NIHEs, the Dublin Institute of Technology (DIT) was established in 1977 by amalgamating six, mostly second level colleges which had been under the control of the City of Dublin Vocational Educational Committee (CDVEC). The original function of DIT was to coordinate the work of the six colleges and their college councils under a governing body. Thus a strong demarcation or binary divide was created between universities and the RTCs, NIHEs and DIT.

Table 2.3 summarizes the national initiatives that contributed to defining the non-university HEIs during the mass phase in Ireland.

Table 2.3 Mass phase initiatives affecting institutional type

INITIATIVE	ASPECTS AFFECTING INSTITUTIONAL TYPE
OECD 1964/1965	Recommended establishment of 9 RTCs and 2 NIHEs
STEERING COMMITTEE REPORT 1967	Defined RTC role as education for trade and industry mostly at second level 1969 minister announced the RTCs would be managed by a board of management appointed in accordance with 21(2) of the VE Act 1930
COMMISSION ON HIGHER EDUCATION 1967	Defined university in liberal tradition for study of basic knowledge – not for the provision of Ireland's need for skilled manpower Recommended establishment of HEA to deal with funding, planning and development of higher education. HEA established in 1968
NCEA 1972	NCEA was established by government to approve courses and award degrees, diplomas and certificates for the non-university sector
DIT ESTABLISHED 1977	Amalgamating the 6 VEC colleges in Dublin
STEERING COMMITTEE 1995	Recommended the RTCs be re-titled Institutes of Technology

Throughout the first ten years of operation, the number of full time students in the RTCs grew impressively from 194 in 1970 to 5965 by 1980, a thirty fold increase. Students in the RTCs benefited from much more favourable staff student ratios than existed within the universities but the administrative staff was more limited. By 1981, Ireland had, after the Netherlands, the largest proportion of third-level students taking part in sub degree courses (Coolahan, 2004).

The success of the non-university sector in Ireland in attracting students created the impetus for the missions of the different institutional types to transform. The universities, who only maintained 60% of higher education students by 1980 began to adapt to the increasingly popular utilitarian mission of the non-university sector and began to direct their programmes more towards the needs of industry and business with the result that the numbers studying business and engineering doubled between 1981 and 1991 (Coolahan, 2004). In 1986, the NIHEs sought recognition as universities and after an international study group examining the case for the establishment of a technical university recommended that the NIHE Limerick and Dublin should be self-accrediting and independent universities. They were renamed University College Limerick and Dublin City University. The RTCs and the DIT were frustrated by the control of the VEC and the CDVEC over their institutions and, in 1992, the *RTC Act* and the *DIT Act* removed them from the authority of the VECs, giving them more independence of operation. The RTCs and DIT were given a research remit in these Acts and their applied research and consultancy roles were greatly expanded creating similarities of their missions to the universities. In 1998 the title of the colleges was changed to Institutes of Technology (IoTs). It was also agreed that following fulfilment of certain criteria, institutes could be permitted to award their own degrees. Finally, three new IoTs were created in Dublin in order to address the problem of the provision for and access to non-university higher education in the Dublin area: IoT Tallaght, IoT Blanchardstown and Dun Laoghaire Institute of Art and Design were established. In 1998, the Limerick technical college was raised to the status of the Limerick Institute of Technology, bringing the total HEIs in the Irish higher education systems at the end of the mass phase to 21: 13 IoTs, the DIT, and seven universities.

As observed by Altbach (2000b), the diversification of HEIs was recognised internationally during this period as having the consequence of creating a diverse

academic profession. In Ireland, the type of institution was a defining structure influencing academic staff. Although no formal research was yet being conducted in Ireland into their activities and beliefs, academic staff work-lives were defined in their employment contracts and the national legislation relating to universities, IoTs and DIT. And despite the beginnings of a homogenization between the missions of the two institutional types described above, the definitions of academic work-lives were still distinct from one another.

From 1969, the Teachers Union of Ireland (TUI) was named by the Minister for Education as the trade union for the RTCs[17]. The TUI was previously a second level teachers union so the RTC staff, some of whom had taught apprentices in the VEC for years previously, adopted a second level attitude towards their teaching and management tasks. In particular, it was noteworthy that the TUI negotiated with the Department of Education that RTC teaching staff would be free of duties from June 20th to September 1st each year (Coolahan, 2004).

The career trajectory for academic staff in Ireland in both institutional types was, however, very similar (Lalor, 2010). Most commenced at an entry level, early career grade of "'assistant lecturers', 'junior lecturers' or 'below the bar lecturers'" (Lalor, 2010, p.2). The next career level was Lecturer, which can be known as 'Lecturer' (IoTs, NUIM), 'Lecturer above the bar' (DCU, NUIG, UCC, TCD) and 'College Lecturer' (UCD) (Lalor, 2010). The upper career levels in Irish academia consisted of Senior lecturer 1 (in the IoTs) or Senior lecturer (in the universities), Senior lecturer 2 (in the IoTs) or associate professor (in the universities) and Senior lecturer 3 (in the IoTs) and professor (in the universities). However, the Senior lecturer 2 and 3 positions in the

[17] The academic staff in the university sector belonged to the Irish Federation of University Teachers (IFUT), the academic staff of Dublin City University are members of Services Industrial Professional and Technical Union (SIPTU) and academic staff in the University of Limerick are members of the Manufacturing Science and Finance Union (MSF).

IoTs are management positions, not part of an academic career path (Hazelkorn & Moynihan, 2010).

Research competence, post graduate qualifications and a publications record were not requirements for appointment to the IoTs or DIT during the mass phase of higher education. In terms of their activities, the teaching role was emphasised over a research role for the non-university academic staff as was the case in the US and in Europe. However, the very fluid nature of the HEIs in the Irish system during the mass phase did have the effect of creating some staff initiated transformation of their activities: DIT degree awards were originally being conferred by Trinity college in a partnership agreement, and as a result, some DIT staff were encouraged to pursue post graduate degrees by the academic link. A fee waiver also incentivised DIT staff engagement in post graduate qualifications (Coolahan, 2004).

While most appointments in both the universities and the IoTs were made at assistant lecturer or lecturer level, in the universities, the requirements for appointment included an honours primary degree, a post graduate degree, and often a proven research record, teaching experience at university level and a publication record. In the IoTs, a recognised degree or an equivalent professional qualification used to be the minimum requirement for all teaching appointments together with a minimum of two years post qualification teaching experience (Killeavy, 2004). However, some more recent appointment requirements advertised for assistant lecturer positions in the IoT sector have included a Masters Degree as essential, a PhD as desirable, and an essential three years appropriate experience in the relevant discipline[18], while others still only require the minimum[19]. It was usual for first appointments in both IoTs and

[18] https://recruit.dit.ie/pls/corehrrecruit/docs/0000081176.pdf http://www.ittralee.ie/en/InformationFor/Vacancies/Archives2009/AL%20Irish%20Cultural%20Studies.pdf

[19] http://www.irishjobs.ie/Jobs/Assistant-Lecturer-in-Food-Science-7723286.aspx

universities to be for a probationary period of twelve months after which the promotions committee (made up of senior officers) decided on whether to award tenure or extend the probation period further (Killeavy, 2004). Non-university academic staff appointments were subject to ministerial approval:

> The Institute may appoint such and so many persons to be its officers (in addition to the President and the Directors) and servants as, subject to the approval of the Minister given with the concurrence of the Minister for Finance, the Governing Body from time to time thinks proper (Government of Ireland, 1992c, p. 12).

By contrast, university academic staff appointments were at the discretion of the individual university: "University may, in accordance with procedures specified in a statute or regulation, appoint such and so many persons to be its employees as it thinks appropriate" (Government of Ireland, 1997b, p. 25).

Equally, universities had the authority to dismiss members of staff, which the IoTs and DIT did not:

> A university may suspend or dismiss any employee but only in accordance with procedures, and subject to any conditions, specified in a statute made following consultation through normal industrial relations structures operating in the university with recognised staff associations or trade unions, which procedures or conditions may provide for the delegation of powers relating to suspension or dismissal to the chief officer and shall provide for the tenure of officers (Government of Ireland, 1997b, p. 25).

> A college shall not remove any of its officers (including the Director) from office without the consent of the Minister (Government of Ireland, 1992c, p. 11).

The tenure of academic staff in the universities was guaranteed in the *Universities Act* (1997) but not in the *RTC Act* (1992) or *DIT Act* (1992):

> For the removal of doubt, it is hereby declared that the rights and entitlement in respect of tenure, remuneration, fees, allowances, expenses and superannuation enjoyed on the commencement of this section by persons who are employees, and in the case of superannuation, former employees, of a university to which this Act applies shall not, by virtue of the operation of this Act, be any less beneficial than those rights and entitlements enjoyed by those persons as employees of the university or corresponding constituent college or Recognised College immediately before that commencement (Government of Ireland, 1997, p. 8).

However, the salary negotiations for academic staff in both institutional types were the result of collective bargaining between the government and the unions who were social partners in the process. Salaries were not determined by individual institutions (Killeavey, 2004).

The traditional academic values and beliefs that emerged during the elite phase of higher education such as academic freedom were not common to both types of institutions in Ireland during the mass phase. While academic freedom was enshrined in *Universities Act* (1997), it was not included in the *RTC Act* (1992) or the *DIT Act* (1992):

> A member of the academic staff of a university shall have the freedom, within the law, in his or her teaching, research and any other activities either in or outside the university, to question and test received wisdom, to put forward new ideas and to state controversial or unpopular opinions and shall not be disadvantaged, or subject to less favourable treatment by the university, for the exercise of that freedom (Government of Ireland, 1997, p. 14)

Institutional autonomy of non-universities was increased in the legislation of RTC and DIT Acts (1992) which gave them statutory status with more institutional control (Coolahan, 2004), however the *Universities Act* (1997) went further, and

included provisions for the recognition of the NUI colleges as largely autonomous universities and safeguarded all universities' autonomy (Coolahan, 2004). Both the *Universities Act* (1997) and the *RTC Act* (1992) and *DIT Act* (1992) Acts charged academic staff with the participation in the governance of their institutions:

> Two persons, being members of the academic staff of the college, shall be elected by that staff in accordance with regulations made by the governing body (Government of Ireland, 1992b, p. 4)

> The members of the governing authority shall include the following members elected in accordance with regulations made under subsection (11): not less than two or more than six members of the academic staff of the university who are Professors or Associate Professors, elected by such staff (Government of Ireland, 1997, p. 2)

Table 2.4 thus describes the characteristics, activities and beliefs that were both shared and divided between institutional types throughout the mass phase in Ireland. Academic staff in both institutional types in Ireland shared the characteristics of a similar career structure and salary negotiation process through collective bargaining between the government and the trade unions. However, staff in the different institutional types were members of different trade unions, the tenure of IoT staff was not guaranteed in the national legislation as it was for university staff and the university staff appointments required a post graduate qualification, whereas appointment to an IoT academic staff position did not. The activities that were shared between institutional types evolved throughout the mass phase. Initially, teaching was the only activity they shared and research was only done in the universities, but, by the 1990s, applied research was in the remit of the IoTs and DIT. Their activities differed in that academic staff in the IoTs taught more hours to less students than in universities and IoT staff were free from duties during the summer months. Academic staff in both

institutional types shared the beliefs of institutional autonomy and academic staff participation in governance which were enshrined in the national legislation relating to universities, IoTs and DIT. However, the legislation only guaranteed academic freedom for the universities. The curriculum for non-universities was utilitarian and technology focused[20] but the universities had begun to include utilitarian subjects into their previously liberal arts focused curriculums.

Table 2.4 Shared and differing academic features in different institutional types during the mass phase in Ireland

PHASE	FEATURES	COMMON BETWEEN INSTITUTIONAL TYPES	DIFFERING BETWEEN INSTITUTIONAL TYPES
MASS	CHARACTERISTICS	Salary negotiations	Post graduate Qualifications
		Career Structure	Appointment criteria
			Trade union membership
			Tenure
	ACTIVITIES	Teaching	Free from duties for summer
		Existence of research activity (1990s)	Time spent on teaching
			Existence of research activity (1970s and 1980s)
			Type of research activity
			Staff student ratio
	BELIEFS	Institutional autonomy (1990s)	Autonomy (1970s and 1980s)
		Collegiality	Academic freedom
		Provision of utilitarian subjects (1980s)	Liberal arts v utilitarian subjects (1970s)
			Technology focus
			Second v third level awards

Examining the descriptive literature about academic work-life in Europe and the social and legislative higher education environment in Ireland provided insight into the values and roles of academic staff and where they differed between institutional types.

[20] Albeit some elements of the Arts, Humanities and Social Sciences were in evidence in the RTCs from their commencement.

The following section explores the first research into academic work-lives, exploring the nature of the relationship between institutional type and academic staff and how the features of academic work could be operationalised into measurable items and empirically compared between institutional types.

2.2.2 Initial research into institutional type and academic work

Contrary to the elite phase of higher education, the literature describing the mass phase recognised that there were differences in academic work-lives which were attributable to the type of institution where academic staff worked. Altbach (2000b) observed that the diversification of higher education institutions during this time meant diversification of the professoriate as well. Clark (1987b) also claimed that

> In France the academic occupation is different in the Grandes Ecoles than in the universities; in the United States it is radically different in community colleges than in research based universities. What has generally been thought of as a university profession has become a more complicated post-secondary occupation in which professors and teachers are dispersed in various non-university settings as well as in different types of universities (Clark, 1987b, pp. 2-3).

Institutional type was identified as one of the structures[21] influencing academic staff in the early higher education research (Clark, 1987b; Light, 1974; Ruscio, 1987) and the other main structure influencing academic staff was identified as their discipline type (Becher, 1989; Biglan, 1973; Clark, 1987b). There is still widespread expression in the more current literature (Becher, 1989; Clarke, Hyde, & Drennan, 2013; Henkel, 2000) that "it is the discipline that is the major provider of values, attitudes, norms of conduct and intellectual standards" (Kyvik, 2009, p. 331). Nevertheless, during this

[21] The structural approach to institutional type affecting academic work-life will be explored further in Chapter Three.

period, both structures of institutional type and discipline type were recognised as powerful influences affecting academic staff that differentiated their experiences. The two structures did "not compete until one subdue[d] the other" (Ruscio, 1987, p. 331), but rather the influences co-existed. Three main studies were conducted that provide insight into academic work-lives in different institutional types in the mass phase of higher education: 'The Academic Life, Small Worlds, Different Worlds' (Clark, 1987a), 'Many Sectors, Many Professions' (Ruscio, 1987) and 'The Academic profession: an international perspective' (Boyer, Altbach, & Whitelaw, 1994). Briefly describing the findings of this previous research into the academic staff's activities and perceptions provides an initial baseline definition of university and non-university academic staff work-lives.

The research on academic staff in different institutional types was initiated in the USA where the expansion of tertiary education had begun earlier than in Europe, and where the community colleges were already 1000 strong by the 1970s (Clark, 1987b). In the 1980s Clark published 'The Academic Life, Small Worlds, Different Worlds', an investigation into the nature of academic work in six types of institutions in the USA (Clark, 1987a). Clark (1973) had previously defined the higher education system in the USA as "Private and Public Systems: Multiple Sectors" (Clark, 1973, p. 59). This system has many institutional types under public and private sponsorship, at least 15-20% of which receive most of their funding from non-governmental sources. In the USA, "each of the state systems has its own mixture of the three basic institutional types: the state university, the state college and the community college" (Clark 1973, p. 60). The community college provides the first two years of higher education, the state college overlaps those years and extends upward to provide another two or four years through bachelors and masters degrees, and the state university overlaps both of the first two institutions and extends upward another several years to the doctoral degree and

postdoctoral training (Clark, 1973). The three types of institutions are further disaggregated by categories of the Carnegie classification of institutions – that is by research universities (type I and II)[22] doctoral granting universities (type I and II) comprehensive universities (type I and II) liberal arts colleges (selective and non-selective) and community colleges (Losco & Fife, 2000). However, in order to differentiate the exclusively teaching institutions UNESCO created the distinction between tertiary type A (bachelor and postgraduate emphasis) and type B institutions (less than bachelors) (Cummings & Finkelstein, 2012). The type B institutions (i.e. the community colleges) not only educate students along conventional lines intending to transfer them to other colleges for completion of the baccalaureate, but also provide a utilitarian curriculum of occupationally focused career programs (Ruscio, 1987) which makes them comparable to the non-university type of institutions in Europe.

Clark (1987a) combined data from a national survey of 5000 academics containing hundreds of questions carried out by the Carnegie Foundation for the Advancement of Teaching in 1984, with the recorded interviews of about 170 faculty members located in six discipline types. His findings showed that academic staff in research universities spend significantly more time on research and less time on teaching than academic staff working in the other types of institutions. Academic staff in the liberal arts II colleges and the two year colleges spend significantly more time on teaching than the other types of institutions and no time on research. Academic staff in all types of HEIs spent a similar amount of time on administration (See Table 2.5).

From the interviews conducted, Clark (1987a) also reported on the responses of academics when asked about the common values of their profession. He found that academics in all institutional types shared the values of the pursuit of knowledge, to understand, to ask questions, to create and transmit knowledge and allow it to enhance

[22] Type I and type II refer to the amount of research support they receive.

the quality of life. Another commonly held value across all institutional types was intellectual integrity, the honest handing of knowledge, honest teaching, honest research and the fair treatment of colleagues and students. A third commonly held value across all institutions was the value of academic freedom. Academic freedom was interpreted in all the institutional types both as the freedom to express views to the students, administration and society without constraints and as the personal freedom to decide on the focus of one's work and pursue that focus unfettered (Clark, 1987a) (See Table 2.6).

When asked to describe an outstanding academic however, the ideals voiced differed between institutional types. In research universities, the ideal academic was described as an outstanding researcher with national stature. In comprehensive colleges, the ideal academic description shifted away from national renown and "into a profusion of concerns in which teaching is central" (Clark, 1987a, p. 125). These concerns include strong obligation to students, keeping up with the field, being intellectually sharp and capable of doing research, as well as doing some practical things. In community colleges, the ideal academic was described as being very student centred and capable of stimulating students (See Table 2.6).

Table 2.5 Hours per week spent on teaching, research and administration by academic staff in different institutional types (adapted from (Clark 1987)

Activity	Type A								Type B
	RU* I	**RU II**	**DGU ** I**	**DGU II**	**CU*** I**	**CU II**	**LA** ** I**	**LA II**	**TYC *****
Teaching		1-5	5-10	5-10	5-10	5-10	5-10	11-20	11-20
Research	>20	>20	5-10	1-4	1-4	1-4	1-4	NONE	NONE
Administration	1-4	1-4	1-4	1-4	1-4	1-4	1-4	1-4	1-4

*Research Universities
**Degree Granting universities
***Comprehensive universities
****Liberal Arts colleges
*****Two year colleges

Ruscio's (1987) study of the American academic profession combined Fulton and Trow's (1975) analysis of the Carnegie Commission survey data (1969) and the National Science Foundation data (1981) with 150 interviews with the American professoriate across different kinds of universities and colleges as well as across disciplines. Ruscio (1987) focused on three areas of analysis: implications of institutional diversity for an academic's work, implications of institutional diversity for an academic's participation in institutional governance, and implications of institutional diversity on an academic's values and attitudes.

In terms of the implications of institutional diversity for an academic's work, Ruscio noted that Fulton & Trow (1975) reported the research activity (defined as publications) in universities was significantly higher than in community colleges where it was "hanging by a thread" (Ruscio, 1987, p. 339). Between the two extremes of these institutional types, research activity decreased in tandem with institutional quality across the four general categories of high and medium quality universities, lower level universities, elite four year colleges, and other four year colleges and community colleges (Ruscio, 1987). Reporting on the National Science Foundation data where institutions were classified as universities (doctorate granting) or 4 year colleges (non-

doctorate granting), Ruscio echoed the findings of Clark; that university faculty devoted significantly more time to research and less time to instructional activities.

Ruscio's second proposition is that teaching was the preferred activity of academic staff in all institutions which he verified both with quantitative data from Fulton & Trow (1975) study and with supportive interview findings. His third proposition about academic work was that academics in all sectors expressed a desire for more research time; "each sector seems to worship the god of research" (Ruscio, 1987, p. 344).

Ruscio (1987, p. 354) found that faculty authority, which he claims is traditionally defined as "the formation of a guild through which the direction of the institution was influenced" varies between institutional types. He described institutional settings as having a management temperament and an academic temperament. The management temperament was characterised by debates between institutional administration, faculty and their representatives on issues such as workloads, assigned office hours and salaries, and was akin to the conventional employer-employee relationship. In contrast, the academic temperament reflected the "more guild like approach: decentralized decisions, reliance on the professional's expertise, and tolerance for redundancy and ambiguity in decision making" (Ruscio, 1987, p. 348). Although far from clear cut, or generalizable, Ruscio found that in the institutions with a more academic temperament faculty made all the decisions important to them while still subject to legal and institutional constraints. However, he noted that authority across all institutional types was rising upward and there was a "steady downward movement of constraints that circumscribe decisions" (Ruscio, 1987, p. 350).

Ruscio's method to establish academic values and beliefs in different institutional types was the same as Clark's described above, namely, to ask academics to construct a model of an outstanding academic. Ruscio (1987) quoted participants'

ideals that differed across institutional types pertaining to teaching ability (community college), humanity and relate-ability to students (liberal arts college), multi-disciplinary scholarship (elite liberal arts college), truthfulness and personal integrity (state college), and lust for knowledge and thoroughness in research (research university). But, he noted that similarities and recurring themes were also very evident. These included the ideals of having a lust for knowledge, an inquisitive mind, a cognitive ability, multi-discipliniarity, ability to work with people and be a good communicator.

Ruscio concluded that the academic profession exhibited important behavioural and ideological differences across institutional sectors: distinct cultures linked to the missions of various colleges and universities were emerging:

> If we look at the profession across institutions the situation is different [than across disciplines]; it is difficult to find any mechanism, normative or instrumental, to compensate for the fragmentation. Academics in different sectors are developing distinct interests. This may be so because the constituencies of higher education vary by institutional setting. Diverse student populations, state governments, the federal government, and business present demands that vary by sector resulting in a variety of organisational cultures that require academics to respond differently (Ruscio, 1987, pp. 363-364).

The results of the first international survey of the professoriate in 14 countries was published in 1994, entitled 'The Academic Profession: an International Perspective' (Boyer et al., 1994). This study viewed the academic profession in the fourteen countries through the prism of several general themes: the profile of the professoriate, access to higher education, professional activities, working conditions of faculty, governance in the academy, higher education and society, and the international dimensions of academic life. In 1997, Enders and Teichler presented a sub-analysis of the data for the European countries included in the Carnegie study; Germany, the

Netherlands, Sweden and England, as well as Japan and the US. They examined the responses of four groups of faculty: professoriate, middle rank and junior faculty at universities, and faculty at other or non-university institutions. In Germany, the Netherlands, and in England, the higher education systems were characterized by two distinct types of HEIs. In Sweden, all HEIs were formally hogskolan, and in the US and Japan, academics of research-oriented universities were allocated to the first three categories and academics of other universities (mostly without graduate education) were allocated to the fourth category (Enders & Teichler, 1997) .

In Europe, academic staff in the universities spent between 22% to 46% of their time on teaching when classes are in session compared to academic staff in European non-universities who spent between 55% to 68% of their time on teaching. European university staff were found to spend 26% to 55% of their time on research compared to non-university staff who spent 12%-20% of their time on research when classes were in session. When classes were not in session, European academic staff spent more time on research (59%-65% in universities and 23-42% in non-universities). Time spent on teaching decreased for European staff when classes were not in session, to 10-25% in universities and 24-43% in non-universities (Enders & Teichler, 1997).

Further findings for the European non-universities showed that over 85% of staff at non-universities held a permanent tenured or indefinite duration contract – a similar proportion to the universities in these countries. Academics at non-universities were slightly less satisfied with their income, job and career than university staff in all countries except Sweden. Academics at non-universities rated the resources somewhat worse than academics at universities and the class-size at non-universities was smaller than at universities. Academic staff at non-universities spent less time on academic work overall. In universities, academic staff spend between 40 and 57 hours per week across all career levels and in European non-universities academic staff spend between

35 and 47 hours per week when classes were in session. When classes were not in session, Enders & Teichler (1997) noted that non-university academic staff spend considerably less time on academic work (Enders & Teichler, 1997).

Academics at other institutions of higher education spend most of their work time on teaching. Throughout the year, time spent on teaching was two to four times as much as time spent on research. Academic staff at other institutions of higher education spend less time on administration than university professors and middle-ranked academics at (research-orientated) universities. In contrast to most university academics, those at other institutions seemed to have little leeway to arrange academics tasks in accordance to their general preferences, as far as the time budget was concerned (Enders & Teichler, 1997). Academics at other institutions of higher education published much less than their colleagues at universities.

Table 2.6 summarizes the concepts used by all three studies conducted on academic staff during the mass phase to measure the similarities and differences in activities and beliefs of academic staff in different institutional types and what those similarities and differences were found to be. The shared activities included teaching, administration, performing research and the shared beliefs included academic freedom. Where the academic staff activities were found to differ was in the amount of time spent on teaching and the amount of students to each staff member (student staff ratio), the amount of time spent on research and the level of outputs of research in terms of publications and the amount of time spent on administration (Enders & Teichler, 1997). The beliefs of academic staff differed in that non-university staff perceived that they had less autonomy over their work, they rated their resources worse and they were less satisfied.

Table 2.6 Features of academic work-life in different institutional types during the mass phase

PHASE	TIME	SHARED BY BOTH INSTITUTIONAL TYPES	DIFFERED IN BOTH INSTITUTIONAL TYPES
MASS	Ruscio, 1980, Clark, 1980	Time spent on administration	Hours spent teaching
		Collegiality	Performing research
		Academic freedom	Hours spent on research
		Autonomy	Publications output
		Preference for teaching	Valuing of teaching ability
		Desire for more research time	Valuing of research ability
		Increasing managerial authority	
	1990s Boyer et al.	Teaching	Time spent teaching
		Research	Time spent on research
		Administration	Time spent on administration
		Tenure	Satisfaction
			Adequacy of resources
			Student staff ratio
			Time spent at work
			Autonomy
			Publications output

2.2.3 Section summary

The examination of the legislation relating to universities, IoTs and DIT and the employment contracts of academic staff in Ireland provided insight into the definitions of the conditions, activities and beliefs of academic staff during the mass phase. While no research was being conducted on academic staff in Ireland at the time, studies initiated in the US which looked at both American and European academic work-lives provided some empirical support for the baseline definitions of academic work-life in different institutional types. By the end of the mass phase, both in Ireland and abroad, academic staff in both types of institutions shared the roles of teaching and research and held the values of institutional autonomy and collegiality. American and European academic staff in both types of institution also shared the value of academic freedom which was only protected for university staff in Ireland. Equally, tenure, which was a

common condition for American and European academic staff in both types of institution, was only guaranteed for university staff in Ireland. Where the academic staff in different institutional types in Ireland differed from each other was in their qualifications, the time they spent at work overall (because non-universities staff were free from duties in the summer months), and the time they spent teaching (with non-university staff spending more time teaching). Academic staff in universities, compared to non-universities, also spent less time teaching and more time overall at work, however, the empirical research also shows that they spent more time on research, they published more, they spent more time on administration, they were more satisfied, they rated their resources higher. The American empirical research provided more information, both about the potential differences in academic work-lives between institutional types in Ireland, and about how they can be measured. Both the review of the Irish legislation and work contracts and the review of the empirical research into academic work-lives in USA and Europe provide a baseline definition of the constituents of academic work-lives. The descriptive literature and the empirical research about academic work-lives in the current universal phase, which will be examined in section 2.3, describes an erosion and degradation of the activities and beliefs of academic work that were defined during the mass phase. Therefore, establishing the nature of the activities and beliefs and their levels in each institutional type provides the starting point for defining the characteristics, activities and beliefs of academic work-life. It further provides some of the measurable concepts that can be used to compare academic work-lives in different institutional types.

2.3 Universal phase

One of the main aims of the current universal phase of higher education is to prepare large numbers of students for "life in an advanced industrial society…to

maximize the adaptability of that population to a society whose chief characteristic is rapid social and technological change" (Trow, 2005, p. 18). With the greater participation in higher education, the composition of the student body has evolved to include non-traditional students, the expense of the provision of higher education to more students of varying abilities has increased, the public accountability for expenditure of HEIs has grown and so has an expectation of HEIs participating in the knowledge economy by producing marketable outputs related to their research.

Government policies and strategies in Europe and Ireland have set objectives for HEIs in relation to non-traditional student numbers and research outputs and public accountability that have had an effect of homogenizing the missions of different institutional types. The effects of the societal and political demands on academic staff have been reported as if they were impacting academic staff directly and not filtered by their institutional type, and as if academic staff were one homogenous group not differentiated by their institutional type.

This section will explore the social and political demands on higher education in Europe and in Ireland and how these demands are homogenizing the missions of institutional types (2.3.1). It will describe the direct impact that the social and political demands are reported to be having on academic staff in Europe, specifically, intensifying academic activities, deteriorating academic beliefs and values and eroding working conditions. While these depictions of academic work-life will provide some of the measures that will be used in this study, the descriptive and empirical literature examined reports the effects of the social and political demands on academic staff as if they were one homogenous group (2.3.2). This section will also describe the research studies that have examined differences in some aspects of academic work-lives between different institutional types while noting that although institutional type is considered, none of the studies explore all the measures of academic work-life in the universal

phase that this thesis aims to do (2.3.3). This section will further examine the particular social and political demands placed on higher education in Ireland in terms of the Irish legislation and strategies during this period and in the context of the economic recession of 2008 and the following years. It will hypothesize that similar features of academic work-life as were found in Europe for this period can also be expected in Ireland (2.3.4). Lastly, this section will describe the only available research on academic staff in the universal phase in Ireland at the time when this PhD study was conducted (Higher Education Authority, 2009a). The results from that research provide some additional measures to the ones from the European research to be included in this study (2.3.5).

2.3.1 Social and political demands on higher education in the universal phase

Towards the end of the 20th century, mass higher education was transitioning into universal higher education (>50% enrolments of the age group) (OECD, 2012; Trow, 2005). The socio-economic conditions in the twenty first century required an adaptable, technologically literate population to be educated at an efficient cost, thus the universal phase of higher education became characterised by two main features: Firstly, by an increasing number of traditional and non-traditional students (UNESCO, 2014) who were accessing more modular, unstructured curriculum and using technological aids. Secondly, HEIs began operating with greater financial accountability and producing more marketable outputs from research to contribute to the knowledge economy (European Commission, 2011).

The massive increases in student numbers during the mass phase continued into the universal phase such that, "overall student enrolment all over the world increased more than ten times within five decades" (Locke & Teichler, 2007, p. 7). During the mass phase of higher education, "western governments dramatically changed their

approach to higher education, viewing it as a driver of national economic and social development through the formation of human capital. At the same time, demographic pressures, particularly the coming of age of the 'baby boom' generation, provided the fuel for growth" (Coaldrake & Stedman, 1999, p. 4). Since the 1980s, there has been a further massive jump in first time enrolments and since the 1990s, the composition of students has radically changed (Becher & Trowler, 2001).

This recent unprecedented growth has two main characteristics; the changing demographic characteristics of students and the use of information communications technology (ICT) to ease the burden of the intensification and expansion of the teaching role. Since the late 1990s, the constitution of the student body has changed to include more female students, more minority ethnic groups and many more older students: "In the late 1990s compared with a decade earlier higher education students in both countries are more likely to be female, conform to minority ethnic groups; and be older (59% over 21 in UK and 58% in the USA in 1998)" (Becher & Trowler, 2001, p. 4). The increasing diversity in the student population also revealed a variability in their preparation for higher education such that students could "no longer be assumed to be sufficiently gifted to learn for themselves in the face of indifferent teaching [nor could] individual or group differences within the student population be ignored" (Coaldrake & Stedman, 1999, p. 4).

Information and communications technology (ICT) was seen as a solution to some of the problems of the increasing student levels in the universal phase; "acting as a kind of relieving cavalry as student numbers escalate" (Fallows & Bhanot, 2002, p. 202). There are already HEIs with more students than seats and online and web based learning technologies have demonstrated their advantages and "savings on plant" (Fallows & Bhanot, 2002, p. 202). Fallows and Bhanot (2002) suggest that the very driving force behind the introduction and encouragement of ICT use in HEI's teaching

is the economic advantage it offers through teaching more students. Thus, higher education's ICT revolution is more business led rather than pedagogically driven.

In the universal phase, there are larger proportions of populations involved and interested in what goes on in HEIs. There is interest in their governance which is expressed in the general media and shared by the public who make their opinions known about issues such as the enormous public cost of higher education through their voting in elections. The large costs cause pressures for public financial accountability and more management procedures are put in place in institutional administration, which rely on quantified data and outputs for the assessments of costs and benefits (Trow, 2005).

The increase in bureaucratic staff and management procedures are manifestations of the connections and control of central governments over higher education. Demands for greater efficiency and economy have been made of the institutions constituting the European systems. There have been increasing requirements of accountability for the government expenditure on higher education (Altbach, 2000c; Becher & Trowler, 2001; Coaldrake & Stedman, 1999). Efficiency and quality measures have been implemented, requiring more overt institutional management of sites, finances, staff and students, as well as more external responsibilities to regulatory bodies such as funding agencies and quality authorities.

This deposition of academic leadership by bureaucratic management is what is meant by the ubiquitous terms in the higher education literature of 'managerialism', 'neo-liberalism', and the 'New Public Management'. Managerialism has thus been described as "a behaviour that is oriented to efficiency, economy and market responsiveness and which calls for the direction of employee activities towards these ends by managers" (Becher & Trowler, 2001, p. 10) and as an idea that is "linked with a number of values of prime importance to government: public accountability, the

efficient use of resources, a focus on the effectiveness or output of public services and the measurement of performance in terms of such criteria" (Henkel, 2000, p. 41).

In the drive for efficiency in higher education, the resources available are dwindling and there is increased competition for funding opportunities particularly in the area of research. Research has become a valuable commodity in the knowledge economy, defined as an economy in which "the generation and exploitation of knowledge has come to play the predominant part in the creation of wealth" (Government of Great Britain, 1998). In most western nations, higher education is being called upon to contribute to the knowledge economy and society (Taylor, 2008; Valimaa & Hoffman, 2008). As a result, HE-based research has prospered from funding by government and private enterprise (Altbach, 2000a). The funding model however has shifted from block grant funding for research to more competitive funding for project specific awards (Altbach, 2000a). This competitively raised research money has become critical for HEIs, not just as a resource, but also as a "prestige maximiser" for both the institutions and the faculty involved in obtaining it (Slaughter & Leslie, 1997). 'Chasing the dollar', or the euro, has become an increasingly important part of the faculty role in some institutions and HEIs are under pressure to "establish more sophisticated and well-managed organizations for the procurement, support and administration of contract research" (Becher & Trowler, 2001, pp. 9-10).

The governmental policies in relation to research, non-traditional students and accountability served to homogenize missions between the institutional types in Europe and in Ireland. While many national strategies sought to maintain institutional difference, EU and member state policies set targets for higher education in relation to the research productivity, the inclusion of non-traditional students and the greater financial accountability, that have effectively and ironically aimed to homogenize actions between the institutional types (Altbach, 2009). For example, the *Lisbon*

Strategy (2000) aimed to increase research and development investment in Europe to 3% of GDP and Ireland adapted this objective in its *National Development Plan* (2007) and its *Strategy for Science, Technology and Innovation* (SSTI), (2006), specifically outlining measures to encourage more research activity in Institutes of Technology. The Lisbon Strategy also promoted life-long learning and the inclusion of non-traditional mature students in higher education. Again, Ireland incorporated this objective into its *Programme for Prosperity and Fairness* (2000), which set a target for mature student representation in higher education to reach 15% by 2005. Currently, 11% of total enrolments in Irish universities are mature students and 16% are distance learners. In the institutes of technology, mature students constitute 20% of total enrolments and distance learners constitute 21% of total enrolments (Higher Education Authority, 2013b). The *European Union Council Resolution* (2007), on modernizing universities for Europe's competitiveness in a global economy, reiterated the importance of the inclusion of adult learners as well as emphasising the need for HEIs to have better governance, accountability in their structures and to diversify their sources of funding. Ireland, which had already introduced more accountability and managerial structures in its higher education legislation (Government of Ireland, 1992b, 1997b, 2006a) recommended in the *National Strategy for Higher Education to 2030* (Government of Ireland, 2011) that accountability and performance of higher education at the system and institutional level correspond clearly to more transparent national expectations. These expectations were later outlined in the *Towards a Performance Evaluation Framework: Profiling Irish Higher Education* report (Higher Education Authority, 2013b) and the measures used to evaluate institutional, sectoral and system performance in Ireland, though inclusive and comprehensive, were the same for both institutional types.

2.3.2 Effects of the social and political demands on academic staff

The effects of these social conditions and political strategies on HEIs and academic work-lives have been reported as if academic staff were one homogenous group not differentiated by their institutional type. The descriptive literature depicting academic work-life in the universal phase has painted a picture of academic staff in retreat. The working conditions that were described by the research in mass phase have been degraded (Trowler, 1998) such that faculty were likely to find themselves with dwindling resources, over extended and underfunded (Clark, 1998). There was a juniorisation and casualisation of academic staff (Bostock, 1998) and "an increased introduction of fixed-term appointments" (RIHE, 2008, p. 403) such that "many faculty are kept in poorly paid junior positions characterized by unfavourable working conditions" (Altbach, 2000b, p. 15) and "the numbers of full time faculty who are not on the tenure track [is increasing]" (Rhoades, 2000, p. 42). This juniorisation and casualisation undermine institutional life (Rhoades, 2000) as these faculty members are not involved in governance, not likely to be knowledgeable about current intellectual trends or research in their fields, and are less likely to have links to international scholarship or to participate in knowledge networks (Altbach, 2000b).

Academic roles have intensified and diversified "whereby faculty are expected to work longer, on a greater variety of tasks with fewer resources" (Becher and Trowler 2001, p.13). More labour is being extracted from academic staff from management and the discursive repertoires used within universities are managerial (Trowler, 1998). Furthermore, academic staff experience the focus on knowledge production in HEIs as an increased emphasis on research by the institution, increased pressure on faculty to be research active and their research related workload increases. Academic staff claim to be writing more research proposals, attracting more external research funds, and completing more requirements of accountability and paper work in relation to research

(Enders & de Weert, 2004). And as a result of the changing demographic characteristics of students and the variability in their preparation for higher education, faculty have experienced an intensification and diversification of their teaching role through the "adaptation of the curriculum and the provision of more and better support services" for students (Becher & Trowler, 2001, p. 5). As well as the "clientele that they teach" changing, "the technologies that faculty use to conduct their work has [also] changed" (Rhoades, 2000, p. 48), heightening demands and transforming the teaching role as well as adding new roles that fundamentally alter the work of faculty.

The universal phase has reportedly entailed an erosion of the elite and mass phase academic values and beliefs with a corresponding increase in individual accountability (Becher and Trowler, 2001) and assessment of academic work (Enders & de Weert, 2004). With increasing modes of surveillance, academic freedom also diminishes (Cowen, 1996). There is a loss of the individual autonomy of academic staff in higher education and a loss of control over their work (Slaughter & Leslie, 1997, p. 40) both in terms of curriculum and research (Slaughter and Rhoades, 2004). In Macfarlane's (2005) view, managerialism has caused a "shift in the balance between hierarchy and collegiality in most modern universities...[such that] collegiality no longer plays such a strong balancing role" (Macfarlane, 2005, p. 302). According to Valimaa and Hoffman (2008), the increasing research demands are "challenging the traditional values found in HEIs" (Valimaa & Hoffman, 2008, p. 272). Academic freedom and autonomy to select and implement research topics are compromised by both the trend towards privately funded research and the reduction of funding by government for basic research (Altbach, 2000a). Furthermore, Slaughter and Leslie (1997) found evidence that secrecy about research results was often a condition of collaboration with industry and such confidentialities were a common by-product of university corporatisation (Bostock, 1998) undermining the academic values of community and collegiality.

While faculty may "have sought to maintain their values in the transition from an elite to a mass higher education system, the pressure and stress upon academics is increasingly evident" (Tight, 2003, p. 160) in the universal phase. The increase in student numbers has "given rise to more diverse and powerful administrative structures and diminished the sense of community among the professoriate" (Altbach, 2000c, p. 14).

The influx of the diverse student body "and the move to 'student centred' learning has placed in juxtaposition the values of those academics who see university education as being about critical thinking and disciplinary study, and the values of students, many of whom see university education as being about professional training and the acquisition of a credential which will assist their chances of career advancement" (Coaldrake & Stedman, 1999, p. 4). Standards of excellence in teaching may also be suffering due to HEIs raising a proportion of their own revenue, often competing with other HEIs in "the production and marketing of courses to students who are now seen as customers … engag[ing] with the market for higher education" (Bostock, 1998, p. 4). The perception of students as customers raises issues about student assessment with "critics of the system not[ing] that over-use of student evaluations undermines academic standards by creating a need to please and to give ever-higher grades" (Bostock, 1998, p. 5).

According to Coaldrake and Stedman (1999) "academic work has stretched rather than adapted to meet the challenges posed by transformations of the higher education sector" (p. 10). Academic staff tend to allow accumulation and accretion of work which results in faculty feeling "burdened by the increasing weight of expectations placed upon them, in contrast to their ideal of determining the parameters of their own working lives" (Coaldrake & Stedman, 1999, p. 10). The pursuit of the aims of managerialism has had the "substantial often painful impact on academic

communities … [whereby] more than previously, academics are likely to find themselves over extended, under focused, overstressed. There has in short been an intensification and degradation of academic work" (Becher & Trowler, 2001, p. 13). While there has been widespread concern about the workloads and stress of academic staff McInnis (2000a) believes that work hours are only a part of the story and the undermining of fundamental work motives and confusion of purpose and competing demands that are the most problematic for academic staff.

Table 2.7, below, summarizes academic work-life in the universal phase as it is depicted in the descriptive literature detailing the effects of social and economic pressures on academic staff. The impacts on academic staff are not differentiated in this literature by institutional type. The pressure exerted by national regulatory bodies and the population at large for HEIs to be economical, efficient, accountable, while simultaneously providing superior quality teaching to a diverse range of students and engaging with industry is impacting on academic staff. They are described as experiencing an intensification and diversification of activities and a degradation of beliefs, values and morale, and these experiences of academic staff are portrayed in the literature as homogenous regardless of institutional type.

Table 2.7 Summary of academic work-life in the universal phased according to the descriptive literature

PHASE	SHARED BY ACADEMIC STAFF IN ALL INSTITUTIONAL TYPES
UNIVERSAL	Juniorisation
	Casualisation
	Inadequate resources
	Increased time spent at work
	Increasing research workload
	Seeking prestige in career
	Increasing administration workload
	Increase ICT Use in teaching
	Increasing teaching load
	Non-traditional students add to teaching workload
	Managerialism
	Decline in autonomy
	Decline in participation in governance

PHASE	SHARED BY ACADEMIC STAFF IN ALL INSTITUTIONAL TYPES
	Decline in authority
	Decline in community
	Decline in collegiality
	Grade inflation
	Decline in morale

The empirical research on academic work-life during the universal phase supports the assertions made in the descriptive literature above. In Henkel's (2000) UK study, on how two policy initiatives, teaching quality assurance and research assessment[23], affected academic work-lives, she stated her aim to investigate "the extent to which major change in the politics and structures of higher education has also meant major change in what it means to be an academic in the UK" (Henkel 2000, p.13)[24]. She found that academic staff were conscious of the increasing expectations of the universities for staff to increase their earnings from research, that they felt more pressure to find ways of exploiting their research work in the market. While academic staff still maintained their value of control and autonomy over their research agendas, they felt they were operating in a hostile environment. In terms of teaching, the massive increase in student numbers, the changes in the range of age, expectations and abilities of students presented challenges for academic staff (more particularly in the less prestigious institutions as their cohorts contained more students who in a previous generation would not have entered higher education). Also, the redefinition of higher education in terms of outputs for society and skilled graduates for the labour market meant academic staff experienced a weakening of their autonomy and control. They reported having multiple demands and tougher conditions of employment.

[23] The research assessment exercise designated academic staff as 'research active' or 'research inactive' based on four selected publications from each staff member and other departmental measures, such as number of research students and studentships and amount of external research income.

