Consequences of Self-leadership in an Irish Public Sector Knowledge Organisation

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Declaration

The author hereby declares that, except where duly acknowledged and referenced, this research study is entirely his own work and has not been submitted for any degree or other qualification in Waterford Institute of Technology or any other third level institution in Ireland or internationally.

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Abstract

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The current research project attempts to link self-leadership with psychological empowerment, while also exploring the relationships between self-leadership and both job satisfaction and work performance. Despite an extensive body of literature on psychological empowerment and self-leadership, there is a lack of empirical support for a heightened experience of empowerment resulting from self-leadership. This research is timely given the ongoing reforms of the Irish public sector which are focussed on improving service delivery with reduced resources, including staff numbers. The reported research was conducted within one Irish public sector organisation, Teagasc, in two phases. Firstly, a series of semi-structured interviews was used to clarify key issues in relation to self-leadership within Teagasc. Secondly, web-based survey data from approximately 500 Teagasc employees was analysed to explore relationships between self-leadership, psychological empowerment, work performance, job satisfaction and a number of moderating and control variables. The interviews highlighted the importance of self-leadership to Teagasc while also recognising the challenges facing the organisation to allow individuals the freedom to be self-leaders within the management and governance structures of a public sector organisation. It also emerged that there exists an expectation of self-leadership by Teagasc professionals and that the organisation can help or hinder the development of self-leadership skills by employees. The results from the web-based survey showed that self-leadership is positively related to psychological empowerment, job satisfaction and self-reported work performance. Furthermore, psychological empowerment mediated the relationship between self-leadership and both job satisfaction and self-reported work performance. This research has provided empirical evidence for psychological empowerment as an outcome of self-leadership while supporting the claims for self-leadership as a tool to improve personal effectiveness (as measured by self-reported work performance). Practically, the results will be of direct benefit to Teagasc, and other similar organisations, as they attempt to cope with reduced Government support.

Acknowledgements

This research project would not have been completed without the support and encouragement of many people to whom I am grateful.

I would like to acknowledge and thank the following people for their assistance over the course of my research journey.

"The reward of a work is to have produced it; the reward of effort is to have grown by it."

Antonin-Gilbert Sertillanges (French Catholic philosopher, 1863 – 1948)

"Patience, persistence and perspiration make an unbeatable combination for success."

Napoleon Hill (American author, 1883 – 1970)

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List of Abbreviations

AMOS	IBM SPSS AMOS software
CFA	Confirmatory Factor Analysis
CPS	Cumulative Paper Series
DBA	Doctorate in Business Administration
EFA	Exploratory Factor Analysis
HR	Human Resources
ICT	Information and Communications Technology
LDP	Leadership Development Programme (Teagasc)
MDP	Management Development Programme (Teagasc)
PASW	IBM Predictive Analytic software
PSO	Public Sector Organisation
RSLQ	Revised Self-leadership Questionnaire
SD	Standard Deviation
SEM	Structural Equation Modelling
SRWP	Self-reported work performance
URL	Uniform resource locator, also known as web address, particularly when used with http:

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Language

The spelling and grammar used within this thesis is English (Ireland). For consistency, all spelling has been standardised to this format, including citations, titles of works and reference list entries. Hence, words such as 'organization' and 'behavior' will appear in this thesis as 'organisation' and 'behaviour' respectively in all instances.

Appendices and References

Rather than leave the references and appendices with each of the papers in the Cumulative Paper Series (CPS – Chapters Two to Five), it was decided to collate all appendices and references in the final two sections of the thesis in order to avoid duplication and to streamline referencing throughout the thesis.

Glossary of Terms

Term	Brief explanation
Self-leadership	Self-leadership is a self-influence process through which individuals control their own behaviour by the use of a defined range of behavioural and cognitive strategies. It primarily concerns the development of intrapersonal skills (self-awareness, self-regulation and self-motivation) leading to improved self-development, self-mastery and personal effectiveness.
Psychological empowerment	The psychological empowerment concept focuses on how individuals (or teams) perceive their work; it refers to a set of psychological or cognitive states that are necessary for individuals to feel a sense of control in relation to their work.
Empowering leadership	Empowering leadership is a form of leadership which involves the process of implementing conditions that enable sharing power with an employee by delineating the significance of the employee's job, providing greater decision-making autonomy, expressing confidence in the employee's capabilities and removing hindrances to performance.
Job satisfaction	Job satisfaction refers to an overall positive emotional response to a job as a whole or in general. It can be considered as a global feeling about a job.
Self-reported work performance	An individual's self-assessment of their work performance incorporating two elements, work effort and work quality.
Innovativeness (willingness to try)	Innovativeness is the degree to which an individual is relatively earlier in adopting new ideas than the other members of a system; it can be considered as a willingness to innovate.
Mindset	Mindset refers to the ideas and attitudes with which a person approaches a situation. Individuals with a fixed

	mindset assume that personal attributes, such as abilities, intelligence and personality, are stable and tend not to change over time. On the other hand, individuals with a growth mindset believe that their personal attributes (and those of others) can be changed and developed over time.
Teagasc	Teagasc is the national body providing research, advisory and training services to the Irish agriculture and food industry and rural communities. It is 75% State and EU funded. It employs c. 1,100 staff in three Directorates: Research, Knowledge Transfer and Operations.
Public sector organisation	The public sector consists of government and all publically controlled or funded agencies and entities that deliver public programmes, goods or services that are either not, or cannot be provided by the private sector. It consists of national and local government, government agencies, public enterprises and state businesses.

Chapter 1: Introduction and DBA Research Overview

1.1 Preface

Leadership is one of the most extensively studied occurrences in organisational life. This interest in leadership is associated with change and complexity in the business and organisational environment (Higgs, 2003) and has led to a number of different leadership definitions and theoretical models. Most leadership definitions refer to the influence of a leader on the behaviour of followers; leadership is seen as a role (Pearce and Manz, 2014) involving influencing other people towards common objectives (Karp, 2013). The implication is that there is more than one person involved and that influence is exerted by a person with more power (the leader) over others with less (the followers). But in today's knowledge-based world, there is a requirement for a more nuanced approach (Pearce and Manz, 2014) to leadership. There is perhaps a requirement to focus on the 'knowing' and 'doing' dimensions of leadership rather than on the 'being' dimension (Nohria and Khurana, 2010). In addition, if the quality of leadership matters, then so too does its development (Avolio, 2010) and there is a requirement to focus on appropriate leadership development strategies which move beyond the simplistic, hierarchical model of leadership (Pearce and Manz, 2014).

This hierarchical model of leadership is represented by the directive, transactional and transformational archetypes (Manz and Sims, 2001) but it is increasingly common today for many organisations to have adopted the empowering archetype (the fourth archetype proposed by Manz and Sims, 2001) for at least part of their workforce (Spreitzer, 2008). Organisations have realised that they need the knowledge, ideas, energy and creativity of every employee, and not just those in senior management. Of interest for the current research is the move by an increasing number of public sector organisations (PSOs) including Teagasc (Teagasc, 2012d) to move away from the traditional top-down, directive leadership model towards a leadership model that involves empowering individuals at all organisational levels to take greater responsibility for their own work-related behaviours and action (Pearce and Manz, 2005). But this shift requires followers to accept the opportunities offered by the empowering leadership approach. It relies on individuals to lead themselves, to practise self-leadership, while recognising that the energy and

motivation of followers needs to be engaged to improve organisational effectiveness (Yun *et al.*, 2006).

Each individual's performance is affected by the constant interaction of perceptions, emotions and motivations caused by daily events. Yet this inner work life (Amabile and Kramer, 2007) remains mostly invisible to others. Self-leadership theory posits that the attitudes, beliefs, habits and motivational preferences of individuals make a critical difference in both accomplishments and personal satisfaction at work (vanWart, 2005, p. 133) and that effective self-leaders use a variety of self-influence strategies to consciously influence their own thoughts and behaviour (Neck and Manz, 2013; Manz, 1986). It puts the focus on each individual while acknowledging that individuals must work together for organisational success. It also implies that although an individual's behaviours are often directed by external forces, such as a vertical leader, individual actions in the workplace are ultimately controlled by internal forces (Manz, 1986; Stewart *et al.*, 2011).

Such a view calls into question the assumption that leadership behaviours occur solely within the leadership role, and that leaders and followers are fundamentally different types of people (Bligh and Kohles, 2012). While the vast majority of research in the leadership domain focusses on those in the leadership role, recent research (Yun *et al.*, 2006; Bligh and Kohles, 2012) has centred on the relationship between the leader and followers, and more specifically on the role of the follower. Carsten *et al.* (2010) consider self-leadership a 'follower-centric' (Meindl, 1995) approach to leadership which privileges the role of the follower but argue that it does not contribute to the understanding of followership (*ibid,* p. 544) as it focuses on leadership, and not followership, behaviours. Were it to be considered a followership approach, self-leadership would focus on how followers view their own roles and behaviours in relation to leaders (Carsten *et al.*, 2010, Uhl-Bien *et al.*, 2014). It is interesting to note that Kelley (1992 *as cited by* Dvir *et al.*, 2002) conceptualises the best followers as those who 'think for themselves', 'are their own person', 'take initiative', 'go above and beyond the job' and 'are self-starters'. Such characteristics are frequently suggested as the hallmark of an effective self-leader (Neck and Manz, 2013; Bryant and Kazan, 2013). The

recent followership studies (Yun *et al.*, 2006; Bligh and Kohles, 2012) are a welcome development as they promote the active role of followers in the leadership process. That being the case, all organisational members may be considered to be simultaneously leading and following (Weick, 2007), and consequently there is a need to understand the processes by which individuals influence firstly, themselves, and secondly, others. It is this concept of personal influence or self-leadership (Neck and Manz, 2013; Manz, 1986) which is central to this study.

In the current study, it was decided to examine the impact of the individual level variable empowering leadership, rather than the macro level variable empowerment climate (Seibert *et al.*, 2004) on both self-leadership and psychological empowerment. The justification for this is that the focus of the current study was at the individual level of analysis. If the focus of the current study was on shared leadership (Pearce and Conger, 2003; Manz *et al.* 2013), it would make more sense to incorporate empowerment climate as a contextual variable as the analysis could be conducted at the unit or team level. Despite this, it is recognised that supervisors manage large numbers of followers simultaneously and that the empowerment climate perspective emphasises the notion of thinking about employee empowerment in terms of the context in which employees work (Schneider, 1985 as cited by Seibert *et al.*, 2004).

The following section provides a summary overview of linkage between self-leadership and personal effectiveness, leading to the presentation of the overarching research question for the current study.

1.2 Principal Research Question

The underlying theme of this research study is that the behavioural and cognitive strategies of self-leadership, if practised by individuals, will influence personal effectiveness. Self-leadership skills impact on our current and future performances through their impact on our self-efficacy perceptions (Houghton *et al.*, 2003; Neck and Manz, 2013). Unless individuals believe that they can produce desired effects and prevent undesired ones by their actions, they have little incentive to act or to persevere in the face of difficulties (Bandura, 2009). Belief in one's capabilities contributes to motivation and action. People act on

their beliefs about what they can do, their opinions of the likely outcome and their perceptions of the enablers and impediments that they will encounter (Bandura, 2009). Contributors (Stajkovic and Luthans, 1998; Gist and Mitchell, 1992; Gist, 1987) have suggested that a resilient sense of self-efficacy is required for performance excellence in today's world and that it is the primary mechanism through which self-leadership impacts on performance (Prussia *et al.*, 1998).

Figure 1: Relationship between self-leadership, personal effectiveness and self-efficacy
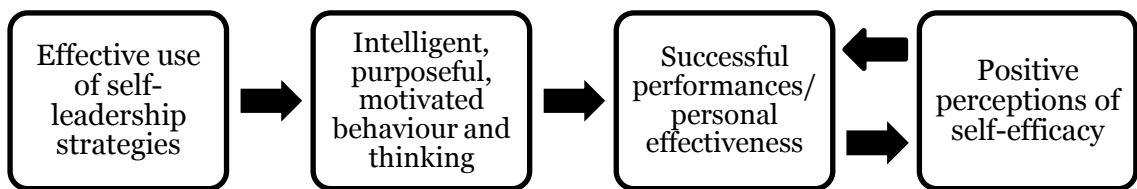
While an individual may recognise that he indulges habits that prevent him from improved personal effectiveness, a self-leader will use a range of behavioural and cognitive strategies to do something about it. A considerable body of research work supports the view that self-leadership is essential for effective functioning. Readers are referred to the recent *Journal of Management* review article (Stewart *et al.*, 2011) for a detailed appraisal of self-leadership including its associated outcomes at both the individual and team level.

Consequently, the guiding research question for the current research is to determine the impact of self-leadership on the performance of Teagasc employees.

1.3 Self-leadership Definition and Brief Overview

Self-leadership (Manz, 1986; Neck and Manz, 2013) is a process through which individuals guide, influence and lead themselves through the use of a series of behavioural and cognitive strategies. It is the process by which individuals'

effectiveness is increased, while also maintaining or increasing intrinsic motivation and other various forms of psychological well being. The notion that all individuals can lead or influence themselves is not new but self-leadership theory has a shorter history; its origin can be traced to a practitioner-oriented book in 1983 and a seminal academic work published three years later in the *Academy of Management Review* (Manz, 1986). It is closely associated with the idea of empowerment – both structural and psychological forms (Spreitzer, 2008) – and is rooted in two prominent theories of human behaviour: social cognitive theory (Bandura, 1986) and intrinsic motivation theory (Deci and Flaste, 1995; Ryan and Deci, 2000a, b).

Developing oneself is the topic of thousands of books and self-help methodologies. It is a popular theme with researchers and in both the academic and popular press. Despite this interest, Karp (2013) suggests that there is a relatively loose understanding of the self as it applies to leadership. Quoting Locke (1979/ 1690, p. 129), Karp highlights the two levels of consciousness (first order and second order) and the central role that second-order consciousness, which is reflective and aware of events, plays in self-leadership. Indeed it is questionable whether one can develop as a self-leader in the absence of self-awareness. Of additional interest is Karp's contention that it is not necessary to attempt to achieve the highest possible state of self in order to develop oneself. An alternative strategy is to manage the various internal (psychological) and other forces influencing one's performance thereby raising awareness and acceptance of these forces (Karp, 2013). In this way, and through the use of self-awareness, the individual can take action and build self-confidence.

Self-leadership extends the related concepts of self-control and self-management as it involves more than managing one's behaviour to meet existing standards and objectives (Pearce and Manz, 2005; Markham and Markham, 1995). An individual's self-leadership increases once they move beyond regulating compliance with external standards to internally establishing standards (Stewart *et al.,* 2011). Self-management addresses the question of 'how' to accomplish tasks and meet standards. Self-leadership addresses 'what' is to be accomplished (the setting of standards or objectives);

'why' it is to be accomplished (the analysis of the current situation) as well as 'how' to accomplish it (Manz, 1991).

There are three primary categories of self-leadership strategies: behaviour focussed, cognitive focussed and natural rewards strategies. A more detailed description of each of the three categories and nine strategies associated with self-leadership is included in Table 1.

The behaviour focussed category of self-leadership strives to heighten one's self-awareness in order to facilitate behavioural management, especially for necessary but unpleasant tasks. Strategies include self-observation, self-goal setting, self-cueing, self-reward and self-punishment (more recently reconceptualised as self-correcting feedback, Neck and Houghton, 2006). The second category of cognitive focussed strategies concentrates on establishing and altering thought patterns in desirable ways. Strategies include visualisation (mental imagery), self-talk and evaluating beliefs and attitudes. Finally, the third category of natural rewards strategies involves creating a positive identification with work through the creation of self-motivating situations. There are two types of natural rewards strategies: building natural rewards into tasks and focussing on the natural reward inherent in tasks. In summary, the three self-leadership strategies allow individuals to display more self-discipline over their behaviour, build intrinsic motivation into their work and to mentally cope with frustrations and setbacks, thereby leading to improved performance (Neck and Manz, 2013; Stewart *et al.*, 2011; Houghton *et al.*, *in press*).

Table 1: A summary of the self-leadership strategies

Category	Strategy	Description	Example
Behaviour focussed *- leading ourselves to do necessary but unattractive tasks*	Self-observation	Involves increasing one's awareness of when one engages in specific behaviours	Paying attention to progress on a task or project; identifying distractions
	Self-goal setting	Armed with more accurate self-awareness, one can set behaviour altering goals for oneself	Self-set, specific, personal goals for one's performance
	Self-reward	Self-set rewards, combined with self-set goals, can energise the effort necessary to accomplish such goals	A treat on completion of a job or task
	Self-punishment (or self-correcting feedback)	Operates in much the same way as self-reward as it focusses on self-applied consequences for behaviour	Use constructive criticism (rather than excessive self-punishment) to improve performance
	Self-cueing	Involves introducing positive environmental cues to encourage positive behaviours while removing negative cues which encourage destructive behaviours	Written notes (+ve) Remove a distracting object (-ve)
Cognitive focussed (constructive thought pattern) *- redesigning our psychological worlds*	Self-talk	Involves the replacement of destructive self-talk with more positive internal dialogues	Replace 'I am nervous about this meeting' with 'I am fully prepared for this meeting and I will make a number of useful contributions'.
	Evaluation of beliefs and assumptions	Involves the examination of current thought patterns and replacing dysfunctional/ irrational beliefs and assumptions	Replace 'I did a really poor job' with 'I could have done better but I will learn from the experience and do better next time'.
	Visualisation/ mental imagery	Involves the envisioning (or mental practice) of the successful performance of a task prior to actual performance	Imagine a positive experience resulting in success
Natural rewards focussed *- creating the self-motivating situation by creating feelings of competence and self-determination*	Building natural rewards into our activities	Involves building more pleasant and enjoyable features into a given activity	Choosing to hold a business meeting in a pleasant location
	Focussing on natural rewards inherent in tasks	Involves shaping one's perceptions by focussing attention away from the unpleasant aspects of a task and refocussing it on the task's inherently rewarding elements	Choosing to focus on the health benefits of exercise as opposed to the effort required

Sources: Neck and Manz, 2013; Stewart *et al.*, 2011; Houghton *et al., in press.*

Self-leadership does not suggest that external leadership or management is absent. Self-leadership should not be seen as a complete 'substitute for leadership' (Kerr and Jermier, 1978) but rather as a self-influence process that can be complementary to and facilitated by external leadership (Stewart *et al.,* 2011). Empowering leadership is a form of leader behaviour that has been shown to enhance follower self-leadership, especially where follower need for autonomy is high (Yun *et al.*, 2006).

Figure 2: Theoretical contexts, strategies and predictable outcomes of self-leadership

| *Theoretical contexts:*

Social cognitive theory

Intrinsic motivation theory | → | **Self-leadership strategies:**

Behaviour focussed

Cognitive focussed

Natural rewards focussed | → | **Predictable outcomes:**
Commitment
Independence
Creativity/ innovation
Psychological empowerment
Trust
Positive affect
Job satisfaction
Self-efficacy | → | Individual performance
Team performance
Organisational performance |

Sources: Neck and Manz, 2013; Houghton and Neck, 2006; Stewart *et al.*, 2011.

1.4 Self-leadership and Related Concepts

Self-leadership is distinguished from a number of related, yet separate, concepts in Section 3.9 (p. 48 and following). At this point, it may be useful to further compare self-leadership with three further concepts: emotional intelligence, mindfulness and personality traits. Similar to Manz (1986), Houghton *et al.* (2004) and Neck and Houghton (2006), it will be argued that self-leadership represents a unique set of strategies which are founded upon, related to, yet distinct from these three theories.

Emotional intelligence (Goleman, 1998) is the ability to perceive, manage and control our emotions and relationships with others (Collins and Duff, 2014). While Goleman (1998) identifies five domains, Collins and Duff (2014) suggest

four elements leading to improved emotional intelligence including self-awareness, self-management, social awareness and relationship management. The two intrapersonal elements (self-awareness and self-management) overlap with self-leadership but whereas emotional intelligence incorporates an interpersonal focus, self-leadership does not. Neck and Manz (2013, p. 149) conclude that while emotional intelligence focusses on the regulation of emotions and self-leadership focusses on the regulation of thoughts and behaviours, that both concepts almost certainly interact.

There is evidence that emotional intelligence can be developed. For example, Goleman (1998) emphasises that emotional competencies are not innate talents but are learned abilities whereas Higgs and Dulewicz (2000) suggest that certain aspects of emotional intelligence (including self-awareness) are more easily developed than other aspects. These claims point to the development opportunities for self-leadership; possibilities which have been further strengthened by a number of field-based experiments involving a self-leadership training intervention (see Appendix 4, p. 199 for a summary).

An emerging area in organisational research which appears to have some conceptual overlap with self-leadership is mindfulness. Mindfulness is defined as living in a state of full, conscious awareness of one's whole self, other people, and the context in which we live and work (Boyatzis and McKee, 2005; Gonzalez, 2012). In effect, mindfulness means being awake, aware and constantly attending to ourselves and to the world around us (McKee *et al.*, 2006). It requires two basic elements: attentiveness to one's context and the capacity to respond to unanticipated cues or signals from one's context (Levinthal and Rerup, 2006). Similar to both emotional intelligence and self-leadership, self-awareness is a key component of mindfulness. However mindfulness goes beyond the personal focus of self-leadership by incorporating a focus on an individual's relationships with others. Interestingly there is some emerging work (Amundsen and Martinsen, 2014) which suggests that self-leadership might pertain not only to individual and self-oriented thoughts and behaviours, but also to the need to coordinate efforts and cooperate with others. Given that the primary focus of the current study was on personal

influence processes, it was decided not to include mindfulness in the conceptual model.

It has previously been suggested that various aspects of self-leadership simply recast previous personality traits (Markham and Markham, 1995, p. 347). Williams (1997) proposed positive associations between self-leadership skills and the personality traits of extraversion, emotional stability, conscientiousness, general self-efficacy, internal locus of control and self-monitoring in a conceptual paper. Empirical evidence for at least some of these relationships was provided by Houghton *et al.* (2004) who concluded that the self-leadership dimensions and personality traits are related yet distinct concepts. According to these authors (*ibid*, p. 437), for individuals with no prior knowledge of self-leadership, self-leadership and personality would be statistically indistinguishable at the higher level of abstraction. However, once an individual applies the various self-leadership strategies, that individual's self-leadership behaviours will be affected over and above the effects of personality. Finally, Neck and Manz (2013, p. 149) conclude that personality appears to affect self-leadership in numerous ways and suggest that individuals who are high in the personality traits of judging, extraversion, conscientiousness, emotional stability, internal locus of control, self-monitoring and the need for autonomy are more likely to naturally engage in self-leadership than those low in those traits.

1.5 Rationale for the Current Research

This section addresses the three distinct, but inter-linked, justifications for the current research. As an academic practitioner, there is both an organisational justification and a personal motivation for the research, thereby allowing the researcher's management insights to inform research. Equally, this research integrates relevant theories using original scholarship to address an organisational issue of significance.

1.5.1 Organisational Rationale for the Research

Ongoing reform of the Irish public sector is demanding more of public sector employees with reduced resources and a contracted workforce (Leslie and

Canwell, 2010; Boyle, 2013; O'Riordan, 2013). Organisations across the public sector are facing enormous challenges as they aim to provide high quality services while operating within strictly limited resources – financial and human. Effectively public services, and those in management positions within those services, have to manage with what they have got.

Against this background, it is a stated objective of Teagasc to change from a traditional 'top-down' model of management and leadership, to a more shared leadership model. To meet the demands of this change, Teagasc needs employees who are willing and able to take on more responsibility and participate in decision making. Such individuals should also be able to provide leadership within their programmatic areas, the overall Teagasc organisation and externally within the wider agricultural and food community (Teagasc, 2011).

This move towards an empowering leadership approach by managers coupled with increased self-leadership by followers, is assuming greater importance for Teagasc as a result of several recent developments challenging the organisation. First, the reduced workforce is challenging Teagasc to utilise its human resources more fully. Second, with a reduced number of managers, more control is entrusted to followers who must increasingly learn to self-lead themselves towards performance outcomes. Third, the organisation has a stated desire for increased employee involvement, the use of empowered teams and a more shared model of leadership (Teagasc, 2011). Fourth, the workforce itself has changed with individuals now requiring greater meaning from their work. This shift towards an empowering leadership approach will provide an opportunity for employees at all levels to exercise greater influence over themselves and the work that they do (Hardy, 2007). As previously stated, this change in focus from top-down to empowering leadership is not confined to Teagasc but is growing in significance across the public sector (Conway *et al.*, 2012; Fernandez and Moldogaziev, 2011). This research has the potential to make an important contribution to this agenda.

Finally, it is also important to recognise the increasing complexity of the work undertaken by Teagasc employees. All employees are now expected to

undertake a variety of tasks, many of which require the individuals to make decisions and undertake desired, but unpleasant tasks. Self-leadership could potentially equip public servants to deliver on the complex objectives of the public service (O'Riordan, 2013) and to do so with reduced resources, including reduced numbers of hierarchical managers, and in a changed organisational environment. Malmberg (1998) suggests that accepting the organisation as it is may provide a pathway to self-leadership for individuals leading to an increased sense of individual accomplishment and increased impact on the organisation, while coping with the increasing complexity of the job at hand. Employees cannot always control the external environment but can choose how they react to the things that happen. In effect, and borrowing from Roosevelt's quotation, they can do what they can, with what they have, where they are.

> *"Do what you can, with what you have, where you are."*
>
> *Theodore Roosevelt, 26th American President, 1858 – 1919*

1.5.2 Personal Motivation for the Research

The motivation for the current research springs from my own organisational role and research interest in the areas of personal motivation, personal effectiveness and self-development and from a desire to ensure that my organisation, Teagasc, develops its people.

Teagasc as an organisation has consistently invested in leadership development initiatives and has over time considered and utilised a number of ways in which to advance the level of leadership of its employees – both in terms of individual leadership and the overall leadership capacity of the organisation. For example, one of the strategic objectives of the current Teagasc Human Resource (HR) strategy, 'People, Leadership and Change Strategy', is to grow the organisation's management and leadership capabilities so as to 'nurture and optimise the benefits of our talented resources' (Teagasc, 2011, p. 19). In order to meet this objective, the organisation has initiated two new training programmes: the Management Development Programme (MDP) and the Leadership Development Programme (LDP). Both programmes

feature action-based learning and emphasise the importance of an empowering leadership approach (Teagasc, 2011) while the LDP features a module specifically devoted to self-leadership.

But the challenge still remains as to how Teagasc can get more people to take advantage of leadership opportunities, perhaps even in situations where the individual does not have a formal leadership or managerial role. Could self-leadership, allied with an empowering leadership approach, provide the answer?

It is evident that all Teagasc employees, especially those in professional roles within the organisation, play a leadership role. For example, Teagasc Advisers play a leadership role in the community within which they work; Teagasc Researchers perform a leadership role in their area of research. Consequently, the purpose of the current study was to identify the extent of self-leadership amongst Teagasc staff and its impact on their performance.

In summary, the personal motivation for the current study was a desire to investigate ways of expanding the (self) leadership skills of Teagasc employees, with a consequent impact of expanding leadership throughout the organisation and increased leadership outside the organisation.

1.5.3 Theoretical Gaps Addressed by the Research

While the guiding research question relates to the impact of self-leadership on personal effectiveness, the current research is also concerned with determining the mechanisms through which self-leadership impacts performance. Self-efficacy has been suggested as one such mechanism (Neck and Manz, 2013). Despite many claims that psychological empowerment (Spreitzer, 2008) is an outcome of self-leadership (Neck and Houghton, 2006; Neck and Manz, 2013; Lee and Koh, 2001), and a potential mechanism through which self-leadership impacts performance, to date there has been a lack of empirical evidence demonstrating this (Stewart *et al.*, 2011). Consequently, this research proposes to provide empirical evidence of a link between self-leadership and psychological empowerment thus answering calls for research in this area (Stewart *et al.*, 2011; Neck and Houghton, 2006) and complementing the

existing self-leadership and psychological empowerment literatures. While there is an extensive body of literature devoted to both psychological empowerment and self-leadership, there is a lack of empirical support which demonstrates a heightened experience of empowerment as a result of self-leadership.

In addition, there have been a limited number of empirical studies of self-leadership in a public sector setting (Carmeli *et al.*, 2006; Hardy, 2007) and none in an Irish setting (either public sector or otherwise). Previous studies measuring self-leadership have been conducted in the USA, Europe and Asia (see Houghton *et al.*, *in press* for a review). Thus it was considered important that self-leadership be measured in an Irish public sector setting in advance of the potential roll-out of self-leadership as an alternative leadership approach. Consequently, the research also offers the opportunity to test the reliability and validity of the Revised Self-leadership Questionnaire (RSLQ) on an Irish sample.

This study will also investigate a number of contextual factors or external forces that influence the practice of self-leadership, feelings of empowerment, and ultimately improved performance. One of these is empowering leadership. Despite self-leadership having originally been considered as a substitute for external leadership (Manz and Sims, 1980), it is now accepted that a specific form of external leadership, empowering leadership, is a necessary factor in the facilitation of self-leadership (Stewart *et al.*, 2011). Ahearne *et al.* (2005) conceptualise empowering leadership as involving four aspects: (1) highlighting the significance of the work; (2) providing participation in decision making; (3) expressing confidence that performance will be high; and (4) removing bureaucratic constraints. Because empowering leadership involves strategies which are aimed at removing conditions that foster a sense of employee powerlessness ('red-tape', bureaucracy) and, more importantly, providing conditions that increase employees' feelings of self-efficacy and control (for example, participative decision making) while allowing employees the freedom to be as flexible as circumstances warrant (Arnold *et al.*, 2000; Conger and Pearce, 2009), it is reasonable to expect that empowering leadership will have an impact on the expression of self-leadership by

employees. Consequently, the role of empowering leadership on the expression of self-leadership by employees will also be investigated.

Three other moderating variables will also be investigated: willingness to try, perceived organisational support for self-leadership and employee mindset.

It was intended to investigate the impact of a self-leadership training intervention on the practice of self-leadership. However due to time constraints, this aspect of the research was postponed. While this dimension to the research has not been investigated here, it is intended to address this aspect of the work as part of planned future research.

In conclusion, a major purpose of this study is to build and test a conceptual model that integrates theories of empowering leadership, self-leadership and psychological empowerment with important work outcomes. This is represented diagrammatically in Figure 3; in the final conceptual model empowering leadership is placed as an antecedent to both self-leadership and psychological empowerment.

Figure 3: Relationships to be examined by the current research
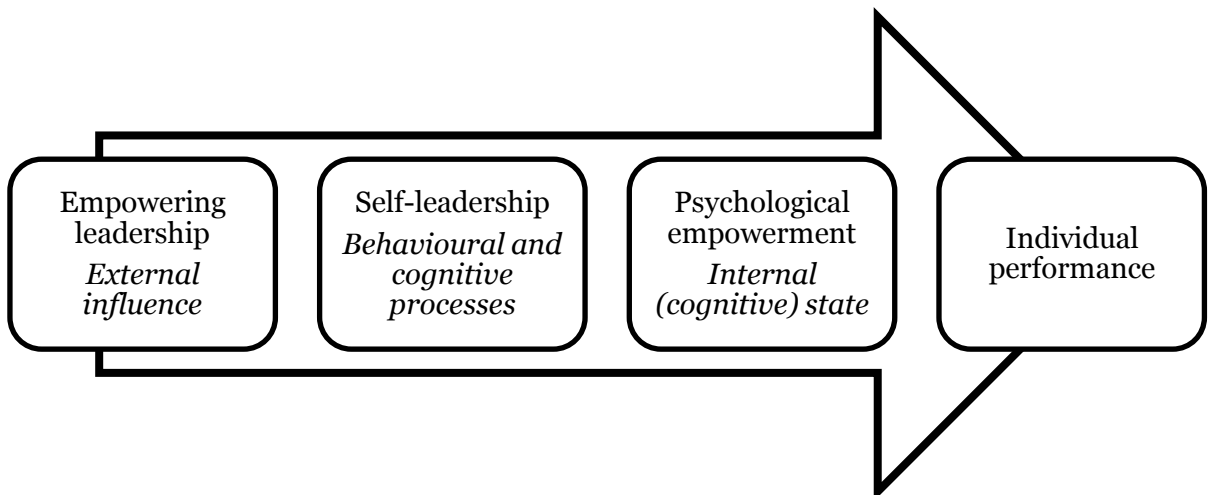
1.6 Theoretical and Empirical Assumptions of the Research

While self-leadership is a multi-level construct (Neck and Manz, 2013; Stewart *et al.*, 2011) with individual self-leadership being a key element of team and organisation success, the focus of this research is on self-leadership at the individual level.

All of the measures used in the current study were gathered by way of a self-report administered using a web-based survey. It is argued that Teagasc professionals themselves are best placed to self-report on their awareness and use of the full range of self-leadership strategies, on their feelings of empowering leadership behaviours and their own feelings of empowerment due to the psychological nature of the variables involved. While the use of empowering leadership approaches could have been measured by surveying those in leadership positions or by measuring the empowerment climate (see section 1.1 above), this study was more concerned with the employees' experience of empowering leadership. Finally, self-reports have been used previously to validate the scales to be used to measure self-leadership (Houghton and Neck, 2002), psychological empowerment (Spreitzer, 1995) and empowering leadership (Ahearne *et al.*, 2005).

In a study of this nature, common method bias can be an important concern. The fact that all data were collected from the same source could contribute to common method bias, which in turn could significantly influence item validities and reliabilities as well as the co-variation between latent constructs (Podsakoff *et al.,* 2012). These authors recommend that researchers employ appropriate procedural and statistical remedies to control common method biases in their studies. In terms of procedural remedies adopted in the current research, a good cover story and instructions were developed; respondents were encouraged to answer honestly and an explanation of how the information would be used to benefit Teagasc was provided in the invitation email (see Appendix 14, p. 230).

In terms of *post hoc* statistical remedies, Harman's single factor test was employed to test for common method variance. Podsakoff and Organ (1986, p. 536) indicate that if (a) a single factor emerges from the factor analysis, or (b) one 'general' factor accounts for the majority of the covariance then common method variance is present. While this approach has been criticised, it continues to be widely used. Analysis of the current dataset using EFA extracted 17 factors representing 73 percent of the variance with the first factor to emerge explaining 12 percent of the variance. This was followed by using CFA to implement Harman's single-factor test on the basis that if common

method variance is largely responsible for the relationship among the variables, the one-factor CFA model should fit the data well. The results in the tables on pp. 254 - 256 indicate that the first order factor models for self-leadership, psychological empowerment and empowering leadership respectively do not fit the data well. Further analysis of the current dataset using an unmeasured latent methods factor technique (Podsakoff *et al.*, 2003) as part of the CFA would lend further support to the results reported here which suggest that the threat of common method bias does not appear to be significant.

1.7 Wider Context for the Research Study

Ireland is currently experiencing an economic recession which is impacting on Irish society, and in the context of this research, specifically on the public service. The Irish Government is seeking to reform the public service, reduce cost and increase the efficiency and effectiveness of service delivery (Boyle, 2013). The reforms underway are challenging all PSOs to more fully deliver on their potential.

Boyle and MacCarthaigh (2011) argue that our public services need to adapt to the new environment if they are to continue to be 'fit for purpose'. This adaption will most likely involve the enablement or empowerment of all public servants to act and think differently (Leslie and Canwell, 2010). Furthermore, it is likely that government agencies in the 21st century will increasingly require a workforce that responds quickly to rapid change, works interdependently and produces results (Hardy, 2007); essentially a workforce of self-leaders.

Finally, O'Riordan (2013) recommends that where extrinsic motivations (salary, allowances and promotional opportunities) are significantly constrained, as is the case currently in the Irish public service, it is critical that managers are very aware of the importance of fostering and supporting the intrinsic motivations of employees. Given that self-leadership is deeply rooted in intrinsic motivation theory (Neck and Manz, 2013), the practice of self-leadership has the potential to allow employees to harness the motivational forces from doing things they really enjoy or in ways that they enjoy thus

fostering feelings of competence, self-determination and purpose (Pink, 2010) thereby leading to improved personal effectiveness (Neck and Manz, 2013).

1.8 Potential Contributions of the Research

This research could be amongst the first to provide empirical evidence for psychological empowerment as an outcome of self-leadership at the individual level. Additionally, it can augment the extant self-leadership and psychological empowerment literatures by confirming psychological empowerment as a mediating mechanism through which self-leadership ultimately influences both self-reported work performance and job satisfaction. Ultimately, it is hoped that this study can build and test a model which will combine self-leadership theory with both structural and psychological empowerment theories and important work outcomes. Finally, as the data analysis phase of this project will test a hierarchical latent factor structure for self-leadership, it could potentially extend the self-leadership literature by providing support for the reliability and validity of the RSLQ.

From a practical perspective, the current study has the potential to support the claims for self-leadership as a tool to improve personal effectiveness (as measured by self-reported work performance) in a public sector setting. Consequently, the results could be of direct benefit to Teagasc, and other similar PSOs, as they attempt to cope with reduced Government support. As a knowledge organisation, Teagasc could usefully adopt an empowering leadership approach but such an approach will only work if individuals are willing to take greater responsibility for their own work-related thoughts and actions, in short to practise self-leadership. Accordingly, Teagasc management should be interested in the assessment of self-leadership levels across the organisation (including the usage of the various strategies by different employee groupings) and employees' perceptions of external leadership i.e. has empowering leadership been embedded as the predominant leadership style within the organisation?

1.9 Research Objectives

The guiding research question for the current study is to determine the impact of self-leadership on the performance of Teagasc employees. The objectives of the current study relate to establishing the antecedents and consequences of self-leadership which affect this relationship. These objectives can be divided into those relating to theory and to practice.

As this research project was an iterative process which took place over four years, the research objectives were clarified and modified over time. These are the final objectives for the overall research project; different objectives may be stated in subsequent chapters (as part of papers already submitted for the Cumulative Paper Series, CPS).

Table 2: Research objectives for the current study

Objectives relating to theory	Objectives relating to practice
1. To determine the relationship between self-leadership and psychological empowerment 2. To establish the relationship between self-leadership and performance (as measured by self-reported work performance (SRWP) and job satisfaction) 3. To determine the impact of empowering leadership on self-leadership, psychological empowerment and work outcomes 4. To investigate the reliability and validity of the Revised Self-leadership Questionnaire (RSLQ) with an Irish sample	1. To establish and evaluate the perceptions of Teagasc Senior Management regarding self-leadership within Teagasc 2. To establish the current level of self-leadership amongst Teagasc employees 3. To investigate the impact of organisational and personal factors on self-leadership, psychological empowerment and work outcomes

The research aim was achieved by firstly conducting a series of interviews with five members of Teagasc senior management and one external academic; these interviews explored self-leadership within the public sector, and specifically within Teagasc. These interviews helped to clarify key issues in relation to self-

leadership within Teagasc. The second aspect of the research study was an extensive web-based survey of all Teagasc staff which explored the relationships between self-leadership, psychological empowerment, empowering leadership, work performance, job satisfaction and a number of moderating and control variables.

1.10 Overview of the Thesis

This thesis is structured as follows.

Chapters 2 to 5 contain the four papers submitted in CPS part of the DBA programme. Each chapter is prefaced by a short section which highlights key examiner feedback while also indicating how the research trajectory or research approach changed as a result of this feedback. Each paper is included as submitted for examination.

Chapter 2 focusses on examining the current and future relevance of self-leadership to an Irish public sector knowledge organisation.

Chapter 3 contains the research questions, the theoretical basis for the various constructs used in this research study and the proposed conceptual model.

Chapter 4 presents the research methodology including research population, measurements and data collection methods.

Finally, chapter 5 presents the main results of the current research.

The four papers from the CPS are followed by a discussion chapter (Chapter 6) and a separate conclusions and implications chapter (Chapter 7).

Chapter 8 provides extracts from the reflective log maintained by the researcher for the duration of the DBA programme.

The final two sections contain the appendices and the references for the entire thesis, including the papers submitted for the CPS (Chapters 2 – 5). All appendices and all references from all papers submitted for the CPS plus those relating to Chapters 1, 6 and 7 were collated in these final two sections in order to avoid duplication and to streamline referencing throughout the thesis.

Chapter 2: Examining the Relevance of Self-leadership to an Irish Public Sector Organisation

2.1 Preface

The following paper was submitted by the author on 20th September 2013 as the third paper in the Cumulative Paper Series (CPS). While it was submitted as the third paper in the CPS, it has been placed in Chapter 2 in the final thesis as it 'provides a qualitative evaluation and context – setting the research in the broader public sector context - for the large scale empirical study' that will be presented later in this thesis document. The paper was recommended by all examiners.

The examiners noted self-leadership as a 'particularly interesting and relevant issue for a public sector organisation' and recognised the paradox of 'self-leadership existing within a formal (bureaucratic) management structure'. They highlighted the potential for the study to 'add considerably to a neglected space in public sector management practice' and to 'impact on your own organisation'.

The examiners also stressed the potential for bias, given my 'dual role' as a leader within the organisation I am studying and research of self-leadership therein, and the 'potential to seek (and therefore find) what you are looking for'. These concerns were addressed through careful and deliberate survey design and data analysis. A request was made to clarify the mediators and moderators in the conceptual model; I was reminded of this during data analysis when the position of empowering leadership in the model was re-examined. The recommendation to consider the Hayes PROCESS modelling tool for PASW was not taken up as I decided to use structural equation modelling (SEM) in AMOS to test the overall structural model. The data could perhaps be re-analysed in the future using this analytical tool.

Finally, the examiners noted the progression in the development of the conceptual model and reminded me to justify all decisions, and changes, made. This recommendation was acted on in the fourth paper in the CPS (Chapter 5) and through the inclusion of a number of specific appendices, for example the report of the pilot study is included as Appendix 12 (see p. 193).

2.2 Abstract

The public sector has traditionally been considered hostile to expressions of self-influence by followers. This paper examines the nature and relevance of self-leadership to Irish public sector organisations (PSOs) through the presentation of a case study from one such organisation (Teagasc) moving towards an empowering leadership approach with a consequent greater reliance on self-leadership. An exploratory case study, involving a series of semi-structured interviews, was used to clarify key issues in relation to self-leadership. While the importance of self-leadership to Teagasc was recognised, the organisation is challenged to allow individuals the freedom to be self-leaders within the management and governance structures of a PSO. Although professionals within the organisation are expected to be self-motivated and self-directed, it was unclear how the organisation was supporting those who lacked these skills. The findings should be considered exploratory in nature. Future research should consider an expanded range of interviews and an empirical investigation of the level and variation in self-leadership amongst Teagasc staff. This paper will be of benefit to those PSOs attempting to cope with reduced Government support and makes a valuable contribution to the literature on self-leadership by being amongst the first to examine the potential for self-leadership in Irish PSOs.

Keywords: *Self-leadership, public sector, case study*

2.3 Introduction

Initiative, motivation and inspiration – all aspects of leadership - play a critical role in making public sector organisations (PSOs) work (Fairholm, 2004). While the need for leadership in PSOs is recognised (Dunoon, 2002; Lawler, 2008; McCarthy *et al.*, 2011; Teagasc, 2012a), the discussion is often limited to those in formal leadership roles. This point is developed by Dunoon (2002) who argues that PSOs require a type of leadership different from conventional models. My current DBA research attempts to clarify whether self-leadership (Manz, 1986; Neck and Manz, 2013) is that different type of leadership. Consequently the research question for this paper is:

> How does Teagasc Senior Management perceive the importance, current level of and development opportunities for self-leadership within Teagasc?

The author's own organisation, Teagasc, was used as a case study for the current paper. Teagasc is an Irish PSO which undertakes innovative activities in research, knowledge dissemination and education in the areas of agriculture and food (Teagasc, 2012). Recent Teagasc strategic documents (Teagasc, 2012b, 2011) emphasise the organisation's aim of adopting an empowering leadership approach so as to support the engagement and creativity of all staff. However, numerous authors (Blanchard *et al.*, 2005; Houghton and Yoho, 2005; Lee and Koh, 2001; Manz, 1992) have argued that self-leadership by followers is necessary for work systems based on an empowering leadership approach to perform to their potential.

The purpose of this paper is to examine the relevance of self-leadership to Irish PSOs through the presentation of a practical case study from one such organisation. The starting point is an overview of the current challenges facing Irish PSOs followed by an exploration of leadership as it applies to these organisations. A brief overview of the concept of self-leadership is presented, including a consideration of the potential paradoxes which may arise. The procedures to be used for data collection are described after which the main findings from the case study are presented and discussed. Finally, the paper's conclusions are offered for consideration.

2.4 Challenges Facing Irish Public Sector Organisations

Currently Irish PSOs are being challenged to deliver improved services through a contracted workforce with reduced resources. Against the backdrop of tighter financial budgets the delivery challenge remains – the need to deliver high quality programmes on time and on budget (Leslie and Canwell, 2010).

Table 22 in the Appendices section (p. 193) summarises current public sector policy documents and Teagasc strategic documents of relevance to the current research. The common theme is an acknowledgement of the need for reform leading to improved service delivery, more effective use of available resources and the development of a performance culture. The reference to 'disciplined innovation' (OECD, 2008) is interesting. While the public sector has traditionally been seen as hostile to innovation (Borins, 2001), there is a requirement for it to be more innovative than it has been without necessarily being as innovative as the private sector. This point is developed by Osborne and Brown who refer to the need for 'appropriate innovation' (2011, p. 1347).

While Irish PSOs are coping with current reforms, they do have a number of enduring strengths; mostly linked to the people employed. They are also attempting to overcome a number of disabling myths (Leslie and Canwell, 2010).

Table 3: Enduring strengths, disabling myths, current reforms and emerging realities

Enduring strengths	Smart, talented and motivated people
Disabling myths	The public sector cannot be expected to demonstrate commercial skills to private sector standards; it is clear what needs to be done but the system will not let it happen; public sector organisations are too bureaucratic to be agile or innovative
Current reforms	Declining numbers; recruitment and promotion embargoes; budget cuts; new work practices; reduced wages
Emerging realities	High productivity organisations; leadership at all levels; improved outcomes; more engaged workforce; 'disciplined innovation'

Source: Leslie and Canwell (2010, p. 300).

Boyle and MacCarthaigh (2011) argue that our public services need to adapt to the new environment if they are to continue to be 'fit for purpose'. Leslie and Canwell (2010) point out that organisations across the public service have to

rethink what they do and how they do it; they will need to enable (empower) their people to act and think differently – essentially to be self-leaders. In a review of the ongoing reforms within the Irish public service, Boyle (2013) notes that while much has changed in the last two years, reform has to be about more than pay and numbers. Leslie *et al.* (2009) use a human analogy to explain what is required: getting healthy is not just about losing weight; it is also about building strength, improving flexibility and building confidence. Certainly, the size of PSOs will reduce but the way such organisations work also needs to be examined. 'More with less' (productivity) was the commonly heard mantra at the start of the reform process. But increasingly reform is about 'better with less' (innovation) and 'less with less' (prioritisation). The old ways of doing things cannot be continued in many situations and new ways of working are needed to cope. New thinking and actions are required from all public sector employees.

2.5 Leadership at All Levels

Despite an increasing number of leadership scholars challenging the notion of leadership being a vertical relationship of 'top-down' influence between the formal leader and followers (Pearce and Conger, 2003), Currie *et al.* (2011) note that PSOs are bureaucratic with a tendency to formalise structures and processes. Furthermore, Dunoon (2002) notes that while both leadership and management are required at all levels of PSOs, there tends to be an overemphasis on management at the expense of leadership in such organisations. Leslie and Canwell (2010) refer to a residual culture of deference which reinforces the dependence on command with leadership responsibility deferred to those in senior leadership roles. McCarthy *et al.* (2011) identify that opportunities for leadership within Irish PSOs can be limited by a conservative and risk averse culture, the rigidity and bureaucratic form of the organisation, current human and financial resource constraints and a lack of focus on long-term human capital development.

Leadership at all levels (Leslie and Canwell, 2010) will be required to capitalise on the enduring strengths, overcome the disabling myths, cope with the current reforms and move towards the emerging realties. But this must be

about more than just leadership behaviours as part of the formal leader role. The leader and follower are not fundamentally different types of people (Bligh and Kohles, 2012) and the follower must not be forgotten as PSOs evolve to cope with current reforms. Building leadership at all levels must start with self-leadership. Leaders cannot expect to lead or influence others unless they can firstly lead themselves; followers must be self-leaders to benefit from an empowering environment.

While both Lawler (2008) and Boyle (2013) argue for a collective, rather than an individual model of leadership, this paper will argue that the type of leadership required is self-leadership. An organisational focus on self-leadership will leverage the potential of all staff, both individually and collectively, to contribute to change in the public sector.

Van Wart (2005, pp. 372 - 3) offers a classification of distributed leadership (or shared leadership, Pearce and Conger, 2003) including substitutes for leadership (Kerr and Jermier, 1978), superleadership (Manz and Sims, 2001), self-leadership (Neck and Manz, 2013) and self-managed teams (Manz and Sims, 1987). In all cases the sharing of leadership will challenge all organisational members and requires both a willingness to yield leadership to others on the part of organisational leaders, and the capacity of others to take it on (Currie *et al.*, 2011; van Wart, 2005). Interestingly, Fairholm (2004) suggests that the perspective of leadership that public service employees accept (implicitly or explicitly) determines their actions and how they measure the relative success or failure of those actions.

Regardless the frame chosen for the discussion of leadership in Irish PSOs, there is a requirement to deliver results through such leadership, especially in the current economic climate. Given that being an effective leader starts with the self (Ulrich *et al.*, 2008), self-leadership could be a useful starting point for any investigation of leadership within the Irish public sector.

2.6 Self-leadership in Teagasc

Innovation is no longer an optional luxury in PSOs, despite such organisations being traditionally thought inhospitable to innovation and the idea of

innovative public services being considered oxymoronic (Albury, 2005; Borins, 2001). Recently PSOs have realised that innovation will enable them to respond better to a rapidly changing operating environment including increased stakeholder expectations. It is argued in *Teagasc 2030* (Teagasc, 2008) that the organisation itself must innovate if it is to meet its mission. This will involve innovation in both internal procedures to improve productivity and service delivery mechanisms to meet changing stakeholder needs.

Given the relationship between self-leadership and innovation (DiLiello and Houghton, 2006; Neck and Houghton, 2006; Stewart *et al.*, 2011), it would seem that moving employees towards self-leadership would be advantageous to PSOs, including Teagasc. Such a development will require the adoption of an empowering leadership approach (Stewart *et al.*, 2011; Yun *et al.*, 2006) by those in management positions and a willingness to accept empowerment on behalf of employees. The impact of such external leadership is determined by the way it influences, both directly and indirectly, the self-control systems of each individual in the organisation (Manz, 1986). In the end, control (and performance) comes from within.

Teagasc is changing from a traditional 'top-down' model of management and leadership (Teagasc, 2011), to a more shared leadership (Houghton *et al.*, 2003) model. To meet the demands of this change, Teagasc needs employees who are willing and able to take on more responsibility, participate in decision making, and provide leadership within their programmatic areas, communities and Teagasc as a whole (Teagasc, 2011). In short, Teagasc needs employees who are in a position to accept the responsibilities of empowerment.

This move towards self-leadership is assuming greater importance for Teagasc as a result of several recent developments challenging the organisation. First, the reduced workforce is challenging Teagasc to utilise its human resources more fully. Second, with a reduced number of managers, more control is vested in the hands of followers who must increasingly learn to self-lead themselves towards performance outcomes. Third, the organisation has a stated desire for increased employee involvement, the use of empowered teams

and a more shared model of leadership (Teagasc, 2011). Fourth, the workforce itself has changed with individuals now requiring greater meaning from their work. One way to meet these challenges is to focus on the follower, to create an organisation of self-leaders.

2.7 Self-leadership Defined

Self-leadership (Manz, 1986; Neck and Manz, 2013) is a process through which individuals control their own behaviour, influencing themselves through the use of a defined range of behavioural and cognitive strategies. Self-leadership theory emphasises that one should rely primarily on oneself, whether one is a manager, office worker or executive, rather than relying on others for guidance, goals or stimulation (van Wart, 2005). This is because while behaviour is often supported by external forces, actions are ultimately controlled by internal rather than external forces (Manz, 1986). Self-leadership primarily concerns the development of intrapersonal skills (self-awareness, self-regulation and self-motivation) leading to improved self-development and self-mastery (Karp, 2013). The recent *Journal of Management* review article (Stewart *et al.*, 2011) provides a multi-level review of self-leadership including its associated outcomes at both the individual and team level.

Self-leadership is a normative model, as it prescribes a range of strategies designed to lead to higher levels of performance and personal effectiveness (Neck and Houghton, 2006) without attempting to describe what you should be. As such, it is intuitively appealing for individuals as it provides a range of ready-to-use strategies to guide both thoughts and behaviour.

The self-leadership strategies are grouped into three broad categories of behaviour-focused strategies, natural rewards strategies and cognitive-focussed strategies (sometimes referred to as thought self-leadership, Neck and Manz, 1992). A summary of the strategies is presented in Appendix 2, p. 194.

Self-leadership is built upon a number of established theories of motivation and self-influence including self-regulation theory, social cognitive theory, self-management and self-control theories and intrinsic motivation theory (Manz, 1986; Neck and Houghton, 2006; Stewart *et al.*, 2011; Neck and Manz, 2013).

It is beyond the scope of this paper to discuss these theories but readers are referred to papers by Bandura (2001, 2006), Stajkovic and Luthans (1998), Wood and Bandura (1989), Pink (2010) and Ryan and Deci (2000a, b).

Finally, self-leadership can be measured using the Revised Self-leadership Questionnaire (RSLQ, Houghton and Neck, 2002). Respondents self-report their own self-leadership tendencies by indicating their level of agreement on a Likert-type scale to 35 items. The scale has been empirically validated in a number of studies and settings (Neck and Houghton, 2006).

2.8 Self-leadership Paradoxes

Self-leadership is not really about followers doing what they want. Self-leadership needs to exist in a complementary manner to management (Stewart *et al.*, 2011) rather than being seen as a complete 'substitute for leadership' (Kerr and Jermier, 1978). The challenge is to develop and maintain a suitable balance between them such that followers can be self-leaders within the formal management structure. In effect, the organisation may have to tolerate a certain amount of 'productive disobedience' while supporting employees to be more productive 'within the organisation while being outside it' (Bramming *et al.*, 2011).

Being responsible is a central part of self-leadership. However, as an organisational member, one is responsible *to* act according to organisational rules and regulations while being responsible *for* one's own thoughts, feelings and behaviours (Bryant and Kazan, 2013). While individuals practising self-leadership are required to think and act in ways that contribute to their development, their thoughts and actions must also contribute to the needs of the organisation (Lopdrup-Hjorth *et al.*, 2011).

In summary, although self-leadership provides opportunities for the organisation, it may provide challenges for both managers and their subordinates. While, the manager has to guide the behaviour of others, his supervision has to become invisible. From the follower's perspective, one has to be a self-manager and be managed at the very same time (Bramming *et al.*, 2011).

2.9 Methodology

An exploratory case study approach was chosen to address the current research question. Data was gathered using two sources. The primary source of information was a series of interviews with five members of Teagasc senior management, including the Head of Human Resources (HR), and one external academic who has recently completed an investigation of leadership in the Irish public service. While acknowledging the risk of elite bias (Myers and Newman, 2007), the decision to interview senior management only was taken as it was believed that these individuals would provide the organisational perspective required. The secondary source was a review of relevant literature including both Government and Teagasc strategic documents (see Appendix 1, p. 193 for a summary). As a Teagasc employee, the researcher both knew all of the interview subjects and was familiar with the various Teagasc strategic documents reviewed.

A topic guide (Ritchie and Lewis, 2003) was developed listing the broad agenda of topics to be explored during the semi-structured interviews (see Appendix 3, p. 196). The potential interviewees were identified and contacted. All interviewees freely agreed to be interviewed and all interviews took place during June 2013. The interviews were conducted face-to-face or by telephone (where it was impossible to arrange a face-to-face meeting).

A semi-structured interview format was followed, steered by the topic guide but with interesting lines of conversation explored as they arose (Myers and Newman, 2007). All interviewees were reassured of the confidentiality of their answers and that all quotations to be used subsequently would not be attributed to them. All interviews were recorded using a Philips Audio Tracer recording device with brief notes taken by the author during each interview. The duration of each interview was between 20 and 30 minutes. The individual audio files were reviewed, before being transcribed by the researcher. The transcripts were read by the researcher before being checked against the audio file, with revisions made as necessary (McLellan *et al.*, 2003). Each individual audio file was saved as an individual MP3 Format Sound (.MP3) audio file.

Themes emerged both from the data (using an inductive approach) and from the researcher's prior understanding of self-leadership and of public sector reform (using an *a priori* approach). While acknowledging the risk of finding what one was seeking using the latter approach, avoiding this approach risks not making the connection between data and the research question (Ryan and Bernard, 2003). A combination of techniques suggested by these authors was used to identify themes including underlining or highlighting key phrases and sentences, repetitions, analogies, similarities and differences before considering gaps in the interviewee responses. Finally, selected phrases, sentences and passages relevant to the research question were identified for inclusion in the current paper.

2.10 Findings and Discussion

This section presents and discusses the research findings using five thematic propositions which emerged from the analysis of the interviews conducted.

2.10.1 The Importance of Self-leadership to Teagasc is Recognised

The first theme to emerge was the importance of self-leadership to Teagasc, not least because of the leadership role played by the organisation in the Irish agriculture and food sector. It was described as *'the fuel in the tank'* that Teagasc rely on to *'get people in…and engaged in what needs to be done'*. As relationship-builders, purveyors of information and opinion leaders (Ricketts *et al.*, 2012) Teagasc professionals[1] adopt a wider, industry leadership role. Interviewees accepted that improved self-leadership by Teagasc professionals will allow for improved industry leadership by Teagasc. One interviewee summed it up very well when he said: *'you cannot lead others unless you understand, and are capable of, leading yourself'*.

Teagasc researchers and advisers are a perfect example of self-leading employees. The Teagasc researcher has to be self-managing in terms of

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[1] Teagasc professionals include researchers, advisers, specialists and teachers all of whom are professionally qualified. In addition, a number of professionals in the areas of finance, human resources, information technology (IT) and corporate services are employed to support the 'front-line' professionals.

working hours and number of publications but has to be self-leading in terms of formulating new research projects. The Teagasc adviser plays an important role as a community leader (Ricketts *et al.*, 2012), a uniquely autonomous role which requires them to take responsibility for their own development, motivation and systematic self-leadership (Neck and Manz, 2013). In fact, authoritarian control of Teagasc researchers and advisers may impede the very innovation and creativity desired from them (Pearce and Manz, 2005). Professional staff within Teagasc largely work according to *'their own timetables and agendas'* rather than operate to a *'fixed timetable'*. A professional within Teagasc should be *'self-motivated to succeed'* and if not succeeding then they should be *'personally concerned'* or self-aware of how their performance is impacting on others; they shouldn't be waiting for their manager to point this out to them.

The need to place self-leadership within an overall HR strategy was acknowledged; self-leadership has the potential to be one of the central themes in the next HR strategy. This would build on the focus on empowering leadership in the current HR strategy (Teagasc, 2011) and recognises it as being necessary to harness the benefits of an empowering leadership approach. While it is recognised that an empowering leadership approach can be blended with other leadership approaches depending on certain situational factors (Houghton and Yoho, 2005), it seems appropriate that Teagasc place an increased focus on both empowering leadership and self-leadership given the organisation's mission. One interviewee went so far as to suggest that *'there is a real opportunity for Teagasc to be recognised as an organisation which fosters self-leadership'* hinting at an increasing importance for self-leadership within Teagasc.

Finally, while the view that *'leadership can be anywhere in the organisation'* was highlighted, somewhat worryingly however, there was a perspective that all professionals *'by definition'* should be self-leaders (discussed below).

2.10.2 Teagasc Professionals are Expected to be Self-leaders

The second theme to emerge was that of *'self-motivated'*, *'self-directed'* and *'vocationally driven'* professionals operating in a *'professional bureaucracy'*.

A consistent premise to emerge was that professionals within Teagasc would be *'vocationally driven'* receiving their motivation *'from the job itself, from the ethos of the job or the mission of the job'*. One interviewee summed it up as: *'you are expected to be a self-leader.'* This is an interesting finding, which reveals a noteworthy perspective on self-leadership within Teagasc. However, one wonders whether this appeal to professionalism is an appeal to the occupational values of advisers and researchers or a form of organisational control (Evetts, 2012). Also one cannot but help speculate whether in a knowledge-based organisation which values intellect if there is a reluctance to consider the need to develop individual's self-motivation, self-direction and self-leadership skills. Certainly a number of the interviewees felt that only a small percentage of Teagasc professionals lack self-leadership skills.

Consequently, it would be equally interesting to assess the perceptions of Teagasc professionals of their own, personal leadership abilities. Teagasc professionals themselves are best placed to self-report on their awareness and use of the full range of self-leadership strategies due to the psychological nature of the variables involved (Unsworth and Mason, 2012). Individuals may have weaknesses in their self-leadership processes or may not be using the full range of strategies available to them (Ricketts *et al.*, 2012). Furthermore, Markham and Markham (1995) suggest that it is unrealistic to expect employees to know *a priori* how to become self-leaders while Neck and Manz (2012) suggest that while everyone practises self-leadership to some degree, not everyone is an effective self-leader. An empirical study could be conducted to assess current self-leadership levels within Teagasc. Following this an appropriate training intervention could be designed and delivered.

2.10.3 Self-leaders can Exist within the Formal Management Structure

A number of paradoxes relating to self-leadership were identified. The first was the apparent inconsistency between the presence of an organisational structure and follower self-leadership. *'Everybody in an organisation is entitled to an organised management structure'* but such a structure must not *'overpower'*, *'stifle'* or *'dampen'* peoples' initiative, motivation, self-direction

and innovativeness. One interviewee stated that *'self-leadership is not about doing what you would like…there has to be order, governance and structure but not in such a way that it stifles everything'* while another stated that *'if people think they can do what they like, they have missed the point of self-leadership'*.

While the importance of governance in a PSO was highlighted, *'the organisation or individuals within it cannot ignore the rules'*, caution against *'just becoming a really well governed organisation'* was also conveyed. In addition the view was expressed that *'you can work, indeed innovate, within the rules'* and that *'the rules can be used as an excuse sometimes – can be overplayed as a reason for not doing something'*. It was generally felt that Teagasc does try to *'push the boat out'* in comparison to other PSOs and encourages personal initiative and innovation.

Therefore the challenge facing managers is to *'give the maximum freedom to those that report to them…give them a broad direction, encourage and support them'* while avoiding the *'micro-management'* of their staff. This could be achieved where there are *'clear expectations of outcomes and performance'* but within that *'people have the scope…the ability to self-determine how to get there* [achieve the performance outcomes]*'*.

As Teagasc is a *'mission driven organisation'*, a certain amount of *'top-down direction'* is to be expected but the aspiration appears to be to develop *'mini-entrepreneurs within the organisation'* who have the freedom to deliver on the Teagasc mission. Ideally individuals would have the *'latitude'* to set their own goals *'within the overarching parameters… of the bigger organisation, their management unit or their team'*. This should ensure the delivery of *'led actions, rather than actions happening willy-nilly throughout the organisation'*.

The existing leadership literature recognises the need for loose-tight leadership (Peters and Waterman, 1982, cited by DiLiello *et al.*, 2006; Marion and Uhl-Bien, 2001, cited by Hannah and Lester, 2009) and suggests that organisations should seek a *'coupling pattern'* that balances structure with autonomy which maintains managerial control as needed while still allowing for an innovation

supportive environment. As professionals operating in a *'professional bureaucracy'*, Teagasc advisers and researchers would have considerable control over their work (Mintzberg, 1981) but don't have complete freedom to do as they please.

A potential paradox which was not recognised was that of a trade-off between increasing self-leadership for individuals and the needs of the group, department or overall organisation (Markham and Markham, 1995). However, Neck and Manz (2012) discuss *'team self-leadership'* and contend that an individual must practise self-leadership as a team member to help the team reach its potential and that this will involve striking a balance between a focus on self and on the team.

2.10.4 The Organisation can Help or Hinder the Expression of Self-leadership

While it was recognised that self-leadership is something you must do yourself, it was also accepted that organisations can *'accelerate and facilitate'* its development. The hierarchical management structure *'caters for the potential for some people not to perform to a minimum level'* but misses the *'potential for real innovation to emerge'*. It can interfere with self-motivation and allow people to *'take a back seat on occasions'* with a *'we will wait for a direction'* attitude.

Teagasc, similar to other PSOs, has been forced to change its organisational structure in recent years due to external circumstances. This has led to fewer managers with bigger management units, a need to be more reliant on, and trusting of, staff and a shift towards self-leadership that can help individuals make smart decisions in the absence of external leadership (DiLiello *et al.*, 2006).

Managers are no longer in a position to *'micro-manage'* their direct reports. Rather it will be a case of saying to (for example) advisers: *'You are qualified as an adviser and you are in the best position to know what that means in terms of the job you deliver.'* This suggests that senior managers in the organisation

recognise that they don't have all the answers and that *'it is those who are putting on the boots every day that really know'*.

While the current Teagasc HR strategy (Teagasc, 2011) identifies an empowering leadership approach as the preferred leadership style and Teagasc aims to *'empower, equip and support'* its staff, work remains to be done in this sphere: *'we are putting emphasis in this area but we have a long way to go'*. The leadership approach adopted matters: *'the number one barrier* [to self-leadership] *is not practising empowering leadership, not being prepared to give people the freedom to flourish'*.

Equally, it was realised that the organisation *'fails other individuals who don't have the* [self] *awareness to realise that there are certain aspects that they need to work on to be the best that they can be'*. There is a need to work with these individuals to help and support them to realise that they need to make changes themselves in their own thoughts and actions but that Teagasc *'can help them'*. These individuals need a *'nudge'* as *'a little direction in a positive way can be quite liberating'*.

What was unclear from analysis of the interviews was what exactly Teagasc is doing currently to assist those who are less than effective self-leaders. Teagasc (2011) indicates that a Leadership Development Programme (LDP) will be delivered which will specifically *'develop leadership throughout Teagasc'*. While participation in the programme is open to all individuals across the organisation, intake is currently limited to small numbers. Consequently, the organisation could consider the development and delivery of a short, targeted, self-leadership training intervention (see Appendix 4, p. 199) as a means of developing those self-leadership strategies identified as deficient in the empirical study.

2.10.5 Self-leadership can be Developed

There was general agreement that self-leadership can be developed but that some individuals are *'naturally in a better place'* or *'more self-aware'* to start with. Self-awareness results in a *'very accurate and clear understanding of a requirement to change, improve and enhance'* one's abilities. It was also

acknowledged that Teagasc fails those who lack the self-awareness necessary to be effective self-leaders. Once again, one wonders whether this is related to a reluctance to consider the need to develop individual's self-leadership given that Teagasc is a knowledge-based organisation which values intellect. Furthermore, it was accepted that *'people won't come naturally to this* [self-leadership]' but that the messages around empowerment are getting out there.

Once again the interviewees did not specifically provide concrete examples of steps being taken by Teagasc to develop self-leadership. Certainly, individuals will have to initiate, sustain and evaluate (Boyce *et al.*, 2010) their self-leadership development but it can be encouraged by the organisation. Both Manz and Sims (2001) and Pearce and Manz (2005) indicate that self-leadership development can occur through modelling of appropriate self-leadership strategies by the manager followed by guided participation and social reinforcement. How much off this is happening in Teagasc currently? Are individuals being encouraged to allocate time to develop their self-leadership skills? The importance of this is highlighted by Dunoon (2002) who reports that becoming an effective self-leader is not possible without it. In addition, the development of self-leadership skills may be more difficult than, for example, the acquisition of new technical expertise as it involves multiple and integrated, simple and complex skills (Boyce *et al.*, 2010). Finally, the readiness of individuals for self-leadership should be considered as part of any development process.

On a positive note, Teagasc has introduced a number of initiatives that recognise individual and team self-leadership and innovation. But more is needed. Self-leadership needs to be identified as an organisational priority and be resourced like other activities; hence the significance of the suggestion that self-leadership will be strongly considered for inclusion in the next Teagasc HR strategy.

2.11 Conclusions

This paper set out to examine the nature and relevance of self-leadership to Irish PSOs through the presentation of a practical case study from a relevant organisation. The importance of self-leadership to a knowledge organisation

such as Teagasc was clearly identified. An expectation that all Teagasc professionals would be self-leaders was expressed but this view would need to be verified through further research. Teagasc requires individuals who are willing to take on more responsibility and demonstrate leadership in their own area; it was proposed that self-leadership would allow for increased industry leadership by Teagasc professionals. A *'loose-tight'* leadership approach would maintain managerial control as needed while still allowing for optimum levels of self-influence and innovation. Self-leadership can be developed but will require organisational resources and a supportive environment to flourish. Finally, the potential move towards embracing self-leadership would represent a major investment in the future effectiveness of Teagasc.

This single case study is exploratory in nature and is not intended to be a comprehensive examination of self-leadership. Rather it highlights issues to be considered by Irish PSOs considering a shift towards an empowering leadership style with a consequent need for follower self-leadership. The case study also has implications for future research. More specifically, future research could empirically investigate the level and variation in self-leadership amongst Teagasc professionals and its relationship to factors such as empowering leadership behaviours, perceived organisational support and readiness for self-leadership. It would also be beneficial to expand the current case study to include a sample of middle managers, professional advisers and researchers to seek additional perspectives on the issues identified in this paper. It will be through investigations such as these that the conditions under which self-leadership will flourish in PSOs may be more clearly defined.

Finally, this case study suggests that the follower should not be forgotten in Irish PSOs. Leadership at all levels should not be just about those in formal leader roles. Everybody in the organisation can be a self-leader. Indeed everybody needs to be a self-leader to benefit from empowering leadership behaviours and for the organisation as a whole to cope with current reforms.

Chapter 3: Self-leadership - Understanding and Supporting its Development in an Irish Knowledge Based Organisation

3.1 Preface

The following paper was submitted by the author on 18th November 2012 for the DBA Doctoral Colloquium. It resulted in a recommendation, by all examiners, that the author proceed onto the DBA register.

The examiners commented favourably on 'a fascinating proposal' and the fact that 'self-leadership is a key concept for effective performance'. They also noted the complexity of the conceptual model 'it is difficult to get your head around this conceptually' and the need for greater explanation around the dependent variable (innovation in service delivery) in the conceptual model: 'needs a little more explanation'. Both these issues were addressed subsequently; the first through a simplification of the conceptual model, including the removal of the proposed training intervention; the second by the replacement of innovation in service delivery as the dependent variable by two more practical, impact related dependent variables – self-reported work performance and job satisfaction. These changes are justified in Appendix 11 (p. 219) which relates to the revised (and final) conceptual model and Appendix 13 (p. 226) which relates to the identification of alternative dependent variables.

The examiner feedback relating to the training intervention was not acted upon as the training intervention aspect of the current research was postponed.

3.2 Abstract

Followers must be effective self-leaders and ready to be empowered for empowering leadership to be effective. This conceptual paper presents a model linking identified behavioural and cognitive processes to self-leadership, which itself is linked to the level of psychological empowerment experienced by employees. It is suggested that this relationship is potentially moderated by the level of employee empowerment readiness. There is an extensive body of literature on empowering leadership, psychological empowerment and self-leadership but there is a lack of empirical support for a heightened experience of empowerment as a result of self-leadership. Similarly the role of empowerment readiness in mediating this relationship, while intuitively appealing, has not been explored. The link between self-leadership and innovation at the individual level has similarly not been demonstrated. This study aims to address these identified research gaps through the specification of a conceptual model and the conduct of a field experiment, involving a web-based self-leadership training intervention delivered to employees in an Irish public service knowledge-based organisation. Finally, the current research project will (1) provide Teagasc management with a methodology for assessing the self-leadership levels of employees; (2) develop and test a web-based training intervention; and (3) identify self-leadership development opportunities.

Keywords: Self-leadership, empowerment readiness, psychological empowerment, web-based training

3.3 Introduction

Teagasc is an Irish public sector organisation involved in research, knowledge transfer and education activities in agriculture and food. Its workforce consists of research scientists, specialists, advisers, teachers and administration staff, including management and technicians (Teagasc, 2012). The researcher is the Head of the Dairy Knowledge Transfer unit.

The purpose of this study is to demonstrate: (1) the relationship between self-leadership, psychological empowerment and performance (innovation in service delivery); and (2) the impact of the organisational context and a self-leadership training intervention on these relationships. A conceptual model will be proposed. The research population will be Teagasc Advisory staff in non-managerial positions.

3.4 Leadership: A Process of Influence

Leadership is a much researched topic. One of the most important reasons to study leadership is to enable the development of leaders (Nohria and Khurana, 2010). Virtually all definitions of leadership share the view that leadership involves the process of influence (for example, Yukl, 2010). Vroom and Jago (2007) identify the process of motivating as one which can be successfully used to influence others. These authors define leadership as 'a process of motivating people to work together collaboratively to accomplish great things' (*ibid,* p. 18).

This definition suggests that leadership is about influencing others. But the focus of this research is on something more fundamental and powerful (Neck and Manz, 2010), the leadership we exercise over ourselves, self-leadership. This suggests that leadership is not just an outward process but that we can influence ourselves to achieve 'great things'. This paper also assumes that (1) leadership is about what people do, not who they are [or the position they hold]; and (2) as such leadership is inherently developmental (Chatman and Kennedy, 2010).

Self-leadership challenges the assumption that leadership behaviours must occur within the leader role, and that leaders and followers are fundamentally different types of people (Bligh and Kohles, 2012). Collinson (2006) suggests

that followers are not passive 'sheep' at the mercy of their leaders; rather they are active, powerful players in the leadership process, which itself is a complex and socially constructed phenomenon (Bligh and Kohles, 2012). These viewpoints are consistent with the researcher's view on the importance of self-leadership in followers and inform the current research.

Houghton and Yoho (2005) suggest four categories of leadership approach - directive, transactional, transformative and empowering. The choice of leadership approach is dependent on three key contingency factors: follower development, situational urgency and task structure. Each approach can be defined based on the type of influence used to bring about change. Follower performance can be enhanced by encouraging followers to utilise self-leadership strategies when an empowering leadership approach is chosen. The situational leadership model, proposed by Hersey *et al.* (2001) presents another categorisation of leadership approaches.

3.5 The Challenges Facing Teagasc

Teagasc is the national body providing integrated research, advisory and training services to the Irish agriculture and food industry and rural communities. The organisation is funded by a combination of income sources including State and European Union (EU) funding (75 per cent approximately). The organisation currently employs 1,200 staff across its three Directorates: Research, Knowledge Transfer and Operations (Teagasc, 2012). Staff numbers have reduced, and must reduce further, in line with Government policy.

'More for less', 'improved performance' and 'innovation' are just some of the buzzwords being used currently in relation to reform of the Irish public service. One of the main policy documents influencing human resource (HR) policy within Teagasc, and other public service bodies, is the Public Service Agreement 2010 - 2014 (also known as the Croke Park Agreement). It provides a comprehensive agenda for public service transformation and modernisation as well as providing a framework for public service pay determination up to 2014 (Teagasc, 2012c). It is the researcher's view that these changing conditions increasingly require individuals who are self-leaders.

The *Teagasc Change Programme 2009 - 2013: The Next Steps* outlines how Teagasc intends to streamline its operations and redesign its work practices in the coming years. The People, Leadership and Change Strategy (PLC Strategy) establishes a clear direction for the human resources of Teagasc (Teagasc, 2011). The Leadership Development Programme (LDP) is one of 22 work programmes within the PLC Strategy and is specifically related to the development of leadership throughout Teagasc. One of the modules to be delivered as part of the LDP is titled 'Developing self-leadership' (Teagasc, 2012d). While Teagasc has launched this programme, the perception and understanding by Teagasc staff of their own leadership capabilities (how they perceive themselves as leaders) has not been previously explored. This is another strong reason for the current research.

3.6 The Teagasc Leadership Approach

It is the stated aim of Teagasc to embed an empowering leadership approach as the predominant leadership style within the organisation (Teagasc, 2011). The aim is to create an organisational culture that supports the engagement and creativity of all staff – vital for Teagasc as a knowledge based organisation (Teagasc, 2011). The Teagasc LDP is the vehicle that is being used to drive the empowering leadership agenda while the Teagasc Management Development Programme (MDP) is equipping managers to competently undertake their empowering roles. The Senior Management Team is participating in the LDP with the expectation that the empowering leadership approach will be modelled at the highest level and cascade down through the organisation. As the empowering leadership approach emphasises the shift of power from managers to staff, there will be an opportunity for staff at all levels to exercise greater influence over themselves and the work they do (Hardy, 2007).

Twenty staff are currently participating on the LDP with a second intake due to commence the programme in early 2013. And herein lays a problem. How can Teagasc embed the empowering leadership approach across the organisation on the basis of a training programme with an annual intake of 20 people? Can an empowering leadership approach work if the followers are not ready for such an approach? Work systems based on an empowering leadership

approach will not perform to their potential unless the self-leadership skills of employees are developed. Self-leadership is, in effect, at the heart of employee empowerment (Carson and King, 2005; Pearce and Sims, 2002; Shipper and Manz, 1992).

Every Teagasc Adviser plays a role in public, or community, leadership (Ricketts *et al.*, 2012). But their awareness of this role has never been explored. Currently, Teagasc is looking to advance the leadership capacity of the overall organisation. In the author's estimation, understanding how advisers motivate themselves for success (Ricketts *et al.*, 2012), and subsequently supporting them to use and develop self-leadership strategies, will help to improve leadership both within and outside the organisation.

3.7 Research Questions

The following six research questions were identified:

1. What makes an effective self-leader?
2. What is the relationship between self-leadership and psychological empowerment?
3. How does self-leadership affect performance (innovation in service delivery)?
4. What training techniques are available (or could be developed) to enhance self-leadership?
5. How can such training models be implemented across the organisation?
6. How does the organisational context influence the level of self-leadership?

Each question will be addressed by the proposed research project.

3.8 Potential Impact

Previous studies have detailed the concepts of empowering leadership (Houghton and Yoho, 2005), self-leadership (Manz and Sims, 1987), and psychological empowerment (Conger and Kanungo, 1988; Spreitzer, 1995, 1996; Thomas and Velthouse, 1990). A number of authors have suggested self-leadership as a primary mechanism for facilitating empowerment (Houghton

and Yoho, 2005; Manz, 1992; Prussia *et al.*, 1998). However there is a lack of empirical evidence demonstrating psychological empowerment as an outcome of self-leadership (Stewart *et al.*, 2011; Neck and Houghton, 2006). Stewart *et al.* (2011) were also unable to find any studies examining the link between self-leadership and creativity/ innovation at the individual level. This study will potentially clarify the relationship between self-leadership and two associated outcomes: psychological empowerment and innovation.

As a practitioner undertaking a research project, the attraction of testing the prescriptions associated with self-leadership as opposed to describing the characteristics of a successful leader or of the leadership process, is more appealing. For this reason, self-leadership theory, which is a normative or prescriptive theory (Neck and Houghton, 2006) has been chosen as the focus for this research. The current project will provide Teagasc management with a measure of the self-leadership levels of advisers, test a training intervention and identify self-leadership development opportunities.

3.9 Self-leadership

The concept of self-leadership first emerged in the mid-1980s (Manz, 1986) as an expansion of the self-management concept (Manz and Sims, 1980). Self-leadership is a process through which individuals control their own behaviour and thoughts, influencing and leading themselves through the use of an extensive set of cognitive and behavioural strategies; it is, in effect, what people do to lead themselves (Boss and Sims, 2008; Neck and Manz, 2010; Neck and Houghton, 2006; Manz and Sims, 2001). This perspective suggests that true leadership resides within each person (Manz, 1992) while previous research has shown that self-leadership can be developed (see for example Unsworth and Mason, 2012).

A more recent definition (Bryant and Kazan, 2013) describes self-leadership as having a developed sense of who you are, what you can do and where you are going coupled with the ability to influence your communications, emotions and behaviours on the way to getting there. This definition again highlights the role of self-influence in self-leadership. Borrowing from Vroom and Jago's (2007) definition of leadership, the researcher will define self-leadership as 'a

process of motivating yourself to achieve great things' with 'great things' defined in your mind. The form of the incentive (motivation) is not defined and can be intrinsic or extrinsic.

Self-leadership goes beyond self-management as it involves more than managing one's behaviour to meet existing standards and objectives (Pearce and Manz, 2005; Markham and Markham, 1995). Stewart *et al.* (2011) suggest that the extent of self-leadership increases once individuals move beyond regulating compliance with external standards to internally establishing standards. Self-management addresses the question of 'how' to accomplish tasks and meet standards. Self-leadership addresses 'what' is to be accomplished (the setting of standards or objectives); 'why' it is to be accomplished (the analysis of the current situation) as well as 'how' to accomplish it (Manz, 1991).

3.9.1 Theoretical Basis for Self-leadership

Self-leadership is rooted in several related theories of self-influence. The behaviour focussed strategies derive from the theories of self-regulation (Reivich *et al.*, 2011; Baumeister *et al.*, 2007; Carver and Scheier, 1982), self-control (Tangney *et al.*, 2004) and self-management (Manz and Sims, 1980). The cognitive oriented strategies derive from intrinsic motivation theory (Deci and Flaste, 1995; Ryan and Deci, 2000a, b), social cognitive theory (Kreitner and Luthans, 1984; Bandura, 1986; Wood and Bandura, 1989) and positive cognitive psychology (Seligman and Csikszentmihalyi, 2000; Seligman *et al.*, 2005; Seligman, 2011). Neck and Manz (2010, p. 4) state that the self-leadership concept is derived from research in two areas of psychology: social cognitive theory and intrinsic motivation theory (and more specifically cognitive evaluation theory).

Social cognitive theory holds that behaviour is an interactive function of the individual, including his or her thoughts; the individual's behaviour and the environment in which the behaviour occurs, referred to as the model of triadic reciprocality (Bandura, 1986; Kreitner and Luthans, 1984; Wood and Bandura, 1989). As a result, humans are at the same time both products and producers of their personality, their behaviours and their environments. The relative

influences exerted by one, two, or all of the three interacting factors on human behaviour will vary depending on different activities, different individuals, and different circumstances (Stajkovic and Luthans, 1998).

Both Kreitner and Luthans (1984) and Wood and Bandura (1989) emphasise the importance of considering the internal (cognitive) processes, external (observable) behaviours and the antecedent or consequent environmental events when attempting to explain differing employee performance levels in the same work environment. Compared to self-regulation theory (Reivich *et al.*, 2011; Baumeister *et al.*, 2007) which is mainly concerned with discrepancy reduction relative to existing standards, social cognitive theory proposes a system of discrepancy production (goal setting (Locke and Latham, 2002)) followed by discrepancy reduction (Neck and Houghton, 2006).

Self-determination theory is concerned with motivation. Motivation is highly valued because of its consequences; motivation produces (Ryan and Deci, 2000a, b). Two forms of motivation are recognised: extrinsic and intrinsic. Ryan and Deci (2000a, b) define extrinsic motivation as the performance of an activity in order to attain some separable outcome and intrinsic motivation as the performance of an activity for the inherent satisfaction of the activity itself. As choice is the key to self-determination, providing choice in the workplace is important. Deci and Flaste (1995) suggest that it is easier to give choice about how a task is completed than providing choice about what task to do.

Within self-determination theory there are two sub-theories: cognitive evaluation theory and organismic integration theory. Cognitive evaluation theory (Ryan and Deci, 2000a, b) suggests that social environments can facilitate or prevent intrinsic motivation by supporting versus thwarting people's innate psychological needs for autonomy, competence and relatedness. These authors (2000) also highlight the importance of these needs for facilitating optimal human functioning and that if circumstances allow, intrinsic motivation will flourish. The second sub-theory, organismic integration theory, details the different forms of extrinsic motivation and the factors that either promote or hinder the internalisation of the resultant behaviours (Gagne and Deci, 2005; Ryan and Deci, 2000a, b).

3.9.2 Behavioural and Cognitive Processes as Pre-cursors to Self-leadership

The previous section has highlighted the theoretical underpinnings of self-leadership. Specifically, it has identified self-determination, intrinsic motivation, autonomy, competence, choice and self-regulation as important concepts. Table 4 lists and describes these and other concepts important to self-leadership. This section will briefly discuss self-efficacy, confidence and mastery.

Social cognitive theory is rooted in a view of human agency in which individuals can make things happen by their actions (Bandura, 2001, 1997). Self-efficacy is the foundation of human agency (Bandura, 2009, 1997). Belief in one's capabilities influences motivation and action. Unless people believe that they can produce desired results and prevent undesired ones by their actions, they have little reason to act or persevere in the face of difficulties (Bandura, 2009, 1997). Individuals who perceive high self-efficacy will activate sufficient effort which, if well executed, will produce successful outcomes. On the other hand, those who perceive low self-efficacy are likely to conclude their efforts early and fail at the task (Bandura, 1997; Stajkovic and Luthans, 1998). While Bandura (1996, p. 382) distinguishes between self-efficacy and confidence, other authors use the term interchangeably (Luthans, Youssef and Avolio, 2007; Hannah *et al.* 2008).

Mastery is defined by Pink (2010) as the desire to get better and better at something that matters. He also states that mastery can be developed with effort over a long time and that it can be approached but never attained. Bandura (2009) identifies enactive mastery experiences (defined as succeeding in a challenging task) as central to changing efficacy beliefs. Furthermore, it is the individual's perception of the performance, rather than the accomplishment of the task, that is most important. He also identifies social modelling (or vicarious learning), verbal persuasion and the management of psychological and emotional states as means of developing self-efficacy and personal agency.

Table 4: Individual characteristics linked to self-leadership

Individual characteristic	Definition	Notes	Source
Self-regulation	The ability to regulate impulses, thinking, emotions and behaviours to achieve goals, as well as the willingness and ability to express emotions. It is intertwined with choice.	Without clear and consistent standards, self-regulation is hampered. A key variable in self-regulation is goal setting.	Reivich *et al.*, 2011; Baumeister *et al.*, 2007; Locke and Latham, 2002
Autonomy (choice, decision making)	The desire to direct our own lives. Autonomy is about acting volitionally, with a sense of choice, flexibility and personal freedom.	The opposite of autonomy is control; control leads to compliance while autonomy leads to engagement or commitment.	Pink, 2010; Gagné and Deci, 2005; Deci and Flaste, 1995; Ryan and Deci, 2000a, b
Self-determination	To be self-determining means to experience a sense of choice in initiating and regulating one's own actions.	The natural reward strategies of self-leadership tend to foster feelings of self-determination.	Deci *et al.*, 1989; Ryan and Deci, 2000a, b; Neck and Manz, 2010
Competence	The feeling of competence results when one takes on and, in one's own view, meets optimal challenges. Competence refers to belief in one's own capabilities to perform a task and as such is associated with Bandura's self-efficacy.	Perceived competence (or mastery) is linked to intrinsic motivation. The natural reward strategies of self-leadership tend to foster feelings of increased competence.	Deci and Flaste, 1995, p. 66; Neck and Manz, 2010; Spreitzer, 1995
Mastery	The urge to get better and better at something that matters.	Engagement, resulting from autonomy, can produce mastery. Mastery is a mindset. Mastery can be pursued but not attained; there is always room for improvement.	Pink, 2010; Dweck, 2006
Self-motivation (intrinsic)	Intrinsic motivation is the motivation to do work because it is interesting, engaging or positively challenging, rather than for some external reward; in its highest form it is called passion.	Intrinsic motivation will flourish if circumstances permit. Tangible rewards, threats, deadlines, directives, pressured evaluations and imposed goals diminish intrinsic motivation because all contribute to an external locus of control. It is enhanced by a high level of competence and autonomy.	Amabile and Fisher, 2009; Ryan and Deci, 2000

Individual characteristic	Definition	Notes	Source
Responsibility	True responsibility requires that people act autonomously and authentically in relating to the world around them. Neither compliance nor defiance is to act responsibly.	Managing yourself requires that you take responsibility for a number of things. Self-leadership emphasises responsibility for one's own thoughts and behaviours while being responsible to one's commitments.	Deci and Flaste, 1995, p 209; Drucker, 1999; Bryant and Kazan, 2013
Self-awareness (self-knowledge)	Self-awareness refers to the demonstrated understanding of one's strengths, weaknesses and the way one deals with the world.	The behaviour focussed strategies of self-leadership strive to heighten one's self-awareness in order to facilitate behavioural management, especially for necessary but unpleasant tasks.	Reivich *et al.*, 2011; Avolio *et al.*, 2009; George *et al.*, 2007; Neck and Manz, 2010
Self-efficacy	The probability in one's head that you could be successful at a task. One's conviction about one's abilities to mobilize the motivation, cognitive resources and courses of action needed to successfully execute a specific task within a given context.	Self-efficacy beliefs are the foundations of human agency and contribute to motivation and action. Self-efficacy is the primary mechanism through which self-leadership affects performance. A resilient sense of efficacy provides the necessary staying power in the pursuit of personal excellence.	Stajkovic and Luthans, 1998; Bandura, 2009; Maddux, 2002; Avolio, 2010; Manz, 1986
Confidence	Confidence can be defined in terms of perceptions of personal capabilities i.e. self-efficacy.	While Bandura (1996, p 382) distinguishes between self-efficacy and confidence, other authors use the term interchangeably.	Luthans, Youssef and Avolio, 2007; Hannah *et al.* 2008
Commitment	A way to consciously automate things which produces the experience of irresistible momentum in the activity. This leads to your vital involvement in the activity itself.	High performance requires commitment, and not obedience [compliance]. Commitment is a mindset or psychological state i.e. feelings or beliefs about the individual's relationship with the organisation.	Brickman cited by Gaffney, 2011; Gaffney, 2011; Walton, 1985
Purpose	The yearning to do what we do in the service of something larger than ourselves.	The natural reward strategies of self-leadership tend to foster feelings of purpose.	Pink, 2010; Neck and Manz, 2010
Resilience	The capacity to bounce back from adversity, conflict, failure or even positive events, progress and increased responsibility.	Resilience includes the ability to bounce back from positive, challenging events as well as from adversity and can developed or learned.	Luthans, 2002; Reivich and Shatté, 2002; Luthans *et al.*, 2007

3.9.3 Self-leadership Strategies

Everyone practices self-leadership to some degree, but not everyone is an effective self-leader (Manz, 1992). There are three approaches for achieving self-leadership (Neck and Manz, 2010; Houghton and Neck 2002): behavioural focussed, natural reward and constructive thought pattern approaches. The first approach is aimed at increasing self-awareness and relies on self-imposed strategies to manage oneself in doing difficult, unattractive, but necessary tasks. The second approach involves creating a positive identification with work through the emphasis of the enjoyable aspects of a given activity. Finally, the third approach concentrates on establishing and altering thought patterns in desirable ways. The available strategies under each of the three approaches are listed in Table 5 (a further explanation of each of the strategies is presented in Appendix 2, p. 194).

Table 5: The three approaches to self-leadership

Approach	Strategies
Behavioural focussed approaches (leading ourselves to do necessary but unattractive tasks)	Self-observation Self-goal setting Self-reward Self-punishment (more recently conceived as self-correcting feedback) Self-cueing (removal of negative cues/ increasing positive cues) Practice
Natural reward approaches (creating self-motivating situations)	Building natural rewards into our activities Rewards for tasks Rewards for thinking style
Constructive thought pattern approaches (redesigning our psychological worlds)	Use self-talk to advantage Belief system improvement Use of imagination to facilitate desirable performance/ mental imagery Alteration of thought patterns

Given the foregoing discussion, it is reasonable to argue that the awareness and use of self-leadership will not be the same for all individuals. Accordingly, it is proposed:

Hypothesis 1:   Self-leadership levels will exhibit variation between advisers.

Finally, self-leadership should not be seen as a complete substitute for leadership (Kerr and Jermier, 1978) but rather a self-influence process that can be complementary to and facilitated by external leadership (Stewart *et al.,* 2011). External leaders allow individuals the freedom to lead themselves, while providing resources and support. They are also required to take on the role of coach rather than boss (Stewart *et al.,* 2011).

3.10 Readiness to Develop Self-leadership Capabilities

It is not enough for an organisation to adopt an empowering leadership approach; the employees must be ready to accept empowerment if they are to feel empowered. 'Empowerment is something someone gives to you; self-leadership is what you do to make it work' (Blanchard *et al.,* 2005). It is sometimes assumed that empowerment will be beneficial for all. But not all efforts to empower employees yield positive results and, in fact, can even be detrimental (Forrester, 2000). What if employees do not have the requisite capabilities to accept the opportunities offered by an empowering leadership approach? Or are simply not interested? Or employees view empowerment as 'great as long as they are not held accountable' (Argyris, 1998)?

The concept of readiness is derived from the situational leadership model (Hersey *et al.,* 2001). It is defined as the level of a follower's ability and willingness to accomplish a specific task (Hersey, 2009). Ability refers to knowledge, skill and experience while willingness refers to confidence, commitment and motivation, both demonstrated by an individual in a particular task. According to the model, as follower readiness increases from its lowest level to its highest, the appropriate leader style moves through a progression from telling (or directing) to delegating, reflecting a shift from task-oriented behaviours to relationship-oriented behaviours. Other authors (Boyce *et al.,* 2010; Stewart *et al.,* 1996) use the terms propensity and proclivity respectively to suggest differing levels of readiness to develop leadership abilities.

The extent to which employees are ready to embrace the opportunities afforded by empowering leadership behaviours will act as an important moderator of such behaviours. Ahearne *et al.* (2005) define employee empowerment

readiness as the extent to which employees possess an array of task-relevant knowledge and experience that will enable them to benefit from, and to be successful in, an empowered environment. In other words, certain employees may be less prepared to 'take the ball and run with it' when the manager uses an empowering leadership approach (Hersey *et al.*, 2001). Blanchard *et al.* (2005) concurs with this point of view when suggesting that those at lower 'development levels' should be managed with 'directed' and 'coached' leadership approaches, whereas those at higher 'development levels' should be managed with 'supported' and 'delegated' leadership behaviours. According to these authors, employees must discover the secrets of self-leadership to attain higher 'development levels'.

People are different. It is unreasonable to require individuals to produce results that they are not able to or to give them authority without the ability to exercise it (Forrester, 2000). Therefore, individuals who will prosper under an empowering leadership approach are expected to be those who have higher levels of self-leadership and are ready to be empowered.

Hypothesis 2:   Employee empowerment readiness will mediate the relationship between self-leadership skills and psychological empowerment.

3.11 Psychological Empowerment

Empowerment is a widely used term in the organisational behaviour literature. However, it tends to mean different things to different people as highlighted by Cooney (2004, cited by Maynard *et al*, 2012) 'for all this discussion of empowerment there is no settled idea of what it actually is'. Two conceptions of empowerment exist in the literature: structural, which focuses on empowering structures, policies and practices; and psychological which focuses on perceptions of empowerment (Spreitzer, 2008).

The structural concept is defined as a practice, or set of practices, involving the delegation of responsibility down the hierarchy so as to give employees increased decision-making authority regarding the performance of their primary work tasks (Leach *et al.*, 2003). The psychological concept focuses on

how individuals (or teams) perceive their work; empowerment is viewed as a cognitive state achieved when individuals perceive that they are empowered (Conger and Kanungo, 1988; Maynard *et al.*, 2012; Spreitzer, 1995, 1996, 2008; Thomas and Velthouse, 1990).

In summary, the term empowerment has been used to denote the act of empowering others and also to describe the internal processes of the individual being empowered (Menon, 2001). The two conceptions can be considered as the cause (supervisor behaviour) and effect (consequential perception of subordinates) of empowerment (Lee and Koh, 2001). The different uses of the word are not mutually exclusive; rather they provide a comprehensive picture of the empowerment phenomenon (Menon, 2001; Spreitzer, 2008)

3.12 Theoretical Development of Psychological Empowerment

Conger and Kanungo (1988) were the first to introduce a psychological perspective on empowerment. They defined it as the process whereby an employee's feelings of self-efficacy (Bandura, 2009) are boosted as their feelings of powerlessness are diminished. These authors suggest that empowering interventions enable employees to feel they can perform their work competently and outlined the conditions necessary to create such feelings of empowerment. This definition suggests that empowerment can be defined in a one-dimensional manner in terms of self-efficacy.

Thomas and Velthouse (1990) developed this earlier model by linking empowerment with intrinsic task motivation, by expanding the set of task assessments necessary to produce this motivation and through the introduction of an interpretative approach to task assessment. Similar to Bandura's model of triadic reciprocality (Bandura, 1986), Thomas and Velthouse (1990) suggest a cycle involving events, task assessment and behaviour. Environmental events provide data (perceptions rather than objective facts) to the individual about the consequences of on-going task behaviour and about conditions and events relevant to future behaviour. This data shapes the individual's task assessments, which in turn energise and sustain the individual's behaviour. This behaviour then impacts environmental events, and the cycle continues.

In their definition (Thomas and Velthouse, 1990), psychological empowerment is considered a cognitive state created by a set of flexible cognitions that are shaped on an on-going basis by one's work environment. As such, it is open to development. Their model defines empowerment as a multi-dimensional motivational construct consisting of four distinct psychological states: meaning or purpose, competence, choice and impact. Taken together, these four states comprise the basic essence of psychological empowerment in the workplace (Houghton and Yoho, 2005). This conceptualisation is widely considered the classical theoretical foundation of empowerment.

Spreitzer (1995) was the first to develop a multi-dimensional instrument to assess psychological empowerment. Building on the work of Thomas and Velthouse (1990), she defined psychological empowerment as intrinsic task motivation reflecting a sense of control in relation to one's work, leading to an active orientation to one's work role; it is manifested in four cognitions: meaning, self-determination, competence and impact. Meaning involves a fit between the needs of one's work role and one's beliefs, values and behaviours (Hackman *et al.*, 1975, cited by Spreitzer, 1995; Oldham and Hackman, 2010). Competence refers to belief in one's own capabilities to perform a task and as associated with self-efficacy (Bandura, 1986). Self-determination is a sense of choice in initiating and regulating one's actions (Deci *et al.*, 1989). Impact is the degree to which one can influence strategic, administrative, or operating outcomes at work (Ashforth 1989, cited by Spreitzer, 1995). Both convergent and discriminant validity of the four dimensions have been established (Spreitzer, 2008).

Spreitzer (1995) suggests that psychological empowerment is a continuous variable that reflects the degree of empowerment felt, rather than the presence or absence of empowerment. A person lacking one of the four dimensions will experience fewer empowerment cognitions, rather than no empowerment cognitions at all. Employees feel psychologically empowered when they experience all four psychological states; empowerment is the 'gestalt' of the four dimensions (Spreitzer, 2008).

The present research considers the impact of self-leadership on psychological empowerment from the perspective of the individual employee. The presence or absence of an empowering leadership approach at organisational level will be considered as a contextual variable. An empowered employee will be experiencing empowerment or have mastered the art of self-leadership (Neck and Manz, 2010). Menon (2001) suggests that an empowered employee is one who can say: (1) 'I have control over my work and work context'; (2) 'I have the personal competence to do my work'; and (3) 'I am personally energised by the goals of the organisation'.

As a result of the above discussion, the following hypotheses are proposed:

Hypothesis 3:   Self-leadership skills will exhibit a significant positive relationship with psychological empowerment.

Hypothesis 4:   The relationship between self-leadership skills and psychological empowerment is dependent on the organisational context.

3.13 Innovation in Service Delivery

Innovation is a buzzword for businesses today. The public sector has traditionally been considered inhospitable to innovation, particularly innovations initiated by middle managers and front-line staff (Borins, 2001). Innovation is no longer an optional luxury for the public sector, despite the idea of innovative public services being considered oxymoronic (Albury, 2005; Borins, 2001). It has an appeal that seems hard to argue with given its combination of a determination to reform and improve service delivery with the hint of a 'state of the art' business practice (Osborne and Brown, 2011). These authors also suggest that there are few guidelines available to public service managers on how to manage innovation in [public] service delivery. This research could potentially provide guidelines in this respect.

Recently public sector organisations have realised that innovation will enable them to respond better to a rapidly changing operating environment including increased stakeholder expectations. It is argued in Teagasc 2030 (Teagasc, 2008) that the organisation itself must innovate if it is to meet its mission to

"support science-based innovation..." (Teagasc, 2012). This will involve innovation in both internal procedures to improve productivity and in service delivery mechanisms to meet changing stakeholder needs.   This has been recognised with the inclusion of a 'Building Innovation Capability' as a work programme within the current Teagasc HR Strategy (*Teagasc People, Leadership and Change Strategy*, Teagasc, 2011).

The traditional model of innovation has long argued in favour of individual agency as the source of innovation (Peters and Waterman, 1982 and Drucker, 1985, cited by Osborne and Brown, 2011). More sophisticated innovation models have incorporated the interaction between the individual and their organisation. Osborne and Brown (2011) argue that individual agency by itself is a necessary, but not a sufficient, condition for innovation in public services. Two other elements are required: organisational support and dispersed locations (innovation from the bottom-up and from the top-down) for innovation.

It is hypothesised that an empowering leadership approach, coupled with the development of employee self-leadership skills and appropriate levels of empowerment readiness, have the potential to achieve higher levels of innovation.

Hypothesis 5:   Psychological empowerment will exhibit a significant positive relationship with the level of employee performance, as measured by innovation in service delivery.

Hypothesis 6:   Innovation in service delivery is dependent on the organisational context.

3.14 A Proposed Training Intervention

Effective training and development programmes are central to the development of a learning environment (Hardy, 2007). Currently Teagasc employs several methods of training including traditional classroom, facilitated discussions, on-line tutorials and organisational challenges (as part of LDP). Existing research supports the efficacy of training for increasing self-leadership

but the training typically has a greater effect on those individuals without a natural tendency towards self-leadership (Stewart *et al.*, 2011).

A web-based, 'micro-training' intervention (Luthans *et al.*, 2008; Luthans *et al.*, 2006) will be developed and administered. A web-based intervention can take advantage of the benefits of speed, convenience, cost and effectiveness in leader development training (Luthans *et al.*, 2008). The objective of the training intervention will be to influence the trainees' self-leadership skills. It is planned to use a pre-test, post-test control group experimental design. It is not the intention of this research project to compare the proposed web-based intervention with alternative training delivery methods. If the conceptual model is to be validated, the training intervention will also have to impact on the psychological empowerment and performance of the employees. To date, a web based training intervention model has not been used to develop self-leadership.

Pre- and post- measures of the variables will be taken using a survey instrument based on three existing survey instruments: the Revised Self-leadership Questionnaire (RSLQ, Houghton and Neck, 2002; Neck and Manz, 2010); the PsyCap Questionnaire (PCQ, Luthans *et al.*, 2007) and the Psychological Empowerment Questionnaire (Spreitzer, 1995). A measure of employee innovativeness in terms of service delivery will be developed.

Hypothesis 7:   A self-leadership training intervention will have a positive impact on levels of both self-leadership skills and psychological empowerment.

3.15 Conceptual Model for the Research Study

In this section, the overall conceptual model is presented. The concepts included are self-leadership (Neck and Manz, 2010), psychological empowerment (Conger and Kanungo, 1988; Spreitzer, 1995; Thomas and Velthouse, 1990) and empowerment readiness (Ahearne *et al.*, 2005). Performance is to be measured as employee innovativeness in service delivery. The organisational context (an empowering leadership approach (Houghton and Yoho, 2005)) is included as a contextual variable. Finally the proposed

training intervention is also included. The conceptual model is contained in Appendix 5 (p. 202) and includes all the concepts and the hypothesised relationships.