[24] Henkel interviewed 230+97 academic staff members in 11 universities (7 pre-1992, 4 post-1992) in a total of seven disciplines.

Trowler's (1998) ethnographic study was on the impact of the credit framework on one university[25]. He examined the introduction of the credit framework through the prism of hard managerialism which proposed that it was symptomatic of a form of exploitative managerialism, which had severely deleterious effects on the provision of higher education in general and the academic profession in particular: "modularity is the perfect managerial tool for driving down costs and increasing surveillance" (Trowler, 1998, p.47). In his interviews, he found academic staff were experiencing work intensification and degradation in terms of their roles in teaching, research and service, that the work intensification was compounded by unnecessary bureaucratic administrative processes, and that power had shifted away from them and become more centralized.

Slaughter and Rhoades (2005) undertook an examination of curriculum, copyrighted materials, institutional policies and collective bargaining agreements, as well as conducting 135 interviews with department heads in 11 public research universities, in order to assess the degree of academic capitalism in American higher education. 'Academic capitalism in the new economy' is the term they use to define "a regime that entails colleges and universities engaging in market and market-like behaviours" (Slaughter & Rhoades, 2005, p. 36), particularly, in that HEIs are seeking to generate revenue from their core educational, research and service functions, ranging from the production of knowledge (such as research leading to patents) created by the faculty to faculty's curriculum and instruction (teaching materials that can be copyrighted and marketed) (Slaughter & Rhoades, 2005). Academic capitalism is motivated by the "ascendance of neo-liberal and neo-conservative politics and policies that shift government investment in higher education to emphasise education's

[25] The credit framework entailed developing modular programmes (which were learning programmes constituted by a designated number and or sequence of discretely taught and assessed units of study), the adoption of a two semester structure, to the academic year, a credit accumulation and transfer scheme. The watchwords for the credit framework were access, flexibility, choice and efficiency all of which enabled part time students to study at their own pace.

economic role and cost efficiency" (Slaughter & Rhoades, 2005, p. 38). In short, academic capitalism in the new economy involves both managerialism: "increasingly corporatized top down style of decision making and management in higher education" (Slaughter & Rhoades, 2005, p. 39) and research production; "producing applied science in conjunction with industry for the development of patents and therefore a new revenue stream for the university" (Slaughter & Rhoades, 2005, p. 39).

In relation to the impact of academic capitalism on academic staff, they found a decline in the autonomy of academics over the investment in and development and delivery of their curriculum which is increasingly driven by short term market considerations. A decline in the authority of academics and their participation in governance such that their place as experts is being replaced by teaching centres and the emphasis on learning instead of teaching making them less central to the process. Further, the curriculum is divided into sets of tasks performed by various personnel rather than the single faculty member who developed it. Thirdly, the commercialization of the curriculum is enabling institutions to move away from their commitment to providing access to underserved low income and minority students. Faculty employment has shifted from predominantly full time and tenure track to "nearly one half of the faculty work-force nation-wide [US] is part-time with the majority not being on the tenure track" (Slaughter & Rhoades, 2005, p. 50). Overall, there is an "unbundling of the traditional faculty role" (Slaughter & Rhoades, 2005, p. 51).

McInnis' (2000a) study included a survey focused on academic staff workloads, levels of satisfaction, key aspects of teaching and research activities, and work preferences based on responses from a representative sample of 2609 academics from 15 Australian universities. Comparing data from 1993 to 1999, McInnis found that the morale of all academic staff had declined, "the level of overall satisfaction with the job dropped from 67% to 51%, and that there has been a significant increase in the

proportion who say their work is a source of considerable stress (from 52% to 56%). The number of hours at work had increased, "The average working hours have increased since 1993 from 47.7 to 49.2 hours per week, but perhaps more importantly, 55% of the sample believed their hours had *substantially* increased over the last 5 years: 40% of academics now work more than 50 hours per week" (McInnis, 2000a, p. 144). The amount of time spent on teaching in all types of institutions had decreased: "the proportion of time spent on teaching has declined over the last 5 years from an average of 53.0 to 48.7% in a typical working week" (McInnis, 2000a, pp.144). Changes in teaching methods were apparent, with 70% using more computer assisted course delivery, and 68% using multimedia technology (McInnis, 2000a). Having too many students is a hindrance to teaching for 46% of respondents (a 10% increase from the 1993 survey) and the wide range of student abilities is a problem for 50% (which is a 13% increase from the 1996 survey).

In a study focused on academic staff morale, Kinman and Jones (2009) reported the results of a sample of 844 lecturers and researchers in 99 UK universities to a questionnaire measuring their levels of job satisfaction, work/life conflict, job demands, working hours, and demographic information. They found that, in general, academics were moderately satisfied with most aspects of their work, however, 48% of respondents indicated that they had seriously considered leaving higher education. They found that 66% of academic staff worked longer than 45 hours in a typical week and 24% exceeded 55 hours. They also found that academic staff who worked during evenings and on weekends tended to perceive more work-life conflict and report lower levels of job satisfaction.

The empirical research implies that academic staff morale is lower than it has been, and that the cause is related to higher workplace demands. Hendel and Horn (2009) believe time constraints resulting from a heavy workload have remained a

primary source of stress for faculty (Hendel & Horn, 2009). Whereas Miller et al. (2009) believe that there is no unifying definition of stress and that it exists in a number of circumstances, for example; when workers feel they can no longer cope with the conditions of their work or when environmental stimuli are present to which workers are incapable of adapting (Miller, Buckholdt, & Shaw, 2009). Lindholm & Szelenyi (2009) analysed the responses of 55,521 faculty to the 2001 Higher Education Research Institute (HERI) survey measures of stress (which included two items 'time pressures' and 'lack of personal time' on scales ranging from extreme to not at all sources of stress). The results of their regression analysis to determine predictors of stress found that female faculty experienced greater time stress than male and older faculty experience less stress across all discipline types.

Similar to the descriptive literatures, the empirical research describes the intensifying activities, deteriorating beliefs and values and the eroding conditions as if they were occurring homogenously amongst academic staff in all types of HEIs. What is missing from the descriptions and analysis of academic work-life in the universal phase so far, is any investigation into the role played by the structure of institutional type and whether it functions as a filter for the effects of the societal demands made on higher education in the universal phase.

2.3.3 The influence of institutional type on academic work-life in the universal phase

Four studies investigating some aspects of academic work in the universal phase of higher education have attempted to ascertain the influence of institutional type. In Milem, Berger & Dey's (2000) study on the comparison of time spent on academic tasks in all institutional types in the US (research universities, doctoral universities,

comprehensive universities, liberal arts colleges, and two year colleges) between 1972 and 1992 it emerged that time spent on teaching and research increased in almost all types of institutions. There was a statistically significant increase in the amount of time faculty reported spending on teaching and teaching related activities in all types of HEIs except for faculty at research universities who reported a drop in time spent teaching. There was a statistically significant increase in time spent engaged in research in all four year HEIs and a statistically insignificant decrease in time allocated to research at two year colleges (Milem, Berger, & Dey, 2000).

Milem et al. (2000) also did a regression analysis that predicted the activities (dependent variables) used in the study (i.e. time spent on research, time spent on teaching, time spent advising students) in order to determine the effect that institutional type has on each of the dependent variables while controlling for the year, the percentage of faculty appointed in various disciplines and the percentage of faculty with PhDs. They confirmed that institutional type was a significant predictor of time spent on research (for research universities and for doctoral universities) and of time spent on teaching (for research universities and for doctoral universities and comprehensive universities) (Milem et al., 2000).

McInnis (2000a) also compared his sample between institutional types in relation to teaching activities, comparing responses between three types of institutions; four `old' universities, established 1853 ± 1958 ($n$ = 462); four `middle' period universities, established 1960 ± 1988 (n = 450); and seven `new' universities, most of which were established from former Colleges of Advanced Education in 1987 (n = 604) (McInnis, 2000a, p. 148). He found that academics in new universities were more likely to feel that their teaching was under greater pressure from their research commitments compared to academics in the other types of institutions. Academics in the new universities were more likely to be hampered by too many students and too wide a range

of abilities. He also found that academics in the 'new' universities were spending statistically significantly more hours per week on teaching and teaching related activities while classes were in session compared to the middle universities and old universities.

More recently, Cummings and Finkelstein (2012) published the results of the US Changing Academic Profession (CAP) survey, the follow up to the 1992 Carnegie International Survey of the Academic Profession (Boyer et al., 1994). They devoted one chapter to test the extent to which "institutional type and discipline continue to shape academic work in much the same powerful way as Clark described in 1987" (Cummings and Finkelstein, 2012, p. 29). They compared faculty responses in 1992 and in 2007 to five indicators of the faculty work role (weekly hours spent in teaching, weekly hours spent in research, total weekly work hours, reported orientation to teaching vs research, articles published over the past 3 years), and they disaggregated the responses by institutional type, academic field, type of appointment and gender. "Specifically, we sought to determine whether inter-institutional and interdisciplinary differences in the above work activities in 1992 were larger, smaller or about the same as those in 2007" (Cummings and Finkelstein, 2012, p. 30)[26].

In terms of teaching and research efforts between institutional types in both 1992 and 2007, they found a consistent pattern of difference between research and non-research institutions in each year: "faculty in research institutions spend less time in teaching than their 'other four-year' counterparts, they are more research oriented, they publish much more and work longer hours" (Cummings and Finkelstein, 2012, p. 32). Crucially, the type of institution was found to determine academic work in that "the magnitude of the institutional type differences appears to remain equally large,

[26] For the institutional type variable, they dichotomized the institutional type variable for both the 1992 and 2007 data into universities (including research and doctoral granting) and other 4 year institutions. This means that the comparison was not between universities and non-universities, as the Enders & Teichler (1997) study was.

suggesting that type of institution continues to play a formative role in shaping the character of faculty work" (Cummings and Finkelstein, 2012, p. 33). The results of the logistic regression confirm institutional type as a statistically significant predictor of all five work activities in the 1992 responses and four of the five work activities in the 2007 responses (institutional type no longer predicted total work hours in 2007 whereas it did in 1992, with the research universities working longer then) [27].

Between 2007 and 2010, seven European countries participated in the CAP survey and in 2008 five European countries participated in the 'The Academic Profession in Europe (EUROAC)' survey, which used almost the same questions that were used in the CAP survey. The results of both surveys were published by Teichler & Hohle (2013). They categorized institutions into universities "institutions both more or less equally in charge of teaching and research" and other institutions "those with a dominant teaching function" (Teichler & Hohle, 2013, p. 7)[28]. In Ireland, they reported that 56% of senior academics and 44% of junior academics at other institutions had a doctoral degree, compared to 64% of senior academics and 62% of junior academics in universities. Ireland reported the longest average weekly hours (47) when classes were in session (both junior and senior academic staff and both institutional types were combined). Irish academic staff in both types of institutions, combined, spent the least amount of time on research when classes were in session compared to the eleven other European countries surveyed. One difference, in the opinions of academic staff in Ireland between the institutional types, was that 44% of university academic staff found their job to be a considerable source of strain compared to 32% of non-university staff. However, academic staff in both institutional types reported being satisfied overall with their current job.

[27] The surprising finding emphasized by Cummings and Finkelstein in this chapter was that appointment type came second to institutional type as a major shaper of academic work role. Gender was also a significant predictor.

[28] Part time academic staff were included in some countries and not in others. Staff with primarily management or service functions were excluded inconsistently across countries.

Table 2.8 Differences in academic work-life between institutional types in the universal phase according to the empirical literature

PHASE	DIFFERING BETWEEN INSTITUTIONAL TYPES
UNIVERSAL	Time spent on teaching
	Time spent on teaching related activities
	Time spent on research
	Likelihood of feeling hampered by too many students
	Likelihood of feeling hampered by too many differences in student ability
	Number of articles published
	Job is a source of considerable personal strain

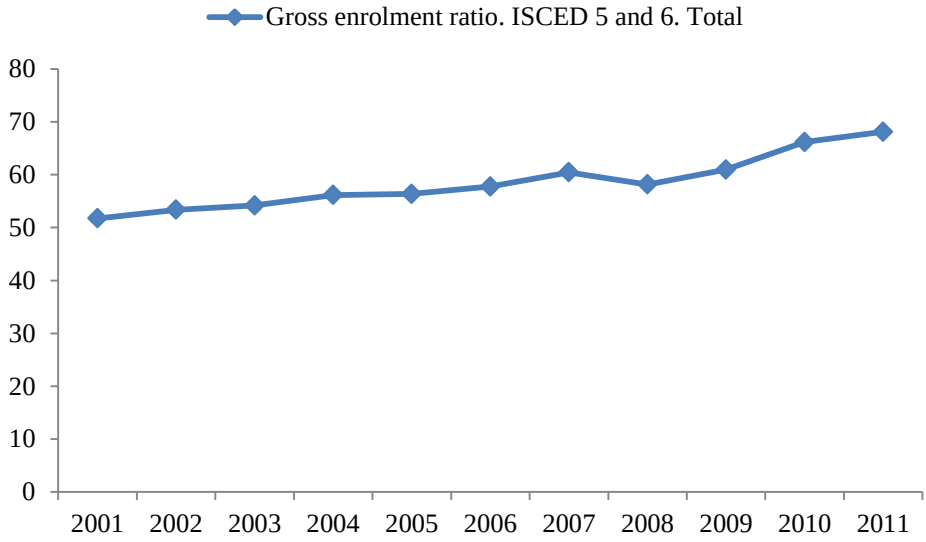
Two issues that remain are, firstly, that not all the features of academic work-life in the universal phase (see Table 2.8) have been compared between institutional types by the above studies. Secondly, the types of institutions that are compared by these studies are not always fully comparable to the types of HEIs in Ireland in the universal phase. The missions of both the IoTs and the universities in Ireland have evolved to adapt to the national and European strategies set out for them. The nature of these developments will be explored fully in the following section and the question of whether the features of academic work-life in Ireland are the same in both institutional types becomes increasingly pertinent, as not only has national policy in relation to the role of higher education in society become homogenous for both types of HEI in Ireland but the HEIs themselves have become increasingly similar.

2.3.4 National strategies, institutional homogenization and academic work-life in Ireland

In Ireland, the features of the universal phase of higher education (> 50% of the enrolments of the relevant age group), which didn't begin until the year 2000 (UNESCO, 2014) (See Figure 2.1), were created by national legislation and initiatives that were the same for both types of HEI. HEIs adapted to the demands for the

provision of a technologically advanced population, a transformed delivery of the curriculum, financial accountability, more management procedures and participation in the knowledge economy, by developing their missions beyond how they were defined in the mass phase. Furthermore, the increased public accountability of higher education coupled with the drastic recession in Ireland during the universal phase resulted in national initiatives which served to further homogenize the work-lives of academic staff. However, the government legislation and initiatives that created the features of the universal phase (such as growing research in higher education, implementing managerial processes and altering student profiles) had all become foci of policy even before the millennium, and continued to receive greater emphasis as the universal phase got fully underway.

Figure 2.1 Gross enrolment ratio (percentage of the relevant age range) for Ireland from 2001-2011 (UNESCO, 2014)



Managerialism, which is linked to increased public accountability and more efficient use of resources (Henkel, 2000), is enshrined in Irish higher education legislation and first came to the fore in the University Act, 1997. This Act required the governing

authorities of universities to prepare strategic development plans and see that the chief officer establishes procedures for evaluating the quality of teaching and research (Government of Ireland, 1997b). Legislation for increased managerialism in the IoT sector followed almost 10 years later in the Institutes of Technology Act, 2006. The Higher Education Authority (HEA) was given an overseeing role with regard to strategic development plans and quality assurance procedures in both sectors by these acts, but the recent *National Strategy for Higher Education to 2030* (2011) (referred to henceforth as the Strategy) has extended the role of the HEA to its involvement in HEIs' strategic planning and meeting of national goals (Government of Ireland, 2011). Both the *Universities Act* and the *Institutes of Technology Act* state that the HEI shall be entitled to regulate its affairs having regard to "the efficient and effective use of resources" (Government of Ireland, 1997b, p. 14) and that the director shall give evidence of "the economy and efficiency of the college in the use of its resources" (Government of Ireland, 2006a, p. 8). More recently the Strategy has stated that an accountability framework for the higher education system will require the availability of efficiency indicators from the HEIs (Government of Ireland, 2011, p. 19). The *HEA Strategic Plan 2012-2014* stated its intention to tie funding to HEI's key performance indicators (Higher Education Authority, 2012).

The intensified research activity by HEIs and the competition for research funding associated with the drive towards the knowledge economy, also first came to the fore of national policy in the 1997 *University Act*, which identified research as an unqualified function of universities stating that a "university shall promote and facilitate research" (Government of Ireland, 1997b, p. 13). While the *RTC Act*, 1992 and *DIT Act*, 1992 both stated the functions of IoTs include research, it was qualified as being "subject to such conditions as the Minister may determine" (Government of Ireland, 1992a, p. 5). More recent reviews and strategies of higher education have

recommended and confirmed a commitment to growing research in all HEIs by increasing research investment (OECD, 2004), improving the quality and quantity of research (Strategy for Science, Technology and Innovation (SSTI) 2006-2013) (Government of Ireland, 2006b), increasing research activity and PhDs (National Development Plan (NDP) 2007-2013) (Government of Ireland, 2007) and continuing to increase research activity despite the Irish economic crisis (Government of Ireland, 2011).

The continuing increase in student numbers in the universal phase was also supported by national strategies in Ireland (OECD, 2004; NDP, 2007; NSHE, 2011). In the European literature, two main characteristics of the growing student numbers were identified as the changing demographics of students and the use of ICT to ease the burden of the intensification and expansion of the faculty teaching role. In Ireland, the OECD Review (2004) recommended increasing part-time students, the *National Development Plan 2007-2013* called for increased participation and the Strategy recommended widening participation, emphasising lifelong learning and increasing the variety and diversity of training provision (Government of Ireland, 2011, p. 7).

Table 2.9 and 2.10, below, summarize the legislation and initiatives that contributed to creating the features of the universal phase in Ireland.

Table 2.9 HE legislation creating the features of the universal phase in Ireland

LEGISLATION	ASPECTS AFFECTING ACADEMIC WORK-LIVES
INSTITUTES OF TECHNOLOGY ACT 2006	Academic Freedom Institutional Autonomy Accountability, preparation of strategic development plans, efficient and effective use of resources Research remit
UNIVERSITIES ACT 1997	Academic Freedom Institutional Autonomy Accountability, preparation of strategic development plans, efficient and effective use of resources Research remit

Table 2.10 HE initiatives creating the features of the universal phase in Ireland

INITIATIVE	ASPECTS AFFECTING ACADEMIC WORK-LIVES
OECD 2004	Maintain binary system Universities and IoTs under common authority Increase part time students Growing research in all HEIs by increasing research investment Increase PhDs
SIF 2005	Improved performance management systems
SSTI 2006-2013	Improving quality and quantity of research Double the number of PhDs
NATIONAL DEVELOPMENT PLAN 2007-2013	Increase participation Increase research activity and PhDs
NATIONAL STRATEGY FOR HIGHER EDUCATION TO 2030	Increasing research activity and PhDs Improve life-long learning HEA involvement with HEI strategic planning and meeting of national goals HEIs to be fully accountable for their performance to the state
HEA STRATEGIC PLAN 2012-2016	Agree KPIs with each HEI Allocate funding in line with National Strategy and agreed KPIs Monitor performance against KPIs Funding allocations reflect institutional performance

As HEIs adapted to the demands of the universal phase, their missions evolved. Given the strength of the binary divide in the mass phase of higher education in Ireland, a trend towards isomorphism initially seemed unlikely. But, in practice, the homogeneity of the national policy and strategy objectives for HEIs in Ireland combined with the increasing similarity between institutional types in terms of levels of awards,

delegated authority to award and the distribution of students in disciplinary categories, all indicate that the divisions between institutional types in Ireland were becoming blurred.

The levels of awards granted by the IoTs and their delegated authority to grant their own awards brought them closer to university levels and authority throughout the universal phase (Table 2.11).

Table 2.11 IoTs with students enrolled at Level 7-10 2011/2012 (Higher Education Authority, 2014)

INSTITUTION	LEVEL 7	LEVEL 8	LEVEL 9 TAUGHT	LEVEL 9 RESEARCH	LEVEL 10
AIT	✓	✓	✓	✓	✓
ITB	✓	✓	✓	✓	✓
CIT	✓	✓	✓	✓	✓
ITC	✓	✓	✓	✓	✓
DKIT	✓	✓	✓	✓	✓
DLIADT	✓	✓	✓	✓	
GMIT	✓	✓	✓	✓	✓
LKIT	✓	✓	✓	✓	✓
ITT	✓	✓	✓	✓	✓
ITTRALEE	✓	✓	✓	✓	✓
ITS	✓	✓	✓	✓	✓
WIT	✓	✓	✓	✓	✓

The distribution of students throughout the disciplines in universities and IoTs also became increasingly similar to each other (Table 2.12).

Table 2.12 2011/2012 Percentage of students in each discipline category in the universities and IoTs (Higher Education Authority, 2013a) [29]

DISCIPLINE	IOTS FT ENROLMENTS	UNIVERSITIES FT ENROLMENTS
GENERAL PROGRAMMES	0.3	0.2
EDUCATION SCIENCE	0.4	7.1
HUMANITIES & ARTS	11.1	23
SOCIAL SCIENCE, BUSINESS & LAW	26.3	23.8
SCIENCE	15.9	17
ENGINEERING, MANUFACTURING AND CONSTRUCTION	18.7	7.6
AGRICULTURE & VETERINARY	2	2
HEALTH & WELFARE	13.9	18.6
SERVICES	11.4	0.2
COMBINED	0	0.5
TOTAL	100	100

However, despite the increasing homogeneity between the institutional types in terms of national strategy, levels of awards and distribution of students across disciplines, the Irish government has been contrarily steadfastly dedicated to maintaining the binary divide. The *Universities Act* of 1997 set out a statutory procedure for the establishment of new universities, and the DIT application for university designation (1998) was the first to be reviewed under this legislation. The process involved the government first deciding if the application should go forward for a review and then deciding, upon receipt of a positive recommendation from the HEA, whether to establish a university or not. The DIT application was rejected following a review by international experts and the HEA report to the government based on the review findings. In 2003, the Department of Education and Science invited the OECD to review higher education in Ireland in order to evaluate performance of the system and recommend how best to meet its strategic objectives. In 2004, the OECD report was

[29] Universities category includes the seven universities and six Colleges: Mary Immaculate College Limerick (Humanities & Arts, Education), Mater Dei Institute (Humanities & Arts, Education), NCAD (Humanities & Arts, Education), RCSI (Health &Welfare), St Angela's College Sligo (Education, Health & Welfare), and St Patrick's College Drumcondra (Education, Humanities & Arts). The inclusion of the colleges is inflating the Education, Humanities & Arts, and Health & Welfare enrolment percentages in the universities.

published which made an emphatic recommendation to maintain the binary divide between the universities and the Institutes of Technology: "That the differentiation of mission between the university and the institute of technology sectors is preserved and that for the foreseeable future there be no further institutional transfers into the university sector" (OECD, 2004, p. 22).

In 2006, the Waterford Institute of Technology applied for university designation and was rejected and in 2011, the Strategy (Government of Ireland, 2011, p. 101) re-asserted the national commitment to maintaining the binary system[30].

With national commitment to the binary system remaining so strong, but the national strategies for both institutional types in the universal phase of higher education in Ireland homogenizing, the influence of institutional type on academic work-lives is no longer as clear cut as it was during the mass phase. As yet, it is unknown if the features of the universal phase are playing out differently for academic staff in different institutional types or if the homogenization of national strategy and increasingly similar institutional missions have facilitated homogenization in academic staff experiences of their work-lives.

Nevertheless, the intensification and diversification of academic staff activities and the deterioration of their beliefs and values that were described by the literature and research depicting academic work-life in Europe and USA, were also becoming evident in Ireland. Not only were these phenomena impacted by world-wide issues of dwindling resources available for higher education at a time of unprecedented student participation, in Ireland's case, the situation was exacerbated by the catastrophic economic recession beginning in 2008. In response to the recession, the government scrambled to cut public spending and maximise efficiency and as such they initiated a number of urgent processes which impacted the work-lives of academic staff. In

[30] A more detailed analysis of the Strategy's commitment to the binary divide will be carried out in Chapter 6.

particular were the *Report of the Special Group on Public Service Numbers and Expenditure Programmes* (SGPS) (Government of Ireland, 2009), *The Employment Control Framework* (ECF) (Higher Education Authority, 2009b) and the *National Strategy for Higher Education to 2030* (Government of Ireland, 2011). Despite there being very little centrally available data collected about academic staff in Ireland at the time of this research, it was possible to gain insight into their work-lives during the universal phase based on these particular national strategy documents and reports.

The Irish strategies involved increasing and diversifying academic workloads, increasing research activities of academic staff, implementing performance accountability measures and widening student access to higher education. Uniquely to the Irish case, the trend towards casualisation and juniorisation of academic staff was stymied by the recession, firstly by the *Moratorium on Recruitment in the Public Sector* (2009) and then by the *Employment Control Framework* (ECF) (2009b). The *Moratorium on Recruitment in the Public Sector* prevented any recruitment to temporary appointments and any renewal of such contracts:

> The moratorium decision also applies to temporary appointments on a fixed-term basis and to the renewal of such contracts. Any exceptions to this principle, which will arise in very limited circumstances only, require the prior sanction of the Minister for Finance. This sanction will only be forthcoming when the Minister is satisfied that the post is essential to the delivery of a public service or performance of an essential function, that every effort has been made to fill the post by redeployment (Government of Ireland, 2009)

The *Employment Control Framework* (2009b) prevented all HEIs from making selection or recruitment decisions where there are vacancies except in very rare circumstances and only ever with the permission of the minister for education. This removed the autonomy of universities and the IoTs in relation to their recruitment and

promotion. The ECF was since modified for the period 2011-2014 and HEIs had a ceiling of posts which they were allowed to recruit for and promotions were also permitted within numerical limits.

Plans were quickly initiated to increase academic staff workloads in order to cope with growing student numbers and research demands on HEIs at a time when commensurate increases in employment were impossible. The Croke Park Agreement, officially known as the *Public Service Agreement (2010-2014)* (Government of Ireland, 2010), arranged increased flexibility in the IoTs whereby academic staff agreed to deliver an additional two lecturing hours per week and universities agreed to provide an additional hour per week, as well as implement workload allocation models and implement a full economic costing initiative aimed at improving management of university resources. In relation to the intensification of academic activities, the maximum levels of academic workloads were stated in academic work contracts of both the IoTs and the universities, who specify their compliance with the *Organisation of Working Time Act*, 1997: "An employer shall not permit an employee to work, in each period of 7 days, more than an average of 48 hours" (Government of Ireland, 1997a, p. 15 (1)). However, the Strategy (2011) has outlined government intentions to significantly adapt the academic staff contracts in both types of institution to facilitate the fulfilment of its objectives for the system. The changes to academic staff contracts will include more accountability and workload allocation models to aid prioritisation of teaching, research and administration, minimum work hours on an annualised basis for the Institutes of technology, a broader concept of the academic year and timetable, and stronger internal accountability. Whether these plans for increasing academic workloads will amount to non-compliance with the *Organisation of Working Time Act* is not yet known due to a lack of data on time spent at work by academic staff members

in Ireland, however, the SGPS (2009) reported that a significant proportion of academic staff in both types of HEIs were not delivering their contractual commitments.[31]

The deterioration of academic values and beliefs reported in the universal phase of higher education in the international literature, such as institutional and academic autonomy, academic freedom and collegiality and community, may have also been challenged by the developments of the universal phase in Ireland. The employment control framework directly threatened the institutional autonomy of both institutional types by removing HEI's control over their academic staff appointment and promotion processes, although the *National Strategy for Higher Education to 2030* proposes to increase HEIs' autonomy over staff recruitment. The increased managerial control over academic activities, workload and performance recommended by the SGPS and the *National Strategy for Higher Education to 2030*, all increase administrative duties of staff, impinge on the individual autonomy of academic staff and some have argued threaten academic freedom as well[32].

2.3.5 Research on academic staff in the universal phase in Ireland

While there was very little research on academic staff work-lives in Ireland at the time of this PhD study, there were two academic forums held in September 2009, in the Department of Education and Science. Their objectives included to obtain a clear picture of academic life, including an assessment of the current and evolving environment, to hear the challenges, strengths and blocks to fulfilling the academic role

[31] The Special Group on Public Service Numbers and Expenditure Programs (SGPS) (Government of Ireland, 2009) recognised that while the current academic contract at the universities makes no specific provision in relation to teaching hours, although it is generally assumed to be 6 hours, the academic contract [in the IoTs] provides for an annual commitment of 560 hours, a weekly norm of 16 hours for lecturers (630 hours and a weekly norm of 18 hours for assistant lecturers). However, the changing nature of academic institutions through semesterisation, modularisation, work placement and remote delivery has meant that the annual commitment is never delivered because of the weekly restriction. Some lecturers end up delivering less than half of their annual contractual commitment with the majority delivering in or around two-thirds.

[32] Irish Times, 20th January, 2011.

and to guide strategic thinking by uncovering influences that enable and hinder innovation (Higher Education Authority, 2009a). Altogether, 30 members of academic staff from both types of institutions (universities and institutes of technology) participated in the forums:

> The forum sessions were structured to have 15 participants in each and the sessions were divided into two parts, with one part allowing participants to tell of their experiences of innovation and problem solving, followed by a plenary session to discuss issues at a strategic and generic level. Both the University sector, the Institutes of Technology and Dublin Institute of Technology were represented (Higher Education Authority, 2009a).

The academic forums confirmed that the above issues of increased student numbers and changing student profiles, more accountability and managerialism were all impacting on academic work-lives. Additional features of academic work-lives in the universal phase in Ireland were also introduced that hadn't been included in any previous European research comparing institutional types. These issues related to clarity of the academic role and adequacy of training and resources, and some issues were raised in particular reference to the IoT sector such as de-motivating nomenclature and academic staff feeling overly managed.

The increasing student numbers and changing student profile, as well as the need to adapt modes of delivering classes from a nine to five mode to a 24/7 mode were raised as issues by academic staff in both institutional types. Academic staff participating in the forums also claimed that there had been a significant rise in mature students and that these students had higher expectations in their relationships with staff. They further raised the issue of grade inflation and claimed that a first class honours degree may not be as good as it was ten years ago.

Academic staff in both institutional types felt that promotional opportunities were insufficient. Performance related promotion with transparent criteria covering teaching and research would be welcomed. Performance Management Development Systems were seen to be a chat. Managers were deemed untrained to assess performance, and current performance evaluations were inadequate. It was felt that clear systems of induction and clarity at the outset on expected roles and performance were absent which hindered performance management.

In relation to their academic values and status, academic staff felt that the authority vested in them by students as gatekeepers of knowledge had declined since the 1990s as information from other sources increased and this altered the teaching role and required more innovation in teaching.

In terms of academic activities, it was felt that there was insufficient role clarity and differentiation. Academic staff felt it to be impossible to focus adequately on all three roles of teaching, research, service. Teaching was seen to be undervalued and the new housework. It was perceived that a very significant proportion of lecturing staff are not engaged in research in both the IoT and the university sectors. Small research projects were seen to be undervalued. Administrative burden on academic staff has not been reduced and the possibility of administrative support for lecturers should be explored.

In terms of training, teacher development training was perceived to be poor and access to continued professional development should be increased and centralised. Academic staff expressed having taken responsibility for the development of their teaching onto themselves by sitting in on each other's classes, giving feedback, creating distance learning courses by podcast. Training in ICT was required in both institutional types, however, for some in the humanities disciplines, there is a feeling of pressure to use technology whether or not it is effective.

IoT sector staff felt their contracts were too inflexible, that the title ‘assistant lecturer’ was demotivating, and the term Contract of Indefinite Duration (CID) was a second rate grade. IoT staff felt ‘overly managed’ and not permitted enough flexibility in their roles. IoT participants felt that research training was needed. IoT staff expressed concern that they were being asked to “get back in your box” by references to mission drift after being encouraged to move to the provision of level 8, 9 and 10 programmes.

Table 2.13 combines the features of academic work-life in the universal phase, reported by the descriptive and empirical literature from Europe (see Tables 2.7 and 2.8), with the features of academic work-life in the universal phase in Ireland described above. The variables that will be employed to measure whether the features of academic work-life in the universal phase of higher education in Ireland are the same or different in different institutional types will be generated from the features specified in Table 2.13.

Table 2.13 Features of academic work-life in different institutional types during the universal phase in Europe and in Ireland[33]

PHASE	FEATURES	SHARED BETWEEN INSTITUTIONAL TYPES	DIFFERING BETWEEN INSTITUTIONAL TYPES
UNIVERSAL	Activities		Time spent on research
			Time spent on teaching
			Time spent on administration
			Number of articles published
	Beliefs	Inadequate resources	Feeling hampered by too many students
		Increasing research workload	Feeling hampered by different student types
		Seeking prestige	*De-motivating nomenclature*
		Increasing administration workload	
		ICT use	
		Increasing teaching workload	
		Mature students have higher expectations	
		Managerialism	
		Decline in autonomy	
		Decline in authority	
		Decline in collegiality	
		Decline in community	
		Grade inflation	
		Low morale	
		Unclear expectations	
		Inadequate training	
		Unclear promotional criteria	

2.3.6 Section summary

This section identified how the current European and Irish strategies for higher education in the universal phase have compelled HEIs to adapt their missions to become more similar to each other in order to meet demands of financial accountability, marketable outputs and a larger more diverse student body. It also demonstrated that the descriptive and empirical literature which described an academic staff enduring an intensification and diversification of their roles and activities and a deterioration of their

[33] Entries in italics represent the features of academic work-life in the universal phase that are specific to the Irish case.

values and beliefs, were reporting the experiences of academic staff as if they were a homogenous group. Whether institutional type was affecting the experiences of academic staff of the demands of the universal phase was not established. The research that did include institutional type measured morale and the time spent on different activities, but did not address all the other features of the universal phase such as managerialism, deterioration of values and beliefs, degrading conditions, grade inflation, ICT use, adequacy of resources and training, perceptions about non-traditional students, research demands and workloads. The exploration of the Irish strategies for higher education during the current phase, as well as the impacts of the economic recession in Ireland, suggest that the missions of the universities and the IoTs are homogenizing. The national initiatives targeting academic staff are aiming to increase their workload, accountability and productivity suggesting that academic staff in Ireland will be experiencing similar features of their work-lives in the universal phase as their international counterparts. Therefore, the measures that will be used to assess current academic work-lives in Ireland will be the same as those used in previous research in Europe. In addition to these measures identified in the international literature review, the findings from the academic forums held in Ireland by the HEA (2009) will also inform some of the measures of how academic staff are experiencing their work-lives in Ireland and will be used in this research (see Table 2.13).

2.4 Chapter summary

This chapter took a historical investigative approach to the literature, exploring three different phases of higher education. The elite phase showed that firstly, societal demands on higher education were addressed by adapting the HEIs' mission to society's needs rather than directly affecting academic staff. Secondly, that academic work-lives have always been defined in part by their institutional type. The mass phase provided

the descriptions of academic work-lives in each institutional type as they were initially defined in both Europe and Ireland. It reviewed the first research into academic work-lives which provided an initial conceptual basis for how institutional type affected academic work-lives. It operationalized the measures of activities and beliefs of academic work-lives which provide measurable ways to test the difference in academic work-lives between institutional types in this study. Lastly, it provided the first empirical data to support the assumptions about the activities and beliefs of academic staff in each institutional type. The universal phase explored the social and political demands on higher education in Europe and in Ireland and how these demands are homogenizing the missions of institutional types. It described the direct impact that the social and political demands are reported to be having on academic staff in Europe, specifically, intensifying academic activities, deteriorating academic beliefs and values and eroding working conditions. While these depictions of academic work-life will provide some of the measures that will be used in this study, the majority of the descriptive and empirical literature reported the effects of the social and political demands on academic staff as if they were one homogenous group.

This research will address the gaps in the literature in three ways. Firstly, it will measure the activities, outputs and perceptions of academic staff in the universal phase of higher education and compare the results between institutional types to determine whether the experiences of academic staff are homogenous. Secondly, it will measure the full comprehensive set of all the features of academic work-life in the universal phase in one study, which will include the characteristics, activities, outputs and perceptions of academic staff. Thirdly, it will address the lack of available empirical data concerning academic work-lives in Ireland specifically and provide information about academic staff characteristics, activities, outputs and perceptions in the universities and IoTs in Ireland.

3 THEORETICAL FRAMEWORK

The two structures that were used in the literature to conceptualise academic work-lives were the academic discipline (Gregg, 1996; Henkel, 2000) and the institutional type (Clark, 1987b; Light, 1974; Ruscio, 1987). Both paradigms are basically structural functionalist theoretical devices (Trowler, 2000) that propose that an understanding of the discipline type or the institutional type will provide an insight into how academic work-life is experienced. Higher education research during the universal phase has de-prioritised the structure of institutional type in favour of adopting a more interpretive conception of academic work-life as being embedded in academic culture (Henkel, 2000; Tierney, 1988; Valimaa, 1998). This de-prioritisation of institutional type is potentially related to two phenomena: the epistemological shift from structural to cultural theories in sociological thought in general, and the trend towards the homogenisation of institutional types in the universal phase that was described in the literature review and that has the effect of negating the influence of institutional type on academic work-life.

This chapter will describe the structural functionalist and cultural conceptualisations of institutional type and its relationship with academic work-life and review the criticisms of each approach (3.1). Social institutional theory will be proposed as an approach that overcomes the weaknesses of both structural functionalist and cultural theories as well as addressing the phenomenon of homogenising institutional types (3.2). The nature of the relationship between institutional type and academic work-life in social institutional theory will be explored (3.2.1). Lastly, the null hypothesis[34] of this study will be stated with reference to institutional type and

[34] Hypotheses or predictions come from a theory. A hypothesis that says an effect will be present is called the alternative (or experimental) hypothesis and is denoted by H1. A hypothesis that states that an effect is absent is called the null hypothesis and is denoted by H0. The reason that we need the null hypothesis

social institutional theory. The null hypothesis will also include the factors suggested by structural and cultural theories as also having an effect on academic work-life which will be employed as control variables in the analysis stage of this study (3.3).

3.1 Structural and Cultural theories of academic work-lives

The nature of the relationship between the type of institution and the work-lives of academic staff was conceptualized by some of the first researchers in the field. Ruscio's (1987) study, 'Many Sectors, Many Professions', described institutional type as an influencing structure of higher education affecting academic staff. He contended that "institutional structure shapes the professorial role. Structures of postsecondary educational institutions reflect their missions. Because missions vary considerably, structures and professorial roles will similarly differ" (Ruscio, 1987, p. 332). His study of American institutional diversity and faculty authority, values and beliefs described the American professoriate in terms of a genotype and a phenotype. "The genotype represents the fundamental instructions to the organism and its potential for survival and growth" whereas "the phenotype represents the actual manifestation of that potential in a particular physical setting" (Ruscio, 1987, p. 332). He claimed that "in the nature-nurture debate a middle position is increasingly agreed upon", whereby "each organism has a blueprint, the expression of which depends on the environment with some traits and characteristics remaining forever latent and others fully revealing themselves" (Ruscio, 1987, p. 332). From this perspective, he viewed the American academic profession as a creature of its organisational setting: "What distinguishes the American professoriate and makes it so complicated and intriguing is not its genotype (the academic profession everywhere organizes itself around areas of knowledge or

is because we cannot prove the alternative hypothesis using statistics but we can reject the null hypotheses. The methodology chapter (chapter 4) contains a detailed discussion of the hypotheses used in this research.

disciplines) but its phenotype: American higher education is characterized by an array of extremely diverse institutional settings" (Ruscio, 1987, p. 332).

Ruscio's conceptualization of academic staff as actors passively acquiring the values and norms of the culture produced by the structure of institutional type was a structuralist approach. This was in line with the sociological and organisational theories prevalent at the time whereby an internalist formal-rational model rooted in the Weberian bureaucratic tradition was applied to organisations to demonstrate their rational structure and processes (Peterson, 2007). Social structure can be identified as those features of a social entity (a society or a group within a society) that persist over time, are interrelated, and influence both the functioning of the entity as a whole and the activities of its individual members.[35] It is the organised set of social relationships in which members of the group are variously implicated (Merton, 1968). Culture, from the structural perspective, is essentially determined and produced by structure whereby culture is "that organised set of normative values governing behaviour which is common to members of a designated society or group" (Merton, 1968, p. 216). For the individual then, these norms and values of the culture of a structure are passively acquired by actors in the group through a process of socialisation and become part of the actors' conscience (Parsons, 1951).

Huisman (2007) also used a biological metaphor to explain how the institutional type defines the individual institution. He claimed that it is "essential to conceive of the issue of [institutional] diversity as being about both similarities and differences" as it is in biology (Huisman, 2007, p. 569). In this conception, "diversity consists of two components: number of species in the community and dispersion of organisms across the species. For an application to higher education, *community* should be replaced by *higher education system*, *species* should be replaced by organizational *type or profile*

[35] Paraphrased from http://www.britannica.com/EBchecked/topic/551478/social-structure

and *organisms* should be replaced by *HEIs*" (Huisman, 2007, p. 569). In other words, diversity in the higher education system consists of two components: number of organizational types in the higher education system and dispersion of HEIs across the organisational types. Tierney (2008) also used the concept of different 'species' (e.g. liberal arts, vocational) as a metaphor for institutional types, claiming that "the strength of what its perceived mission statement says or does not say helps define the perimeters for action and discourse and virtually dictates how knowledge is defined" (Tierney, 2008, p. 62).

Nevertheless, there are two main criticisms of the structural functionalist approach to conceptualising institutional types and academic staff.; firstly, that it is internalist in focus (Rhoades, 2008) and "it does not develop a Durkheimian connection between the norms of the academic profession and the changing moral order of post-industrial society" (Rhoades, 2008, p. 116) and, secondly, that academic staff agency and free will is constrained by the structure and culture to which they belong.

The first of these criticisms was addressed in the late 20th and early 21st century, when more externalist perspectives on HEIs became prevalent. The resource dependency model of organisations was introduced by two sociologists (Pfeffer & Salancik, 1978) and was quickly embraced to view HEIs as resource dependent (Peterson, 2007) and influenced by economic trends. Meyer and Rowan addressed institutional theory in their article 'The Structure of Educational Organizations' (Meyer & Rowan, 1978), which merged formal organizational structure and environment theories and further contextualised HEIs in their broader social environment. And later the most prevalent model used to conceptualise the growing complexity of HEIs was the cultural model (Kuh & Whitt, 1988; Masland, 1985; Tierney, 1988), which "envision[ed] colleges and universities holistically, [sought] to reflect the complexity of

the organisation-environment interface, and combine[d] managerial and academic perspectives of the organisation" (Peterson, 2007, p. 164).

The employment of the cultural model to conceptualise higher education institutions was a reflection of the more general epistemological shift underway in the social sciences in the mid to late 20th century away from positivism and towards interpretivism (Howe, 1998). Interpretivism was described by Taylor (1987) "as the absence of a structure of meanings independent of man's interpretation of them" (Taylor, 1987, pp.46). It is typically contrasted with structural theories, as it sees human behaviour as the outcome of the subjective interpretation of the environment as opposed to assuming that human behaviour can best be understood as determined by the pushes and pulls of structural forces[36]. In interpretive theories, human identities are embedded in culture. The actor has a multi-causal and multi-directional relationship to the environment in which the production of their identity and the production of the culture are continually in process (Ritzer, 2008).

Where culture in the structural conception was viewed as "the soft stuff resting on the hard stuff [i.e. Structure]" (Griswold, 2005, p. 255), the interpretive theories see culture as "sets of common typifications held by actors in particular…settings but these are continually in process" (Parker, 2000, p. 70). Interpretivist theorists in higher education research describe an 'academic culture' in which the importance of institutional type or discipline type is demoted as primary shaping influences of academic culture and instead a long list of wider cultural practices and preferences are believed to shape an academic culture. Such elements included are the individual institution and demographic categories like gender (Valimaa, 1998, 2008), as well as academic categories like career level and contract type (Henkel, 2005), which all exist in an 'environment' with which academic culture has a multi-causal and multi-

[36] Paraphrased from http://sociologyindex.com/interpretive_theory.htm

directional relationship (Trowler, 1998). While discipline type is still recognised as having an influence on academic work-life in the cultural model, institutional type in the cultural approach all but disappears.