3.16 Summary

The approach adopted in this paper was to firstly highlight the organisational challenge requiring investigation including the specific research questions. This was followed by a brief outline of the key concepts of interest. Finally, a conceptual model was proposed. This model describes the relationship between an individual's self-leadership, psychological empowerment and innovation in service delivery as mediated by that individual's empowerment readiness.

The author did not attempt to validate the model; the next stage in the research process is to conduct a field-based investigation/ experiment to validate and refine the model as currently proposed. It is expected that this research work will be concluded by early 2014 and that the model will then be refined based on the results obtained. Even in its current state, the proposed conceptual model does have implications for practice as it highlights the potential role of self-leadership in innovation in service delivery and the possibility of developing self-leadership through a focussed training intervention.

Chapter 4: Linking Self-leadership, Psychological Empowerment and Innovativeness: an Outline of the Proposed Research Methodology

4.1 Preface

The following paper was submitted by the author on 19th April 2013 as the third paper in the Cumulative Paper Series. The paper was recommended by all examiners.

The examiners acknowledged that the methodological approach, set out within the paper, incorporated 'a wide and comprehensive review of previous studies'. They requested that the section on research philosophy be updated and that the section on web-based survey design could be strengthened with some further, more updated references. Once again, the examiners highlighted the 'onerous data collection level proposed' given the time available and the part-time nature of the study. They also raised some queries about the potential response rate to a web-based survey within Teagasc; these concerns were addressed during the course of survey design. Once again, the examiner feedback relating to the training intervention was not acted upon as the training intervention aspect of the current research was postponed.

Shortly after the presentation of this paper, I reached a 'reflection point' where I had to decide whether to include the experiment (training intervention) or not as I realised that I would not be able to complete both the survey and the training intervention in the time available. I decided to pursue the web-based survey as my primary research objective was to explore the extent of and potential for self-leadership as an alternative leadership approach within Teagasc. Consequently the proposed training intervention was dropped from the study and the final conceptual model modified accordingly (see Appendix 11, p. 219).

A further note on the research philosophy has been included as an Appendix; see p. 207.

Regarding concerns about the potential response rate, the majority of Teagasc staff are frequent computer users familiar with web-based surveys. An email list for all Teagasc staff was secured. Finally, personalised email invitations were issued with a pre-notification and a reminder email issued before and after the main email invitation.

4.2 Abstract

Self-leadership is necessary to exploit the potential of empowerment and to harness employees' innovativeness. The current research aims to synthesise theories of self-leadership, empowerment and innovativeness and to test a conceptual model linking self-leadership with psychological empowerment and innovativeness via several intervening variables. The purpose of this paper is to present and justify the research methodology while providing information to allow readers to replicate the study. An extensive review of the literature identified relevant survey items and examples of previous self-leadership training interventions. Quantitative methods underpinned by a positivistic philosophical stance were used in previous research into the variables of interest. A two phase approach using (1) a self-report, web-based survey; and (2) a field experiment with a switching replications design was identified as appropriate to test the hypotheses in the current study. This research will extend the self-leadership, empowerment and innovativeness literatures by providing a conceptual model to explain the effects of self-leadership on both psychological empowerment and innovativeness. Practically, the research results will be of direct benefit to Teagasc as it attempts to harness the innovativeness of all staff; a workforce of innovative self-leaders would assist Teagasc to optimally utilise all its organisational resources.

Keywords: *Self-leadership, psychological empowerment, innovativeness, training intervention, field experiment.*

"The method section should make it possible for readers not only replicate the study but also to understand why the study was conducted in one (and not another) particular way."

King et al., 2012, p. 511.

4.3 Introduction

Self-leadership (Manz, 1986; Neck and Manz, 2013) and two of its predictable outcomes, psychological empowerment (Spreitzer, 1995, 2008) and innovativeness (Hurt *et al.,* 1977; Rogers, 2003) have received much attention in the literature (Neck and Houghton, 2006; Stewart *et al.*, 2011). The major purpose of the current research project is to examine the relationships between these variables within Teagasc before investigating whether a self-leadership training intervention can impact on these relationships. The central tenet is that self-leadership is necessary to exploit the potential of empowerment and to harness employees' innovativeness. The research results will be of direct benefit to Teagasc as it attempts to cope with reduced Government support and reduced staff numbers through a combination of strategies including harnessing the innovativeness of all staff. In addition, the research results will provide empirical evidence for the first time of the nature of the relationships between self-leadership, psychological empowerment and innovativeness; relationships which have been surprisingly lacking research attention to date.

The purpose of this paper is to present and justify the research methodology for the current study. The starting point is a definition of the research variables. The underlying research philosophy is outlined followed by a description of the population being studied. A general outline of the survey items is provided (Appendix 9, p. 212). The validity and reliability of the survey items is discussed followed by deliberation of the ethical concerns. The procedures to be used for data collection are described and the proposed statistical tests to be used outlined. The limitations of the methodology chosen are presented followed by the paper's conclusions.

Overall, my purpose is to build theory by empirically linking self-leadership theory, empowerment theory and innovativeness theory in answer to calls for

further examination of the relationships between self-leadership and both psychological empowerment and innovativeness (Neck and Houghton, 2006; Stewart *et al.*, 2011) while also examining the impact of three important intervening variables.

4.4 Definition of Research Variables

Self-leadership is the process of influencing oneself (Neck and Manz, 2013) during which individuals identify and replace ineffective behaviours and negative thought processes, through self-reflection and evaluation, with more effective behaviours and positive thought processes (DiLiello and Houghton, 2008). Self-leaders use defined behavioural and cognitive strategies to exert influence over themselves. It is, in effect, what people do to lead themselves (Neck and Houghton, 2006; Neck and Manz, 2013). It is my view that a workforce of innovative self-leaders would assist Teagasc to leverage all its organisational resources to the optimum.

The psychological empowerment concept focuses on how individuals (or teams) perceive their work; it is viewed as a cognitive state achieved when individuals perceive that they are empowered (Conger and Kanungo, 1988; Maynard *et al.*, 2012; Spreitzer, 1995, 1996, 2008; Thomas and Velthouse, 1990). Rogers (2003, p. 22) conceptualises innovativeness as the degree to which an individual is relatively earlier in adopting new ideas than the other members of a system or as a willingness to innovate (Hurt *et al.*, 1977).

The current research project will also examine the impact of three intervening variables, empowering leadership behaviours, empowerment readiness and perceived organisational support for self-leadership, on the proposed relationship.

Empowering leadership behaviours are those leader behaviours which lead to increased perceptions of empowerment on the part of employees (Ahearne *et al.*, 2005; Conger and Kanungo, 1988; Maynard *et al.*, 2012; Spreitzer, 1995, 1996, 2008; Thomas and Velthouse, 1990). Such leadership behaviours will emphasise employee self-influence processes rather than hierarchical control processes and actively encourage followers to engage in self-leadership (Pearce

and Sims, 2002) while putting in place the required conditions for effective empowerment (Arnold *et al.*, 2000).

While empowering leadership is generally expected to have a positive impact on psychological empowerment (Zhang and Bartol, 2010), there is evidence to suggest that not all employees react in the same way to empowering leadership behaviours (Argyris, 1998; Forrester, 2000) or, in other words, that not all employees are ready to be empowered or desire empowerment. The concept of readiness is derived from the situational leadership model (Hersey *et al.*, 2001); it is defined as the level of a follower's ability and willingness to accomplish a specific task (Hersey, 2009). The readiness concept has been defined in the empowerment context as empowerment readiness (emphasis on ability, Ahearne *et al.*, 2005) and empowerment role identity (emphasis on willingness, Zhang and Bartol, 2010).

In the context of the present study, perceived organisational support (Eisenberger *et al.*, 1986; Rhoades and Eisenberger, 2002) is concerned with the extent to which Teagasc values the contributions of its employees and the extent to which it will support the development of their self-leadership skills. A perceived lack of appreciation and support for self-leadership by Teagasc could reduce the level of employee commitment to self-leadership (Eisenberger *et al.*, 1986).

Accordingly, empowering leadership behaviours, empowerment readiness and perceived organisational support were included as intervening variables in the conceptual model (Appendix 8, p. 211).

4.5 Research Philosophy

The current project is primarily interested in the identification of causal explanations to explain regularities in human behaviour (Easterby-Smith *et al.*, 2008) and in doing so to generate knowledge which will firstly, be of practical benefit to Teagasc, and secondly, contribute to the academic literature. The research results will explain events and, in doing so, provide a set of fundamental laws about behaviour (Evered and Louis, 1981).

Philosophy has a fundamental influence on the approach taken to management research (Adcroft and Willis, 2008). Positivism is presented as the classical view of science and regards reality as discrete events which can be observed (Blaikie, 2007; Guba, 1990); it is considered to be the methodological underpinning of survey research and experimental approaches (Williams, 2006). As such, it is the research paradigm which will be adopted for the current research study. Positivists seek cause and effect laws that are sufficiently generalisable to ensure that knowledge of prior events enables a reasonable prediction of subsequent events (Noblitt and Hare 1988, cited by Adcroft and Willis, 2008).

While my personal philosophical stance aligns with positivism, the choice of positivism as the philosophical stance to underpin the current research project is supported by the fact that the previous research in the areas of self-leadership (Stewart *et al.*, 1996; Unsworth and Mason, 2012), psychological empowerment (Spreitzer, 1995; Zhang and Bartol, 2010), empowerment readiness (Ahearne *et al.*, 2005; Cunningham *et al.*, 2002; Zhang and Bartol, 2010), empowering leadership behaviours (Ahearne *et al.,* 2005; Rapp *et al.,* 2006; Vecchio *et al.,* 2010; Zhang and Bartol, 2010) perceived organisational support (Eisenberger *et al.,* 1986; Self *et al.*, 2005) and innovativeness (Hurt *et al.*, 1977) have all used quantitative techniques to explain and create laws of human behaviour.

Ontologically, while I subscribe to the concept that the nature of being can be understood in an external and objective manner (Evered and Louis, 1981), I do hold that it can only be known by the use of human thought and reason. There are a number of categories of realism and the one chosen for the current study is the depth realist ontology (Blaikie, 2007) which is also referred to as the critical realist ontology (Kempster and Parry, 2011).

Epistemologically, I will seek to explain and predict what happens in the social world objectively, that is from the outside as an observer, by identifying causal relationships between the constituent elements (Burrell and Morgan, 1979). Despite being a Teagasc employee myself, I will adopt an 'outside expert'

(Blaikie, 2007, p. 11) or 'enquiry from the outside' (Evered and Louis, 1981, p. 388) approach:

> *"The objects of interest are measured with instruments, the data are analysed to determine if logical patterns seem to exist, and rational theories are constructed to integrate, explain, and perhaps predict a multitude of facts. Knowledge is validated by methodical procedure and logic."*

I will stand back from the phenomena being examined and approach the problem with existing knowledge in the form of concepts and previous research findings.

Finally, the nomothetic approach in the current research study involves firstly stating, and then testing hypotheses, using a scientifically rigorous process (Burrell and Morgan, 1979) in order to find general laws of behaviour that apply to everyone.

4.6 Research Setting, Participants and Methods

This study will be conducted within Teagasc. Teagasc is an Irish public sector organisation involved in research, knowledge transfer and education activities in agriculture and food. Its workforce of 1,200 staff consists of research scientists, advisers, teachers and administration staff, including management and technicians (Teagasc, 2012).

As all of the research variables are quantitative in nature and quantitative methods have previously been used to measure them (Appendix 6, p. 203), quantitative methods will be used in the current study. A two phase approach will be adopted to answering the research hypotheses. A web-based survey tool will be used in Phase 1 of the study to benchmark the levels of both the independent and dependent variables amongst the research population. The data collected will then be used to test Hypotheses 1 – 6 (see Appendix 8, p. 211). Phase 2 of the study will consist of a field experiment to test the impact of a self-leadership training intervention on self-leadership and psychological empowerment (Hypothesis 7). Participation in both phases of the study will be

voluntary with all Teagasc staff invited to complete the web-based survey and a subset of Teagasc staff invited to participate in the training intervention.

4.6.1 Phase 1: a Web-based Survey

The questionnaire is the data collection tool most frequently used for acquiring information concerning individual perceptions and attitudes (Baruch and Holtom, 2008). A high response rate will be targeted to mitigate non-response bias (Stanton and Rogelberg, 2001). The potential population for the current study is discrete and known (all Teagasc staff), all have email access and an email group mailing list is available for all potential respondents ('All Teagasc Staff'). Thus, I will be able to control for problems of representativeness (everyone will know about and have access to the survey) and I will ultimately be able to calculate response/ non-response rates (Granello and Wheaton, 2004). I am concerned about the reluctance of people to respond which may be due to over-surveying of the target population (survey saturation, Baruch and Holtom, 2008) but will make a strong appeal to the target population to participate.

The aim is to develop a respondent-friendly web questionnaire so as to minimise the sources of coverage, sampling, measurement and non-response errors (Baruch and Holtom, 2008; Dillman, 1998, 2000). An online survey tool, SurveyMonkey (www.surveymonkey.com), will be used to administer the survey. Respondents will be required to rate their agreement with a series of statements relating to each of the research variables on a Likert type scale. The survey will contain a total of 76 - 93 items (Appendix 9, p. 212). Items were chosen as all have been used previously and shown to be reliable and valid measures of the associated concepts.

A multiple contact strategy will be used to make respondents aware of the survey and to encourage their participation. An introductory, personalised email alerting all participants to the survey will be sent. This will outline the importance of the research study to Teagasc and appeal to staff to participate. An invitation email (also personalised), with a link to the online survey, will then follow. The current group email address list 'All Teagasc Staff' will be used. Contact information for the researcher will be included on all emails.

Questions will be presented in a conventional format similar to that normally used on paper, self-administered surveys: all statements will be numbered and kept short; the statements will be separated from the answer space; the answer spaces will be listed vertically to the right of each category description; and instructions on how to proceed through the questionnaire will be provided. Respondents will be informed of their level of progress in completing the survey (Dillman, 1998, 2000).

Participation in the survey will be voluntary. In addition, respondents will not be required to provide an answer to each question before being allowed to answer subsequent questions; the response to each question will be voluntary. The anonymity and confidentiality of all responses will be stressed.

Ample response opportunity will be provided by having the survey available for 20 days in total (three working weeks of five days plus weekends). Survey response rates will be monitored on a daily basis. Two reminder emails (again personalised) with links to the online survey will be sent over the period.

All respondents will be offered an individualised self-leadership report as well as a copy of the overall findings. The survey will be pre-tested with the participants on the Teagasc Leadership Development (LDP) programme. Feedback from this pre-test will be incorporated into the final survey design.

Finally, the survey will gather a range of personal details including: age, gender, length of time with Teagasc/ in current role, job type/ characteristics and details of current/ previous leadership/ management training received. These personal details will be included as demographic control variables in the subsequent analysis.

4.6.2 Phase 2: an Experiment

Because self-leadership can be learned (Neck and Manz, 2013), there is an opportunity for enhancing individual performance through self-leadership training. The purpose of the experimental phase of the current research study is to examine the impact of a self-leadership training intervention on both the self-leadership skills and perceptions of psychological empowerment of a subset of Teagasc staff.

A pre-test/ post-test control-group field experiment (Field and Hole, 2003; King *et al.*, 2012) with switching replications (Cook *et al.,* 1990) will be used to investigate the impact of the training intervention. Such a design has previously been used to examine the impact of self-leadership/ self-management training interventions (Appendix 4, p. 199). Random assignment will be part of the experimental design to create equivalent control and training groups (Cook and Campbell, 1979). The external manipulation of the independent variable (the self-leadership training intervention) with random assignment allows for causal inference (King *et al.*, 2012). The switching replication design strengthens causal inference by replicating the treatment effect at a later date with the group that initially served as a no-treatment control (Cook *et al.,* 1990). The later treatment group will serve as the control group in the early part of the experiment with the roles reversed during the experiment's second phase.

An invitation to volunteer for a self-leadership training programme will be issued to Teagasc staff adjacent to a suitable Teagasc training venue. This geographical limitation is due to resource constraints and the requirement for some staff to attend face-to-face training on a weekly basis. Only those staff who can fully commit to participate in the training intervention will be invited to participate.

An introductory session on self-leadership will be offered to all training participants. At the start of the introductory session, all participants will be asked to complete a pre-test survey. The survey will contain nine items to measure self-leadership (Houghton *et al.*, 2012) and the 12 items to measure psychological empowerment (Spreitzer, 1995). At the conclusion of the introductory session, participants will be randomly assigned to one of three groups: (1) conventional training; (2) web-based training; or (3) control. The control group will be informed that due to resources, it is only possible to train two groups initially but that they will receive the same training subsequently. They will also be asked to participate in all assessments.

Following the approaches of Unsworth and Mason (2012), Stewart *et al.* (1996) and Neck and Manz (1996), training will be offered over a five week period.

Training will be offered in either a conventional format or as a web-based alternative. The conventional training will consist of a weekly, three hour training session involving a face-to-face lecture with interactive exercises. The web-based alternative will provide the same training materials online with the participant expected to complete one module weekly in his/ her own work-time.

At the end of the course, participants will understand what self-leadership is, how it can be used and have the tools/ strategies to use self-leadership in their work environment. The proposed outline of the training intervention is detailed in Appendix 10 (p. 218).

A number of both reaction and learning assessments (Kirkpatrick, 1959, 1996) will be built into both training interventions. Participants will be expected to complete all assessments. On completion of the initial training, all participants (both training groups and the control group) will complete a post-training survey. Following this, the web-based training option will be offered to the control group.

Table 6: Proposed training intervention using a field experiment with switching replications

Period	0	1						2					
Week	1	2	3	4	5	6	7	8	9	10	11	12	13
	Intro	C	C	C	C	C	-	T2	T2	T2	T2	T2	-
	Intro	T1	T1	T1	T1	T1	-	C	C	C	C	C	-
	Intro	T2	T2	T2	T2	T2	-	C	C	C	C	C	-
Survey	1						2						3
Note: T1 = conventional training; T2 = web-based training													

4.7 Number of participants

A priori power analysis (G*Power3, Faul *et al.*, 2007) was used to calculate sample size (N) as a function of the required power level (1 - β), the pre-specified significance level (α), and the population effect size (d) to be detected with probability $1 - β$ (Cohen, 1992).

In the case of the web-based survey, all Teagasc staff will be invited to participate. The required number of responses for both multiple linear regression and goodness of fit analyses are summarised in Table 7. Very large numbers of responses are required to pick up small effects and are probably outside the resources of this experiment. Based on the table below, 150 completed survey responses would allow for the multiple linear regression test to be conducted at the sub-category level and the goodness of fit test to be conducted at the category level. With a population of over 1,000 Teagasc staff, I am confident of achieving the required number of responses given the reported response rates for online surveys (Archer, 2008; Baruch and Holtom, 2008; Nulty, 2008).

Unsworth and Mason (2012) reported large effect sizes (0.78 and 1.10 for Study 1 and Study 2 respectively) for their self-leadership training intervention. G*Power[3] (Faul *et al.*, 2007) calculates that a total of 42 participants on the training programme would be adequate to detect the effect of the training intervention (assuming a similar large effect size). In order to allow for drop-outs from both the training and control groups over the timespan of the research study an initial population of 75 people will be sought (25 for each of the training treatments, conventional and online) and 25 for the control group.

Table 7: Calculating the required sample size summary table

Effect size	Multiple linear regression		Goodness of fit	
	Number of predictors*		**Degrees of freedom**	
	5	**16**	**5**	**16**
Small	647	977	1283	1927
Medium	92	143	143	215
Large	43	70	52	78
* The higher numbers for predictors/ degrees of freedom reflect the number of sub-categories in the independent variables.				

4.8 Threats to Reliability and Validity and Controls Planned

Other researchers will treat research findings with credibility provided the measures have reliability and validity (Coolican, 2009). The survey items to be

used in this study have all undergone prior testing for both reliability and validity (Appendix 6, p. 203).   All Cronbach's alpha (α) figures listed, apart from that for the readiness for organisational change scale (Cunningham *et al.*, 2002), are above the recommended value of 0.75 (Coolican, 2009, p. 195) and therefore suggest that the scales proposed for use are reliable. The results of this research study will be tested for both reliability and validity and will be expected to show similar results to those published previously.

4.8.1 Internal Validity

The key to having high internal validity is good experimental design (Field and Hole, 2003). Randomisation will be used to rule out many of the threats to internal validity by leaving selection differences to chance (Cook and Campbell, 1979; Craig and Hannum, 2006; Reichardt, 2009).

4.8.2 Self-report Bias

The potential impact of self-report bias on the results obtained from the web-based survey is recognised. While many researchers are sceptical about results from self-report questionnaires, there seems to be relatively little criticism of self-reports as measures of people's feelings about and perceptions of work (Spector, 1994). Baldwin (2000) suggests that any process that involves a behaviour over which the individual has a high degree of control is likely to require self-reporting of that information. For example, I argue that employees are best placed to report self-leadership as they are the ones who are aware of the behavioural and cognitive strategies they follow. In effect, I am seeking information no one else knows (Baldwin, 2000) that is normally hidden from view (Paunonen and O'Neill, 2010).

Table 8: Summary of potential threats to validity in the current research project

Potential threat	Mitigation strategy to be used
Statistical conclusion validity	Appropriate statistical procedures will be used, with support from Teagasc colleagues and WIT supervisors as required.
Construct validity	All statements to be used in this study have been proven in previous research (Appendix 6). Participation in both phases will be voluntary. Respondent anonymity and confidentiality will be assured. Evaluation apprehension will be reduced by reminding participants that there are no right or wrong answers to any of the survey items. Reaction and learning measures (Kirkpatrick, 1959, 1996) will be incorporated into the training intervention. Self-report bias and common method bias are elaborated on elsewhere.
External validity	All Teagasc staff will be surveyed in Phase 1; participation will be voluntary and made as straightforward as possible. While co-operation with the experiment (Phase 2) will be somewhat constrained due to geographical considerations, participation will be made as feasible as possible. It is beyond the resources of the current project to replicate Phases 1 or 2 in another setting or at another time.

Adapted from: Cook and Campbell (1979); Coolican (2009) and Field and Hole (2003).

Furthermore, measuring the constructs of interest with different, but also imperfect methods (supervisor or peer reports), may provide no better estimates (Conway and Lance, 2010; Donaldson and Grant-Vallone, 2002; Paunonen and O'Neill, 2010). Notably self-reports have been used previously to validate the scales to be used (Appendix 6, p. 203). Finally, the 'practical utility' of self-report measures cannot be overlooked (Podsakoff and Organ, 1986, p. 540). Because the information being gathered will be at the individual level and will be concerned with the perceptions and experiences of the individual, the use of self-report questions in this study is justified.

4.8.3 Common Method Bias

Phase 1 of the current study relies solely on a web-based, self-report survey to gather information on both the independent and dependent variables concurrently. Hence common method bias is a concern (Podsakoff *et al.*, 2003). I believe that it will not be feasible to obtain measures of the various criteria from different sources or to separate the measurement of the independent and dependent variables in time or circumstance (Podsakoff *et al.*, 2003). As all of the scale items have previously been used (Appendix 6, p. 203), it will also not be possible to use different response scales or scale endpoints than those already used.

A number of learning assessments (Kirkpatrick, 1959, 1996) will be incorporated into the training course and/ or the post-training assessment to check on the participant's understanding of self-leadership and psychological empowerment. Finally, the data sets will be tested for the effects of common method variance.

4.8.4 Uncontrolled Response Environments

It will be impossible to control for uncontrolled response environments in Phase 1 of the study but given that the research is being conducted within a single organisation, the use of an online survey offers no worse a challenge than standard mail-return survey practices (Rogelberg and Stanton, 2007).

4.8.5 Social Threats

The switching replication experimental design helps to mitigate the social threats of compensatory rivalry, compensatory equalisation and resentful demoralisation presented in a situation where training programmes are offered to some employees but not others (Campbell and Cook, 1979; Cook *et al.*, 1990). The switching replications design helps mitigate these threats as everyone will eventually receive the training and the allocation to the training and control groups is randomised (Trochim, 2006). The threat of diffusion (Campbell and Cook, 1979; Cook *et al.*, 1990) of the self-leadership training from the treatment group to the control group during the initial phase of

training is recognised; members of the training group will be asked not to discuss the training content with colleagues in the control group.

4.9 Ethical Issues

The underlying purpose of the current research is to improve the lot of both Teagasc management and employees. Anything that threatens the welfare of any individual or of Teagasc will make the current research unjustifiable (Greenberg and Tomlinson, 2004).

Permission to conduct the current research study will be sought from Teagasc (and WIT if deemed necessary). The rationale for the current research study will be clearly explained to all participants and all participants will be offered a copy of the final results and an individual self-leadership assessment/ report. The voluntary nature of the project will be stressed at all times (Greenberg and Tomlinson, 2004) with participants free to terminate their participation at any time. Participants will be guaranteed anonymity and confidentiality with all data to be published in the aggregate only; individual responses will not be used for purposes other than the current research project nor will they be publically identifiable. Respondents' names will not be recorded on the results database (BPS, 2009; Coolican, 2009; Field and Hole, 2003).

Finally, in Phase 2 of the current study, the training intervention will be offered to the control group following completion of training with the treatment groups.

4.10 Data Collection, Data Analysis and Reporting

The web-based survey (Phase 1) will be administered using an online survey tool (Survey Monkey). The data collected will be analysed using PASW Statistics (PASW, 2009). The survey will be administered in June 2013.

All data will be exported to PASW for analysis. Both the number of online surveys and usable online surveys returned will be reported and a response rate calculated. A wave analysis (Baruch and Holtom, 2008) of the responses will be conducted to identify any patterns in early and late responses.

Responses to individual statements will be summated (Hair *et al.*, 2006) to give an index score for each variable. Descriptive statistics will be calculated. Factor analysis (Hardy and Bryman, 2004) will be used to confirm that the correct items group together. Routine pre-analysis screening of the variables for normality, linearity and homoscedasticity (Tabachnick and Fidell, 2001) will then be conducted before multiple regression analysis is used to establish the proportion of the variation in the dependent variable (innovativeness) explained by the independent variables and to assess the unique importance of each independent variable in the model (Hair *et al.*, 2006). Regression diagnostics will be conducted. Confirmatory factor analysis (CFA) will be completed; chi-square ($\chi2$) values will be reported to suggest goodness of fit.

Pre- and post- training surveys (Phase 2) will be administered manually and data entered directly to PASW. Reaction and learning measures will also be collected as part of the post-training surveys. The experiment phase of the current research project will be completed in the October/ November period.

The data generated will be analysed using PASW. A mixed-design multivariate analysis of variance (MANOVA) with group participation (training/ control group) as a between-subjects variable and time (T1/T2) as a within-subjects variable (Unsworth and Mason, 2012) will be conducted to establish the impact of the training intervention.

Table 9: Statistical tests to be used

Hypothesis	Statistical test
H1 – H6	Correlation; factor analysis; multiple regression; goodness of fit; significance tests
H7	Comparison of two means; MANOVA; significance tests

4.11 Limitations of the Methodology Chosen

Due to the psychological nature of the all variables in this research project, I will rely on self-report data for measurement (Unsworth and Mason, 2012). I have argued that self-report data is the most appropriate for my hypotheses. Common method bias is also a concern. I have argued that it will not be

feasible to obtain measures of the various criteria from different sources. Finally, the results will be tested for internal consistency.

The fact that this study focuses on one public sector organisation is likely to affect observed variability and decrease external validity (Zhang and Bartol, 2010). Consequently, the generalisability of the results to other organisations, especially those in different sectors, may be questioned. An advantage of conducting the research in the current setting is that potential organisational level variables can be controlled (Zhang and Bartol, 2010). In addition, the impact of the training intervention is tested only once and using one experimental design. Would the same results be obtained if the training intervention were offered to other groups of Teagasc staff at a different time or if an alternative experimental design was used?

Another limitation of this research is an inability to test the changes in the variables of interest over time. While Phase 2 will examine the impact of a training intervention in the short-term, it would be interesting to see if any effects observed continue in the long-term. Also Phase 1 of this research will simply benchmark the levels of all the variables at a particular moment in time. A longitudinal study examining the changes in the variables over time would add to the potential contribution of this study.

Finally, despite the limitations identified above, I believe that the methodology proposed will benchmark the levels of the variables of interest and validate the proposed conceptual model. In addition, it will be possible to draw causal inference regarding real people in real situations (King *et al.*, 2012) from Phase 2 of the study.

4.12 Conclusion

This research study aims to synthesise leadership, empowerment and innovativeness theories using a two phase methodological approach. A positivist philosophical stance underpins the research methodology chosen as all of the variables in the conceptual model are quantitative in nature. A self-report, web-based survey will be used to benchmark the levels of the independent and dependent variables in Teagasc at one point in time. Self-

reports are being used as information no one else knows (Baldwin, 2000) is being sought and it would not be feasible to obtain measures of the various criteria from different sources or to separate the measurement of the independent and dependent variables in time or circumstance (Podsakoff *et al.*, 2003). A field experiment, using a switching replications design (Cook *et al.,* 1990) will be used to investigate the impact of a training intervention on the variables of interest. This design was chosen as it strengthens causal inference and has also been previously used (Appendix 4, p. 199) to examine the impact of self-leadership/ self-management training interventions.

Chapter 5: Linking Self-leadership with Work Performance and Job Satisfaction - the Influence of Psychological Empowerment in a Knowledge Organisation

5.1 Preface

The following paper was submitted by the author on 21st February 2014 as the fourth (and final) paper in the Cumulative Paper Series. The paper was recommended by all examiners.

The examiners acknowledged the volume of work presented but cautioned that 'there is so much reported here that at times it was difficult to follow just what was being argued' and that the overall paper could have been improved through clearer sign-posting. Indeed, it was also noted that 'the paper can only summarise major analytics and advanced problem solving pursued by the candidate'. This was addressed through the inclusion of additional analysis outputs in the Appendices (Chapter 9) of the final thesis document.

They also queried the need for all of the analysis conducted (both exploratory and confirmatory factor analysis) and whether differences between sub-groups within the sample were tested. The purpose of both exploratory and confirmatory factor analysis is to identify latent factors that account for variance and covariance among a set of observed variables but whereas EFA is 'exploratory' in nature, CFA requires strong empirical or conceptual evidence of a latent factor structure. While some of the variables used had such evidence, others did not and the decision was taken to conduct EFA on all variables for consistency. Differences between sub-groups were tested and the results are presented in Appendix 17 (see Table 26 (p. 249) and Table 27 (p. 250) for summary of results obtained) and discussed in the next chapter.

The examiners also noted that 'the results are not conclusive at this stage' and required that the data 'be re-analysed from scratch' before thesis submission. This has been done resulting in a 'final refinement of the data analyses.

The attention of readers is drawn to Appendices 9 - 11 which outline the conceptual model, including hypotheses, tested by this research. Explanations are included for the decisions taken regarding the dependent variables and the inclusion of innovativeness and mindset as moderator variables in the conceptual model tested.

Following the rejection of empowering leadership as a moderating variable in the relationship between self-leadership and psychological empowerment (H7), the importance of empowering leadership to Teagasc and a review of the relevant literature, it was decided to reconsider the position of empowering leadership in the conceptual model.

Theorists including Seibert *et al.* (2011), Maynard *et al.* (2012) and Spreitzer (2008) identify both structural empowerment and leadership as important antecedents or predictors of psychological empowerment at the individual level of analysis. In addition, Stewart *et al.* (2011) assert that external leadership is frequently a crucial component for facilitating self-leadership to the degree that it empowers employees and allows them to exercise influence over work processes. These external leader behaviours that facilitate self-management were explored by Manz and Sims (1987) who concluded that the predominant role of the external leader is to lead others to lead themselves. However, apart from the work of Yun *et al.* (2006) who found that empowering leadership and follower need for autonomy interact together to positively influence self-leadership, there has been a lack of empirical evidence for the relationship at the individual level.

Figure 4: Final conceptual model of self-leadership and its relationship to self-reported work performance and job satisfaction through psychological empowerment
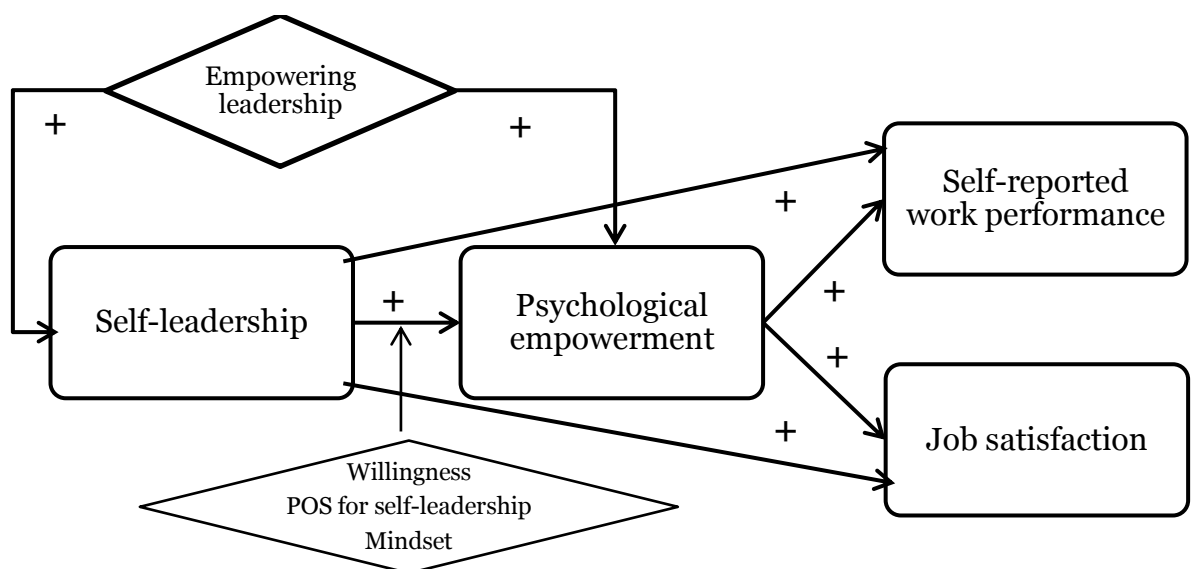
So while the initial hypothesis (H7) considered empowering leadership as a moderator in the relationship between self-leadership and psychological empowerment, perhaps it would be more appropriate to test for the direct relationship between empowering leadership and both other variables.

Consequently, it was decided to test a model linking empowering leadership, psychological leadership and self-leadership, initially using hierarchical linear regression in PASW followed by SEM in AMOS.

The results in Table 10 demonstrate that empowering leadership is positively and significantly related to both self-leadership ($\beta = 0.230, p < 0.001$) and psychological empowerment ($\beta = 0.547, p < 0.001$).

Table 10: Regression results testing the relationship between empowering leadership and (1) self-leadership and (2) psychological empowerment

	Self-leadership		Psychological empowerment	
Variable	**Model 1**	**Model 2**	**Model 1**	**Model 2**
Gender	0.065	0.060	-0.137**	-0.149***
Age	-0.147*	-0.134	-0.006	0.024
Tenure	-0.042	-0.056	0.087	0.055
Current role	0.041	0.065	0.075	0.132**
Directorate	0.060	0.037	0.060	0.006
Job category	0.106*	0.093	0.091	0.060
Training	-0.073	-0.053	-0.105*	-0.057
Empowering leadership		0.230***		0.547***
ΔR^2		0.051		0.291
F for ΔR^2		27.067***		219.951***
R^2	0.027	0.077	0.054	0.348
F	2.932**	6.089***	4.965***	33.426***
[1] n = 486. Values are standardised regression coefficients. * p < 0.05; ** p < 0.01; *** p < 0.001				

Figure 5 outlines the structural model and the path coefficients. All paths shown in the model are significant ($p < 0.05$). The results support the view

that empowering leadership is a precursor to self-leadership (β = 0.30, p < 0.001) while also being a pre-cursor to psychological empowerment (β = 0.69, p < 0.001). Overall, the model fit measures fall largely within the acceptable range (χ^2[887]= 2301.11, χ^2/df = 2.594, p < 0.001; CFI = 0.91, GFI = 0.83, RMSEA = 0.06 and TLI = 0.91) suggesting that the hypothesised model fits the data well.

The implications of these results will be discussed in section 6.7.2 in the following chapter.

Finally, the revised conceptual model was tested in AMOS; the structural model with path coefficients is shown in Figure 6 (p. 89). All paths shown in the model are significant ($p < 0.05$).

Hypothesis 2 states that self-leadership is positively related to psychological empowerment. The results supported this view (β = 0.16, p < 0.05). Hypotheses 3a and 3b, which stated that self-leadership is positively related to job satisfaction and self-reported work performance respectively, were also supported (β= 0.09 and 0.33, p < 0.05). The results also supported hypotheses 5a and 5b which stated that psychological empowerment is positively related to job satisfaction and self-reported work performance respectively (β= 0.73 and 0.52, p < 0.05). Finally, the results also support the revised hypotheses relating to the role of empowering leadership. Empowering leadership is positively related to self-leadership (β = 0.30, p < 0.05) and to psychological empowerment (β = 0.65, p < 0.05)

Overall, the model fit measures fall largely within the acceptable range (χ^2[1356]= 3203.41, χ^2/df = 2.362, p < 0.001; CFI = 0.90, GFI = 0.81, RMSEA = 0.05 and TLI = 0.90) suggesting that the hypothesised model fits the data well. These results will be discussed in section 6.8 in the following chapter.

Figure 5: Structural equation model for the relationship between self-leadership, psychological empowerment and empowering leadership
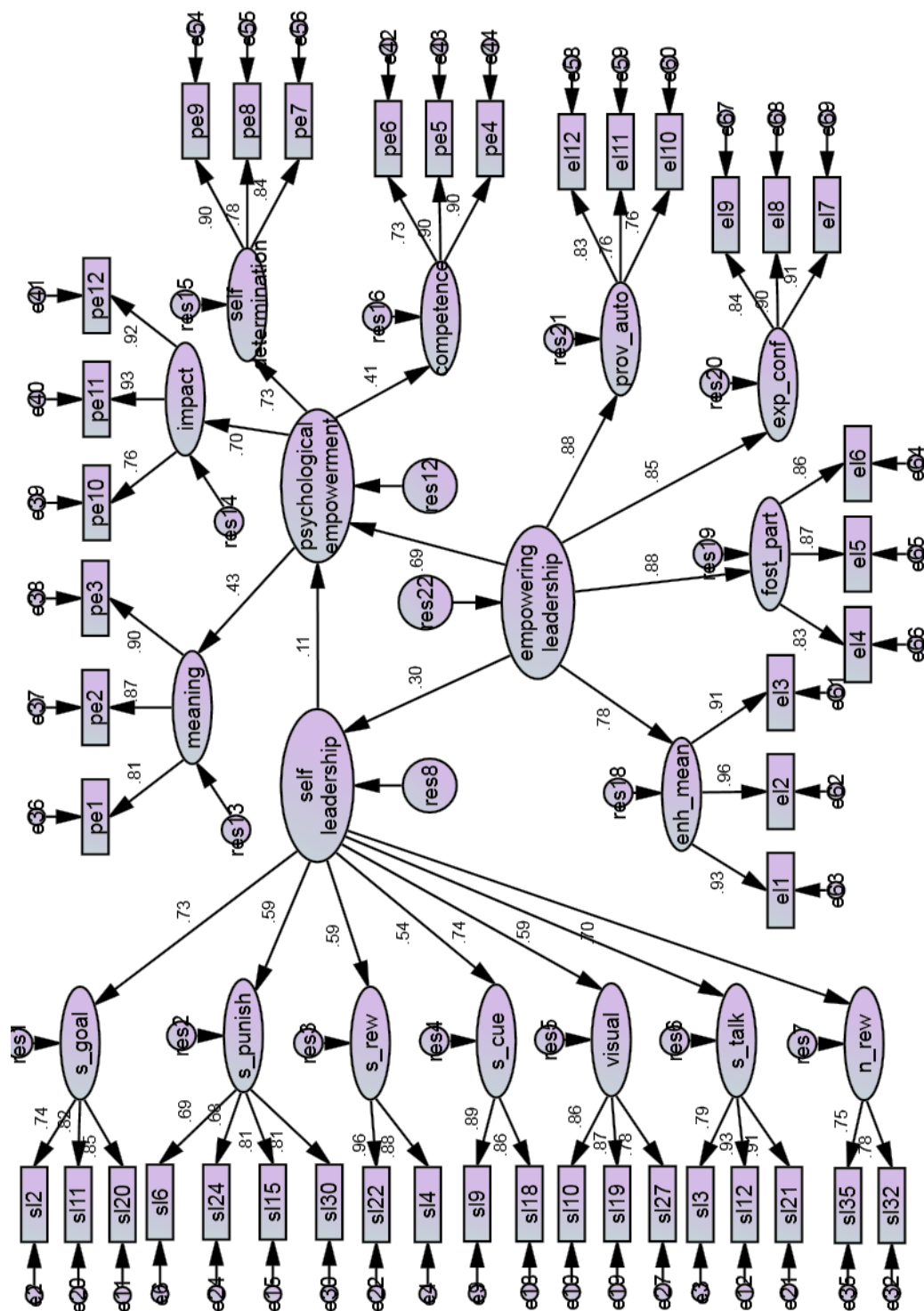
Note: n = 486. All paths in the structural model are significant at p < 0.05. Self-leadership is the modified 19-item scale suggested by EFA and CFA.

Figure 6: Structural equation model for the relationship between self-leadership, psychological empowerment, empowering leadership, job satisfaction and self-reported work performance
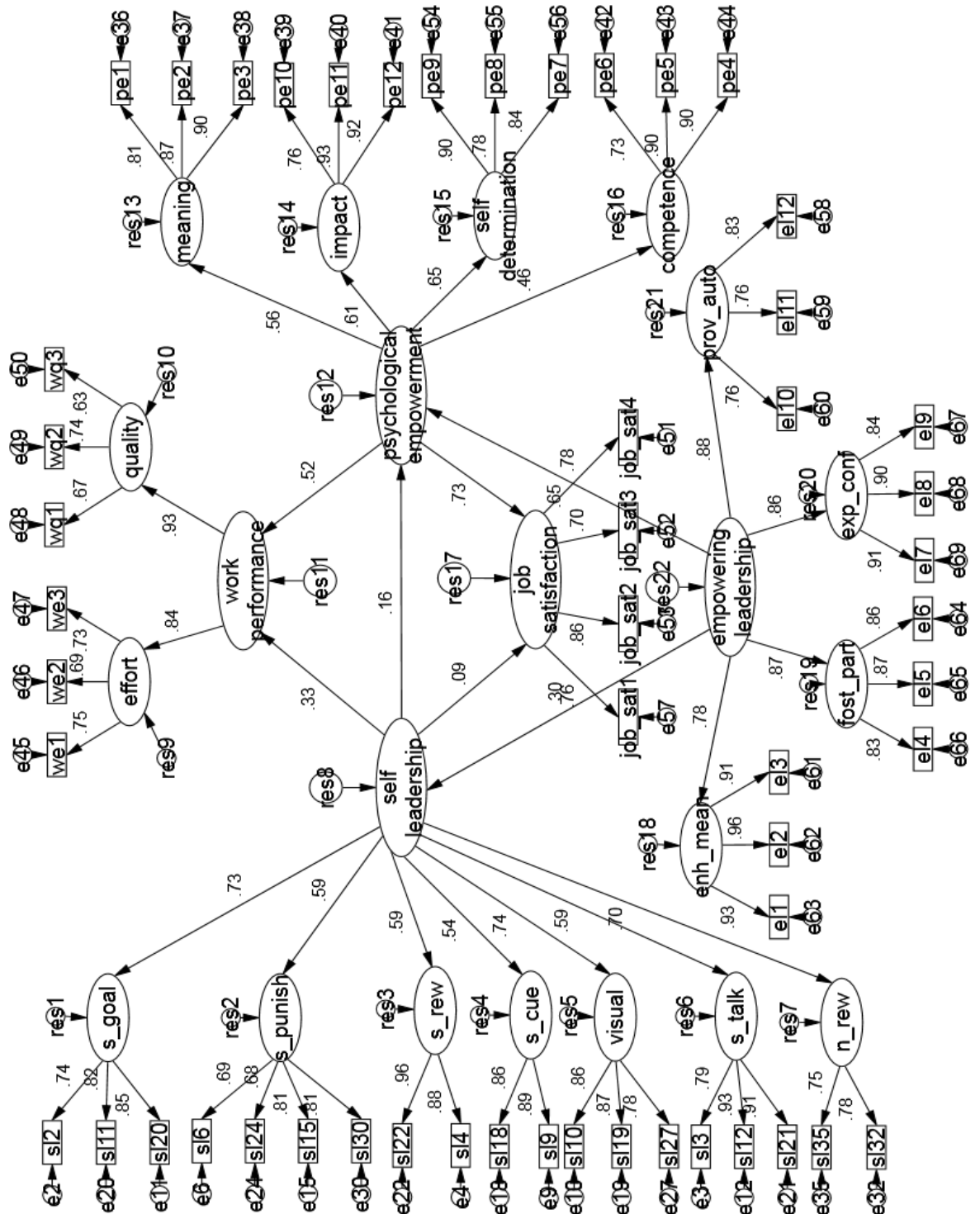
Note: n = 486. All paths in the structural model are significant (*p < 0.05*). Self-leadership is the modified 19-item scale suggested by EFA and CFA. Standardised regression weights are listed in Table 11.

Table 11: Standardised Regression Weights for SEM in Figure 8

			Estimate
Self-leadership	<---	Empowering leadership	.295
Psychological empowerment	<---	Self-leadership	.157
Psychological empowerment	<---	Empowering leadership	.654
Work performance	<---	Psychological empowerment	.520
Work performance	<---	Self-leadership	.332
Meaning	<---	Psychological empowerment	.560
Impact	<---	Psychological empowerment	.608
Competence	<---	Psychological empowerment	.462
Self-determination	<---	Psychological empowerment	.655
Effort	<---	Work performance	.839
Quality	<---	Work performance	.932
Job satisfaction	<---	Psychological empowerment	.725
Self-goal setting	<---	Self-leadership	.730
Self-punishment	<---	Self-leadership	.587
Self-talk	<---	Self-leadership	.592
Visualisation	<---	Self-leadership	.742
Self-reward	<---	Self-leadership	.589
Self-cueing	<---	Self-leadership	.544
Job satisfaction	<---	Self-leadership	.092
Natural rewards	<---	Self-leadership	.696
Providing autonomy	<---	Empowering leadership	.881
Enhancing meaningfulness	<---	Empowering leadership	.778
Fostering participation	<---	Empowering leadership	.867
Expressing confidence	<---	Empowering leadership	.857
pe1	<---	Meaning	.809
pe2	<---	Meaning	.868
pe3	<---	Meaning	.899
pe4	<---	Competence	.898
pe5	<---	Competence	.896
pe6	<---	Competence	.728
pe7	<---	Self-determination	.842
pe8	<---	Self-determination	.783
pe9	<---	Self-determination	.897
pe10	<---	Impact	.756
pe11	<---	Impact	.929
pe12	<---	Impact	.918
we1	<---	Effort	.754
we2	<---	Effort	.687

we3	<---	Effort	.731
wq1	<---	Quality	.668
wq2	<---	Quality	.737
wq3	<---	Quality	.633
job_sat1	<---	Job satisfaction	.765
job_sat2	<---	Job satisfaction	.857
job_sat3	<---	Job satisfaction	.703
job_sat4	<---	Job satisfaction	.778
sl35	<---	Natural rewards	.751
sl32	<---	Natural rewards	.780
sl18	<---	Self-cueing	.864
sl9	<---	Self-cueing	.889
sl20	<---	Self-goal setting	.851
sl11	<---	Self-goal setting	.822
sl2	<---	Self-goal setting	.745
sl6	<---	Self-punishment	.692
sl24	<---	Self-punishment	.678
sl15	<---	Self-punishment	.807
sl30	<---	Self-punishment	.810
sl22	<---	Self-reward	.958
sl4	<---	Self-reward	.879
sl21	<---	Self-talk	.914
sl12	<---	Self-talk	.928
sl3	<---	Self-talk	.793
sl27	<---	Visualisation	.783
sl19	<---	Visualisation	.873
sl10	<---	Visualisation	.855
emplead1	<---	Enhancing meaningfulness	.928
emplead2	<---	Enhancing meaningfulness	.957
emplead3	<---	Enhancing meaningfulness	.912
emplead4	<---	Fostering participation	.834
emplead5	<---	Fostering participation	.870
emplead6	<---	Fostering participation	.856
emplead7	<---	Expressing confidence	.911
emplead8	<---	Expressing confidence	.896
emplead9	<---	Expressing confidence	.839
emplead10	<---	Providing autonomy	.761
emplead11	<---	Providing autonomy	.762
emplead12	<---	Providing autonomy	.832

5.2 Abstract

This research attempts to integrate self-leadership with both the social-structural and psychological perspectives of empowerment, while also exploring the relationship between self-leadership and both job satisfaction and work performance. Web-based survey data from individuals employed by an Irish public sector knowledge organisation was analysed in a number of phases including exploratory factor analysis, multiple regression analysis, confirmatory factor analysis and structural equation modelling. The results showed that self-leadership is positively related to psychological empowerment, job satisfaction and self-reported work performance. In addition, psychological empowerment mediated the relationship between self-leadership and both job satisfaction and self-reported work performance. None of the four moderator variables tested significantly impacted on the relationship between self-leadership and psychological empowerment. This research has provided empirical evidence for psychological empowerment as an outcome of self-leadership. Practically, the results will be of direct benefit to Teagasc, and other similar organisations, as they attempt to cope with reduced Government support and seek to develop their staff and the environment in which they work.

Keywords: *Self-leadership, psychological empowerment, self-reported work performance, job satisfaction.*

5.3 Introduction

This research built and tested a theoretical model linking self-leadership (Manz, 1986, Neck and Manz, 2013) with both self-reported work performance (Kuvaas and Dysvik, 2009) and job satisfaction (Thompson and Phua, 2012) via a mediating variable, psychological empowerment (Spreitzer, 2008), and a number of moderating variables, including empowering leadership (Ahearne *et al.*, 2005). Survey data was used to explore the hypothesised relationships. This research aims to be among the first studies to demonstrate a link between self-leadership and psychological empowerment at the individual level (Stewart *et al.*, 2011) and furthermore that psychological empowerment mediates the relationship between self-leadership and both work performance and job satisfaction. The results of this research should also be of significance to Irish Public Sector Organisations (PSOs), given the current challenge (Boyle and MacCarthaigh, 2011) to deliver improved services through a contracted workforce with reduced resources.

The purpose of this paper is to present the results from a web-based survey conducted within one Irish PSO, Teagasc. The starting point is a brief overview of the methodology used including the results of the pilot study, followed by a description of the research setting and participants, a listing of the data assumptions, an outline of the phases of data analysis undertaken and finally a description of each of the measures used. The results are presented in the order in which the hypotheses are stated with the structural model presented in the final part of the results section. Finally, the paper's conclusions are offered for consideration.

5.4 Methodology

5.4.1 Pilot Study

The survey instrument was tested in two phases. In the initial phase, the first draft of the instrument was reviewed by seven individuals (five Teagasc colleagues, one private consultant and one WIT academic), all with previous experience of survey construction and administration. Their feedback was incorporated into a second draft of the instrument which was used for a pilot

study with the 40 participants on the Teagasc Leadership Development Programme (LDP).

An electronic web-survey (SurveyMonkey, http://www.surveymonkey.com) was issued and of the 40 Teagasc staff surveyed, 32 responses were received (representing a response rate to the pilot survey of 80 per cent). Reliability and factor analysis was conducted using PASW Statistics 18[2] (Predictive Analytic Software, 2009) software. While the results indicated that most of the measures were reliable and loaded onto first and second order factors as expected, the analysis of the pilot survey data also highlighted a number of weaknesses in the survey instrument. These included the nature of the dependent variable and the wording of a number of both the self-leadership and innovativeness scale items. As a consequence, the conceptual model was revised to allow for the inclusion of both job satisfaction and self-reported work performance as dependent variables (see Appendix 11, p. 219) and a number of items on both the self-leadership and innovativeness scales were re-worded (see Appendix 12, p. 222).

5.4.2 Research Setting and Participants

This study was conducted in Teagasc, the Irish Agriculture and Food Authority (Teagasc, 2012). A web-based survey tool (SurveyMonkey, http://www.surveymonkey.com) was used to collect the data. Using an email distribution list from the organisation's Information and Communications Technology (ICT) department, an e-mail, along with an URL survey link was issued to 1,077 Teagasc employees (1,037 active email addresses). Responses were collected over a three week period during January 2014 with one reminder email issued at two weeks. 538 responses were obtained. Of these 412 were fully completed surveys; a further 74 had less than five missing responses for total of 486 usable survey responses. This represents a response rate of 52 per cent and a usable response rate of 47 per cent. The overall response rate compares favourably with that reported by both Baruch and

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[2] This analysis package is more commonly referred to by its previous title of SPSS, Statistical Package for the Social Sciences.

Holtom (2008)[3] and Nulty (2008)[4] but falls below that reported by Monroe and Adams (2012)[5]. This level of response could have been due to the quality of the email list (Monroe and Adams, 2012), the use of a personalised email invitation (Munoz-Leiva *et al.*, 2010), the pre-notification email issued three days in advance or the fact that the majority of survey recipients are frequent computer users familiar with web-based surveys.

Participants comprising the final sample worked in one of the three parts ('Directorates') of the organisation: Knowledge Transfer (53 per cent), Research (40 per cent) and Operations (7 per cent). 62 per cent of participants included in the final sample were male. The least number of respondents (5 per cent) were in the 'less than 30 years' age category with the greatest proportion (32 per cent) in the '50 – 59 years' age category. While ten per cent of respondents had tenure of less than four years with the organisation, the greatest number of respondents (35 per cent) had tenure of between 10 and 19 years. The majority (38 per cent) indicated that they had been in their current role for greater than 10 years. The respondents represented a broad cross-section of job types including adviser (29 per cent), administrative support (16 per cent), researcher (15 per cent), technician (11 per cent) and manager (10 per cent). These figures suggest that the respondents were broadly representative of the organisation as a whole. There was no significant difference in any of the variables under examination and the timing of response (early v late); for example, psychological empowerment *(t = -1.211, p > 0.05)*; self-leadership *(t = 0.757, p > 0.05)* and self-reported job performance *(t = 0.333, p > 0.05)*.

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[3] Baruch and Holtom (2008) reviewed 309 studies that utilised data collected from individuals from articles published in 17 refereed management and behavioural sciences journals in the years 2000 and 2005 and reported an average response rate of 52.7 per cent with a standard deviation of 20.4. The majority of these were non-web based surveys.

[4] Nulty (2008) reported an average response rate of 33 percent to eight online surveys.

[5] Monroe and Adams (2012) reported response rates of 62 to 79 per cent in their survey of Extension professionals in seven south-eastern states of America.

5.4.3 Data Assumptions

Respondents with greater than five missing values were excluded from the dataset (the majority of these were missing greater than ten values). A total of 52 cases were removed from the 538 response sets obtained for a usable sample of 486 cases. Where values were missing from a valid response set, these values were replaced by the median value for the scale item (Gaskin, 2013); 96 replacements were made on 57 of the 99 survey items. There was no evidence of unengaged respondents following an analysis of the standard deviation of each case and a visual inspection of those with a low (< 0.50) standard deviation (Gaskin, 2013).   Harman's single factor test was performed to assess whether the majority of the variance was accounted for by one general factor as an *ex post* statistical remedy for potential common method biases (Podsakoff *et al.*, 2003). All 67 items from each of the constructs were loaded into an exploratory factor analysis (EFA) to see whether one single factor would emerge. The results of EFA with Varimax rotation indicated seventeen factors with an eigenvalue above 1.0, representing 73 percent of the variance; the first factor to emerge explained 12 percent of the variance. This result suggests that the threat of common method bias does not appear to be significant.

Following the recommendations of Field (2009), data was tested for normality both visually and by examining the skewness, kurtosis and Kolmogorov-Smirnov values for each variable. The distributional characteristics for all the variables are summarised in Table 25 (p. 248) in the Appendix section; the normality assumptions were met for all variables in the current dataset.

ANOVA analysis (see Table 26, p. 249) showed that there was a difference in self-leadership depending on age ($F = 3.508, p < 0.01$) and tenure in the organisation ($F = 3.426, p < 0.01$). This suggests that younger members of Teagasc staff (also most likely to be those with least tenure) are more likely to practise self-leadership.

It also showed that perceptions of psychological empowerment varied depending on tenure in the organisation ($F = 3.578, p < 0.01$), time in the current role ($F = 2.242, p < 0.05$) and job category ($F = 4.324, p < 0.001$).

These results are broadly in agreement with previous research showing that employees with higher levels of education, more tenure and greater rank report higher feelings of empowerment (Spreitzer, 2008).

Finally, it showed that perceptions of empowering leadership varied depending on tenure in the organisation ($F = 3.887, p < 0.01$), tenure in the current role ($F = 3.732, p < 0.01$) and job category ($F = 2.676, p < 0.01$). It may be that newer employees perceive empowering leadership behaviours more strongly than their more experienced colleagues.

A t-test analysis (see Table 27, p. 250 in the Appendix section), showed that perceptions of psychological empowerment varied depending on gender ($t = 3.778, p < 0.001$). This is somewhat surprising as both Seibert *et al.* (2011) and Spreitzer (2008) reported that gender had no bearing on feelings of empowerment.

Overall, these are interesting findings which deserve further consideration and discussion.

5.4.4 Phases of Data Analysis

The data were analysed in several phases. First, exploratory factor analysis (principal component analysis with Varimax rotation) was performed using PASW Statistics 18 software on all multiple scale items to determine item retention. Factor loadings are summarised in Appendix 18 (p. 251). Following this, items were averaged into their dimensions (psychological empowerment - four dimensions; empowering leadership - four dimensions and SRWP - two dimensions) and constructs.

Means, standard deviations, bivariate correlations and coefficient alphas for all multiple item scales are reported in Table 12.

Table 12: Descriptive statistics, correlations and reliabilities

	Mean	s.d.	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16
1	4.09	0.49	(.81)															
2	3.90	0.67	.51**	(.86)														
3	1.38	0.49	.02	-.09														
4	3.10	1.07	-.08	.03	-.02													
5	3.27	1.30	-.06	.02	-.07	.78**												
6	3.98	1.93	.05	.07	-.00	.48**	.55**											
7	1.67	0.61	-.02	.05	-.01	.18**	.23**	.12**										
8	4.44	2.91	.02	.03	-.17**	-.12**	-.16**	-.13**	-.43**									
9	1.82	0.38	-.08	-.07	.10*	-.11*	-.17**	.01	.05	-.07								
10	3.41	0.53	.36**	.26**	.05	-.16**	-.13**	-.06	-.02	.09*	-.05	(.87)						
11	3.90	0.54	.42**	.52**	-.17**	.11*	.15**	.12*	.05	.06	-.14**	.19**	(.86)					
12	3.81	0.49	.33**	.22**	.02	.01	-.00	.03	-.05	.05	-.11*	.16**	.22**	(.75)				
13	3.41	0.88	.26**	.47**	-.16**	.00	.04	-.05	.07	.07	-.18**	.26**	.57**	.13**	(.91)			
14	3.62	0.75	.34**	.48**	.00	-.04	-.02	-.10*	.06	.03	-.09*	.24**	.54**	.15**	.63**	(.94)		
15	2.71	0.98	-.08	-.04	-.08	.15**	.09*	.01	.00	-.05	-.02	-.12**	.05	-.09	.03	-.02	(.86)	
16	3.44	0.79	.15**	.11*	.12**	-.06	-.00	.07	.04	-.05	.02	.19	.06	.12**	.04	.09	-.58**	(.74)

Note: n = 486. Internal reliabilities (alpha coefficients) for the overall constructs are given on the diagonal. * p ≤ 0 .05. ** p ≤ 0.01.

1 = Self-reported work performance; 2 = Job satisfaction; 3 = Gender; 4 = Age; 5 = Tenure; 6 = Current role; 7 = Directorate; 8 = Job category; 9 = Training; 10 = Self-leadership (modified); 11 = Psychological empowerment; 12 = Willingness to try; 13 = Perceived organisational support for self-leadership; 14 = Empowering leadership; 15 = Fixed mindset; 16 = Growth mindset.

All of the final scales had acceptable reliability estimates (Cronbach's α ranging from 0.74 to 0.94). There were a number of significant, but modest (Cohen and Holliday, 1982, cited by Bryman and Cramer, 2011, p. 214), correlations worth highlighting. Job satisfaction was significantly correlated with psychological empowerment ($r = 0.52, p < 0.01$), perceived organisational support for self-leadership ($r = 0.47, p < 0.01$) and empowering leadership ($r = 0.48, p < 0.01$). Empowering leadership was significantly correlated with both psychological empowerment ($r = 0.57, p < 0.01$) and perceived organisational support for self-leadership ($r = 0.63, p < 0.01$). Self-leadership was significantly correlated with SRWP ($r = 0.36, p < 0.01$). Finally, the two dependent variables, SRWP with job satisfaction, were correlated ($r = 0.51, p < 0.01$). These correlations augur well for model testing and are suggestive of relationships worthy of further investigation.`

The three-step procedure recommended by Baron and Kenny (1986) was used to test the mediation hypotheses. Three conditions must be met to support a mediating relationship. First, the independent variable must be significantly associated with the mediator in the first equation. Second, the independent variable must be significantly associated with the dependent variable in the second equation. Finally, after the mediator is entered in the regression model, the relationship between the independent and dependent variables should either disappear (full mediation) or significantly diminish (partial mediation).

Hierarchical multiple regression analysis was used to test Hypotheses 6, 7, 8 and 9. All independent variables were standardised before the interaction terms were created by multiplying the relevant standardised independent variables (Aiken and West, 1991). The control variables – gender, age, tenure, current role, directorate and previous training – were entered first followed by the standardised independent variables and finally, the interaction terms. In this way it was possible to examine the predictive utility of the control variables as well as the additional predictive utility of both the independent variables and the interaction terms. The relationships between self-leadership and both SRWP and job satisfaction (Hypotheses 4a and 4b) were tested in these analyses also and reported in the same table in order to save space, but these relationships were also tested without the interaction terms.

Finally, structural equation modelling (SEM) with AMOS was used to examine the hypothesised model and confirm the results obtained using multiple regression. The advantage of SEM is that it offers a simultaneous test of an entire system of variables in a hypothesised model and thus enables assessment of the extent to which the model is consistent with the data (Hair *et al.*, 2006).

5.4.5 Measures: Tests for Reliability, Factor Loading and Goodness-of-fit

The conceptual model, including hypotheses, is included in Appendix 11 (p. 219) for reference. Unless otherwise noted, responses to all items were on a five-point Likert response scale ranging from 1 (strongly disagree) to 5 (strongly agree).

Independent variable. Self-leadership was measured using a modified version of the 35-item Revised Self-Leadership Questionnaire (RSLQ, Houghton and Neck, 2002). Following a pilot test of the instrument, it was decided to modify the wording of a number of the statements. Responses were on a five-point scale ranging from 1 (does not describe me at all) to 5 (describes me very well). Data analysis failed to reveal a clear factor structure, contrary to Houghton and Neck's (2002) finding. All of the items from the self-talk, self-cueing and self-punishment subscales loaded as expected. Three of the four self-punishment items, three of the five natural rewards, two of the three self-reward items and three of the five visualisation items loaded on separate factors. The self-goal setting and three of the four self-observation items loaded on one factor. Following inspection of the component matrix, it was decided to re-run the factor analysis with the 21 items which had loaded as expected; the results of this factor analysis are presented in Table 30 in Appendix 18 (p. 253).

To further test whether the seven factors which emerged from EFA adequately captured the dimensions of self-leadership, a confirmatory factor analysis (CFA) using AMOS, was conducted. As indicated in Table 31 (p. 254), the seven factor model demonstrated a moderate fit. A number of alternative models were investigated. The alternative seven factor model without the two items with lowest factor loadings demonstrated improved fit ($X^2[145]$ =

426.88, CFI = 0.94, GFI = 0.92, TLI = 0.93 and RMSEA = 0.06; see Structural Equation Modelling section later in this paper for explanation of abbreviations) while the alternative second-order factor model and first order factor model both demonstrated poor fit. The results of this analysis provide support for the modified RSLQ (19 items) as an acceptable measure of the overall self-leadership construct and was used in subsequent analysis. Seven distinguishable subscales emerged which represent distinct self-leadership dimensions as specified by self-leadership theory. The path diagram is included as Figure 13 in Appendix 18 (p. 254).

Mediating variable. Psychological empowerment was measured using a 12-item scale, consisting of four sub-scales each of three items, developed by Spreitzer (1995). The reliability of the four dimensions and the overall scale (*α = 0.89, 0.87, 0.88, 0.90* and *0.86* respectively) compared favourably with previously reported values (Spreitzer, 1995; Zhang and Bartol, 2010). The fit indexes for the four first order factors (the four dimensions) plus one second-order factor fell within an acceptable range ($\chi^2[50] = 155.37, p < 0.001$, *CFI = 0.97, GFI = 0.95 , RMSEA = 0.08* and *TLI = 0.95*) suggesting that the dimensions reflected the overall construct. The path diagram is included as Figure 14 in Appendix 18 (p. 255).

Moderating variables. Empowering leadership was measured using a 12-item scale, consisting of four sub-scales each of three items, developed by Ahearne *et al.* (2005). The reliability of the four dimensions and the overall scale (*α = 0.95, 0.89, 0.91, 0.82* and *0.94* respectively) compared favourably with previously reported values (Rapp *et al.*, 2006; Zhang and Bartol, 2010). The fit indexes for the four first order factors (the four dimensions) plus one second-order factor fell within an acceptable range ($\chi^2[50] = 206.92, p \leq 0.001$, *CFI = 0.97, GFI = 0.93, RMSEA = 0.08* and *TLI = 0.96*) suggesting that the dimensions reflected the overall construct. The path diagram is included as Figure 15 in Appendix 18 (p. 256). A four item scale to measure perceived organisational support for self-leadership (α = 0.91) was developed for this study. Mindset was measured using six items (Dweck, 2006). Three of the items measured a growth mindset (*α = 0.74*) while the remaining three items measured a fixed mindset (*α = 0.86*). There was a very strong negative

correlation ($r = -0.58, p < 0.01$) between these two dimensions; consequently only the growth mindset variable was tested as a moderating variable. Willingness to try was measured using seven items from an innovativeness scale developed by Hurt *et al.* (1977). The four negatively worded items loaded onto one factor and the three positively worded items loaded onto a second factor. The reliability for the overall scale was satisfactory ($\alpha = 0.75$).

Dependent variables. Given the diverse jobs represented in the sample, no common objective assessments of job performance were available, or even possible. Therefore a two dimensional self-reported scale measuring job performance was adapted for use in the current study. Self-reported work performance (SRWP) was measured using six items (three to measure work effort and three to measure work quality) from a ten-item scale previously used by Kuvaas and Dysvik (2009). The reliability of the two dimensions of (SRWP) and the overall scale ($\alpha = 0.76, 0.72$ and 0.82 respectively) exceed the accepted rule of thumb of 0.70 or above (Nunnally 1978, cited by Bryman and Cramer, 2011, p. 78). The fit indexes for the two dimensions (work effort and work quality) plus one second-order factor fell within an acceptable range ($\chi^2[8] = 34.842, p < 0.001, CFI = 0.97, GFI = 0.98, RMSEA = 0.08$ and $TLI = 0.94$) suggesting that the dimensions reflected the overall construct. The path diagram is included as Figure 16 in Appendix 18 (p. 257). Finally, job satisfaction was measured using the Brief Index of Affective Job Satisfaction scale developed by Thompson and Phua (2012). The reliability of this scale ($\alpha = 0.86$) compared favourably with that reported by these authors ($\alpha = 0.81$ to 0.87 depending on sample). The fit indexes for the four items plus one first-order factor fell within an acceptable range ($\chi^2[2] = 2.816, p > 0.05, CFI = 1.00, GFI = 1.00, RMSEA = 0.03$ and $TLI = 1.00$) suggesting that the four items reflected the overall construct. The path diagram is included as Figure 17 in Appendix 18 (p. 257).

Control variables. Finally a number of variables that may affect the hypothesised relationships were included as controls. In order to protect respondent anonymity, and thereby reduce the risk of social desirability bias (Podsakoff *et al.*, 2003), most control variables were measured by way of categories. Gender was measured as a dichotomous variable coded as 1 for

'Male' and 2 for 'Female'. Age was measured as five categories ranging from '< 30 years' (coded 1) to '60 + years' (coded 5). Tenure with Teagasc was measured as five categories ranging from '0 to 4 years' (coded 1) to '30 + years' (coded 5). The length of time in the current role was measured as six categories ranging from '< 2 years' (coded 1) to '10 + years' (coded 6). Organisational sector was measured as three categories ('Research', 'Knowledge Transfer' and 'Operations') and current role was measured as ten categories (see Table 26, p. 249 for a listing of the job categories included). Finally, participation in a formal leadership or management training programme was measured as a dichotomous variable coded as 1 for 'Yes' and 2 for 'No'.

5.5 Results

5.5.1 Hypothesis 1

The first hypothesis stated: "There will be significant differences in reported self-leadership levels for individuals who participate in the current research project." ANOVA analysis suggests a difference in self-leadership depending on age ($F = 3.508$, $p < 0.01$) and tenure in the organisation ($F = 3.426$, $p < 0.01$). Self-leadership tended to decline as age category increased from '<30 years' to '60 + years' but there was no significant difference between any of the age category groups taken two at a time (following an ANOVA *post hoc* test). Self-leadership also tended to decline as tenure category increased from '0 - 4 years' to '30 + years'. In this case, ANOVA *post hoc* analysis showed a significant difference in self-leadership between those in the '0 – 4 years' and '10 – 19 years' tenure categories ($p < 0.05$). The difference was approaching significance ($p = 0.056$) for those in the '0 – 4 years' and '30 years+' tenure categories.

A t test analysis showed no significant difference in self-leadership based on gender ($t = 1.031$, $p = 0.30$) or previous training ($t = -1.001$, $p = 0.32$). In summary, the results partially support Hypothesis 1 as the results infer that younger members of Teagasc staff (also most likely to be those with least tenure) are more likely to practise self-leadership.

Table 13: Self-leadership by age category and tenure in the organisation

Age category	N	Mean	Tenure	N	Mean
< 30 years	23	3.62	0 - 4 years	48	3.63
30 − 39 years	144	3.48	5 - 9 years	87	3.49
40 − 49 years	122	3.45	10 - 19 years	168	3.36
50 − 59 years	153	3.31	20 - 29 years	54	3.35
60 + years	44	3.33	30 years +	129	3.36
Total	486	3.41	Total	486	3.41

5.5.2 Hypotheses 2, 3a, 3b, 4a and 4b

H2:   Self-leadership skills will exhibit a significant positive relationship with psychological empowerment.

H3a, b: Self-leadership skills will exhibit a significant positive relationship with (a) job satisfaction and (b) self-reported work performance.

H4a, b: Psychological empowerment mediates the relationship between self-leadership and (a) job satisfaction and (b) self-reported work performance.

Three criteria need to be satisfied in order to determine a mediating relationship. The results in Table 14 show that self-leadership is positively and significantly related to psychological empowerment (the mediator, $\beta = 0.207, p < 0.001$) thereby meeting the first criteria, while also supporting Hypothesis 2.

Table 14: Regression results testing the relationship between self-leadership and psychological empowerment

Variable	Model 1	Model 2
Gender	-0.137**	-0.151**
Age	-0.006	0.024
Tenure	0.087	0.095
Current role	0.075	0.066
Directorate	0.060	0.048
Job category	0.091	0.069
Training	-0.105*	-0.090*
Self-leadership		0.207***
ΔR^2		0.041
F for ΔR^2		22.058***
R^2	0.054	0.094
F	4.965***	7.293***
[1] n = 486. Values are standardised regression coefficients. * $p < 0.05$; ** $p < 0.01$; *** $p < 0.001$		
[2] Psychological empowerment is the dependent variable.		

The first step in Table 15 shows that the second criteria has also been met; self-leadership is positively and significantly related to both dependent variables (SRWP and job satisfaction) before the mediator (psychological empowerment) was entered. The third criteria that the relationship between the independent and dependent variables should either disappear or significantly diminish in step two is also met for both SRWP and job satisfaction. The relationship between self-leadership and SRWP dropped from $\beta = 0.354$ (p < 0.001) to $\beta = 0.273$ (p < 0.001) after psychological empowerment was entered, while the relationship between self-leadership and job satisfaction dropped from $\beta = 0.267$ (p < 0.001) to $\beta = 0.167$ (p < 0.001). Hence the results support Hypotheses 2, 3a, 3b, 4a and 4b.

Table 15: Regression results testing Hypotheses 2, 3a, 3b, 4a and 4b

Variable	Self-reported work performance		
	Model 1	Model 2	Model 3
Gender	0.031	0.008	0.067
Age	-0.109	-0.057	-0.067
Tenure	-0.059	-0.043	-0.080
Current role	0.133*	0.118*	0.092
Directorate	0.006	-0.15	-0.032
Job category	0.020	-0.16	-0.039
Training	-0.103*	-0.078	-0.042
Self-leadership		0.354***	0.273***
Psychological empowerment			0.388***
ΔR^2		0.120	0.134
F for ΔR^2		67.184***	89.066***
R^2	0.013	0.133	0.268
F	1.932	10.323***	20.766***

[1] n = 486. Values are standardised regression coefficients. * $p < 0.05$; ** $p < 0.01$; *** $p < 0.001$.

Variable	Job satisfaction		
	Model 1	Model 2	Model 3
Gender	-0.077	-0.095*	-0.021
Age	0.037	0.076	0.064
Tenure	-0.093	-0.082	-0.127
Current role	0.102	0.091	0.059
Directorate	0.076	0.060	0.038
Job category	0.050	0.023	-0.006
Training	-0.076	-0.056	-0.013
Self-leadership		0.267***	0.167***
Psychological empowerment			0.482***
ΔR^2		0.068	0.207
F for ΔR^2		35.965***	140.87***
R^2	0.010	0.077	0.287
F	1.691	6.083***	22.645***

[1] n = 486. Values are standardised regression coefficients. * $p < 0.05$; ** $p < 0.01$; *** $p < 0.001$.

These are noteworthy findings as they relate the behavioural and cognitive processes of self-leadership to both work performance and job satisfaction and indicate the role that feelings of empowerment have in mediating that relationship. These results are also among the first to confirm psychological empowerment as an outcome of self-leadership. As it is generally accepted that self-leadership can be developed (Neck and Manz, 2013; Stewart *et al.*, 2011), these findings indicate a mechanism to allow for improved work performance and job satisfaction as a result of improved self-leadership.

5.5.3 Hypotheses 5a, 5b

H 5a, b: Psychological empowerment will exhibit a significant positive relationship with (a) job satisfaction, and (b) self-reported work performance.

Results from the regression analysis used to test these hypotheses are shown in Table 16.

Table 16: Regression results testing Hypotheses 5a, 5b

Variable	Self-reported work performance		Job satisfaction	
	Model 1	Model 2	Model 1	Model 2
Gender	0.031	0.093*	-0.077	-0.006
Age	-0.109	-0.107	0.037	0.040
Tenure	-0.059	-0.097	-0.093	-0.137*
Current role	0.133	0.099*	0.102	0.064
Directorate	0.006	-0.019	0.076	0.046
Job category	0.020	-0.016	0.050	0.008
Training	-0.103	-0.056	-0.076	-0.021
Psychological empowerment		0.447***		0.518***
ΔR^2		0.186		0.250
F for ΔR^2		112.938***		164.468***
R^2	0.028	0.214	0.010	0.262
F	1.932	16.204***	1.691	22.544***
[1] n = 486. Values are standardised regression coefficients. * $p < 0.05$; ** $p < 0.01$; *** $p < 0.001$.				

Psychological empowerment is positively and significantly related to both self-reported work performance ($\beta = 0.447, p < 0.001$) and job satisfaction ($\beta = 0.518, p < 0.001$). These results are hardly surprising as previous work (Maynard *et al.*, 2012; Seibert *et al.*, 2011) has highlighted that when people feel empowered at work, positive individual outcomes are likely to occur. The finding that employees who feel empowered are likely to report high job satisfaction has been consistent across a large number of studies and psychological empowerment is also likely to enhance performance (Spreitzer, 2008).

5.5.4 Hypotheses 6 - 9

H6: The relationship between self-leadership skills and psychological empowerment is moderated by the perceived organisational support for self-leadership.

H7: The relationship between self-leadership skills and psychological empowerment is moderated by the empowering leadership behaviours practiced by management.

H8: The relationship between self-leadership skills and psychological empowerment is moderated by the innovativeness (measured as willingness to try) of employees.

H9: The relationship between self-leadership skills and psychological empowerment is moderated by the mindset of employees.

Moderated regression analysis was used to test Hypotheses 6 - 9. All variables used – self-leadership, psychological empowerment, empowering leadership, perceived organisational support, willingness to try and growth mindset – were standardised prior to analysis and the appropriate interaction terms were generated as the product of the independent variable and the hypothesised moderator variable; psychological empowerment was the dependent variable in all cases. The results are presented in the tables in Appendix 19 (pp. 258 – 261). These results show that none of these hypotheses were supported since none of the interaction terms between self-leadership and perceived organisational support for self-leadership (Table 36, p. 258), empowering

leadership (Table 37, p. 259), willingness (Table 38, p. 260) and growth mindset (Table 39, p. 261) respectively were related to psychological empowerment.

Given the strong positive relationship between empowering leadership and psychological empowerment reported by Zhang and Bartol (2010, *β = 0.81, p < 0.05*) and the literature support for empowering leadership as an antecedent of self-leadership (Houghton and Yoho, 2005), perhaps this variable should have been hypothesised as having a direct relationship with both self-leadership and psychological empowerment.

5.6 Structural Equation Modelling (SEM)

AMOS was used to test the hypothesised model (Appendix 11, p. 219) without the moderating variables. The two-step strategy recommended by Byrne (2010) was followed involving the initial confirmation of the validity of the indicator variables using confirmatory factor analysis (CFA) before structural equation modelling (SEM) was used to evaluate the structural model. The results of the confirmatory factor analysis are reported in an earlier part of this paper. The following latent variables were included in the model: self-leadership (nineteen items as identified by EFA and CFA), psychological empowerment, self-reported work performance and job satisfaction.

To gauge the overall model fit a number of goodness-of-fit measures are reported. Chi-square (χ^2) values are reported as the index of absolute fit. Bollen (1989, cited by Byrne, 2010, p. 76) states that the null hypothesis for this test is that specification of the factor loadings, factor variances and co-variances, and error variances for the model are valid; thus the higher the probability associated with χ^2, the closer the fit between the hypothesised model and the perfect fit. The comparative fix index (CFI), the goodness-of-fit index (GFI), the Tucker-Lewis Index (TLI) and the root mean square error of approximation (RMSEA) are also reported to gauge model fit. These indices indicate the extent to which a research model provides an improved overall fit relative to a null model or independence model in which the correlations among observed variables are assumed to be zero. The CFI and GFI have been considered the best approximations of the population value for a single model,

with values greater than or equal to 0.90 considered indicative of good fit (Medsker, Williams and Holahan, 1994). Values of 0.95 or greater for the TLI are considered indicative of good fit (Hu and Bentler, 1999, cited by Byrne, 2010, p. 79). The RMSEA is a measure of the average standardised residual per degree of freedom; a favourable value is less than or equal to 0.05, and values up to 0.08 represent reasonable fit (Browne and Cudeck, 1993, cited by Byrne, 2010, p. 80). The current analysis examined the hypothesised model only; further analysis may be required to test a number of alternative models that are plausible on the basis of theoretical arguments.

The structural model, with path coefficients, is shown in Figure 7 (p. 112). All paths shown in the model are significant (*p < 0.05)*. The results supported Hypothesis 2 (*β = 0.36, p < 0.05*) which stated that self-leadership is positively related to psychological empowerment. Hypotheses 3a and 3b, which stated that self-leadership is positively related to job satisfaction and self-reported work performance respectively, were also supported (*β= 0.08 and 0.30, p < 0.05*). The results also supported hypotheses 5a and 5b which stated that psychological empowerment is positively related to job satisfaction and self-reported work performance respectively (*β= 0.73 and 0.59, p < 0.05*). Overall, the model fit measures fall largely within the acceptable range (*χ^2[804]= 2044.82, χ^2/df = 2.543, p < 0.001; CFI = 0.90, GFI = 0.84, RMSEA = 0.06* and *TLI = 0.90*) suggesting that the hypothesised model fits the data reasonably well.

5.7 Conclusion

Overall this research makes significant contributions to both theory and practice.

Even though psychological empowerment is a commonly predicted outcome of self-leadership (Neck and Houghton, 2006), there has been few empirical studies exploring this relationship at the individual level (Stewart *et al.*, 2011). Accordingly, this study contributes to both self-leadership and psychological empowerment theory by obtaining support for the relationships between self-leadership and psychological empowerment and for highlighting the mediating role played by psychological empowerment in the relationship between self-

leadership and both job satisfaction and self-reported work performance. The results are also significant from an organisational perspective. Teagasc is striving to cope with organisational change including a transition to an empowering leadership approach (Teagasc, 2011). Understanding how Teagasc staff influence themselves, and subsequently supporting them to use and develop their self-leadership strategies, will help to improve their perceptions of empowerment, leading to improved individual performance. A workforce of self-leaders would assist Teagasc to fully harness the benefits of empowerment.

Finally, the points made in this brief and preliminary conclusion section will be developed in the next chapter.

Figure 7: Structural equation model for the relationships between self-leadership, psychological empowerment, job satisfaction and self-reported work performance.
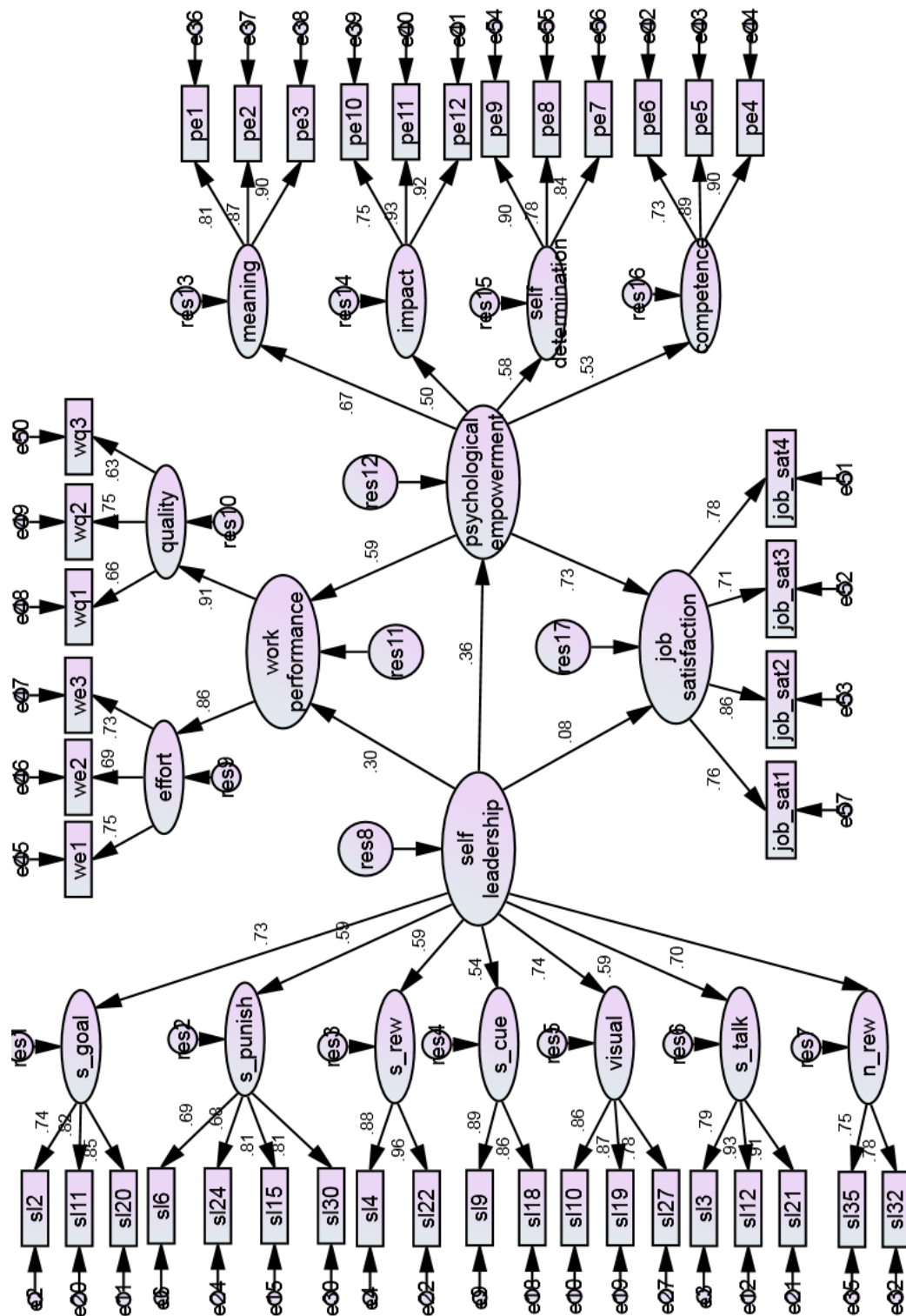
Note: n = 486. All paths in the structural model are significant at p < 0.05. Self-leadership is the modified 19-item scale suggested by EFA and CFA.

Chapter 6: Discussion

6.1 Preface

The purpose of this study was two-fold. Firstly, the study set out to investigate the extent of self-leadership amongst Teagasc staff. Secondly, it aimed to explore the potential for self-leadership as an alternative leadership model and personal development strategy within Teagasc through assessing the links between self-leadership and two important work outcomes (self-reported work performance and job satisfaction), including an important mediating variable (psychological empowerment).

Prior to discussing the significant findings which emerged, it is appropriate to commence this chapter by revisiting the conceptual model which linked self-leadership with important work outcomes via psychological empowerment, while also incorporating a number of contextual variables.

The conceptual model in Figure 8 (p. 115) depicts self-leadership as having a direct, positive effect on psychological empowerment, self-reported work performance and job satisfaction. In addition, it is depicted as having an indirect, positive effect on self-reported work performance and job satisfaction through the mediating mechanism of psychological empowerment. Finally, empowering leadership is positioned as an antecedent to both self-leadership and psychological empowerment and three moderating variables are included: willingness, perceived organisational support for self-leadership and mindset.

The role of empowering leadership in the model is noteworthy. Within the published literature in the area, there is strong theoretical support for empowering leadership as an antecedent to both psychological empowerment (Seibert *et al.*, 2011; Maynard *et al.*, 2012; Spreitzer, 2008; Zhang and Bartol, 2010) and self-leadership (Stewart *et al.*, 2011; Yun *et al.*, 2006). However there is a lack of evidence for its role in the relationship between self-leadership and psychological empowerment.

Figure 8: Final conceptual model of self-leadership and its relationship to self-reported work performance and job satisfaction through psychological empowerment
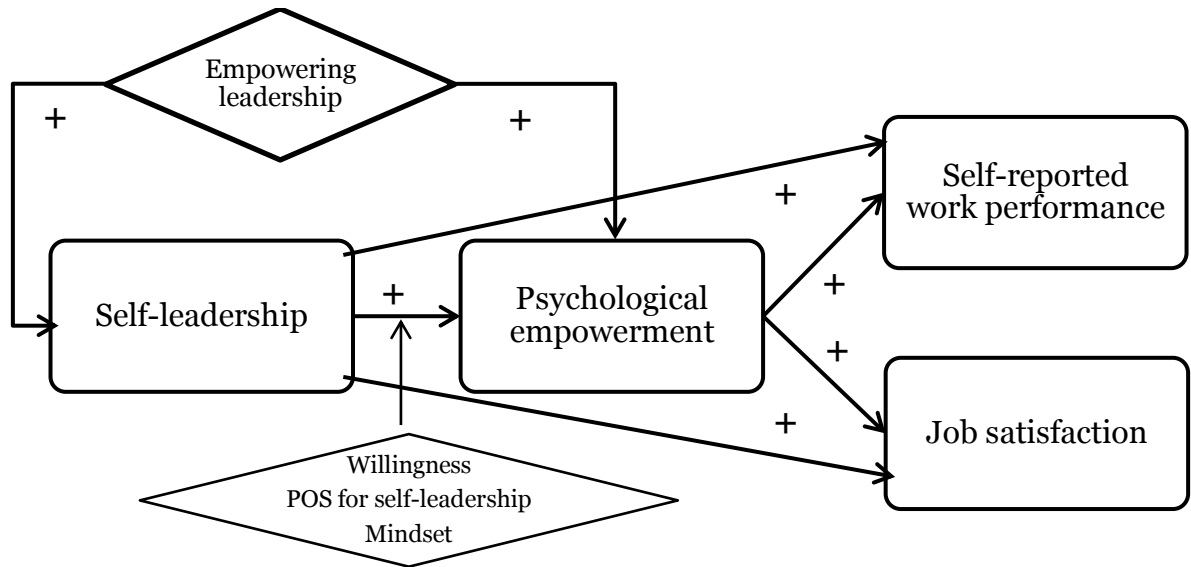
While it was expected that individuals practising self-leadership would have increased feelings of psychological empowerment (Houghton and Yoho, 2005), it also is acknowledged that individuals differ in the extent to which they wish to be or see themselves as empowered (Ahearne *et al.*, 2005; Forrester, 2000; Zhang and Bartol, 2010). Employees are people and people are different in their needs, interests, abilities, and other personal and performance characteristics (Forrester, 2000). While these same authors recognise the importance of effective leadership in empowered organisations, they also agree that empowering leadership behaviours may resonate better with some employees that with others. In order to address this prospect, empowering leadership was originally hypothesised as a moderating variable in the relationship.

Empowering leadership behaviours are those leader behaviours which lead to increased perceptions of empowerment on the part of employees (Ahearne *et al.*, 2005; Conger and Kanungo, 1988; Maynard *et al.*, 2012; Spreitzer, 1995, 1996, 2008; Thomas and Velthouse, 1990) and involve highlighting the significance of the work, increasing participative decision making, expressing confidence that performance will be high and removing bureaucratic constraints (Ahearne *et al.*, 2005). Stewart *et al.* (2011) argue that for self-

leadership to be effective, the employee must experience empowering leadership behaviours. Consequently, the logic for its inclusion as a moderating variable was that the extent to which employees recognise empowering leadership behaviours would strengthen or weaken the feelings of empowerment as a result of the practice of self-leadership.

An alternative explanation, based on the separate self-leadership (Stewart *et al.*, 2011; Houghton and Yoho, 2005) and empowerment literatures (Zhang and Bartol, 2010), is that empowering leadership is directly related to both self-leadership and psychological empowerment and it is this alternative that was tested in the final structural model (Figure 6, p. 89). Support for such relationships has been recently provided by Amundsen and Martinsen (2014) in a study involving leaders and their subordinates in three Norwegian municipalities. These relationships will be discussed later in this chapter.

Significant findings emerged from the current research which are worthy of discussion. Consequently, the purpose of this chapter is to critically evaluate and position the results presented in the previous chapter in the context of the existing self-leadership and empowerment literatures. The remainder of this chapter is presented as follows. Each section commences with a restatement of the hypothesis before the significant results relating to that hypothesis are discussed, including potential explanations for why the hypothesis was supported or rejected.

6.2 Study Contributions and Key Findings from Research

The current research makes six distinct contributions. Firstly, the current study contributes to the self-leadership literature by confirming psychological empowerment as an outcome of self-leadership at the individual level. Secondly, it confirms job satisfaction and self-reported work performance as outcomes of self-leadership. Thirdly, it adds to both the self-leadership and psychological empowerment literatures by examining and confirming psychological empowerment as a mediating mechanism through which self-leadership ultimately influences both self-reported work performance and job satisfaction. Fourthly, a *post hoc* contribution of this study is the confirmation of empowering leadership as an antecedent of both self-leadership and

psychological empowerment. Fifthly, this research has uniquely built and tested a model which integrates self-leadership with both structural and psychological empowerment theories and important work outcomes. Finally, from a normative perspective, this study distinguishes self-leadership as a practical approach with the potential to prepare employees in Irish PSOs for improved personal effectiveness. Each of these findings will be discussed in greater detail in the sections that follow.

6.3 Hypothesis 1

The first hypothesis relates to the levels of self-leadership reported by Teagasc staff and stated that "There will be significant differences in reported self-leadership levels for individuals who participate in the current research project." This hypothesis was partially supported as the results indicated that self-leadership differed depending on age and tenure in the organisation but did not differ according to tenure in current role, job category, directorate, gender or previous training.

In a recent Australian study conducted by Unsworth and Mason (2012) the average self-leadership score was measured as 3.63 (SD = 0.43) with volunteers in a government health department (Study 1) and 3.67 (SD = 0.49) with six public and private organisations (Study 2). Houghton *et al.* (*in press)* summarised four experiments, from different cultures and mean self-leadership scores of 3.90 (U.S. sample), 3.51 (Chinese sample), 3.65 (German sample) and 3.72 (Portuguese sample) were reported. In the present study, using the same RSLQ but including a reduced number of items in the calculation of the overall self-leadership score, the mean self-leadership score was 3.41 (SD = 0.53) or 0.2 to 0.3 units lower than the earlier study. In summary, the results from the present study suggest that the practice of self-leadership is lower in this sample than in previously published results.

This difference may be due to a number of factors including cultural influences (both national and organisational), the nature of the formal leadership in the organisation and whether individuals have received prior self-leadership training or not (Stewart *et al.*, 2011). These potential grounds for the lower

self-leadership results recorded in this study will be examined in the following paragraphs.

Hofstede's cultural dimensions for Ireland, the United States and Australia are presented in Table 17. These countries were chosen as Houghton and Neck (2002) and Unsworth and Mason (2012) have previously reported results of self-leadership assessments in the United States and Australia respectively and the current study was conducted in Ireland. Hofstede (2014) characterises national cultures on the basis of six independent dimensions (the first four are from his original research work with the final two added following more recent research): power distance, collectivism/ individualism, femininity/masculinity, uncertainty avoidance, pragmatism/ normative and indulgence/ restraint. The scores reported in Table 17 show that the three countries differ on a number of the dimensions thus suggesting a basis for discussion of differences in self-leadership between the three countries.

Hofstede's cultural dimensions (Hofstede, 2014) were used due to their widespread recognition, broad visibility in the literature and conceptual clarity (Alves *et al.*, 2006). Hofstede's cultural dimensions have previously been used by both Alves *et al.* (2006) and Houghton *et al.* (*in press*) to discuss differences in self-leadership across cultures. Notwithstanding its widespread use, Hofstede's cultural framework has not avoided criticism most notably by McSweeney (2002). Concerns were raised concerning the methodology employed and the ability of corporate culture to explain behavioural differences between individuals living in different cultures. The most frequent criticism relates to the framework's failure to recognise within country cultural heterogeneity, especially in larger countries such as Great Britain or the United States. Moreover, the study was carried out prior to the significant leap in globalisation, the free and frequent movement of people throughout the world and significant advancements in communication technologies (McGrath and O'Toole, 2014). In response to such criticisms Hofstede (2001) acknowledges that his cultural dimensions are theoretical constructions which are meant to be used in practical applications and as guidelines for better understanding. Finally the current study does not attempt to use the Hofstede dimensions at

the individual level (Bearden *et al.*, 2006) but rather as an aid or framework for comparing self-leadership in three different countries.

It is noteworthy that much of the existing research regarding self-leadership has been conducted in the United States (Houghton *et al., in press*) which has a highly individualistic culture. With an individualism score of 70, Ireland is considered an individualistic culture, yet both the United States and Australia rate even higher on this measure (Hofstede, 2014). Americans typically display higher individualism than individuals from any other country and this may affect an individual's willingness and ability to practise self-leadership.

Table 17: Scores on Hofstede's Cultural Dimensions for Ireland, the United States and Australia

	Ireland	**United States**	**Australia**
Power distance	28	40	36
Individualism	70	91	90
Masculinity	68	62	61
Uncertainty avoidance	35	46	51
Pragmatism	24	26	21
Indulgence	65	68	71

Source: http://geert-hofstede.com/ireland.html

Differences in power distance and uncertainty avoidance scores, both of which are greater in both the United States and Australia, may also influence the practice of self-leadership. Ireland's power distance score of 28 is lower than that of both the United States and Australia. Within organisations, power distance is concerned with who decides what and how that decision is made; Ireland's low score suggests that managers tend to rely on individual employees and teams for their expertise and that communication would be participative (Hofstede, 2014). As self-leadership assumes that individuals have some autonomy and decision making capacity, there would be some concerns about the extent to which this is possible in countries with high power distance scores, especially those with power distance scores greater than the United States (Alves *et al.*, 2006). At 35 Ireland has a low score on uncertainty avoidance suggesting that Irish businesses embrace creativity and are always

looking for new ways to approach problems (Hofstede, 2014) and a higher willingness to take risks than either those in the United States or Australia.

An earlier exploration of self-leadership and culture (Alves *et al.*, 2006) concluded that the understanding and application of self-leadership is likely to vary across cultures. Notwithstanding this conclusion, it is somewhat surprising that despite lower power distance and uncertainty avoidance scores that the self-leadership score recorded in this study is lower than previous scores recorded in both the United States and Australia. Despite being considered an individualistic culture (Hofstede, 2014), perhaps it is the relatively lower individualism aspect of Irish culture, when compared to both the United States and Australia, which may be a potential explanation for the lower self-leadership scores reported. So perhaps self-leadership in an Irish setting may have to take greater cognisance of social rules, norms and traditions as an increased reliance on social relationships to perform organisational work seems to be more likely given the relatively lower power distance score.

But it is not only national culture which may influence the expression of self-leadership. The challenge of encouraging self-leadership within a bureaucratic organisation was recognised by Teagasc management during the course of the case study. Van der Voet (2014) defines a bureaucratic organisational structure as one with a high degree of centralisation, formalisation and 'red tape'[6]. PSOs are generally said to be relatively more bureaucratic than private organisations (Boyne, 2002; Currie *et al.*, 2011; Brewer and Walker, 2013) but professional bureaucracies can also exist where there is less centralisation but behaviour is standardised through the standardisation of skills (Mintzberg, 1981). Relating to the implementation of self-leadership in public sector bureaucratic organisations, Hardy (2007) reported that a limited number of federal government agencies in the United States were incorporating self-

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[6] Van der Voet (2014) further defines centralisation as the degree to which individuals participate in decision-making, formalisation as the degree to which organisational activities are manifested in written documents regarding procedures, job descriptions, regulations and policy manuals; and 'red tape' as the negative effects of these rules, procedures and instructions .

leadership into their succession plans and competency models. While there is a lack of additional studies examining the impact of organisational culture or structure on self-leadership at the individual level, a 1996 study found team self-leadership to be more effective in organisations with a high employee involvement culture and low levels of centralisation and formalisation (Cohen *et al.* 1996, cited by Stewart *et al.*, 2011).

In terms of organisational culture, this study attempted to assess the leadership style practised within Teagasc by measuring respondents' perceptions of empowering leadership and the perceived organisational support for self-leadership. These results, in addition to the impact of empowering leadership on self-leadership, are discussed in a later section. However at this point, it is sufficient to state that empowering leadership had a significant positive impact on self-leadership ($\beta = 0.230, p < 0.001$).

What is clear, both from the literature and practical experience, is that the sharing of leadership through empowerment processes ultimately requires both a willingness to relinquish leadership, on the part of formal organisational leaders, and to accept leadership, on the part of followers (vanWart, 2005; Yun *et al.*, 2006). While the important role of the follower in the leadership process has often been overlooked, it is being addressed by recent research (Uhl-Bien *et al.*, 2014). Complicating this transfer of leadership responsibility may very well be the hierarchical nature of the organisation and the expected roles to be adopted by those in formal management positions. Moving from more bureaucratic forms of management to a combination of empowering leadership and self-leadership will challenge the traditional ways of working. It is the assumption of this research that equipping followers with self-leadership skills will help them cope with such a transition.

Another possible basis for the lower reported levels of self-leadership may be the ongoing reform of the Irish public service through its impact on the prevailing organisational culture (see for example Pinho, 2014 for review) within Irish PSOs, including Teagasc. The notion that people are motivated to work in the public service as a result of a desire to serve or to have a positive impact on society is a long-standing one (O'Riordan, 2013). Coupled with this,

self-leadership theory emphasises the intrinsic (or natural) rewards derived from performing activities themselves (Manz, 1986). Therefore, it is possible that the current public service reforms may be impacting on the expression of self-leadership by employees through its impact on their intrinsic motivations. While not explicitly discussing self-leadership, O'Riordan (2013) cautions against ignoring the importance of intrinsic motivations in circumstances where extrinsic motivations are significantly curtailed. The same author concludes (2013, p. 31) by calling on 'public service managers' to 'develop and support practices appropriate to a public service context'. Against that background, the current findings have shown the positive impact of self-leadership and a supportive work environment (as reflected in perceptions of empowering leadership) on performance and job satisfaction.

The current study did not identify any difference in self-leadership levels based on prior participation in formal leadership or management training programmes ($t = 1.031, p > 0.05$). Teagasc currently offers both a formal leadership (LDP) and management development (MDP) programme to its employees. Both training programmes emphasise empowering leadership and self-leadership and are delivered using an action-based learning approach (Teagasc, 2011). Results did reveal that perceptions of empowering leadership tended to be higher ($t = 1.976, p < 0.05$) for those who indicated they had undergone such training. The combination of these results suggest that participants are better equipped to recognise empowering leadership behaviours but are still not equipped to further develop their self-leadership skills following the training intervention. Alternatively it may be the case that there is increasing usage of an empowering leadership approach across the organisation but that self-leadership is not yet being adequately modelled or supported across the organisation on a consistent basis.

In addition to the lower mean score discussed above, this research also highlighted that self-leadership tended to decline as both age category and tenure category increased. However, there was no difference in self-leadership based on tenure in the current role ($F = 0.644, p > 0.05$), job category ($F = 1.698, p > 0.05$) or gender ($t = -1.001, p = 0.318$). Similar to the findings of Kazan (1999) these findings suggest that age negatively impacts self-leadership

and that younger members of Teagasc staff and those with least tenure in the organisation are more likely to practise self-leadership. What does this mean?

Perhaps older and more experienced Teagasc employees believe themselves to be optimally personally effective and may have become set in their ways, routinized in their thoughts and behaviours (Ahearne *et al.*, 2005), and are no longer using their full-range of self-leadership skills. It may also be that they already feel empowered and don't engage in self-leadership in order to increase their feelings of empowerment. Alternatively, younger employees and those with less experience may be actively seeking new challenges and better ways to complete work tasks. Or maybe Teagasc, with its bureaucratic organisational structure (van der Voet, 2014), may act to impede expressions of self-leadership such that older and more experienced employees are less likely to use their self-leadership skills in comparison to their younger and less experienced colleagues.