The second criticism of structural functionalist approach, that academic staff agency and free will is constrained by the structure of institutional type was also addressed by the interpretive cultural model by reinstating academics' individual agency in the shaping of their work-lives. The resulting notion of 'academic identity' emerged as an area of investigation and became a ubiquitous term in the higher education literature. Contrary to the notion of 'academic man' (Clark, 1987b) that came before it in the mass phase of higher education, academic identity in the universal phase is conceived of as a philosophical entity, a psychological construct (category) and an intellectual device used to concretize the simultaneously cultural processes of interaction between the academic and the various other reference groups (i.e. discipline, profession, institution, nation) (Valimaa, 1998).

Taylor (2008), Delanty (2008), McAlpine, Jazvac-Martek and Gonsalves (2008) and Clarke et al. (2013) all viewed academic identity as a philosophical entity. Taylor (2008, p.38) described academic identity from a postmodern perspective, claiming that academic identity was a:

> ...context specific assemblage that draw[s] on a shared but open repertoire of traits, beliefs and allegiances ...[and] might include traits such as rigour, scepticisim, inquisitiveness, integrity, creativity, imagination and discipline... with additions such as networking, laterality, hybridity, flexibility, multi-tasking, media capability more representative of super-complexity.

Delanty (2008, p. 125) adopted an anarchic postmodern interpretation of Bourdieu's characterization of academic identity which he describes as:

> Academic identities [being] shaped by the institutional context but crucially also shape institutions. Agency is one side of the coin whose other face is the institutional organization of roles and rules. Higher education is a striking example of an institution that is best understood in terms of process rather than a fixed structure and one that is generative of increasing variety of positions.

McAlpine et al. (2008), as well as Clarke, Hyde and Drennan (2013) all refer to Lacan to convey how "identities are always 'under construction' in contexts that are characterized by indeterminacy, partiality and complexity" (McAlpine et al., 2008, p. 115).

Amongst those viewing academic identity as a psychological construct were Stets and Burke (2000), who contended that social identity arises in relation to personal identity (which encompasses consciousness over time and includes personal biography and the collective influences in one's life). An individual categorizes, classifies or associates in relation to a social grouping and takes on a role and associated meanings, expectations and standards of that role and its performance within the group. Similarly, Henkel's (2000) communitarian concept of academic identity depicted the distinctive individual who has a unique history who is located in a chosen moral and conceptual framework and who is identified within a defined community or institutions by the goods that she or he has achieved. The individual has roles that are strongly defined by the communities and institutions, so academic identity is both individual and social for Henkel (2000).

Other higher education theorists have described the notion of academic identity as an intellectual device. Valimaa (1998) claimed academic identity was an intellectual device that could be employed to reflect on the cultural perspectives of academic communities while academics simultaneously communicate with reference groups including discipline, profession, institution and nation. He emphasizes that academic

identity should not be understood as a psychological category but as an interpretive device in the analysis of communities which can help define the different significant others with which individuals interact (Valimaa, 1998).

The benefit of reconceptualising academic work-life in terms of an identity that is constructed by individuals who co-create their disciplinary, departmental, institutional and national environments is that these cultural theories restore the agency to individual academic staff that was missing in the structural functionalist approach. However, they do so at the expense of underestimating the degree of constraint that structural characteristics impose (Craib, 1992). In downplaying the determining influence of structures on academic work-lives and focusing on individual self-determination, cultural theories of academic identity have shifted the focus away from identifying powerful social structures and thus have potentially neglected the formative structure of institutional type, failing to fully examine its affects. Nevertheless, cultural theories of academic work-life have proffered a selection of factors, characteristics and categories that may be influencing academic work-lives that should be controlled for when examining the effect of institutional type on academic work-lives. These factors include demographic characteristics and academic characteristics that will be controlled for in the method used to measure the influence of institutional type in this study (see Chapter 4).

3.2 Homogenisation and Social Institutional Theory

While the theoretical shift from structural to cultural theory may account for the de-emphasis of institutional type as a factor influencing academic work-life in the literature, the homogenisation of institutional types in the universal phase, which was described in Chapter 2, may also be contributing to the de-prioritisation of institutional type in the conceptualisation of academic work-life. According to Taylor et al. (2008)

the non- university sector which initially focused on vocational educational programmes and the preparation for professions, is showing a growing approximation with the university sector, "specifically in the areas of the legal framework, the duration of study programmes / courses, the qualifications of academic staff and the development of applied research" (Taylor et al., 2008, p. 247). Similarly, universities have adopted policies for regional development and applied research which were primarily the preserve of the non-university sector (Taylor et al., 2008). According to Skolnik and Davis (2004), this process of 'academic drift' is a common theme in the history (of higher education) whereby post-secondary institutions that started off as something quite distinct from universities evolve into universities. According to Taylor et al. (2008), the objectives of non-university institutions, even though they are different from the universities, did not impede their growing approximations to the universities, especially with regard to the length of degrees and the degrees awarded.

Chapter 2 of this study described the creation, evolution and homogenisation of different institutional types throughout the history of higher education particularly in Europe. Furthermore, the examination of the Irish higher education context showed that homogenisation in Ireland was initiated by the universities after the success of the IoTs and it has continued from both sides of the binary divide to the present day. As well as the regulatory and institutional level homogenisation of institutional types, there are suggestions that academic staff participate in the academic drift process in their efforts to build their professional reputations (Jenniskens & Morphew, 1999; Morphew & Huisman, 2002). This phenomenon was observed during the mass phase in Ireland, described in Chapter 2, when the academic staff of DIT, which was in partnership with Trinity College Dublin, were encouraged to pursue post graduate degrees because of this link. It has further been proposed that the introduction of more university like career structures in the non-university sector has led to academic staff members

focusing on creating reputations as productive scholars in their fields (Enders & de Weert, 2004).

One theoretical approach that addresses the trend of homogenization of HEIs is social institutional theory[37]. Social institutional theory is an alternative structural theory to classic structural functionalism (Meyer, Rmairez, Frank, & Schofer, 2007; Milem et al., 2000). It emphasizes the dependence of local social organizations on wider environmental meanings, definitions, rules and models (Meyer et al., 2007). In contrast to a structural functionalist perspective, which endeavours to explain the existence of social structures in terms of functional needs in local contexts or in terms of powerful actors and interest groups in local situations, social institutional theory emphasizes that local organizations arise mostly independent of local contexts (Meyer et al., 2007). In terms of higher education, "universities and colleges together with their disciplinary fields and academic roles are defined, measured and instantiated in essentially every country in explicitly global terms" (Meyer et al., 2007, p.188). Thus, the external environment supplies the blueprints for local universities and colleges (Meyer et al., 2007) and while the meanings of structures in higher education may be locally shaped in minor ways, they actually have very substantial historical and global standing (Meyer et al., 2007). Chapter 2 of this study has demonstrated how the structures and their cultures persisted over the history of higher education all over the world. In Ireland, the features of academic work-lives in the universal phase mostly reflected those reported internationally, with only some features that appeared more locally specific, thus demonstrating Meyer's point.

[37] Social Institutional theory is also known as neo-institutional theory or new institutionalism. Its renaming is explained by Meyer (2007) as follows: "Contemporary institutional theorizing in the field of organizations dates back thirty-odd years. This particularly describes what are called new or neo-institutionalisms. These terms evoke contrasts with earlier theories of the embedded-ness of organizations in social and cultural contexts, now retrospectively called the 'old institutionalism' (Hirsch & Lounsbury, 1997; Stinchcombe, 1997). They went through a period of inattention, so that when institutional thinking came back in force after the 1960s, it seemed quite new" (Meyer, 2007, p. 788).

While for Meyer et al. (2007) the models of universities and colleges have always been globally defined, other theorists contend that globalization is a structural feature of the contemporary world (Vaira, 2004). For Vaira (2004) globalization describes reality, makes sense about how the world works and structures the way institutions and actors operate, but it is also a meta-myth that is used to make sense of the social transformations that are currently taking place. The transformations he is referring to are components of globalization which include; decreased public expenditure and state regulation and increased control via performance outcomes, increased managerialism and commodification and increased technology, knowledge production and information processing for competitive purposes (Vaira, 2004). For higher education, the task environment has changed dramatically in response to globalization. The reduction in state endowments to higher education means that HEIs have to do more with less, there are requirements to improve quality, effectiveness and efficiency in teaching, research and budgeting, there is a need to connect higher education to the economy and the labour market and to be accountable for the products of higher education. So Vaira's conception of globalization includes many of the features of the universal phase of higher education as described in Chapter 2. The result of these components, according to Vaira (2004) is a more entrepreneurial model for higher education institutions.

For Meyer, the creators of the blueprints of universities and colleges are "professionals (imbued with authority from the knowledge system), associations and social movements – in the name of collective interests" (Meyer et al., 2007, p. 192). Local structures, then, embody the wider models, for example, universities formally observe certain standards like a commitment to faculty research, even if the university is starved of resources for research (Meyer et al., 2007). Similarly, for Vaira (2004) the globalization meta-myth and its components are disseminated worldwide by supra-

national agencies that are politically and socially highly legitimated (such as UNESCO, World Bank, IMF, OECD) thus defining a form of higher education in the global age and defining a global organizational field that HEIs have to operate in.

Every local instance of an institutional model exists, in what DiMaggio & Powell (1983) termed an organizational field. The field is composed of the organizations and the actors that constitute institutional life such as the key suppliers, the consumers, the regulatory agencies and other organizations that produce similar services or products. By this definition, Dimaggio and Powell (1983) "refer not only to the primary organisations in a given field but to the totality of relevant actors" (Kyvik, 2009, p. 22).

Social institutional theory proposes that the survival and success of organizations depend on taking account of the other organizations in the environment (Van Vught, 2008). This is one of the implications of social institutional theory: that it predicts institutional isomorphism, which can be understood as a trend towards an increasing similarity in organizational behaviour producing a decrease of systems diversity (Van Vught, 2008). Therefore, higher education systems around the world should show remarkable similarities across diverse settings and these similarities should increase over time (Meyer et al., 2007).

According to DiMaggio and Powell (1983), institutional isomorphism takes three forms: coercive isomorphism resulting from pressures applied by other organisations in the field on which the organisation is dependent (e.g. Governmental policies and laws). Mimetic isomorphism which "stems from uncertainty caused by poorly understood technologies, ambiguous goals and the symbolic environment, which induces organizations to imitate the behaviour of perceived successful organizations" (Van Vught, 2008, p. 158). And, normative isomorphism, which has its roots in professionalization: "Professionalism leads to homogeneity both because formal

professional training produces a certain similarity in professional background and because membership of professional networks further encourages such a similarity" (Van Vught, 2008, p. 158).

Institutional isomorphism in higher education is demonstrated by the convergence thesis of globalization's process according to Vaira (2004). HEIs are under growing pressure from their organizational field to incorporate the new legitimated criteria (such as managerialism and knowledge production). The pressure on HEIs is exerted particularly by the higher education policies of the EU and results in growing normative and mimetic institutional isomorphism (Vaira, 2004). The thesis of increasing isomorphism and the convergence thesis about globalization's processes and outcomes in higher education are corroborated by higher education's governance, institutional, organizational and curricular arrangements' common pattern which is spreading worldwide (Vaira, 2004).

In applying the concept of institutional isomorphism to higher education, Van Vught (2008) made two propositions. Firstly, the greater the uniformity of the environmental conditions (e.g. state funding, regulations, quality control) of higher education organisations, the lower the level of diversity of the higher education system. Secondly, the greater the influence of academic norms and values in a higher education organisation, the lower the level of diversity of the higher education system (de Jager, 2011).

Milem et al. (2000) employed a social institutional theoretical framework in their research into changes in time spent on academic tasks in different institutional types between 1972 and 1992. They found evidence of institutional isomorphism based on their results that faculty in all types of institutions spent both more time teaching and more time engaged in research in 1992 than they had in 1972. In their conception of institutional isomorphism, as it applies to higher education, they claim that:

> Neo-institutional theorists contend that regulative (informal and formal laws, rules, and sanctions that arise from common legal and governmental environments), normative (the professionalization of practices and roles through shared social obligations, codes of conduct, and common socialization patterns), and mimetic (the interpretation of the world through shared pre-existing frames of reference that shape perception and behaviour) mechanisms work together to create organizations (in this case, colleges and universities) that are becoming increasingly homogenized (Milem et al., 2000, p. 456).

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Similarly, Dey, Milem & Berger (1997) also employed a social institutional theoretical framework in their research into changes in research productivity of academic staff in different institutional types between 1972 and 1992. They also found evidence for institutional isomorphism in that "from Time 1 to Time 2, the basic rates of publication productivity at all institutions were becoming more similar. This similarity can be seen in the increases in publication productivity at all types of institutions" (Dey et al., 1997, p. 319). Dey et al. (1997) provided a comprehensive description of normative isomorphism that identifies shared social obligations, shared codes of conduct, common career titles, and common career paths as all contributing to the homogenization of institutional types.

> Normative forces stem primarily from professionalization and are derived from shared social obligations and codes of conduct. DiMaggio and Powell (1983) emphasized the importance of formal educational credentials for faculty members as professionals with legitimate areas of specialization and the resulting proliferation and development of professional networks that span organizations. Riesman (1956) articulated the growing impact of cosmopolitan allegiances to disciplines over loyalty to local institutions as an important contributor to the increase in institutional homogeneity. DiMaggio and Powell stressed the importance of filtering personnel (in this case, faculty) through a limited number of organizations (graduate schools) and common career titles and

> paths (professorial ranks), resulting in shared values and norms that are the products of common socialization experiences (Dey et al., 1997, p. 310).

While research on normative isomorphism and the convergence theory of globalization's processes has been limited in higher education thus far, Dansen (2012) found evidence of normative isomorphism in the financial sector. He described how the interconnectedness of the global financial system and the similarity of banks led to a fast spread of the financial crisis that originated in the US mortgage market. Scrutiny of the organiational field in which banks operated ensued as the risks its dynamics had created were far higher than experts had envisioned. In order to assess the degree of isomorphism in the financial sector, Dansen (2012) operationalised drivers of coercive, mimetic and normative isomorphism. He identified the same forces of normative isomorphism as Dimaggio and Powell (1983) which were formal education and the workings of professional networks. Both forces provide and institutionalise ideas that are important for staff and management development, but also produce a side effect of reinforcing a dominant discourse, resulting in more similar managers with similar sets of attributes and skills and ultimately similar decision making leading to similar results (Dansen, 2012). The drivers of normative isomorphism Dansen operationalised were similarity in background and gender of staff and management, participation of managers in trade and professional networks and professionalization of required credentials and training standards. The findings showed evidence of normative isomorphism in terms of professionalization of required credentials and insufficient data to confirm normative isomorphism for the other two measures used.

While Dansen's (2012) study is indicative of normative isomorphism in the private sector, Frumkin and Galaskiewicz (2004) found evidence that public organizations are even more likely to exhibit normative isomorphism than private

organisations. Public organisations produce outputs that are more difficult to measure than private organisations and often fulfil public service goals that take precedence over financial remuneration. As a result Frumkin and Galaskiewicz (2004) hypothesize that they are more likely to embrace external referents of accountability to legitimate their operations. This along with public organizations' flow of resources being shielded from sudden interruptions means that public organizations are more influenced by institutional pressures like isomorphism.

Chapter 2 described how the European and Irish higher education strategies were encouraging the homogenisation of the different institutional types, thus creating the more uniform environmental conditions that Van Vught (2008) described. Chapter 2 also observed that the literature of the universal phase has implied the activities and beliefs of academic staff about their work-lives in the universal phase have also homogenized between institutional types. One of the components of the institutional isomorphism proposed by social institutional theory is normative isomorphism, which is described as the increasing similarity between academic staff behaviours and attitudes in different institutional types. It is characterised by a similarity in professional background, membership of common professional networks, professionalization of practices and roles, shared social obligations and codes of conduct, shared formal educational credentials, common career titles and common professorial ranks. In the context of this description of normative isomorphism, the null hypothesis that will be tested in this research can be stated as follows: Academic work-lives will not differ in different institutional types.

3.2.1 Structure and agency

By employing social institutional theory in this research, the criticism that structural functionalist conceptualisations of higher education were internalist is

addressed, and the homogenisation of academic work-life between institutional types is hypothesised as a component of institutional isomorphism. However, the nature of the interaction between structures and agents and the level of agency that academic staff possess is not as clear in social institutional theory as it was in the cultural conceptions of academic identity.

Giddens' (1984) structuration theory attempted to integrate agency and structure by acknowledging the constraining nature of structure on agency and balancing it with the power of the actor to recursively influence and constitute structure. In order to accomplish this, Giddens offered a very unusual definition of structure that did not follow the Durkheimian pattern of viewing structures as external to and coercive of actors. He took pains to avoid the impression that structure was outside or external to human action, claiming that "structures themselves do not exist in time and space" (Ritzer, 2008, p. 398). Rather, social phenomena have the capacity to become structured. Giddens contended that "structure only exists in and through the activities of human agents" (Giddens, 1989, p. 256). Thus, structuration was premised on the idea that the "constitution of agents and structures are not two independently given sets of phenomena, but represent a duality...[and] involves the dialectical relationship between structure and agency…[where] neither can exist without the other" (Ritzer, 2008, p. 399).

Trowler (1998) applied Giddensian structuration theory to discipline types in his book, *Academics responding to change*. He claimed that disciplines are not 'objective' phenomena as they are seen in the essentialist perspective,

> rather that they are socially constructed and socially understood stories. These stories are no less structural in nature than real epistemological determinants, they constrain and condition behaviour and give it regularity, and at the same time, they are amenable to change by actors and are themselves influenced by other structures (Trowler, 1998, p. 139).

Therefore, "the picture is a far more complicated one than that painted by authors writing from an essentialist position ...[and] suggest a need for caution about making generalizations about academic disciplines" (Trowler, 1998, p. 139). In Trowler's conception of structuration in higher education, academic staff were not passive recipients of beliefs and experiences; "attitudes, values, how people think and 'the way things are done around here' in a word, culture, are not changed ...from above …[people] construct culture as well as play it out as Giddens shows us" (Trowler, 1998, p. 141).

The main criticism of Trowler's structuration in higher education is the same criticism as that levelled at structuration in general; the operation of the interplay between structure and agency is not adequately described. According to Turner (2005, p. 406): "What emerges in Gidden's theory of structuration is a category system but the dynamic relations among categories are not specified". There is a failure to adequately explain the recursive influence of agents on structure and while the relations "are often connected by lines in diagrams but the lines have no arrows or signs and hence it is difficult to know how the concepts relate to each other".

Another attempt to link structure and agency is Bordieu's theories of field and habitus and their dialectical relationship. For Bourdieu, structures are "objective structures independent of the consciousness and will of agents, which are capable of guiding and constraining their practices or their representations" (Bourdieu, 1989, p. 14) . Habitus are the "mental or cognitive structures through which people deal with the social world ... dialectically, habitus are the 'product of the internalisation of the structures' of the social world" (Bourdieu, 1989, p. 18). Habitus can be thought of as "internalised, embodied social structures" (Ritzer, 2008, p. 405). A habitus is acquired as a result of long term occupation of a position within the social world (e.g. gender, age group). Although habitus is an internalised structure that constrains thought and choice

of action, it does not determine them (Myles, 1999). This lack of determinism is one of the main things that distinguishes Bourdieus's position from that of mainstream structuralists (Ritzer, 2008). However, according to Turner (2005, p.406),

> Bourdieu's notion of habitus is vague... the agency structure issue is [not] resolved; rather the issue is simply relabelled...Habitus says very little about what aspects of individual cognition, perception, thought or behaviour are influenced by what dimensions of social structure and vice versa. We are simply told that the connection between structure and agency is mediated by habitus which gives us a name of a process but little else.

He goes on to claim that the increase in the interest among European theorists in the relationship between agency and structure is based on the dissatisfaction of social scientists, with a division between diverse levels of reality. "Despite other sciences remaining comfortable [with such a divide] even physics has not reconciled general relativity with sub-atomic physics" (Turner, 2005, p. 406), social scientists endeavour to link this divide. To this end, the structure agency debate centres around "those arguing for the primacy of human agency [who] typically want to see humans as having some degree of free will, [and] those pushing the more structural side [who] will tend to see human action as highly circumscribed by cultural and structural parameters" (Turner, 2005, p. 406). For Turner, there is nothing inherently contradictory about these two positions since human action can be constrained without being determined, while structures can be reconstituted by acts of individuals. But the process and mechanism, by which this occurs or is possible, remains "typically vague" (Turner, 2005, p. 406). Therefore, this study will not faithfully subscribe to either structuration or a field and habitus conception of the relationship between structure and agency and the implied consequences for the degree of free will of academic staff. Instead, it will recognise that the potential for academic staff to influence their work-lives according to their own

desires and preferences may be constrained by the basic power structures of higher education (Rhoades, 2000).

3.3 Chapter summary

Employing a cultural theory in the universal phase to conceptualise academic work-life did resolve the criticisms of the structural functionalist theory used in the mass phase in terms of its internalism and the implied absence of free will for its agents. However, institutional type as an influencing factor on academic work-life was neglected by the cultural model, thus potentially underestimating the degree of constraint that structures impose. The homogenisation of the missions of different institutional types during the universal phase also compounded the de-prioritisation of institutional type because it negated the need to measure the effect of institutional type. The theory that reinstates a structural theoretical approach to conceptualising academic work-lives while maintaining an externalist perspective and providing a description of the suspected homogenisation in HEIs is social institutional theory. The normative isomorphism proposed by social institutional theory at the academic staff level will be tested by this study. The other influencing factors identified by structural and cultural theories (such as discipline type, demographic characteristics and academic characteristics) will also be controlled for, thus enabling a definitive acceptance or rejection of the null hypothesis, that academic work-life will not differ in different institutional types.

4 METHODOLOGY

To compare the characteristics, activities, outputs and perceptions of academic staff in each institutional type in Ireland, a comparative cross sectional research design, using the method of a questionnaire to gather data, was employed. Section 4.1 of this chapter describes the deductive theoretical approach to the collection and analysis of the data. Section 4.2 details the comparative cross sectional research design. Section 4.3 describes the questionnaire instrument in detail, including the purpose and objectives of the questionnaire (section 4.3.1), the population of academic staff, the sample and generalizability (section 4.3.2), the administration of the questionnaire (section 4.3.3), the issues addressed by the questionnaire and the items they generated (section 4.3.4), the measures used in the questionnaire (4.3.5), the reliability of the measures used and the validity of the questionnaire (section 4.3.6). Section 4.4 describes the data analysis plan which included independent t-tests and the multiple linear regressions. Section 4.5 states the alternative and null hypotheses generated from each of the research questions and the rationale for the employment of parametric testing of the hypotheses using independent t-tests and multiple linear regressions is provided. Lastly, the ethical considerations for the research are described (section 4.6).

4.1 Research theory and strategy

According to Bryman (2012), research can either be done to answer questions posed by theoretical considerations (deductive) or the development of a theory can occur after the collection and analysis of data (inductive). This research employs a deductive approach, whereby the researcher deduces a hypothesis from a particular domain and the theoretical considerations in relation to that domain, which are then subjected to empirical scrutiny. Embedded, within the hypothesis, are concepts that

require translation into researchable entities. Thus, the researcher must deduce the hypothesis and translate it into operational terms, i.e. describe how data can be collected in relation to the concepts that make up the hypothesis. The process of deduction thus begins with a theory, then a hypothesis, followed by data collection and findings, resulting in hypotheses being confirmed or rejected and the theory being revised (Bryman, 2012). The theoretical approach to this research assumes that the structure of institutional type is not affecting how academic staff experience their work-lives because institutional isomorphism is occurring at the normative level. The research hypothesis deduced from this theory is that academic work-lives in the universal phase of higher education are the same in both institutional types.

Further to these theoretical considerations, Burrell & Morgan (1979) identified four types of assumptions that are also made when interpreting social reality, which are; ontological, epistemological, human nature and methodological. Ontological assumptions are concerned with the nature of the social phenomena being investigated, that is, whether they have independent existence or are dependent on the knower (Cohen, Manion, & Morrison, 2007). Epistemological assumptions are concerned with the nature of knowledge, how it can be acquired and how it can be communicated. According to Cohen et al. (2007), epistemological assumptions are either positivist, viewing knowledge as hard objective and tangible and putting researchers in an observer role with an allegiance to the methods of natural science, or anti-positivist, seeing knowledge as personal, subjective and unique, imposing on researchers an involvement with their subjects and a rejection of methods of natural science. Assumptions about human nature are concerned with whether human beings are products of their environment, responding deterministically, or if human beings produce their environment, using free will (voluntarism). Lastly, methodological assumptions are related to the previous three assumptions in that investigators adopting a positivist

approach to the social world, viewing phenomena as real and external to the individual, will employ a nomothetic methodology which is designed to discover general laws, e.g. surveys or experiments. The more subjectivist anti positivist investigators, viewing phenomena as humanly created, will employ an idiographic methodology, emphasising the particular and individual, such as participant observation (Cohen et al., 2007).

According to Bryman (2012), the orientation to conduct research (i.e. the research strategy) also rests on the philosophical theories and assumptions outlined above. Whether the research is quantitative and emphasizes quantification in the collection and analysis of data or qualitative and emphasizes words in the collection and analysis of data is decided in accordance with the theoretical choices summarized in Table 4.1.

Table 4.1 Differences between quantitative and qualitative research strategies

	QUANTITATIVE	QUALITATIVE
PRINCIPAL ORIENTATION	Deductive; testing a theory	Inductive; generation of a theory
ONTOLOGICAL ORIENTATION	Realist	Constructivist
EPISTEMOLOGICAL ORIENTATION	Positivist	Interpretivist
HUMAN NATURE	Determinist	Voluntarist
METHODOLOGICAL ORIENTATION	Nomothetic	Idiographic

In relation to the further theoretical assumptions made by this research, the ontological approach taken is realist, contending that the objects of enquiry have independent existence. Epistemologically, a positivist perspective is taken, contending that knowledge is hard, objective and tangible and demands allegiance to the methods of natural science. The assumptions about human nature include a degree of determinism, which holds that individuals are products of their environment. The methodological approach is nomothetic and is concerned with identifying and defining elements and discovering ways in which their relationships can be expressed (Cohen et al., 2007).

4.2 Research Design and method

A research design guides the "execution of a research method and the analysis of the subsequent data" (Bryman, 2012, p. 45). Types of research design include experimental, quasi experimental, cross-sectional or survey design, case study design, and comparative design. A research method is a technique for collecting data which can involve a specific instrument, such as a self-completion questionnaire or a structured interview schedule, or participant observation.

This research employs a comparative cross sectional research design. "Cross sectional design entails the collection of data on more than one case at a single point in time in order to collect a body of quantitative or quantifiable data in connection with two or more variables which are then examined to detect patterns of association" (Bryman, 2012, p. 58). Cross sectional design is also known as survey design and has been described as gathering "data at a particular point in time with the intention of describing the nature of existing conditions or identifying standards against which existing conditions can be compared, or determining the relationships that exist between specific events" (Cohen et al., 2007, p. 169). It is recommended when "the research objective is to gather general information about attitudes, opinions or characteristics, where data are required in standardized form and are not available from other sources and where the research wishes to explore quantifiable differences between groups or relationships between variables" (Briggs & Coleman, 2007, p. 128).

Comparative design entails studying two contrasting cases using more or less identical methods. The comparative design may be realized in the context of either quantitative or qualitative research. In quantitative research, data is collected from at least two cases (which may be organizations, sectors, nations, communities etc.) usually within a cross sectional design format (Bryman, 2012). According to Bryman (2012, p.

74), “Comparative design is essentially two or more cross-sectional studies carried out at more or less the same point in time”. He elaborates further that “the key to comparative design is its ability to allow the distinguishing characteristics of two or more cases to act as a springboard for theoretical reflections about contrasting findings. It is something of a hybrid in that in quantitative research it is frequently an extension of a cross-sectional design” (Bryman, 2012, p. 75).

This research, therefore, is designed to gather data about academic staff’s characteristics, activities and perceptions, at a single point in time, from the two main institutional types in Ireland, using the most appropriate research method to do so; the questionnaire. The questionnaire has a number of advantages that make it appropriate for gathering cross sectional information: It can specifically collect data on facts, attitudes and beliefs (Somekh & Lewin, 2005), from a large number of people by not requiring the presence of the researcher (Wilson & McLean, 1994). It provides structured, often numerical data (Cohen et al., 2007) which facilitates the comparison and statistical aggregation of the results. In addition to the closed ended questions that comprise most of the instrument and capitalise on the benefits of a questionnaire, the questionnaire developed for this research also included two areas for open ended responses from participants, where they could express their views about their working conditions. This additional qualitative element to the survey enriches the quantitative data findings by enhancing the validity of the overall analysis and contributing to a more “rounded and credible picture” (Mason, 1994, p. 104).

4.3 Questionnaire

The questionnaire for this research was developed using Cohen et al.’s (2007) sequence for planning a questionnaire:

- Decide the purposes/objectives of the questionnaire

- Decide the population and the sample (as characteristics about their characteristics will need to be included on the questionnaire under personal details)
- Generate the topics/constructs/concepts/issues to be addressed and data required in order to meet the objectives of the research (this can be done from the literature, or a pre-pilot focus group or semi structured interview)
- Write the questionnaire items
- Check that each issue from the literature has been addressed, using several items for each issue
- Decide on the kinds of measures/scales/questions/responses required
- Pilot the questionnaire and refine items as a consequence
- Administer the final questionnaire

4.3.1 The purposes/objectives of the questionnaire

The first purpose of the questionnaire was to answer the research questions outlined below:

RQ1: What are the characteristics of academic staff in Ireland?

RQ2: What are the activities and outputs of academic staff in Ireland?

RQ3: What are the perceptions of Irish academic staff about their work-lives?

The second purpose of the questionnaire was to test the hypothesis that academic staff in each institutional type do not differ in their activities, outputs and perceptions. Accepting this hypothesis will confirm that institutional isomorphism is occurring at the normative staff level. Rejecting this hypothesis will mean that institutional type is an influencing structure on academic work-lives.

4.3.2 Population and sample

Quantitative research aims to generalize the findings beyond the context in which the research was conducted. As such, it aims to obtain a sample that can act as a microcosm of a larger population, which is known as obtaining a representative sample, A representative sample can be generated by employing probability sampling, by obtaining an appropriate sample size and by achieving an acceptable response rate.

Ideally, a probability sample is selected. A probability sample is a sample that has been selected using random selection so that each unit in the population has a known chance of being selected. It is generally assumed that a representative sample is more likely to be the outcome when this method of selection from the population is employed. The aim of probability sampling is to keep sampling error to a minimum. Sampling error is an error in the findings due to the difference between the sample and the population from which it is selected. However, large sampling errors can occur even when probability sampling is employed (Bryman, 2012). A non-probability sample is a sample that has not been selected using a random selection method. Essentially, this implies that some units in the population are more likely to be selected than others and the sample is more likely to be biased.

When it is not possible to select a probability sample, a non-probability sample may be selected instead, such as a convenience sample or a quota sample. A convenience sample is a sample that is available to the researcher by virtue of its accessibility. The data from a convenience sample will not allow definitive findings to be generated, because of the problem of generalization but it can still provide links to be forged with existing findings in an area (Bryman, 2012). According to Bryman (2012), convenience sampling probably plays more of a prominent role in research than is sometimes supposed. Social research is frequently based on convenience sampling.

Quota sampling is creating a sample that reflects a population in terms of the relative proportions of people in different categories such as gender, ethnicity and age-groups (Bryman, 2012). However, unlike stratified sampling, the selection is not carried out randomly. Once the categories, e.g. gender, and the number of people to be surveyed within each category (i.e. Quota) is decided upon, it is up to the researcher to select people who fit these categories. The quota sample is claimed by some practitioners to be almost as good as a probability sample (Bryman, 2012).

In this research, the entire population was defined as all lecturing academic staff in Irish universities and Institutes of technology. The total population of lecturing academic staff in both institutional types in Ireland in 2010 was 9186 whole time equivalent (WTE), with 52% in IoTs and 48% in universities[38]. As the contact information for all lecturing academic staff in the total population in Ireland was not available for this study, it was not possible to create a sampling frame (the listing of all units in the population from which the sample is selected) and to randomly assign members to the sample (the segment of the population that is selected for investigation). Therefore, a combination of convenience sampling and quota sampling was employed instead.

All the human resource (HR) offices of 21 HEIs were contacted via email and post and were asked to forward the link to the questionnaire to their lecturing academic staff. All HEIs HR managers were subsequently contacted by phone to confirm their consent to forward the questionnaire. Eight of the HEIs HR managers agreed to forward the link to the appropriate staff members (see Table 4.2). In order to contact academic staff from the other 13 HEIs, the researcher constructed contact lists of lecturing academic staff members from the websites of the non-participating HEIs where possible. Where the lecturing academic staff contact details were not available

[38] IoT total academic staff= 4426, University total academic staff=4759

on the HEI website, the researcher contacted the department heads (ITS, CIT) and requested their cooperation to distribute the questionnaire link to their department's academic staff. There was no contact information at all available for one HEI (ITT).

Table 4.2 HEIs that agreed to forward the link [39]

HEI	ACADEMIC STAFF (WTE)
DUBLIN INSTITUTE OF TECHNOLOGY	1047.01
ATHLONE INSTITUTE OF TECHNOLOGY	262.82
DUN LAOIGHRE INSTITUTE OF ART, DESIGN & TECHNOLOGY	125.33
GALWAY-MAYO INSTITUTE OF TECHNOLOGY	368.83
BLANCHARDSTOWN INSTITUTE OF TECHNOLOGY*	134.05
TRALEE INSTITUTE OF TECHNOLOGY	214.06
LIMERICK INSTITUTE OF TECHNOLOGY*	301.6
WATERFORD INSTITUTE OF TECHNOLOGY	519.64
TOTAL	2973.34

*Given the response rate per HEI (see Table 4.5), it is likely that some HEIs (ITB and LIT) who agreed to forward the link to the questionnaire did not do so. Therefore, the total academic staff contacted through the HR offices of their HEI may be estimated as 2537.69[40].

Table 4.3 HEIs that declined to forward the link

HEI	WTE ACADEMIC STAFF
UNIVERSITY COLLEGE DUBLIN	1047.58
UNIVERSITY OF DUBLIN, TRINITY	695.73
UNIVERSITY COLLEGE CORK	708.51
UNIVERSITY COLLEGE LIMERICK	501.98
NATIONAL UNIVERSITY OF IRELAND, GALWAY	733.71
DUBLIN CITY UNIVERSITY	477
NATIONAL UNIVERSITY OF IRELAND, MAYNOOTH	261.8
CORK INSTITUTE OF TECHNOLOGY	600.08
DUNDALK INSTITUTE OF TECHNOLOGY	285.6

[39] Data on academic staff numbers per HEI was provided in private communication by the HEA (2010).
[40] (2973.34-(301.6+134.05).

HEI	WTE ACADEMIC STAFF
CARLOW INSTITUTE OF TECHNOLOGY	215.11
SLIGO INSTITUTE OF TECHNOLOGY	293
TALLAGHT INSTITUTE OF TECHNOLOGY	204.91
LETTERKENNY INSTITUTE OF TECHNOLOGY	187.36
TOTAL	6212.37

Table 4.4 HEIs where lecturing academic staff were contacted directly

HEI	NUMBER OF STAFF CONTACTED
UNIVERSITY COLLEGE DUBLIN	284
UNIVERSITY OF DUBLIN, TRINITY	185
UNIVERSITY COLLEGE CORK	102
UNIVERSITY COLLEGE LIMERICK	170
NATIONAL UNIVERSITY OF IRELAND, GALWAY	178
DUBLIN CITY UNIVERSITY	160
NATIONAL UNIVERSITY OF IRELAND, MAYNOOTH	135
UNIVERSITIES	1214
CORK INSTITUTE OF TECHNOLOGY	26
DUNDALK INSTITUTE OF TECHNOLOGY	69
CARLOW INSTITUTE OF TECHNOLOGY	100
SLIGO INSTITUTE OF TECHNOLOGY	11
TALLAGHT INSTITUTE OF TECHNOLOGY	0
LETTERKENNY INSTITUTE OF TECHNOLOGY	68
IOTS	274
TOTAL	1488

Table 4.5 Response rate by HEI

HEI	RESPONSE COUNT
DUBLIN CITY UNIVERSITY	16
UNIVERSITY COLLEGE CORK	32
UNIVERSITY COLLEGE DUBLIN	30
NATIONAL UNIVERSITY OF IRELAND, GALWAY	37
NATIONAL UNIVERSITY OF IRELAND, MAYNOOTH	10
UNIVERSITY OF LIMERICK	21
UNIVERSITY OF DUBLIN, TRINITY	14
ATHLONE INSTITUTE OF TECHNOLOGY	12
INSTITUTE OF TECHNOLOGY, BLANCHARDSTOWN	1
INSTITUTE OF TECHNOLOGY, CARLOW	16

HEI	RESPONSE COUNT
CORK INSTITUTE OF TECHNOLOGY	5
DÚN LAOGHAIRE INSTITUTE OF ART, DESIGN AND TECHNOLOGY	7
DUNDALK INSTITUTE OF TECHNOLOGY	23
GALWAY-MAYO INSTITUTE OF TECHNOLOGY	23
LETTERKENNY INSTITUTE OF TECHNOLOGY	4
LIMERICK INSTITUTE OF TECHNOLOGY	0
INSTITUTE OF TECHNOLOGY, SLIGO	1
INSTITUTE OF TECHNOLOGY, TALLAGHT	7
INSTITUTE OF TECHNOLOGY, TRALEE	10
WATERFORD INSTITUTE OF TECHNOLOGY	24
DUBLIN INSTITUTE OF TECHNOLOGY	51
UNKNOWN	7
TOTAL	351

A second step that can be taken to avoid bias in a sample is to select the correct sample size. A sample number was calculated according to the level of accuracy and the level of probability. As the instrument uses a 5 point scale to measure continuous variables and the analysis will be determining the differences in these variables by the categorical variable of institutional type, the sample size required to be representative of the population of 9186 is 264. This sample size was found using Bartlett, Kotrlik & Higgins (2001) Table for Determining Minimum Returned Sample Size for a Given Population Size (calculated using Cochran's sample size formula).

A third factor that risks bias in a sample is non-response. Academic staff that do not participate in surveys will not be captured in the data. This means it is impossible to tell if the findings can be generalizable to them. As per tables 4.2, 4.4 and 4.5 above, the number of academic staff invited to participate in the questionnaire can be estimated as approximately 2538 contacted by the HEIs HR offices plus 1488 contacted directly by the researcher. Of those invited, 411 questionnaires were completed, but only 351 questionnaires completed the question of their institutional type or their HEI. It was not possible to follow up with respondents who did not complete either of these questions

due to the survey not collecting respondents' identifying or contact information. It is noted, however, that the question of respondents' institutional type could have been set as mandatory, thus requiring a response before submission of the questionnaire. If this had been applied, the responses could have been maximised. The total response rate to the questionnaire is thus 10% and the total valid response rate is 9%. The significance of the response rate is that "unless it can be proven that those who do not participate do not differ from those that do, there is likely to be the risk of bias" (Bryman, 2004, p. 235). Bryman encourages researchers to recognize and acknowledge low response rates.

The sample selected for this research is a non-probability sample that used a combination of convenience and quota sampling. The sample size is large enough to be considered representative. However, the response rate is low. Therefore, this sample may contain bias and may not be generalizable to the entire population.

4.3.3 Administration of the questionnaire

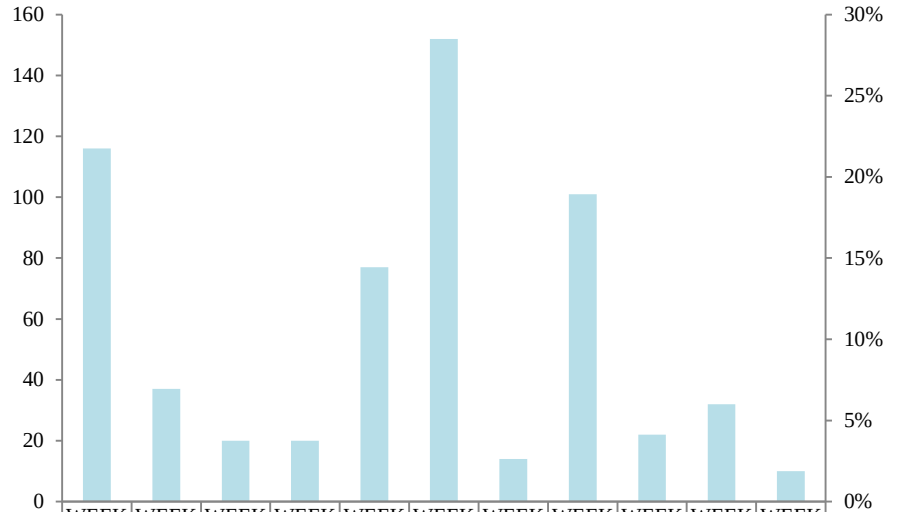
The questionnaire was administered online enabling a wider and much larger population to be accessed (Cohen et al., 2007) than would otherwise have been possible. Administering the questionnaire online enabled respondents to complete the survey at a suitable time for them, in a self-chosen setting, and over time if preferred i.e. not all in one sitting (Cohen et al., 2007).

The questionnaire was administered on September 14th, 2010. The number of academic lecturing staff who were sent a link to the questionnaire by the human resources office of their HEI can be estimated at approximately 2538, as above. The number of lecturing academic staff contacted directly by the researcher is 1488. The results from the questionnaires will show that lecturing academic staff from the IoT sector returned 186 (52.6%) questionnaires and 165 (47.4%) questionnaires were

returned from the university sector. These proportions of lecturing academic staff in each institutional type correspond to the proportions found in the entire population for 2010.

The questionnaire remained open to collect responses from September 14th, 2010 until December 14th, 2010. The number of responses to the questionnaire across the time period is displayed in Figure 4.1 below.

Figure 4.1 Number and percentage of responses to the questionnaire over time



	WEEK 1	WEEK 2	WEEK 3	WEEK 4	WEEK 5	WEEK 6	WEEK 7	WEEK 8	WEEK 9	WEEK 11	WEEK 12
Number of respondents	116	37	20	20	77	152	14	101	22	32	10
Percentage of respondents	19%	6%	3%	3%	13%	25%	2%	17%	4%	5%	2%

4.3.4 Issues to be addressed and the questionnaire items generated

The literature review and the theoretical framework provided direction on the issues to be addressed and the data required in order to meet the objectives of the research. The theoretical framework identified the factors that have the potential to influence academic work-lives (see Table 4.6 below)[41]. The categorical variable of institutional type will be the primary independent variable in this study. An independent variable is a proposed cause because its value does not depend on any other

[41] The potential for the variables in Table 4.6 other than institutional type to affect the dependent variables will be discussed further in section 4.10

variable. The dependent variables of this study are academic staff activities, outputs and perceptions about their work-lives. They are dependent because they are proposed effects, i.e. their value depends on the proposed cause which is institutional type. The variables in Table 4.6 also provide factual information about the characteristics of academic staff in each institutional type, which will answer Research Question 1.

Table 4.6 Factual information about the characteristics of academic staff

QUESTION	OPTIONS	VARIABLE TYPE
INSTITUTIONAL TYPE	Institute of Technology	Categorical
	University	
HEI NAME	21 HEI names	
GENDER	Male	
	Female	
	Other	
AGE	24 years and under	
	25-44	
	45-64	
	65 years and over	
CAREER LEVEL	Assistant Lecturer / Junior Lecturer	
	Lecturer	
	Senior Lecturer 1 / Senior Lecturer	
	Senior Lecturer 2 / Associate Professor	
	Senior Lecturer 3 / Professor	
QUALIFICATION	Level 6 (Higher Certificate, Advanced Certificate)	
	Level 7 (Ordinary Bachelor Degree)	
	Level 8 (Honors Bachelor Degree, Higher Diploma)	
	Level 9 (Masters, Postgraduate Diploma)	
	Level 10 (Doctoral Degree, Higher Doctorate)	
CONTRACT TYPE	Temp	
	Perm	
FULL TIME/PART TIME	FT	
	PT	
DISCIPLINE	Education Science	
	Humanities & Arts	
	Social Sciences, Business & Law	
	Science	
	Engineering, Manufacturing & Construction	
	Agriculture & Vetinary	
	Health & Welfare	
	Services (including Leisure, Tourism, Catering and Hotel Management)	

QUESTION	OPTIONS	VARIABLE TYPE
NATIONALITY	Irish	
	EU	
	Rest of Europe	
	Africa	
	Asia	
	America	
	Australia	
	New Zealand	
	Other nationality	
ETHNICITY	White (Irish, Irish Traveller, Any other White background)	
	Black or Black Irish (African, Any other Black background)	
	Asian or Asian Irish (Chinese, Any other Asian background)	
	Other, including mixed background	

The national and international literature reviews identified the activities and outputs of academic staff. Tables 4.7 and 4.8 describe these activities and outputs which will constitute some of the dependent variables of this study, i.e. their value will be proposed to be an effect of the independent variable, institutional type. The values of these variables will answer Research question 2 above.