Possibly it is a generational issue with younger employees being less risk averse and more willing to apply what they have learned in innovative ways. Younger employees are more likely to have higher expectations and a greater desire for freedom and self-responsibility in the workplace than their predecessors. Younger people are also more comfortable with the use of new information technology (Borins, 2001) and there is increased reliance on such technologies in a modern knowledge organisation such as Teagasc.

Whatever the reasons it is worrying that self-leadership tends to decline as both age category and tenure in the organisation category increase. This drop-off in self-leadership amongst older and more experienced Teagasc employees is potentially reducing the organisation's effectiveness.

These findings have significant implications for Teagasc. Fortunately, self-leadership can be developed or improved (Neck and Manz, 2013; Bryant and Kazan, 2013) and there is an opportunity for Teagasc to provide both formal self-leadership training and ongoing self-leadership development opportunities for employees throughout their careers. And this is just as relevant for employees beginning their Teagasc career as those with extensive experience (Ricketts *et al.*, 2012).

6.4 Self-leadership construct validity

One of the secondary research objectives for the current research was to test the construct validity of the RSLQ in an Irish setting. The results of the analysis conducted are worthy of discussion as the findings may contribute to the validation of the self-leadership measure. Analysis conducted included reliability assessments and both exploratory and confirmatory factor analyses.

Concerns with the construct validity of the self-leadership measure were first raised with the results of the pilot study survey conducted with 40 Teagasc staff (32 responses received). Reliability analysis indicated satisfactory reliability for the overall scale ($\alpha = 0.87$), six of the nine dimensions ($\alpha = 0.38$ to 0.95) and two of the three components ($\alpha = 0.83, 0.83$ and 0.38). The three dimensions with the low reliability scores were: self-observation ($\alpha = 0.39$), evaluating beliefs ($\alpha = 0.48$) and natural rewards (also a component, $\alpha = 38$). Exploratory factor analysis yielded a messy factor structure with cross loading much in evidence. Confirmatory factor analysis was not conducted on the results of the pilot survey due to the small sample size. It was concluded that the phrasing of a number of the items was causing difficulty. Consequently the wording of a number of the self-leadership statements was revised with the self-leadership questionnaires contained in Neck and Manz (2013, SLQ 1 and 2, pp. 16 and 41) used for guidance. For example, the phrase 'I openly articulate and evaluate my own assumptions when I have a disagreement with someone else' was replaced with 'I honestly communicate and assess my own assumptions when I have a disagreement with someone else'. In total, 19 of the 35 self-leadership statements were adjusted. The reader is referred to Appendix 12 (p. 222) for a full report on the pilot study. In comparison, both the psychological empowerment and empowering leadership measures loaded cleanly and as expected onto their four respective dimensions.

The concerns regarding the construct validity of the RSLQ were confirmed by the main survey. As before both reliability assessments and exploratory factor analysis were conducted, but this time confirmatory factor analysis was also conducted. As before, the reliability assessments indicated that the RSLQ was reliable ($\alpha = 0.87$ for the overall 35 items; $\alpha = 0.74$ to 0.91 for the nine

components and $\alpha = 0.88, 0.86$ and 0.74 for the three categories). As with the pilot study, the natural rewards dimension/ category had the lowest reliability ($\alpha = 0.74$).

Once again exploratory factor analysis yielded a messy factor structure with a number of items failing to load as expected and all of the self-goal setting and three of the four self-observation items loading onto one factor (see Table 29, Appendix 18, p. 252). The 21 items which had loaded as expected onto seven factors (self-goal setting, self-punishment, self-cueing, self-reward, self-talk, visualising successful performance and natural rewards) were subsequently subjected to a confirmatory factor analysis using AMOS and yielded a seven factor model with moderate fit. The model fit was improved when the two items with the lowest factor loadings were excluded. As with the results from the pilot study, both the psychological empowerment and empowering leadership measures loaded cleanly and as expected onto their four respective dimensions (using exploratory factor analysis) and yielded factor models with fit indices in the acceptable range following confirmatory factor analysis.

In brief, despite the rewording of a number of the items following the pilot study in an attempt to improve item clarity for respondents, exploratory factor analysis failed to yield the expected factor structure. One important difference between this research and that of the original RSLQ validation research of Houghton and Neck (2002) is that item parcelling (Little *et al.*, 2013) was used in the original research. Items in each of the subscales were summed and averaged to create composite indicators for each of the nine self-leadership dimensions which subsequently acted as the observed variables in their CFA model. In this research item parcelling was not used. This was primarily due to the messy factor structure yielded from EFA with a number of the self-leadership items failing to load as anticipated. Consequently, a reduced number of survey items acted as the observed variables in the CFA model. Future research may compare the results from both model development options.

As previously argued, self-leadership is a normative, or practice-based, theory and has an intuitive appeal. Accordingly, it deserves research attention due to

its potential positive implications for enhancing personal effectiveness and, in the context of this study, capacity for leadership development within Teagasc. Yet the failure of this study to confirm the factor structure of self-leadership as proposed in the literature raises questions as to the construct validity of the RSLQ measurement scale[7]. While the findings from this research alone do not mean that the excluded factors and items are irrelevant, both EFA and CFA results from this study suggest that there is room for improvement in the quality of the items and the factor structure of the self-leadership measurement scale. There may be a central core to self-leadership (Neubert and Wu, 2006) which requires further clarification and research validation.

Furthermore, the low factor loadings and cross loadings that emerged from the EFA may be evidence that items developed with predominantly American samples may not be understood by Irish public sector respondents in the same manner. In this regard, Alves *et al.* (2006) concluded that the understanding and application of self-leadership may vary across cultures and called for the development of a self-leadership measurement instrument that is relevant and applicable across cultures.

Recently, a number of theorists, including Martinsen (2009) and Georgianna (2007), have identified some additional self-leadership dimensions which reflect potential additional features of self-leadership. For example, Martinsen (2009) suggested that self-leadership may involve more than individual and self-oriented thoughts and behaviours; it may also include dimensions relating to the need to coordinate efforts, to cooperate with others and to focus on new ideas. While such additional strategies may overlap somewhat with the classic self-leadership strategies already outlined, this recent work does point to the need for a clearer articulation, supported by a theoretical justification, of the dimensions and strategies of self-leadership. Consequently, further self-

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[7] The current self-leadership measurement instrument (the Revised Self-leadership Questionnaire, RSLQ) was developed by Houghton and Neck (2002) from an earlier published scale developed by Anderson and Prussia (1997) and earlier self-leadership assessment prototypes (see Neck and Manz, 2013 for updated versions) and self-management questionnaires. The scale consists of 35 items in nine distinct subscales within the three primary self-leadership dimensions. The RSLQ has established good reliability and validity across a number of empirical studies over the last ten years (Houghton *et al.*, in press).

leadership theoretical research could more clearly outline the items for inclusion in a more robust measure of self-leadership.

Furthermore, it may also be useful to examine scale length and to develop a more concise measure of self-leadership thereby facilitating future empirical self-leadership research. Work has already commenced in this area (Houghton *et al.*, 2012; Amundsen and Martinsen, 2014) but further research and empirical testing is needed.

6.5 Hypotheses 2, 3a, 3b, 4a and 4b

These five hypotheses concern the relationships between self-leadership, psychological empowerment, job satisfaction and self-reported work performance.

6.5.1 Hypothesis 2

H2:   Self-leadership skills will exhibit a significant positive relationship with psychological empowerment.

Psychological empowerment was measured using a 12-item scale developed by Spreitzer (1995). The mean score reported in this study was 3.90 (SD = 0.54) which compares favourably with a mean score of 3.74 (SD = 0.42) for professional level employees in a Chinese IT company (Zhang and Bartol, 2010) and of 3.77 (SD = 0.51) reported by Pieterse *et al.* (2010) for 230 employees of a government agency in the Netherlands. This relatively high level of psychological empowerment is noteworthy given the importance of psychological empowerment for innovative behaviour (Pieterse *et al.*, 2010) and job satisfaction (Spreitzer, 2008). So what has led to this relatively high level of feelings of empowerment amongst Teagasc staff?

In two of the influential works leading to the conceptualisation of psychological empowerment, both Thomas and Velthouse (1990) and Conger and Kanungo (1988) suggest that the organisational environment can have a powerful influence on feelings of empowerment.   And it may not even be the objective reality that shapes an individual's feelings of empowerment but rather the individual's perceptions of their working environments (Spreitzer, 1996).

Perhaps feelings of empowerment reported in this study are at this relatively high level because of the current organisational environment, including the increase in employees working remotely from their line managers. Wide spans of control, increased access to information, increased opportunities to participate in support networks (with your boss, peers, subordinates or members of a working group) and low levels of role ambiguity (Spreitzer, 1996; Seibert *et al.*, 2011) are just some of the antecedents of empowerment in a work setting.

Most Teagasc managers now have an increased span of control as a result of a reduction in their number. Teagasc makes use of a range of communication media to keep staff informed and seeks their input into decisions through, for example, 'working groups'. Teagasc certainly has a strong ethos of peer support and membership of such support networks has been shown to enhance an individual's feelings of both self-determination and impact (Spreitzer, 1996). For most staff their roles are well defined and they have opportunities to increase their competence by work that is more challenging coupled with feedback regarding the results of their efforts. The majority of Teagasc staff are highly educated and are engaged in professional work, which by its nature tends to be self-directed. For example, Teagasc Advisers are expected to tailor packages to meet client needs and this could contribute to their sense of self-determination. In summary, there are a number of aspects of the current Teagasc organisational environment which could be linked to increased feelings of empowerment.

It is also worth noting that feelings of empowerment declined slightly between the '0 – 4 years' and '5 – 9 years' tenure categories before tending to increase as tenure in the organisation increased ($F = 3.578, p < 0.01$) and was highest for those with '30+ years' tenure (4.04). A similar trend was observed for age category but in this case the differences were non-significant. These findings are in contrast to the trends observed with self-leadership where self-leadership tended to decline as tenure in the organisation and age category increased. In terms of tenure in the current role, feelings of empowerment increased as length of time in the role increased from '< 2 years' to '8 – 10 years' but declined for the '10 years +' category ($F = 2.242, p < 0.05$).

Perceptions of psychological empowerment also tended ($F = 4.324, p < 0.001$) to be higher for those in the manager job category (4.27) and lowest for those in the administration support (3.77) category. Finally, females reported lower feelings of empowerment than their male counterparts (3.78 v 3.97, $t = 3.778, p < 0.001$). This final result is surprising as it has previously been reported (Seibert *et al.*, 2011; Spreitzer, 2008) that gender had no bearing on feelings of empowerment.

The results suggest that those with more experience feel more empowered in their roles, perhaps reflecting a greater level of trust by management in such individuals to 'get on with their job'. Likewise for those with greater tenure in their current role with the exception being those with the longest tenure in their current role. Perhaps this category feels less empowered because of a loss of purpose or a feeling that their level of impact has reduced. It is not unexpected that those in the manager category report greater feelings of empowerment as these individuals are more likely to feel a greater sense of control in relation to their work, typically have longer tenure and more education. The lowest psychological empowerment score reported by those in the administration category possibly reflects the nature of the role or of the individuals in the role (perhaps less equipped to take on the responsibility of empowerment).

In addition to measuring feelings of empowerment, the current research also confirmed a relationship between self-leadership and psychological empowerment ($\beta = 0.208, p < 0.001$). This is a noteworthy finding as it is amongst the first studies to empirically demonstrate this relationship at the individual level. This result indicates that the use of self-leadership leads to enhanced feelings of empowerment.

Although there are studies linking self-leadership to psychological empowerment at the team level, to date there has been a lack of peer-reviewed, empirical studies at the individual level (Stewart *et al*, 2011). While Houghton and Yoho (2005) distinguished between the process of self-leadership and the cognitive state of psychological empowerment and put forward the relationship between the two variables in their conceptual paper, they did not test the

relationship empirically. Consequently these findings answer calls for an exploration of the ostensible relationship between self-leadership and psychological empowerment (Neck and Houghton, 2006; Houghton and Yoho, 2005; Maynard *et al.,* 2012).

Given that both self-leadership and psychological empowerment theories have roots in social cognitive theory (Bandura, 1986) and intrinsic motivation theory (Deci and Flaste, 1995; Ryan and Deci, 2000a, b), it is perhaps not surprising that many of the consequences of self-leadership align with the dimensions of psychological empowerment. A number of authors (Manz, 1986; Neck and Manz, 2013; Neck and Houghton, 2006; Bligh *et al.*, 2006) have previously stated that the range of self-leadership strategies are likely to result in greater feelings of individual self-efficacy (reflected in the competence dimension of psychological empowerment) and this claim has been supported by empirical evidence, for example Prussia *et al.* (1998). Seibert *et al.* (2011) found that those with higher self-evaluation traits (including self-efficacy) reported higher levels of psychological empowerment (corrected correlation = *0.48*).

The natural rewards strategies of self-leadership are designed to enhance feelings of intrinsic motivation (Neck and Manz, 2013) while Thomas and Velthouse (1990) defined empowerment as increased intrinsic task motivation in relation to their work. Thomas and Velthouse (1990) highlighted the importance of an individual's interpretative schemes in relation to feelings of empowerment while Spreitzer (1995, 2008) defined psychological empowerment as the way individuals see themselves in relation to their task environment. The constructive thought pattern strategies of self-leadership are designed to facilitate the formation of positive and productive thought patterns and to create habitual ways of thinking that can positively affect performance (Neck and Manz, 1992, 1996, 2013). While there is a lack of empirical evidence for the relationship between self-leadership and the impact dimension of psychological empowerment, it is likely that an effective self-leader would have many opportunities to influence key strategic and operational decisions in a well- structured organisation (Neck and Manz, 2013).

In summary, self-leadership strategies are likely to facilitate empowerment by enhancing perceptions of meaningfulness (or purpose), self-determination and competence (or self- efficacy). These connections are summarised in Table 18.

Table 18: Connections between the consequences of self-leadership and the dimensions of psychological empowerment

	Self-leadership (Manz, 1986; Neck and Manz, 2013)	Psychological empowerment (Spreitzer, 1995, 1996)
Meaning (purpose)	x (implied)	x
Competence (self-efficacy)	x	x
Self-determination (autonomy)	x	x
Impact		x
Independence	x (implied)	
Intrinsic motivation	x (implied)	x (implied)
Self-discipline	x (implied)	
Self-regulation	x	

Finally, while the current research makes a significant contribution to extant theory by proving the relationship between self-leadership and psychological empowerment, there remains the question of how the various self-leadership and psychological empowerment dimensions interact. Further research in this area would allow theorists and practitioners to identify the best combination of the self-leadership dimensions to maximise feelings of empowerment.

6.5.2 Hypotheses 3a, 3b

H3a, b: Self-leadership skills will exhibit a significant positive relationship with (a) job satisfaction and (b) self-reported work performance.

Improved individual performance and job satisfaction are two predictable self-leadership outcomes that have been suggested in the literature. In the present study, job satisfaction was measured by a four item scale developed by Thompson and Phua (2012) and self-reported work performance was measured by six items from a scale developed by Kuvaas and Dysvik (2009).

Respondents indicated a mean job satisfaction of 3.90 (SD = 0.67) and a mean self-reported work performance of 4.09 (SD = 0.49); the correlation between the two dependent variables was *0.51 (p <0.01).*

Apart from the initial Thompson and Phua (2012) study which reported a mean score for job satisfaction of 3.98 (SD = 0.60) for Hong Kong and Australian business managers, there appears to be a lack of studies reporting affective job satisfaction using the same scale. McCarthy *et al.* (2013) reported a mean job satisfaction score of 4.94 (SD = 1.31, 7-point scale used) for a sample which included supervisors and employees from both the public and private sector in Ireland. Of direct interest to the current study, Conway *et al.* (2012) reported a job satisfaction score of 3.70 (SD = 0.81, 5-point scale used) for 2,348 employees in a large public sector organisation in Ireland. Compared to both of these results, Teagasc employees reported relatively higher levels of job satisfaction.

Self-reported work performance compares favourably with mean scores of 3.84 (SD = 0.55) and 3.64 (SD = 0.52) for employees in three municipalities in Norway and a Norwegian multinational conglomerate respectively but was slightly lower than the score reported by certified accountants in Norway (4.21, SD = 0.49) (Kuvaas, 2009, 2006; Humborstad *et al.*, 2014).

Neither of the dependent variables were influenced by any of the control variables although job satisfaction was tending towards significance for both job category (*F = 1.850, p = 0.057)* and gender (*t = 1.839, p = 0.067).*

Taken together, these results suggest a satisfied workforce with a high self-reported level of work performance.

Could work performance have been validly measured by means other than self-report? Given the diverse jobs represented in the sample, no common objective assessments of job performance were available, or even possible. Kuvaas (2009) reports earlier work by Sharma *et al.*, (2004) which suggested that self-rated performance tends to be upward-biased, but also that the amount of bias does not seem to vary across performance levels. Consequently, there is a possibility that respondents in the present study may have overestimated their performance levels. Furthermore, whereas

performance ratings by supervisors help rule out the risk of self-report bias, measuring the work performance with different, but also imperfect methods (supervisor reports), may provide no better estimates (Conway and Lance, 2010; Donaldson and Grant-Vallone, 2002; Paunonen and O'Neill, 2010).

This research provides support for both hypotheses 3a and 3b as significant positive relationships were demonstrated between self-leadership and both job satisfaction and self-reported work performance ($\beta = 0.267, p < 0.001, \beta = 0.354, p < 0.001$). While Neck and Manz (1996) found significant relationships between a thought self-leadership training intervention and subsequent levels of job satisfaction, this is amongst the first studies to demonstrate a link between self-leadership and job satisfaction. The relationship with job performance has previously been demonstrated by both Prussia *et al.*, (1998) and Frayne and Geringer (2000).

These results were not unexpected given the strong theoretical support for a relationship between self-efficacy and both job satisfaction and job performance, based on the theoretical foundations of social cognitive theory (Bandura, 1986). For example, Judge and Bono (2001), in a meta-review of the literature at that time, demonstrated estimated true score correlations of 0.45 and 0.23 for the relationships between generalised self-efficacy and job satisfaction and work performance respectively. Because individuals with high self-efficacy deal more effectively with difficulties and persist in the face of failure (Bandura, 2009), they are more likely to attain valued outcomes and thus derive satisfaction from their jobs. Evidence also suggests that self-efficacy is related to job performance (Bandura, 2009) through the behavioural choices individuals make in relation to goal level, effort and persistence (Gist and Mitchell, 1992). Finally, previous research (Prussia *et al.*, 1998) has provided significant evidence in support of self-efficacy as the primary mechanism through which self-leadership affects performance.

From a practical perspective, these findings suggest that employees who practise self-leadership can be more satisfied at work and be more productive. Through the use of a combination of self-leadership strategies, employees can positively influence both job satisfaction and performance. In practical terms,

the behaviour-focussed self-leadership strategies help employees to engage in positive, desirable behaviours, while suppressing negative, undesirable behaviours; the natural rewards strategies help create feelings of competence and choice; and the constructive thought pattern strategies facilitate the formation of constructive thought patterns and habitual ways of thinking (Neck and Manz, 2013). Furthermore, these findings have functional implications for Teagasc, and potentially other organisations. Teagasc should recognise the importance of building self-leaders who will be better equipped to meet the challenges posed by ongoing reform of the Irish public sector (Leslie and Canwell, 2010; Boyle, 2013; O'Riordan, 2013). Were Teagasc to support and facilitate self-leadership behaviours by its staff, it would have a more effective workforce and the organisation as a whole would have a greater ability to lead change in the wider agricultural community (Bryant and Kazan, 2013; Ricketts *et al.*, 2012).

6.5.3 Hypotheses 4a, 4b

H4a, b: Psychological empowerment mediates the relationship between self-leadership and (a) job satisfaction and (b) self-reported work performance.

This hypothesis predicted that psychological empowerment mediates the positive relationship between self-leadership and both self-reported work performance and job satisfaction. The results obtained supported this prediction.

Having already found support for psychological empowerment as an outcome of self-leadership, the results in Table 15 (p. 106) demonstrate the important mediating role of psychological empowerment with respect to the relationships between self-leadership and both self-reported work performance ($\beta = 0.388$, $p < 0.001$) and job satisfaction ($\beta = 0.482$, $p < 0.001$). These results indicate that part of the impact of self-leadership on both work outcomes stems from its direct impact (Hypotheses 3a and b) and also indirectly through psychological empowerment. As described by Baron and Kenny (1986), the current results identify psychological empowerment as the generative mechanism through which the focal independent variable (self-leadership) is able to influence the

dependent variables of interest (self-reported work performance and job satisfaction).

These findings are in agreement with the frameworks developed by both Seibert *et al.* (2011) and Maynard *et al.* (2012) which show psychological empowerment acting as a mediating mechanism linking the antecedent conditions (including individual and work design characteristics) with work-related outcomes (including performance and satisfaction). The current results support the assertion that self-leadership cognitions and behaviours are translated into behavioural and attitudinal consequences (Seibert *et al.*, 2011) through their impact on psychological empowerment (Neck and Houghton, 2006). Or put another way, the model to emerge from the current study suggests that the importance of psychological empowerment lies in its ability to increase employee performance and job satisfaction as employees practise self-leadership. Finally, a promising direction for future research would be to further examine the boundary conditions which either strengthen or weaken psychological empowerment as the translation mechanism between self-leadership and both self-reported work performance and job satisfaction.

6.6 Hypotheses 5a, 5b

These two hypotheses relate to the relationship of psychological empowerment with both job satisfaction and self-reported work performance.

As with previous studies (Seibert *et al.*, 2004; Seibert *et al.*, 2011; Wang and Lee, 2009), this research found that empowered employees (those reporting high levels of psychological empowerment) reported high job satisfaction ($\beta = 0.518, p < 0.001$). The correlation between the two variables ($r = 0.51, p < 0.01$) is similar to that reported by Seibert *et al.*, (2004, $r = 0.54, p < 0.01$).

Thompson and Phua (2012) conceptualised affective job satisfaction as a measure of how much people subjectively and emotively like their job as a whole or, more simply, the degree to which people like their jobs. Although Thomas and Velthouse (1990) and Conger and Kanungo (1988) did not explicitly include job satisfaction in their models of empowerment, Spreitzer (2008) reviewed a number of empowerment studies and reported that

empowerment is more likely to result in higher levels of job satisfaction, primarily through its meaning, and to a lesser extent competence dimensions. In addition, Conger and Kanungo (1988) did identify choice as a psychological need and that meeting this need is likely to result in job satisfaction. Finally, Wang and Lee (2009) revealed that the impact dimension will result in higher levels of job satisfaction but only when one of the choice and competence dimensions is high and the other low.

As psychologically empowered workers are more likely to have discretion to make decisions, engage in meaningful tasks, be equipped with the skills and abilities to do their jobs well and receive task feedback, it is perhaps not surprising that the current research has confirmed the relationship between psychological empowerment and job satisfaction. Interestingly, Seibert *et al.* (2011) reported that the impact of psychological empowerment on job satisfaction tends to be strongest in the service sector as service workers have more opportunities to engage in discretionary behaviour than their counterparts in a manufacturing environment.

This research also demonstrated a positive link between psychological empowerment and self-reported work performance (*β = 0.447, p < 0.001)*. This result was not unexpected as there is strong empirical support for the relationship between psychological empowerment and individual performance (Maynard *et al.*, 2012). Theorists (Spreitzer, 1995; Spreitzer *et al.*, 1997; Seibert *et al.*, 2011) have previously argued that psychologically empowered employees anticipate problems and act independently in the face of risk or uncertainty, exert influence over goals and operational procedures so that they can produce high-quality work outcomes, and demonstrate persistence and resourcefulness in the face of obstacles to work goal accomplishment. In summary, there is strong support (Spreitzer *et al.*, 1997; Seibert *et al.*, 2011) for the claim that individual level psychological empowerment is beneficial for individual performance and therefore psychological empowerment was expected to be positively associated with work performance in this study.

From a practical perspective, these findings suggest that employees who experience feelings of empowerment can be more satisfied at work and be

more productive. As with the earlier findings in relation to self-leadership, these findings have practical implications for Teagasc, and potentially other organisations. It is not enough to adopt an empowering leadership approach as it is unlikely to have its anticipated impact unless followers actually experience psychological empowerment (Menon, 2001). While structural empowerment is one of the key predictors of psychological empowerment (Maynard *et al.,* 2012), individual characteristics, work design and organisational support (Seibert *et al.*, 2011) are also important antecedents. In addition, the current research reveals the importance of self-leadership in generating feelings of empowerment. Consequently Teagasc should distinguish between structural empowerment and psychological empowerment while appreciating the importance of raising the psychological empowerment levels through the support of employee self-leadership.

6.7 Hypotheses 6 - 9

This final set of hypotheses relate to the impact of four moderating variables, perceived organisational support for self-leadership, empowering leadership behaviours practised by management, innovativeness (measured as willingness to try) of employees and the mindset of employees, on the relationship between self-leadership and psychological empowerment. Somewhat surprisingly each of these final four hypotheses was rejected. The following sections will seek to explain the reasons why these hypotheses were not supported.

6.7.1 Hypothesis 6

Hypothesis 6 stated that the relationship between self-leadership skills and psychological empowerment would be moderated by the perceived organisational support for self-leadership. This hypothesis was rejected.

Perceived organisational support for self-leadership was measured using a four item scale specifically developed for this study. The mean score reported was 3.41 (SD = 0.88). It tended to decline before recovering as tenure in the organisation increased ($F = 4.412, p < 0.01$) and was highest for those with '0 – 4 years' tenure (3.66) and lowest for those with '10 - 19 years' tenure (3.20). Perhaps those with least experience are seeking support from their leaders and

are more receptive of such support and encouragement. As tenure increases, individuals will gain greater knowledge about their role and may become set in their ways and may not perceive organisational support for self-leadership as strongly as those who are new to the job. But then why does this measure increase for those with more experience? Perhaps those with greater than '10 – 19 years' tenure have attained a robust sense of self-efficacy, which once recognised by the organisation results in increased freedom and support to practise self-leadership.

It also tended ($F = 5.684, p < 0.001$) to be lower for those in the administration support (3.02) and technologist job categories (2.84) and highest for those in the manager job category (4.03). It also was higher for those who had received previous training ($t = 4.603, p < 0.001$) and lower for females ($t = 3.377, p < 0.01$). It is somewhat worrying that those in certain job categories and females perceive less organisational support for self-leadership; this is an area which is worthy of further investigation. The positive impact of previous training on employees' perception of organisational support for self-leadership suggests a potential mechanism for addressing these deficiencies.

Seibert *et al.* (2011) found strong support for the relationship between organisational support (they used the term 'social-political support') and psychological empowerment (mean corrected correlation = 0.48). Socio-political support refers to the extent to which elements in the work context provide an employee with material, social and psychological resources (Spreitzer, 1996) and are a valuable resource that shape individual's perceptions. A supportive work environment (Neck and Manz, 2013; Sims and Manz, 1996), involving changed organisational processes and interpersonal strategies, has also been recommended for developing follower self-leadership. Therefore, the reason for the inclusion of perceived organisational support as a moderating variable was that the extent to which employees recognise a supportive organisational environment would strengthen or weaken the feelings of empowerment as a result of the use of self-leadership by individuals.

An alternative explanation may be that perceived organisational support acts as an antecedent to self-leadership with positive perceptions of organisational

support leading to increased levels of self-leadership. This relationship was not tested in the current analysis. Future research work is thus needed to explore if positive perceptions of organisational support increase self-leadership.

6.7.2 Hypothesis 7

Hypothesis 7 stated that the relationship between self-leadership skills and psychological empowerment would be moderated by the empowering leadership behaviours practised by management. This hypothesis was rejected.

Empowering leadership was measured using a 12-item scale developed by Ahearne *et al.* (2005). The mean score reported for this study was 3.62 (SD = 0.75). This is slightly lower than the results reported by Zhang and Bartol (2010) and Humborstad *et al.* (2014) of 3.67 (SD = 0.58) for professional level employees in a Chinese IT company and 3.75 (SD = 0.81) for certified accountants in Norway respectively using the same measurement instrument. Rapp *et al.* (2006) and Ahearne *et al.* (2005) reported mean scores of 6.02 (SD = 0.84) and 6.06 (SD = 1.32) for sales representatives in the pharmaceutical sector but while both used the same survey items, both used 7-point rather than 5-point Likert scales. Of more interest to the current study, Conway *et al.* (2012) reported an empowering leadership score of 3.32 (SD = 0.78), using the same measure and a five-point scale, for 2,348 employees in a large public sector organisation in Ireland. So while the empowering leadership score was not as high as some previously reported scores for private sector organisations, it did compare favourably with the results reported for another Irish public sector organisation.

A higher mean score for empowering leadership may have been expected given the organisation's promotion of empowering leadership as the leadership style of choice (Teagasc, 2011). For example, the organisation initiated a Leadership Development Programme in 2012 (Teagasc, 2012d) specifically to drive the development of an empowering leadership culture at all levels of the organisation. The ambition of this programme is to ensure that current and future Teagasc leaders demonstrate an identifiable Teagasc leadership style,

referred to as '*TLeadership: Enabling Empowered People*' (Teagasc, 2012d). But the development of an empowering leadership culture takes time (Sims and Manz, 1996) and requires changes of both the manager and the subordinate. From the employee's perspective, some of the previous dependency on superior authority needs to be unlearned while from the manager's perspective time is needed to translate the new principles learned into day-to-day actions (Sims and Manz, 1996). Thus it is not unexpected to have a transition period between the initiation of an empowerment programme and the widespread adoption of empowering leadership behaviours.

In addition, the current study measured employees' perceptions of their manager's empowering behaviours; consequently, it is possible that not all employees fully understand that their manager's current behaviours are empowering. It may also be the case that employees are not willing or ready to be empowered (Ahearne *et al.*, 2005) thereby limiting their ability to accept the opportunities offered by empowerment. Whatever the reason, the findings from this study provide an important benchmark against which Teagasc can measure progress as it continues to pursue an empowering leadership approach.

Interestingly, perceptions of empowering leadership tended to decline before recovering (similar to perceptions of organisational support) as tenure in the organisation increased ($F = 3.887, p < 0.01$) and was highest for those with '0 – 4 years' tenure (3.93) and lowest for those with '10 - 19 years' tenure (3.48). A similar trend was observed for tenure in the current role ($F = 3.732, p < 0.01$) but there was no effect of age category ($F = 1.054, p > 0.05$). Similar to perceptions of organisational support for self-leadership, it may be that more experienced employees have developed leadership substitutes and do not perceive empowering leadership behaviours as strongly as those who are new to the job and those with further experience still have moved into formal management positions, or at least roles with increased responsibility, and perceive greater levels of empowering leadership behaviours.

Perceptions of empowering leadership also tended ($F = 5.684, p < 0.001$) to be higher for those in the manager job category (4.03) and lowest for those in the

teaching (3.41) and technologist job categories (3.42). Perceptions of empowering leadership were not affected by gender. Managers would tend to have a greater involvement in participative decision making and have somewhat greater autonomy in how they perform their jobs; perhaps it is these two dimensions which are leading to the high score recorded for managers on this variable. The low score recorded by those in the teaching category is somewhat worrying, especially considering the increased demands placed on teachers. Perhaps, there is a greater need for Teagasc training programmes to place greater emphasis on increasing principals' and middle-level leaders' awareness of what constitutes empowering leadership behaviours and how their empowering behaviours may affect teachers' psychological empowerment and work outcomes (Lee and Nie, 2014). Likewise teachers may need training and ongoing support in recognising leader empowering behaviours.

The hypothesis that empowering leadership would moderate the relationship between self-leadership and psychological empowerment was rejected. However, given the strong emphasis on empowering leadership by Teagasc (Teagasc, 2012d), it was decided to reconsider the position of empowering leadership in the conceptual model. Consequently the direct relationships between empowering leadership and both self-leadership and psychological empowerment were tested and found to be significant; $\beta = 0.230, p < 0.001$ and $\beta = 0.547, p < 0.001$ for the relationships between empowering leadership and self-leadership and psychological empowerment respectively. The rationale for this *post hoc* examination of these relationships was presented at the outset of this chapter.

Zhang and Bartol (2010) have previously found support for the relationship between empowering leadership and psychological empowerment ($\beta = 0.81, p < 0.05$). Further support for this relationship was provided by the meta-review of Seibert and colleagues (2011) meta-review which reported a significant positive relationship between high-performance managerial practices and psychological empowerment (mean corrected correlation = 0.48). Both Manz and Sims (1987) and Pearce and Sims (2002) reported that empowering leadership approaches allow individuals to exercise self-leadership in work contexts both with and without teams. Amundsen and Martinsen (2014) have

recently reported that empowering leadership had a positive relationship with a number of outcome variables, including both self-leadership (a positive and significant slope, $\gamma = 0.29, p < 0.01$) and psychological empowerment ($\beta = 0.76, p < 0.001$). Consequently the current research findings are congruent with past research pointing to these relationships.

A common theoretical basis underpinning empowering leadership, self-leadership and psychological empowerment can be provided by both intrinsic motivation (Deci and Flaste, 1995; Ryan and Deci, 2000a, b) and self-efficacy (Bandura, 1986). A major part of empowering leader behaviours is the facilitation of intrinsic motivation among subordinates (Amundsen and Martinsen, 2014) and the development of their sense of self-efficacy (Ahearne *et al.*, 2005). Self-leadership, especially the natural reward and constructive thought pattern strategies, has been significantly informed by the concept of intrinsic motivation (Neck and Houghton, 2006; Stewart *et al.*, 2011) and the development of self-efficacy is a major objective of all self-leadership strategies (Neck and Manz, 2013). Thomas and Velthouse (1990) defined psychological empowerment itself as the experience of intrinsic task motivation and the competence dimension relates directly to self-efficacy (Spreitzer, 1995, 2008).

This has important implications for Teagasc as it suggests that in the absence of empowering leadership, both the expression of self-leadership and the feelings of psychological empowerment will be reduced. While the need for empowering leadership is emphasised in Teagasc strategic and human resource policies (Teagasc, 2012d), the mean score reported in this study could be improved and the perceptions of empowering leadership behaviours are not consistent across the organisation. Perhaps it is the case that what constitutes empowering leadership at the operational level is less clear and requires ongoing clarification and emphasis. As previously mentioned, the adoption of an empowering leadership culture takes time (Sims and Manz, 1996) and there may well be a lag or transition phase in the changeover from one leadership style to another. Certainly leader empowering behaviours may be more clearly perceived by some employees than others (Ahearne *et al.*, 2005) and as a result certain employees may be more or less psychologically empowered by the actions of their managers. Furthermore certain employees may possess the

attributes that enable them to be successful in an empowered environment, and if this is the case, they will respond more positively to empowering leadership behaviours (Ahearne *et al.*, 2005).

From a practical perspective, and specifically relating to Teagasc, it should maintain its stated objective of adopting empowering leadership as the chosen leadership style (Teagasc, 2011) while being aware of the tension between this approach and the tendency to formalise structures and processes. This tension, between the current requirement for increased governance and accountability within PSOs and the alternative leadership approach proposed by the current study, needs to be managed on an ongoing basis. Achieving good governance is important but if it comes at the cost of the adoption of an empowering leadership style, it may have consequences in terms of individual (Ahearne *et al.*, 2005; Vecchio *et al.*, 2010; Zhang and Bartol, 2010) and, ultimately, organisational performance.

6.7.3 Hypothesis 8

Hypothesis 8 stated that the relationship between self-leadership skills and psychological empowerment would be moderated by the innovativeness (measured as willingness to try) of employees. This hypothesis was rejected.

The innovativeness (measured as willingness to try) of employees was measured using seven items from an innovativeness scale developed by Hurt *et al.* (1977). The mean score reported was 3.81 (SD = 0.49). This compares to a score of 2.93 (SD = 0.92) reported by Holt *et al.* (2007) in their research into readiness for knowledge management with civilian and military personnel in the United States Air Force. It tended (*F = 3.282, p < 0.05*) to be highest for those in the Operations Directorate (3.90) and lowest for those in the Knowledge Transfer Directorate (3.75). It also tended (*F = 2.121, p < 0.05*) to be lower for those in the adviser (3.72) and technician job categories (3.73) and highest for those in the manager (3.99) and specialist job categories (3.97).

A higher mean score for innovativeness may have been expected given the importance placed on innovation by Teagasc and the role that the organisation plays in encouraging innovation in the wider agricultural community.

Notwithstanding that, the score reported is higher than the only other published report (of which the author is aware) using this scale. As the scale measures the general innovativeness and willingness to change of individuals, the current findings may indicate that the willingness of certain staff categories to engage in employee led innovation may be reduced.

The reason for the inclusion of innovativeness as a moderator variable in the conceptual model was the expectation that the innovativeness of employees would strengthen or weaken the relationship between self-leadership and psychological empowerment. While this study suggests that the use of self-leadership strategies will lead to increased feelings of empowerment, it is also acknowledged that individual characteristics may facilitate or reduce an individual's participation in self-leadership activities. For example, individuals with high levels of mastery (self-efficacy) are more likely to engage in self-directed learning and have greater skills to perform self-development activities than those with lower levels of self-efficacy (Boyce *et al.*, 2010) primarily based on a positive performance history (Neck and Manz, 2013). As the innovativeness measure was expected to capture an underlying personality construct (Hurt *et al.*, 1977) related to an individual's intention to perform (Boyce *et al.*, 2010), it was expected that those individuals scoring highest on innovativeness would be more likely to practise self-leadership and experience feelings of empowerment. An alternative explanation may be that an individual's innovativeness acts as an antecedent to self-leadership; an individual with a higher level of innovativeness would simply be more likely to practise self-leadership. This relationship was not tested in the current analysis. Future research work is thus needed to explore if an individual's innovativeness directly impacts on self-leadership.

6.7.4 Hypothesis 9

Hypothesis 9 stated that the relationship between self-leadership skills and psychological empowerment would be moderated by the mindset of employees. This hypothesis was rejected.

The mindset of employees was measured using six items (Dweck, 2006). Growth mindset and fixed mindset were measured with three items each.

There was a very strong negative correlation ($r = -0.58, p < 0.01$) between these two dimensions.

The mean score reported for growth mindset was 3.44 (SD = 0.79). It tended ($F = 2.820, p < 0.01$) to be highest for those in the administration support (3.78) category and significantly lower for those in the manager (3.20) and researcher (3.26) job categories. It also tended ($t = -2.719, p < 0.01$) to be higher for females (3.56 v 3.36). The mean score reported for fixed mindset was 2.71 (SD = 0.98). It tended ($F = 3.223, p < 0.05$) to be highest. It was not affected by any of the other control variables.

The terms 'growth mindset' and 'fixed mindset' are used for the sake of conveniently denoting those who subscribe to either a growth or fixed mindset view of personal attributes[8] (or incremental theorist and entity theorist perspectives, Heslin and VandeWalle, 2008). In reality people tend to hold mindsets that lie somewhere along the continuum between the growth and fixed mindset prototypes (Dweck, 2006). However, it is generally the case that individuals with a fixed mindset are less likely to invest in helping others to develop and improve, relative to individuals with a growth mindset (Heslin *et al.*, 2006). Consequently, it is slightly worrying that both managers and researchers scored lowest on the growth mindset scale. Research by Heslin and VandeWalle (2008) has shown that managers with a fixed mindset tend to inadequately recognise actual changes in employee performance and are disinclined to coach employees regarding how to improve their performance while those with a growth mindset are more data driven in response to performance change. The practical implications of this are that an employee could become demotivated if a manager fails to notice deterioration in a colleague's performance or improvements in their own performance equally pass unobserved (Heslin and VandeWalle, 2008). Fortunately the same authors have demonstrated that a growth mindset training intervention can

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[8] Individuals with a fixed mindset assume that personal attributes, such as abilities, intelligence and personality are stable and tend not to change over time. They spend their time documenting their intelligence or talent instead of developing them and believe that talent alone creates success - without effort. On the other hand, individuals with a growth mindset believe that their personal attributes (and those of others) can be changed and developed over time. As a result such individuals place an emphasis on learning and possess a resilience that is necessary for personal effectiveness (Dweck, 2006).

lead managers to relinquish their fixed mindset and subsequently provide more accurate performance appraisals and employee coaching.

The reason for the inclusion of growth mindset as a moderator variable in the conceptual model was the expectation that the growth mindset of employees would strengthen or weaken the relationship between self-leadership and psychological empowerment. Mindsets frame the interpretation process that takes place in people's heads (Dweck, 2006); individuals create their own psychological worlds by choosing what they pay attention to and how it is interpreted thereafter (Neck and Manz, 2013). The self-leadership constructive thought pattern strategies are designed to facilitate the formation of constructive thought patterns and habitual ways of thinking that can positively impact performance (Houghton and Neck, 2006; Stewart *et al.*, 2011; Neck and Manz, 2013). Consequently it was hypothesised that those with a growth mindset would be more likely to practise self-leadership and experience greater feelings of empowerment but this was not borne out by the current findings. An alternative explanation may be that mindset dimension overlaps with the evaluating beliefs and attitudes element of self-leadership and it would be interesting to compare the results from both sets of items. It would also be interesting to create one overall mindset score combining the fixed and growth mindset scores, having firstly reverse scored the fixed mindset items based on the unitary nature of the mindset beliefs (Heslin and VandeWalle, 2011).

6.8 Structural Equation Model

A significant contribution of the current research is the development and testing of a conceptual model that uniquely integrates empowering leadership, self-leadership and psychological empowerment theories with important work outcome theories. Although a number of studies have supported such relationships, this study is, to the author's knowledge, the first to empirically support these relationships.

Yet, as has been argued and uniquely modelled, there are strong theoretical reasons to expect (1) empowering leadership to influence both self-leadership and psychological empowerment; (2) psychological empowerment to be both

an outcome of self-leadership and a mediator in the relationships of self-leadership with self-reported work performance and job satisfaction; and (3) these important work outcomes to also be direct outcomes of both self-leadership and psychological empowerment. Furthermore, these hypotheses have been empirically supported by this research study.

The use of structural equation modelling (SEM) in the current research allowed for the simultaneous combination of factor analysis and linear regression models for theory testing (Williams *et al.*, 2009). Data from survey measures (indicators) were used as input in the statistical analyses thereby providing evidence about the relationships among the various concepts. Measurement models were initially developed prior to the construction and testing of the various structural models (Byrne, 2010).

The structural model which emerged (see Figure 6, p. 89 for the model including all path coefficients) highlights psychological empowerment as a mediating mechanism through which both self-leadership and empowering leadership impact on both self-reported work performance and job satisfaction. In the case of empowering leadership, its impact on psychological empowerment seems to be twice that on self-leadership ($\beta = 0.65$ v $\beta = 0.30$, $p < 0.05$ in both cases). The direct impact of psychological empowerment is greater on job satisfaction than on self-reported work performance ($\beta = 0.73$ v $\beta = 0.52$, $p < 0.05$ in both cases) whereas the direct impact of self-leadership is greater on self-reported work performance than on job satisfaction ($\beta = 0.33$ v $\beta = 0.09$, $p < 0.05$ in both cases). Furthermore the results show that self-leadership operating through psychological empowerment has an indirect effect on job satisfaction that is slightly stronger and on self-reported work performance that is weaker than its direct effect on these variables.

The current conceptual model did not hypothesise a relationship between job performance and job satisfaction, despite the fact that such a relationship has been extensively studied in the organisational psychology literature (see for example Judge *et al.*, 2001). The current study adopted a similar approach to that taken by Seibert *et al.* (2004) who hypothesised individual performance and job satisfaction as outcomes of psychological empowerment but did not

hypothesise a relationship between the two outcome variables. Future research could re-specify the conceptual model (based perhaps on the findings of Christen *et al.,* 2006) and test the associated hypotheses.

From a theoretical perspective, similar to the conclusions reached by Seibert *et al.* (2011), the current model suggests that psychological empowerment perceptions can be shaped by contextual antecedents (in this case, empowering leadership) and individual characteristics (in this case, self-leadership) and can have benefits for employees (in this case, work performance and job satisfaction). From a self-leadership theory perspective, the current model confirms psychological empowerment, work performance (Prussia *et al.,* 1998) and job satisfaction (Neck and Manz, 1996) as outcomes of self-leadership and psychological empowerment as a mediating mechanism (Houghton and Yoho, 2005) between self-leadership and two important work outcomes.

More than its theoretical contribution, the structural model also has implications for Teagasc. Firstly, in encouraging employee self-leadership, external leadership does matter. Specifically, the results suggest that empowering leadership has the capacity to positively influence the self-leadership levels of employees. The model also suggests that individuals who practise self-leadership can be more satisfied at work and be more productive. Consequently, Teagasc could usefully develop and encourage the use of self-leadership by its employees as a means to meet the challenges of ongoing organisational changes in response to reform of the Irish public sector. Specific training sessions, coupled with support for self-leadership by formal managers, could potentially raise self-leadership levels across the organisation. The importance of formal managers modelling both self-leadership and empowering leadership behaviours cannot be over-emphasised. Previous research has demonstrated that hierarchical leadership has a causal effect whereby followers tend to emulate the leadership behaviour they experience from above (Pearce and Manz, 2014). Consequently, the leadership behaviours of those in formal positions of authority can spread throughout an organisation as others emulate them.

The current research has been conducted at the individual level of analysis as the level of origin for the variables used is the individual. Consequently, the appropriate level from which to collect data is also at the individual level. However, there remains a question as to whether there is a multi-level aspect to the self-leadership and empowerment relationships revealed in this study.

Shared leadership[9] has been described as 'the logical next step to self-leadership' (Conger and Pearce, 2009, p. 206) and is defined as 'a dynamic, interactive influence process among individuals in groups for which the objective is to lead one another to the achievement of group or organisational goals or both' (Pearce and Conger, 2003, p. 1) or as an emergent team property that results from the distribution of leadership influence across multiple team members (Carson *et al.*, 2007). These definitions emphasise the multiple sources of influence and suggest that shared leadership is a relational phenomenon involving mutual influence between team members as they work toward team objectives (Carson *et al.*, 2007). It occurs when all members of a team are fully engaged in the leadership of the team (Pearce and Manz, 2005). Bligh *et al.* (2006) proposed that the development of self-leadership will result in higher levels of team trust, potency and commitment which in turn will facilitate a team environment in which shared leadership may emerge subject to team and organisational incentives being in place.

The importance of shared leadership is highlighted by a number of studies. For example, Carson *et al.* (2007) demonstrated that shared leadership is a strongly positive predictor of a team's performance as rated by the end users of the team's work ($\beta = 0.65$, $p < 0.001$); Pearce and Sims (2002) found that shared leadership was an important predictor of team effectiveness ($\beta = 0.25$, $p < 0.05$ and $\beta = 0.52$, $p < 0.01$ for manager and self-ratings respectively).

[9] Shared leadership has a number of similarities and differences with a number of similar concepts, including distributed, collective, collaborative, emergent, co- and democratic leadership (Bolden, 2011); team autonomy or self-management, team empowerment, co-operation, team cognition and emergent leadership (Carson *et al.*, 2007). Bolden (2011) reports that while there are some common theoretical bases between the various concepts that the relative usage of these concepts varies over time, between countries and between sectors. So for example, shared leadership appears to be of more interest to US academics and its use proportionally greater in the field of health care (nursing and medicine). On the other hand, distributed leadership research remains largely restricted to the field of school education and of proportionally more interest to UK academics.

Similar to the notion of self-leadership, shared leadership does not suggest the absence of a vertical leader; indeed the vertical leader can promote shared leadership by promoting and supporting follower self-leadership, lateral influence and upward influence (Pearce, 2004). In summary, it seems plausible that self-leadership at the individual level can underpin shared leadership at the team level leading to improved team effectiveness. As such, self-leadership is integral to both personal and team effectiveness (Neck and Manz, 2013).

In relation to empowerment, Seibert *et al*. (2011) provided evidence that empowerment relations are consistent across individual and team levels of analysis.

Therefore, while the current research was conducted at the individual level, it potentially has implications at both the work-unit (team) and organisational levels also.

6.9 Summary

In summary, six significant results emerged from the current research.

Firstly, the current research has confirmed psychological empowerment as an outcome of self-leadership and secondly, a mediating mechanism through which self-leadership ultimately influences self-reported work performance and job satisfaction.

Thirdly, this study confirmed job satisfaction and self-reported work performance as outcomes of self-leadership.

Fourthly, it contributed to the self-leadership literature by identifying empowering leadership as an antecedent of self-leadership.

Fifthly, the study uniquely combined self-leadership and empowerment (both structural and psychological) theories with important work outcomes.

Finally, from a practical perspective, this study has identified self-leadership as an important organisational tool which can potentially lead to improved employee performance. Public sector organisations struggling with the current

challenges of austerity and a changed economic landscape would benefit by developing and relying on every member of staff's self-leadership. This research also emphasises the importance of empowering leadership, both in facilitating self-leadership and enabling psychological empowerment, in achieving these positive outcomes.

Finally, the current chapter critically evaluated these results in the context of the relevant literatures. The next chapter will integrate and combine the various issues raised in the foregoing discussion sections, whilst concluding the research by considering the contributions made to both knowledge and practice.

Chapter 7: Conclusions and Implications

7.1 Preface

Self-leadership can potentially provide an alternative leadership model to meet the needs of professional knowledge organisations in the public sector. This study found that individuals who self-report strong self-leadership are likely to also have higher self-reported work performance and job satisfaction. In addition, the important role of both psychological empowerment and empowering leadership in these relationships was supported. The structural model to emerge sets the stage for further research into understanding how self-leadership can increase both work performance and job satisfaction in organisations. From a practical perspective, self-leadership offers Teagasc management an insight into a potential personal development strategy which could be used across the organisation in the future.

Table 19: Summary of contributions from the current research

Area of contribution	Contribution
Theory	Development of model linking self-leadership and empowerment (both structural and psychological) theories with important work outcomes
Empirical evidence	Confirmation of psychological empowerment as both an outcome of self-leadership and a mediator in the relationship between self-leadership and work outcomes. Confirmation of self-reported work performance and job satisfaction as outcomes of self-leadership. Confirmation of empowering leadership as an antecedent of both self-leadership and psychological empowerment
Practical applications	Self-leadership can provide an alternative leadership model and has potential to be used as a personal development strategy leading to improved employee performance and satisfaction. External leadership impacts on follower self-leadership, perceptions of empowerment and, ultimately, work performance and job satisfaction.

The purpose of this chapter is to present the conclusions and implications to the current study, specifically in relation to each of the original research

questions, as stated in the first chapter. Following this the limitations of the current research are presented before the chapter concludes with recommendations for future research. The chapter is presented in four sections: Theoretical and Practical Contributions of this Research, Limitations of the Current Research, Future Research Directions and Summary.

7.2 Theoretical and Practical Contributions of this Research

The key findings to emerge from this research study were discussed in the previous chapter. The following sections identify both the research and practical implications of these findings. These will be presented in relation to the seven research objectives, as listed in the first chapter, in the sections that follow. In addition, each of the following sections will briefly address how each of the research objectives was met by the current research.

7.2.1 What is the impact of self-leadership on the performance of Teagasc employees?

The results of this research demonstrate a positive association between self-leadership and psychological empowerment, self-reported work performance and job satisfaction. Individuals self-reporting higher self-leadership are also likely to self-report higher work performance and job satisfaction. This finding suggests that self-leadership can potentially provide an alternative leadership model and personal development strategy for Teagasc and similar organisations.