Table 4.7 Activities of Academic staff

ACTIVITY	OPTIONS	VALUES
HOURS SPENT AT WORK PER WEEK	Hours spent at work per week when classes are in session	<1->60
	Hours spent at work per week when classes are not in session	
TEACHING (CLASSROOM INSTRUCTION, PRACTICE INSTRUCTION, ICT-BASED LEARNING, DISTANCE EDUCATION)	Per cent per week when classes are in session	1-100
	Per cent per week when classes are not in session	
TEACHING RELATED ACTIVITIES (PREPARATION OF INSTRUCTIONAL MATERIALS, LESSON PLANS, ADVISING STUDENTS, READING AND EVALUATING STUDENT WORK)	Per cent per week when classes are in session	
	Per cent per week when classes are not in session	
RESEARCH (READING LITERATURE, WRITING, CONDUCTING EXPERIMENTS, FIELDWORK)	Per cent per week when classes are in session	
	Per cent per week when classes are not in session	
POSTGRADUATE RESEARCH SUPERVISION	Per cent per week when classes are in session	
	Per cent per week when classes	

ACTIVITY	OPTIONS	VALUES
	are not in session	
ADMINISTRATION (COMMITTEES, DEPARTMENT MEETINGS, PAPERWORK)	Per cent per week when classes are in session	
	Per cent per week when classes are not in session	
SERVICE (SERVICES TO CLIENTS, UNPAID CONSULTING, PUBLIC OR VOLUNTARY SERVICES)	Per cent per week when classes are in session	
	Per cent per week when classes are not in session	
MANAGEMENT (LEADERSHIP AND SCHOLARSHIP, STRATEGIC AND OPERATIONAL PLANNING, QUALITY ASSURANCE PROCEDURES, SUPERVISING STAFF, PARTICIPATING IN RECRUITMENT)	Per cent per week when classes are in session	
	Per cent per week when classes are not in session	
OTHER ACADEMIC ACTIVITIES (PROFESSIONAL ACTIVITIES NOT CLEARLY ATTRIBUTABLE TO ANY OF THE CATEGORIES ABOVE)	Per cent per week when classes are in session	
	Per cent per week when classes are not in session	

Table 4.8 Outputs of academic staff

OUTPUT	OPTIONS	VARIABLE TYPE
SCHOLARLY CONTRIBUTIONS COMPLETED IN THE LAST ACADEMIC YEAR	Scholarly books you authored or co-authored	Continuous
	Scholarly books you edited or co-edited	
	Articles published in an academic journal	
	Chapters published in an academic book	
	Research report / monograph written for a funded project	
	Policy paper	
	Paper presented at a scholarly conference	
	Professional article written for a newspaper or magazine	
	Patent secured on a process or invention	
	Computer program written for public use	
	Artistic work performed or exhibited	
	Video or film produced	
	Others	
STUDENTS INSTRUCTED	Number of undergraduate students	
	Number of post graduate taught student s	
	Number of post graduate research students	

Table 4.9 outlines the issues for the questionnaire to capture data about academic staff perceptions about their working conditions in the universal phase of higher education and answers research question 3 above. Fifty seven items were generated about academic staff perceptions about their current work-lives from the

national and international literature reviews (see Section 2.3 above). These items will undergo principal component analysis to identify the underlying concepts that they are measuring. The items grouped by the principal component analysis will be combined into constructs of Likert scales for each concept. These constructs will constitute some more of the dependent variables in this study.

Table 4.9 Perceptions of academic staff about their working conditions

ITEM	MEASURE	VARIABLE TYPE	VALUE OPTIONS
My academic authority has decreased	Likert Item	Interval / ordinal	Strongly Disagree / Disagree / Neither Agree nor Disagree / Agree / Strongly Agree
I feel overly managed			
I have a high level of control over my teaching			
I have a high level of control over my teaching			
Accountability in my teaching has increased			
Accountability in my research has decreased			
I have too many accountability exercises to perform			
The current faculty performance evaluation method at my HEI is adequate and fair			
There is a collegial approach to management in my HEI			
The governing body in my HEI has conceded too much authority to management			
There is a top down management style at my HEI			
There is a business model management style at my HEI			
My research workload is increasing			
My teaching workload is increasing			
My service workload is increasing			
My administrative tasks are increasing			
There is a strong sense of community at my HEI			
I feel that I have the support of my colleagues at my HEI			
There is an increasing casualisation of Irish faculty			
Tenure is a necessary condition for academic employment			
Tenure is granted too early in Ireland			
Teaching is being devalued at my HEI			
There is an increased emphasis on research at my HEI			
I feel increasing pressure to be research			

ITEM	MEASURE	VARIABLE TYPE	VALUE OPTIONS
active			
I have adequate resources and support to perform my teaching			
I have adequate resources and support to perform my research			
Academic freedom has not diminished in my HEI			
My research agenda has been curtailed by funding constraints			
I often use ICT in my teaching			
ICT enhances my teaching			
Technology use is encouraged regardless of its effectiveness in teaching at my HEI			
Mature students expect more from me than younger students			
Mature students expectations of me increases my workload			
I have inflated student grades			
I have felt pressure to grade differently by my HEI			
My performance evaluation takes my students grades into account			
My HEI provides adequate training for my development of scholarship and updating of knowledge			
I need extra training in research skills			
I need extra training in teaching skills			
The nomenclature of assistant lecturer is demotivating			
The nomenclature of below the bar lecturer is demotivating			
The nomenclature of junior lecturer is demotivating			
The nomenclature of Contract of Indefinite Duration CID is demotivating			
IoT faculty are as high status as university faculty at comparable career levels			
Moving to the same academic grade in a more prestigious HEI is as favourable to me as a grade promotion in my current HEI			
HEI prestige is a factor in my career planning			
There is adequate recognition of my success at my HEI			
The expectations for my performance are clear to me			
Promotion criteria are clear to me			
I have had a colleague sit in during my classes to improve my teaching via feedback and learning			
I have adapted my teaching to accommodate a changing student profile			
I have taken extra training to develop my teaching skills			
I have incorporated ICT into my teaching			
I have taken extra training to develop my research skills			

ITEM	MEASURE	VARIABLE TYPE	VALUE OPTIONS
I have taken extra training in ICT			
I keep up to date with developments in my field			

Table 4.10 on the next page outlines the issues for the questionnaire to capture data about academic staff subjective experiences of their work-lives in the universal phase of higher education and answers research question 3 above. Thirty six items were generated about academic staff's subjective experiences from the national and international literature reviews (see Section 2.3 above). These items will undergo the same principal component analysis as the previous 57 items, in order to identify the underlying concepts that they are measuring. The items grouped by the principal component analysis will be combined into constructs of Likert scales for each concept. These constructs will constitute the remainder of the dependent variables in this study.

Table 4.10 Subjective experiences

ITEM	MEASURE	VARIABLE TYPE	VALUE
Motivated by Tenure	Likert Item	Interval / ordinal	Very little / A little / Somewhat / A lot / A very great deal
Security			
Promotion			
Recognition			
Merit pay			
Salary			
Travel provisions			
Feeling satisfaction from interacting with students			
Feeling a sense of competence through increasing skill and knowledge			
Having opportunities for learning and to use skills and knowledge			
Having autonomy - independence (self-determination)			
Having passion for my subject area			
Collaborating with peers			
Feeling satisfaction from performing research			
How satisfied are you in your			Very dissatisfied /

ITEM	MEASURE	VARIABLE TYPE	VALUE
current position			dissatisfied / neither satisfied nor dissatisfied / satisfied / Very satisfied
How stressful is your current position			Not at all stressful / not stressful / neither stressful nor not stressful / stressful / Very stressful
My job is conducive to family life			
I frequently find myself working during personal time			
I am able to prioritize time and effort appropriately across academic tasks			
Institutional expectations for how to manage my time and what to focus on are clear to me			
My HEI is where I would like to remain for the rest of my career			
My HEI facilitates my career aspirations and development			
I would like to get a faculty position in another HEI in Ireland			
I would like to get a faculty position in another HEI outside of Ireland			
I would like to get a faculty position in the other type of HEI			
I would like to get a position in the private or public sector or NGO			
I feel nostalgic for the 'golden age' in academia which is now lost			Strongly Disagree / Disagree / Neither Agree nor Disagree / Agree / Strongly Agree
Ideals of rationality, social progress and betterment are central to academic identity			
Academic values and roles provided by the norms and rules of my institution make up my academic identity			
I am engaged in a creative constitution and reconstitution of my academic identity with my discipline, profession, HEI and national stakeholders			
Age is an implicit career timetable that shows if you are on or off schedule in terms of your career progression			
Gendered characteristics are valued differently at my institution (e.g. competitive over emotional)			
Women are equally represented at all academic career levels in my HEI			
It is possible to perform my care duties and progress my career simultaneously			
My prioritisation of my care duties			

ITEM	MEASURE	VARIABLE TYPE	VALUE
limits my career progression possibility			
My care duties do not impact on my career progression			

4.3.5 Measures

The measures included in the questionnaire are either continuous variables (Tables 4.7 and 4.8) or closed items of 5 point Likert rating scale items (Tables 4.9 and 4.10) ranging from strongly disagree to strongly agree. Likert (1932) proposed a summated scale for the assessment of survey respondents' attitudes. According to Clason & Dormody (1994), Likert scaling presumes the existence of an underlying (or latent or natural) continuous variable whose value characterizes the respondents' attitudes and opinions. They contend that if it were possible to measure the latent variable directly, the measurement scale would be, at best, an interval scale. However, Norman (2010) claimed that while Likert questions or items may well be ordinal, Likert scales, consisting of sums across many items, will be interval. Whether a measure is an ordinal, interval or continuous variable is important because it influences the choice of the most appropriate statistical test used to ascertain statistical significance, (in this case, the tests will ascertain whether the measures are significantly different depending on institutional type). Therefore, the principal component analysis (see section 4.4) performed on the 93 items about academic staff perceptions about their work-lives group and sum the Likert items into scales, thus making the measures of perceptions interval.

4.3.6 Reliability and Validity and Pilot

Two of the most prominent criteria in the evaluation of social research are reliability and validity. Reliability is concerned with whether the results of a study are

repeatable (Bryman, 2012). The term is commonly used in relation to the question of whether the measures that are devised for concepts in the social sciences (such as poverty, racial prejudices, deskilling) are consistent. According to Fraas (1983), reliability tests how accurately a test measures what it measures, as oppose to validity which is concerned with the integrity of the conclusions that are generated from a piece of research.

In order to ensure reliability, the concepts measured in the questionnaire using a scale should consistently reflect the construct it is measuring (Field, 2005). In order to test the reliability of the constructs created from the principal component analysis of the items in Tables 4.9 and 4.10, they will be checked for reliability of the scale using Cronbach's alpha (see section 4.4).

Measurement validity[42] is related to the question of whether a measure that is devised of a concept really does reflect the concept that it is supposed to be denoting. In order to assess the validity of the items included in the questionnaire, that is, whether the research accurately describes the phenomenon that it is intended to describe, as well as to obtain feedback about all aspects of the questionnaire, the survey was piloted by 12 academic staff members from 6 different HEIs (4 academic staff from universities and 8 academic staff IoTs). Their responses are not included in the dataset used for analysis. Their responses were used to adapt the survey to incorporate their views (see Appendix 1).

4.4 Factor analysis and principal component analysis

A factor analysis was carried out on the 93 items of perceptions of academic work-life in the universal phase and subjective experiences (described in Tables 4.9 and

[42] Internal validity relates to the issue of causality and concerns the question of whether a conclusion that incorporates a causal relationship between two or more variables holds water. Measurement validity applies to quantitative research and to the search for measures of social scientific concepts (also known as construct validity).

4.10) in order to group the Likert items into scales. Factor analysis is a method of grouping together variables which have something in common. It is a process which enables the researcher to take a set of variables and reduce them to a smaller number of underlying factors which account for as many variables as possible. It detects structures and commonalities in the relationships between variables. Thus, it enables researchers to identify where different variables in fact are addressing the same underlying concept (Cohen et al., 2007).

Factor analysis can take two main forms: exploratory factor analysis and confirmatory factor analysis. The former refers to the use of factor analysis (principal components analysis in particular[43]) to explore previously unknown groupings of variables, to seek underlying patterns, clusterings and groups. By contrast, confirmatory factor analysis is more stringent testing a found set of factors against a hypothesized model of groupings and relationships (Cohen et al., 2007).

This research included an exploratory factor analysis using principal component analysis to identify factors from 93 items relating to current features of academic work-life as developed from the literature reviews. The variables of factors, with Eigen values greater than 1, were examined and the variables with the highest factor loadings were included in the factor. The factors were meaningfully labelled and underwent reliability testing. Figure 4.2 and Table 4.11 show the Eigen values for each factor and the names of the factors[44], the number and descriptions of the items in each factor, and

[43] The purpose of principal component analysis is to derive a relatively small number of components that can account for the variability found in a relatively large number of measures. This procedure, called *data reduction*, is typically performed when a researcher does not want to include all of the original measures in analyses but still wants to work with the information that they contain. EFA assumes that the measured responses are based on the underlying factors while in PCA the principal components are based on the measured responses.

[44] The names of each factor were derived to convey the underlying concept of the groupings of variables identified by the principal component analysis

the Crohnbach's alpha score which measures the reliability of the constructs (in Table 4.11 below). [45]

To estimate the underlying dimensions of the 93 item dataset, the exploratory principal component analysis approach applied a direct oblimin oblique rotation allowing the factors to correlate. As the sample size was greater than 300, factor loadings could be considered to be significant at .298 (Field, 2005). Before extraction, SPSS identified 92 linear components [46] within the data set [47]. The Eigen values associated with each factor represent the variance explained by that particular linear component. Eigen values greater than 1 are significant and 27 factors were identified by the principal component analysis as seen in scree plot in Figure 4.2. The scree plot graphs the Eigen values of the variables. Typically, there are a few factors with quite high Eigen values and many factors with relatively low Eigen values so the curve has a sharp descent followed by a tailing off. Cattell (1966) argued that the cut off point for selecting factors should be at the point of inflexion of the curve (Cattell, 1966). With a sample of more than 200 participants, the scree plot provides a fairly reliable criterion for factor selection (Stevens, 1992). The point of inflexion of the scree plot in Figure 4.2 is between factors 25-28. SPSS also displays the Eigen value in terms of the percentage of variance explained, so, for example, in Table 4.11, Factor 1 explains 10.846% of total variance[48].

The 27 factors identified in the principal component analysis were checked for reliability of the scale using Cronbach's alpha (α). Reliability means that a scale should consistently reflect the construct it is measuring (Field, 2005, p. 666). Kline (1999)

[45] Crohnbach's alpha is a measure of reliability as internal consistency. The Cronbach alpha provides a coefficient of inter item correlations, which is the correlation of each item with the sum of all the other relevant items, and is useful for multi item scales. It is a measure of the internal consistency among the items (not for example the people) (Cohen et al., 2007).

[46] The item on discrimination was excluded, as it is not a Likert scale item.

[47] There should be as many eigenvectors as there are variables.

[48] The rotation sums of squared loadings, the eigenvalues of the factors after rotation, are displayed. Rotation has the effect of optimizing the factor structure and one consequence for these data is that the relative importance of the 27 factors is equalised (Field, 2005, p. 653).

notes that although the generally accepted value of .8 is appropriate for cognitive tests such as intelligence tests, for ability tests a cut-off point of .7 is more suitable (Kline, 1999). He goes on to say that when dealing with psychological constructs, values below even .7 can, realistically, be expected because of the diversity of the constructs being measured. Of the 27 factors identified in the principal component analysis, 7 factors were shown to be unreliable measures of their constructs by the Cronbach's alpha test (cut off of below .5) (see Appendix 2). Another 5 of the factors identified were excluded from the analysis phase due to their relevance to the research questions (see Appendix 3). Table 4.11 shows the final 15 factors that represent the constructs of academic staff perceptions about their work-lives and that will be used as dependent variables in the analysis of this study.

Figure 4.2: Scree plot for exploratory principal component analysis of 92 questionnaire items

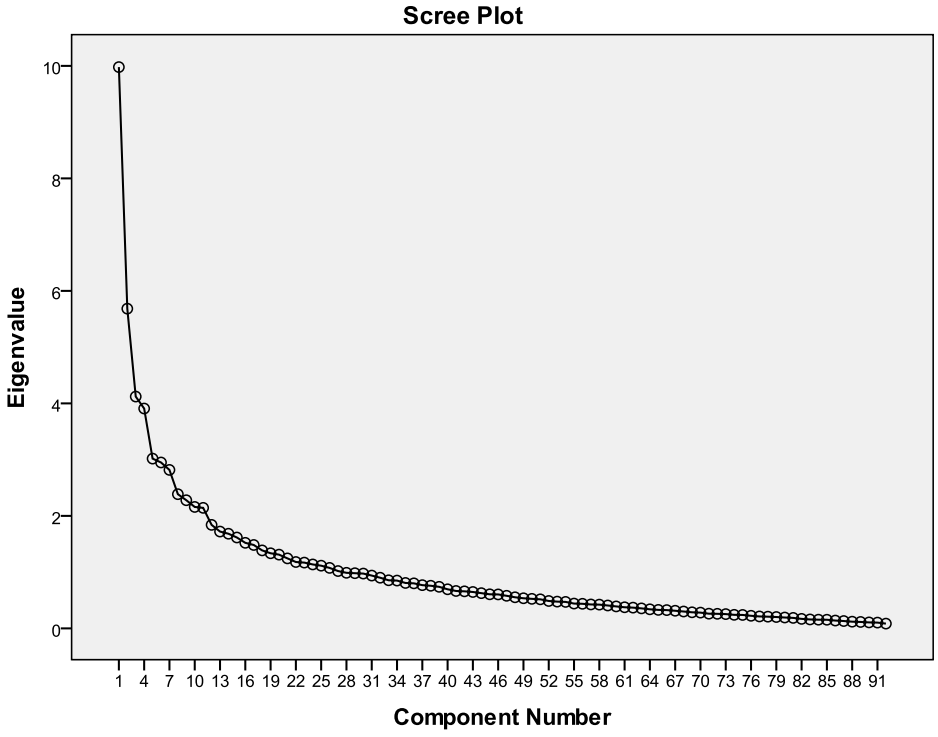


Table 4.11 Components and constructs identified from the 92 questionnaire items[49]

CONSTRUCT	α	FACTOR	ITEM	COMPONENT LOADING	INITIAL EIGEN VALUE	% OF VARIANCE	ROTATION SUMS OF SQUARED LOADINGS
LOW AUTONOMY, COLLEGIALITY AND COMMUNITY	.690	1	I feel that I have the support of my colleagues at my HEI (reverse)	-.608	9.978	10.846	4.333
			There is a strong sense of community at my HEI (reverse)	-.577			
			I have a high level of control over my teaching (reverse)	-.360			
INCREASING WORKLOAD	.759	3	My service workload is increasing	-.861	4.121	4.480	3.716
			My administrative tasks are increasing	-.773			
			My teaching workload is increasing	-.741			
SEEKING PRESTIGE	.623	4	Moving to the same academic grade in a more prestigious HEI is as favorable to me as a grade promotion in my current HEI	-.834	3.908	4.248	3.317
			HEI prestige is a factor in my career planning	-.653			
			I would like to get a faculty position in another HEI in Ireland	-.460			
MATURE STUDENTS - EXTRA DEMANDS	.734	5	Mature students expect more from me than younger students	.824	3.018	3.280	2.282
			Mature students expectations of me increases my workload	.789			
USE OF ICT	.854	7	I often use ICT in my teaching	-.883	2.817	3.062	3.229
			I have incorporated ICT into my teaching	-.804			
			ICT enhances my teaching	-.801			
DE - MOTIVATING NOMENCLATURE	.861	8	The nomenclature of assistant lecturer is demotivating	-.928	2.386	2.593	4.097
			The nomenclature of junior lecturer is demotivating	-.898			
			The nomenclature of below the bar lecturer is demotivating	-.843			
			The nomenclature of Contract of Indefinite Duration CID is demotivating	-.658			
INCREASED	.738	10	I feel increasing pressure to be research active	.868	2.159	2.347	2.957

[49] Total variance explained by the model is 58.497%

CONSTRUCT	α	FACTOR	ITEM	COMPONENT LOADING	INITIAL EIGEN VALUE	% OF VARIANCE	ROTATION SUMS OF SQUARED LOADINGS
RESEARCH DEMANDS			There is an increased emphasis on research at my HEI	.837			
			My research workload is increasing	.628			
INFLATING STUDENT GRADES	.709	12	I have felt pressure to grade differently by my HEI	.777	1.840	2.000	2.849
			I have inflated student grades	.742			
LOW SATISFACTION	.771	16	The expectations for my performance are clear to me (reverse)	-.775	1.521	1.653	4.803
			Promotion criteria are clear to me (reverse)	-.758			
			The current faculty performance evaluation method at my HEI is adequate and fair (reverse)	-.504			
			All things considered, how satisfied are you in your current position (reverse)	-.446			
			There is adequate recognition of my success at my HEI (reverse)	-.348			
			Institutional expectations for how to manage my time and what to focus on are clear to me (reverse)	-.305			
INADEQUATE RESOURCES	.595	17	I have adequate resources and support to perform my teaching (reverse)	-.531	1.483	1.612	2.896
			I have adequate resources and support to perform my research (reverse)	-.319			
NEED TRAINING	.669	20	I need extra training in research skills	.762	1.311	1.425	2.307
			I need extra training in teaching skills	.739			
STRESS	.671	21	I am able to prioritise time and effort appropriately across academic tasks(reverse)	-.802	1.244	1.353	3.822
			My job is conducive to family life (reverse)	-.638			
			All things considered how stressful is your current position? (reverse)	.546			
PRESENCE OF MANAGERIALISM	.707	23	There is a business model management style at my HEI	.803	1.170	1.271	4.211
			There is a top down management style at my HEI	.671			
			The governing body in my HEI has conceded too much authority to management	.557			
			There is a collegial approach to management in my HEI (reverse)	-.337			
DESIRE TO LEAVE	.724	25	I would like to get a position in the private or public sector or	-.724	1.115	1.212	2.935

CONSTRUCT	α	FACTOR	ITEM	COMPONENT LOADING	INITIAL EIGEN VALUE	% OF VARIANCE	ROTATION SUMS OF SQUARED LOADINGS
JOB			NGO				
			My HEI is where I would like to remain for the rest of my career (reverse)	.535			
			I would like to get a faculty position in the other type of HEI	-.476			
			I would like to get a faculty position in another HEI outside of Ireland	-.339			
LOW ACADEMIC FREEDOM AND AUTHORITY	.540	26	My academic authority has decreased	.699	1.075	1.169	3.238
			Academic freedom has not diminished in my HEI (reverse)	-.411			

4.5 Data analysis plan

The theory that is being tested by the measurements taken in this research is that institutional type does not have an effect on academic work-life, i.e. that institutional isomorphism is occurring at the normative staff level. After measuring the variables, the hypotheses can be tested. Most hypotheses can be expressed in terms of proposed cause and proposed effect. A proposed cause is known as an independent variable (because its value does not depend on any other variable) and a variable that is proposed as an effect is called a dependent variable because its value depends on the cause (i.e. the independent variable). The primary independent variable in this study is institutional type and the dependent variables are academic staff characteristics, activities, outputs and perceptions about their work-lives.

According to Field (2005), hypotheses or predictions that come from a theory usually say that an effect will be present. This hypothesis is called the alternative (or experimental) hypothesis and is denoted by H1. There is another hypothesis called the null hypothesis and this states that an effect is absent and is denoted by H0. The reason that we need the null hypothesis is because we cannot prove the alternative hypothesis using statistics but we can reject the null hypotheses. If the data collected provides confidence to reject the null hypothesis, then this provides support for the experimental hypothesis. However, in this research, the theory says that the effect will be absent (i.e. that academic work-lives will be same in each institutional type due to institutional isomorphism at the normative staff level). Therefore, for this research, the null hypothesis is that academic staff in IoTs and universities will not differ in their characteristics, measures of activities or outputs or in their scores of their perceptions of their work-lives.

4.5.1 Research questions and Hypotheses

The following hypotheses for each of the variables measured were generated from the research questions and will undergo statistical testing.

RQ1: What are the characteristics of academic staff in Ireland? To what extent are they the same in each institutional type?

Table 4.12 Hypotheses for the variables measured in relation to research question 1[1]

RQ1 HYPOTHESES A TO I
H1_a: academic staff in different institutional types will differ in their gender
H0_a: academic staff in different institutional types will not differ in their gender
H1_b: academic staff in different institutional types will differ in their age
H0_b: academic staff in different institutional types will not differ in their age
H1_c: academic staff in different institutional types will differ in their career level
H0_c: academic staff in different institutional types will not differ in their career level
H1_d: academic staff in different institutional types will differ in their qualification
H0_d: academic staff in different institutional types will not differ in their qualification
H1_e: academic staff in different institutional types will differ in their contract type
H0_e: academic staff in different institutional types will not differ in their contract type
H1_f: academic staff in different institutional types will differ in their full-time/part-time status
H0_f: academic staff in different institutional types will not differ in their full-time/part-time status
H1_g: academic staff in different institutional types will differ in their discipline
H0_g: academic staff in different institutional types will not differ in their discipline
H1_h: academic staff in different institutional types will differ in nationality
H0_h: academic staff in different institutional types will not differ in their nationality
H1_i: academic staff in different institutional types will differ in their ethnicity
H0_i: academic staff in different institutional types will not differ in their ethnicity

[1] These hypotheses will be tested using descriptive statistics. The variables in Ha-g comprise the independent variables of the multiple regression analysis.

RQ2: What are the activities and outputs of academic staff in Ireland? To what extent are they the same in each institutional type?

Table 4.13 Hypotheses for the variables measured in relation to research question 2^2

RQ2 HYPOTHESES A TO W
Activities
H1_a: Hours spent at work per week when classes are in session will differ in different institutional types
H0_a: Hours spent at work per week when classes are in session will not differ in different institutional types
H1_b: Hours spent at work per week when classes are not in session will differ in different institutional types
H0_b: Hours spent at work per week when classes are not in session will not differ in different institutional types
H1_c: Percent time per week teaching / related activities when classes are in session will differ in different institutional types[3]
H0_c: Percent time per week teaching / related activities when classes are in session will not differ in different institutional types
H1_d: Percent time per week teaching / related activities when classes are not in session will differ in different institutional types
H0_d: Percent time per week teaching / related activities when classes are not in session will not differ in different institutional types
H1_g: Percent time per week spent on Postgraduate research supervision when classes are in session will differ in different institutional types
H0_g: Percent time per week spent on Postgraduate research supervision when classes are in session will not differ in different institutional types
H1_h: Percent time per week spent on Postgraduate research supervision when classes are not in session will differ in different institutional types
H0_h: Percent time per week spent on Postgraduate research supervision when classes are not in session will not differ in different institutional types
H1_i: Percent time per week spent on Research when classes are in session will differ in different institutional types
H0_i: Percent time per week spent on Research when classes are in session will not differ in different institutional types
H1_j: Percent time per week spent on Research when classes are not in session will differ in different institutional types
H0_j: Percent time per week spent on Research when classes are not in session will not differ in different institutional types
H1_k: Percent time per week spent on Administration when classes are in session will differ in different institutional types
H0_k: Percent time per week spent on Administration when classes are in session will not differ in different institutional types
H1_l: Percent time per week spent on Administration when classes are not in session will differ in different institutional types
H0_l: Percent time per week spent on Administration when classes are not in session will not differ in different institutional types
H1_m: Percent time per week spent on Service when classes are in session will differ in different institutional types
H0_m: Percent time per week spent on Service when classes are in session will not differ in different

[2] These hypotheses will be tested using independent t-tests and will comprise some of the dependent variables in a multiple regression analysis.

[3] The measures of teaching and teaching related activities will be combined for the analysis.

RQ2 HYPOTHESES A TO W
institutional types
H1_n: Percent time per week spent on Service when classes are not in session will differ in different institutional types
H0_n: Percent time per week spent on Service when classes are not in session will not differ in different institutional types
H1_o: Percent time per week spent on Management when classes are in session will differ in different institutional types
H0_o: Percent time per week spent on Management when classes are in session will not differ in different institutional types
H1_p: Percent time per week spent on Management when classes are not in session will differ in different institutional types
H0_p: Percent time per week spent on Management when classes are not in session will not differ in different institutional types
H1_q: Percent time per week spent on Other academic activities when classes are in session will differ in different institutional types
H0_q: Percent time per week spent on Other academic activities when classes are in session will not differ in different institutional types
H1_r: Percent time per week spent on Other academic activities when classes are not in session will differ in different institutional types
H0_r: Percent time per week spent on Other academic activities when classes are not in session will not differ in different institutional types
Research outputs in the last academic year
H1_s: Traditional research outputs will differ in different institutional types
H0_s: Traditional research outputs will not differ in different institutional types
H1_t: Number of non-traditional research outputs will differ in different institutional types
H0_t: Number of non-traditional research outputs will not differ in different institutional types
Student served in the last academic year
H1_u: Number of undergraduate students will differ in different institutional types
H0_u: Number of undergraduate students will not differ in different institutional types
H1_v: Number of post graduate taught student s will differ in different institutional types
H0_v: Number of post graduate taught student s will not differ in different institutional types
H1_w: Number of post graduate research students will differ in different institutional types
H0_w: Number of post graduate research students will not differ in different institutional types

RQ3: What are the perceptions of academic staff about their work-lives? To what extent are they the same in each institutional type?

Table 4.14 Hypotheses of the variables measured in relation to research question 3[4]

RQ3 HYPOTHESES A TO O
H1_a Increasing workload will differ in different institutional types
H0_a: Increasing workload will not differ in different institutional types
H1_b: Mature students cause extra demands will differ in different institutional types
H0_b: Mature students cause extra demands will not differ in different institutional types
H1_c: Use of ICT will differ in different institutional types
H0_c: Use of ICT will not differ in different institutional types
H1_d: Participation in grade inflation will differ in different institutional types
H0_d: Participation in grade inflation will not differ in different institutional types
H1_e: Inadequate resources will differ in different institutional types
H0_e: Inadequate resources will not differ in different institutional types
H1_f: Need training will differ in different institutional types
H0_f: Need training will not differ in different institutional types
H1_g: Presence of managerialism will differ in different institutional types
H0_g: Presence of managerialism will not differ in different institutional types
H1_h: Low academic freedom and authority will differ in different institutional types
H0_h: Low academic freedom and authority will not differ in different institutional types
H1_i: Increased research demands will differ in different institutional types
H0_i: Increased research demands will not differ in different institutional types
H1_j: Low autonomy, collegiality and community will differ in different institutional types
H0_j: Low autonomy, collegiality and community will not differ in different institutional types
H1_k: Seeking prestige will differ in different institutional types
H0_k: Seeking prestige will not differ in different institutional types
H1_l:Demotivated by nomenclature will differ in different institutional types
H0_l: Demotivated by nomenclature will not differ in different institutional types
H1_m: Low satisfaction will differ in different institutional types
H0_m: Low satisfaction will not differ in different institutional types
H1_n: Stress will differ in different institutional types
H0_n: Stress will not differ in different institutional types
H1_o: Have a desire to leave job will differ in different institutional types
H0_o: Have a desire to leave job will not differ in different institutional types

[4] These hypotheses will be tested using independent t-tests and will comprise some of the dependent variables in a multiple regression analysis.

4.5.2 Statistical tests

In order to answer RQ1 and test the RQ1 hypotheses, labelled a - i, the frequency and percentage of the values for each of the variables relating to academic staff characteristics (described in Table 4.6 of variables and Table 4.12 of hypotheses) will be compared between the university sector and the IoT sector. In order to answer RQ2 and RQ3 and to test RQ2 hypotheses a - w, RQ3 hypotheses a - o (variable Tables 4.7-4.10 and hypotheses Tables 4.13 and 4.14) and demonstrate whether or not there is a statistically significant difference between academic staff work-lives between the two institutional types, two main parametric statistical tests will be performed; the independent t-test and multiple linear regression[5].

Parametric statistical tests such as independent t-tests and multiple linear regression are based on the normal distribution and have four basic assumptions: 1) that the data are normally distributed[6] 2) that there is homogeneity of variance (i.e. that the variance[7] is the same throughout the data). This means that the variance of one variable should be stable at all levels of the other variable. 3) That the data are measured at least at the interval level (i.e. that equal intervals on the variable represent equal differences, e.g. that the difference between 6 and 8 is equivalent to the difference between 13 and 15). 4) That data from different participants are independent i.e. that the behaviour of one participant does not influence the behaviour of another (Field, 2005).

[5] All outliers were removed from the analysis by using the method of identifying outliers on a box-plot, removing high and low scores from the variable analysis.
http://www.unige.ch/ses/sococ/cl/spss/tasks/outliers

[6] Normality: A frequency distribution is how many times a score occurs in the collected data. A normal distribution is when data is distributed symmetrically around the centre of all scores. It is characterized by a bell shaped curve which implies that the majority of scores lie around the centre of the distribution and that scores that deviate from the centre have a lower frequency. The mean of a normal distribution (i.e. the average of all scores) is 0 and a standard deviation of 1. The standard deviation is the square root of variance, both of which are measure of the fit or how well the mean represents the data. A small standard deviation relative to the value of the mean indicates that data points are close to the mean and a large standard deviation indicates that the data points are distant from the mean (Field, 2005).

[7] Variance is the standard deviation squared. Standard deviation is a measure of how representative the mean was of the observed data – small standard deviation represents that most data points were close to the mean and a large standard deviation means data points were widely spread from the mean.

The independent t-test is a parametric test used in situations in which there are two experimental conditions and different participants have been used in each condition (Field, 2005). In other words, the independent t-test compares two means, when those means have come from different groups of entities e.g. the scores of academic staff from two different types of institutions. In order to check the assumptions of the independent t-test following steps will be taken for each variable tested:

- Check the distribution of the variable values (Shapiro Wilk or Kolmogorov Smirnov will not be significant if the data are normal).
- Perform Levene's test to check if the variances are different in different groups. If Levene's is significant, then the assumption of homogeneity of variances has been violated and the t-test statistics for equal variances not assumed can be used.
- Report the means of all variables measured for each institutional type and the mean difference between the institutional types
- Report the T statistic which is the mean difference divided by the standard error of the sampling distribution of differences[8].
- Use 2 tailed significance because there is uncertainty about the direction of the effect e.g. it is unknown whether we can expect that university workers believe they have a higher workload.

Some issues that may arise using the independent t-test to measure whether the work-lives of academic staff are the same in the two institutional types can be anticipated and prepared for at this stage. Firstly, the data may not be normally distributed. According to (Norman, 2010), the assumption that is prevalent, that you can't use t-tests because the data are not normally distributed is a myth: "For the standard t-tests, ANOVAs and so on, it is the assumption of normality of the

[8] $\sqrt{\frac{s_1^2}{n_1} + \frac{s_2^2}{n_2}}$

distribution of the means, not of the data" (Norman, 2010)[9]. The central limit theorem shows that, for sample sizes greater than 5 or 10 per group, the means are approximately normally distributed regardless of the original distribution. Furthermore, Norman claims that t-tests and other tests of central tendency are highly robust to things like skewness and non-normality. Nevertheless, in order to confirm the robustness of the t-test, in dealing with any non-normal distributions, the (non-parametric) Mann Whitney U test will also be performed on each variable in order to confirm the significance findings of the independent t-test.

Secondly, there is the contention that the data may not be at least interval. While the data for academic staff outputs and activities described in Tables 4.7 and 4.8 will be continuous and suitable for parametric testing, the data for academic staff perceptions about their work-lives (in Tables 4.9 and 4.10) was measured using Likert scales. According to Norman (2010), the question is, how robust are Likert scales to departures from linear, normal distributions. Norman (2010) claims that while Likert questions or items may well be ordinal, Likert scales, consisting of sums across many items, will be interval. As the creation of the constructs (Table 4.9 and 4.10) involved summing a number of Likert items into a scale, this data will be interval.

As noted in the literature review chapter and the theoretical framework, differences between academic staff activities, outputs and perceptions in the different institutional types may be related to other factors aside from the type of institution. Gender, age, contract type, career level, qualifications, and discipline type may all be contributing factors to academic staff activities, outputs and perceptions of their work-lives. In order to control for these characteristics of academic staff that may be related to the dependent variables, a multiple regression will be used. By using multiple regressions, it can be confirmed whether institutional type is a significant predictor of

[9] No page numbers in Norman (2010).

the dependent variables (activities, outputs and perceptions) while all the other potential predictors of the dependent variable are held constant. These other potential predictors of the dependent variables will be included alongside institutional type as independent variables. The multiple regression analysis will identify the statistically significant predictors or independent variables of each of the dependent variables and measure the size, direction and significance of each of their relationships with the dependent variables.

Each predictor variable will have a coefficient (*b*) which, in simple linear regression, represents the gradient of the regression line i.e. the change in the outcome resulting from a unit change in the predictor. A coefficient of 0 means the regression line is flat and that a unit change in the predictor results in no change in the predicted value of the outcome. If a predictor significantly predicts the outcome, then the b value should be significantly different from 0. This hypothesis is tested using the t-test in simple linear regression which hypothesises that the value of *b* is 0. Therefore, if it is significant, there is confidence that the predictor contributes significantly to predicting the values of the outcome (Field, 2005).

In simple linear regression, the outcome variable *Y* is predicted using the equation of a straight line in the form of outcome = (model) + error*i*, alternatively written as: $Yi = (b0 + b1Xi) + Ei.$, where *Yi* is the outcome that we want to predict and *Xi* is the *ith* participants score on the predictor variable, *b0* is the intercept of the line and *b1* is the gradient of the straight line fitted to the data. *b1* and *b0* are regression coefficients. *Ei* is a residual term which represents the difference between the score predicted by the line for the participant *i* and the score that participant *i* actually obtained. *Ei* represents the fact that the model will not fit the data collected perfectly. How well the line or model described by the equation fits the data is described by the R^2. This describes how much variance is explained by the model compared to how

much variance there is to explain. It is the proportion of variance in the outcome variable that is shared by the predictor variable (Field, 2005).

In multiple linear regression, there are several predictors of the outcome variable, so the model is more complex. For every extra predictor included, a coefficient is added so each predictor variable has its own coefficient and the outcome variant is predicted from a combination of all the variables multiplied by their respective coefficients plus a residual term.

$$Yi = (b0 + b1X1i + b2X2i + \cdots + bnXni) + Ei$$

Where *Y* is the outcome variable, *b1* is the coefficient of the first predictor *(X1) b2* is the coefficient of the second predictor (*X2*), *bn* is the coefficient of the nth predictor (*Xn*) and *Ei* is the difference between the predicted and the observed value of *Y* for the *ith* participant. The basic principle is the same in multiple linear regression as in simple linear regression, i.e. to find the linear combination of predictors that correlate maximally with the outcome variable. Therefore, the regression model in multiple linear regression is a model in the form of the equation above[10] (Field, 2005).

For the multiple linear regression analysis of each of the dependent variables in this research, the equation will be:

Feature of academic work-life = (b0 + b1IT+b2DT+b3G + b4A +b5Q +b7CL+b8CT

[10] While this analysis is primarily interested in assessing the contribution of the predictor institutional type and controlling for the other potential predictors of the dependent variables, multiple regression also tells us how well the model fits the data i.e. how much of the variance in the dependent variable is accounted for by the set of predictors.

In this model, the dependent variable, feature of academic work-life (which will be any of the outputs, activities or perceptions in tables 4.6-4.10) are determined by the independent variables: *IT= Institutional type, DT=discipline type, G=Gender, A=Age, Q=qualifications, CL=career level, CT=contract type (temporary or permanent).* The expectation is that if the t-test showed a statistically significant difference between institutional types for any of the dependent variables, the regression analysis will show that the other potential predictors account for the difference. This will be demonstrated by a non-significant *b* value for the predictor institutional type and significant *b* values of other predictors. If this is not the case and institutional type is shown to be a significant predictor, the null hypotheses that the academic work-lives in different institutional types are the same due to institutional isomorphism at the normative level will have to be rejected.

The following assumptions of multiple linear regression will have to be met in order to un-bias the model and ensure that the regression model of the sample is on average more likely to be the same as a regression model of the whole population (Field, 2005):

- All predictor variables must be quantitative or categorical (with at least two categories and the outcome variable must be quantitative, continuous and unbounded. Quantitative meaning measured at the interval level and unbounded, meaning that there should be no constraints on the variability of the outcome.
- The predictors should have some variation in value i.e. they do not have variances of 1.
- No perfect multicollinearity, i.e. there should be no perfect linear relationship between two or more of the predictors. The predictor variables should not correlate too highly.

- Homoscedasticity: At each level of the predictor variables, the variance of the residual terms should be constant. This means that the residuals at each level of the predictors should have the save variance (homoscedasticity). When the variances are very unequal, there is said to be heteroscedasticity.
- Independent errors: For any two observations, the residual terms should be uncorrelated or independent. This can be tested with the Durbin Watson test.
- Normally distributed errors; it is assumed that the residuals in the model are random normally distributed variables with a mean of 0. This assumption means that the differences between the observed values and the model are zero or close to zero.
- Independence: The values of the outcome variable are independent.
- Linearity: The mean values of the outcome variable for each increment of the predictor variable lie along a straight line, i.e. that the relationship between the predictor variables and the independent variables is a linear one.

In order to meet the assumption of avoiding multicollinearity, which exists when there is a strong correlation between two or more predictors in a regression model[11], a correlation matrix of all the predictor variables will be scanned to see if any predictors correlate very highly (correlation of above .8 or .9). Secondly, SPSS produces various collinearity diagnostics, one of which is the variance inflation factor (VIF). The VIF indicates whether a predictor has a strong linear relationship with the other predictors. Myers (1990) suggests that a value of VIF 10 is a good value at which to worry. Related to the VIF is the tolerance statistic which is its reciprocal (1/VIF). As such, values below .1 indicate serious problems. Therefore, the collinearity diagnostics for will be run for all the multiple regression analyses.

[11] If there are two predictors that are perfectly correlated, then the values of b for each variable are interchangeable; high levels of collinearity increase the probability that a good predictor of the outcome will be found non-significant and rejected from the model (a type II error).

The assumptions relating to the accuracy of the model (linearity, homoscedasticity, normality of residuals, outliers) will be checked. The differences between the values of the outcome predicted by the model and the values of the outcome observed in the sample are known as residuals. They represent the error present in the model. To check the assumption of linearity and homoscedasticity, the standardized residuals will be plotted against standardized predicted values (*ZRESID against *ZPRED). The graph should look like a random array of dots evenly dispersed around zero. If the graph funnels out then the chances are that there is heteroscedasticity in the data. If there is a curve, then the data has broken the assumption of linearity (Field, 2005).

To check the assumption of normality of residuals, the histogram and normal probability plots will be examined. The histogram should look like a normal distribution (bell curve) and the normal probability plot should have all the points (observed residuals) lying on the line (which represents a normal distribution). To check for outliers, partial plots will be created which are the scatterplots of the residuals of the outcome variable and each of the predictors when both the variables are regressed separately on the remaining predictors. Obvious outliers on a partial plot represent cases that might have undue influence on a predictor's regression coefficient. Non-linear relationships and heteroscedasticity can be detected using these plots as well (Field, 2005).

To ensure that the sample size is appropriate for a multiple linear regression, there are many rules of thumb, the most common is that you should have 10 cases of data for each predictor (Green, 1991). However, more important may be that the bigger the sample size the better. The estimate of the R that is obtained from regression is dependent on the number of predictors, k, and the sample size, N. Green (1991) gives two rules of thumb for the minimum acceptable sample size, the first based on whether

you want to test the overall fit of your regression model (i.e. test the R^2) and the second based on whether you want to test the individual predictors within the model (i.e. Test *b*-values of the model). To test the model's overall fit then, he recommends a minimum sample size of 50+8k, where k is the number of predictors. To test the individual predictors then, he suggests a minimum sample size of 104+k (for this research the minimum sample size would therefore be 104+8=112. Seeing as there are 351 cases in the sample used for this research, and the purpose of the multiple regression analysis is to test the individual predictors, sample size for the purpose of testing the individual predictors within the model is more than large enough (Green, 1991).

At this stage, it is again possible to anticipate and prepare for potential issues that may arise due to the utilisation of Likert scale data in multiple linear regression. Due to regression and correlation dealing with variation and not central tendency, any distortions in the distribution (skewness or non-linearity) could affect the results due to the magnitude of the correlation being sensitive to individual data at the extremes of the distribution. This is less likely to occur with summated Likert scales which are interval than with individual Likert scales which are ordinal (Norman, 2010).

The method of regression that will be used is forced entry method. The forced entry method involves forcing all predictors into the model simultaneously. This method relies on good theoretical reasons for including the chosen predictors but unlike hierarchical entry, the experimenter makes no decision about the order in which variables are entered. Field (2005) claimed that forced entry method is the ideal method as it uses predictors based on past research. The forced entry method in this analysis uses predictors that were identified by previous theory (see theoretical framework chapter) and includes them in the model simultaneously.

The data analysis plan for this research will start with comparing the characteristics of academic staff in each institutional type descriptively. The activities,

outputs and perceptions of academic staff will then be compared between the IoTs and universities using the independent t-test to test for statistically significant differences. The multiple regression analyses will check that any differences between the activities, outputs and perceptions of academic staff in each institutional type that were revealed by the independent t-tests can be accurately attributed to the institutional type and not some other potentially influencing factor by controlling for the other predictors identified in the theoretical framework, such as gender, age, qualifications, career level, contract type, discipline type.

4.6 Ethics

This research was approved by the Dublin Institute of Technology (DIT) Research Ethics Committee (10th May, 2010). Cohen et al. (2007) recommend that ethical research guarantee the confidentiality and anonymity of the participants and provide clarity of the research purpose. As such, all direct identifiers (IP addresses) of the research participants were removed from the dataset.

DIT research guidelines state that data must be stored securely. In order to ensure data security, the following measures were used to control access to computer systems and files: all computer systems holding data were lockable by a password system to prevent unauthorised access in the event of a security breach of the room. All computer systems holding data were protected by a firewall system. Relevant security-related upgrades and patches to operating systems and applications were carried out regularly, particularly in the case of virus detection software. When backing up files, copies were compared for completeness. Potentially personal or confidential data was never be sent via email or using FTP.

Clarity about the purpose of the research was provided in the introductory letter at the beginning of the academic staff online survey (see Appendix 4). Informed

consent of the participants was obtained on the second page of the online survey and participants were prevented from submitting the online survey unless they had provided their consent.

Cohen et al. (2000) further recommend that methodological rigour should be included in the ethical consideration of conducting research. This research has aimed to avoid bias, treat the data truthfully and reliably, ensure the questionnaire items are valid and not intrusive through the use of the pilot (see Appendix 1).

4.7 Qualitative Analysis Plan

The questionnaire employed in this research included two areas for open ended responses from participants, where they could express their views about their working conditions. The purpose of the inclusion of these areas was to enrich the quantitative data findings by enhancing the validity of the overall analysis and contributing to a more "rounded and credible picture" (Mason, 1994, p. 104). One hundred and eighty four comments were entered by respondents into the two areas for opened ended responses provided in the questionnaire. A thematic analysis based on the themes identified in the literature review and the principal component analysis (see Table 4.11) was applied to the qualitative data. According to Bryman (2012) a theme can be described as a category identified by the analyst through her data, that relates to her research focus (and the research questions) and that provides the researcher with the basis for a theoretical understanding of her data. The most common criteria that warrants identifying a pattern in the data as a theme is, repetition. The 184 qualitative comments collected by the questionnaire were entered into NVivo 8.0 qualitative analysis software. The data was coded according to the issues described in the literature review and the constructs created by the principal component analysis. A selection of

the data categorized into the corresponding themes is displayed in Chapter 5, Section 5.5.

4.8 Chapter summary

This chapter provided a detailed description of the methodology employed to conduct this research. Section 4.1 described how the research hypothesis that academic work-lives are the same in both institutional types is deduced from the claim of social institutional theory that institutional isomorphism is occurring at the normative staff level. In order to translate this hypothesis into researchable entities, assumptions were made about the nature of social reality including that the objects of enquiry have independent existence (realism), that knowledge is objective (positivism), that humans are products of their environment to a degree (determinism), and that the methods used to research should be concerned with defining elements and their relationship (nomothetic).

Section 4.2 defined the research design as comparative and cross sectional, which entailed the collection of data at a single point in time with the intention of describing the nature of existing conditions (cross sectional) and explore the quantifiable differences between groups (comparative).

Section 4.3 provided a detailed depiction of the method used in this research, the questionnaire. The purpose of the questionnaire was to answer the questions of what were the characteristics, activities and outputs, and perceptions of academic staff and how did they differ between institutional types. The research population was defined as all lecturing academic staff in 21 HEIs in Ireland in 2010 and the sample selected was a non-probability sample selected via convenience and quota sampling in a large enough size to be representative but with a low response rate, implying it may contain bias.

The administration of the questionnaire was conducted online in September 2010. The issues and items of the questionnaire were generated from the theoretical framework chapter and the literature review chapter and sought gather data on academic staff characteristics, activities and outputs and perceptions of their work-lives.

The measures used in the questionnaire were continuous variables and closed items of 5 point Likert rating items, which were summed into scales using principal component analysis and, thus, made into interval variables for analysis.

The reliability of the scales to consistently reflect the construct it is measuring (e.g. satisfaction) was checked using Crohbach's alpha. To ensure the validity of the items in the questionnaire to accurately describe the phenomena they are supposed to denote, the questionnaire was piloted.

Section 4.4 described the process of exploratory factor analysis using principal component analysis which was used to identify the groups of different items in the questionnaire that were, in fact, measuring the same underlying concept. 92 items were included in the principal component analysis, 27 factors were identified, 20 factors passed checks for reliability, and 15 of those factors were included in the analysis.

Section 4.5 described the data analysis plan of testing hypotheses using the variables measured. The null hypothesis for this study was stated as that academic staff in IoTs and universities will not differ in their characteristics, measures of activities or outputs, or in their scores of their perceptions of their work-lives. The experimental and null hypotheses were then stated for each of the variables measured by the questionnaire. The statistical tests used to compare the academic staff characteristics, activities and outputs, and perceptions about their work-lives between the IoTs and the universities were stated as frequencies, the independent t-test and multiple linear regression. A detailed discussion was presented about the nature of the statistical tests to be used and their appropriateness to be used with the data gathered.

T-tests will be used to compare whether academic staff activities, outputs and perceptions are the same in IoTs and universities. Multiple linear regression will be used to confirm whether institutional type is a significant predictor of the activities, outputs, and perceptions when all the other potential predictors (such as gender, age, contract type, career level, full time or part time status, qualifications, and discipline type) are controlled for (i.e. held constant).

Section 4.6 described the ethical recommendations that were adhered to in this research.

5 FINDINGS

This chapter describes the findings of the comparisons between institutional types in terms of academic staff characteristics (5.1), activities when classes are in session (5.2.1), activities when classes are not in session (5.2.2), outputs in terms of students served (5.2.3), outputs in terms of traditional and non-traditional research outputs (5.2.3), and the perceptions of academic staff about their work-lives in the universal phase (5.3). Table 5.1 shows the distribution of academic staff in each institutional type who responded to the questionnaire.

Table 5.1 Distribution of academic staff in each institutional type

	IOT COUNT	IOT %	UNIVERSITY COUNT	UNIVERSITY %	TOTAL COUNT
ACADEMIC STAFF	186	53%	165	47%	351

5.1 Characteristics of academic staff in each institutional type

In answer to research question 1, which asks; what are the characteristics of academic staff in Ireland; and to what extent are the characteristics of academic staff the same in each institutional type?, the findings show that we can accept the null hypotheses, that the characteristics of academic staff are not different [12] in each institutional type for the following hypotheses in relation to gender, age, contract type, full time or part time status and ethnicity (See Table 5.2):

- H0_a: academic staff in different institutional types will not differ in their gender
- H0_b: academic staff in different institutional types will not differ in their age

[12] A difference of 5% or less.

- H0_e: academic staff in different institutional types will not differ in their contract type
- H0_f: academic staff in different institutional types will not differ in their full-time/part-time status
- H0_i: academic staff in different institutional types will not differ in their ethnicity

Table 5.2 Characteristics of academic staff that are the same in each institutional type

FEATURE	MEASURE	IOT COUNT	IOT %	UNIVERSITY COUNT	UNIVERSITY %	DIFFERENCE
GENDER	Male	107	58%	93	56%	1%
	Female	77	41%	72	44%	-2%
	Missing	2	1%	0		
AGE	25-44	90	48%	81	49%	-1%
	45-64	94	51%	83	50%	0%
	65 years and over	1	1%	1	1%	0%
	Missing	1	1%	0	0%	1%
CONTRACT TYPE	Temporary	15	8%	14	8%	0%
	Permanent	167	90%	148	90%	0%
	Missing	4	2%	3	2%	0%
FT/PT	Full time	165	89%	153	93%	-4%
	Part time	18	10%	8	5%	5%
	Missing	3	2%	4	2%	-1%
ETHNICITY	White (Irish, Irish Traveller, Any other White background)	181	97%	160	97%	0%
	Asian or Asian Irish (Chinese, Any other Asian background)	2	1%	0	0%	1%
	Other, including mixed background	3	2%	4	2%	-1%
	Missing	0	0%	1	1%	-1%

Characteristics of academic staff that are different in each institutional type include qualification, career level, discipline type and nationality. Therefore, we must reject the following null hypotheses:

- H0_d: academic staff in different institutional types will not differ in their qualification
- H0_c: academic staff in different institutional types will not differ in their career level
- H0_g: academic staff in different institutional types will not differ in their discipline
- H0_h: academic staff in different institutional types will not differ in their nationality

The majority of university lecturing academic staff were qualified to doctoral level (87%) compared to only 38% of the IoT academic staff. The majority of IoTs lecturing academic staff (54%) were qualified to Masters level and 6% are qualified to Bachelors level. In the universities, almost all lecturing academic staff that were not qualified to Doctoral level were qualified to Masters level. There were more lecturing academic staff at the career level of Senior Lecturer in the universities compared to the IoTs where the majority of lecturing academic staff were at the career level of lecturer. In terms of academic staff in each discipline, there were more Engineering, Manufacturing and Construction academic staff in the IoTs than in the universities and there were less Education and Health and Welfare academic staff in the IoTs than in the universities. The Irish universities had more non-Irish academic staff than the IoTs. The majority of the other nationalities of academic staff working in the Irish universities came from the EU (See Table 5.3).

Table 5.3 Characteristics of academic staff that are different in each institutional type

FEATURE	MEASURE	IOT COUNT	IOT %	UNIVERSITY COUNT	UNIVERSITY %	DIFFERENCE
QUALIFICATIONS	Level 6 (Higher Certificate, Advanced Certificate)	0	0%	1	1%	-1%
	Level 7 (Ordinary Bachelor Degree)	1	1%	0	0%	1%
	Level 8 (Honours Bachelor Degree, Higher Diploma)	11	6%	0	0%	6%
	Level 9 (Masters, Postgraduate Diploma)	100	54%	20	12%	42%
	Level 10 (Doctoral Degree, Higher Doctorate)	71	38%	144	87%	-49%
	Missing	3	2%	0	0%	2%
CAREER LEVEL	Assistant lecturer / Junior lecturer	23	12%	14	8%	4%
	Lecturer / Lecturer	128	69%	84	51%	18%
	Senior Lecturer 1 / Senior Lecturer	13	7%	43	26%	-19%
	Senior Lecturer 2 / Associate Professor	10	5%	9	5%	0%
	Senior Lecturer 3 / Professor	9	5%	11	7%	-2%
	Missing	3	2%	4	2%	-1%
DISCIPLINE TYPE	Science	55	30%	43	26%	4%
	Social Sciences, Business, Law	41	22%	32	19%	3%
	Engineering, Manufacturing and Construction	34	18%	13	8%	10%
	Humanities and Arts	27	15%	25	15%	-1%
	Education	2	1%	13	8%	-7%
	Agriculture	0	0%	9	5%	-5%
	Health and Welfare	7	4%	17	10%	-7%
	Services	7	4%	0	0%	4%
	Chose more than one discipline	13	7%	13	8%	-1%
NATIONALITY	Irish	172	92%	123	75%	18%
	EU	11	6%	36	22%	-16%
	Rest of Europe	0	0%	1	1%	-1%
	Asia	1	1%	0	0%	1%
	America	1	1%	5	3%	-2%
	Other Nationality	1	1%	0	0%	1%

5.2 Activities of and outputs of academic staff in each institutional type

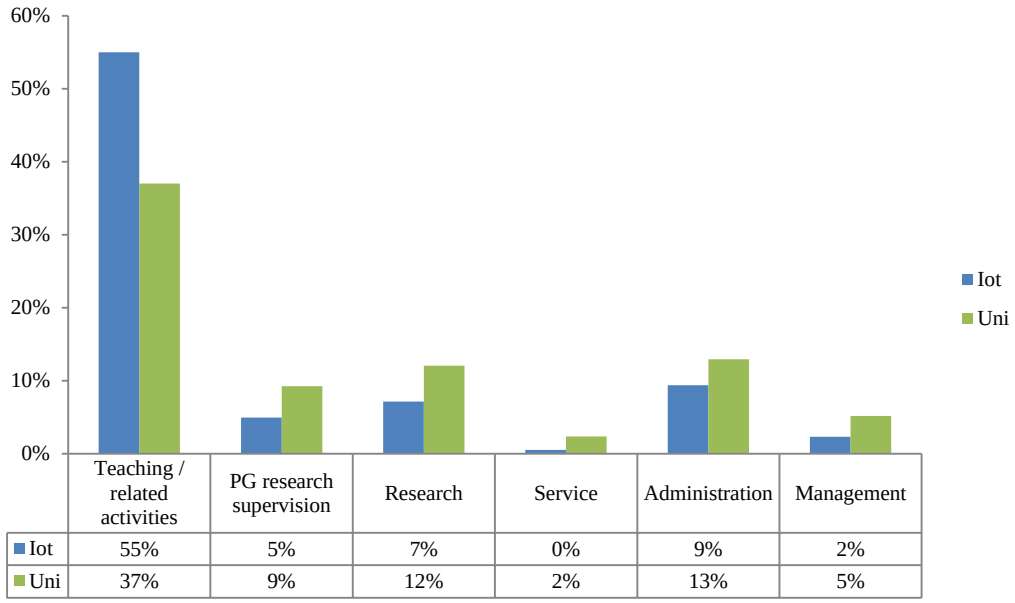
In answer to research question 2: What are the activities and outputs of academic staff in Ireland? To what extent are they the same in each institutional type? The results for activities are divided into activities when classes are in session (during the academic year when classes are being taught) and out of session (during the calendar year when classes are not being taught). The results for the outputs are reported for the last academic year. The responses of academic staff were initially compared for statistical difference using the independent t-test (Table 5.4 shows the t-test results). In order to confirm that it was the institutional type and not another covariate variable influencing the results of the t-test, a multiple linear regression analysis was also performed (Table 5.5).

5.2.1 Activities of academic staff in each institutional type when classes are in session

The results of the independent t-test (see Table 5.4) showed that the percentage of time spent on every academic activity measured was statistically significantly different for academic staff in IoTs compared to universities[62]. The mean percentage time spent on each academic activity by academic staff in the different institutional types is shown in Figure 5.1. Academic staff in IoTs spend more time than academic staff in universities on teaching and teaching related activities. University academic staff spend more time than IoT staff on research, postgraduate research supervision, administration, service, and management.

[62] The Mann Whitney u test confirmed the significance findings of the independent t-tests for each variable.

Figure 5.1 Mean percentage of time spent on each academic activity when classes were in session[63]



	Teaching / related activities	PG research supervision	Research	Service	Administration	Management
Iot	55%	5%	7%	0%	9%	2%
Uni	37%	9%	12%	2%	13%	5%

[63] Only full-time staff were included in the comparisons of means. Part-time staff were only included in the descriptive statistics on the characteristics of academic staff in each institutional type above.

Table 5.4 Independent t-test results comparing the mean percentage time spent at work and on academic activities by academic staff in each institutional type when classes are in session[64]

ACTIVITIES	IOT	UNIVERSITY	T-STATISTIC	DEGREES OF FREEDOM	MEAN DIFFERENCE	SIGNIFICANCE
MEAN HOURS PER WEEK WHEN CLASSES IN SESSION	38	54	-11.181	268	**-15.5**	p<.01
MEAN % TIME SPENT TEACHING / RELATED ACTIVITIES	55%	37%	6.302	301	**17.8**	p<.01
MEAN % TIME SPENT POSTRADUATE RESEARCH SUPERVISION	5%	9%	-5.261	306	**-4.3**	p<.01
MEAN % TIME SPENT RESEARCH	7%	12%	5.475	303	**-4.9**	p<.01
MEAN % TIME SPENT SERVICE	0%	2%	-8.292	141	**-1.8**	p<.01
MEAN % TIME SPENT ADMINISTRATION	9%	13%	-3.598	268	**-3.5**	p<.01
MEAN % TIME SPENT MANAGEMENT	2%	5%	-4.324	248	**-2.8**	p<.01

[64] Only full-time staff were included in the independent t-tests.

The results of the independent t-tests alone would encourage a rejection of all the null hypotheses generated for research question 2 regarding activities when classes are in session. However, the results of the multiple regression analysis which controlled for other possible covariates demonstrated that institutional type was not the variable associated with the difference for the hypothesis relating to administration.

Table 5.5 Multiple regression analysis of academic staff activities when classes are in session[65][66]

	HOURS	TEACHING / RELATED ACTIVITIES	PG SUPERVISION	RESEARCH	SERVICE	ADMIN	MANAGEMENT
	b (se)	b (se)	b (se)	b (se)	b (se)	b (se)	b (se)
INSTITUTIONAL TYPE:UNIVERSITY	**11.407 (1.77)**	**-15.67 (3.04)**	**2.897 (0.91)**	**5.153 (1.127)**	**1.516 (0.3)**		**1.594 (0.8)**
GENDER:FEMALE							
CONTRACTTYPE: PERMANENT				5.771 (2.452)			
AGE*							
QUAL**	6.981 (1.54)		3.464 (0.76)				
CAREERLEVEL***		-9.793 (1.65)				1.388 (0.7)	1.64 (.5)
HUMANITIES			-2.978 (1.6)				
SOCIAL							
EDUCATION							
ENGINEERING							
AGRICULTURE							
HEALTH							3.38 (6 1.2)
R SQUARE	38%	26%	21%	15%	23%	10%	16%

*1=25-44, 2=45-64
**0=level 6, 1= level 7, 2=level 8, 3=level 9, 4=level 10
***0-4=al-sl3
****science is reference group, services excl due to low N
Only statistically significant b values are shown.

[65] Only full-time staff were included in the multiple linear regression.
[66] The assumption of multi-collinearity was checked for each regression model using the variance inflation factor (VIF) and all were well below 10 indicating no multi-collinearity within the data. The assumptions of homosedacity and linearity were checked for all dependent variables by plotting the standardized residuals against standardized predicted values and all graphs looked like a random array of dots evenly dispersed around zero. The assumption of normality of residuals was checked for all dependent variables by creating histogram and normal probability plots. The histograms all looked like a normal distribution bell curve and the probability plots looked normal with all the points (observed residuals) lying on the line representing a normal distribution.

The independent t-test results showed that academic staff in universities spent a statistically significantly higher proportion of their time on administration compared to IoT staff. However, the multiple regression analysis revealed that the difference is actually attributable to the career level of academic staff rather than their institutional type. Academic staff at higher career levels spent a higher percentage of their time on administration.

Therefore, in terms of the null hypothesis k generated from research question 2, we must actually accept the null hypotheses in relation to administration:

- H0_k: Percent time per week spent on Administration when classes are in session will not differ in different institutional types

The multiple regression analysis results for the other activities of academic staff when classes are in session confirmed the findings from the independent t-test and, in some cases, identified other statistically significant predictors of activities as well as institutional type. These findings are outlined as follows:

The independent t-test results showed that academic staff in universities spent statistically significantly longer hours at work when classes are in session (a mean of 54 hours per week), compared to IoT staff, who spent a mean of 38 hours at work per week when classes are in session. The multiple regression analysis confirmed that institutional type is the main influencing factor in the amount of time spent at work, with qualifications of academic staff also contributing to the amount of time academic staff spent at work (higher qualified staff spend longer hours at work).

The independent t-test results showed that academic staff in IoTs spent a statistically significantly higher proportion of their time on teaching and teaching related activities. This finding is confirmed by the multiple regression analysis which shows that institutional type is the main predictor of the proportion of time spent on teaching and teaching related activities. IoT staff spent more of their time on teaching

and teaching related activities than university staff when all other potentially influencing factors were held constant. Another statistically significant predictor was identified as career level with academic staff at lower career levels also spending more time on teaching and teaching related activities.

The independent t-test results showed that academic staff in IoTs spent a statistically significantly lower proportion of their time on postgraduate research supervision. This finding is confirmed by the multiple regression analysis which shows that institutional type is one of the predictors of the proportion of time spent on postgraduate research supervision. University staff spent more of their time on postgraduate research supervision than IoT staff when all other potentially influencing factors were held constant. However, the main predictor of proportion of time spent post graduate research supervision was qualification, with higher qualified academic staff spending more time. The discipline of Humanities was also a predictor of proportion of time spent post graduate research supervision, with Humanities academic staff spending statistically significantly less time on postgraduate research supervision.

The independent t-test results showed that academic staff in universities spent a statistically significantly higher proportion of their time on research. This finding is confirmed by the multiple regression analysis which shows that institutional type is one of the predictors of the proportion of time spent on research. University staff spent more of their time on research than IoT staff when all other potentially influencing factors were held constant. Another statistically significant predictor was identified as contract type, with permanent academic staff spending more time on research than temporary staff.

The multiple regression confirmed the independent t-test results in relation to Service which showed that academic staff in universities spend a higher proportion of their time on service than IoT staff.

The independent t-test results showed that academic staff in universities spent a statistically significantly higher proportion of their time on management. This finding is confirmed by the multiple regression analysis which shows that institutional type is one of the predictors of the proportion of time spent on management. University staff spent statistically significantly more of their time on management than IoT staff when all other potentially influencing factors were held constant. Another statistically significant predictor was identified as career level, with academic staff at higher career levels spending more of their time on management. However, the biggest predictor of the proportion of time academic staff spent on management was discipline type, with academic staff in the Health disciplines spending statistically significantly more of their time on management.

The multiple regression analysis thus confirmed the findings from the independent t-test in relation to the hours academic staff spent at work when classes were in session and in relation to the proportion of their time they spent on the activities of teaching and teaching related activities, postgraduate research supervision, research, service and management. We must therefore reject the following null hypotheses generated from research question 2:

- H0_a: Hours spent at work per week when classes are in session will not differ in different institutional types
- H0_c: Percent time per week teaching / related activities when classes are in session will not differ in different institutional types
- H0_e: Percent time per week spent on teaching related activities when classes are in session will not differ in different institutional types
- H0_g: Percent time per week spent on Postgraduate research supervision when classes are in session will not differ in different institutional types

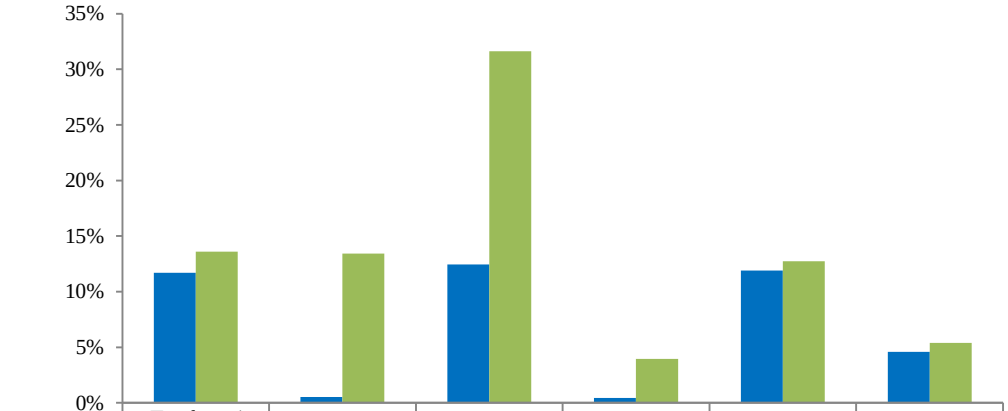
- H0_i: Percent time per week spent on Research when classes are in session will not differ in different institutional types
- H0_m: Percent time per week spent on Service when classes are in session will not differ in different institutional types
- H0_o: Percent time per week spent on Management when classes are in session will not differ in different institutional types

5.2.2 Activities of academic staff in each institutional type when classes are NOT in session

The results of the independent t-test (see Table 5.6) showed that the percentage of time spent on every academic activity **when classes were not in session** measured was statistically significantly different for academic staff in IoTs compared to universities except for teaching / teaching related activities[67]. The mean percentage time spent on each academic activity by academic staff in the different institutional types is shown in Figure 5.2. University academic staff spent more time than IoT staff at work and on all academic activities; teaching and teaching related activities, research, postgraduate research supervision, administration, service, and management when classes are not in session.

[67] The Mann Whitney u test confirmed the significance findings of the independent t-tests. The independent t-test did not find a significant difference in Teaching / teaching related activities variable, but the Mann Whitney u test did. This is explained by the regression results below.

Figure 5.2 Mean percentage of time spent on each academic activity when classes were NOT in session



	Teaching / related activities	PG research supervision	Research	Service	Administration	Management
Iot	12%	1%	12%	0%	12%	5%
University	14%	13%	32%	4%	13%	5%

The results of the independent t-test (Table 5.6) showed that the percentage of time spent on every academic activity measured was statistically significantly different for academic staff in IoTs compared to universities when classes were not in session except for teaching / teaching related activities.

Table 5.6 Independent t-test results comparing the mean percentage time spent at work and on academic activities by academic staff in each institutional type when classes were NOT in session[1]

ACTIVITIES	IOT	UNIVERSITY	T-STATISTIC	DEGREES OF FREEDOM	MEAN DIFFERENCE	SIGNIFICANCE
MEAN HOURS PER WEEK WHEN CLASSES NOT IN SESSION	29.53	46.42	-10.7	239	**-16.9**	p<.01
MEAN % TIME SPENT TEACHING / RELATED ACTIVITIES	11.70	13.62	-1.2	250	**-1.9**	p>.01
MEAN % TIME SPENT POSTRADUATE RESEARCH SUPERVISION	0.54	13.44	-15.0	144	**-12.9**	p<.01
MEAN % TIME SPENT RESEARCH	12.44	31.62	-8.6	263	**-19.2**	p<.01
MEAN % TIME SPENT SERVICE	0.45	3.95	-8.9	157	**-3.5**	p<.01
MEAN % TIME SPENT ADMINISTRATION	11.91	12.73	-0.6	301	**-0.8**	p<.01
MEAN % TIME SPENT MANAGEMENT	4.59	5.4	-1.0	289	**-0.8**	p<.01

[1] Only full-time staff were included in the independent t-tests.

The results of the independent t-tests alone would again encourage a rejection of all the null hypotheses related to activities when classes were NOT in session generated for research question 2 except for teaching / teaching related activities. However, the results of the multiple regression analysis which controlled for other possible covariates demonstrated that institutional type was not the variable associated with the difference for three of the hypotheses relating to administration, management teaching / teaching related activities.

Table 5.7 Multiple regression analysis of academic staff activities when classes are NOT in session[69]

	HOURS	TEACHING / TEACHING RELATED ACTIVITIES	PG SUPERVISION	RESEARCH	SERVICE	ADMIN	MANAGEMENT
	b (se)	b (se)	b (se)	b (se)	b (se)	b (se)	b (se)
INSTITUTIONAL TYPE : UNIVERSITY	**12.90 (1.83)**		**12.35 (1.18)**	**18.18 (2.52)**	**3.16 (0.50)**		
GENDER: FEMALE							
CONTRACT TYPE: PERMANENT							
AGE*							
QUALIFICATION**	6.84 (1.66)		1.90 (0.95)	4.95 (2.14)	0.93 (0.42)		
CAREER LEVEL ***		-2.49				2.81 (0.87)	2.10 (0.50)
HUMANITIES			-3.08 (1.43)	7.86 (3.22)			
SOCIAL				6.97 (2.82)			
EDUCATION							
ENGINEERING							
AGRICULTURE				-17.50 (6.93)			
HEALTH			-4.42 (1.82)	-9.19 (3.98)	-1.69 (0.83)		
R SQUARE	42%	5%	46%	30%	26%	7%	10%

*1=25-44, 2=45-64
**0=level 6, 1= level 7, 2=level 8, 3=level 9, 4=level 10
***0-4=al-sl3
****science is reference group, services excl due to low N
Only statistically significant b values are shown.

[69] Only full-time staff were included in the multiple linear regression.

Firstly, the independent t-test results showed no statistically significant difference between IoT and university staff in the amount of time spent on teaching / teaching related activities when classes are not in session. However, the Mann Whitney u test did show a difference which was explained when the multiple regression analysis revealed that the difference is actually attributable to the career level of academic staff rather than their institutional type. Academic staff at higher career levels spent a lower percentage of their time on teaching when classes are not in session. Secondly, the independent t-test results showed that academic staff in universities spent a statistically significantly higher proportion of their time on administration compared to IoT staff. However, the multiple regression analysis revealed that the difference is actually attributable to the career level of academic staff rather than their institutional type. Academic staff at higher career levels spent a higher percentage of their time on administration. Thirdly, the independent t-test results showed that that academic staff in universities spent a statistically significantly higher proportion of their time on management compared to IoT staff. However, the multiple regression analysis revealed that the difference is actually attributable to the career level of academic staff rather than their institutional type.

Therefore, in terms of the null hypotheses d, l and p generated from research question 2, we must actually accept the null hypotheses in relation to teaching / teaching related activities, administration and management:

- H0_d: Percent time per week teaching / teaching related activities when classes are not in session will not differ in different institutional types
- H0_l: Percent time per week spent on Administration when classes are not in session will not differ in different institutional types
- H0_p: Percent time per week spent on Management when classes are not in session will not differ in different institutional types

The multiple regression analysis results for the other activities of academic staff when classes are in session confirmed the findings from the independent t-test and in some cases identified other statistically significant predictors of activities, as well as institutional type. These findings are outlined below:

The independent t-test results showed that academic staff in universities spent statistically significantly longer hours at work (with a mean of 46 hours per week) compared to IoT staff who spent a mean 30 hours at work per week when classes are not in session. The multiple regression analysis confirmed that institutional type is the main influencing factor in the amount of time spent at work with qualifications of academic staff also contributing to the amount of time academic staff spent at work (higher qualified staff spend longer hours at work) when classes are not in session.

The independent t-test results showed that academic staff in IoTs spent a statistically significantly lower proportion of their time on postgraduate research supervision when classes are not in session. This finding is confirmed by the multiple regression analysis which shows that institutional type is the main predictor of the proportion of time spent on postgraduate research supervision when classes are not in session. University staff spent more of their time on postgraduate research supervision than IoT staff when all other potentially influencing factors were held constant. Qualification level also contributed to the proportion of time spent on post graduate research supervision, with higher qualified academic staff spending more time. The discipline type of academic staff was also a predictor of proportion of time spent post graduate research supervision, with Humanities and Health academic staff spending statistically significantly less time on postgraduate research supervision when classes are not in session.

The independent t-test results showed that academic staff in universities spent a statistically significantly higher proportion of their time on research. This finding is confirmed by the multiple regression analysis which shows that institutional type the main predictor of the proportion of time spent on research. University staff spent more of their time on research than IoT staff when all other potentially influencing factors were held constant. Another statistically significant predictor was identified as qualification, with higher qualified academic staff spending more time on research when classes were not in session. Discipline type was also a significant predictor of time spent on research, with humanities and arts and social science, business and law spend more time on research when classes were not in session.

The multiple regression confirmed the independent t-test results in relation to Service which showed that academic staff in universities spend a higher proportion of their time on service than IoT staff when classes are not in session.

The multiple regression analysis thus confirmed the findings from the independent t-test in relation to the hours academic staff spent at work when classes were not in session and in relation to the proportion of their time they spent on the activities of postgraduate research supervision, research and service. We must therefore reject the following null hypotheses generated from research question 2:

- H0_b: Hours spent at work per week when classes are not in session will not differ in different institutional types
- H0_h: Percent time per week spent on Postgraduate research supervision when classes are not in session will not differ in different institutional types
- H0_j: Percent time per week spent on Research when classes are not in session will not differ in different institutional types
- H0_n: Percent time per week spent on Service when classes are not in session will not differ in different institutional types

5.2.3 Outputs of academic staff in each institutional type in the last academic year

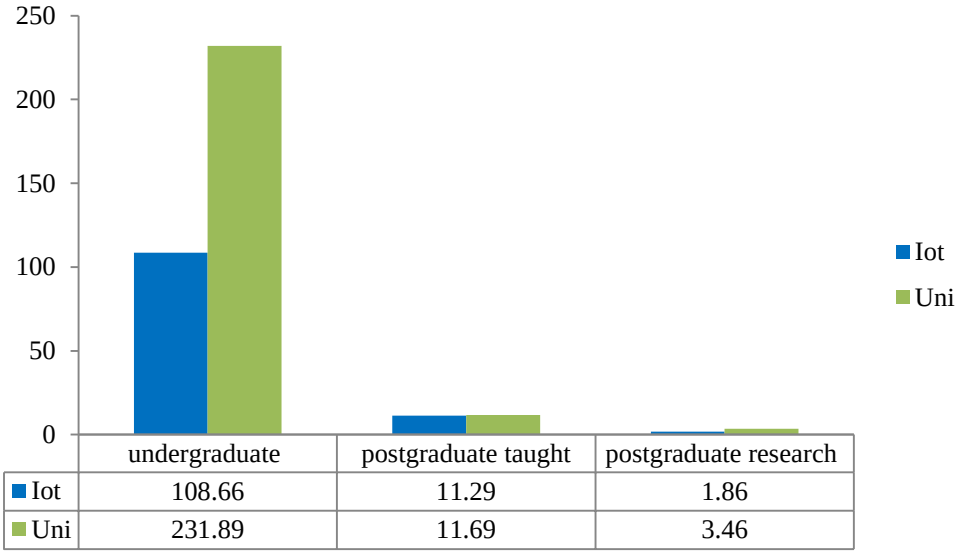
To answer the second part of the research question 2: What are the outputs of academic staff in each institutional type? To what extent are they the same in each institutional type? The results for the outputs are divided into the number of students taught at each level in the last academic year, number of traditional research outputs[70] per academic staff member in the last academic year and number of non-traditional research outputs[71] per academic staff member in the last academic year. The responses of academic staff were initially compared for statistical difference using the independent t-test (Table 5.8. shows the t-test results). In order to confirm that it was the institutional type and not another covariate variable influencing the results of the t-test, a multiple regression analysis was also performed.

The mean number of students taught by academic staff in the different institutional types is shown in Figure 5.3. On average, university academic staff taught more undergraduate, postgraduate taught students and postgraduate research students than IoT staff.

[70] Traditional research outputs included: books authored or coauthored, books cited or coedited, Articles published in an academic journal, chapters published in an academic book, research report monograph written for a funded project, policy paper, and paper presented at a scholarly conference.

[71] Non Traditional research outputs included: Professional article written for a newspaper or magazine, Patent secured on a process or invention, Computer program written for public use, Artistic work performed or exhibited, Video or film produced

Figure 5.3 Average number of students taught at each level by academic staff in each institutional type[72]



	undergraduate	postgraduate taught	postgraduate research
Iot	108.66	11.29	1.86
Uni	231.89	11.69	3.46

The results of the independent t-test (see Table 5.8) showed that the number of undergraduate students taught in the last academic year and the number of postgraduate research students was statistically significantly higher for academic staff in universities compared to IoTs[73]. There was no statistically significant difference between the numbers of postgraduate taught students in each institutional type. These results would encourage the rejection of two of the null hypotheses generated for research question 2 in relation to the number of students taught by academic staff and an acceptance of one of the null hypotheses.

[72] Only full-time staff were included in the means comparison
[73] The Mann Whitney u test confirmed the significance findings of the independent t-tests for each variable.

Table 5.8 Independent t-test results comparing the mean number of students taught by academic staff in each institutional type in the last academic year[74]

	IOT	UNIVERSITY	T-STATISTIC	DEGREES OF FREEDOM	MEAN DIFFERENCE	SIGNIFICANCE
UNDERGRADUATE	108.66	231.89	-8.10	171.53	-123.23	**P< .05**
POSTGRADUATE TAUGHT	11.29	11.69	-0.23	194	-0.40	P> .05
POSTGRADUATE RESEARCH	1.86	3.46	-5.37	216	-1.59	**P<.05**

[74] Only full-time staff were included in the independent t-tests.

Table 5.9 Multiple regression analysis of the number of students of academic staff in the last academic year

	UNDERGRADUATE	POSTGRADUATE TAUGHT	POSTGRADUATE RESEARCH
	b (se)	b (se)	b (se)
INSTITUTIONAL TYPE :UNIVERSITY	**130.70 (17.04)**		**1.40 (.34)**
GENDER:FEMALE			
CONTRACTTYPE:PERMANENT			
AGE*			
QUAL**			
CAREERLEVEL***	-18.47 (9.12)		
HUMANITIES			
SOCIAL		7.50 (2.29)	
EDUCATION			
ENGINEERING	-46.14 (21.65)		
AGRICULTURE			
HEALTH			
R SQUARE	30%	9%	23%

A multiple regression analysis which controlled for other possible covariates supported the results of the independent t-tests and demonstrated that institutional type was the main variable associated with the difference for the two hypotheses in relation to undergraduate and post graduate research students but that discipline type was the only significant predictor identified in the number of postgraduate taught students with academic staff in Social sciences teaching more post-graduate taught students.

While institutional type was the main predictor of the number of undergraduate students taught by academic staff, the regression analysis also showed that academic staff at higher career levels teach less undergraduate students and that academic staff in the Engineering discipline teach less undergraduate students.

With the multiple regression analysis confirming the findings from the independent t-test in relation to the number of undergraduate students, postgraduate taught students and postgraduate research students, we must reject the below two null hypotheses generated from research question 2:

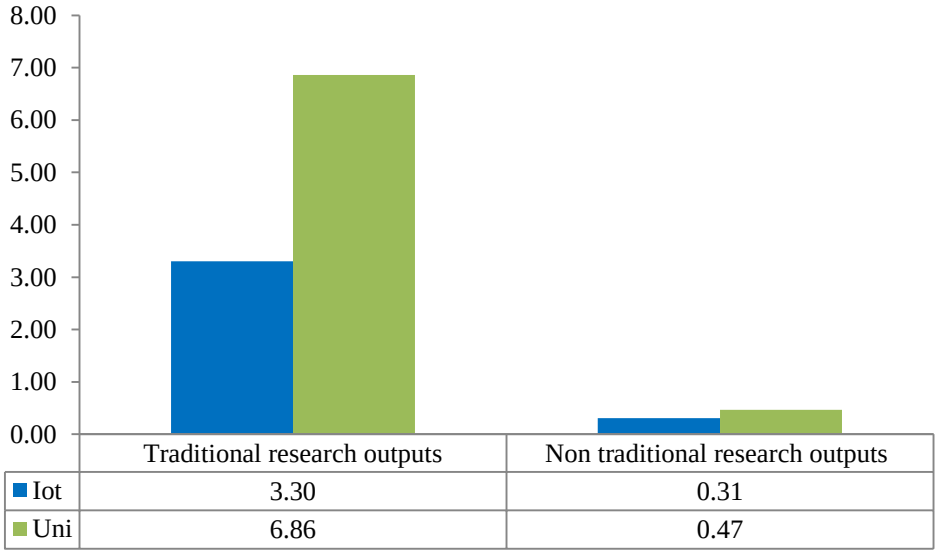
- H0_u: Number of undergraduate students will not differ in different institutional types
- H0_w: Number of post graduate research students will not differ in different institutional types

And we must accept the below one null hypotheses generated from research question 2:

- H0_v: Number of post graduate taught students will not differ in different institutional types

Figure 5.4 shows the number of traditional research outputs per academic staff member in the last academic year and the number of non-traditional research outputs per academic staff member in the last academic year.

Figure 5.4 Number of traditional research outputs[75] and number of non-traditional research outputs[76] per academic staff member in the last academic year[77]



	Traditional research outputs	Non traditional research outputs
Iot	3.30	0.31
Uni	6.86	0.47

[75] Traditional research outputs included: books authored or coauthored, books cited or coedited, Articles published in an academic journal, Chapters published in an academic book, Research report monograph written for a funded project, Policy paper, and paper presented at a scholarly conference

[76] Non Traditional research outputs included: Professional article written for a newspaper or magazine, Patent secured on a process or invention, Computer program written for public use, Artistic work performed or exhibited, Video or film produced

[77] Only full-time staff were included in the means comparison

The results of the independent t-test (see Table 5.10) showed that the number of traditional research outputs was statistically significantly higher for academic staff in universities compared to IoTs[78]. There was no statistically significant difference between the numbers of non-traditional research outputs in each institutional type. These results would encourage the rejection of one of the null hypotheses generated for research question 2 in relation to the number of traditional research outputs by academic staff and an acceptance of one of the null hypotheses.

[78] The Mann Whitney u test confirmed the significance findings of the independent t-tests for each variable.

Table 5.10 Independent t-test results comparing the mean traditional and non-traditional research outputs by academic staff in each institutional type in the last academic year[79]

	IOT	UNIVERSITY	T-STATISTIC	DEGREES OF FREEDOM	MEAN DIFFERENCE	SIGNIFICANCE
TRADITIONAL RESEARCH OUTPUTS	3.30	6.86	-5.49	135.00	-3.56	**P<.05**
NON TRADITIONAL RESEARCH OUTPUTS	0.31	0.47	-1.29	114.34	-0.16	P>.05

[79] Only full-time staff were included in the independent t-tests

A multiple regression analysis which controlled for other possible covariates supported the results of the independent t-tests and demonstrated that institutional type was the main variable associated with the difference in relation to traditional research outputs but that there were no significant covariates at all in the model in relation to the non-traditional research outputs. A second predictor of traditional research outputs was identified as qualification, with higher qualified academic staff producing more traditional research outputs.

Table 5.11 Multiple regression analysis of the number of traditional and non-traditional research outputs in the last academic year[80]

	TRADITIONAL RESEARCH OUTPUTS	NON TRADITIONAL RESEARCH OUTPUTS
	b (se)	b (se)
INSTITUTIONAL TYPE :UNIVERSITY	**2.827 (0.75)**	
GENDER: FEMALE		
CONTRACT TYPE: PERMANENT		
AGE*		
QUAL**	2.537 (0.66)	
CAREER LEVEL***		
HUMANITIES		
SOCIAL		
EDUCATION		
ENGINEERING		
AGRICULTURE		
HEALTH		
R SQUARE	37%	14%

*1=25-44, 2=45-64
**0=level 6, 1= level 7, 2=level 8, 3=level 9, 4=level 10
***0-4=al-sl3
****science is ref group, services excl due to low N

[80] Only full-time staff were included in the multiple linear regression

With the multiple regression analysis confirming the findings from the independent t-test in relation to the number traditional research outputs and non-traditional research outputs, we must reject the below null hypotheses generated from research question 2:

- H0_s: Traditional research outputs will not differ in different institutional types

And we must accept the below one null hypothesis generated from research question 2:

- H0_t: Number of non-traditional research outputs will not differ in different institutional types

5.3 Academic staff perceptions about their work-lives in the universal phase of higher education

In answer to research question 3: What are the perceptions of academic staff about their work-lives in the universal phase of higher education? To what extent are they the same in each institutional type? The responses of academic staff were initially compared for statistical difference using the independent t-test (Table 5.12). In order to confirm that it was the institutional type and not another covariate variable influencing the results of the t-tests, a multiple regression analysis was also performed. The results of the comparative analysis of the perceptions of academic staff about their work-lives in the universal phase between the two institutional types will be presented in two groups. The first group of measures presented are the features of academic staff's work-lives that were perceived by them to be the same in both institutional types. The second group of measures presented are the features of academic staff's work-lives that were perceived by them to be different based on their institutional type.