Implications for research: While previous research had linked self-leadership with job satisfaction, this is the first study to measure the relationship between self-leadership and self-reported work performance, thereby adding to the literature on the outcomes of self-leadership at the individual level. Future research could perhaps use the same self-leadership and work outcome measures, employing a longitudinal design, possibly involving a self-leadership training intervention, to explore the impact of changes in self-leadership over time on individual performance outcomes. Future research could also investigate the socio-political (Spreitzer, 1996; Seibert *et al.*, 2011) and other organisational factors which influence the expression of self-leadership by

employees. While the current research has found support for the impact of empowering leadership on individual self-leadership, additional research is needed to explore the impact of self-leadership at higher levels (organisational leader, supervisors and team leaders) on individual level self-leadership. Manz and Sims (2001) have presented the *Superleadership* model which suggests such a relationship but this has yet to be proven empirically. Specifically they state that 'a primary force in learning self-leadership is the self-leadership actually modelled by a leader' (*ibid*, p. 147). Finally, as the current study was conducted at the individual level, it would be beneficial to explore whether the relationships, supported by the current study, equally apply at the team and organisational levels.

Implications for practice: The positive effect of self-leadership on both self-reported work performance and job satisfaction indicates that self-leadership has potential application as a personal development strategy to be used by an organisation and its employees. But not all individuals are self-leaders and most individuals usually require training in self-leadership strategies if they are to successfully adopt the full range of strategies. Self-leadership training interventions have previously been shown to lead to increased performance and well-being (Unsworth and Mason, 2012) and improved personal effectiveness (Stewart *et al.*, 1996). Such a training intervention should allow individuals the maximum opportunity to experience and practise the various strategies (Pearce and Manz, 2014) as a means of developing self-leadership. Following the training intervention it is equally important that participants are provided with self-leadership development opportunities, are supported in using the self-leadership strategies and are aware of others (managers, peers) using self-leadership strategies.

Another potential practical application would be the development of a self-leadership self-assessment tool appropriate for Teagasc staff. This could be incorporated into the annual review between a manager and subordinate with the objective of focussing development efforts on improving the use of those self-leadership strategies identified as deficient. In addition, perhaps Teagasc could pay more attention to self-leadership when selecting staff either to join the organisation or for promotion within the organisation. After all, if Teagasc

were to adopt self-leadership as a personal development strategy and alternative leadership approach, then it is important that both leaders and subordinates display the attitudes and behaviours to match.

The provision of rewards or incentives which emphasise self-leading initiatives, for example Teagasc Innovation Awards, Teagasc Staff Excellence Awards (Teagasc, 2011), should be continued as such awards could potentially foster self-leadership amongst staff. In addition, Teagasc should pay more attention to teaching employees how to reward themselves and to build natural rewards into their tasks (Manz and Sims, 2001). This could be achieved through the development of an increased sense of competence, purpose and self-control in relation to the job resulting from interesting and challenging tasks or job rotation or an increased willingness to take on responsibility. This could be particularly challenging at present, where extrinsic motivations are significantly constrained or even reduced, and may require specific skills training for managers to enable them to foster and support the intrinsic motivations of employees (O'Riordan, 2013).

Finally, Teagasc could consider including an objective relating to self-leadership in its next HR Strategy thereby building on its focus on empowering leadership in the current HR strategy.

7.2.2 What is the relationship between self-leadership and psychological empowerment?

The results of this study confirm psychological empowerment as both an outcome of self-leadership and a mediator in the relationships of self-leadership with job satisfaction and self-reported work performance. Consequently, it can be expected that employees who practise the behavioural and cognitive strategies of self-leadership will have enhanced feelings of empowerment, leading to positive individual outcomes. The model to emerge indicates a mechanism to increase feelings of empowerment experienced by employees even if the organisation is not practising structural empowerment.

The current results were interpreted in accordance with the conceptual model which hypothesised that the use of the various self-leadership strategies would

result in greater feelings of empowerment. This is in line with Houghton and Yoho (2005) who theorised that self-leadership positively influences psychological empowerment while conceding that the relationship may be multi-directional. Furthermore, the empowerment literature (for example, Seibert *et al.*, 2011; Maynard *et al.*, 2012) suggests that psychological empowerment essentially acts as a mediating mechanism linking the antecedent conditions (in the current study, self-leadership) with attitudinal (job satisfaction) and behavioural (self-reported work performance) consequences. However, both Spreitzer (2008) and Maynard *et al.* (2012) indicate that reverse causality may also be a possibility and that the existing empowerment model (antecedent → psychological empowerment → outcome) would benefit from a more robust examination of such relationships using a longitudinal design.

Implications for research: This is one of the first studies to empirically confirm psychological empowerment as an outcome of self-leadership, thereby answering calls for such evidence by previous self-leadership scholars (Houghton and Neck, 2006; Stewart *et al.,* 2011). Future research could investigate the organisational conditions under which this relationship is optimised and the interactions (if any) between the various self-leadership and psychological empowerment dimensions. Another interesting avenue for future research would be the exploration of the relationship between self-leadership and psychological empowerment at the team/ work unit and organisational levels. Finally, it is possible that self-leadership influences psychological empowerment which in turn influences that individual's future use of self-leadership (self-leadership → psychological empowerment → future self-leadership). Accordingly, further studies are needed to explore potential reciprocal or recursive linkages.

Implications for practice: Teagasc should identify strategies which will provide opportunities for individuals to develop their self-leadership skills as increased usage of the full range of self-leadership practices by all Teagasc employees is likely to result in positive individual outcomes including increased feelings of empowerment. The model suggests that Teagasc should encourage self-leadership when it wants individuals who are psychologically empowered.

7.2.3 What is the impact of empowering leadership on self-leadership, psychological empowerment and work outcomes?

The results of this study confirm empowering leadership as an antecedent to both self-leadership and psychological empowerment. Although they share common theoretical underpinnings, this research confirms empowering leadership, self-leadership and psychological empowerment as separate concepts. Empowering leadership can facilitate follower self-leadership, by modelling and encouraging self-leadership strategies, and psychological empowerment, by implementing conditions that enable sharing power with employees. Finally, the current study bears out the role of empowering leadership in the achievement of important work outcomes.

Implications for research: The current research confirms a number of the propositions of Houghton and Yoho (2005) concerning the relationships between empowering leadership, self-leadership and psychological empowerment. Data on empowering leadership was collected via employee self-reports, which was argued to be logical, as a measure of individual's perceptions were required. A future study, with a dyadic design, where both formal managers and their subordinates provide information would be useful. Such a study may identify whether a follower's self-leadership influences the leader's attitudes and behaviour towards them. Despite the difference in authority between leaders and followers, it may be that both contribute to the quality of the relationship (van Dierendonck and Dijkstra, 2012). Another useful avenue of future research would be an exploration of the relationships supported in the current study over time using a longitudinal design. Finally, future research could also consider the role of organisational characteristics, such as trust, in promoting and hindering empowering leader behaviours. Trust between management and staff is essential to the success of organisations and it affects a wide variety of employee work behaviours and outcomes (Collins, 2014). As both self-leadership and empowering leadership requires the sharing of power, some level of basic trust between supervisor and followers is necessitated. This point is developed by Sims and Manz (1996, p. 232) who highlighted the reciprocal nature of the trust relationship: the

'organisation' must trust the employees...the employees must trust the 'organisation'. Gonzalez (2012, p. 175) concludes that 'power and trust need to go together for superior performance to result'. Future research should consider incorporating trust as either an individual-level or organisational-level variable in order to examine its impact on the relationships demonstrated in the current study.

Implications for practice: The model to emerge from the current study points to the fact that external leadership matters. Teagasc should take this into account when selecting and developing individuals for formal leadership roles. It also needs to allow time for followers to unlearn some of the previous dependency on superior authority and for managers to translate the empowering leadership principles into day-to-day actions. This transition process would be helped by training in empowering leadership for managers and in what constitutes empowering leadership for employees, including how to respond through the use of self-leadership. Empowering leadership behaviours should also be recognised by Teagasc through for example, rewards, cross-project learning, during- and after- reviews and formalising best practice in the area.

7.2.4 Is the self-leadership construct, as measured by the Revised Self-leadership Questionnaire (RSLQ), reliable and valid with an Irish sample?

Self-leadership warrants research attention due to its potential positive implications for enhancing personal effectiveness (Neck and Manz, 2013; Stewart *et al.*, 2011). While the measurement of self-leadership has been facilitated by the development of both the RSLQ (Houghton and Neck, 2002) and the ASLQ (Houghton *et al.*, 2012), and the RSLQ has been validated in a number of distinct national cultures (Houghton *et al.*, *in press*), this research study failed to confirm the factor structure of self-leadership as proposed in the literature. Given the deficiencies in the fit indices recorded in this study, it appears that there is room for further improvement in the quality of the items and the factor structure of the self-leadership measurement scale.

Implications for research: This research study has indicated the requirement for further development of a practice-based, research-validated tool to measure self-leadership. Having a well-validated, theoretically driven measure of self-leadership will allow for further self-leadership research to flourish as researchers build on each other's work using an empirically supported measurement instrument. Given the current scale length, consideration should also be given to the development of a concise self-leadership scale; work in this area has already commenced (Houghton *et al.*, 2012).

Implications for practice: Individuals, in both the public and private sectors, will benefit from having a validated measure of self-leadership in an Irish context, thereby allowing them to accurately self-assess their use of the various self-leadership strategies. Were such a research validated self-assessment tool to be available, it could be used as part of annual performance reviews, selection procedures and impact assessments of self-leadership training interventions. The current measure of self-leadership within Teagasc can act as a benchmark against which Teagasc can measure self-leadership over time.

7.2.5 What are the perceptions of Teagasc Senior Management regarding self-leadership within Teagasc?

Senior Management in Teagasc recognise that while self-leadership is becoming more natural for all Teagasc employees (as a result, perhaps, of the emphasis on empowering leadership in the current HR strategy), they also recognise that there is a need for increased emphasis on the development of self-leadership across the organisation. Furthermore, the tension between the current requirement for increased governance and accountability within PSOs and allowing individuals the freedom to be self-leaders needs to be managed on an ongoing basis. In this respect, it was suggested that Teagasc provides more freedom to its staff than other Irish PSOs – a contention supported by the relatively higher empowering leadership score recorded in the present study compared to that reported by Conway *et al.* (2012) for an Irish PSO in the health sector. In terms of self-leadership development, Senior Management recognised the importance of both the modelling of self-leadership behaviours by managers and the provision of staff incentives, for

example Teagasc Staff Excellence Awards, Teagasc Innovation Awards and the Teagasc Leadership Development Programme. Finally, recognition was given to the possibility of including self-leadership as a focus area in the next Teagasc HR strategy.

Implications for research: This research presented an interesting case study (Chapter 2) of the relevance of self-leadership to an Irish PSO. It clearly highlighted the desirability of increased self-leadership while at the same time acknowledging the difficulty of enabling staff to practise self-leadership while grappling with the requirement for good governance. It would be interesting to benchmark Teagasc self-leadership levels against other Irish PSOs and similar organisations in other countries.

Implications for practice: The challenge of transitioning from a more traditional, top-down model of leadership takes time and will be difficult. It is likely to be increasingly difficult in a PSO faced with increased requirements for governance and accountability. It may be best to implement a self-leadership model gradually as both formal leaders and their subordinates may need time to learn and internalise the necessary behaviours and thought processes that self-leadership requires. The adoption of the language of *Superleadership* (Manz and Sims, 2001) is a useful starting point but the organisation needs to engage in more than the rhetoric of self-leadership. Formal managers have a key responsibility to model the full range of self-leadership behaviours for their subordinates; they must also encourage the use of self-leadership strategies by followers. More than that individuals need to be supported to problem solve and take decisions (within the requirement for good governance). In summary, self-leadership needs to be portrayed and endorsed at all levels within the organisation.

Finally, the provision of a self-leadership training intervention could help to develop the self-leadership skills of individuals thereby potentially equipping them to take on the responsibility of empowerment leading to positive individual and organisational outcomes.

7.2.6 What is the current level of self-leadership amongst Teagasc employees?

Reported self-leadership levels are lower for Teagasc employees than that reported in previous studies. In addition, it appears that self-leadership is lowest amongst older, more experienced employees.

Implications for research: While this research was conducted at the individual level and at a single point in time, a number of interesting future research avenues are suggested by the results generated. Are certain dimensions of self-leadership more widely used than others? Does individual level self-leadership impact on team and organisation performance? Does self-leadership change over time? What impact has a self-leadership training intervention on individual level self-leadership? Does individual self-leadership impact on a manager's empowering leader behaviours? These ideas, and some others, will be addressed later in this chapter.

Implications for practice: There is scope for the development of self-leadership skills amongst Teagasc employees. A twin-track approach is recommended. Firstly, there should be a continued emphasis on empowering leadership at all levels, and by all managers, across the organisation. In addition a new focus on the development of self-leadership amongst employees should be developed and supported.

In essence this will involve ensuring consistent enactment of the empowering leadership role by those in formal management roles so as to help, encourage and support followers in taking personal responsibility for their work tasks and duties. Specifically the empowering leader should model self-leadership behaviours and advocate the use of self-leadership practices by followers (Houghton *et al.*, 2003). Equally important, it is recommended that a focussed self-leadership training intervention be developed, initially tested with a targeted cohort of Teagasc employees and subsequently rolled-out across the organisation. Unless followers are aware of the full range of self-leadership skills and are encouraged to use them, it is likely that they will lack the confidence and the desire to engage in self-leadership.

Given that self-leadership is so individualistic in orientation, development of extremely high self-leadership skills could potentially inhibit an employee's ability to effectively interact with others. Consequently, if self-leadership is encouraged within Teagasc, it would be important to ensure that team and organisational incentives are also in place to encourage teamwork and collaboration, in addition to individual achievements. As such the emphasis should be placed on responsible self-leadership and the effective utilisation of shared leadership, as both processes (self- and shared leadership) support each other (Pearce and Manz, 2005).

7.2.7 What organisational and personal factors impact on the expression of self-leadership by Teagasc employees?

Older, more experienced employees tended to report lower levels of self-leadership but there was no evidence that any of the other control variables included impacted on self-leadership. Empowering leadership, directly and positively influenced self-leadership ($\beta = 0.30, p < 0.05$; see Figure 7). Furthermore, it was speculated in the previous chapter that the prevailing organisational culture may be influencing the practise of self-leadership by Teagasc employees.

Implications for research: This is amongst the first studies to empirically demonstrate the positive relationship between perceptions of empowering leadership and self-leadership. Future research could explore the extent to which certain additional aspects of organisational culture (as perceived by employees) may influence the relationships identified through the current study.

Implications for practice: An important practical implication from these results is that in encouraging employee self-leadership, external leadership does matter. However, managers may find differences in the extent to which employees wish to be self-leaders. Therefore managers may not attempt to empower all employees to be self-leaders to the same degree (Ahearne *et al.*, 2005). Managers may need to devote time to developing the self-leadership skills of different employees over time. Fortunately, previous research has

demonstrated that self-leadership skills can be developed (Unsworth and Mason, 2012).

The current results do not suggest that there is not a need for hierarchical leadership because quite clearly there is. But the challenge facing Teagasc, and similar organisations, is to identify situations where self- (and shared leadership) should be encouraged and developed. Furthermore, having identified such situations, to ensure that formal managers use empowering leader behaviours and that subordinates correctly perceive and respond to such behaviours.

It is worth noting that despite the pressures created by the ongoing reform of the public sector, it would appear that Teagasc as an organisation is highly suitable for the adoption of a combination of empowering leadership and follower self-leadership. Houghton and Yoho (2005) have previously suggested that an empowering leadership style that encourages follower self-leadership is most appropriate when a number of key contingency factors are met. In summary, this approach is most appropriate when follower development is currently high or continued long-term development is important, when there is low urgency, when the task is unstructured or complex and when the organisation wants employees who are committed, independent and creative. These contingency factors are mainly met in the majority of the activities performed by Teagasc employees.

Table 20: Summary table of conclusions and implications

Research Question	Finding	Conclusion(s)	Implication(s)	Future Research
What is the impact of self-leadership on the performance of Teagasc employees?	Self-leadership, both directly and indirectly through its impact on psychological empowerment, affects both self-reported work performance and job satisfaction.	Self-leadership can potentially offer a new leadership model and personal development strategy for Teagasc and similar organisations.	Teagasc should consider: a self-leadership training intervention, a self-leadership self-assessment tool, rewards or incentives to promote self-leadership and the inclusion of self-leadership as a personal development strategy in the organisation's next HR strategy.	Future research could explore the impact of self-leadership on psychological empowerment and work outcomes over time and at multiple levels (individual, work unit/ team and organisation levels).
What is the relationship between self-leadership and psychological empowerment?	Psychological empowerment is an outcome of self-leadership, while also mediating the relationship between self-leadership and essential work outcomes.	Employees who practise the behavioural and cognitive strategies of self-leadership will have enhanced feelings of empowerment, leading to positive individual outcomes. Self-leadership represents a mechanism to increase employee empowerment.		Future research could investigate the organisational conditions under which this relationship is optimised; the interactions (if any) between the various self-leadership and psychological empowerment dimensions; and whether the relationship applies at multiple levels.
What is the impact of empowering leadership on self-leadership, psychological empowerment and work outcomes?	Empowering leadership is an antecedent to both self-leadership and psychological empowerment, through which it indirectly impacts on work performance and job satisfaction.	External leadership matters and should be considered when selecting and developing individuals for formal leadership roles.	There will be a transition process between the current ('top-down') and new (empowering leadership plus self-leadership) leadership approaches which needs to be managed. Teagasc should consider recognising empowering leadership behaviours.	Future research could be conducted into the same relationships using (1) a dyadic approach and (2) a longitudinal approach. The organisational conditions which strengthen or weaken the relationships could also be investigated.
Is the self-leadership construct, as measured by the Revised Self-leadership Questionnaire (RSLQ), reliable and valid with an Irish sample?	The RSLQ was shown to be reliable but its validity was sub-optimal; validity was improved by reducing the number of items included from 35 to 19.	Further research and testing is required to develop a more robust measure of self-leadership.	Further empirical research involving self-leadership may be hampered in the absence of a valid measure. The availability of a practice-based, research validated measurement tool would allow individuals to validly self-assess their self-leadership.	Future research should focus on developing, testing and validating an abbreviated measure of self-leadership.

Research Question	Finding	Conclusion(s)	Implication(s)	Future Research
What are the perceptions of Teagasc Senior Management regarding self-leadership within Teagasc?	The practise of self-leadership by Teagasc employees is valued while the challenge of allowing individuals the freedom to be self-leaders within the management and governance structures of a PSO is recognised.	Teagasc needs effective self-leaders if it is to fulfil its organisational leadership role in the wider Irish agriculture and food industry.	The tension between self-leadership and the requirement for governance structures needs to be managed. The development and delivery of a self-leadership training intervention could be a useful first step to help those individuals who need to develop their self-leadership skills.	Future research could benchmark Teagasc self-leadership levels against other PSOs and similar organisations in other countries.
What is the current level of self-leadership amongst Teagasc employees?	Self-leadership appears to be lower amongst Teagasc employees than that reported in previous studies.	There is scope for the development of self-leadership skills amongst Teagasc employees.	A self-leadership training intervention could be developed, pilot-tested and rolled-out across the organisation. The empowering leadership approach should be used consistently across the organisation.	Future research could examine whether certain of the self-leadership dimensions are more widely used than others; if self-leadership at the individual level impacts on team and organisation performance; whether self-leadership changes over time; the impact of a self-leadership training intervention and the effect of individual self-leadership on a manager's empowering leader behaviours.
What organisational and personal factors impact on the expression of self-leadership by Teagasc employees?	Self-leadership tends to vary depending on age and tenure in the organisation. Younger and less experienced Teagasc employees are more likely to practise self-leadership. Empowering leadership has a direct, positive relationship with self-leadership.	The pervasive organisational culture may be impacting on the expression of self-leadership by Teagasc employees. Perceptions of empowering leadership vary across the organisation.	Hierarchical leadership is needed but the tension between the 'top-down' leadership approach and self-leadership needs to be managed. Both managers and employees need to be made aware of the full range of self-leadership strategies. Both empowering leadership and self-leadership should be recognised and rewarded.	Future research could investigate the organisational conditions under which the use of self-leadership is facilitated or hampered.

7.3 Limitations of the Current Research

While the current research has significant theoretical and practical implications as outlined in the previous section, it does have limitations. Such limitations are worth noting as they could have implications for the interpretation of the results, the replication of the study in other contexts and the application of the findings to the workplace.

Firstly, because all constructs were measured using an online survey instrument with the same respondents at the same point in time, common method variance (Podsakoff *et al.*, 2003) is a concern. All of the variables in the model were, by definition, perceptual variables which are best captured through self-report surveys (Spector, 1994; Baldwin, 2000). While the work performance variable could potentially have been measured using an objective indicator, no such objective indicator was available at the outset of the current study. A strength of the current study is that a number of procedural and statistical remedies (Podsakoff *et al.,* 2003, 2012) were adopted to protect against the threat of CMV. The procedural remedies applied included the development of a good cover story and survey instructions and an explanation of how the information would be used to benefit Teagasc. To reduce individual evaluation apprehension and thus make respondents less likely to edit their responses to be more socially desirable, respondents were assured that all answers would be held anonymously and confidentially and were requested to answer questions as honestly as possible (Podsakoff *et al.*, 2003). The *post hoc* statistical remedies employed included Harman's single factor test at the EFA and CFA level. The results generated by both analyses suggest that the threat of common method bias does not appear to be significant and should provide readers with confidence that the results do not suffer from common method bias. Finally, future research could replicate the current study and (1) introduce a 'marker variable' (Lindell and Whitney, 2001) to determine the extent of CMV; (2) use different methods for data collection; or (3) collect the data at different times (Gorrell *et al*., 2011; Podsakoff *et al*., 2012).

As all of the data was collected in one public sector organisation, thereby limiting observed variability and decreasing external validity, the generalisability of the results to other types of employees and organisations may be questioned. The current study findings cannot be generalised to the broader public sector without further replication. Notwithstanding this limitation, conducting this study in a single organisation did provide the advantage of controlling for potential organisation level confounding variables.

My role as a Teagasc staff member, and its potential impact on the outcomes of the current study, is deserving of comment. While acknowledging that as a researcher I inevitably drew from my personal, social and organisational background, I attempted to address the potential 'insider' concerns by following a positivistic, quantitative methodological approach. I set out to conduct this study as a researcher 'from the outside' (Evered and Louis, 1981) using the traditional scientific approach of initially stating hypotheses before gathering data for testing the relationships proposed. Although the notion of Teagasc professionals being self-directed (which emerged strongly in the case study interviews; see pp. 30 - 31) may have influenced the identification of self-leadership as a key variable, all of the relationships subsequently hypothesised, were informed by the literature. Even though the invitation emails were issued from my email address and were signed by me, personalisation of email invitations is part of the 'Tailored Design Method' (Dillman *et al.*, 2009) which aims to maximise response rates. In terms of my role within Teagasc exerting compliance pressure on potential respondents, Joinson and Reips (2007) found that positional power exerted only a minor (non-significant) effect on response rates. Finally, my role as a Teagasc employee did provide some advantages including knowledge of the organisational context and an expediency of access to the email distribution list.

A further limitation of the present study is that it used a cross-sectional survey at a single point in time which did not capture the dynamic nature of the relationships between self-leadership, empowering leadership, psychological empowerment and work outcomes over time. Despite this limitation, the use of structural equation modelling permitted a simultaneous test of all variables in the hypothesized

model. Replication of the current study using a longitudinal design, possibly involving a self-leadership training intervention, could investigate changes in the level of self-leadership and associated individual performance outcomes over time.

Finally, the current research has been conducted at the individual level of analysis. Yet there remains a question as to whether the relationships identified and supported equally apply at different levels i.e. team/ work unit or organisational levels. Further research is required to investigate these relationships at different levels and across levels, before the results of the present study could be generalised to all levels.

In summary, while there are a number of limitations to this study, many of them are common to studies of this nature and are not unique to this particular line of research. In addition, care was taken during the formulation of the study protocol to address these potential issues in the most prudent fashion. Justification for the decisions made is outlined in Chapter 4 and details of the approach taken are outlined in Chapter 5. Future research may well address several of the limitations listed.

7.4 Future Research Directions

So, where to from here? The future success of PSOs will be dependent upon their ability to deliver high quality programmes on time and on budget. For many such organisations, this will require a paradigm shift as the old ways of doing things cannot be continued and new ways of working are needed to cope. In this regard, there are several extensions of the current study that could prove useful for future research endeavours.

Although self-leadership has been shown to predict a number of organisationally relevant outcomes (see Stewart *et al.*, 2011 for a review), further research would strengthen the predictive validity of self-leadership. For example, Unsworth and Mason (2012) found that self-leadership training provided individuals with resources that enabled them to address both current and future stressors. In the

current research, structural equation modelling (SEM) demonstrated the concurrent validity of self-leadership for psychological empowerment, self-reported work performance and job satisfaction. Future research could demonstrate the predictive validity of self-leadership by conducting a longitudinal study to confirm the impact of self-leadership at Time 1 on psychological empowerment, self-reported work performance and job satisfaction at Time 2. A pre-test/ post-test control-group field experiment (Field and Hole, 2003; King *et al.*, 2012) with switching replications (Cook *et al.*, 1990) could be used. This approach was considered as part of the current study (see Section 3.14, p. 60 and Section 4.6.2. p. 72 for details) but was postponed due to time constraints. Such a training intervention could include a mixture of information, interactive exercises and reflection topics/ questions and be delivered either using traditional methods (face-to-face) or using newer training methods (online). Pre- and post- measures of self-leadership as well as of other important variables could be obtained to measure training impact. Such training could be targeted initially at those within the organisation who reported lowest self-leadership scores – those in older age categories ($F = 3.508, p < 0.01$) and with greater tenure ($F = 3.426, p < 0.01$); those in the Knowledge Transfer Directorate ($F = 2.528, p = 0.08$) and those in the Administration Support job category ($F = 1.698, p = 0.09$). It is a strong recommendation of the current research that such training be provided on a pilot basis initially and fully evaluated (using the approach described on pp. 66 – 68) before a decision is taken on further training delivery.

Given the importance of self-leadership, as demonstrated by this and previous research, it is of vital importance that both researchers and practitioners have available a research validated, practice-based measurement tool. This current research has made a significant contribution to this effort by identifying a core of items which could provide the basis for future refinement of the self-leadership measurement scale. Future research should build on the present findings, and similar research (Amundsen and Martinsen, 2014), to both develop and test an abbreviated measure of self-leadership (Houghton *et al.*, 2012) with a secure conceptual basis which has been rigorously and comprehensively validated. Such

future research should initially generate a list of items for possible inclusion in this proposed abbreviated or concise measure of self-leadership (including but not limited to items currently included in the RSLQ) before submitting the final list of items to a qualitative review. Following this, a series of quantitative studies should be conducted to initially assess and purify the scale items before finally validating the measures chosen. Such an approach is in line with standard scale development procedures in organisation research (Barbuto and Wheeler 2006, cited by Thompson and Phua, 2012). Because of the significant operational issues that are inherent in such a procedure, an experimental study that features a graduate student sample may be the type of validation study that offers the least concerns from a logistical perspective.

An interesting and novel future research possibility would be to examine both self-leadership and psychological empowerment across levels to explore the interaction of self- with shared leadership and individual empowerment with team empowerment. Self-leadership being individualistic in orientation may seem to be at odds with the notion of being part of a team but it is claimed that self-leadership underpins shared leadership (Neck and Manz, 2013; Houghton *et al.*, 2003). While the current results support the view that self-leadership is important for employee performance, could there be 'too much of a good thing'? Could excessive self-leadership at the individual level undermine team work? Is self-leadership at the individual level more important for employee satisfaction and productivity than shared-leadership at the team level? How does psychological empowerment at the individual level relate to self-leadership at the team level (shared leadership)? This future research work could potentially develop a multilevel model of self-leadership and empowerment.

Future research could also explore the extent to which organisational culture or empowerment climate (the shared perceptions held by individuals regarding the extent to which an organisation makes use of structures, policies and practices supporting employee empowerment; Seibert *et al.*, 2004) may act as boundary conditions for the model which has emerged from this research. So while the current research was unable to support the hypotheses relating to perceived

organisational support and empowering leadership (H6 and H7) as moderators, perhaps there are other aspects of organisational culture or empowerment climate which may influence the relationships identified through the current study.

One further area worthy of consideration for future research would be a more in-depth consideration of the interactions between the various facets of self-leadership, psychological empowerment and empowering leadership. This would firstly necessitate the validation of the self-leadership measurement tool, including its various dimensions (see above). Future researchers may be challenged to identify the best combination of self-leadership and empowerment dimensions to maximise important work outcomes. Are there potential dimensional interactions at play within the model to emerge from this study? Do some of the various dimensions (potentially nine in self-leadership, four in psychological empowerment and four in empowering leadership) interact and either reinforce or suppress the effects of the other dimensions? Such research may help to further explain the dynamics of the relationships between self-leadership, empowering leadership and psychological empowerment.

Finally, it is hoped that the current research provides a foundation on which future research efforts can build, in order to address the issues considered in this section.

7.5 In Summary

The need to increase individual employee performance in the public sector is a top priority (Boyle, 2013; O'Riordan, 2013), as PSOs are challenged to deliver high quality services with reduced resources to more demanding stakeholders. It is the contention of this study that the fundamental starting point to support individual performance (and ultimately organisational performance) is the adoption of a different model of leadership involving a combination of self-leadership supported by empowering leadership. The results to emerge emphasise the importance of self-leadership, psychological empowerment and empowering leadership in achieving valuable organisational results. This suggests that by developing,

engaging and using each employee's self-leadership potential, PSOs will be better able to cope with the current challenges of austerity and a changed economic landscape.

Chapter 8: Extracts from the Author's Reflective Log

8.1 Introduction

This final chapter chronicles my research journey, highlighting my learning with relevant extracts from my reflective log (presented in *italics*). I will present this chapter '*as a conversation with myself*' in order '*to help me think about my learning*'.

My research journey started in August 2010 and over the intervening four years, I have recorded my notes and observations in a dedicated journal. While I consider that I have a tendency to reflect on events (as a manager a certain amount of reflection is required), I am not in the habit of recording my reflections in a journal. So perhaps the quality of my reflections could be improved. Perhaps I could take more time to stop and think not just about events, but about my own reaction to events. I also am a pragmatist by nature. '*Reflection tends to be harder for people who are used to taking action; you need to stand back and allow it to happen*'. And I don't tend to consider reflecting an action in the same way that I consider writing or communicating as important actions which I engage in. I prefer to deal with specific situations and prefer to find the meaning of conceptions in their practical application. I also consider that the function of thought is to guide action. Perhaps this could have been one of the reasons why I was attracted to self-leadership which is described as a normative theory which prescribes how something should be done (Houghton and Neck, 2006).

As an organised person, I like to have a structure or roadmap for what I do. And in searching for a structure for this final chapter, I recalled the chapter titles used by Neck and Manz (2013) in their book '*Mastering Self-leadership*', and felt that it would be appropriate to borrow the journey analogy they used for the outline of this final chapter of my thesis.

8.2 Starting out on the DBA Journey

As a practitioner undertaking research, I was primarily interested in testing the prescriptions associated with self-leadership as opposed to describing the characteristics of a successful self-leader or of the self-leadership process. I liked

the term used by Dr. Paul Aitken at our Doctoral Colloquium of a '*pracademic*' and this really sums up the role I am filling – I am using my practical experience to inform my research and my research experience to inform practice.

The motivation for the current research springs from my own interest in the areas of personal motivation, personal effectiveness and self-development (an interest raised by such books as '*Drive*' by Dan Pink, '*Mindset*' by Carol Dweck and '*Made to Stick*' by Chip and Dan Heath) and from a desire to ensure that my organisation, Teagasc, develops its people. In addition, I also wanted to try to better understand my own 'inner work life' (Amabile and Kramer, 2007) and that of colleagues in Teagasc. I fundamentally believe that each person can improve and change but that such change can be difficult, will require time, personal effort and resources (both personal and organisational). After all, anything worth having doesn't come easily but is worth working for.

> '*Nothing in the world is worth having or worth doing unless it means effort, pain, difficulty... I have never in my life envied a human being who led an easy life. I have envied a great many people who led difficult lives and led them well.*'

> Theodore Roosevelt, 26th American President, 1858 – 1919

I truly feel if you work at it and don't give up, you can make anything happen. This is true of personal development, and has also been true of this DBA journey. At times, especially the final twelve months, the effort required was enormous.

I also believe that if an individual is unable to lead him or herself, then that individual cannot expect to be able to lead others (and by lead, I mean influence or move). This is what attracted me to the concept of self-leadership, which involves the individual exercising responsibility and control over his or her own actions. I was also interested in exploring an alternative leadership approach to that normally associated with public sector organisations i.e. hierarchical, bureaucratic and rigid.

8.3 Mapping the Route

In re-reading my research notes, I came across a reference to the fable of 'The Blind Men and the Elephant' which I had noted during Dr. Ray Griffin's module on Critical Enquiry (4/10/12). A little exploration on the Internet reminded me of the fable and it struck me that the fable could be a useful analogy for my research journey. The 'blind men' represent all of the previous researchers and practitioners who have considered and investigated self-leadership. Self-leadership is the 'elephant' that each one is trying to understand, explain and relate to antecedents and consequences. Though previous researchers have explored various aspects of self-leadership, there are still aspects of the 'elephant' to be examined in order to obtain a more complete picture. Consequently my task was to piece together the ideas of others (a little like a magpie that 'steals' interesting ideas and assembles/ combines them for his own use) into a consistent, integrated whole, thus adding both to theory and to practice. I endeavoured to discover the right pieces and then to fit them together correctly – so I searched for and found where the 'ears connected to the head' and where the 'legs connected to the body'. Eventually, having connected one idea to another, one theory to another, the whole 'elephant' came into view.

Dr. Pio Fenton described project management as being '*all about people*' but so too is so much else of organisational performance, including empowering leadership and self-leadership. Everybody, and not just those in formal management positions, has a role to play. Its people are a key resource for Teagasc. As a knowledge-based organisation, the focus should be on how individuals can influence and lead themselves consequently taking responsibility for their own work related behaviours and actions (Pearce and Manz, 2005). It is highly unlikely that those in the hierarchical management positions have all of the knowledge and skills necessary to supervise all aspects of knowledge based work (Houghton *et al., in press*) and therefore it seems appropriate that all individuals are facilitated and encouraged to lead themselves.

We lead ourselves by the choices we make, a point illustrated by the following story:

> *Two frogs fell into a bucket of cream. The first frog, seeing that there was no way to get any footing in the white fluid, accepted his fate and drowned. The second frog didn't like that approach. He thrashed about and did whatever he could to stay afloat. Soon his churning turned the cream into butter, and he was able to hop out.*
>
> *Neck and Manz, 2013, p. 12.*

Both frogs were faced with the same challenging dilemma but only one frog used effective self-leadership techniques to reach safety. As individuals, we are daily faced with challenges and difficult situations. Like the two frogs, we can (and do) choose how we respond. We as persons, our behaviour and the world we live and work in cannot be examined in isolation. Instead, each factor continually influences and is influenced by the others. The choices we make in relation to each of the three factors influence what we experience and achieve with our lives.

During the course of my research journey, I made a number of choices which impacted on the journey and the destination reached. Examples of these and the relevant self-leadership strategy and dimension are presented in Table 21.

The journey hasn't always been smooth but looking back as I near its conclusion, I realise that I have used the various self-leadership strategies to good effect along the way. Interestingly when I completed the RSLQ myself, the self-leadership dimension which I scored lowest on was visualisation. As an ISTJ (Myers and Briggs[10]) personality type, I have a preference for sensing rather than intuition and a tendency to focus on immediate priorities rather than future possibilities. So perhaps this is a self-leadership area which needs some practice. As a person with a growth mindset, I a firm believer that I can continue to develop and that I

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[10] http://www.myersbriggs.org/my-mbti-personality-type/mbti-basics/the-16-mbti-types.asp

can also help others to develop (this is very important to me). Self-leadership can help this process – as expressed in the following passage:

> *It is not necessary to strive for ideals or the highest possible state of self in order to develop oneself; an alternative strategy is to deal with psychological defences, resistances, faults, weaknesses and other forces influencing people's conduct, and by doing so, raise awareness and acceptance of such.*

<div align="right">

Karp, 2013, p. 130

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Karp (2013) goes on to state that the aim should be to evolve towards your potential.

I have realised that self-leadership primarily concerns the development of intrapersonal skills (self-awareness, self-regulation and self-motivation) and as such is a diagnostic activity leading to the personal deployment of a broad and flexible array of skills and techniques to respond appropriately. I have noted in my reflective journal that '*I seek feedback to improve my interactions with others. I listen carefully to different points of view before coming to a decision*'.

A final reflection in this section relates to the literature review which I conducted. I was fortunate (or so I thought) to identify two self-leadership review papers (Houghton and Neck, 2006; Stewart *et al.*, 2011) early in my research. I then took the option of searching backwards from these using the references provided. In hindsight, I wonder if I would have been better to build my own literature around self-leadership, rather than using that gathered by other authors. Perhaps this may have alerted me at an earlier stage to the validity issues which I encountered during the data analysis phase of my research.

Table 21: Summary of self-leadership strategies used during DBA journey

Self-leadership strategy	Example(s) of choices made
Self-goal setting	Submission of final thesis by 30/6/2014 and four CPS papers by various dates
	Completion of writing a target number of words by end of the day
Self-reward	Cup of coffee after completing 90 minutes study
	Holiday after submitting paper
Self-observation	Realisation that I need a structure prior to commencing writing
	Tendency to be generous with my time to others; consequently I needed to block off specific time for this research
Self-cueing	Listing of tasks to be completed
	Reading materials to be completed left on desk
	Participating in DBA class discussions; email and phone contact with class colleague, Peggy Coady
Self-punishment (self-correcting feedback)	Reflection on actions and activities which didn't turn out as planned
	Reflection on supervisor and examiner feedback
Building natural rewards into your work	Comfortable home office with nice view from the window
	Clear sense of purpose to the research journey
	Development of a knowledge network
Focussing on natural rewards in your work	Focusing on positive aspects of the research journey (survey, data analysis) rather than the negative aspects
	Focusing on the destination/ end point
Visualisation	Picturing myself submitting the final thesis and accepting my Doctorate Award
Self-talk	Reminding myself that I am making progress towards the destination
Evaluating beliefs and assumptions	Careful reflection on feedback received and avoidance of 'dysfunctional thinking'

8.4 Rough Roads, Detours and Roadblocks

In the previous section, I spoke of choices. McGrath (1981) described the research process as '*a series of interlocking choices*' or a '*set of dilemmas to be lived with*'

and it is not about making the '*right choice*' but more about not making the wrong choice. I was faced with numerous choices on my research journey; I only hope that I have made no wrong choices!

I tend to be extremely considerate of others and generous with my time. At times I struggled to retain focus on the objectives of the project (and not be swayed by suggestions from others) and to allocate sufficient time for completion of all aspects of the project. Despite being highly objective and target-driven, I can at times get lost in the detail, especially of complex analytical tasks. This certainly was a problem in the period following submission of my 'Results' paper and prior to starting to write my 'Discussion' chapter. I couldn't start writing the 'Discussion' chapter until I was fully satisfied that all of the results were fully confirmed. Sorting out the validity issues with the self-leadership survey items took a lot of time, but I couldn't move on until the problems were resolved. Happily, I eventually arrived at a solution.

I also find it easy to penetrate a subject quickly and thoroughly and to make appropriate conclusions; this sometimes results in under-communication by me – I assume that others have reached the same conclusions as me and as quickly as I have! '*You must take them from where they are to where you want them to be so that you can get on with what you want to do. Communication is key.*' During the research process itself my key stakeholder was my research supervisor but in terms of my thesis (and any potential future papers), the reader is my key stakeholder. It was important to keep this in mind as I was completing the thesis.

And what detours did I take on my research journey? A lot of effort went into researching the self-leadership training intervention in late 2012/ early 2013 and it was a significant part of two of the four submitted papers; then it was dropped from the research in mid-2013. Feedback from examiners and supervisors as to the '*onerous level of data collection proposed*' and the '*time available to complete all the tasks*' was certainly a factor but should I have realised that I was planning to complete an enormous volume of work sooner and avoided spending time researching the area of experimental design? This time could have been better

used in investigating more thoroughly the validity of the self-leadership measure or the earlier identification of an appropriate dependent variable, for example. As it was both of these issues were rushed somewhat – on 8/12/13 I noted that I was '*still searching for an appropriate dependent variable*' and this just weeks before the launch of my main survey.

Perhaps I was overly ambitious in my original objectives and should have challenged myself more on what was possible to achieve. I realise now that there was a need for greater '*focus*' or '*depth*' but I seemed to get locked into the idea of a training intervention and was reluctant to let it go. While my DBA Project Plan (submitted November 2012) recognised the volume of work to be undertaken '*quite clearly there is a significant workload to be completed over the next 19 months*' and mentioned the risk of '*scope creep*', on reflection it didn't adequately question the assumption that all of the objectives would be delivered, including the training intervention. I smile at my naivety when looking back at my DBA Project Plan.

An interesting recording in my reflective log (15/2/2012) regarded my involvement with others in a meeting with a PhD student at work. I spoke with a colleague afterwards and while we had different views regarding the meeting, we both agreed that a research student needs to be very clear on the tasks to be completed: '*there is a need to distil all of the ideas into that which can be delivered*'. At times during my research journey it felt like there were more ideas (detours?) being suggested and I had to resist the temptation to follow each one of these. '*Don't make changes glibly…all changes have implications*.' And perhaps I didn't push this far enough; on reflection my research project would have been simplified if my conceptual model was '*more parsimonious*' from the outset.

Another detour involved the investigation of psychological capital. During June 2012, I noted: '*I have drifted away from self-leadership to psychological capital; I need to get back on track as I cannot address both*'. Was this an example of scope drift or a lack of clarity around the research objectives? Was this a feature of this project solely or something that happens at work also? Or is it my natural

interest in broadening my knowledge? Whatever the reason, there is a real benefit to be gained from achieving absolute clarity on objectives; once such clarity is achieved the answer to subsequent questions will become easier and more straightforward. I was forced to clarify my objectives on a number of occasions *'what is your answer to the so what question'* and doing this helped me to *'test my ideas along the way'*. When wrestling with the choice between the survey or training intervention, the key questions I had to answer were *'what do you hope to do after your DBA, what is the use of the research to your organisation, what do you really want from your research?'*. These questions helped me to clarify my objectives – or at least I thought they did. But perhaps a mistake I made at that time was that I failed to write down the answer to these key questions as reflected by these following journal entries: *'write it down or you might forget it'* and *'how do I know what I think until I see what I write?'*. This meant that I had to keep coming back and re-forming the words in my mind before eventually committing them to paper. It is also important that you are able to fully explain your objectives to others – so that they too can understand what you are trying to accomplish – and having your thoughts on paper certainly helps in this respect also.

8.5 Scenic Views, Sunshine and the Joys of Travelling

As expected I really got stuck into the data analysis phase of the research journey and took responsibility for learning PASW and AMOS. I would have liked to have had some more time for this (and would have done if some of the detours referred to above were avoided). And I really enjoyed reading all the materials around self-leadership and personal development. A technique which I didn't start to use soon enough was the 'summary template'; I eventually realised the benefits of *'building tables to summarise concepts/ ideas'* in March 2013.

I also appreciate the importance and benefit of having a good reference paper; for me this was Zhang and Bartol (2010), a paper which I kept returning to when I was struggling with writing the various papers. If anything, the two self-leadership review papers (Neck and Houghton, 2006 and Stewart *et al.*, 2011)

were too convenient and perhaps made me somewhat lazy in '*assembling a beautiful argument*'.

Surprisingly one of the tasks undertaken along the DBA journey which I enjoyed was the qualitative analysis project and the case study aspect of my own research. While I am comfortable in dealing with figures and conducting statistical analysis, I also now realise that I am a good listener, a skill which I put to good use over many years conducting interviews on local radio. Notwithstanding this I still would favour the use of the scientific, quantitative approach while acknowledging that there are many opportunities to use the qualitative approach. Perhaps this is due to a fear that there is a greater '*risk of finding what you are looking for*' by allowing '*your own biases affect your finding*' when using a qualitative approach as opposed to the more structured quantitative approach. Or perhaps my training as a scientist or the nature of the majority of the research work conducted within Teagasc has influenced my preference for the scientific method. However, I do realise that I have a greater appreciation now of qualitative research methods and their role and would be confident in recommending their use where appropriate.

The overall DBA process – modules, literature review, writing, editing, presenting – was also very exciting and stimulating for me. It made a change from the day-to-day work of managing and organising. In fact, it was suggested to me by a colleague that perhaps I should consider a role in academia in the future. This is something that I must actively consider on completion of this journey. Speaking to one of my tutors about this, he advised that the key to this would be publication – so perhaps this journey won't finish for a little while yet!

8.6 Travel Thinking

In this section, I will reflect on a selection of what I consider the most notable journal entries in relation to my journey.

One recommendation which I didn't make better use of was the notion of '*a guiding team*'. This was suggested on a number of occasions and I did attempt to form a small team to guide my research within Teagasc but didn't follow up

regularly enough with that group. Once I was assigned my tutors, I relied on them to primarily guide my research. Looking back, perhaps having a guiding team in place could have helped with my '*discursive practices'* as I would have had to discuss and justify my ideas with others. Or perhaps it would have led to more detours? Certainly I am aware that all research projects conducted by Teagasc would be guided by a team while the responsibility for delivery would rest with one person (the researcher).

During April 2012, I noted that it is '*best to do thinking away from the computer with pen and paper*' and this was certainly the case for me. Once sitting at the computer, the Internet or another article was just a click away and what was really required was thinking time – to allow for increased understanding and better insights into articles I had already written or results I had just obtained. I also could have allocated more time to creating written summaries integrating views and ideas from different authors, rather than just highlighting the relevant sections in the various papers. If anything, I gathered too many articles and books, many of which made the same arguments, without spending enough time on synthesising the ideas contained within them. I also noted on the same date the importance of having a mechanism to record important reflections '*an 'aha moment' can happen at any time so I must be able to record it*' and it is a habit which I formed during the journey. In the future I need to record more of my '*aha moments*' – and to do this I will initially need to spend more time thinking about what I have experienced and my reactions to those experiences.

Dr. Ray Griffin's workshop on critical enquiry opened up the possibility of considering the ambiguity of self-management and self-leadership and that both could be considered equally as both a problem and a solution for a range of organisational issues (Lopdrup-Hjorth *et al.*, 2011) and it led me to find three very interesting, and thought provoking articles, in a special edition of *Ephemera*. The lesson for me in this was the importance of not accepting everything at face value, reading 'between the lines', seeking evidence to support claims made and knowing the author, audience and source for the article. I also noted that it '*might be a good idea to go back and ask a simple question*' but perhaps I didn't put this into

practice – especially when I see how my conceptual model evolved over time and the way empowering leadership was visualised in that model. Such critiquing of existing ideas will require reflexivity (see later) and may lead to the production of '*new and innovative contributions*'.

The StatWiki website (http://statwiki.kolobkreations.com/wiki/Main_Page) was very helpful to me when I was conducting my data analysis. Mary Holden had recommended a number of useful statistical websites but this is the one I found really useful – especially when trying to master AMOS. I found that being able to watch a short video, pause it and repeat the steps using my own data in AMOS very helpful – and much more helpful than reading about it. What does this say about my learning style? It suggests (I think) that I have an 'accommodating' (Kolb) or 'activist' (Honey and Mumford) learning style which incorporates both doing and feeling components. I was happy to take responsibility for learning PASW and AMOS although I would have been beneficial to have received some training in the use of AMOS initially. Perhaps I should have arranged this myself. And certainly I would have had more time if my survey had been issued earlier.

8.7 The DBA Destination

> '*There is a person with whom you spend more time than any other, a person who has more influence over you, and more ability to interfere with or to support your growth than anyone else. This ever-present companion is your own self.*'
>
> *Dr. Pamela Butler, Clinical Psychologist (cited by Topper, 2009, p. 562)*

While starting out as a novice in the area of self-leadership and its related constructs, I have gradually become an expert in this area. Consequently, I must not be afraid to defend my research: '*the game involves learning to stand on your own two feet to defend your position*'. While there will always be those who question my research, I realise that everyone is entitled to their own perspective, given their background and their own research areas. But I am the person who has conducted this research. I have followed best advice, read previously

published material and followed a robust method. This is not always easy for me as evidenced by the feedback which I received as part of my Behavioural Styles Report (PDP Module, August 2010) which suggests that I find it difficult to '*promote my plans and ideas*', '*to enthuse others for a plan*' and a '*preference to deal with the implementation and design of processes rather than with the actual conceptual development*'. This notion of '*translation – of making complex ideas simpler*' is something that I sometimes struggle with. While a concept or idea makes sense to me, I can struggle to communicate it with others. While I realise that '*it doesn't matter how much we know; what matters is how clearly others can understand what we know*' (Simon Sinek, 30/6/14), I don't always allow enough time to develop an appropriate communication strategy for my audience. During my research I successfully used a number of techniques, including practice and writing '*write down your ideas to clarify them*' to overcome this.

8.8 The Completed Journey

I wish to finish this chapter by attempting to tie the various strands of my DBA journey together. In September 2013, I participated in the Irish Academy of Management Annual Meeting held in WIT and while there attended Ann Cunliffe's presentation. She contrasted reflection ('a stepping back') with reflexivity ('a living in') where she said '*we are always selves-in-relation-to-others, both shaping and being shaped by our social world*'. She described managing as being '*about who we are, because our actions, our ways of making sense and shaping our world are not separate from us, they do not stem from a detached knowledge of the world, but are intimately linked to who we are, what we feel and say, and how we engage with our surroundings*' (Cunliffe, 2013). It struck me that this reflexivity is what self-leadership is all about: diagnosis or sense-making to address the complexities of everyday work, self-awareness, choice and action. Another connection or similarity which struck me (only as my journey ended which is a pity as it would have been an interesting area to explore in a little more detail) was with single and double loop learning (Argyis and Schon,

1978) with self-management being akin to single loop learning and self-leadership being akin to double loop learning.

Figure 9: Single and double loop learning
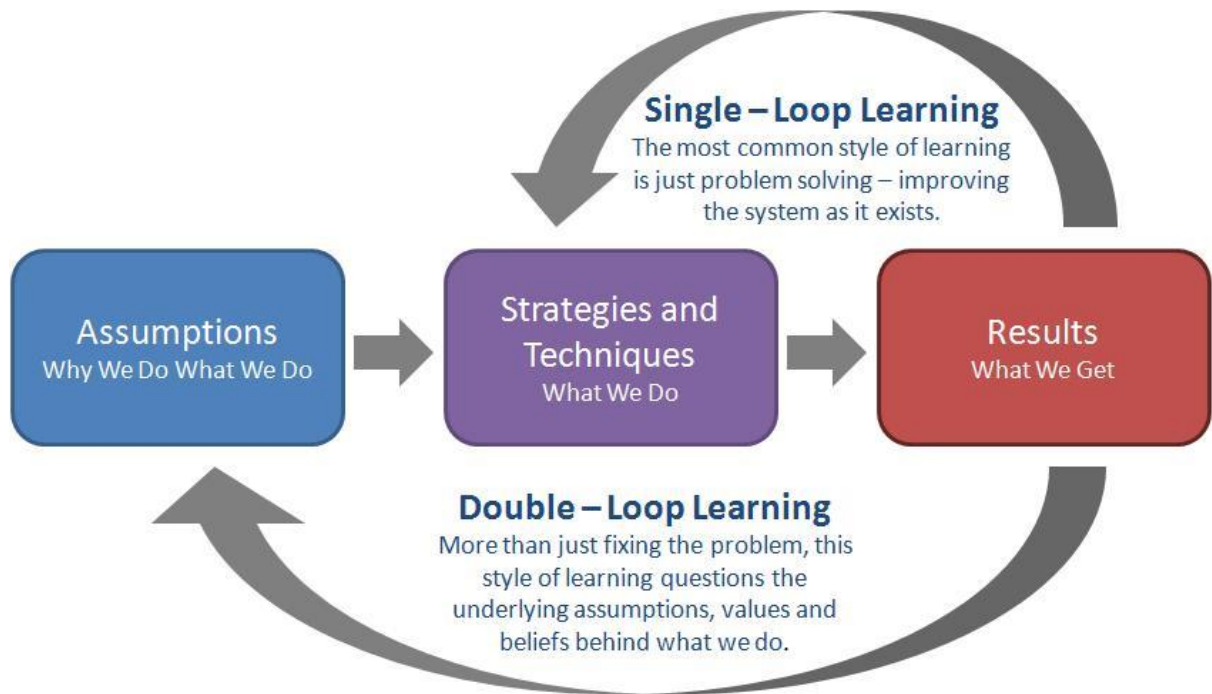
Interestingly both Manz (1986) and Argyis and Schon (1978) use the analogy of a thermostat which automatically turns on the heat once the temperature drops below a certain level as being akin to self-management and single-loop learning. A thermostat that could ask 'why am I set at 22 degrees?' and then explore whether another temperature setting would be more appropriate would be engaging in self-leadership and double-loop learning. Of additional interest is that highly skilled professionals are frequently very good at single-loop learning (problem solving) but are often weak at double-loop learning (Argyris, 1981). Perhaps this is contributing to the lower self-leadership scores recorded in the present study?