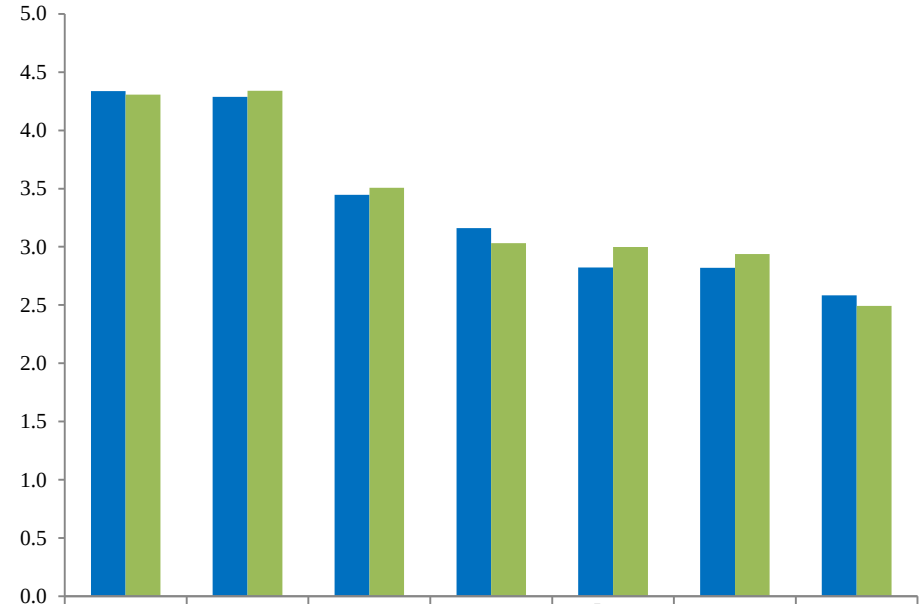
5.3.1 Features of academic staff's work-lives that were perceived by them to be the same in both institutional types

The results of the independent t-tests showed that there was no statistically significant difference in how academic staff in each institutional type perceived seven aspects of their work-lives in the universal phase[81]. Academic staff in both institutional types agreed that workloads were increasing, that they had inadequate resources, that they had incorporated the use of ICT into their roles, and that their satisfaction was low. Academic staff in both institutional types disagreed that they desired to leave their positions or that they sought prestige in their career planning. Academic staff in IoTs disagreed that academic freedom and authority were low, whereas academic staff in universities were neutral about whether academic freedom and authority were low[82].

[81] The Mann Whitney u test confirmed the significance findings of the independent t-tests for each variable.

[82] By averaging the scores of the combined Likert items in the scales, mean scores above 3 indicate that more respondents agreed than disagreed therefore 3 is treated as the mid-point. Any score above three indicates agreement on average and any score below 3 indicates disagreement on average.

Figure 5.5 Perceptions of academic staff about aspects of their work-lives that do not differ between institutional types[83]



	Use of ICT	Increasing Workload	Inadequate resources	Low satisfaction	Low academic freedom and authority	Seeking presitge	Desire to leave
Iot	4.3	4.3	3.45	3.16	2.8	2.8	2.6
Uni	4.3	4.3	3.51	3.03	3.0	2.9	2.5

[83] Only full-time staff were included in the means comparison

Table 5.12 Independent t-test results of the comparison of perceptions of academic staff about their work-lives that do not differ between institutional types[84]

	IOT	UNIVERSITY	T-STATISTIC	DEGREES OF FREEDOM	MEAN DIFFERENCE	SIGNIFICANCE
USE OF ICT	4.3	4.3	0.5	275.0	0.0	0.6
INCREASING WORKLOAD	4.3	4.3	-0.9	295.0	-0.1	0.4
INADEQUATE RESOURCES	3.45	3.51	-0.57	297.00	-0.06	0.573
LOW SATISFACTION	3.16	3.03	1.33	286.00	0.13	0.185
LOW ACADEMIC FREEDOM AND AUTHORITY	2.8	3.0	-1.9	297.0	-0.2	0.1
SEEKING PRESTIGE	2.8	2.9	-1.2	301.9	-0.1	0.2
DESIRE TO LEAVE	2.6	2.5	0.9	310.0	0.1	0.4

[84] Only full-time staff were included in the t-tests

A multiple regression analysis which controlled for other possible covariates mostly supported the results of the independent t-tests and demonstrated that institutional type was not a significant predictor of the agreement of academic staff that there was use of ICT, increasing workload, inadequate resources, and low satisfaction. And the disagreement of academic staff that there was low academic freedom and authority, and that they sought prestige in their career planning. However, the multiple regression analysis identified that contrary to the independent t-test, institutional type was a significant predictor of academic staff's desire to leave, with academic staff in universities being less likely to have a desire to leave their positions than staff in IoTs.

Table 5.13 Multiple regression analysis of the perceptions of academic staff about aspects of their work-lives in the universal phase of higher education that do not differ between institutional types[85]

	USE OF ICT	INCREASING WORKLOAD	INADEQUATE RESOURCES	LOW SATISFACTION	LOW ACADEMIC FREEDOM AND AUTHORITY	SEEKING PRESTIGE	DESIRE TO LEAVE
	b (se)	b (se)	b (se)	b (se)	b (se)	b (se)	b (se)
INSTITUTIONAL TYPE : UNIVERSITY							**-0.30 (0.11)**
GENDER: FEMALE						-0.19 (0.10)	
CONTRACT TYPE: PERMANENT							
AGE*						-0.23 (0.10)	-0.21 (0.10)
QUALIFICATION**						0.32 (0.09)	0.30 (0.09)
CAREER LEVEL***							
HUMANITIES	-0.25 (0.09)						
SOCIAL							
EDUCATION							
ENGINEERING							
AGRICULTURE			0.74 (0.34)				
HEALTH			-0.73 (0.20)				
R SQUARE	5%	5%	9%	5%	4%	8%	8%

*1=25-44, 2=45-64
**0=level 6, 1= level 7, 2=level 8, 3=level 9, 4=level 10
***0-4=al-sl3
****science is ref group, services excl due to low N

[85] Only full-time staff were included in the multiple linear regression

The multiple regression results confirm that we must accept the following null hypotheses generated from research question 3:

- H0_c: Use of ICT will not differ in different institutional types
- H0_a: Increasing workload will not differ in different institutional types
- H0_e: Inadequate resources will not differ in different institutional types
- H0_m: Low satisfaction will not differ in different institutional types
- H0_h: believe academic freedom and authority are low will not differ in different institutional types
- H0_k: Seeking prestige will not differ in different institutional types

However, the regression results do not support the independent t-test results that there was no statistically significant difference between the desire to leave of academic staff in the different institutional types. The multiple regression analysis controlled for other potential covariates and found that institutional type was a significant predictor of whether academic staff had a desire to leave with academic staff in IoTs having a stronger desire to leave that academic staff in universities. Therefore, we must reject the null hypothesis:

- H0_o: Have a desire to leave job will not differ in different institutional types

While the multiple regression analysis showed that there was no statistically significant difference between the levels of disagreement in different institutional types, that academic staff sought prestige, the multiple regression analysis did identify that higher qualified staff agreed more that they sought prestige and female and older staff agreed less.

While the multiple regression analysis showed that there was a statistically significant difference between the levels of disagreement in different institutional types that academic staff desired to leave their position, with IoT staff agreeing more that they

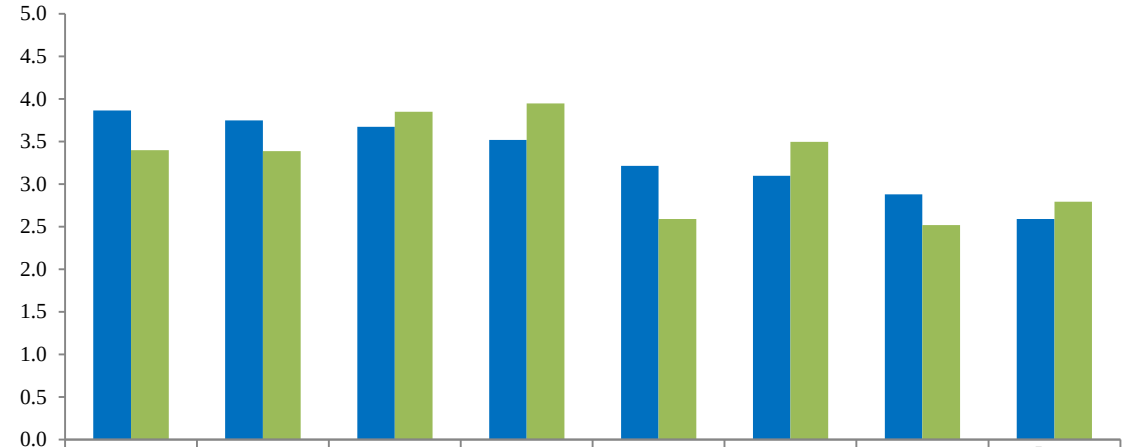
desired to leave, the multiple regression analysis also identified that higher qualified staff agreed more that they wanted to leave and older academic staff agreed less.

While the multiple regression analysis showed that there was no statistically significant difference between the levels of agreement in different institutional types, that academic staff found their resources inadequate, the multiple regression analysis did identify that academic staff in the discipline of Agriculture agreed more that resources were inadequate and academic staff in the discipline of Health staff agreed less.

5.3.2 Features of academic staff's work-lives that were perceived by them to be different in each institutional type

The results of the independent t-tests (see Table 5.14) showed that there was a statistically significant difference in how academic staff in each institutional type perceived eight of the features of their work-lives. Academic staff in IoTs agreed more strongly than university academic staff that mature students caused extra demands and that their nomenclature was de-motivating. University staff agreed more strongly than IoT staff that they experienced work related stress, that there was a presence of managerialism, and that they had increased research demands. University staff disagreed more strongly than IoT academic staff that collegiality and sense of community were low, and that they inflated student grades. IoT academic staff agreed that they needed more training in research and teaching whereas university academic disagreed that they needed more training.

Figure 5.6 Perceptions of academic staff about aspects of their work-lives that did differ between institutional types[86]



	Mature students extra demands	Demotivating nomenclature	Presence of managerialism	Increased research demands	Need training	Stress	Inflating student grades	Low autonomy, collegialiaty and community
Iot	3.9	3.7	3.7	3.5	3.2	3.1	2.9	2.6
Uni	3.4	3.4	3.9	3.9	2.6	3.5	2.5	2.8

[86] Only full-time staff were included in the means comparison

Table 5.14 Independent t-test results of the comparison of perceptions of academic staff about their work-lives that did differ between institutional types [87]

	IOT	UNIVERSITY	T-STATISTIC	DEGREES OF FREEDOM	MEAN DIFFERENCE	SIGNIFICANCE
MATURE STUDENTS EXTRA DEMANDS	3.9	3.4	4.8	314.0	0.5	0.0
DEMOTIVATING NOMENCLATURE	3.7	3.4	3.8	301.0	0.4	0.0
PRESENCE OF MANAGERIALISM	3.7	3.9	-2.0	309.0	-0.2	0.0
INCREASED RESEARCH DEMANDS	3.5	3.9	-4.8	307.0	-0.4	0.0
NEED TRAINING	3.2	2.6	6.4	311.0	0.6	0.0
STRESS	3.1	3.5	-4.4	308.0	-0.4	0.0
INFLATING STUDENT GRADES	2.9	2.5	3.0	314.0	0.4	0.0
LOW AUTONOMY, COLLEGIALITY AND COMMUNITY	2.6	2.8	-2.0	295.0	-0.2	0.0

[87] Only full-time staff were included in the means comparison

A multiple regression analysis, which controlled for other possible covariates, mostly supported the results of the independent t-tests and demonstrated that institutional type was a significant predictor of the level of agreement of academic staff that mature students created extra demands, that nomenclature was de-motivating, that extra training was needed and that there was work-related stress. Institutional type was also a significant predictor of the level of disagreement that academic staff were inflating student grades. However, the multiple regression analysis identified that, contrary to the independent t-test, institutional type was not a significant predictor of academic staff's level of agreement that there was a presence of managerialism or level of disagreement that autonomy, collegiality and sense of community were low.

Table 5.15 Multiple regression analysis of the perceptions of academic staff about aspects of the universal phase of higher education that did differ between institutional types

	MATURE STUDENTS EXTRA DEMANDS	DE-MOTIVATING NOMENCLATURE	PRESENCE OF MANAGE-RIALISM	INCREASED RESEARCH DEMANDS	NEED TRAINING	STRESS	INFLATING STUDENT GRADES	LOW AUTONOMY, COLLEGIALITY AND COMMUNITY
	b (se)	b (se)	b (se)	b (se)	b (se)	b (se)	b (se)	b (se)
INSTITUTIONAL TYPE :UNIVERSITY	**-0.51 (0.12)**	**-0.35 (0.11)**		**0.34 (0.10)**	**-0.5 (0.10)**	**0.26 (0.10)**	**-0.35 (0.14)**	
GENDER: FEMALE					0.32 (0.10)			
CONTRACT TYPE: PERMANENT								
AGE*				-0.23 (0.09)				0.21(0.10)
QUALIFICATION **					-0.24 (0.09)	0.20 (0.08)		
CAREER LEVEL***		-0.11 (0.05)						
HUMANITIES								
SOCIAL						-0.26 (0.12)		
EDUCATION								
ENGINEERING				0.281 (0.13)	0.40 (0.13)			
AGRICULTURE					0.71 (0.32)			
HEALTH							-0.58 (0.23)	
R SQUARE	11%	12%	7%	13%	25%	13%	9%	6%

*1=25-44, 2=45-64

**0=level 6, 1= level 7, 2=level 8, 3=level 9, 4=level 10

***0-4=al-sl3

****science is ref group, services excl due to low N

The multiple regression results confirm that we must reject the following null hypotheses generated from research question 4:

- H0_b: Mature students cause extra demands will not differ in different institutional types
- H0_l: Demotivated by nomenclature will not differ in different institutional types
- H1_i: Believe research demands are increasing will not differ in different institutional types
- H0_f: Need training will not differ in different institutional types
- H0_n: Stress will not differ in different institutional types
- H0_d: Participation in grade inflation will not differ in different institutional types

However, the regression results do not support the independent t-test results that there was a statistically significant difference between the belief there was a presence of managerialism and that there was a low autonomy and sense of collegiality and community between the different institutional types. Therefore, we must accept the null hypothesis:

- H0_g: Presence of managerialism will not differ in different institutional types
- H0_j: Low autonomy, collegiality and community will not differ in different institutional types

While the multiple regression analysis showed that there was a statistically significant difference between the levels of agreement in different institutional types, that the nomenclature was de-motivating, the multiple regression analysis also identified that academic staff at higher career levels agreed less that nomenclature was de-motivating.

While the multiple regression analysis showed that there was a statistically significant difference between the levels of agreement in different institutional types, that there were increased research demands, the multiple regression analysis also identified that academic staff in the engineering discipline agreed more strongly that there were increased research demands and older academic staff agreed less so.

While the multiple regression analysis showed that there was a statistically significant difference between the levels of agreement in different institutional types, that academic staff needed training, the multiple regression analysis also identified that academic staff who were female, in the engineering or agriculture discipline agreed more strongly that they needed training, and higher qualified staff agreed less.

While the multiple regression analysis showed that there was a statistically significant difference between the levels of agreement in different institutional types, that academic staff are experiencing stress, the multiple regression analysis also identified that higher qualified academic staff agreed more strongly that they were experiencing stress, and Social science staff agreed less.

While the multiple regression analysis showed that there was a statistically significant difference between the levels of disagreement in different institutional types, that academic staff participated in grade inflation, the multiple regression analysis also identified that academic staff in the Health discipline disagreed more strongly that they participated in grade inflation.

While the multiple regression analysis showed that there was no statistically significant difference between the levels of disagreement in different institutional types, that collegiality, autonomy and community were low, the multiple regression analysis did identify that older academic staff agreed more, that that collegiality, autonomy and community were low.

5.4 Summary of quantitative findings

The findings of the statistical analysis revealed that similarities between academic staff in the different institutional types existed in terms of the measures summarised in Table 5.16 and that differences between academic staff in the different institutional types existed in terms of the measures summarised in terms of the measures summarised in Table 5.17. The implications of these findings will be explored further in the Discussion chapter.

Table 5.16 Measures that showed homogeneity between institutional types at the normative staff level

NO DIFFERENCE BETWEEN INSTITUTIONAL TYPES	
CHARACTERISTICS	
Gender	
Age	
Contract type	
Full time part time	
Ethnicity	
PERCENTAGE OF TIME SPENT ON ACTIVITIES WHEN CLASSES WERE IN SESSION	
Administration	
PERCENTAGE OF TIME SPENT ON ACTIVITIES WHEN CLASSES WERE NOT IN SESSION	
Teaching / Teaching related activities	
Administration	
Management	
OUTPUTS - STUDENTS SERVED	
Postgraduate taught students	
OUTPUTS – RESEARCH	
Non-traditional research outputs	
PERCEPTIONS OF THEIR WORK-LIVES	
AGREE	**DISAGREE**
They use ICT	
Workload is increasing	
Resources are inadequate	
Satisfaction is low	
Presence of managerialism	
	Seeking prestige
	Academic freedom and authority are low
	Autonomy, collegiality and community are low

Table 5.17 Measures that showed no homogeneity between institutional types at the normative staff level[88]

	IOT	UNIVERSITIES
CHARACTERISTICS		
Qualifications	Lower	Higher
Career level	Lower	Higher
Discipline type	More Engineering	More Health
Nationality	More Irish	More EU
PERCENTAGE OF TIME SPENT ON ACTIVITIES WHEN CLASSES ARE IN SESSION		
Overall hours spent at work	Less	More
Postgraduate supervision	Less	More
Teaching / Teaching related activities	More	Less
Research	Less	More
Service	Less	More
Management	Less	More
PERCENTAGE OF TIME SPENT ON ACTIVITIES WHEN CLASSES WERE NOT IN SESSION		
Overall hours spent at work	Less	More
Postgraduate supervision	Less	More
Research	Less	More
Service	Less	More
OUTPUTS - STUDENTS SERVED		
Undergraduate students	Less	More
Postgraduate research students	Less	More
OUTPUTS – RESEARCH		
Traditional research outputs	Less	More
PERCEPTIONS OF THEIR WORK-LIVES		
Demotivating nomenclature	More	Less
Desire to leave	More	Less
Mature students causing extra demands	More	Less
Participated in grade inflation	More	Less
Need training	More	Less
Feel Stressed	Less	More
Increased research demands	Less	More

5.5 Qualitative findings

The qualitative statements entered by respondents into the two areas of the questionnaire that were available for additional comments, were categorized according to the concepts described in the literature review and measured by the quantitative items and constructs in the questionnaire. Some of these categories contained comments from academic staff in both institutional types and other categories primarily or exclusively received comments from academic staff in either IoTs or universities. As such, in

[88] I.e. measures that were different between institutional types

relation to increasing student numbers and more diverse student types, IoT staff commented on issues with delivering modules designed for small groups to increasingly larger numbers of students. They expressed not having the resources to cope with larger student groups and found that the volume of students impacted on their other academic duties especially time for research. And university staff commented on the lack of investment in improving student-staff ratios (see Table 5.18).

Table 5.18 Academic staff comments about rising students numbers

INSTITUTIONAL TYPE	STUDENT NUMBERS
IOT	Increasing intake of students has made it difficult for me to deliver modules which were designed for smaller numbers (less than 20). It is the case that the rooms allocated do not accommodate the new increased class sizes and so conditions are not ideal. The classes are larger, but the time allocated for the class and room sizes remain the same.
	Our HEI has seen a huge increase in student numbers, but no additional resources provided by Management or Government.
	We are so busy with huge student numbers and high contact hours that it is impossible to do any research during semester and I do my own research projects over the summer
UNIVERSITY	The lack of investment in improving the staff-student ratio when there were funds to do so is shocking.

IoT respondents further stated that other types of non-traditional students aside from mature students were creating challenges for academic staff. Particularly, respondents from IoTs stated that students were underprepared, immature, coming from different cultures and English language abilities, and suffering from mental health issues (see Table 5.19).

Table 5.19 Academic staff comments about non-traditional students

INSTITUTIONAL TYPE	NON TRADITIONAL STUDENTS
IOT	Students are increasingly underprepared for study at third level, and increasingly immature, which has an impact on teaching.
	There is an incomplete approach to planning for educational delivery to non EU students who have different cultures, English language abilities and educational needs.
	The social care aspects of my job are increasing as more student presenting with mental health issues are entering the system, it now appears 3rd level education is for all regardless of aptitude or ability and lecturers are required to deal with the all the issues this entails.
	Students enter third level courses with very poor communication, literacy and mathematical skills. Primary school skills / knowledge in those areas are missing from some students in my IoT courses.

Comments about assessing student performance at a lower level than previously set were also mostly submitted by IoT academic staff, who stated that they have felt immense pressure to inflate grades in the past, that their superiors did not emphasise quality and preferred to provide insubstantial, impressive sounding courses or preferred to avoid student dissatisfaction with their grades by assessing student performance at a lower standard (See Table 5.20).

Table 5.20 Academic staff comments about grade inflation

INSTITUTIONAL TYPE	GRADE INFLATION
IOT	There is increased pressure on staff to "dumb-down" the course material and assessments. The president of this IoT is more interested in appearance and headline grabbing new courses than providing quality education to our students.
	Regarding grade inflation, the pressure has being immense in the past, but not recently!!!
	Increased emphasis on lecturing/assessing in accordance with the student's expectations and quality is sacrificed. They challenge lecturers if assessments are set to test application of knowledge and unfortunately my Head of Dept. supports these challenges, thus undermining me. My course is increasingly taught and assessed at a lower level to avoid too many challenges from students - too much hassle when management support students in this regard. It's easier to just given students what they want, as it creates too many time-consuming problems if one tries to maintain a level of quality.

A large volume of comments about the presence of managerialism had was received from academic staff in both types of institution. Academic staff in the IoTs felt their work was being commodified into outputs, that management decisions were based on cost analysis only and that a rules based procedural culture was developing that was increasingly bureaucratic. IoT academic staff strongly criticised the style and behaviour of management as bullying and contemptuous and used words to describe their experiences such as depressing, demoralising and alienating (See Table 5.21).

Table 5.21 Academic staff comments about managerialism

INSTITUTIONAL TYPE	MANAGERIALISM
IOT	We as academics are over-managed, under-led, underpaid, overworked and frankly treated with contempt by management. Management is poor and underperforming and in need of vision and boldness.
	Certain things cannot be treated as commodities. People fall into that category. It is not possible to run a HEI using tools no more sophisticated than a spreadsheet. I get the impression that is how my organisation works.
	Generally, a continuing move away from student teaching quality to pure cost based decisions.
	Integrity and promotion of high academic standards are thwarted by management who are driven by performance indicators that are sometimes incompatible with the values of academic pursuit.
	Increasing levels of top-down, institute wide initiatives that reflect what is the current flavour of the month, but without much under-pinning thought or analysis.
	There is a serious disconnect between the priorities of quality assurance by teaching staff and QA in management. I perceive management to be overly concerned with QUANTITY assurance, often at the cost of quality assurance.
	My working conditions have been adversely affected over the past five years due to the introduction of "business methods" into education - which fails to recognise that education is not a business. The amount of bureaucracy that we now have to deal with is quite incredible. It is also the case that one needs to learn "business-speak" in order to phrase statements in the correct, banal, meaningless way.
	Consistent and seemingly perennial problem of very poor management, can I underline that anymore, the management middle and upper management is by all standards appalling.
	The enhanced micromanagement and lack of communication/partnership is creating a demoralised workforce. Administrative burden is now compromising delivery.
	Management policy is bullying, arrogant and contemptuous of intelligence and self-reliance.

In the universities, academic staff commented on their experiences of a business style of top down management which they found to be controlling, incompetent, vindictive, arbitrary and bogus. They described the impact of this management style on

them as de-motivating, counterproductive, undervaluing and crippling to staff development (see Table 5.22).

Table 5.22 Academic staff comments about managerialism

INSTITUTIONAL TYPE	MANAGERIALISM
UNIVERSITY	Business/academic conflict all the way down with no clear direction. Either HE is a business and should make money (get rid of loss-making courses, students etc.) or it is not.
	Contrary to its claims, HEI management is in my experience arbitrary, incompetent and vindictive
	Management within the department is very controlling. Staff that are kept below provides an opportunity for exploitation i.e. higher workloads.
	The bogus managerial ethos of Irish institutions has eroded academic freedom in a chase for world university rankings - an illusory exercise which only serves to flatter the vanity of university presidents and does nothing to enhance the working conditions of academics within institutions or the experience of students.
	The most serious issues arise from the imposition of the 'business model' to academic work - there are not simple definable 'outcomes' against which academic performance can be measured and the huge effort to measure various criteria so developed is de-motivating and often counter-productive. While costs have to be managed, can we not do it with less 'bean counters'??
	Macro management within my department is crippling the development of the staff and department in general.
	The prevailing attitude amongst managers in my institution seems to be that academic staff will be lazy and unproductive unless they are goaded into something. I don't feel valued for what I do.
	We are not being managed - we are obliged to undertake tasks that look like being managed - such as forms in which we give a breakdown in terms of percentages of how our time is spent. It's a total waste of time, and is being done solely so that management can say that they are doing their job.
	Too much bloody micro-management. Too many stupid systems (Blackboard, Gradebook) etc. which are hopeless

The issue of increasing administrative tasks also garnered a large volume of comments from academic staff in both institutional types. University academic staff believed that their volume of administrative tasks was preventing them from dedicating their work-time to research and teaching. They identified contributing factors including a lack of administrative support staff provided by their HEIs, their HEI's unwillingness to data mine their existing data stores for information rather than request it from

academic staff directly, and the audit culture of accountability to regulatory bodies in Ireland.

Table 5.23 University academic staff comments about the proportion of their work-time that they spent on administration

INSTITUTIONAL TYPE	TIME SPENT ON ADMINISTRATION
UNIVERSITY	Spend more of my time at the computer, administering, than teaching or doing research!
	HEI core activities are teaching and research. These are being eroded, especially at a senior level, by a huge amount of management administration. We have forgotten what a university is for.
	Reduction in complex administrative duties would reduce pressure (e.g. research accounting, bureaucracy to do with grant applications); Administrative systems need a serious overhaul - it is just not good enough to expect faculty to up-skill almost on a monthly basis in order to carry out more and more administrative tasks.
	Too much Admin. Data is there, but they just can't be bothered to dig it out so request comes down to Academics for the same data you've sent up several times in another format.
	No admin support.
	I can only emphasise the extent to which my administrative load has increased in the last 5-6 years … less time available to prepare my classes, assess students' work and give them helpful feedback. It is simply not cost effective for the Irish taxpayer to pay me a lecturer's salary to input data into a computer. It would make far more sense for the many, many administrative staff employed at my HEI to do this kind of work
	Administrators are increasingly making decisions on academic structures and examination that they are ill-qualified or informed to make.
	The ever-expanding administrative work and accountability exercises mean that I rarely get time to do any kind of research (even reading) during teaching term. This is all wrong.
	Uni has seen massive expansion of admin to deal with the audit culture and this has had knock-on adverse impacts on quality of teaching and research.

Similarly, academic staff in IoTs reported that their administrative tasks had increased considerably and they also implicated the lack of administrative support staff and the 'culture of compliance' as related factors.

Table 5.24 IoT Academic staff comments about the proportion of their work-time that they spent on administration

INSTITUTIONAL TYPE	TIME SPENT ON ADMINISTRATION
IOT	Serious lack of School administration. Most of our time is taken up in our particular school doing basic administrative duties because our administrator is not capable and we have 1 to service about 22 staff. Not sufficient!
	Ill thought through diktats from Administrative management cause much hassle and wasted time.
	Administration work has increased significantly over the last couple of years.
	My lecturing time with students is a very welcome respite from the increasing administrative tasks that we are required to do.
	The current culture of compliance has resulted in an endless number of committees, reports and non-value adding activities that soak up time. This needs to be slimmed down.

On the topic of increasing workloads in general, academic staff in both institutional types commented on feeling that they were obliged to spend too many hours at work (see Table 5.25).

Table 5.25 Academic staff comments about the amount of time spent at work

INSTITUTIONAL TYPE	HOURS PER WEEK
IOT	Not possible to get everything done without 12 hours a day and usually some hours on Saturdays and Sundays!!!
	I work 60-plus hours per week during the teaching year, and a solid 40 (I've cut back!) for most of the vacation period, just to keep up with class preparation, marking, essential admin and a very little research. And I am truly sick of people, especially management in my institution, claiming that I and my colleagues need to do more/be more productive/be more innovative.
	I always work in my personal time - evenings and weekends - all the time just to keep up with things.
UNIVERSITY	I now work routinely 50-60 hours per week, sometimes as much as 80 hours per week. I would like someone to follow me around, to note and validate this.
	Working hours of lecturers who are actively researching in my department are 60 - 70 hours per week + 4 - 8 hours @ weekends. Most don't take bank holidays anymore.

Academic staff in both institutional types further commented that the workloads had increased and corresponded to a decrease in teaching quality and working conditions.

Table 5.26 Academic staff comments about increasing workloads

INSTITUTIONAL TYPE	INCREASING WORKLOADS
IOT	Increasing workload ... means that I am no longer able to justify that the delivery of my teaching duties is wholly in the interests of the students.
	More is required all the time.
	Phenomenal increase in workload.
UNIVERSITY	Increased workload and less pay over last 18 months.
	Expectations for hiring, promotions, etc. seem to increase inexorably with time. Combined with … budget cuts and more competition for research funds, this puts us in a spiral of increased workload for diminishing returns - completely the opposite of some public perceptions of lecturers.

Comments relating to the constructs measuring morale which included items of satisfaction, clarity of expectations, clarity of promotion criteria and fairness of performance evaluation as well as items about how stressful the current position is, whether the job is conducive to family life and the inability to prioritise time and effort appropriately across academic tasks were received from academic staff in both types of institution. IoT academic staff comments relating to morale focused on the lack of promotion prospects, lack of communication from management, lack of clarity about evaluation and promotion criteria (see Table 5.27).

Table 5.27 Academic staff comments about their morale

INSTITUTIONAL TYPE	MORALE
IOT	The enhanced micromanagement and lack of communication/partnership is creating a demoralised workforce.
	At my HEI, staff evaluation is non-existent or not transparent to staff ... There is increasing insecurity as to what is expected of staff.
	Bring in performance reviews and a clear career/promotion path for those performing well and action on those not performing to their best ability.
	Incredibly de-motivating workplace with no control over direction nor incentive to go the extra mile.
	It is relentless, thankless and exhausting, and most of my colleagues would agree with nearly everything that follows: I suffer from insomnia and a number of other stress-related conditions which I attribute entirely to pressures of work ... And I am truly sick of people, especially management in my institution, claiming that I and my colleagues need to do more/be more productive/be more innovative. And the HR function is shamelessly and blatantly hostile and dismissive towards all academics.

University academic staff also emphasised the lack of clarity around the promotional process, the inappropriate criteria used for promotion and the belief that a system of favouritism existed in promotional practices. They further highlighted that there are not enough senior positions available for academic staff to get promoted to (see Table 5.28).

Table 5.28 Academic staff comments about their morale

INSTITUTIONAL TYPE	MORALE
UNIVERSITY	Promotion is assessed increasingly on the basis of research output, which is a function of the amount of time left over after teaching and administrative duties have been performed. Those whose family care responsibilities allow them to work only 40 hours a week, most often women with children, are inevitably disadvantaged.
	There is not enough transparency re promotions, expectations by management etc. - rules seem to change all the time without prior warning.
	The promotions system in my HEI is not transparent ... It's very demoralising.
	There is too much expectation to a) bring in big research grants and b) to produce a very high number of internationally peer-reviewed papers. My research field does not lend itself to this and currently lacks funding availability. My teaching skills are not properly evaluated. I have not been promoted for 20 years - despite applying 4 times!

INSTITUTIONAL TYPE	MORALE
	I believe there is a strong element of favouritism when it comes to promotions in my faculty and no matter how hard some work they may never be promoted because they are not in the "Favoured" category.

The comments relating to the time academic staff spent on teaching and research and how they perceived increasing research demands revealed the differing conditions in each institutional type. Academic staff in IoTs noted the lack of encouragement and promotion opportunities for research activity and the lack of good research management or autonomously directed research which they found to be inhibiting (see Table 5.29).

Table 5.29 Academic staff comments about increasing research demands

INSTITUTIONAL TYPE	INCREASED RESEARCH DEMANDS
IOT	Not enough encouragement to pursue research.
	Independent thinking and deviating from the norm is highly discouraged in favour of targeting current funding drives and playing up to the call rather than real research.
	Research management staff appear to have no practical experience.
	There are no promotional prospects for research-active lecturers in DIT.
	The freedom to pursue specific research is limited by an unusually high workload. It is coupled with an expectation of research output which is difficult to balance.

IoT staff further reported feeling that the proportion of their time required to fulfil their teaching obligations resulted in them having no available time left for other academic activities, particularly research, but also planning or involvement in their HEI. In universities, the comments showed concern that the quality of teaching was suffering due to its devaluation and the prioritization of research (see Table 5.30).

Table 5.30 Academic staff comments about the proportion of their work-time that they spent on teaching and research

INSTITUTIONAL TYPE	TIME SPENT ON TEACHING / RESEARCH
IOT	Finding it very difficult to devote as much time as necessary to research due to teaching hours required.
	I work at an IoT where my department pays lip service to research but where there is not time or resources allocated to research. We are so busy with huge student numbers and high contact hours that it is impossible to do any research during semester and I do my own research projects over the summer.
	Lack of adequate time for Research in IOT is undermining the learning of students.
	College priority is teaching, not research, but official college policy prioritises research - a contradiction.
	The freedom to pursue specific research is limited by an unusually high workload.
UNIVERSITY	…little merit or weight is given to the endeavour of teaching and the vast majority of tenured staff have no interest in teaching, have no training in teaching and think it is an exercise beneath them.
	I believe that with pressure on research and less emphasis on teaching, we may not be producing the standard graduates that industry need and we require for further research. Teaching is suffering, as many of our recent appointments appear to be solely based on (potential) research capabilities and research areas of newly appointed staff.

Academic staff in both institutional types emphasised a lack of any training available to them to support them in performing their research and teaching duties (see Table 5.31).

Table 5.31 Academic staff comments on needing training

INSTITUTIONAL TYPE	NEED TRAINING
IOT	The core business of a lecturer is teaching, very few of my colleagues have undertaken training … Many of my colleagues are cynical towards Leaning and Teaching – sad.
	There is inadequate support for experienced staff seeking to up-skill through fourth level qualifications while maintaining other teaching, scholarship and administrative outputs.
	Ongoing lack of commitment by management to training / re-training of academic staff.
UNIVERSITY	There is NO training for new staff - it is just sink or swim to the best of your ability.

Further, IoT staff in particular emphasised the lack of resources available to them to maximise their ability to fulfil their tasks (see Table 5.32).

Table 5.32 Academic staff comments about inadequate resources

INSTITUTIONAL TYPE	INADEQUATE RESOURCES
IOT	There is considerable opaqueness around resource allocation decisions within Schools and within institutions which undermines confidence in the basis of resource allocation decisions.
	Diminishing resources means that I am no longer able to justify that the delivery of my teaching duties is wholly in the interests of the students.
	Our HEI has seen a huge increase in student numbers, but no additional resources provided by Management or Government. Academic Staff are frazzled, and consequently are demoralized.
	Where I have made efforts to incorporate ICT into my teaching the resources simply are not available to me and not regarded at important to the subject matter.

The implications of these qualitative findings will be contextualised in the quantitative findings and explored further in the Discussion chapter.

6. DISCUSSION

The significant differences and similarities in the perceptions, activities and outputs of academic staff in the different institutional types will be contextualised in the qualitative comments of respondents, and in the literature that was reviewed in Chapter 2. The findings will be discussed in relation to Ireland's current national objectives for higher education (section 6.1) and policy recommendations will be made throughout and summarised at the end of this chapter (Table 6.1). The overall rejection of the hypothesis of normative isomorphism will be contextualised in the historical description of institutional types as continuously creating and redefining themselves in order to fulfil societal needs that was described in the literature review Chapter 2. The contributions to theory made by this rejection of the null hypothesis will be outlined throughout section 6.2 and will be summarised in Table 6.2. Further, the limitation of Irish HEIs' ability to evolve and meet current societal demands will be discussed in relation to the government's continued adherence to a binary divide between institutional types, even while it simultaneously sets homogenous goals for IoTs and universities (section 6.2). Lastly, the findings from other studies of Irish academic work-life, which have just very recently been published, will be summarised to demonstrate where the findings of this PhD study fit in to and develop upon the most up to date research (Clarke, Drennan, Harmon, Hyde, & Politis, 2015) (section 6.3). The contributions of this PhD study to the methodology available to study academic staff in different institutional types will be highlighted throughout section 6.3 and summarised in Table 6.3.

6.1. Policy implications

The literature review (Chapter 2) described the reported perceptions of international academic staff about their work-lives in the universal phase of higher education. These perceptions suggested that workloads were increasing (in terms of teaching, research, service and administration workloads), that ICT was being incorporated into academic work, that non-traditional students created extra demands, that academic staff sought prestige in their career planning, that managerialism was present, that resources were inadequate, that academic values were low (including academic freedom, autonomy, authority, community and collegiality), that morale was low and that there was grade inflation. These perceptions of academic staff about their work-lives in the universal phase were mostly reported in the international literature as if they were experienced homogenously by all academic staff regardless of their institutional type.

The findings chapter (Chapter 5) of this PhD research showed that, in Ireland, academic staff in both institutional types did report perceptions about their work-lives that reflected the experiences of their international peers. Irish academic staff in both institutional types reported the same level of agreement as each other that their workload (including teaching, administration and service) was increasing, that they incorporated ICT, that their resources were inadequate, that their satisfaction was low, and that there was a presence of managerialism. Academic staff in both institutional types further agreed but at differing levels in each institutional type that mature students were causing extra demands on them, that their nomenclature was de-motivating, that their research demands were increasing and that they were experiencing stress.

Irish academic staff differed from their international peers about some features of their work-lives in that academic staff in both institutional types in Ireland disagreed that they were experiencing low academic values (of autonomy, collegiality and

community) or that they were seeking prestige in their career planning. They further disagreed, but at differing levels, in each institutional type, that they had a desire to leave their jobs or that they were inflating student grades.

Therefore, the findings from this PhD show that Irish academic staff are experiencing the majority of the features that are typical for academic staff working during the universal phase of higher education. However they are often experiencing them at differing levels depending on their institutional type. Seven of the fifteen concepts about academic work-lives in the universal phase were found to be experienced differently in universities compared to IoTs. Furthermore, the activities and outputs of academic staff were found to be quite different depending on institutional type with the time spent at work, the proportion of time spent on each academic activity and numbers of students taught and research produced found to be mostly higher in universities. The significant differences in perceptions, activities and outputs of academic staff in the different institutional types as well as their similarities will be discussed in this section with reference to the most current comprehensive national objectives for higher education in Ireland which are contained in the *National Strategy for Higher Education to 2030* (Government of Ireland, 2011) (referred to henceforth as the Strategy). These findings will also be contextualized in some of the literature that was reviewed in Chapter 2 and in the qualitative comments of academic staff that were entered into the survey instrument, which provided additional depth and detail to the quantitative findings. Sections 6.1.1 to section 6.1.5 will examine the findings, with reference to five national objectives of increasing and broadening participation, improving efficiency, clarifying expectations of academic staff, maintaining academic values, and increased research activity balanced with the teaching role.

6.1.1. Increasing and broadening participation

According to the Strategy, the employment forecasts in Ireland highlight that the economic recovery from the recession "is not expected to be uniform across occupational groups and is likely to create greater employment opportunities for high skilled workers" (Government of Ireland, 2011, p. 34). As a result, more higher education graduates will be needed to fulfil increasingly skills-intensive workforce requirements. More higher education graduates are also predicted to attract value-added investment, and to develop a research base which will provide new ideas, products and services.

As well as increasing the numbers of graduates overall, the Strategy aimed to broaden participation in higher education by specific groups of the population. It stated that "while much has been achieved in improving participation among under-represented groups… significant inequalities persist in the extent to which young people from different socioeconomic backgrounds access and derive benefit from higher education" (Government of Ireland, 2011, p. 35).

The Strategy further recognized the that the "recent economic downturn has magnified the importance of lifelong learning and workforce development and there is now a clear demand for higher education to engage more directly with the up-skilling challenges and to help ensure the adaptability of the Irish workforce to technological and social change" (Government of Ireland, 2011, p. 36). "People want to – and need to – move between employment and education several times during their lives" (Government of Ireland, 2011, p. 36).

As well as up-skilling the adults of the Irish workforce, the high unemployment and the increasing vulnerability of employment in Ireland were also foreseen as expected drivers of an increase in the demand for higher education by mature students. The Strategy aimed to address the issue that "Irish higher education students have the

narrowest age range across all OECD countries, reflecting the current unresponsiveness of Irish higher education to the skills needs of adults in the population" (Government of Ireland, 2011, p. 46).

The findings from this PhD study indicate areas of concern in relation to both of the objectives of increasing the numbers of students participating in higher education in Ireland and of increasing the participation by mature students and students from lower socio economic groups.

Firstly, while the average number of undergraduate students taught and the number of postgraduate research students supervised in the last academic year per academic staff in universities (232, 3.46 respectively) was statistically significantly higher than the average numbers reported by IoT staff (109, 2); it was IoT staff in particular who reported the strain of rising students numbers in their HEIs (see Table 5.18). In the two areas of the questionnaire that were available to respondents for additional comments, IoT staff indicated issues with delivering modules designed for small groups to increasingly larger numbers of students. They did not have the resources to cope with larger student groups and the volume of students impacted on their other academic duties especially time for research[89].

While academic staff in both types of HEI agreed that mature students were creating extra demands (measured by items including mature students expect more from me than younger students and mature students' expectations of me increase my workload), IoT staff agreed at a statistically significantly higher level (3.9) than university staff (3.4). This finding is consistent with the literature review in which McInnis (2000a) found that academic staff in the new universities (formerly colleges of advanced education) were more likely to be hampered than academics in traditional

[89] The finding of lower student numbers in IoTs is consistent with the lower student numbers and research outputs reported by academic staff in non-universities in the literature review (Enders & Teichler, 1997; Ruscio, 1987; Clark, 1987; Cummings and Finkelstein, 2012).

universities by too many students and too wide a range of abilities. In the two areas of the questionnaire that were available to respondents for additional comments, respondents stated that other types of non-traditional students aside from mature students were creating challenges for academic staff. Particularly, respondents from IoTs stated that students were underprepared, immature, coming from different cultures and English language abilities, and suffering from mental health issues (see Table 5.19). This finding is also consistent with the literature review whereby Coaldrake & Stedman (1999) found that students could no longer be assumed to be of third level ability.

The findings from this PhD study show that both the academic staff and the resources in IoTs particularly require additional support in order to meet the national objectives of increasing student numbers and broadening participation. IoT staff are exhibiting higher strain as a result of these aims compared to university staff.

Recommendation #1: Academic staff in both institutional types required more support to accommodate larger student numbers including time, resources and curriculum development. IoT academic staff expressed a higher need for support than university academic staff to cope with mature students expectations and other non-traditional students' needs, such as, English language classes, remedial education, and social and psychological counseling.

The Strategy described the benefits of developing the use of information and communications technology (ICT) in higher education as allowing "student to access a wide range of resources, free from limitations of space and time" (Government of Ireland, 2011, p. 48). However, the Strategy did acknowledge the sentiment that in the context of new technologies, HEIs have become just one source of knowledge and innovation and which could be perceived by them as a threat to their core position and

role. Indeed, ICT was described in the literature review as "acting as a kind of relieving cavalry as student numbers escalate" (Fallows & Bhanot, 2002, p. 202). They suggested that the very driving force behind the introduction and encouragement of ICT use in HEI's teaching was the economic advantage of teaching more students, contending that higher education's ICT revolution was more business led rather than pedagogically driven.

Nevertheless, the findings from this PhD study demonstrated that academic staff in both IoTs (4.3) and universities (4.3) agreed that that they had incorporated the use of ICT into their roles (using it often in their teaching, incorporating it into their teaching and believing it enhances their teaching). In the two areas of the questionnaire that were available to respondents for additional comments, an academic staff member in the IoT sector stated that while "I have made efforts to incorporate ICT into my teaching the resources simply are not available to me and not regarded as important to the subject matter". However, it is clear from the quantitative measures that academic staff in both types of HEI were enthusiastically adopting technology in their teaching.

Recommendation #2: Ensure the availability of technology resources for academic staff in both universities and IoTs

With the planned further expansion of higher education comes the need to ensure that quality standards are maintained, and the Strategy noted that the level of quality has been called into question: "Within the general area of quality assurance, however, concern has been expressed regarding perceived grade inflation over time in some programmes and institutions" (Government of Ireland, 2011, p. 42). It claims that

> "in many cases the improvement in results is probably a valid reflection of better and more motivated student performance, more transparent course documentation, clarity of learning outcomes, improved assessment practices, better teaching, and access to a wider range of learning resources. In other cases, the misgivings of employers and others may be well founded, and we cannot afford to ignore concerns on this issue" (Government of Ireland, 2011, p. 42).

The findings from this study showed that university staff disagreed statistically significantly more strongly (2.5) than IoT academic staff (2.9), that they inflated student grades (measured by their level of agreement that they have inflated students grades and felt pressure to grade differently by their HEI). In the two areas of the questionnaire that were available to respondents for additional comments, academic staff in IoTs stated that they have felt immense pressure to inflate grades in the past, that their superiors did not emphasise quality and preferred to provide insubstantial, impressive sounding courses or preferred to avoid student dissatisfaction with their grades by assessing student performance at a lower standard (See Table 5.20).

IoT academic staff disagreed statistically significantly less than university staff that they inflated student grades and they submitted comments questioning the quality of student grades in their HEIs, therefore, IoT assessment standards may need to be reviewed.

Recommendation #3: Ensure the assessment of student performance by IoT academic staff meets the appropriate standards in order to safeguard against grade inflation.

6.1.2. Efficiency and Managerialism

The Strategy acknowledged that "public funding for higher education has fallen in recent years while the growth of enrolments has continued" (Government of Ireland, 2011, p. 43). It stated the aim to continue to create maximum learning opportunities from the available resources over the next twenty years. In order to do so, the Strategy identified areas where more efficiencies could be made. In the university sector, the hours spent at work by academic staff, their workloads and the hours spent teaching could be made more transparent and more specific in their contracts. In the IoT sector, the specification of the annual teaching commitment of 560 hours (or 16 hours per week) between 1 September to 20 June could be made more flexible to include engagement in open and distance education and teaching outside the academic term.

While the Strategy recognized the need for institutional funding and operational autonomy, enabling HEIs to respond effectively to evolving societal needs, it also emphasized the need for accountability for performance. "Funding and operational autonomy must, however, be matched by a corresponding level of accountability for performance against clearly articulated expectations" (Government of Ireland, 2011, p. 91).

For academic staff, the expectations of clarity and flexibility of workloads, as well as individual accountability and managerial power aimed at meeting the expectations of institutional accountability, were clearly laid out. Academic staff in both institutional types would be expected to have accountability for delivery of outcomes to prescribed standards. The delivery of such outcomes would inform their reward and promotion processes. Managerial discretion to deal with under-performance would be increased.

The findings from this PhD study indicated that plans to increase academic staff accountability and managerial control over academic tasks and outputs will be

problematic. Academic staff in both institutional types agreed that there was a presence of managerialsim in their HEIs (believing that there was a business model management style, that there was a top down management style, that the governing body had conceded too much authority to management and that there was not a collegial approach to management). The difference in their levels of agreement was found not to be due to institutional type in the regression analysis (agreement level of 3.7 for IoT staff and 3.9 for university staff). This is consistent with the literature review which showed that one of the primary features of the universal phase was the presence of managerialism tied to the socio-economic drive for efficiency and market responsiveness in higher education and more accountability from HEIs (Becher & Trowler, 2001; Coaldrake & Stedman, 1999). In the two areas of the questionnaire that were available to respondents for additional comments, academic staff in both institutional types strongly criticised the trend of managerialism in their HEIs.

Academic staff in the IoTs felt their work was being commodified into outputs, that management decisions were based on cost analysis only and that a rules based procedural culture was developing that was increasingly bureaucratic. IoT academic staff strongly criticised the style and behaviour of management as bullying and contemptuous and used words to describe their experiences such as depressing, demoralising and alienating (See Table 5.21).

In the universities, academic staff commented on their experiences of a business style of top down management which they found to be controlling, incompetent, vindictive, arbitrary and bogus. They described the impact of this management style on them as de-motivating, counterproductive, undervaluing and crippling to staff development (see Table 5.22).

Given the trend of increased managerial control over academic work and the express national objective to make HEIs and academic staff more accountable and to

make managerial monitoring more robust in HE, the resistance to the management styles academic staff are experiencing and describing is cautionary. In both types of institutions, there is a distinct lack of faith of academic staff in management competence or ability to lead their departments or organisations. The motives of management are not clear and they are perceived to be operating an agenda that is contrary to the goals and values of academic staff. This resistance may be problematic for the government's objectives to escalate management practices even further.

Recommendation #4 : Provide clarity to academic staff about managerial competence, objectives and practices in both types of HEI. Describe how managerial objectives are tied to institutional goals and facilitate academic staff discussion and negotiation about managerial practices.

Administration

Related to the presence of managerialism is the proportion of work time that academic staff spent on administration. The findings from this PhD study showed that there was no statistically significant difference in the percentage of work time spent on administration when classes were in session in the IoTs (9%) and the universities (13%). This is contrary to the findings of Enders & Teichler (1997) who found that academic staff in universities spent more time on administration than non-university academic staff. The t-tests used in the analysis of this research did show a statistically significant difference between academic staff in universities who spent a higher proportion of time on administration and IoT staff who spent a lower proportion of time on administration both when classes were in and out of session. However, the multiple regression analysis revealed that this difference was in fact accounted for by career level rather than institutional type.

In the two areas of the questionnaire that were available to respondents for additional comments, academic staff's responses were frequently related to their administration tasks. In particular, university academic staff believed that their volume of administrative tasks was preventing them from dedicating their work-time to research and teaching. They pointed to a number of elements exacerbating the problem of rising administrative demands; a lack of administrative support staff provided by their HEIs, their HEI's unwillingness to data mine their existing data stores for information rather than request it from academic staff directly, and the audit culture of accountability to regulatory bodies in Ireland (see Table 5.23).

Similarly, academic staff in IoTs reported that their administrative tasks have increased considerably and also implicate the lack of administrative support staff and the 'culture of compliance' as related factors (see Table 5.24).

The volume of comments about administrative tasks, as well as the content of those comments, demonstrate that academic staff in both universities and in IoTs believe that their administrative tasks have increased and are impinging on their research and teaching time. The objective of the Strategy to create more individual accountability implies more administrative tasks for academic staff and may be met with resistance from them.

Recommendation #5: Provide designated institutional research offices to gather and analyze data about academic staff rather than requesting data from academic staff directly. Provide more administrative support to academic staff. Conduct regular systematic data mining of existing institutional data. Ensure that any new accountability measures implemented in HEIs do not entail more administrative work for academic staff as this would counteract the benefit of providing clear expectations and promotional criteria (see section 6.1.3).

Workloads

Further efficiencies outlined in the Strategy involved addressing academic staff's workloads more specifically in contracts and employing workload management systems to allocate the hours. The data collected by workload management systems would be benchmarked and would indicate the level of contribution of academic staff to institutional performance. More open-ended teaching terms and contracts that reflect a much broader concept of the academic year and timetable would be specified in more transparent contracts that specified clear teaching, research and administration priorities and enable better delivery and management of such outputs.

The findings of this PhD study in relation to workloads showed that when classes were in session, academic staff in universities spent more time at work per week (mean of 54 hours)[90] than IoTs staff (mean of 38). This is consistent with the literature review, which showed that European academic staff in universities spent between 40-57 hours at work per week and non-university staff spent between 35-47 (Enders and Teichler, 1997). Cummings and Finkelstein (2012) also found that academic staff in universities worked longer hours than staff in non-universities[9192].

In the two areas of the questionnaire that were available to respondents for additional comments, academic staff in both institutional types reported feeling that they were obliged to spend too many hours at work (see Table 5.25).

When classes were not in session, academic staff in IoTs again reported statistically significantly lower hours spent at work (29.5) than university academic staff

[90] This exceeds the maximum levels of academic workloads which were stated in academic work contracts of the universities, which specify their compliance with the Organisation of Working Time Act, 1997: "An employer shall not permit an employee to work, in each period of 7 days, more than an average of 48 hours" (Government of Ireland, 1997a, p. 15 (1)).

[91] For the institutional type variable they dichotomized the institutional type variable for both the 1992 and 2007 data into universities (including research and doctoral granting) and other 4 year institutions. This means that the comparison was not between universities and non-universities as the Enders & Teichler (1997) study was.

[92] Teichler and Hohle (2013 (according to bibliography, which is correct?) reported that academic staff in all types of institutions in Ireland spent an average of 47 hours per week at work when classes were in session.

(46.4). This is consistent with the time spent at work when classes were not in session in Europe reported in the literature review whereby academic staff at non-universities "spend considerably less time on academic work" (Enders & Teichler, 1997, p. 359) when classes were not in session than their university counterparts. The Strategy aimed to create more flexibility in the IoT contracts regarding working outside the academic year between June 20th and September 1st and these findings show there is time for that to be implemented.

According to Teichler & Hohle (2013), Irish academic staff in all institutional types combined spent the longest hours on average at work when classes were in session (47 hours) compared to the other eleven European countries surveyed. While there is no historical comparative figure to confirm if time spent at work has increased, the findings from this PhD research show that academic staff in IoTs and in universities both reported the same level of agreement (4.3) that they were experiencing increasing workloads (in terms of their service, administration and teaching loads). This is consistent with other literature reported in Chapter 2 which showed that the intensification of faculty roles is a prevalent experience of academic staff in the universal phase (Enders & de Weert, 2004; Becher & Trowler, 2001). In the two areas of the questionnaire that were available to respondents for comments and in addition to the comments already reported about the proportion of time spent on administration, academic staff in both institutional types commented that they felt their workloads were increasing.

The Strategy stated its aim to benchmark "workload data to provide greater transparency as to the contribution being made by academic and other staff to institutional performance" (Government of Ireland, 2011, p. 118). However, academic staff already feel that their workloads have increased and recent research shows that they spent more time at work when classes were in session than the academic staff of

other European countries (Teichler & Hohle, 2013). Therefore, while IoT staff contracts may be extended beyond June 20th, awareness of academic staff's perception that their workloads have increased should be exercised.

Recommendation #6: Extend the IoT contracts beyond June 20th to facilitate more time spent at work when classes are not in session while exercising awareness of academic staff's perception that their workloads have increased.

6.1.3. Clarity of expectations and Morale

The Strategy aimed to clarify expectations for the activities of academic staff and the prioritisation of tasks in their contracts. It further stated that it aimed to collect data on staff activities and prioritisations which will be used to inform reward and promotion decisions. Based on the findings of this PhD research, and in particular the identification of the items relating to academic satisfaction by the principal component analysis, these aims of the Strategy are likely to be well received by academic staff in both types of HEI in Ireland.

Academic staff in both types of institution slightly agreed that their satisfaction was low at comparable levels to each other (IoT staff agreed at a level of 3.16 and university staff agreed at a level of 3.03). The construct of low satisfaction identified by the principal component analysis of this study was comprised of the reverse of items relating to clarity of expectations, clarity of promotion criteria, fairness of performance evaluation, overall satisfaction in their current position, adequate recognition of success at their HEI, and clarity of institutional expectations[93]. The identification of this

[93] The concept of satisfaction is frequently assessed using facet specific satisfaction measures. For example, Olsen (1993) claimed that the intrinsic rewards of an academic career, such as the opportunity for independent thought and action, and feelings of worthwhile accomplishment and opportunity for

component by the principal component analysis meant that those items were all measuring the same underlying theme. In other words, the respondents who reported that they were unsatisfied overall also reported that expectations were unclear, performance evaluation was unfair, there was inadequate recognition of their success and institutional expectations were unclear. Addressing these sources of ambiguity and dissatisfaction for academic staff in both types of HEI is therefore likely to improve their morale.

The finding of low satisfaction in both types of HEI was consistent with the literature about academic work-life in the universal phase. McInnis (2000a) found that morale of all academic staff had declined during the 1990s; overall satisfaction with the job dropped from 67% to 51%, and there was a significant increase in the proportion who said their work was a source of considerable stress (from 52% to 56%). Kinman and Jones (2009) found that, in general, academics were moderately satisfied with most aspects of their work, however, 48% of respondents indicated that they had seriously considered leaving higher education. However, while academic staff in both types of HEI in this study slightly agreed that their satisfaction was low, they did not wish to leave their jobs (measured by items including that they would like to get a position in the private sector or public sector or NGO, that they would not like to remain in their HEI for the rest of their career, that they would like to get a position in another type of HEI or that they would like to get a position in another HEI outside of Ireland). Academic staff in IoTs disagreed at a level of 2.6 and universities staff disagreed at a level of 2.5.

Further findings related to morale from this study also showed that academic staff in both types of HEI agreed that they felt stressed by their position (measured by

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personal growth and development are central to faculty satisfaction (Olsen, 1993, p. 454). On this assumption, Olsen and others (Mapesela & Hay, 2006) measured levels of satisfaction with specific facets of the faculty job (such as support for teaching, autonomy, participation in decision making) on scales (e.g. 1 to 5). However, this principal component analysis demonstrates that satisfaction can also be measured by including items relating to expectations, clarity, recognition and fair evaluation.

items including how stressful is the current position, the job is not conducive to family life and the inability to prioritise time and effort appropriately across academic tasks). IoT staff agreed they felt stressed at a level of 3.1, but university staff agreed at a statistically significantly higher level of 3.5. The items used to measure stress in this study were identified by the principal component analysis as all measuring the same underlying theme[94]. In the two areas of the questionnaire that were available to respondents for additional comments, one IoT staff member described their morale in stark terms:

> It is relentless, thankless and exhausting, and most of my colleagues would agree with nearly everything that follows: I suffer from insomnia and a number of other stress-related conditions which I attribute entirely to pressures of work ... And I am truly sick of people, especially management in my institution, claiming that I and my colleagues need to do more/be more productive/be more innovative. And the HR function is shamelessly and blatantly hostile and dismissive towards all academics.

Other IoT academic staff comments relating to morale focused on the lack of promotion prospects, lack of communication from management, lack of clarity about evaluation and promotion criteria (see Table 5.27).

University academic staff also emphasised the lack of clarity around the promotional process, the inappropriate criteria used for promotion and the belief that a system of favouritism existed in promotional practices. They further highlighted that there are not enough senior positions available for academic staff to get promoted to (see Table 5.28).

The intention of the Strategy to increase clarity of expectations for performance, promotion and prioritisation of tasks is likely to be welcomed by academic staff in both

[94] Stress is a function of time constraints, heavy workload, feeling unable to cope with the conditions of work, and when workers feel incapable of adapting to their environment (Miller, Buckholdt, & Shaw, 2009; Hendel & Horn, 2009).

institutional types based on their comments and the related low satisfaction and feelings of stress. Making these changes will improve the morale of academic staff, which, the principal component analysis described in Chapter 4 of this research demonstrated, is related to clarity of expectations, recognition, fair evaluation and clear prioritisation. Academic staff in both institutional types agreed that they were experiencing low satisfaction and stress, but university staff agreed at a higher level that they were experiencing stress, thus, may benefit most from the implementation of this aspect of the Strategy.

Recommendation #7: Introduce more clarity of performance expectations and promotion criteria. Use these expectations to inform performance evaluations. Tie the fulfillment of the explicit and specified expectations to rewards and recognition systems. The effect of these actions will be an improvement in academic staff morale.

Recommendation #8: Introduce more clarity about how academic staff should prioritise their time between their academic tasks. Ensure that expectations of staff performance are achievable without having to forgo a healthy personal life. The effect of these actions will reduce the stress levels of academic staff in both institutional types. It is particularly pressing to implement such changes in the university sector where academic staff are exhibiting higher stress levels.

6.1.4. Autonomy and Academic Freedom

The academic values which have been present in higher education since its inception were described throughout the literature review (Chapter 2). Academic freedom was defined in the literature review as involving both the freedom to "to question and test received wisdom, to put forward new ideas and to state controversial or unpopular opinions" (Government of Ireland, 1997, p. 14.[2]) and as "the personal

freedom to decide on the focus of one's work and pursue that focus unfettered" (Clark, 1987a). Autonomy was described as control over curriculum and research topics (Altbach, 2000a); Slaughter and Rhoades, 2004). Authority was defined as influencing the direction of the institution (Ruscio, 1987). Collegiality was defined in terms of both participating in governance and decision making processes as well as forming relationships and collaborations with peers (Gappa et al., 2005). Community was often defined alongside collegiality and referred to a respectful community of scholars who value one another's contributions, as well as having concern for one another's well-being and participating in the decision making process of the institution (Gappa, et al., 2005).

The Strategy focused on the promotion of two of these academic values, autonomy and academic freedom. The Strategy stated its recognition of the link between institutional autonomy and performance, stating that "there is a positive relationship between the performance and innovation capacity of higher education institutions and the extent of their autonomy" (Government of Ireland, 2011, p. 91). However, it also emphasizes the need to balance institutional autonomy with accountability and "strong mechanisms for ongoing review and evaluation of performance at system and institutional levels" (Government of Ireland, 2011, p. 91). The literature review suggested that increasing managerialism and modes of surveillance diminished academic freedom (Cowen, 1996), caused a loss of the individual autonomy and control over academic staff's work (Slaughter & Rhoades, 2004) and caused an erosion of collegiality (Macfarlane, 2005). However, the findings of this study showed that academic staff disagreed that the values of collegiality and community and autonomy were low (measured by their level of agreement with items stating that they were not feeling that they had the support of their colleagues, not feeling a strong sense of community and not feeling a high level of control over

teaching) (academic staff in IoTs disagreed at a level of 2.6 and university staff disagreed at a level of 2.8). Similarly, academic staff in both institutional types responded at similar levels that there was low academic freedom and authority (My academic authority has decreased, academic freedom has diminished) (academic staff in IoTs disagreed at a level of 2.8 and university staff were neutral at a level of 3.0).

Recommendation #9: Continue to safeguard academic freedom, individual autonomy, collegiality and community.

6.1.5. Research and Teaching

The Strategy predicted continued national investment in research in order for Ireland to keep a competitive position in the world. It stated that higher education would maintain its research base and improve the flow of knowledge from HEIs to wider society. To this end, "both universities and institutes of technology may be active across the spectrum of research and innovation activities, [but] they should have different emphases" (Government of Ireland, 2011, p. 38). All HEIs would be expected to maximize the effects of their research on business and society, however, "universities should focus on basic and applied research and IoTs should focus on applied research and "closer-to-market development and enterprise support" (Government of Ireland, 2011, p. 70).

The findings of this PhD study showed that the percentage of work time spent on research when classes were in session by academic staff in universities was statistically significantly higher (12%) than in IoTs (7%). The time spent on research by academic staff in both types of institution in Ireland was lower than was described for European academic staff in the literature review (26-55% in universities and 12-20%

in non-universities) (Enders & Teichler, 1997)[95]. Teichler & Hohle (2013) found that Irish academic staff in both types of institutions combined spent the least amount of time on research when classes were in session compared to eleven other European countries surveyed[96]. Nevertheless, the finding that institutional type was a significant predictor of time spent on research was consistent with previous studies examining the influence of institutional type on research (Milem et al., 2000).

Irish university staff also reported spending a statistically significantly larger proportion of their time on research when classes were not in session (31.62%) compared to IoT staff (11.9%). However, the proportion of time spent on research was again lower than the proportion spent by European academic staff when classes were not in session which was between 59-65% of their work time in universities and 23-42% of work time in non-universities (Enders & Teichler, 1997). The number of traditional research outputs in the last academic year by academic staff in universities (7) was also statistically significantly higher than those reported by IoT staff (3).

While it is clear from the findings of this PhD study that academic staff in universities are more research active than IoT staff, academic staff in both types of institutions agreed that they experienced increased research demands (feeling pressure to be research active, experiencing an increased emphasis on research at their HEI, and that their research workload was increasing). This is consistent with the literature review which showed that, as higher education is being called upon to contribute to the knowledge economy, academic staff feel under increasing pressure to be research active

[95] The difference in percentages reported in academic activities between Ireland and Europe may be related to the method used in the European analysis (Enders & Teichler, 1997). This PhD analysis reports only user input, the European analysis calculated percentage based on hours input for each activity. Employing a similar method to user input percentages may have had a large capacity for misinterpreting the respondent's data (e.g. If a respondent reported they spent 10% of time on teaching and 40 hours spent at work, and no other percentage time on activities was reported then the analysis could have reported that respondent spent 100% of time on teaching).

[96] In Teichler & Hohle's (2013) study, academics from all types of institutions were asked to state the number of weekly hours each for the period when classes were in session and when classes are not in session. They were asked to subdivide the time according to teaching, research, administration, service and other activities.

(Enders & de Weert, 2004; Taylor, 2008; Valimaa & Hoffman, 2008). However, academic staff in universities had a statistically significantly higher level of agreement (3.9) than the staff in IoTs (3.5). In the two areas of the questionnaire that were available to respondents for additional comments, academic staff in IoTs noted the lack of encouragement and promotion opportunities for research activity and the lack of good research management or autonomously directed research which they found to be inhibiting (see Table 5.29).

The proportion of time spent on teaching and teaching related activities by academic staff in both types of institution was also reported in this PhD study. The findings showed that the percentage of work time spent on teaching and teaching related activities when classes were in session by academic staff in universities (37%) was lower than for IoTs (55%). This is consistent with the percentage time spent on teaching by European academic staff reported in the literature review with non-university staff spending 55-68% and university staff spending 22-46% (Enders & Teichler, 1997).

In the two areas of the questionnaire that were available to respondents for additional comments, IoT staff reported feeling that the proportion of their time required to fulfil their teaching obligations resulted in them having no available time left for other academic activities, particularly research, but also planning or involvement in their HEI. In universities, the comments showed concern that the quality of teaching was suffering due to its devaluation and the prioritization of research (see Table 5.30).

The Strategy further stated that teaching should be research informed, whereby, a culture of enquiry and engaged scholarship should permeate the work of all higher education institutions, and all students in Irish higher education, both undergraduate and postgraduate, should learn in an environment where research and teaching are closely linked. Teaching and research are both central to the role of academic staff; excellence

in teaching and excellence in creative or engaged scholarship go hand in hand (Government of Ireland, 2011, p. 54).

The Strategy expects that both the roles of research and teaching will be conducted in all HEIs, yet it is clear from the findings of this PhD study that academic staff in both institutional types are experiencing difficulty balancing these roles because of the expectations in their HEIs. In universities, academic staff are spending more time on research and are producing more research outputs than in IoTs. However, academic staff in universities expressed concern that teaching is devalued in their HEIs. They spend a smaller proportion of their time on teaching and teaching related activities despite having significantly larger student numbers. IoT staff, on the other hand, spend a larger proportion of their time on teaching and teaching related activities but express concern that the time, support, resources to perform research are not available to them.

Recommendation #10: Provide more clarity on the levels of research and teaching expected of staff in each institutional type and provide the incentive and management for staff to fulfill expectations. Provide a more flexible contract for academic staff in both institutional types that emphasizes their teaching or research role according to their interests and abilities and one that outlines clear output targets accordingly.

Providing the training and resources available to academic staff in both institutional types to develop and execute their teaching and research abilities is a necessary step in the achievement of national objectives for higher education. The Strategy stated that,

> …teaching staff should be given opportunities to develop and extend their teaching capacity and should be encouraged to value their skills. Institutions should provide poor teachers with opportunities to improve their skills to an acceptable level and should have the means to remove

them from their teaching duties if they continue to be demonstrably ineffective (Government of Ireland, 2011, p. 60).

The findings from this PhD research showed that there was a statistically significant difference in the responses of academic staff in each institutional type to whether or not they needed training. Academic staff in IoTs agreed that they needed training (in research and in teaching) at a level of 3.2 whereas academic staff in universities disagreed that they needed any training at a level of 2.6. In the two areas of the questionnaire that were available to respondents for additional comments, academic staff emphasised a lack of any training available to them (see Table 5.31).

Recommendation #11: Implement the Strategy commitment to providing training in teaching and in research, particularly in Iots.

The findings from this PhD study showed no statistical difference in the level of agreement that resources were not adequate. IoT staff agreed at a level of (3.45) and university staff agreed at a level of (3.51). Inadequate resources were measured by the reverse of items relating to adequacy of resources to perform teaching and research. The literature review, however, indicated that academic staff at non-universities rated the resources somewhat worse than academics at universities (Enders & Teichler, 1997). The comments entered by Irish academic staff into this questionnaire indicated that the inadequacy of resources was felt particularly in IoTs (see Table 5.32). For example, one IoT academic staff member stated:

Diminishing resources means that I am no longer able to justify that the delivery of my teaching duties is wholly in the interests of the students.

Recommendation #12: Identify and supply the resources that academic staff need to fulfill their teaching and research duties in both institutional types.

6.1.6 Section summary

The findings of this PhD research implied that system level strategies for higher education in Ireland could maximize their effectiveness by recognizing the capacities and limitations particular to each institutional type. According to the findings, the national objective to increase participation may be facilitated by providing IoT staff with additional resources and support to develop their curriculums to accommodate larger student numbers. The objective to broaden participation could be facilitated by providing IoT academic staff with extra supports to cope with mature students expectations and other non-traditional students' needs, including, for example, English language classes, remedial education and psychological counselling. Both types of HEI require access to ICT resources to facilitate larger student numbers and IoTs standards of assessment may also need to be reviewed to identify any grade inflation.

The national objective to increase efficiency may be facilitated by providing clarity to academic staff about managerial competence, practices and goals. Both types of HEI could provide more administrative support to academic staff to assist them in meeting any additional accountability targets. HEIs could also data mine their existing institutional data sources for reporting purposes as oppose to requesting new data from academic staff. There is also capacity in IoTs to extend their academic staff contracts beyond June 21st to facilitate more time spent at work when classes are not in session.

The Strategy's aims to improve clarity of expectations and prioritization of tasks would be beneficial in both types of institutions according to the findings of this PhD study. Clarity about performance expectations and promotions criteria is lacking in

both HEIs, as are adequate rewards and recognition systems tied to the fulfilment of those expectations. Academic staff satisfaction was shown to be highly correlated with clarity of expectations in the principal component analysis of this PhD study. The inclusion of the items relating to satisfaction and clarity together in the construct of 'Satisfaction', demonstrates that improvements to clarity will increase morale in both types of HEI. Furthermore, academic staff stress was shown be highly correlated with the ability to prioritize academic tasks effectively in the principal component analysis. The inclusion of both the items relating to stress and to prioritisation of academic tasks in the construct of 'Stress' demonstrates that improving the ability to prioritize tasks will decrease stress, particularly in universities.

Lastly, to facilitate the national objectives for both HEIs to provide high quality teaching and research, academic staff, particularly in the IoTs, could be provided with more training in teaching and research and with recognition of excellence in teaching. Furthermore, academic staff in both types of HEIs require more adequate resources. The nature of the resources that are needed should be investigated further.

6.2. Amalgamation, Re-designation and isomorphism

The theoretical framework chapter of this PhD described how institutional isomorphism and its component normative isomorphism could account for academic work-lives homogenising between institutional types. The majority (59%)[97] of the hypotheses that tested whether the activities, outcomes or perceptions of academic staff about their work-lives were the same in each institutional type in Ireland were rejected by this research. Therefore, there is not enough evidence to support the overall hypothesis of normative isomorphism; that academic work-lives in different institutional types do not differ. Nevertheless, the historical investigative approach to

[97] 34 hypotheses were tested in relation to activities, outputs and perceptions being the same in each institutional type. 20 of those hypotheses were rejected, 14 were accepted.

the literature review did highlight two important considerations in relation to homogenisation of academic work-lives: firstly, that different institutional types and academic work-lives have been continuously created, adapted, homogenised and redefined throughout the history of higher education, and secondly, that there is strong evidence of both coercive isomorphism and mimetic isomorphism in the universal phase of higher education in Ireland. So while a minority of the hypotheses that academic work-lives were the same in each institutional type in Ireland were accepted (41%) in this PhD study, the evidence of coercive and mimetic isomorphism in Ireland lends additional weight to this proportion.

As described above, both institutional types have been given very similar goals by the Strategy including providing quality teaching in multiple formats to more students and different types of students, being accountable for efficient use of resources, increasing research activity and knowledge transfer, creating more flexible workloads, providing clarity about the evaluation criteria used to assess academic staff and providing training and resources to academic staff where needed. These goals mean that academic staff will have larger classes of students of varying abilities, more administration tasks related to the efficiency and quality of their duties, more research requirements, as well as better access to training and resources to support them.

At the same time, the Strategy described the government's continued commitment to maintaining different institutional types in the Irish higher education system. It expressly stated that IoTs were not to be converted into universities "no application to convert any IoT into a university should be considered" (Government of Ireland, 2011, p. 103). It also refused a proposal put forward by IoTs for the creation of a single federal national technological university, claiming that it ran counter to the

regional clustering model[98]. It further refused to permit IoTs to change their names. Instead, the Strategy proposed that IoTs be permitted to amalgamate and later apply for re-designation into technological universities. Amalgamated IoTs would have the functions of teaching, research, enterprise engagement, internationalization and diversity in the student body, funding acquisition, good governance and management. When the amalgamated IoTs had demonstrated progress in these functions, they could be considered for re-designation into technological universities. Also contributing to their consideration for re-designation, would be whether they met the criteria of improving efficiency in the management of resources, obtaining funding from training or research contracts, collaborating internationally and sustaining scholarship that informs teaching and learning in all fields in which courses are delivered. The difference between the traditional universities and the technological university would be that the "technological university will have a mission and ethos that are faithful to and safeguard[ing of] the current ethos and mission focus of the institutes of technology" (Government of Ireland, 2011, p.105). The focus of the technological university would be on level 6 to 8 programmes while recognizing that "a number of institutes of technology have already been granted the power to award PhDs, and it is envisaged that technological universities will have involvement at levels 9 and 10 appropriate to their mission" (Government of Ireland, 2011, p.105).

The historical investigative approach to the literature review taken in this PhD study demonstrated that different institutional types had been created in response to societal needs and ideologies throughout the history of European and Irish higher education. During the elite phase, when research and the scientific method were

[98] The Strategy outlined a regional cluster model to the organization of HEIs which includes "joint programme planning, collaborative research and outreach initiatives, agreements on mutual recognition and progression, and joint strategies for advancing regional economic and social development" (Government of Ireland, 2011, p. 98). The regional cluster model will be promoted by provision of incentives by the HEA and its benefits are foreseen as access for IOT staff and students to research seminars and university courses and joint degrees and for university staff as closer contacts with industry and labour markets.

required to advance knowledge in the Enlightenment in Europe, the academies were created as distinct institutions from the universities (who later had to redefine their missions to adapt). When more utilitarian, professional and technological skills were required by society in 19th century Europe, secular universities like the University College London and Les Grandes Ecoles were created. Similarly, in Ireland, during the 19th century, the federal Queens University was established to provide more secular, professional, utilitarian education, as opposed to the liberal curriculum of the protestant Trinity College Dublin. During the mass phase in Europe and in Ireland, when societies required manpower trained to intermediate level to fulfil the jobs created by advancing economies, the non-university type of higher education institution was created.

The historical investigative approach also demonstrated how the universities and non-universities redefined their missions in response to society's needs. In the elite phase, in Europe, the universities of the Enlightenment had to incorporate research into their missions after the academies became unable to cope with the increasing and expanding fields of scientific research. In the mass phase, in Ireland, the universities adopted a more utilitarian curriculum including business and engineering in response to the large student numbers participating in the non-universities. Meanwhile, the non-universities in Ireland were given a research remit and more institutional autonomy in the 1992 *RTC Act* and *DIT Act* and were permitted to award their own degrees after fulfilling agreed criteria.

What this historical viewpoint shows is that institutional types have always been created and redefined according to societal needs. However, in the current universal phase of higher education in Ireland, there is regulatory resistance to permitting the evolution, redefinition or recreation of institutional types. As a result, there exists a contradiction between the government's expectation of outputs from higher education and their limitation of activities within the different institutional types.

The contradiction evident in the Strategy of identifying homogenous strategic goals for both institutional types while simultaneously limiting the ability of the institutions' academic staff to fulfil those objectives by specifying institutional missions that inhibit them is not a new phenomenon in the universal phase of Irish higher education policy. The literature review of this PhD thesis described how Irish governmental strategies, including the National Development Plan (2007) and the SSTI (2006), had adopted European strategies, which planned to increase research in higher education, promote life-long learning and the inclusion of non-traditional mature students in higher education (Lisbon Strategy, 2000), improve HEI governance and accountability and diversify HEIs sources of funding (European Union Council Resolution (2007)). During the same universal phase in Ireland, the OECD (2004) report was published which made an emphatic recommendation to maintain the binary divide between the universities and the Institutes of Technology.

The hypothesis that was tested in this research was that academic staff's activities, outputs and perceptions about their work-lives did not differ based on their institutional type. This hypothesis was based on the theory of institutional isomorphism (that HEIs in the same organizational field will become increasingly alike) which has three components, coercive, mimetic and normative isomorphism. The literature review demonstrated that coercive isomorphism is present in Ireland in the form of governmental strategies that are homogenous for both institutional types. In particular, the strategies related to efficiency, life-long learning, and research. Mimetic isomorphism was noted by both the history of non-universities becoming universities in Ireland (in the case of the University of Limerick and the Dublin City University) and the more recent applications of IoTs to become universities (in the case of Dublin Institute of Technology and Waterford Institute of Technology). This research

investigated whether normative isomorphism was also present insofar as academic staff work-lives in both institutional types did not differ.

The findings of this PhD showed that the majority (59%)[99] of the hypotheses that tested whether the activities, outcomes or perceptions of academic staff about their work-lives were the same in each institutional type in Ireland were rejected by this research. As such, there was insufficient evidence that academic work-lives overall in the universal phase did not differ in different institutional types so the hypothesis of normative isomorphism must be rejected. Academic staff in universities and IoTs were not experiencing similar academic work-lives overall and, given that the planned amalgamated IoTs and universities of technologies described by the Strategy aimed to adhere to the mission of the IoTs, the differences in academic work-lives found in this study are likely to continue to be present. Therefore, in order to facilitate the implementation of the homogenous national strategies for higher education in Ireland it may be beneficial to tailor the objectives to take into account the capacities and limitations in each institutional type that were discussed throughout section 6.1.

Theoretical contribution #1: Coercive, mimetic and normative isomorphism in Irish HEIs are being both encouraged by homogenous national strategies for both types of HEIs and also curbed by national policy to maintain the binary divide. These opposing forces create a dissonance for academic staff as they struggle to meet contradictory goals and impede the successful fulfilment of national HE objectives.

Lastly, while there was insufficient evidence for normative isomorphism overall, the multiple regression analysis used in this PhD research enabled the identification of other statistically significant influences on academic work-life, and some of these

[99] 34 hypotheses were tested in relation to activities, outputs and perceptions being the same in each institutional type. 20 of those hypotheses were rejected, 14 were accepted.

influences may contribute to decreasing the differences between institutional types further in the future. The findings of the multiple regression analysis used in this study showed that the qualification level of staff was a significant predictor of a number of the measures of activities, outputs and perceptions even when all other potentially influencing factors (including institutional type) were controlled for. Higher qualified staff spent more hours at work when classes were in and out of session, spent a higher proportion of their time on post graduate student supervision when classes were in and out of session, spent a higher proportion of their time on research and service when classes were out of session, produced more traditional research outputs, sought prestige in their career planning, and had a higher desire to leave their current job, they experienced more stress and they did not feel that they needed training.

Institutional type was also found to be a predictor of most of these same measures, with academic staff in IoTs spending less hours at work, a lower proportion of their time on postgraduate research supervision, a lower proportion of their time on research and service, producing less traditional research outputs, experiencing less stress, and feeling that they needed more training.

Recent research shows that Ireland had the third highest percentage of junior academic staff qualified to doctoral level in non-university institutions compared to eight European countries, whereas Ireland had the third lowest percentage of senior academic staff in non-universities qualified to doctoral level (Teichler & Hohle, 2013). This suggests that the percentage of academic staff qualified to doctoral level in non-universities is on the rise in Ireland. The findings from this PhD study suggest that if the IoT staff continue to increase their qualification level, the differences between institutional types will narrow in the measures where qualification level was identified as a predictor. Academic staff qualified to doctoral level in IoTs will be more research active and spend more time at work, but they will exhibit more stress and they will have

a desire to leave their current jobs. The current differences in these measures between academic staff in each institutional type will narrow as the number of academic staff in IoTs qualified to PhD level increases.

Theoretical contribution #2: While this PhD found insufficient evidence for normative isomorphism overall, the rising qualification level of academic staff in IoTs coupled with the current level of homogenous experiences of academic staff in both institutional types will increase normative isomorphism particularly in the measures of IoT academic staff's research activity, spending more time at work, feeling more stress and having a desire to leave their jobs.

While the national objectives for higher education in Ireland are mostly homogenous for each institutional type, the academic staff in universities and IoTs are experiencing the demands placed upon them within the constraints of their institutional types. Maintaining the distinct missions of different institutional types means that in order for the homogenous national goals to be achieved, they will need to be more specifically tailored to the academic staff based on the institutional type they are in. Section 6.1 proposed a number of possible adjustments to national Strategy that would encourage more awareness of the capacity and limitations of academic work-lives in each institutional type and thus may facilitate a more comprehensive realisation of national objectives for higher education overall. Section 6.2 acknowledged the rejection of the overall hypothesis of normative isomorphism, that academic work-lives do not differ based on institutional type, while recognising that a noteworthy minority (41%) of the individual hypotheses tested were accepted. In the context of the evidence of coercive and mimetic isomorphism in Irish higher education, revealed in the literature review, as well as the likelihood that the qualification level of academic staff in IoTs is

rising and that this will narrow the differences in academic work-lives between institutional types even further, as shown by the multiple regression analysis, this PhD study demonstrated there are some homogenous features of academic work-lives that are likely to persist and increase. Nevertheless, the homogenisation of academic staff work-lives between universities and IoTs in Ireland is constrained by the steadfast commitment of the Irish government to maintaining the binary divide between institutional types, and the strict definitions of activities and priorities for each institutional type's mission. As long as the maintenance of the strict binary divide remains a priority in Irish higher education policy, the differences in academic work-lives between institutional types will be greater than the similarities.

6.3. Recent Research

After this PhD research commenced in 2008, a number of other studies about academic work-life in Ireland were initiated. In the academic year 2010-2011, Ireland participated in *The Academic Profession in Europe: Responses to Societal Challenges* (EUROAC) study and the results were published in May, 2015 (Clarke, Drennan et al., 2015). In February 2014, Clarke, Kenny and Loxley (2015) administered a modified version of the same EUROAC survey to Irish academic staff, with the purpose of identifying key issues that impact on their working environment. In December 2014, the Teachers' Union of Ireland (TUI) measured the levels of work-related stress experienced by TUI members working in the IoT sector (Kenny, 2015).

Clarke, Drennan et al. (2015, p. 28) and Clarke, Kenny et al. (2015) both claimed that "academics derive their identity from their discipline". They both also noted that "individuals bring a multitude of experiences to work and academic contexts that are likely to influence the ways they make sense of socialization experiences". However, they did not compare the academic work-life experiences they measured

between the disciplines in order to support this assertion. Instead, they made separate comparisons about academic staff's activities, outputs and perceptions between genders, career levels and institutional types. This PhD research, however, did control for discipline type, as well as gender, age, qualification, career level and contract type, when comparing measures of academic work-life between institutional types using multiple regression analysis. And, while discipline type was found to be an influence in some measures of academic work-life, institutional type was found to be a much stronger influence in many more measures than discipline type. The historical investigative literature review of this PhD challenged the persistent notion that discipline type was the primary dividing factor between academic work-life experiences and demonstrated that institutional type has always also been a strong influence. With the majority of the hypotheses tested by this PhD, that academic work-life did not differ by institutional type being rejected, the findings support the historical perspective that institutional type is a strong influence on academic work-lives alongside discipline type and the other elements.

Methodological contribution #1: The multiple linear regression analysis used in the research design of this PhD study facilitated the isolation of the particular influence of institutional type and discipline type and a number of other potentially influencing factors. Institutional type was found to be a must stronger influence in many more measures than discipline thus refuting the long held assertion that discipline type is the primary dividing factor between academic work-life experiences.

Clarke, Drennan et al. (2015) did compare their findings between institutional types using chi square testing. They found that academic staff in IoTs spent a larger proportion of their work time on teaching, and university staff spent a larger proportion

of their work time on research, and administration and produced more publications. However, chi square tests do not allow controlling for other possible covariates. As above, this PhD research used a multiple regression analysis to control for other possible influences on measures of academic work-life. And, in the case of the proportion of time spent on administration, it was found by this PhD research that although the t-tests showed that university staff spent more time on administration, when other potential influences were controlled for in the multiple regression analysis, it was actually career level that caused the difference between the institutional types. Using a multiple regression analysis, on measures of academic work-life, allows the identification of influences while controlling for other potential factors and, thus, can either provide additional support and evidence to differences found between institutional types or avoid attributing a difference between academic staff work-lives to one factor e.g. institutional type when it is actually due to another factor e.g. career level.

Methodological contribution #2: The multiple regression analysis used in this PhD study, allows the identification of influences while controlling for other potential factors and, thus, can either provide additional support and evidence for differences found between institutional types or avoid attributing a difference between academic staff work-lives to one factor e.g. institutional type when it is actually due to another factor e.g. career level.

Clarke, Drennan et al. (2015) further found that academic staff reported being satisfied in both institutional types, that university academic staff agreed more that there was adequate training than IoT staff, that academic staff in both institutional types reported there was a cumbersome administrative process and that there was a top-down management style, and that IoT staff disagreed more than university staff that

management were providing competent leadership. These assertions were measured by Clarke, Drennan et al. (2015) and also by Clarke, Kenny et al. (2015) using single item questions. The principal component analysis used in this PhD study developed on measuring academic work-life using single items and provided a way to measure concepts such as satisfaction, managerialism or needing training. The principal component analysis grouped items that were found to be measuring the same underlying concept together into constructs (see Table 4.11). These constructs, all passed reliability testing and can be re-used and developed upon for further research into the current features of academic work-life.

Methodological contribution #3: The principal component analysis used in this PhD grouped items that were found to be measuring the same underlying concept together into constructs such as satisfaction, managerialism or needing training. These constructs, all passed reliability testing and can be re-used and developed upon for further research into the current features of academic work-life.

The grouping of items into constructs by the principal component analysis also provided some new insight into items that contribute to concepts about academic work-life. Items identified with satisfaction and stress by the principal component analysis of this PhD study were particularly informative about the working conditions that relate to morale for academic staff. While Clarke, Drennan et al. (2015) and Clarke, Kenny et al. (2015) used a single item to measure satisfaction[100], the principal component analysis identified that measures of satisfaction and clarity about performance expectations, promotional criteria, time management, fair evaluation and adequate recognition were all related to each other and were measuring the same concept. Furthermore, while

[100] How would you rate your overall satisfaction with your current job?

Clarke, Drennan et al. (2015) and Clarke, Kenny et al. (2015) measured stress using a single item[101], the principal component analysis identified that the item about stress was related to those measuring if the job was conducive to family life and the ability to priortise time and effort across academic tasks. Therefore, these constructs provide additional information about aspects of academic work-life that are related to academic staff's morale and how these concepts can be measured.

Methodological contribution #4: Principal component analysis revealed that satisfaction is related to performance expectations, promotional criteria, time management, fair evaluation and adequate recognition.