Self-leadership merges the behavioural strategies suggested by self-management (designed to help a person manage behaviour with respect to reducing

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discrepancies from immediate, externally set standards, single-loop learning) with a number of cognitive strategies based on the concepts of intrinsic motivation and constructive thinking, thereby addressing the purpose and appropriateness of the standards themselves (double-loop learning).

And what of my future? For sure I need to tell my story. My research has made significant theoretical and practical contributions. I believe that self-leadership has the potential to be used as an alternative personal development and leadership strategy which can lead to improved employee work performance and job satisfaction. A challenge facing me is how to influence Teagasc Senior Management to incorporate self-leadership training into the ongoing staff development programme. As a science-backed knowledge organisation, the empirical results garnered from this study will help to make the case. There is also an opportunity for me to continue my research. Initially I had planned to test a self-leadership training intervention with a sample of Teagasc staff; the results of this study may accelerate this happening.

Finally, I believe that the essence of self-leadership can be seen in the following two quotations: *The Man in the Arena* passage from Theodore Roosevelt's address in Paris in 1910 and the last lines of *Invictus,* by William Ernest Henley.

> *It is not the critic who counts; not the man who points out how the strong man stumbles, or where the doer of deeds could have done them better. The credit belongs to the man who is actually in the arena, whose face is marred by dust and sweat and blood; who strives valiantly; who errs, who comes short again and again, because there is no effort without error and shortcoming; but who does actually strive to do the deeds; who knows great enthusiasms, the great devotions; who spends himself in a worthy cause; who at the best knows in the end the triumph of high achievement, and who at the worst, if he fails, at least fails while daring greatly, so that his place shall never be with those cold and timid souls who neither know victory nor defeat.*

> *Theodore Roosevelt, 26th American President, 1858 – 1919*

It matters not how strait the gate,

How charged with punishments the scroll,

I am the master of my fate,

I am the captain of my soul.

William Ernest Henley, poet, 1849 - 1903

Appendices

List of Appendices

Appendix 1: Summary of Public Sector and Teagasc Policy Documents

Table 22: Summary of public sector and Teagasc policy documents

Policy/ initiative	Focus
Public Service Reform Plan (DPER, 2011)	The encouragement of innovation, including new ways of working, leading to the more efficient delivery of more flexible and responsive services to customers. An increased focus on implementation and delivery. Leadership at all levels to deliver the changes required.
Government for National Recovery (Dept. of the Taoiseach 2011)	The reform of systems of public administration resulting in the delivery of better services with scarce resources.
Transforming Public Services (Dept. of the Taoiseach, 2008)	Enhanced performance at individual and organisational levels leading to the delivery of better services and outcomes for the public within sustainable levels of expenditure.
Ireland: Towards an Integrated Public Service (OECD, 2008)	Much achieved but managerial systems still based on compliance emphasising controlling inputs and following rules. Need for better integration and coordination and for an increased focus on performance and value for money. A system of 'disciplined innovation' required.
Teagasc 2030 (Teagasc, 2008)	Teagasc has a key role in fostering science-based innovation. Teagasc itself needs to become more innovative as an organisation and in terms of how it conducts its business.
Teagasc People, Leadership and Change (Teagasc, 2011)	To develop a high performance organisation, with high staff engagement, which recognises and rewards staff performance. The alignment of training needs and development with the needs of the organisation, with a focus on growing the organisation's management and leadership capabilities.
Teagasc Statement of Strategy 2012 – 2015 (Teagasc, 2012b)	Teagasc will be required to deliver a demanding programme of activities with severely restricted resources... will require a strong performance culture with the capacity for continuous improvement through the engagement and development of staff and the adoption of sound management practices.

Appendix 2: Summary of Self-leadership Strategies

The behaviour-focused self-leadership strategies are designed to encourage positive, desirable behaviours that lead to successful outcomes, while suppressing negative, undesirable behaviours that lead to unsuccessful outcomes. These strategies are particularly useful in managing behaviour related to the accomplishment of necessary but unpleasant (the desirable undesirable) tasks.

The natural rewards strategies are designed to help create feelings of competence and self-determination (through seeking out activities which are inherently enjoyable and focussing on the more enjoyable aspects of a given task), which in turn energise performance-enhancing task-related behaviours.

Finally, the cognitive-focussed strategies are designed to facilitate the formation of constructive thought patterns and habitual ways of thinking that can positively impact performance (Neck and Manz, 2013; Neck and Houghton, 2006).

Category	Strategies	Definition
Behaviour focussed	Self-goal setting	A goal is a level of performance proficiency that we wish to attain, usually within a specified time period. Goal setting is a discrepancy creating process as the goal creates constructive discontent with present performance. Goal setting and feedback are at the core of self-leadership. Self-goal setting is creating a deadline for a desired end state.
	Self-observation/ evaluation	Self-observation fosters awareness of when certain behaviours occur and why they are chosen and can provide the foundation for managing behaviour; guides other self-leadership behaviours such as self-goal setting.
	Self-reward	We can influence our actions positively by rewarding ourselves for desirable behaviour e.g. achieving a target or goal. Such rewards can be physical (tangible) or mental (enjoyable thoughts).
	Self-punishment	Similar to self-reward but involves the self-application of negative consequences in an effort to decrease undesired behaviours. Research indicates that it is usually not an

		advised strategy for improving behaviour.
	Self-cueing	We can improve our behaviour by using cues to remind us of important tasks, removing cues that lead to negative behaviour, increasing cues that lead to positive behaviour and associating with people who foster desirable behaviour.
	Rehearsal	Practice improves performance. The more important the activity, the more important practice becomes; it can be at both the physical and mental levels.
Natural rewards	Build natural rewards into activities	We can usually identify several ways to accomplish many of our activities; we can also choose to accomplish these tasks in more enjoyable ways.
	Focus on natural rewards	This involves focussing our thoughts on the pleasant, rather than the unpleasant, aspects of the task. This isn't to suggest that the difficult aspects should be ignored; rather they should be dealt with constructively.
	Combine external and natural rewards	While self-leadership emphasises the desirability of using incentives built into the task itself to enhance our feelings of competence, autonomy and purpose, it may be necessary to focus on external rewards especially for tasks that do not enjoy many naturally enjoyable qualities.
Cognitive focussed (often referred to as thought self-leadership)	Mental imagery/ rehearsal	Mental imagery/ rehearsal involves the rehearsal of a physical task in the absence of observable movement and/ or imagining a successful performance outcome in an effort to facilitate improved performance.
	Self-talk	Self-talk is what we covertly tell ourselves as we interpret the world around us. Constructive or positive self-talk enhances performance across a range of activities.
	Beliefs and assumptions	Beliefs about what we can and cannot do, what is possible or impossible, can affect what we can actually accomplish. Dysfunctional beliefs hinders performance but can be replaced with more rational beliefs through a process of self-analysis. The starting point for personal development is a belief that you can be a leader.

Source: Ryan and Deci, 2000a, b; Houghton *et al*., 2003; Latham, 2009; Neck and Manz, 1992, 2013.

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Appendix 3: Topic Guide for Interviews on Self-leadership

Objectives:

- To establish the level of understanding of the self-leadership concept amongst senior Teagasc managers
- To determine factors which are relevant to the development of self-leadership within Teagasc

Introduction

As you may be aware, I am currently engaged in studying for the award of a Doctorate in Business Administration through WIT. My research area is self-leadership. This interview is part of my research and your responses will be used in two ways: (1) to provide qualitative data for a paper I am preparing for submission to the Irish Academy of Management annual conference; and (2) to provide a Teagasc context for my thesis on self-leadership.

Topic 1: Key terms

Use this section to explore the interviewee's understanding of key terms

Leadership

Self-leadership

Innovativeness

Link between self-leadership and innovativeness (if any)

Other factors impacting on the proposed relationship

Topic 2: Self-leadership within Teagasc

Use this section to explore the perceived level of self-leadership within Teagasc

Importance of self-leadership to Teagasc

Fit between self-leadership and hierarchical structure (encouraging self-leadership does not equal organisational anarchy)

Evidence/ examples of self-leadership within Teagasc

Recognition of/ for self-leadership i.e. organisational rewards

Benefits of self-leadership

Topic 3: Barriers

Use this section to explore the barriers to self-leadership within Teagasc

Contributing factors

How could these be leveraged?

Barriers

How could these be lowered/ removed?

Topic 4: Self-leadership outcomes

Use this section to explore the relationships between self-leadership, personal/ professional excellence and organisational excellence

Factors leading to personal/ professional excellence – actions, thought patterns, relationships

How do Teagasc employees motivate themselves for success?

Factors leading to organisational excellence

Connections

Role of self-leadership

Topic 5: Development of self-leadership

Use this section to gather suggestions for the future / development opportunities.

Development of self-leadership within Teagasc – how?

Modelling

Guided participation

Changed role of the leader

Ensuring follower resources, training and capability

Organisational support

Leadership style (empowering)

Ending

Confidentiality

Use of data

Thank you

End of interview

Appendix 4: Summary of Self-leadership/ Self-management Training Interventions

Author(s)/ year	Training participants (who?)	Method (incl. duration)	Training content/ materials used	Measurements taken	Outcomes/ Conclusions
Unsworth and Mason (2012)	Volunteers in a government health department. 100 employees were subsequently invited to participate and 71 individuals elected to take part. Participants were professional, technical staff.	Online training intervention. Participants were randomly assigned to the experimental group or a wait-list control group. Five modules to be completed in the individual's own time over two weeks.	Each module contained a mixture of information, interactive exercises and reflection topics/ questions. Each module took approximately two hours to complete.	Pre- and post-measures were obtained (1 to 2 weeks before and 2 weeks after). 61 items covering strain, self-leadership, general self-efficacy and positive affect were self-reported by participants.	Self-leadership training provided participants with psychological resources that strengthened their general self-efficacy and positive affect resources, leading to reduced strain.
Gerhardt (2007)	223 undergraduate students who were required to take all tutorials and were given points for completion.	The tutorials consisted of an out-of-class component and an in-class component (in that order). All tutorials were delivered over one semester.	Four self-management tutorials:(a) self-assessment; (b) goal setting; (c) time management; and (d) self-regulation.	Pre- and post-training measures and reactions to the tutorials were self-reported by participants.	Results revealed significant increases in self-management skills post-training and favourable student reactions to the tutorials.
Frayne and Geringer (2000)	60 salespeople in a North American life assurance company volunteered (83 individuals contacted; all had not achieved performance standards in the previous year).	Participants randomly assigned to two groups: training and control (n = 30 in both cases). The control group were trained 12 months after the training group.	Training involved four two-hour training sessions delivered over four weeks. The training consisted of lectures, group discussions, and case studies focussing on self-management.	Training effectiveness assessed using reaction, learning, cognitive and behavioural criteria. Behavioural measures were collected pre- and post- training.	Self-management training had profound effects on all measures in the study.

| Author(s)/ year	Training participants (who?)	Method (incl. duration)	Training content/ materials used	Measurements taken	Outcomes/ Conclusions
Stewart, Carson and Cardy (1996)	130 employees (62% participation rate) working in a hotel/ resort community in the south-western United States. Participants had a range of jobs; job representation was balanced across the training and control groups.	Field experiment using two participant groups; group assignment was based on scheduling; participants were assigned to either the treatment or non-equivalent control group. Training took place over five weeks.	Two traditional training sessions were followed by a period of five weeks when participants were asked to complete three training workbooks. Finally a follow-up training session was held.	Supervisor ratings of performance were gathered pre- and post- training. Participants self-reported on a series of personality questions relating to conscientiousness. Gain score analysis used to examine training impact.	No main effect was found for self-leadership training. However it was discovered that conscientiousness moderates the effect of self-leadership training on employee self-direction.
Neck and Manz (1996)	48 employees from the America West Airlines, Agency Accounting Department, volunteered to participate.	Field experiment using two participant groups; participants were randomly assigned to either the training or control groups. Training was conducted over six weeks - a two hour training session was conducted each week.	Training was focused on thought self-leadership: self-talk, mental imagery, managing beliefs and assumptions, thought patterns and relapse prevention. Multiple training methods were used including traditional lectures, video presentations and individual and group exercises.	Pre- and post-measures were collected. Performance ratings were completed by an immediate supervisor; all other measures were completed by the participants.	Thought self-leadership training did improve employee performance. Effective self-regulation of cognitions can be learned/ developed and thus an individual's thinking patterns can be altered.

Author(s)/ year	Training participants (who?)	Method (incl. duration)	Training content/ materials used	Measurements taken	Outcomes/ Conclusions
Frayne and Latham (1987)	50 employees, from a government maintenance department, identified as potential participants and contacted; 42 volunteered to take part but 2 indicated that they would be unable to attend all training sessions, leaving n = 40.	40 participants randomly assigned to either the training or control group; those in the control group were told that they would be trained at a later date. Each training group consisted of ten people.	Eight one hour weekly training sessions plus eight weekly one-on-one sessions were held. The training sessions consisted of a traditional lecture plus individual and group exercises.	Employee attendance/ absence (the focus of the training intervention), perceived self-efficacy and outcome expectancies (intervening variables) were measured pre- and post- the training intervention. Reaction and learning were measured post-training.	Employee attendance at work increased on the basis of a straightforward 12-hour training programme.
Latham and Saari (1979)	Forty first line, male supervisors employed by an international company located in the north-western United States.	40 participants were randomly selected (from 100 potential participants) and then randomly assigned to either the training (n = 20) or control group (n = 20). The control group received the same training one year after the training group. Participation in the programme was mandatory.	Nine two hour weekly training sessions. The trainees were required to use the supervisory skills learnt with one or more employees on the job within a one-week time period i.e. before the next training session. Each training session incorporated modelling, discussion, role play and feedback.	Reaction, learning, behavioural and performance criteria were collected at various time intervals following the training.	Leadership skills can be thought in a relatively short time period (18 hours) provided that the training contains all features of the social-learning theory framework. Training brought about a relatively permanent change in supervisory behaviour.

Appendix 5: Conceptual Model for Research Project

Note: This version of the conceptual model was submitted as part of CPS #1 on 18th November 2012.
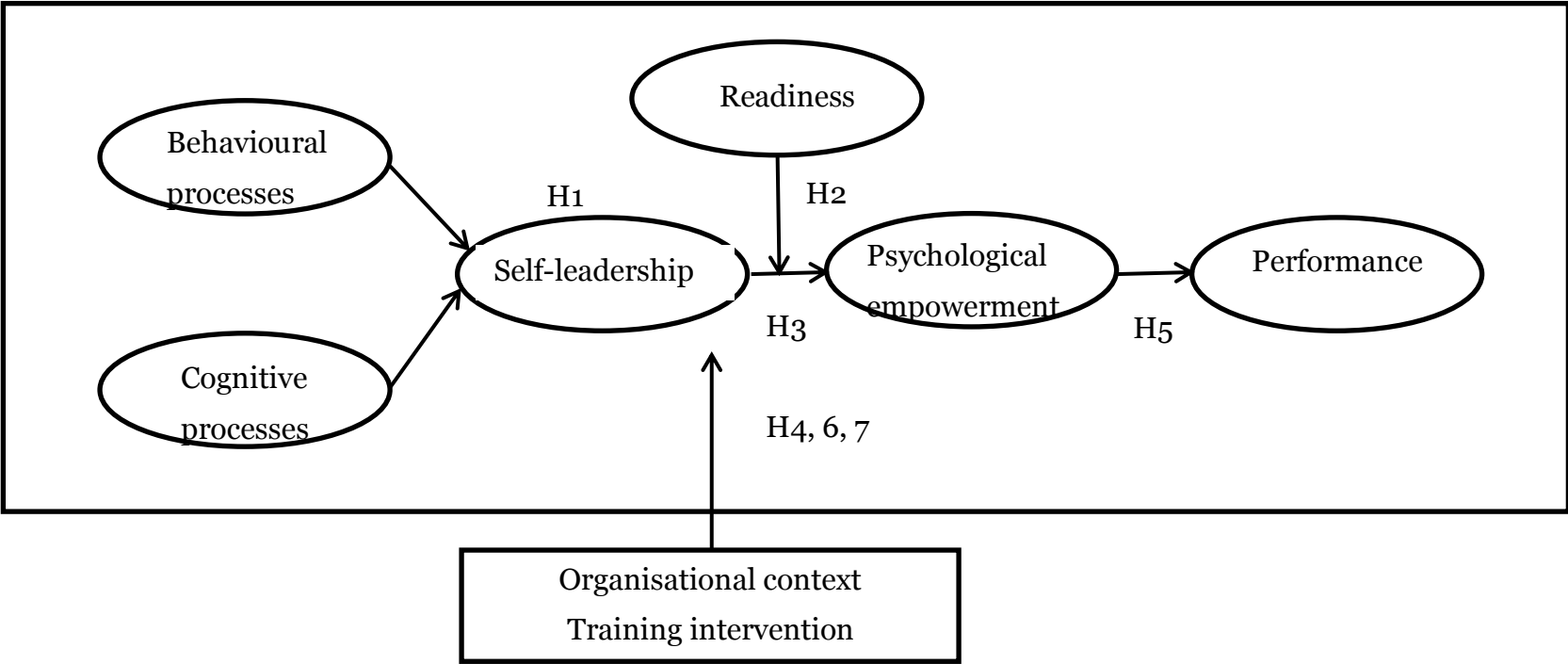
Appendix 6: Source for Questionnaire Items to be Used

	Author/ year	Title of scale	Number of items	Sample items	Scale	Other
1	Houghton and Neck (2002)	Revised Self-leadership Questionnaire (RSLQ)	35 items in 9 distinct subscales representing the three self-leadership dimensions.	"I use written notes to remind myself of what I need to accomplish." "I visualise myself successfully performing a task before I do it."	All items were measured on a Likert-type scale (1 = not at all accurate to 5 = completely accurate).	Cronbach's alpha, α = 0.74 to 0.93 for the nine sub-scales and remained fairly stable for a second sample. Research findings to date appear to confirm the RSLQ as an effective measure of self-leadership (Houghton *et al.*, 2012). Stewart *et al.* (2011) state that the RSLQ offers an empirically supported measurement instrument that captures the different aspects of self-leadership.
2	Houghton, Dawley and DiLiello (2012)	Abbreviated Self-leadership Questionnaire (ASLQ)	9 items selected from RSLQ.	"I think about my own beliefs and assumptions whenever I encounter a difficult situation." "Sometimes I talk to myself (out loud or in my head) to work through difficult situations."		*α = 0.73* for the nine item ASLQ in second sample. Four 'goodness of fit' indices had values greater than *0.9* while the Root Mean Square Error of Approximation (RMSEA) was *0.02* (<0.08 indicates good model fit). The scale is recommended for use where researchers wish to measure self-leadership as one variable of interest in the context of a larger model; it is not recommended for the measurement of specific categories of self-leadership.

	Author/ year	Title of scale	Number of items	Sample items	Scale	Other
3	Spreitzer (1995)	Psychological Empowerment Questionnaire (PEQ)	12 items – three items for each of four dimensions (meaning, competence, self-determination and impact).	"The work I do is very important to me." "I can decide on my own how to go about doing my work."	All items were measured on a seven-point Likert-type scale (1 = very strongly disagree to 7 = very strongly agree).	α = *0.72* (sample 1, 393 managers) and *0.62* (sample 2, 128 employees). This instrument has been widely used in different studies leading Spreitzer (2008) to state that its reliability has been proven. For example, it was used by Zhang and Bartol (2010) in their study. In this study, α = *0.77* to *0.87* for each of the four sub scales.
4	Eisenberger, Huntington, Hutchison and Sowa (1986) Self, Holt and Schaninger (2005)	Survey of Perceived Organisational Support (SPOS)	36 items in original SPOS; a shorter version containing 16 items used in subsequent studies.	"Even if I did the best job possible, the organisation would fail to notice. (R)" "The organisation cares about my opinions."		α = *0.97* and item-total correlations ranged from *0.42* to *0.83*. In a subsequent study (Self *et al.*, 2005), using a shortened SPOS (containing the 16 items with the highest factor loadings from the first study), α= *0.93*.
5	Scale developed specifically for this study	Perceived Organisational Support for Self-leadership	8 items.	"My self-leadership skills are used to my full potential at work."	All items will be measured on a five-point Likert-type scale (1 = strongly disagree to 5 = strongly agree).	Items adapted from Houghton and DiLiello (2010) who had themselves taken the items from 'KEYS: assessing the climate for creativity' (Amabile, 1999). In the Houghton and DiLiello (2010) study, where the statements were measuring perceived organisational support for creativity, α = *0.94*.

	Author/year	Title of scale	Number of items	Sample items	Scale	Other
6	Rapp, Ahearne, Mathieu and Schillewaert (2006) Ahearne, Mathieu and Rapp (2005)	Empowering Leadership subscale	12 items – three items for each of four dimensions.	"My district manager makes many decisions together with me." "My district manager allows me to do my job my way."	All items were measured on a seven-point Likert-type scale (1 = strongly disagree to 7 = strongly agree).	$\alpha = 0.81$ to 0.86 for the four subscales in the empowering leadership scale and goodness of fit analysis suggested excellent fit. This subscale was subsequently used by Zhang and Bartol (2010) in their study where $\alpha = 0.79$ to 0.89. 0.86, 0.85 and 0.79 for each of the four sub scales.
7	Vecchio, Justin and Pearce (2010)	Empowering leadership	10 items grouped in three sub-categories/ dimensions.	"Encourages me to find solutions to my problems without his/ her direct input."		$\alpha = 0.90$. Each respondent described how the leader acted toward him/ her as an individual.
8	Cunningham, Woodward, Shannon, MacIntosh, Lendrum, Rosenbloom, and Brown (2002)	Readiness for Organisational Change (specifically the sub scale with the same title)	6 items.	"There's nothing that I really need to change about the way I do my job to be more efficient (R)."	All items were measured on a five-point Likert-type scale (1 = strongly disagree to 5 = strongly agree).	$\alpha = 0.63$. A response rate of 74% (n = 654) and 63% (n = 528) was achieved in the first and second surveys respectively.
9	Zhang and Bartol (2010)	Empowerment Role Identity subscale	4 items.	"I often think about having greater control over my job."		$\alpha = 0.77$ for this subscale. The Empowering Leadership Questionnaire ($\alpha = 0.79$ to 0.89 for the four subscales) and Psychological Empowerment Questionnaire ($\alpha = 0.77$ to 0.86 for the four subscales) were also used in this study.

	Author/ year	Title of scale	Number of items	Sample items	Scale	Other
10	Hurt, Joseph and Cook (1977)	Innovativeness	20 items (longer version) or 8 items (shorter version).	"I tend to feel that the old way of living and doing things is the best way." "I must see other people using new innovations before I will consider them."	All items were measured on a seven-point Likert-type scale (1 = strongly disagree to 7 = strongly agree).	α value not reported. The scale has construct and predictive validity. In line with the study's definition of innovativeness, the innovativeness statements are designed to measure willingness to innovate and not actual adoptive behaviour. Social desirability only accounted for 1.3% of total variance in innovativeness scores; research is relatively free of social desirability bias. Items subsequently used by Holt *et al.* (2007).

Appendix 7: A Further Note on Research Philosophy

The following note has been developed with reference to Kempster and Parry's 2011 paper and other relevant publications, in response to the request from the examiners to update the section on research philosophy.

The dominant methodologies shaping the field of leadership research (including self-leadership) have largely followed positivist approaches in the form of hypothesis testing, quantitative data and quantitative analysis. Consequently, the current research will also follow this approach.

The influential work by Burrell and Morgan (1979) suggests that it is convenient to conceptualise science in terms of four sets of assumptions related to ontology, epistemology, human nature and methodology with decisions taken relating to the first three assumptions informing the choice of methodology.

Ontologically, the current research assumes that reality exists (whether or not it is being observed) and that it has an existence independent of human activity. Critical realism[11] (also referred to as depth realism by Blaikie, 2007, p. 16) is one category of realism. Bhaskar (1978, cited by Blaikie, 2007) suggested that there are three overlapping levels of reality: (1) empirical – observable and experiences by human beings; (2) actual – events whether experienced or not; and (3) real – processes are often unobserved that generate events. It is assumed that there is a reality out there, whether it is observed or not; and that this reality is driven by incontrovertible natural laws (Guba, 1990). The aim of the current research, based on this ontology, is to explain observable phenomena with reference to underlying structures and mechanisms (Blaikie, 2007).

Self-leadership is for example a phenomenon that is socially real in the sense that if humans did not exist, it would not exist. For critical realists, phenomena exist at the level of events and experiences but also at a deeper level that may not be observable. For example, self-leadership cannot be seen. Only its effects are

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[11] Critical realism can be traced back to the 1970s work by the British philosopher Roy Bhaskar which combined a philosophy of science with a philosophy of social science.

observed and perhaps felt. Self-leadership is sustained through interactions with other individuals and the external environment. Individuals interpret the interactions and mutual influences of external events, the actions taken and the thoughts conceived and lead themselves with the choices made (Neck and Manz, 2013, p. 12). It is in this way that our understanding of self-leadership is constructed.

Figure 10: The relationship between the three domains of reality in the critical realist ontology
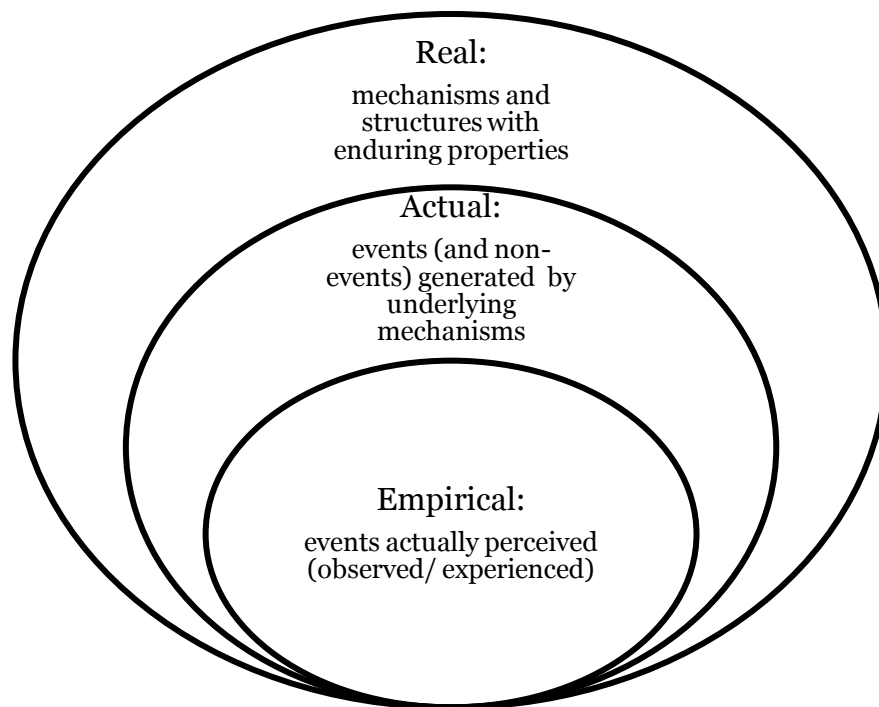
In relation to human nature, Archer (1995, cited by Kempster and Parry, 2011) suggests that structures (for example embedded practices and meanings of leadership) pre-exist individuals and, as a consequence, individuals are influenced by such structures. Bhaskar (1989, cited by Kempster and Parry, 2011) similarly contrasts structures (which can be observed) and human agency thus:

> *People do not create society. For it always pre-exists them and is a necessary condition for their activity. Rather, society must be regarded as an ensemble of structures, practices and conventions which individuals reproduce and transform, but which would not exist unless they did so.*

In a similar vein, thoughts can inform action (and vice-versa). While thoughts have an existence that is not observable, people can tell you what they are thinking – for example how they are perceiving events, what their plans and strategies are, what their expectations are and the nature of their self-appraisals. These indicators of thought are separate from the behaviour to be explained (Bandura, 1986). The same author proposes a view of human agency which emphasises how people exercise control over their lives and can be viewed as producers of the world in which they live as well as products of it.

> *In this view, personal influence is part of the causal structure. People are self-organising, pro-active, self-regulating and self-reflecting. They are not simply onlookers of their behaviour. They are contributors to their life circumstances, not just products of them.*
>
> *Bandura, 2006, p. 164*

This is the notion of reciprocal determinism which is central to Bandura's view of human agency and his social cognitive theory. It proposes a perspective on human nature which implies that humans are agents of experiences rather than simply undergoers of experiences.

A key critical realist principle is that no two organisational contexts are, under normal circumstances, the same – suggesting that replication is highly problematic. For critical realists the answer, in part, appears to lie in a form of pragmatism (Johnson and Duberley, 2003, cited by Kempster and Parry, 2011). Pragmatism is associated with knowledge that might guide human practice and purposes; a theory grasps enough of reality to allow individuals to do things with it. It seeks to provide essentially rational explanations for social affairs and to develop practical solutions for practical problems.

One of the consequences of this pragmatic approach is that difficulties might arise in applying self-leadership theory to a different cultural context. However, if this were to happen, it does not necessarily mean that self-leadership theory is faulty or unreliable. It might merely mean that self-leadership theory works differently

in different contexts. Hence, when moving to a different context, items that were removed in an earlier factor analysis might have to be returned. The factor structure might be completely different. Indeed, a completely different set of factors might apply. In other words, self-leadership is probably a plausible and reliable construct. It meets the criteria of pragmatism, practical adequacy and plausibility. However, it is highly likely that it will never have a consistently fixed and generalisable psychometric structure in all contexts. This perspective suggests that alternative epistemological criteria be applied to internal validity, namely: practical adequacy and plausibility.

Appendix 8: Conceptual Model and Hypotheses

Note: This version of the conceptual model was part of CPS Paper #2 (19/4/2013).

H1   Self-leadership levels will exhibit variation between advisers.

H2   Self-leadership skills will exhibit a significant positive relationship with psychological empowerment.

H3   Psychological empowerment will exhibit a significant positive relationship with the level of employee performance, as measured by innovativeness.

H4   The relationship between self-leadership skills and psychological empowerment is dependent on the perceived organisational support for self-leadership.

H5   The relationship between self-leadership skills and psychological empowerment is dependent on the empowering leadership behaviours practiced by management.

H6   The relationship between self-leadership skills and psychological empowerment is dependent on the level of empowerment readiness displayed by employees.

H7   A self-leadership training intervention will have a positive impact on levels of both self-leadership skills and psychological empowerment.
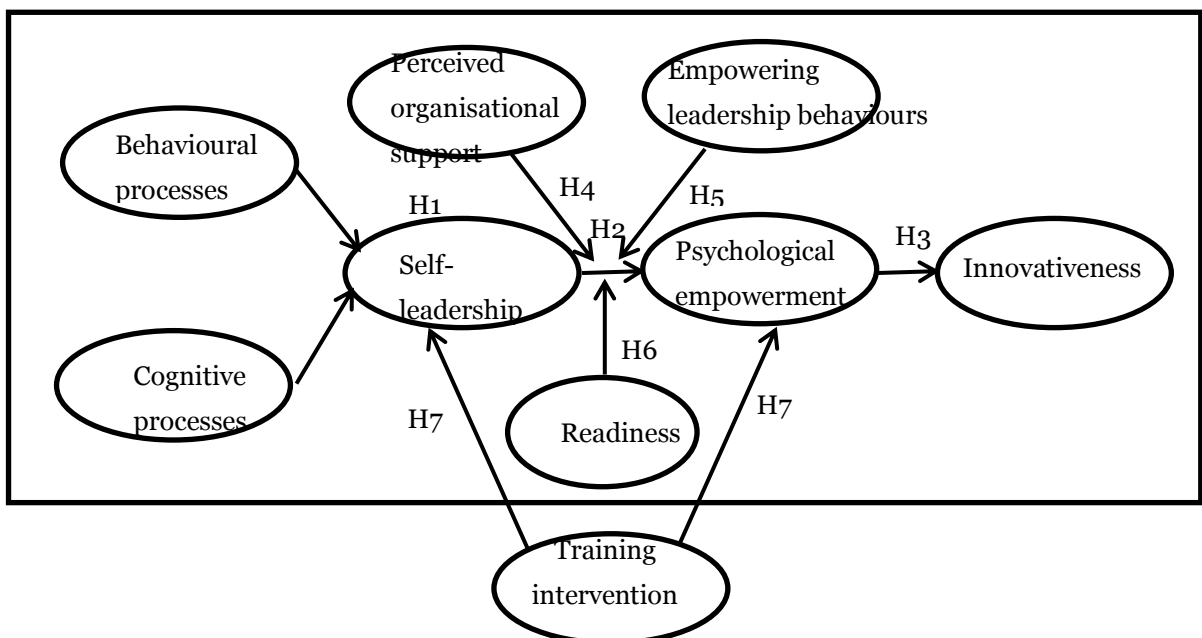
Appendix 9: List of Potential Survey Items

Revised Self-leadership Questionnaire (RSLQ)

I use my imagination to picture myself performing well on important tasks.

I establish specific goals for my own performance.

Sometimes I find I'm talking to myself (out loud or in my head) to help me deal with difficult problems I face.

When I do an assignment especially well, I like to treat myself to some thing or activity I especially enjoy.

I think about my own beliefs and assumptions whenever I encounter a difficult situation.

I tend to get down on myself in my mind when I have performed poorly.

I make a point to keep track of how well I'm doing at work (school).

I focus my thinking on the pleasant rather than the unpleasant aspects of my job (school) activities.

I use written notes to remind myself of what I need to accomplish.

I visualise myself successfully performing a task before I do it.

I consciously have goals in mind for my work efforts.

Sometimes I talk to myself (out loud or in my head) to work through difficult situations.

When I do something well, I reward myself with a special event such as a good dinner, movie, shopping trip, etc.

I try to mentally evaluate the accuracy of my own beliefs about situations I am having problems with.

I tend to be tough on myself in my thinking when I have not done well on a task.

I usually am aware of how well I'm doing as I perform an activity.

I try to surround myself with objects and people that bring out my desirable behaviours.

I use concrete reminders (e.g., notes and lists) to help me focus on things I need to accomplish.

Sometimes I picture in my mind a successful performance before I actually do a task.

I work toward specific goals I have set for myself.

When I'm in difficult situations I will sometimes talk to myself (out loud or in my head) to help me get through it.

When I have successfully completed a task, I often reward myself with something I like.

I openly articulate and evaluate my own assumptions when I have a disagreement with someone else.

I feel guilt when I perform a task poorly.

I pay attention to how well I'm doing in my work.

When I have a choice, I try to do my work in ways that I enjoy rather than just trying to get it over with.

I purposefully visualise myself overcoming the challenges I face.

I think about the goals that I intend to achieve in the future.

I think about and evaluate the beliefs and assumptions I hold.

I sometimes openly express displeasure with myself when I have not done well.

I keep track of my progress on projects I'm working on.

I seek out activities in my work that I enjoy doing.

I often mentally rehearse the way I plan to deal with a challenge before I actually face the challenge.

I write specific goals for my own performance.

I find my own favourite ways to get things done.

Abbreviated Self-leadership Questionnaire (ASLQ)

Nine items (items # 2, 7, 20, 10, 19, 22, 12, 14 and 5) from the Revised Self-leadership Questionnaire are included in this scale.

Psychological Empowerment Questionnaire (PEQ)

The work I do is very important to me.

My job activities are personally meaningful to me.

The work I do is meaningful to me.

I am confident about my ability to do my job.

I am self-assured about my capabilities to perform my work activities.

I have mastered the skills necessary for my job.

I have significant autonomy in determining how I do my job.

I can decide on my own how to go about doing my work.

I have considerable opportunity for independence and freedom in how I do my job.

My impact on what happens in my department is large.

I have a great deal of control over what happens in my department.

I have significant influence over what happens in my department.

Survey of Perceived Organisational Support (SPOS)

The organisation values my contribution to its well-being.

If the organisation could hire someone to replace me at a lower salary it would do so. (R)

The organisation fails to appreciate any extra effort from me. (R)

The organisation strongly considers my goals and values.

The organisation would ignore any complaint from me. (R)

The organisation disregards my best interests when it makes decisions that affect me. (R)

Help is available from the organisation when I have a problem.

The organisation really cares about my well-being.

Even if I did the best job possible, the organisation would fail to notice. (R)

The organisation is willing to help me when I need a special favour.

The organisation cares about my general satisfaction at work.

If given the opportunity, the organisation would take advantage of me. (R)

The organisation shows very little concern for me. (R)

The organisation cares about my opinions.

The organisation takes pride in my accomplishments at work.

The organisation tries to make my job as interesting as possible.

Perceived Organisational Support for Self-leadership

People are encouraged to engage in self-leadership activities in this organisation.

The organisation fails to recognise people for self-leadership. (R)

The organisation provides opportunities for employees to develop their self-

leadership skills at work.

I have opportunities to use my self-leadership skills at work.

I have the freedom to use my self-leadership skills at work.

The organisation fails to encourage and develop the self-leadership skills of its employees.(R)

My self-leadership skills are used to their full potential at work.

I have the freedom to organise how my work tasks are completed.

Empowering Leadership subscale

My district manager provides many opportunities for me to express my opinions.

My district manager often consults me on strategic decisions.

My district manager makes many decisions together with me.

My district manager always shows confidence in my ability to do a good job.

My district manager believes that I can handle demanding tasks.

My district manager believes in my abilities to improve even when I make mistakes.

My district manager helps me understand the importance of my work to the overall effectiveness of the company.

My manager helps me understand how my job fits into the bigger picture.

My manager helps me understand how my objectives and goals relate to that of the company.

My district manager makes it more efficient for me to do my job by keeping the rules and regulations simple.

My district manager allows me to do my job my way.

My district manager allows me to make important decisions quickly to satisfy customer needs.

Empowering leadership

Encourages me to find solutions to my problems without his/her direct input.

Urges me to assume responsibilities on my own.

Advises me to solve problems when they pop up without always getting a

stamp of approval.

Encourages me to search for solutions without supervision.

Urges me to think of problems as opportunities rather than obstacles.

Advises me to look for the opportunities in the problems I face.

Encourages me to view unsuccessful performance as a chance to learn.

Urges me to work as a team with the other teachers who work at the school.

Encourages me to work together with other teachers who work at the school

Advises me to coordinate my efforts with the other teachers who work at the school.

Readiness for organisational change (specifically the sub scale with the same title)

The programme or area in which I work functions well and does not have any aspects which need changing. (R)

There's nothing that I really need to change about the way I do my job to be more efficient. (R)

I've been thinking that I might want to help change something about the programme or area in which I work.

I plan to be involved in changing the programme or area in which I work.

I am working hard to help improve aspects of the programme or area in which I work.

We are trying to make sure we keep changes/improvements my programme/area has made.

Empowerment Role Identity subscale

I often think about having greater control over my job.

I have a clear concept of myself as an employee who wants to have greater decision-making power.

Having certain degree of power and discretion is an important part of my identity.

I would feel a loss if I have no discretion at all in my job.

Innovativeness

My peers often ask me for advice or information.

I enjoy trying out new ideas.

I seek out new ways of doing things.

I am generally cautious about accepting new ideas. (R)

I frequently improvise methods for solving a problem when an answer is not apparent.

I am suspicious of new inventions and new ways of thinking. (R)

I rarely trust new ideas until I can see whether the vast majority of people around me accept them. (R)

I feel that I am an influential member of my peer group.

I consider myself to be creative and original in my thinking and behaviour.

I am aware that I am usually one of the last people in my group to accept something new. (R)

I am an inventive kind of person.

I enjoy taking part in the leadership responsibilities of the groups I belong to.

I am reluctant about adopting new ways of doing things until I see them working for people around me. (R)

I find it stimulating to be original in my thinking and behaviour. (R)

I tend to feel that the old way of living and doing things is the best way. (R)

I am challenged by ambiguities and unsolved problems.

I must see other people using new innovations before I will consider them. (R)

I am receptive to new ideas.

I am challenged by unanswered questions. (R)

I often find myself sceptical of new ideas. (R)

Appendix 10: Outline of Proposed Training Intervention

Time	Module title	Module content/ focus
Week 1 (5 hours)	Introduction to self-leadership	Completion of pre-training survey; Introduction to the concepts of self-leadership, intrinsic motivation and social cognitive theory The difference between self-leadership and other forms of leadership Overview of the self-leadership strategies Introduction to the training course and 'Mastering self-leadership' materials
Week 2 (3 hours)	Behaviour focussed strategies to improve performance	Self-awareness in order to facilitate behavioural management, especially the management of behaviours related to necessary but unpleasant tasks
Week 3 (3 hours)	Building natural rewards into what we do	Natural rewards and emotion regulation strategies to help find meaning and enjoyment in work
Week 4 (3 hours)	Positive thinking	Identification and replacement of dysfunctional beliefs and assumption with more constructive thought processes
Week 5 (3 hours)	Self-talk and mental imagery	Identification and replacement of negative and destructive self-talk with more positive internal dialogues. Imagination of successful completion of an event before the event actually occurs.
Week 6 (3 hours)	Making self-leadership work for you	Self-leadership in practice Training transfer exercises to allow participants identify ways of using self-leadership strategies at work/ in their daily lives Relapse prevention training – how to avoid slipping back to old habits

Adapted from: Hardy, 2007; Manz, 1986; Neck and Manz, 1996, 2013; Unsworth and Mason, 2012.

Appendix 11: Revised Hypotheses and Conceptual Model

The conceptual model has been revised to allow for the:

1. modification of the first three hypotheses, relating to the three components of self-leadership, as while both EFA and CFA of the data did not support the testing of the self-leadership components, it did support the testing of the overall self-leadership construct using a modified version of the RSLQ;

2. the inclusion of two dependent variables (job satisfaction and self-reported job performance); and

3. the removal of the training intervention variable, as the delivery of a training intervention will not form part of the present study.

Table 23: Revised hypotheses and analysis to be conducted

	Hypothesis to be tested	Type of relationship	Analysis
H1	There will be significant differences in reported self-leadership levels for individuals who participate in the current research project.		A combination of t tests and ANOVA, with appropriate *post* hoc tests will be used to test this first hypothesis.
H2	Self-leadership skills will exhibit a significant positive relationship with psychological empowerment.	Direct	To test the hypotheses containing direct and mediated relationships (H2, 3a, 3b, 4a, 4b, 5a and 5b), the three-step procedure recommended by Baron and Kenny (1986) will be used. SEM analysis
H3a, b	Self-leadership skills will exhibit a significant positive relationship with (a) job satisfaction and (b) self-reported work performance.	Direct	
H4a, b	Psychological empowerment mediates the relationship between self-leadership and (a) job satisfaction and (b) self-reported work performance.	Mediated	

	Hypothesis to be tested	**Type of relationship**	**Analysis**
H5a, b	Psychological empowerment will exhibit a significant positive relationship with (1) job satisfaction, and (2) self-reported work performance.	Direct	Hierarchical multiple regression SEM analysis
H6	The relationship between self-leadership skills and psychological empowerment is moderated by the perceived organisational support for self-leadership.	Moderated	To test the moderation hypotheses (H6, 7, 8 and 9), hierarchical multiple regression analysis will be used. Self-leadership will be treated as the independent variable with psychological empowerment treated as the dependent variable.
H7	The relationship between self-leadership skills and psychological empowerment is moderated by the empowering leadership behaviours practiced by management.	Moderated	
H8	The relationship between self-leadership skills and psychological empowerment is moderated by the innovativeness (measured as willingness to try) of employees.	Moderated	
H9	The relationship between self-leadership skills and psychological empowerment is moderated by the mindset of employees.	Moderated	

Figure 11: Final conceptual model to be tested

Moderating variables
Perceived organisational support (H6)
Empowering leadership behaviours (H7)
Willingness to try (H8)
Mindset (H9)

Job satisfaction

H3a

H5a

H4a, b

Self-
leadership

H1

Psychological
empowerment

H2

H5b

H3b

Self-reported
work performance
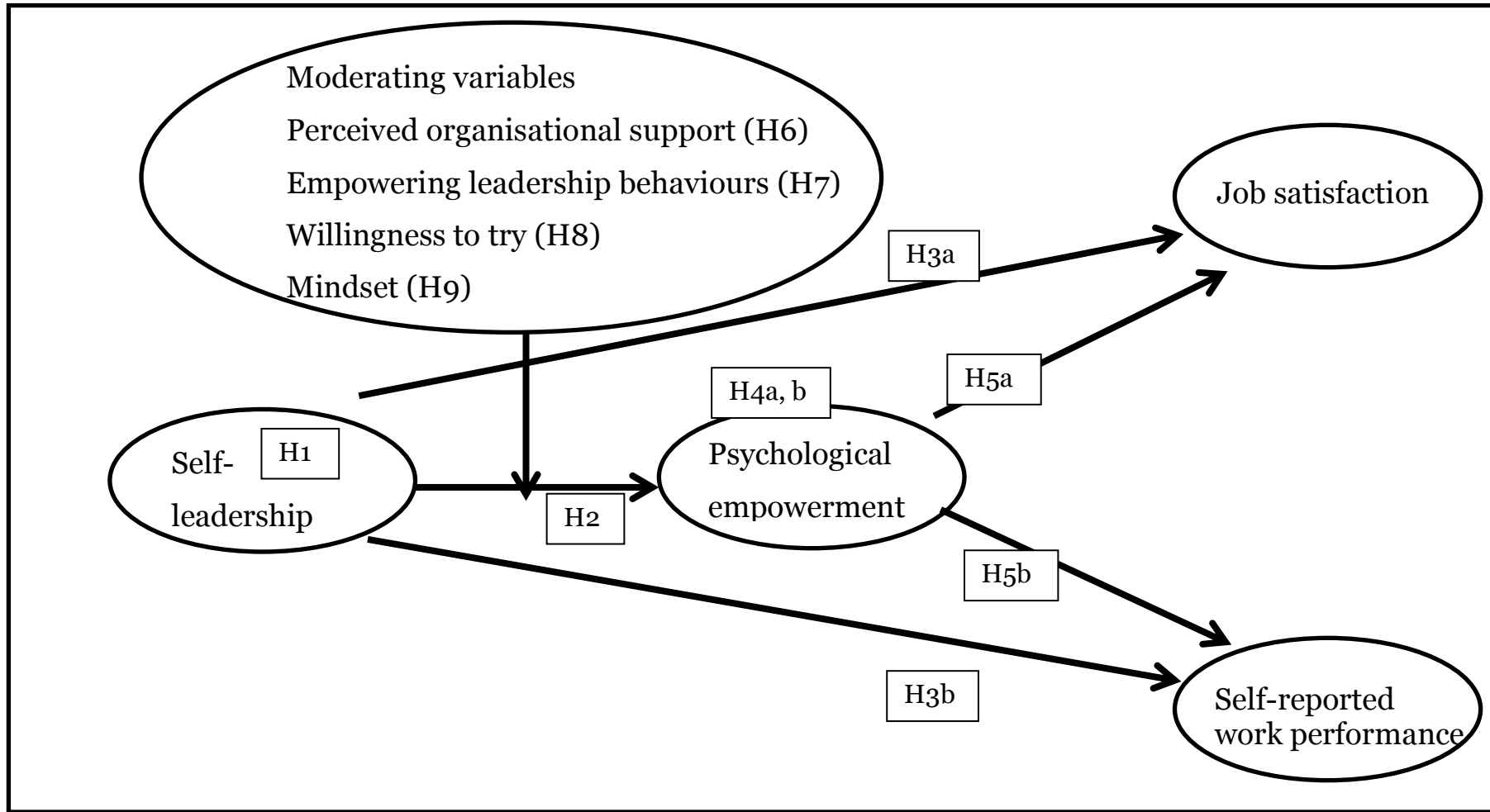
Appendix 12: Pilot Study Report

A pilot study was conducted with the 40 Teagasc participants on the Teagasc Leadership Development Programme. An electronic web-survey version (SurveyMonkey, http://www.surveymonkey.com) of the survey instrument was issued and of the 40 Teagasc staff surveyed, 32 responses were received (representing a response rate to the pilot survey of 80 per cent). Reliability and factor analysis was conducted using PASW Statistics 18 (Predictive Analytic Software, 2009) software. The reliability figures ranged from *0.51* (innovativeness) to *0.87* (self-leadership and psychological empowerment).

Exploratory factor analysis (EFA) was used to explore the dimensions of the variables under examination.

The 35 self-leadership statements loaded onto nine dimensions but not cleanly with cross-loading evident for a number of the items. α for the overall construct (*0.87*) compares favourably with the figures reported by Unsworth and Mason (2012) of *0.89* and *0.91* (pre- and post-training) and Carmeli *et al.* (2006) of *0.92*. α for six of the nine scale dimensions compares favourably with the reliability figures reported by the original Houghton and Neck (2002) study which validated the Revised Self-leadership Questionnaire (RSLQ) but the reliability figures for the remaining three items - self-observation (*0.39*), natural rewards (*0.38*) and evaluating beliefs (*0.48*) - are well below the acceptable value of 0.8. The relevant items for each one of the three dimensions of self-leadership skills were also averaged. The Cronbach's alphas for these scales (behaviour-focused strategies, natural reward-focused strategies and constructive thought-focused strategies) were *0.83, 0.38* and *0.83*; Carmeli *et al.* (2006) reported reliability figures of *0.85, 0.52* and *0.83* respectively. Overall, the analysis suggests that the phrasing of a number of the items needs to be examined prior to the main survey.

The 12 psychological empowerment statements loaded onto four dimensions (meaning, competence, self-determination and impact) of three items each (*α = 0.92, 0.84, 0.82* and *0.8* respectively). Zhang and Bartol reported values of *0.86, 0.77, 0.81* and *0.87* for the dimensions respectively. α for the overall construct was *0.74* which compares favourably to the figures obtained by

Spreitzer (1995) of *0.72* and *0.62* in the original research work leading to the development of the scale.

The 12 empowering leadership behaviours statements loaded onto four dimensions (enhancing the meaningfulness of work, fostering participation in decision making, expressing confidence in high performance and providing autonomy from bureaucratic constraints) of three items each (α = *0.95, 0.87, 0.78* and *0.76* respectively). Zhang and Bartol (2010) and Rapp *et al.* (2006) reported values of *0.89, 0.86, 0.85* and *0.79* and *0.84, 0.81, 0.86* and *0.82* for the dimensions respectively. α for the overall construct was *0.87* which compares favourably to the reliability figures obtained by Zhang and Bartol (2010) and Rapp *et al.* (2006) of *0.92* and *0.93*.