Methodological contribution #5: Principal component analysis revealed that stress is related to the job being conducive to family life and the ability to priortise time and effort across academic tasks.

The differences in the activities and outputs of academic staff between institutional types found by this research were supported by the findings of Clarke, Drennan et al. (2015) and Clarke, Kenny et al. (2015). Academic staff's perceptions of the current features of academic work-life, such as low morale, increasing administration, increasing demands from non-traditional students, and more pressure to be research active that were found in this PhD study, were also found by the recent studies. Kenny's (2015) research, measuring the stress levels of academic staff in the IoT sector, found that clearer time allocation guidelines for the academic tasks of teaching, research and administration were needed in order to circumvent the high risk they posed of work-related stress when the demands were excessive. Kenny also found

[101] My job is a source of considerable personal strain.

that the increase in administrative duties was considered more of a risk factor for stress than teaching and research due to the time it absorbs at the cost of the time available for the teaching and research roles. As well as high administration demands, Clarke, Kenny et al. (2015) found that the participation of a broader diversity of student types in higher education was also putting a strain on academic staff. They claimed that academic staff needed additional support to be both more effective teachers of these student types and provide pastoral care to students. Clarke, Kenny et al. (2015) also found that performing research was becoming a more pressured experience as academics were required to compete for grants and be accountable for the funding, conducting and dissemination of their research work. However, the differing levels and descriptions of academic staff's perceptions of low morale, increasing administration, increasing demands from non-traditional students, and more pressure to be research active based on their institutional type were not explored by the recent studies.

This PhD research has developed on this recent literature (Clarke, Kenny et al., 2015; Kenny, 2015) and the previous literature reviewed in Chapter 2, which recognized the strain experienced by academic staff in Ireland in the current phase of higher education by identifying the differing ways and levels that it is being experienced, depending on academic staff's institutional type. Section 6.1 proposed a number of possible adjustments to national strategy that would tailor objectives to the contexts of academic staff in each institutional type, thus providing better support to academic staff and enabling a more comprehensive realisation of national objectives for higher education (these policy recommendations are summarised in Table 6.1 below).

Beyond establishing the differing levels and types of features of academic work-life experienced in the different institutional types and suggesting how national strategy may be tailored to match the capacities and needs IoTs and in universities, it is important to recognise that Irish academic staff in both institutional types reported

experiencing significant pressure, challenges and dissonance as they strived to meet the demands made of them. They reported that their workload (including teaching, administration and service) was increasing, that their resources were inadequate, that their satisfaction was low, that there was a presence of managerialism, that mature students were causing extra demands on them, that their nomenclature was de-motivating, that their research demands were increasing and that they were experiencing stress.

The data for this research was collected in September, 2010 during the catastrophic recession in Ireland that began in 2008. At that time the Irish government were scrambling to cut public spending and maximise efficiency and they initiated some urgent processes and agreements impacting on higher education and academic staff including SGPS (Government of Ireland, 2009), the ECF (Higher Education Authority, 2009b) and The Croke Park Agreement (Government of Ireland, 2010). The SGPS (2009) recommended increased managerial control over academic staff's activities, workload and performance, the *Employment Control Framework* (2009b) prevented all HEIs from making selection or recruitment decisions when there were vacancies except in very rare circumstances and only ever with the permission of the minister for education and The Croke Park Agreement (Government of Ireland, 2010), arranged increased work hours per week in IoTs (2 hours) and universities (1 hour), as well as the implementation of workload allocation models and a full economic costing initiative aimed at improving management of university resources. Furthermore, academic staff in both institutional types had already absorbed a reduction in their remuneration and pensions (Government of Ireland, 2009b; Government of Ireland, 2010b) as a result of the government's financial emergency measures. Given the extraordinary national context at the time of the research, it would be advisable to determine if Irish academic

staff in both institutional types reported experiencing the same significant pressures and challenges as they did in 2010, now that the crisis period has abated.

This PhD research provided a number of methodological innovations that can be re-used to assess the work-lives of Irish academic staff in present and future periods. In doing so, it is possible to establish if academic staff are still experiencing the same strain as they were during the economic recession, as well as to measure and compare the features of academic work-lives in the different institutional types and report on their levels of difference or homogeneity. The contribution to methodology made by the constructs created by the principal component analysis in this PhD research, which measure the concepts of academic work-life in the universal phase, is summarised in Table 6.3 below. The contribution made by the multiple regression analysis, which enabled the isolation and reporting of the specific influence of institutional type while controlling for all other influences and simultaneously measuring the effect of all the other possible influences on all the measures taken of academic work-life is also summarised in Table 6.3.

By rejecting the null hypothesis of this research, that academic work-life is the same in different institutional types, the findings of this PhD have affirmed the recognition of institutional type, as a primary influencing factor on academic work-life, which has been an influence that spans the history of higher education, as was described in Chapter 2. Institutional type, which had become increasingly overlooked in the literature about academic identity, has thus been re-instated as a defining influence on academic work-life in the universal phase of higher education.

Table 6.1 Summary of policy recommendations

NATIONAL OBJECTIVE	POLICY RECOMMENDATIONS
INCREASING AND BROADENING PARTICIPATION	Academic staff in both institutional types require more support to accommodate larger student numbers such as more resources and curriculum development. IoT academic staff have a higher need for support than university academic staff with coping with the needs of mature students' and other non-traditional students', such as, English language classes, remedial education, and social and psychological counseling.
	Ensure the availability of technology resources for academic staff in both universities and IoTs
	Ensure the assessment of student performance by IoT academic staff meets the appropriate standards in order to safeguard against grade inflation.
EFFICIENCY	Provide clarity to academic staff about managerial competence, objectives and practices in both types of HEI. Describe how managerial objectives are tied to institutional goals and facilitate academic staff discussion and negotiation about managerial practices.
	Provide designated institutional research offices to gather and analyze data about academic staff rather than requesting data from academic staff directly. Provide more administrative support to academic staff. Conduct regular systematic data mining of existing institutional data. Ensure that any new accountability measures implemented in HEIs do not entail more administrative work for academic staff as this would counteract the benefit of providing clear expectations and promotional criteria.
	Extend the IoT contracts beyond June 20th to facilitate more time spent at work when classes are not in session while exercising awareness of academic staff's perception that their workloads have increased.
CLARITY OF EXPECTATIONS AND PRIORITISATION OF TASKS	Introduce more clarity of performance expectations and promotion criteria. Use these expectations to inform performance evaluations. Tie the fulfillment of the explicit and specified expectations to rewards and recognition systems. The effect of these actions will be an improvement in academic staff morale.
	Introduce more clarity about how academic staff should prioritise their time between their academic tasks. Ensure that expectations of staff performance are achievable without having to forgo a healthy personal life. The effect of these actions will reduce the stress levels of academic staff in both institutional types. It is particularly pressing to implement such changes in the university sector where academic staff are exhibiting higher stress levels.
ACADEMIC VALUES	Continue to safeguard academic freedom, individual autonomy, collegiality and community.
RESEARCH AND TEACHING	Provide more clarity about the levels of research and teaching expected of staff in each institutional type and provide the incentive and management for staff to fulfill these expectations. Provide a more flexible contract for academic staff in both institutional types that emphasizes their teaching or research role according to their interests and abilities and one that outlines clear output targets accordingly.
	Implement the Strategy commitment to providing training in teaching and in research, particularly for Iot academic staff.

NATIONAL OBJECTIVE	POLICY RECOMMENDATIONS
	Identify and supply the resources that academic staff need to fulfill their teaching and research duties in both institutional types.

Table 6.2 Summary of contribution to theory

	CONTRIBUTION TO THEORY
NORMATIVE ISOMORPHISM IS BEING IMPEDED BY NATIONAL POLICY TO MAINTAIN THE BINARY DIVIDE	Coercive, mimetic and normative isomorphism in Irish HEIs are being both encouraged by homogenous national strategies for both types of HEIs and also curbed by national policy to maintain the binary divide. These opposing forces create a dissonance for academic staff as they struggle to meet contradictory goals and impede the successful fulfilment of national HE objectives.
NORMATIVE ISOMORPHISM WILL INCREASE WITH RISING QUALIFICATION LEVELS OF ACADEMIC STAFF	While this PhD found insufficient evidence for normative isomorphism overall, the rising qualification level of academic staff in IoTs coupled with the current level of homogenous experiences of academic staff in both institutional types will increase normative isomorphism particularly in the measures of IoT academic staff's research activity, spending more time at work, feeling more stress and having a desire to leave their jobs.

Table 6.3 Summary of contribution to methodology

	CONTRIBUTION TO METHODOLOGY
MULTIPLE LINEAR REGRESSION IDENTIFIES AND MEASURES THE INFLUENCE OF MANY FACTORS ON ACADEMIC WORK-LIFE	The multiple linear regression analysis used in the research design of this PhD study facilitated the isolation of the particular influence of institutional type and discipline type and a number of other potentially influencing factors. Institutional type was found to be a must stronger influence in many more measures than discipline type thus refuting the long held assertion that discipline type is the primary dividing factor between academic work-life experiences.
MULTIPLE LINEAR REGRESSION CONTROLS FOR OTHER INFLUENCES	The multiple linear regression analysis used in this PhD study, allows the identification of influences while controlling for other potential factors and, thus, can either provide additional support and evidence for differences found between institutional types or avoid attributing a difference between academic staff work-lives to one factor e.g. institutional type when it is actually due to another factor e.g. career level.
PRINCIPAL COMPONENT ANALYSIS GROUPED ITEMS FOUND TO BE MEASURING THE SAME CONCEPT TOGETHER INTO CONSTRUCTS THAT CAN BE RE-USED	The principal component analysis used in this PhD study developed on measuring academic work-life using single items and provided a way to measure concepts such as satisfaction, managerialism or needing training. The principal component analysis grouped items that were found to be measuring the same underlying concept together into constructs (see Table 4.11). These constructs, all passed reliability testing and can be re-used and developed upon for further research into the current features of academic work-life.
PRINCIPAL COMPONENT ANALYSIS REVEALED FEATURES OF ACADEMIC WORK-LIFE RELATED TO SATISFACTION	The principal component analysis revealed that satisfaction is related to performance expectations, promotional criteria, time management, fair evaluation and adequate recognition.
PRINCIPAL COMPONENT ANALYSIS REVEALED FEATURES OF ACADEMIC WORK-LIFE RELATED TO STRESS	The principal component analysis revealed that stress is related to the job being conducive to family life and the ability to priortise time and effort across academic tasks.

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Glossary of Terms

TERM	DESCRIPTION
Academic authority	Academic staff's influence on the direction of the institution
Academic capitalism	A regime that entails colleges and universities engaging in market and market-like behaviours, particularly, in that HEIs are seeking to generate revenue from their core educational, research and service functions, ranging from the production of knowledge (such as research leading to patents) created by the faculty to faculty's curriculum and instruction (teaching materials that can be copyrighted and marketed)
Academic drift	A process by which post-secondary institutions that started off as something quite distinct from universities evolve into universities.
Academic freedom	Academic staff's freedom to question and test received wisdom, to put forward new ideas and to state controversial or unpopular opinions and the personal freedom to decide on the focus of one's work and pursue that focus unfettered
Academic identity	Can be understood as any of the following: a philosophical entity whereby it is seen as a context specific assemblage that draws on a shared but open repertoire of traits, beliefs and allegiances; a psychological construct whereby an individual categorizes, classifies or associates in relation to a social grouping and takes on a role and associated meanings, expectations and standards of that role and its performance within the group; or an intellectual device which could be employed to reflect on the cultural perspectives of academic communities while academics simultaneously communicate with reference groups including discipline, profession, institution and nation.
Alternative hypothesis	A theory that says that an effect will be present, usually denoted by H1
Autonomy	Academic staff's control over curriculum and research topics
Binary higher education system	A higher education system in which two parallel higher education systems develop, one consisting of the universities and the other based on 'alternative' institutions is defined as a binary higher education system
Coercive isomorphism	Institutional isomorphism resulting from pressures applied by other organisations in the field on which the organisation is dependent (e.g. Governmental policies and laws).
Collegiality	Academic staff's participation in governance and decision making processes as well as forming relationships and collaborations with peers
Community	A respectful community of scholars who value one another's contributions as well as having concern for one another's well-being and participating in the decision making process of the institution
Comparative research design	Entails studying two contrasting cases using more or less identical methods.
Cross sectional research design	Entails the collection of data on more than one case at a single point in time in order to collect a body of quantitative or

TERM	DESCRIPTION
	quantifiable data in connection with two or more variables which are then examined to detect patterns of association
Cultural theory	Sets of common typifications held by actors in particular settings which are continually in process
Elite phase of higher education	0-15% enrolment of the relevant age range in higher education. Its purpose was to shape the mind and character of a ruling class. It is used in this PhD as a signifier for the features of higher education during the time period of 0-15% enrolment.
Grade inflation	The tendency to award progressively higher academic grades for work that would have received lower grades in the past.
Information Communications Technology (ICT)	ICT, used in teaching and learning can include the range of hardware and software devices and programmes such as personal computers, assistive technology, scanners, digital cameras, multimedia programmes, image editing software, database and spreadsheet programmes, communications equipment through which people seek and access information including the Internet, email and video conferencing. ICT in education can be viewed as enhancing the effectiveness of learning, adding a dimension to learning that was not previously available, or motivating students to engage in learning.
Institutional Isomorphism	A trend towards an increasing similarity in organizational behaviour producing a decrease of systems diversity
Managerialism	The deposition of academic leadership by bureaucratic management who exhibit behaviour that is oriented to efficiency, economy and market responsiveness and which calls for the direction of employee activities towards these ends by managers
Mass phase of higher education	16-50% enrolment of the relevant age range in higher education. It involved the transmission of skills and preparation for a broader range of technical and economic elite roles. It is used in this PhD as a signifier for the features of higher education during the time period of 16-50% enrolment.
Mimetic isomorphism	Institutional isomorphism resulting from organizations imitating the behaviour of perceived successful organizations
Multiple linear regression	The multiple linear regression analysis identifies the statistically significant predictors of an outcome variable and measures the size, direction and significance of each their relationships with the outcome variable.
Non-university	An alternative institution to a university, establish to educate and train the intermediate level manpower requirements of advancing economies where tertiary level qualifications were being required in an increasing number of jobs
Normative isomorphism	Staff's shared social obligations, shared codes of conduct, common career titles, and common career paths all contributing to the homogenization of organisations
Null hypothesis	States that an effect is absent and is denoted by H0

TERM	DESCRIPTION
Social structure	Social structure can be identified as those features of a social entity (a society or a group within a society) that persist over time, are interrelated, and influence both the functioning of the entity as a whole and the activities of its individual members. It is the organised set of social relationships in which members of the group are variously implicated
T-test	The independent t-test compares two means, when those means have come from different groups of entities e.g. the scores of academic staff from two different types of institutions.
Universal phase of higher education	Greater than 50% enrolment of the relevant age range in higher education. Characterised by the adaptation of the whole population to rapid social and technological change, larger proportions of populations involved and interested in what goes on in HEIs and pressures for public financial accountability and more management procedures. The term universal phase is used in this PhD dissertation as a signifier for all the features of higher education during the time period of greater than 50% enrolment.
When classes are in session	During the academic year when classes are being taught
When classes are not in session	During the calendar year when classes are not being taught

Appendix 1 – Pilot

The questionnaire was piloted to 12 academic staff members from six different HEIs (4 universities and 8 IoTs). The feedback from the pilot was that the questionnaire was excessively long. Therefore, the item numbers were reduced from 74 to 56 items relating to the current features of academic staff working conditions, and from 80 items to 37 items relating to the current features of academic staff subjective experiences of their work-life. See pilot comments below:

QUESTION	PILOT FEEDBACK
GENDER	Maybe consider 'transgender', or 'other'?
AGE	Sometimes age bands can be useful
	I suggest pull down age ranges
	Better to have preset age bands
	Wouldn't age cohorts be better from a coding point of view
FAMILIAL STATUS	How necessary are these demographics - only if going to have an effect on correlation stats - this one invasive I think
HOURS PER WEEK	This was a tricky question as the hours change significantly when say assignments have been submitted or during the School Visit/Teaching Practice weeks or when electives are running
LEAVE JOB	Re. final question, perhaps indicate NGO/public sector
RESOURCES	Maybe insert an option: 'I have adequate resources and support to perform my teaching...' There are innovations in teaching and learning at my HEI, but still not adequate resources, such as space
QUALIFICATION	I would rank the opposite starting with the highest as presumably that will be the one most often ticked
WORKLOAD	Suggest that you repeat the 'increasing' option for service workload to avoid the double negative
COMMENTS	The questionnaire took quite a while to complete
	I don't understand 'mission drift'
	Good detail but could be off putting if a lot to fill in

Appendix 2 – Components excluded after unreliability

The below table shows the components that were identified by the principal component analysis but were shown to be unreliable measures of their constructs by the Cronbach's alpha test (cut off of below 5.5)[102].

CONSTRUCT	CRONBACHS	FACTOR	ITEM	COMPONENT LOADING	INITIAL EIGENVALUE	% OF VARIANCE	ROTATION SUMS OF SQUARED LOADINGS
CASUALISATION	.519	13	There is an increasing casualisation of Irish faculty	-.687	1.721	1.871	2.242
			Tenure is a necessary condition for academic employment	-.538			
GENDER BIAS	.430	14	Women are equally represented at all academic career levels in my HEI	.710	1.683	1.829	1.870
			Gendered characteristics are valued differently at my institution (e.g. competitive over emotional)	-.347			
NOSTALGIA	.367	18	Tenure is granted too early in Ireland	.673	1.386	1.507	1.810
			I feel nostalgic for the 'golden age' in academia which is now lost	-.418			
STATUS	.146	19	IoT faculty are as high status as university faculty at comparable career levels	.689	1.336	1.452	1.833
			Gendered characteristics are valued differently at my institution (e.g. competitive over emotional)	.488			
TECHNOLOGY USE		22	Technology use is encouraged regardless of its effectiveness in teaching at my HEI	-.620	1.180	1.283	1.739
ATTITUDE TO	.361	24	I have a low level of control over my research	.533	1.137	1.236	2.042

[102] Variance explained by the factors removed 7.942%

CONSTRUCT	CRONBACHS	FACTOR	ITEM	COMPONENT LOADING	INITIAL EIGENVALUE	% OF VARIANCE	ROTATION SUMS OF SQUARED LOADINGS
RESEARCH			Accountability in my research has decreased	.470			
			InternMotiv Feeling satisfaction from performing research	-.431			
AGE	N/A	27	Age is an implicit career timetable that shows if you are on or off schedule in terms of your career progression	.721	1.019	1.108	1.725

Appendix 3 – Components excluded due to relevance

The table below shows the five components identified by the principal component analysis and were shown to be reliable measures of their constructs by the Cronbach's alpha test, but that were nevertheless excluded from the analysis phase of this research due to their lack of relevance to answer the research questions.

CONSTRUCT	CRONBACHS	FACTOR	ITEM	COMPONENT LOADING	INITIAL EIGEN VALUE	% OF VARIANCE	ROTATION SUMS OF SQUARED LOADINGS
INTERNAL MOTIVATION	.780	2	I am motivated by Feeling a sense of competence through increasing skill and knowledge	.860	5.684	6.178	3.653
			I am motivated by Feeling satisfaction from interacting with students	.760			
			I am motivated by Having opportunities for learning and to use skills and knowledge	.738			
			I am motivated by Having autonomy - independence (self-	.462			

CONSTRUCT	CRONBACHS	FACTOR	ITEM	COMPONENT LOADING	INITIAL EIGEN VALUE	% OF VARIANCE	ROTATION SUMS OF SQUARED LOADINGS
			determination)				
			I am motivated by Collaborating with peers	.388			
			I am motivated by Having passion for my subject area	.364			
COMMITMENT TO CPD	.657	6	I have taken extra training to develop my teaching skills	.703	2.949	3.206	2.874
			I have adapted my teaching to accommodate a changing student profile	.574			
			I have taken extra training to develop my research skills	.516			
			I have taken extra training in ICT	.506			
			I have had a colleague sit in during my classes to improve my teaching via feedback and learning	.478			

CONSTRUCT	CRONBACHS	FACTOR	ITEM	COMPONENT LOADING	INITIAL EIGEN VALUE	% OF VARIANCE	ROTATION SUMS OF SQUARED LOADINGS
			I keep up to date with developments in my field	.462			
MOTIVATED BY SECURITY	.741	9	I am motivated by tenure	.716	2.278	2.477	2.326
			I am motivated by Security	.668			
CARE DUTIES DO NOT IMPACT ON CAREER	.890	11	My care duties do not impact on my career progression	.885	2.143	2.329	2.509
			It is possible to perform my care duties and progress my career simultaneously	.868			
EXTERNAL MOTIVATIONS	.78	15	I am motivated by Merit pay	.858	1.616	1.756	3.544
			I am motivated by Salary	.761			
			I am motivated by Travel provisions	.611			
			I am motivated by Promotion	.598			
			I am motivated by Recognition	.384			

Appendix 4 – The Questionnaire

Faculty Identity and Institutional Type (F.I.I.T) Questionnaire

2. Instructions and Informed Consent

There are 50 questions contained in this questionnaire.

Your completed questionnaire will be saved when you click the 'Done' button on the last page of the survey.

If you need to exit the questionnaire before completing it, click on the 'Exit this Survey' link at the top right corner of the page. Then, when you wish to return to your questionnaire, click on the link in your invitation email. You will be brought back to the Introduction page. By clicking on the 'Next' button at the bottom of the page, you will be brought back to where you exited the questionnaire.

The 'Prev' button will bring you back to the previous page.

***1. Please indicate your consent to participate in this study**

◯ I consent

◯ I do not consent

Faculty Identity and Institutional Type (F.I.I.T) Questionnaire

3. Working Conditions

This section measures your perception of the changes in academic working conditions being reported in Ireland and elsewhere. The questions mainly reflect the issues raised in selected submissions (Academic Forum, IOTI, TUI, IUA, IFUT) to the National Strategy for Higher Education in Ireland, as well as issues reported in the national and international literature on higher education working conditions.

2. It has been reported that academic authority as the 'gatekeepers of knowledge' has eroded as access to information from other sources has increased. Please indicate your level of agreement with the following:

	Strongly Disagree	Disagree	Neither Agree nor Disagree	Agree	Strongly Agree
My academic authority has decreased	◯	◯	◯	◯	◯

3. A variety of causes have been cited for changes in faculty autonomy over areas of their work. Please indicate your level of agreement with the following:

	Strongly Disagree	Disagree	Neither Agree nor Disagree	Agree	Strongly Agree
I feel overly managed	◯	◯	◯	◯	◯
I have a high level of control over my teaching	◯	◯	◯	◯	◯
I have a low level of control over my research	◯	◯	◯	◯	◯

4. Changes in degrees and methods of faculty performance assessment and accountability have been reported. Please indicate your level of agreement with the following:

	Strongly Disagree	Disagree	Neither Agree nor Disagree	Agree	Strongly Agree
Accountability in my teaching has increased	◯	◯	◯	◯	◯
Accountability in my research has decreased	◯	◯	◯	◯	◯
I have too many accountability exercises to perform	◯	◯	◯	◯	◯
The current faculty performance evaluation method at my HEI is adequate and fair	◯	◯	◯	◯	◯

Faculty Identity and Institutional Type (F.I.I.T) Questionnaire

5. There have been reports of changes in the management style of HEIs in Ireland. Please indicate your level of agreement with the following:

	Strongly Disagree	Disagree	Neither Agree nor Disagree	Agree	Strongly Agree
There is a collegial approach to management in my HEI	◯	◯	◯	◯	◯
The governing body in my HEI has conceded too much authority to management	◯	◯	◯	◯	◯
There is a top down management style at my HEI	◯	◯	◯	◯	◯
There is a business model management style at my HEI	◯	◯	◯	◯	◯

6. There have been reports of changes in the workload of faculty internationally. Please indicate your level of agreement with the following:

	Strongly Disagree	Disagree	Neither Agree nor Disagree	Agree	Strongly Agree
My research workload is increasing	◯	◯	◯	◯	◯
My teaching workload is increasing	◯	◯	◯	◯	◯
My service workload is increasing	◯	◯	◯	◯	◯
My administrative tasks are increasing	◯	◯	◯	◯	◯

7. Changes in faculty's sense of community and level of collegiality have been reported internationally. Please indicate your level of agreement with the following:

	Strongly Disagree	Disagree	Neither Agree nor Disagree	Agree	Strongly Agree
There is a strong sense of community at my HEI	◯	◯	◯	◯	◯
I feel that I have the support of my colleagues at my HEI	◯	◯	◯	◯	◯

Faculty Identity and Institutional Type (F.I.I.T) Questionnaire

8. Changes in the tenure process in Ireland have been suggested and reported. Please indicate your level of agreement with the following:

	Strongly Disagree	Disagree	Neither Agree nor Disagree	Agree	Strongly Agree
There is an increasing casualisation of Irish faculty	◯	◯	◯	◯	◯
Tenure is a necessary condition for academic employment	◯	◯	◯	◯	◯
Tenure is granted too early in Ireland	◯	◯	◯	◯	◯

9. There have been reports of changes in the valuing of teaching in Irish HEIs. Please indicate your level of agreement with the following:

	Strongly Disagree	Disagree	Neither Agree nor Disagree	Agree	Strongly Agree
Teaching is being devalued at my HEI	◯	◯	◯	◯	◯

10. A changing emphasis on research has been widely reported. Please indicate your level of agreement with the following:

	Strongly Disagree	Disagree	Neither Agree nor Disagree	Agree	Strongly Agree
There is an increased emphasis on research at my HEI	◯	◯	◯	◯	◯
I feel increasing pressure to be research active	◯	◯	◯	◯	◯

11. Changes is the resources available to Irish faculty to perform their duties in their HEI have been reported. Please indicate your level of agreement with the following:

	Strongly Disagree	Disagree	Neither Agree nor Disagree	Agree	Strongly Agree
I have adequate resources and support to perform my teaching	◯	◯	◯	◯	◯
I have adequate resources and support to perform my research	◯	◯	◯	◯	◯

Faculty Identity and Institutional Type (F.I.I.T) Questionnaire

12. There have been reports of changes in academic freedom by faculty in Ireland and elsewhere. Please indicate your level of agreement with the following:

	Strongly Disagree	Disagree	Neither Agree nor Disagree	Agree	Strongly Agree
Academic freedom has not diminished in my HEI	◯	◯	◯	◯	◯
My research agenda has been curtailed by funding constraints	◯	◯	◯	◯	◯

13. Some changes in faculty roles have been attributed to ICT. Please indicate your level of agreement with the following:

	Strongly Disagree	Disagree	Neither Agree nor Disagree	Agree	Strongly Agree
I often use ICT in my teaching	◯	◯	◯	◯	◯
ICT enhances my teaching	◯	◯	◯	◯	◯
Technology use is encouraged regardless of its effectiveness in teaching at my HEI	◯	◯	◯	◯	◯

14. The reported changing student profile has potentially created new demands on Irish faculty. Please indicate your level of agreement with the following:

	Strongly Disagree	Disagree	Neither Agree nor Disagree	Agree	Strongly Agree
Mature students expect more from me than younger students	◯	◯	◯	◯	◯
Mature students expectations of me increases my workload	◯	◯	◯	◯	◯

15. In the context of the debate on grade inflation, please indicate your level of agreement with the following:

	Strongly Disagree	Disagree	Neither Agree nor Disagree	Agree	Strongly Agree
I have inflated student grades	◯	◯	◯	◯	◯
I have felt pressure to grade differently by my HEI	◯	◯	◯	◯	◯
My performance evaluation takes my students grades into account	◯	◯	◯	◯	◯

Faculty Identity and Institutional Type (F.I.I.T) Questionnaire

16. Continued professional development and training resources available for faculty in Irish HEIs has been reported as an issue. Please indicate your level of agreement with the following:

	Strongly Disagree	Disagree	Neither Agree nor Disagree	Agree	Strongly Agree
My HEI provides adequate training for my development of scholarship and updating of knowledge	◯	◯	◯	◯	◯
I need extra training in research skills	◯	◯	◯	◯	◯
I need extra training in teaching skills	◯	◯	◯	◯	◯

17. Nomenclature can confer status and reputation. Please indicate your level of agreement with the following:

	Strongly Disagree	Disagree	Neither Agree nor Disagree	Agree	Strongly Agree
The nomenclature of assistant lecturer is demotivating	◯	◯	◯	◯	◯
The nomenclature of below the bar lecturer is demotivating	◯	◯	◯	◯	◯
The nomenclature of junior lecturer is demotivating	◯	◯	◯	◯	◯
The nomenclature of Contract of Indefinite Duration CID is demotivating	◯	◯	◯	◯	◯

18. Institutional prestige, ranking and type have been reported as having impacts on faculty. Please indicate your level of agreement with the following:

	Strongly Disagree	Disagree	Neither Agree nor Disagree	Agree	Strongly Agree
IoT faculty are as high status as university faculty at comparable career levels	◯	◯	◯	◯	◯
Moving to the same academic grade in a more prestigious HEI is as favourable to me as a grade promotion in my current HEI	◯	◯	◯	◯	◯
HEI prestige is a factor in my career planning	◯	◯	◯	◯	◯

Faculty Identity and Institutional Type (F.I.I.T) Questionnaire

19. Reward and recognition of faculty activities and successes has been reported as an issue in Irish HEIs. Please indicate your level of agreement with the following:

	Strongly Disagree	Disagree	Neither Agree nor Disagree	Agree	Strongly Agree
There is adequate recognition of my success at my HEI	◯	◯	◯	◯	◯

20. Expectations for faculty performance has been reported as an issue in Irish HEIs. Please indicate your level of agreement with the following:

	Strongly Disagree	Disagree	Neither Agree nor Disagree	Agree	Strongly Agree
The expectations for my performance are clear to me	◯	◯	◯	◯	◯
Promotion criteria are clear to me	◯	◯	◯	◯	◯

21. The adaptability of Irish faculty to changing conditions has been noted. Please indicate your level of agreement with the following:

	Strongly Disagree	Disagree	Neither Agree nor Disagree	Agree	Strongly Agree
I have had a colleague sit in during my classes to improve my teaching via feedback and learning	◯	◯	◯	◯	◯
I have adapted my teaching to accommodate a changing student profile	◯	◯	◯	◯	◯
I have taken extra training to develop my teaching skills	◯	◯	◯	◯	◯
I have incorporated ICT into my teaching	◯	◯	◯	◯	◯
I have taken extra training to develop my research skills	◯	◯	◯	◯	◯
I have taken extra training in ICT	◯	◯	◯	◯	◯
I keep up to date with developments in my field	◯	◯	◯	◯	◯

22. Please enter any additional comments you would like to make about changes to your working conditions

Faculty Identity and Institutional Type (F.I.I.T) Questionnaire

4. Subjective Experiences

This section measures subjective experiences in relation to motivation, satisfaction, stress, balancing of roles, employment equity, care duties, career aspirations and faculty identity.

23. Please rate the following EXTERNAL rewards by how much they motivate you in terms of your working life (adapted from Feldman & Paulsen, 1999):

	Very little	A little	Somewhat	A lot	A very great deal
Tenure	◯	◯	◯	◯	◯
Security	◯	◯	◯	◯	◯
Promotion	◯	◯	◯	◯	◯
Recognition	◯	◯	◯	◯	◯
Merit pay	◯	◯	◯	◯	◯
Salary	◯	◯	◯	◯	◯
Travel provisions	◯	◯	◯	◯	◯

24. Please rate the following INTERNAL rewards by how much they motivate you in terms of your working life (adapted from Feldman & Paulsen, 1999):

	Very little	A little	Somewhat	A lot	A very great deal
Feeling satisfaction from interacting with students	◯	◯	◯	◯	◯
Feeling a sense of competence through increasing skill and knowledge	◯	◯	◯	◯	◯
Having opportunities for learning and to use skills and knowledge	◯	◯	◯	◯	◯
Having autonomy - independence (self-determination)	◯	◯	◯	◯	◯
Having passion for my subject area	◯	◯	◯	◯	◯
Collaborating with peers	◯	◯	◯	◯	◯
Feeling satisfaction from performing research	◯	◯	◯	◯	◯

Faculty Identity and Institutional Type (F.I.I.T) Questionnaire

25. All things considered, how satisfied are you in your current position?

- ◯ Very dissatisfied
- ◯ Dissatisfied
- ◯ Neither satisfied nor dissatisfied
- ◯ Satisfied
- ◯ Very satisfied

26. All things considered how stressful is your current position?

- ◯ Not at all stressful
- ◯ Not stressful
- ◯ Neither stressful nor not stressful
- ◯ Stressful
- ◯ Very stressful

27. Balancing faculty roles and achieving work-life balance are issues raised in the liteature on academic working conditions. Please indicate your level of agreement with the following statements:

	Strongly Disagree	Disagree	Neither agree nor disagree	Agree	Stongly Agree
My job is conducive to family life	◯	◯	◯	◯	◯
I frequently find myself working during personal time	◯	◯	◯	◯	◯
I am able to prioritise time and effort appropriately across academic tasks	◯	◯	◯	◯	◯
Institutional expectations for how to manage my time and what to focus on are clear to me	◯	◯	◯	◯	◯

Faculty Identity and Institutional Type (F.I.I.T) Questionnaire

28. Have you ever been discriminated against in your HEI on the basis of any of the following? Please select all that apply

- ☐ Gender
- ☐ Marital Status
- ☐ Family Status (e.g. pregnant, maternity leave, children or other dependents)
- ☐ Age
- ☐ Disability
- ☐ Race/skin colour/ethnic group/nationality
- ☐ Sexual orientation
- ☐ Religious belief
- ☐ Membership of the Traveller community
- ☐ Other
- ☐ I have never been discriminated against in my HEI

29. Care duties (child care and other dependent care) outside the workplace have been raised as an issue impacting on academic working conditions. Please indicate your level of agreement with the following statements:

	Strongly Disagree	Disagree	Neither Agree nor Disagree	Agree	Strongly Agree	Not Applicable
My care duties do not impact on my career progression	◯	◯	◯	◯	◯	◯
My prioritisation of my care duties limits my career progression possibility	◯	◯	◯	◯	◯	◯
It is possible to perform my care duties and progress my career simultaneously	◯	◯	◯	◯	◯	◯

30. Please indicate your level of agreement with the following statements in relation to gender:

	Strongly Disagree	Disagree	Neither Agree nor Disagree	Agree	Strongly Agree
Women are equally represented at all academic career levels in my HEI	◯	◯	◯	◯	◯
Gendered characteristics are valued differently at my institution (e.g. competitive over emotional)	◯	◯	◯	◯	◯

Faculty Identity and Institutional Type (F.I.I.T) Questionnaire

31. Please indicate your level of agreement with the following statements in relation to your career aspirations:

	Strongly Disagree	Disagree	Neither Agree nor Disagree	Agree	Strongly Agree
My HEI is where I would like to remain for the rest of my career	◯	◯	◯	◯	◯
My HEI facilitates my career aspirations and development	◯	◯	◯	◯	◯
I would like to get a faculty position in another HEI in Ireland	◯	◯	◯	◯	◯
I would like to get a faculty position in another HEI outside of Ireland	◯	◯	◯	◯	◯
I would like to get a faculty position in the other type of HEI	◯	◯	◯	◯	◯
I would like to get a position in the private or public sector or NGO	◯	◯	◯	◯	◯

32. Recent research suggests there is an 'age to seniority' correlation implicit in faculty careers (Strike & Taylor, 2008). Please indicate your level of agreement with the following:

	Strongly Disagree	Disagree	Neither Agree nor Disagree	Agree	Strongly Agree
Age is an implicit career timetable that shows if you are on or off schedule in terms of your career progression	◯	◯	◯	◯	◯

Faculty Identity and Institutional Type (F.I.I.T) Questionnaire

33. Some literature on academic working conditions suggest a broad contextual change which impacts on faculty identity. Please indicate your level of agreement with the following:

	Strongly Disagree	Disagree	Neither agree nor disagree	Agree	Strongly Agree
I feel nostalgic for the 'golden age' in academia which is now lost	◯	◯	◯	◯	◯
Ideals of rationality, social progress and betterment are central to academic identity	◯	◯	◯	◯	◯
Academic values and roles provided by the norms and rules of my institution make up my academic identity	◯	◯	◯	◯	◯
I am engaged in a creative constitution and reconstitution of my academic identity with my discipline, profession, HEI and national stakeholders	◯	◯	◯	◯	◯

34. Please enter any additional comments you would like to make about your subjective experiences in relation to your work

Faculty Identity and Institutional Type (F.I.I.T) Questionnaire

5. Profile

The anonymity of your institution will be respected in all resulting publications. Direct identifiers of HEIs will be replaced by generic terms (eg. University A, B. IoT A, B).

35. What is your gender?

- ◯ Male
- ◯ Female
- ◯ Other

36. What is your age?

- ◯ 24 years and under
- ◯ 25-44
- ◯ 45-64
- ◯ 65 years and over

37. What is your nationality?

- ◯ Irish
- ◯ EU
- ◯ Rest of Europe
- ◯ Afica
- ◯ Asia
- ◯ America
- ◯ Australia
- ◯ New Zealand
- ◯ Other nationality

38. What is your ethnic group?

The ethnic group categories used in this questionnaire are those used by the Central Statistics Office (Government of Ireland, 2007). The CSO categories are being used in order to facilitate comparisons of representation with other professional groups.

- ◯ White (Irish, Irish Traveller, Any other White background)
- ◯ Black or Black Irish (African, Any other Black background)
- ◯ Asian or Asian Irish (Chinese, Any other Asian background)
- ◯ Other, including mixed background

Faculty Identity and Institutional Type (F.I.I.T) Questionnaire

39. What is your highest academic qualification?

- ◯ Level 6 (Higher Certificate, Advanced Certificate)
- ◯ Level 7 (Ordinary Bachelor Degree)
- ◯ Level 8 (Honours Bachelor Degree, Higher Diploma)
- ◯ Level 9 (Masters, Postgraduate Diploma)
- ◯ Level 10 (Doctoral Degree, Higher Doctorate)

40. What is your academic discipline?

The categorisations below are those used by the HEA (HEA, 2010)

- ☐ Education Science
- ☐ Humanities & Arts
- ☐ Social Sciences, Business & Law
- ☐ Science
- ☐ Engineering, Manufacturing & Construction
- ☐ Agriculture & Vetinary
- ☐ Health & Welfare
- ☐ Services (includng Leisure, Tourism, Catering and Hotel Management)

41. Which HEI are you currently working in?

42. Please give details of your current position

	Sector	Start Year	Career Level (IoT/Uni)	Full or part time	Temporary or permanent
Current					

Faculty Identity and Institutional Type (F.I.I.T) Questionnaire

43. Please give details of your previous academic positions and relevant professional non-academic positions

	Sector	Start Year	Location
1			
2			
3			
4			
5			
6			
7			
8			
9			
10			

44. How many hours are you contracted to work per week? (please round up to the nearest whole hour)

	Hours per week when classes are in session	Hours per week when classes are NOT in session
Contracted working week		

45. There have been reports of faculty working beyond contracted hours. Please enter the hours you ACTUALLY work per week? (please round up to the nearest whole hour)

	Hours per week when classes are in session	Hours per week when classes are NOT in session
ACTUAL working week		

Faculty Identity and Institutional Type (F.I.I.T) Questionnaire

46. What percentage of your ACTUAL working week do you spend on each of the following activities?

	Per cent per week when classes are in session	Per cent per week when classes are NOT in session
Teaching (classroom instruction, practice instruction, ICT-based learning, distance education)		
Postgraduate research supervision		
Teaching related activities (preparation of instructional materials, lesson plans, advising students, reading and evaluating student work)		
Research (reading literature, writing, conducting experiments, fieldwork)		
Service (services to clients, unpaid consulting, public or voluntary services)		
Administration (committees, department meetings, paperwork)		
Management (leadership and scholarship, strategic and operational planning, quality assurance procedures, supervising staff, participating in recruitment)		
Other academic activities (professional activities not clearly attributable to any of the categories above)		

47. How many students do you instruct at the following levels?

Undergraduate	
Postgraduate Taught	
Postgraduate Research	

Faculty Identity and Institutional Type (F.I.I.T) Questionnaire

48. How many of the following scholarly contributions have you completed in the last academic year?

Scholarly books you authored or co-authored	
Scholarly books you edited or co-edited	
Articles published in an academic journal	
Chapters published in an academic book	
Research report / monograph written for a funded project	
Policy paper	
Paper presented at a scholarly conference	
Professional article written for a newspaper or magazine	
Patent secured on a process or invention	
Computer program written for public use	
Artistic work performed or exhibited	
Video or film produced	
Others	

49. Do your interests lie primarily in research or in teaching?

- ◯ Primarily in teaching
- ◯ In both, but leaning towards teaching
- ◯ Equally in both research and teaching
- ◯ In both, but leaning towards research
- ◯ Primarily in research

50. Please indicate the degree to which each of the following affiliations is important to you

	Not at all important	Not very important	Neither important nor unimportant	Important	Very Important
My academic discipline/field	◯	◯	◯	◯	◯
My department	◯	◯	◯	◯	◯
My institution	◯	◯	◯	◯	◯
My profession	◯	◯	◯	◯	◯

Faculty Identity and Institutional Type (F.I.I.T) Questionnaire

6. Thank You

Thank you very much for your participation in this research.

Appendix 5 – Invitation letter to participate to lecturing academic staff members

Dear Lecturing/academic staff member

I am writing to you to request your participation into research on the changing working conditions of Irish lecturing/academic staff, which forms the basis for my PhD.

The Department of Finance's Special Group on Public Service Numbers and Expenditure Programs and the Department of Education and Science's Strategic Review of Irish Higher Education have both looked at issues associated with the conditions of work and performance of the Irish lecturing staff. However, there is an absence of comprehensive baseline data about the roles and working conditions, in addition to the views and experiences of Irish academics, in the Institutes of Technology (IoTs) and the Universities.

Irish government policy has historically distinguished between the mission and ambition of IoTs and universities. This study aims to establish the extent to which these differences are reflected in the working conditions, experiences and opportunities of academics in both sectors, especially in the changed environment. The data for this research is being gathered in three parts.

1) Baseline data about academic staff is being collected from the Human Resource departments of Irish Higher Education Institutions (HEIs).

2) The **Faculty Identity and Institutional Type (F.I.I.T) Questionnaire**, requests information from lecturing staff on changes to their working conditions and the impacts of those changes as well as requesting some profile information.

3) Interviews with HEI administration (such as, department heads, HR managers) and external stakeholders (including HEA, IFUT and TUI).

This questionnaire relates to No. 2 above. The questions are derived from an extensive national and international literature review of the impact of changes in higher education on academic staff roles and working conditions in different institutional types. As changes in Irish higher education accelerate, your response to these questions will provide invaluable information about their potential impacts on staff.

The completion of the 50 questions contained in this questionnaire should take approximately 30 minutes.

Please complete the questions at the below hyperlink by 31st October, 2010.
http://www.surveymonkey.com/s/MHGHYVX

While you are being contacted at your institution, the anonymity of each respondent and your institution will be respected in all resulting publications. Direct identifiers of HEIs will be replaced by generic terms (e.g. University A, B. IoT A, B). All dissemination of

findings including feedback on the questionnaire data during follow up interviews and interviews with stakeholders will only use anonymised descriptors of the HEIs.

This research has been approved by the DIT Research Ethics Committee, and conforms to all guidelines with respect to good ethical research and scholarly practice.

For your information, I have previously worked on a number of higher education research projects based in the Higher Education and Policy Research Unit, Dublin Institute of Technology, including; 'The Impact and Influence of Rankings on Higher Education' (in association with the OECD, IAU and the Institute of Higher Education Policy (IHEP) with funding from the Lumina Foundation (US)); 'The National Report on Curricular Reform' (in association with the European Centre for Strategic Management of Universities (ESMU)); I was National Correspondent for 'Career Development in Higher Education Management: Analysis of European Models' (in association with CHE, CHEPS, ESMU). I have also co-authored chapters on 'Ireland: The Challenges of Building Research in a Binary HE Culture' and 'Transforming Academic Practice: Human Resources Challenges' in S. Kyvik and B. Lepori, eds. Research in the non-university higher education sector in Europe, Springer (In print).

If you have any questions, please do not hesitate to contact me.

Thank you very much for your interest and time.

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