The reliability of the perceived organisational support construct was *0.63* which could be improved to *0.66* if item 6 was removed. Two factors emerged from Exploratory Factor Analysis; items 5 and 6 loaded strongly onto the second factor. There was a strong positive correlation (r = *0.39, p < 0.05*) between this construct and the empowering leadership construct.

The eight mindset statements loaded onto two separate dimensions: items 1, 2, 5 and 7 loaded onto 'fixed' mindset (α = *0.85*) while items 3, 4, 6 and 8 loaded onto 'growth' mindset (α = *0.75*). There was a very strong negative correlation (r = *-0.85, p < 0.01*) between these two dimensions. There was a strong negative correlation (r = *-0.38, p < 0.05*) between the fixed mindset dimension and the innovativeness construct. There was a strong positive correlation (r = *0.439, p < 0.01*) between the growth mindset dimensions and the innovativeness construct.

Innovativeness was conceptualised as the dependent variable and 10 statements were included in the pilot survey. The reliability of the overall construct was low at *0.51* and four factors (explaining 66% of the variance) emerged from the EFA. Seven of the ten items were negatively worded and it is speculated that this could have impacted on the responses recorded. These seven items loaded onto a 'willingness to try' dimension in a survey conducted by Goldsmith (1991) although in this pilot survey they loaded on two separate factors. The remaining three items loaded on two separate factors.

As a result of the above, the following changes were made to the survey instrument prior to the main study.

No changes were made to the psychological empowerment and empowering leadership statements.

The wording of a number of the self-leadership statements was revised. The self-leadership questionnaires contained in Neck and Manz (2013, SLQ 1 and 2, pp. 16 and 41) were referred to for guidance. Two additional statements concerning naturally rewarding activities were added to increase to seven the total number of statements for this element of self-leadership – four representing 'building natural rewards into your work' and three representing 'focussing on natural rewards'.

It was necessary to identify a new dependent variable. Job performance and job satisfaction were identified as suitable dependent variables following a review of the relevant literature (Unsworth and Mason, 2012; Carmeli *et al.*, 2006; Stewart *et al.*, 2011; Neck and Houghton, 2006; Neck and Manz, 1992; Neck and Manz, 2013 and Prussia *et al.*, 1998). Unsworth and Mason (2012) report increased positive affect and reduced job-related strain as outcomes of a self-leadership training intervention. Neck and Manz (2013) identify personal effectiveness as an outcome of self-leadership. Stewart *et al.* (2011), in a review of self-leadership, identify productivity and job satisfaction as outcomes at the individual level while Neck and Manz (1992) demonstrated that employees who received thought self-leadership training experienced greater job satisfaction than those not receiving the training. Carmeli *et al.* (2006) demonstrated that self-leadership skills are positively associated with both self and supervisor ratings of innovative behaviours. Finally, both Prussia *et al.* (1998) and Neck and Houghton (2006) indicate that self-efficacy may function as the primary mechanism through which self-leadership strategies affect job performance: 'self-leadership behaviours are translated into action through their effects on self-efficacy' (Prussia *et al.*, 1998, p. 535).

Consequently, four items relating to job satisfaction (previously used by Thompson and Phua, 2012), six items relating to self-reported job performance (selected from a ten-item scale previously used by Kuvaas and Dysvik, 2009)

and four items related to personal initiative (Frese *et al.*, 1997) were added to the final survey for the main study. Given the diverse jobs represented in the sample, no common objective assessments of job performance were available, or even possible. Therefore a two dimensional self-reported scale measuring work effort and work quality (Kuvaas and Dysvik, 2009) was used in the current study. A further discussion concerning the selection of the revised dependent variables is included in Appendix 11.

The wording of three of the remaining seven items in the innovativeness/ willingness scale was changed to the positive so that there was a balance between positively and negatively worded items.

Finally, in the interests of reducing the total number of statements, the following items were omitted:

- Items 36, 37 and 38 (concerning practice) in the self-leadership scale. These items were not part of the RSLQ (Houghton and Neck, 2002) used to assess self-leadership and were not included in the calculation of the overall self-leadership score or the behavioural strategies score in the pilot study.
- Items 5 and 6 in the perceived organisational support scale as these items did not load on the primary factor. Reliability improved to *0.71* once these items were removed. The remaining four items loaded onto one factor.
- Items 5, 7 and 9 in the innovativeness scale. Reliability improved to *0.60* once these items were removed. The remaining items related to 'willingness to try' (Goldsmith, 1991) and loaded onto two factors.
- Item 7 on the fixed mindset scale (lowest factor loading in pilot study).
- Item 6 on the growth mindset scale (lowest factor loading in pilot study).

Appendix 13: Identifying a Dependent Variable

In the original conceptual model, innovativeness was conceptualised as the dependent variable. While innovativeness (more correctly defined as willingness to try as all seven statements used for the pilot test have been shown by Goldsmith (1991) to load onto this factor) is still included in the revised conceptual model, its role has been changed to that of a moderating variable. Innovativeness is now viewed as a perceptual variable which interacts with the self-leadership and psychological empowerment variables to influence work performance and (possibly) job satisfaction. This doesn't mean to suggest that innovation is not important in public sector organisations. Rather that the measurement scale identified (Hurt *et al.*, 1977) measures innovativeness/ willingness to try rather than innovative behaviour *per se* and as such is better placed as a predictor variable in the conceptual model than an outcome variable. Hurt *et al.* (1977) indicate that the measure which they developed measures innovativeness as a normally distributed underlying personality construct and that it has been designed to 'measure willingness to innovate and not actual adoptive behaviour' (p. 62) In this way, the innovativeness measure will measure an intention to perform (Boyce *et al.*, 2010) certain activities to feel more empowered, ultimately leading to improved job performance. So in an organisational context, individuals may score highly on innovativeness (willingness to try) but may not find it possible to innovate due to organisational constraints.

Given that innovativeness has been repositioned in the conceptual model, it became necessary to identify an alternative dependent variable. In searching for suitable dependent variables, the following criteria were used: (1) previously theorised as an outcome of self-leadership and of importance to Teagasc; (2) self-reported; (3) peer reviewed and published in high level publications; (4) previously validated with reliability figures available; (5) survey items available. In addition, the emphasis on 'improved service delivery' leading to 'a performance culture' with 'improved outcomes' as objectives of current public sector reform was borne in mind.

Following an extensive review of the available literature, three suitable scales were identified. These are (1) the self-reported Work Performance scale

(Kuvaas and Dysvik, 2009); (2) the self-reported Initiative scale (Frese *et al.*, 1997) and the Brief Index of Affective Job Satisfaction (BIAJS, Thompson and Phua, 2012). An alternative four-item job satisfaction scale (Janssen, 2001) was considered but the Thompson and Phua (2012) scale was chosen for the present study as the authors show that it is 'overtly affective, minimally cognitive and optimally brief' and that it is 'comprehensively validated' (Thompson and Phua, 2012).

In order to reduce the overall survey length, six items with the highest factor loadings from the Work Performance scale (three for work effort (loadings of *0.72* to *0.78*) and three for work quality (loadings of *0.71* to *0.74*)) were included and four items related to self-reported initiative were included. All four items from the BIAJS were used. Therefore, a total of 14 items were included to elucidate the dependent variables of job performance, job satisfaction and initiative.

In the original conceptual model, readiness was included as a moderating variable but it has been replaced by mindset and innovativeness in the revised conceptual model. In the conceptual paper presented at the Doctoral Colloquium (December 2012), it was argued that not all efforts to empower employees yield positive results and, in fact, can even be detrimental (Forrester, 2000) especially if employees do not have the requisite capabilities to accept the opportunities offered by an empowering leadership approach. The concept of readiness was introduced to the conceptual model to measure the extent to which employees are ready to be psychologically empowered. While the original conceptual model suggested that a higher usage of the various self-leadership strategies would be associated with higher feelings of empowerment, self-leadership is likely to be even more effective in influencing psychological empowerment when an individual is ready to be (or wants to be) empowered. This notion of readiness is reconceptualised as (1) a willingness to try and (2) a self-view of one's abilities or intelligence in the revised conceptual model. This is in broad agreement with the definition of readiness from the situational leadership model (Hersey *et al.*, 2001) as the level of a follower's ability and willingness to accomplish a specific task (Hersey, 2009).

Table 24: A summary of the dependent variables to be used in the present study

Author/ year	Title of scale	Number of items	Sample items	Scale	Other
Kuvaas and Dysvik (2009)	Self-reported work performance	Ten with five items measuring work effort and five measuring work quality. The ten item scale was based on an earlier six item scale developed by Kuvaas (2006, 2009).	"I try to work as hard as possible." (work effort) "The quality of my work is top-notch." (work quality)	All the items were scored on a 5-point Likert response scale ranging from 1 (strongly disagree) to 5 (strongly agree).	α = 0.81, 0.72, 0.83 for work effort and α = 0.81, 0.74, 0.78 for work quality in three separate studies. Factor loadings reported for Study 1 ranged from 0.65 to 0.78 for the work effort items (with one item omitted due to cross loading on the work quality component); 0.62 to 0.74 for the work quality items. Two of the work effort items cross loaded on the work quality component in Study 2. This scale was subsequently used by Humborstad *et al.* (2014) who reported α = 0.88 for the overall work performance measure (10 items).

Author/ year	Title of scale	Number of items	Sample items	Scale	Other
Frese *et al.* (1997)	Self-reported initiative	Seven items. The scale was developed for this particular study.	"I take initiative immediately even when others don't."	All the items were scored on a 5-point Likert response scale ranging from 1 (strongly disagree) to 5 (strongly agree).	$\alpha = 0.84$. Self-reported initiative correlated significantly and partly sizeably with all the interview based scales at t4 ($p< 0.01$). This scale was also used on a study by Searle (2008) who reported $\alpha = 0.82$ (initial), 0.86 (7-weeks) and 0.91 (13 weeks). This author concluded that self-reported measures of personal initiative remained stable over time.
Thompson and Phua (2012)	The Brief Index of Affective Job Satisfaction (BIAJS)	Four items plus three distractor items.	"Most days I am enthusiastic about my job."		$\alpha = 0.85$ with factor loadings ranging from 0.82 to 0.87; 68% of variation explained by one factor (pooled manager and non-manager sample, n = 605). The four items have an 'affective purity' score of 87.5%.

Kuvaas, B. and Dysvik, A. (2009) 'Perceived investment in employee development, intrinsic motivation and work performance', *Human Resource Management Journal*, Vol. 19, No. 3, pp. 217 – 236.

Frese, M., Fay, D., Hilburger, T., Leng, K., and Tag, A. (1997) 'The concept of personal initiative: operationalisation, reliability and validity in two German samples', *Journal of Occupational and Organisational Psychology*, Vol. 70, No. 2, pp. 139 - 161.

Thompson, E. R. and Phua, F. T. (2012) 'A brief index of affective job satisfaction', *Group and Organisation Management*, Vol. 37, No. 3, pp. 275 – 307.

Appendix 14: Copy of email Notifications

Pre-notification email

Subject: Teagasc Head of Dairy KT issues advance notice of self-leadership and empowerment survey

Teagasc Self-leadership, Empowerment and Work survey (SLEW survey)

Dear <insert first name from Mail Merge>,

Teagasc would like to learn more about the perceptions of self-leadership, empowerment and work held by its staff. In the next few days you will receive an email asking you to take part in an online survey – the Teagasc Self-leadership, Empowerment and Work (SLEW for short) survey. This survey will ask you to indicate your agreement with a series of statements concerning self-leadership, empowerment and work, as well as the personal and organisational factors which may affect the relationship between these variables.

When you receive my email, I hope that you will take the time to complete the survey. Your input would be extremely valuable to my research efforts.

Thanks in advance for your help.

THERE IS NO NEED TO REPLY TO THIS EMAIL. THE LINK TO THE ONLINE SURVEY WILL BE ISSUED BY A SEPARATE EMAIL FROM ME BY THE END OF THE WEEK.

With regards,

Tom O'Dwyer

Tom O'Dwyer

Head of Dairy Knowledge Transfer, Teagasc

Initial email Invitation

Subject: Teagasc Head of Dairy KT asks you to complete the SLEW survey

Teagasc Self-leadership, Empowerment and Work survey (SLEW survey)

Dear <insert first name from Mail Merge>,

I am writing to ask you to participate in the Teagasc Self-leadership, Empowerment and Work (SLEW for short) survey which I am conducting with all Teagasc employees. I am asking Teagasc employees like you to indicate your views on self-leadership, empowerment and work within Teagasc and the level of organisation support for self-leadership and empowerment.

Your responses to this survey are very important to both me and to Teagasc. The results will assist me in completing my research project. The research results will also be of direct benefit to Teagasc as it attempts to cope with reduced Government support and staff numbers. By understanding the current levels of self-leadership and empowerment within the organisation, Teagasc can better shape training and development programmes to help individual staff members develop capabilities in this area. And by knowing how the organisational context is perceived, Teagasc can work to correct deficiencies.

The survey contains a series of 92 statements and pre-testing has indicated that it will take you less than 20 minutes to complete. Please click on the link below to go directly to the survey website (or copy and paste the survey link into your Internet browser) to start the survey.

Survey link: https://www.surveymonkey.com/s/YGKX8CG

Your co-operation in providing honest feedback is greatly appreciated. Your results will be held anonymously and confidentially. All data will be used solely for the current research project and published in the aggregate form only. Your participation is entirely voluntary. However you can really help my research project, and Teagasc, by taking the time to complete this survey.

If you have any questions or comments about the study, I would be happy to talk with you. I can be contacted by telephone, 025 42499, or by email, tom.odwyer@teagasc.ie . Also, should you wish to receive a paper version of the survey you can contact me as above.

Finally, thank you very much for taking the time to complete this important survey.

With thanks,

Tom O'Dwyer

Tom O'Dwyer, Head of Dairy Knowledge Transfer, Teagasc

Follow-up email

Subject: SLEW survey of Teagasc employees

Teagasc Self-leadership and empowerment survey (SLEW survey)

Dear <insert first name from Mail Merge>,

I recently sent you an email asking you to respond to the Teagasc Self-leadership, Empowerment and Work (SLEW) survey. Your responses to this survey are important and will help Teagasc to better shape training and development programmes and to correct deficiencies in organisation support for self-leadership and empowerment.

The survey should take you no more than 20 minutes to complete. If you have already completed the survey, I appreciate your participation. If you have not yet responded to the survey, I encourage you to take the time to complete the survey.

Please click on the link below to go to the survey website (or copy and paste the survey link into your Internet browser) to start the survey.

Survey link: https://www.surveymonkey.com/s/YGKX8CG

Your responses are important. Getting direct feedback from Teagasc employees is crucial in improving the development programmes offered to all staff. Thank you for your help in completing this survey.

Sincerely,

Tom O'Dwyer

Tom O'Dwyer, Head of Dairy Knowledge Transfer, Teagasc

Appendix 15: Copy of Final Survey Administered

The following pages contain a copy of the instructions, statements and questions included in the final survey administered. Figure 12 is a screen shot showing the 12 statements relating to psychological empowerment, the instructions to the respondent and the answer categories.

Figure 12: Screen shot of the first series of statements from the Teagasc Self-leadership, Empowerment and Work survey

Teagasc Self-leadership, Empowerment and Work survey

Psychological empowerment - feelings of control over your own work

1. Listed below are a number of statements relating to feelings of empowerment that you may have with regard to your work role. Please indicate the extent to which you agree or disagree with each statement using the scale provided.

	Strongly disagree	Disagree	Neither disagree nor agree	Agree	Strongly agree
The work I do is very important to me.	○	○	○	○	○
My job activities are personally meaningful to me.	○	○	○	○	○
The work I do is meaningful to me.	○	○	○	○	○
I am confident about my ability to do my job.	○	○	○	○	○
I am self-assured about my capabilities to perform my work activities.	○	○	○	○	○
I have mastered the skills necessary for my job.	○	○	○	○	○
I have significant autonomy (independence/ choice) in determining how I do my job.	○	○	○	○	○
I can decide on my own how to go about doing my work.	○	○	○	○	○
I have considerable opportunity for independence and freedom in how I do my job.	○	○	○	○	○
My impact on what happens in my department/ unit is large.	○	○	○	○	○
I have a great deal of control over what happens in my department/ unit.	○	○	○	○	○
I have significant influence over what happens in my department/ unit.	○	○	○	○	○

2 / 13   15%

[Prev] [Next]

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Screen 1

Welcome and introduction.

Welcome to the Teagasc Self-leadership, Empowerment and Work survey (SLEW for short).

This survey aims to gather your views on self-leadership, empowerment and work within Teagasc and whether personal and contextual factors affect this relationship.

You can provide your answers by using the 'Next' and 'Previous' buttons to move from page to page (these are located at the bottom of each page). A progress bar, also at the bottom of the page, keeps you informed of your progress.

You can select your answer by using your mouse to click on your choice. If you wish to change your answer, simply use your mouse to select your correct choice and your previous answer will disappear.

Finally, thank you very much for helping with this important task.

Screen 2

Psychological empowerment - feelings of control over your own work

Listed below are a number of statements relating to feelings of empowerment that you may have with regard to your work role. Please indicate the extent to which you agree or disagree with each statement using the scale provided.

(Strongly disagree; Disagree; Neither disagree nor agree; Agree; Strongly agree)

1. The work I do is very important to me.
2. My job activities are personally meaningful to me.
3. The work I do is meaningful to me.
4. I am confident about my ability to do my job.
5. I am self-assured about my capabilities to perform my work activities.
6. I have mastered the skills necessary for my job.
7. I have significant autonomy (independence/ choice) in determining how I do my job.
8. I can decide on my own how to go about doing my work.
9. I have considerable opportunity for independence and freedom in how I do my job.
10. My impact on what happens in my department/ unit is large.
11. I have a great deal of control over what happens in my department/ unit.
12. I have significant influence over what happens in my department/ unit.

Screen 3

Willingness to try - innovativeness at work

The purpose of the statements on this page is to assess your views of your own willingness to try new ideas or new ways of doing things at work.

Please consider the following items and indicate your agreement with each item.

(Strongly disagree; Disagree; Neither disagree nor agree; Agree; Strongly agree)

1. I am usually receptive to accepting new ideas and new ways of doing things.
2. I rarely trust new ideas until I can see whether the vast majority of people around me accept them.
3. I am generally one of the first people in my group to accept something new.
4. I am reluctant about adopting new ways of doing things until I see them working for people around me.
5. I tend to feel that the old way of living and doing things is the best way.
6. I must see other people using new innovations before I will consider them.
7. I rarely need convincing about new ideas or new ways of doing things.

Screen 4

Self-leadership - what you do to influence yourself

The purpose of the statements on this and the following three pages is to assess your usage of the various self-leadership behavioural and cognitive strategies.

Read each of the following statements carefully and then decide how true the statement is in describing you.

(Does not describe me at all; Does not describe me well; Describes me somewhat; Describes me well; Describes me very well)

1. I imagine myself performing well on important tasks.
2. I establish specific personal goals for my own performance.
3. Sometimes I find I'm talking to myself (out loud or in my head) to help me deal with difficult problems I face.
4. When I complete a job or task particularly well, I like to treat myself to something or an activity I enjoy.
5. I think about my own beliefs and assumptions whenever I encounter a difficult situation.
6. I tend to get down on myself when I have performed poorly.
7. I consciously keep track of how well I'm doing while I work.
8. I concentrate my thoughts on the pleasant, rather than the unpleasant, aspects of my work activities.
9. I use written notes to remind myself of what I need to do.
10. I picture myself successfully performing a task before I do it.

Screen 5

Self-leadership - what you do to influence yourself (continued)

The purpose of the statements on this and the following two pages is to continue to assess your usage of the various self-leadership behavioural and cognitive strategies.

Read each of the following statements carefully and try to decide how true the statement is in describing you.

(Does not describe me at all; Does not describe me well; Describes me somewhat; Describes me well; Describes me very well)

1. I consciously have goals in mind for my work efforts.
2. Sometimes I talk to myself (out loud or in my head) to work through difficult situations.
3. When I do something well, I tend to feel good about myself.
4. I try to assess in my mind the accuracy of my own beliefs about situations I am having problems with.
5. I tend to be tough on myself when I have not done well on a task.
6. I usually am aware of how well I'm doing as I perform an activity.
7. I try to surround myself with objects and people that bring out the best of my behaviours.
8. I use concrete reminders (e.g. notes and lists) to help me focus on things I need to do.
9. Sometimes I picture in my mind a successful performance before I actually start a task.

Screen 6

Self-leadership - what you do to influence yourself (continued)

The purpose of the statements on this and the following page is to continue to assess your usage of the various self-leadership behavioural and cognitive strategies.

Read each of the following statements carefully and then decide how true the statement is in describing you.

(Does not describe me at all; Does not describe me well; Describes me somewhat; Describes me well; Describes me very well)

1. I work toward specific goals I have set for myself.
2. When I'm in a difficult situation, I will sometimes talk to myself (out loud or in my head) to help me get through it.
3. When I have successfully completed a task, I often reward myself with something I like.
4. I honestly communicate and assess my own assumptions when I have a disagreement with someone else.
5. I blame myself when I perform a task poorly.
6. I pay attention to how well I'm doing while I work.
7. When I have a choice, I try to do my work in ways that I enjoy (rather than just trying to get it over with).
8. I purposefully picture myself overcoming the challenges I face.
9. I think about the goals that I intend to achieve in the future.
10. I think about and assess the beliefs and assumptions I hold.

Screen 7

Self-leadership - what you do to influence yourself (continued)

The purpose of the statements on this page is to complete the assessment of your usage of the various self-leadership behavioural and cognitive strategies.

Read each of the following statements carefully and then decide how true the statement is in describing you.

(Does not describe me at all; Does not describe me well; Describes me somewhat; Describes me well; Describes me very well)

1. I am often critical of myself when I have not done well.
2. I keep track of my progress on projects I'm working on.
3. I seek out activities in my work that I enjoy doing.
4. I often go over in my mind the way I plan to deal with a challenge before I actually face it.
5. I write specific goals for my own performance.
6. I find my own favourite ways to get things done.
7. I spend more time thinking about the good things, rather than the drawbacks, of my job.
8. I pay more attention to the enjoyment of my work itself rather than benefits or rewards I will receive for doing it.

Screen 8

Perceived organisational support - how Teagasc supports you to be a self-leader

Listed below are a number of perceptions that you may have with regard to the encouragement of self-leadership within Teagasc.

Please indicate the extent to which you agree or disagree with each statement using the scale provided.

(Strongly disagree; Disagree; Neither disagree nor agree; Agree; Strongly agree)

1. I am encouraged to engage in self-leadership activities within Teagasc.
2. I have opportunities to use my self-leadership skills at work.
3. I have the freedom to use my self-leadership skills at work.
4. My self-leadership skills are used to their full potential at work.

Screen 9

Leadership behaviours - how your manager helps you to be a self-leader

The purpose of the statements on this page is to record your perceptions of your manager's empowering behaviours.

Please consider the following items and indicate your agreement with each item.

(Strongly disagree; Disagree; Neither disagree nor agree; Agree; Strongly agree)

1. My manager helps me understand the importance of my work to the overall effectiveness of Teagasc.
2. My manager helps me understand how my job fits into the bigger picture.
3. My manager helps me understand how my objectives and goals relate to that of Teagasc.
4. My manager provides many opportunities for me to express my opinions.
5. My manager often consults me on strategic decisions.
6. My manager makes many decisions together with me.
7. My manager always shows confidence in my ability to do a good job.
8. My manager believes that I can handle demanding tasks.
9. My manager believes in my abilities to improve even when I make mistakes.
10. My manager makes it more efficient for me to do my job by keeping the rules and regulations simple.
11. My manager allows me to do my job my way.
12. My manager allows me to make important decisions quickly to satisfy customers' needs.

Screen 10

How you view yourself

The purpose of the statements on this page is to evaluate how you view yourself.

Carefully read the series of statements below before indicating your level of agreement with each item.

(Strongly disagree; Disagree; Neither disagree nor agree; Agree; Strongly agree)

1. Your intelligence is something very basic about you that you can't change very much.
2. You can learn new things, but you can't really change how intelligent you are.
3. You are a certain kind of person, and there is not much that can be done to really change that.
4. No matter how much intelligence you have, you can always change it quite a bit.
5. You can always substantially change how intelligent you are.
6. You can always change basic things about the kind of person you are.

Screen 11

How you view your work

The purpose of the statements on this page is to evaluate how you view your current work/ role for Teagasc.

Carefully read the series of statements below, relating to your current work, before indicating your level of agreement with each item.

(Strongly disagree; Disagree; Neither disagree nor agree; Agree; Strongly agree)

1. I often put in extra effort in carrying out my job.
2. I intentionally use a great deal of effort in carrying out my job.
3. I usually don't hesitate to put in extra effort when it is needed.
4. Most days I am enthusiastic about my job.
5. I take initiative immediately even when others don't.
6. Whenever there is a chance to get actively involved, I take it.
7. I rarely complete a task before I know that the quality meets high standards.
8. I use opportunities quickly in order to attain my goals.
9. I feel fairly well satisfied with my job.
10. I like my job better than the average person.
11. Whenever something goes wrong, I search for a solution immediately.
12. Others in my organisation consider my work as being of high quality.
13. The quality of my work is first rate.
14. I find real enjoyment in my job.

Finally, some information about yourself

The purpose of this final set of questions is to collect some personal information about you.

1. What is your gender?
   (Male; Female)

2. What is your age category?
   (< 30; $30 - 39$; $40 - 49$; $50 - 59$; $60 +$)

3. How long have you been employed by Teagasc?
   (0 - 4 years; 5 - 9 years; 10 – 19 years; 20 - 29 years; 30 years +)

4. How long have you been employed in your current role by Teagasc?
   (< 2 years; $2 - 4$ years; 4 - 6 years; 6 - 8 years; $8 – 10$ years; 10 years +)

5. Which Teagasc Directorate are you part of?
   (Research; Knowledge Transfer; Operations)

6. Which of the following job categories describes your role within Teagasc? Select one option from the drop down list.
   (Administration support; Adviser; General – Domestic/ Farm Operative; Manager; Office-based Professional (e.g. ICT, Finance, HR); Researcher; Specialist; Teacher/ Education Officer/ Lecturer; Technician; Technologist)

7. Have you participated, or are you now participating, in a formal leadership or management training or development programme?
   (Yes; No)

Screen 13

Thank you for taking the time to complete this survey. Your assistance in providing your answers is very much appreciated.

Your results will be held anonymously and confidentially with all data to be used for the current research project and published in the aggregate form only.

Finally, if there is anything that you would like to add concerning any of the variables examined throughout the survey, please do so in the space provided below.

Thank you.

Appendix 16: Data Assumptions

Table 25: Distributional characteristics, tests for normality and description of distributions

Variable	Shape Descriptors				Test of Normality		Visual inspection of distribution	Description of distribution
	Skewness		Kurtosis					
		z value		z value		Sig.		
Self-reported work performance	-0.01	-0.09	0.01	0.05	2.92	0.000	Normal	Normal
Job satisfaction	-0.69	-6.22	1.35	6.11	3.08	0.000	Normal	Normal
Self-leadership	-0.03	-0.27	0.08	0.36	0.70	0.707	Normal	Normal
Psychological empowerment	-0.53	-4.77	1.07	4.84	1.65	0.009	Normal	Normal
Willingness to try	-0.15	-1.35	0.11	0.50	2.20	0.000	Normal	Normal
Perceived organisational support	-0.79	-7.12	0.68	3.08	3.09	0.000	Normal	Normal
Empowering leadership	-0.51	-4.59	0.45	2.04	1.88	0.002	Normal	Normal
Fixed mindset	0.21	1.89	-0.85	-3.85	3.69	0.000	Normal	Normal
Growth mindset	-0.40	-3.60	0.15	0.68	2.91	0.000	Normal	Normal

Appendix 17: Summary of ANOVA and t-tests Conducted

Table 26: Summary of one-way ANOVA conducted across age, tenure, current role, Directorate and job categories

	Age		Tenure		Current role		Directorate		Job category	
Variable	**F**	**Sig**	**F**	**Sig**	**F**	**Sig**	**F**	**Sig**	**F**	**Sig**
Self-reported work performance	0.914	0.456	0.434	0.784	1.480	0.195	2.235	0.108	0.894	0.530
Job satisfaction	2.169	0.071	1.102	0.355	0.825	0.533	0.846	0.430	1.850	0.057
Self-leadership	3.508	0.008	3.426	0.009	0.644	0.666	2.528	0.081	1.698	0.087
Psychological empowerment	2.030	0.089	3.578	0.007	2.242	0.049	2.623	0.074	4.324	0.000
Willingness to try	0.362	0.836	0.340	0.851	0.488	0.786	3.282	0.038	2.121	0.026
Perceived organisational support	0.397	0.810	4.412	0.002	1.606	0.157	1.871	0.155	5.684	0.000
Empowering leadership	1.054	0.379	3.887	0.004	3.732	0.003	2.016	0.134	2.676	0.005
Fixed mindset	3.223	0.013	1.957	0.100	0.189	0.967	1.407	0.246	1.218	0.281
Growth mindset	1.245	0.291	0.199	0.939	1.078	0.372	0.667	0.514	2.820	0.003

Age categories: < 30 years, 30 – 39 years, 40 – 49 years, 50 – 59 years, > 60 years.

Tenure categories: 0 – 4 years, 5 – 9 years, 10 – 19 years, 20 – 29 years, 30 years +.

Current role categories: < 2 years, 2 – 4 years, 4 – 6 years, 6 – 8 years, 8 – 10 years, 10 years +.

Directorate categories: Research, Knowledge Transfer, Operations.

Job categories: Administration support, Adviser, General, Manager, Office-based Professional, Researcher, Specialist, Teacher/ Education Officer/Lecturer, Technician, Technologist.

Table 27: Summary of t-test conducted across gender and training

Variable	Training		Gender	
	t	Sig	t	Sig
Self-reported work performance	1.727	0.085	-0.517	0.606
Job satisfaction	1.555	0.121	1.839	0.067
Self-leadership	1.031	0.303	-1.001	0.318
Psychological empowerment	3.000	0.003	3.778	0.000
Willingness to try	2.472	0.014	-0.463	0.644
Perceived organisational support	4.603	0.000	3.377	0.001
Empowering leadership	1.976	0.049	0.005	0.996
Fixed mindset	0.386	0.700	1.842	0.066
Growth mindset	-0.441	0.660	-2.719	0.007

Appendix 18: Factor Loadings for Independent and Dependent Variables

Table 28: Summary of output from EFA for dependent and independent variables

Variable	Number of scale items	Number of factors extracted	Factor loadings	% variance explained
Self-reported work performance	6	1 (eigen value > 1)	0.64 – 0.76	52
		2 (number of factors fixed)	0.61 – 0.85	66
Job satisfaction	4	1	0.79 – 0.88	70
Self-leadership	19	7	0.75 – 0.91	80
Psychological empowerment	12	4	0.81 – 0.92	82
Willingness to try	7	2	0.62 – 0.79	58
Perceived organisational support	4	1	0.83 – 0.93	79
Empowering leadership	12	2 (eigen value > 1)	0.64 – 0.76	52
		4 (number of factors fixed)	0.64 – 0.87	83
Fixed mindset	3	1	0.80 – 0.93	78
Growth mindset	3	1	0.66 – 0.88	66

Table 29: EFA output for 35 self-leadership items

	Component							
	1	2	3	4	5	6	7	8
sl20	.771							
sl11	.766							
sl2	.735							
sl28	.701							
sl31	.677							
sl34	.651							
sl33	.544		.402					
sl7	.536							
sl25	.521							
sl23								
sl15		.815						
sl30		.814						
sl6		.751						
sl24		.751						
sl32			.732					
sl35			.731					
sl26			.628					
sl29	.475		.486					
sl14								
sl10				.817				
sl19				.776				
sl27				.715				
sl8				.470				
sl3					.880			
sl12					.867			
sl21					.855			
sl4						.870		
sl22						.852		
sl5						.502		
sl18							.839	
sl9							.838	
sl1								.690
sl13								.522
sl16								.493
sl17								

Component 1: Combination of five self-goal setting items (sl20, sl11, sl2, sl28 and sl34), three self-observation items (sl31, sl7, sl25) and one visualisation item (sl33)

Component 2: Four self-punishment items

Component 3: Three of five natural rewards items (sl32, sl35, sl26)

Component 4: Three of five visualisation items (sl10, sl19, sl27)

Component 5: Three self-talk items

Component 6: Two of three self-reward items

Component 7: Two self-cueing items

Component 8: Combination of one visualisation item (sl1), one self-reward item (sl13) and one self-observation (sl19) item

Notes: n = 486; extraction method: principal component analysis; rotation method: Varimax with Kaiser Normaliation. Self-leadership item numbers (sl1 to sl35) correspond to the order of the 35 items of the RSLQ (Houghton and Neck, 2002).

Table 30: EFA output for 21 self-leadership items

	Component						
	1	2	3	4	5	6	7
sl2	.858						
sl20	.827						
sl11	.792						
sl28	.629						
sl30		.834					
sl15		.824					
sl24		.771					
sl6		.748					
sl3			.894				
sl12			.879				
sl21			.870				
sl10				.874			
sl19				.842			
sl27				.764			
sl32					.808		
sl35					.798		
sl26					.667		
sl4						.904	
sl22						.894	
sl9							.909
sl18							.890

Notes: n = 486; extraction method: principal component analysis; rotation method: Varimax with Kaiser Normaliation. Self-leadership item numbers (sl1 to sl35) correspond to the order of the 35 items of the RSLQ (Houghton and Neck, 2002).

Figure 13: Second order CFA path diagram for self-leadership (19 items included as suggested by EFA)

Note: Self-leadership item numbers (self_lead1 to self_lead35) correspond to the order of the 35 items of the RSLQ (Houghton and Neck, 2002) and as used in the survey administered.
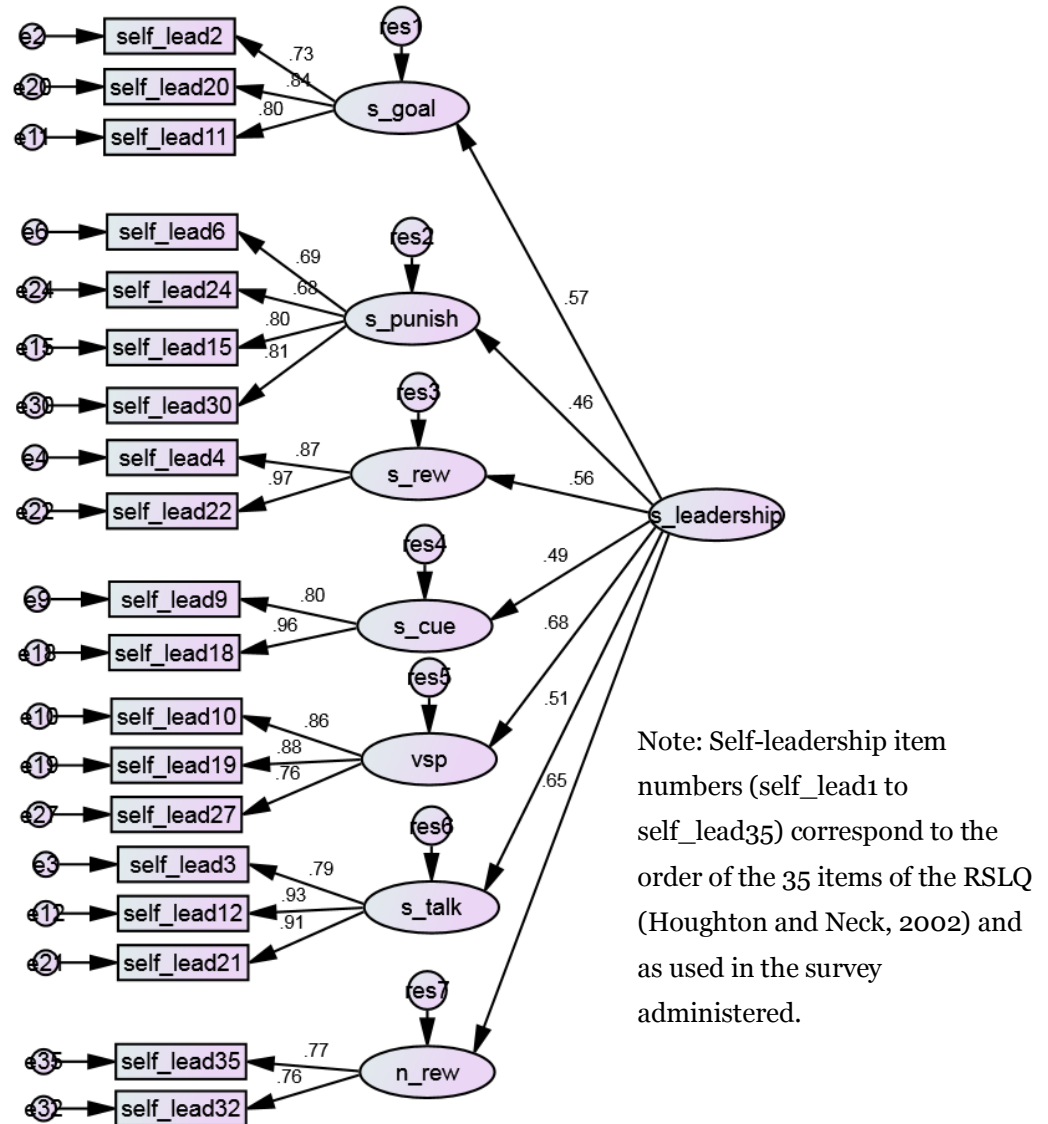
Table 31: Fit statistics for CFA conducted with modified RSLQ items

Model	X²	df	X²/df	CFI	GFI	TLI	RMSEA
Second order factor model with 21 items and 7 factors	598.54	182	3.289	0.93	0.90	0.91	0.07
Alternative models							
Remove items 26 and 28 (lowest factor loadings)	426.88	145	2.94	0.94	0.92	0.93	0.06
Second order factor model with 21 items and 3 dimensions	3223.63	186	17.33	0.46	0.58	0.39	0.18
First order factor model with 21 items	3645.20	189	19.29	0.39	0.55	0.32	0.19

Figure 14: Second order CFA path diagram for psychological empowerment
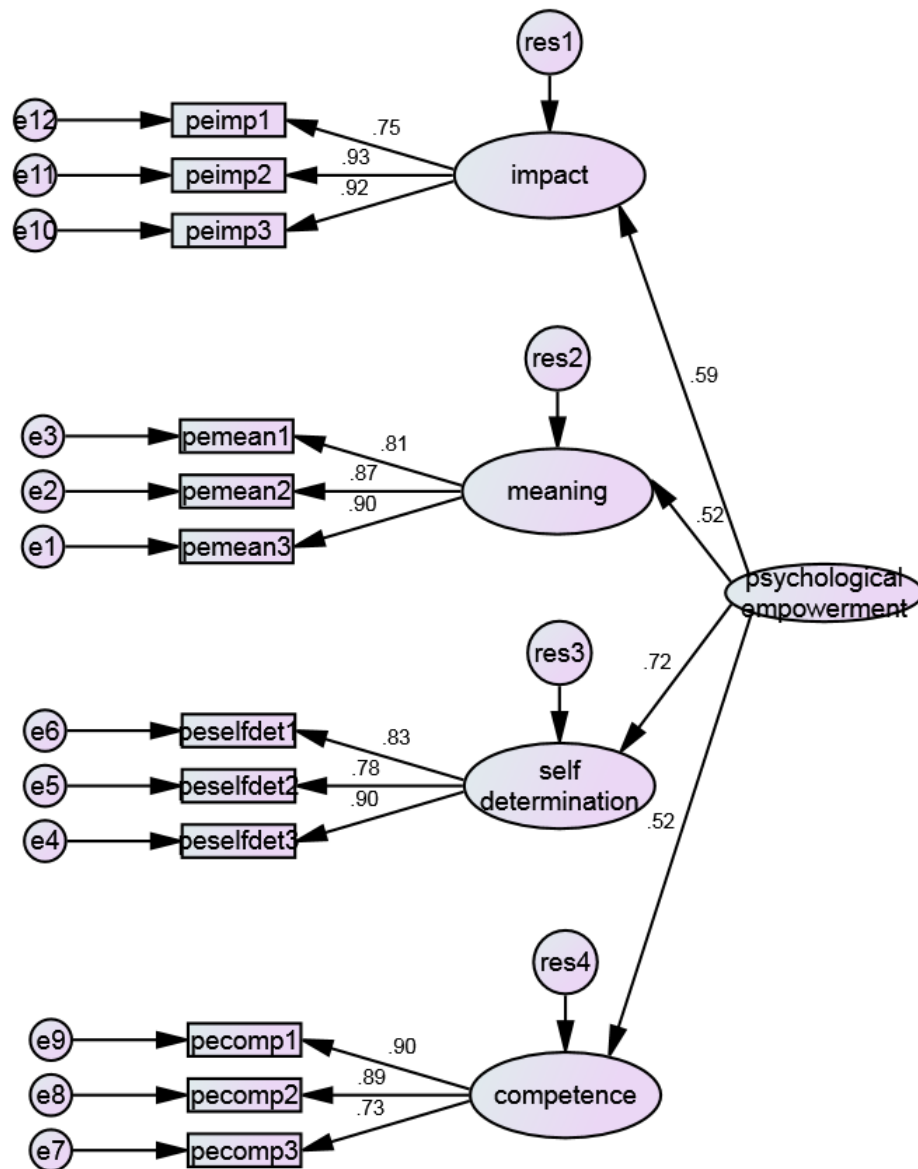
Table 32: Fit statistics for CFA conducted with psychological empowerment items

Model	X²	df	X²/df	CFI	GFI	TLI	RMSEA
Second order factor model with 12 items and 4 factors	155.37	50	3.107	0.97	0.95	0.96	0.07
Alternative models							
First order factor model with 12 items and 1 factor	2291.08	54	42.427	0.41	0.52	0.28	0.29
Twelve items loading onto four correlated factors	110.963	48	2.312	0.98	0.96	0.98	0.05

Figure 15: Second order CFA path diagram for empowering leadership
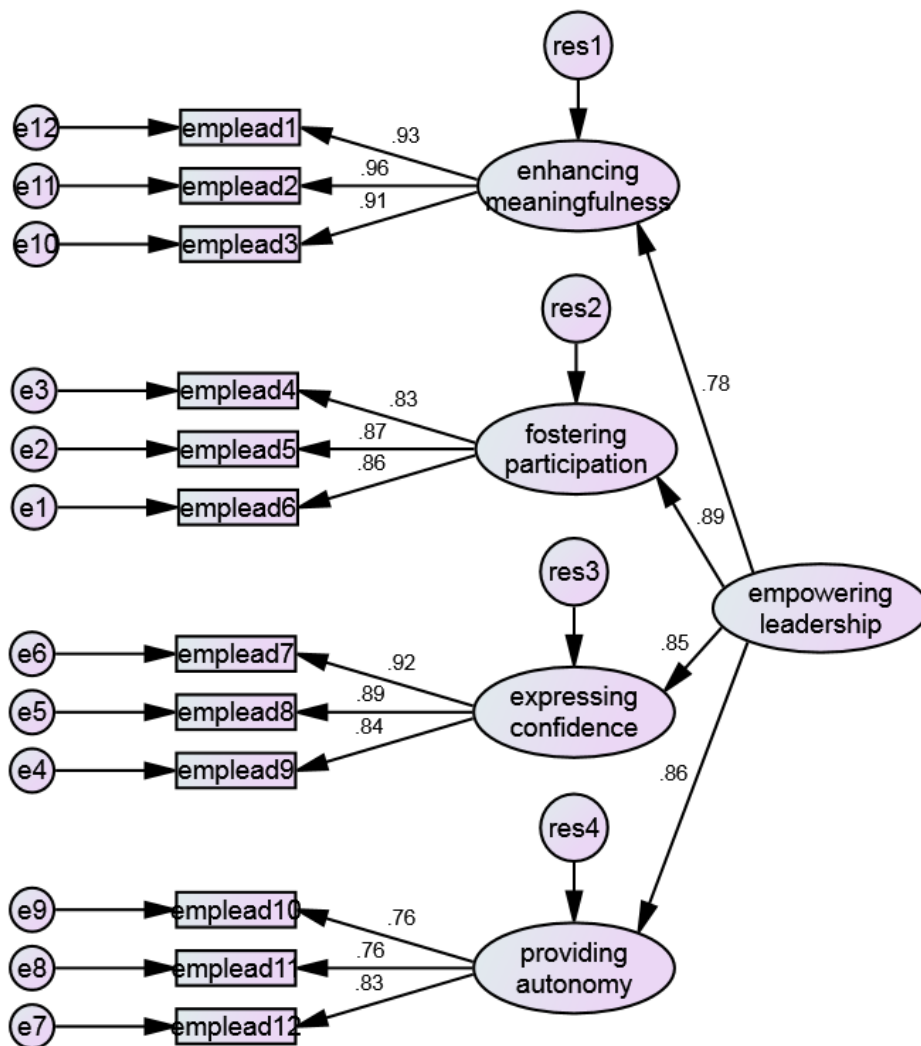
Table 33: Fit statistics for CFA conducted with empowering leadership items

Model	X²	df	X²/df	CFI	GFI	TLI	RMSEA
Second order factor model with 12 items and 4 factors	206.922	50	4.138	0.97	0.93	0.96	0.08
Alternative models							
First order factor model with 12 items and 1 factor	1408.57	54	26.085	0.73	0.61	0.67	0.23
Twelve items loading onto four correlated factors	176.239	48	3.672	0.97	0.94	0.97	0.07

Figure 16: Second order CFA path diagram for self-reported work performance
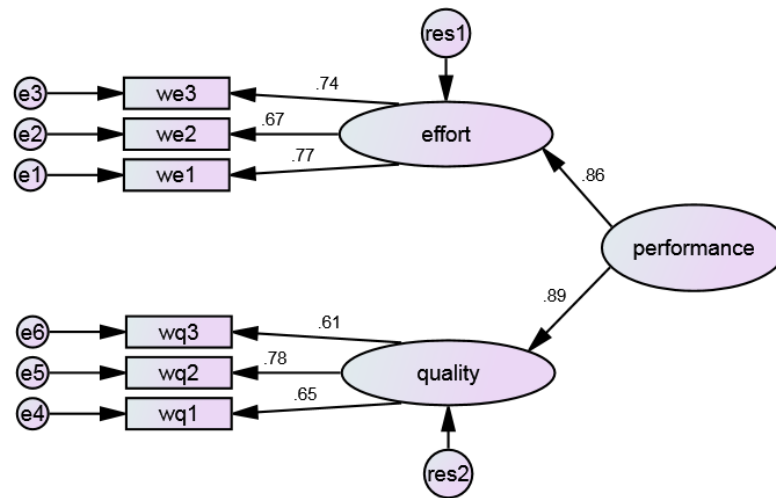
Table 34: Fit statistics for CFA conducted with self-reported work performance items

Model	X²	df	X²/df	CFI	GFI	TLI	RMSEA
Second order factor model with 12 items and 4 factors	34.842	8	4.355	0.97	0.98	0.94	0.08
Alternative models							
First order factor model with 12 items and 1 factor	88.320	9	9.813	0.91	0.94	0.85	0.14

Figure 17: First order CFA path diagram for job satisfaction
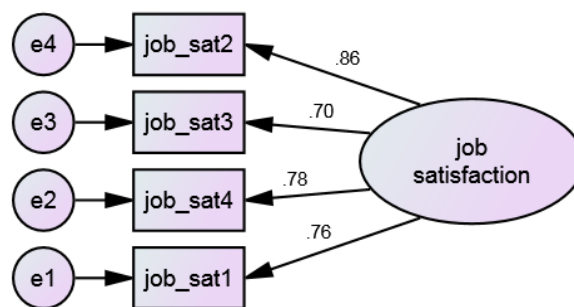
Table 35: Fit statistics for CFA conducted with psychological empowerment items

Model	X²	df	X²/df	CFI	GFI	TLI	RMSEA
First order factor model with all four items loading onto one overall factor	2.816	2	1.408	1.00	1.00	1.00	0.03

Appendix 19: Results of Regression Analysis to Test Hypotheses 6 - 9

Table 36: Moderating effects of perceived organisational support for self-leadership on the relationship between self-leadership skills and psychological empowerment

Variable	Model 1	Model 2	Model 3	Model 4
Gender	-0.137**	-0.151**	-0.074	-0.078*
Age	-0.006	0.024	0.024	0.024
Tenure	0.087	0.095	0.063	0.062
Current role	0.075	0.066	0.104**	0.107*
Directorate	0.060	0.048	-0.001	-0.001
Job category	0.091	0.069	0.042	0.044
Training	-0.105*	-0.090*	-0.015	-0.016
Self-leadership		0.207***	0.067	0.069
POS for self-leadership			0.534***	0.540***
Self-leadership x POS for SL				0.040
R² Change		0.041	0.248	0.001
F for R² Change		22.058***	183.193***	1.089
R²	0.054	0.094	0.344	0.345
F	4.965***	7.293***	29.314***	26.497***
n = 486. Values are standardised regression coefficients. * $p < 0.05$; ** $p < 0.01$; *** $p < 0.001$. Psychological empowerment is the dependent variable.				

Table 37: Moderating effects of the empowering leadership behaviours practiced by management on the relationship between self-leadership skills and psychological empowerment

Variable	Model 1	Model 2	Model 3	Model 4
Gender	-0.137**	-0.151**	-0.154***	-0.156***
Age	-0.006	0.024	0.035	0.036
Tenure	0.087	0.095	0.059	0.057
Current role	0.075	0.066	0.127**	0.130**
Directorate	0.060	0.048	0.002	0.002
Job category	0.091	0.069	0.052	0.053
Training	-0.105*	-0.090*	-0.053	-0.055
Self-leadership		0.207***	0.084*	0.088*
Empowering leadership			0.528***	0.523***
Self-leadership x Empowering leadership				0.033
R^2 Change		0.041	0.257	0.001
F for R^2 Change		22.058***	192.577***	0.786
R^2	0.054	0.094	0.354	0.353
F	4.965***	7.293***	30.484***	27.502***
[1] n = 486. Values are standardised regression coefficients. * $p < 0.05$; ** $p < 0.01$; *** $p < 0.001$. [2] Psychological empowerment is the dependent variable.				

Table 38: Moderating effects of the willingness (to try) of employees on the relationship between self-leadership skills and psychological empowerment

Variable	Model 1	Model 2	Model 3	Model 4
Gender	-0.137**	-0.151**	-0.155***	-0.155***
Age	-0.006	0.024	0.016	0.016
Tenure	0.087	0.095	0.105	0.105
Current role	0.075	0.066	0.057	0.055
Directorate	0.060	0.048	0.055	0.058
Job category	0.091	0.069	0.068	0.069
Training	-0.105*	-0.090*	-0.070	-0.070
Self-leadership		0.207***	0.179***	0.178***
Willingness			0.187***	0.189***
Self-leadership x Willingness				-0.015
R^2 Change		0.086	0.034	0.000
F for R^2 Change		22.058***	18.724***	0.114
R^2	0.054	0.094	0.127	0.125
F	4.965***	7.293***	8.804***	7.921***

[1] n = 486. Values are standardised regression coefficients. * $p < 0.05$; ** $p < 0.01$; *** $p < 0.001$. [2] Psychological empowerment is the dependent variable.

Table 39: Moderating effects of the growth mindset of employees on the relationship between self-leadership skills and psychological empowerment

Variable	Model 1	Model 2	Model 3	Model 4
Gender	-0.137**	-0.151**	-0.156**	-0.153**
Age	-0.006	0.024	0.032	0.038
Tenure	0.087	0.095	0.091	0.080
Current role	0.075	0.066	0.062	0.065
Directorate	0.060	0.048	0.047	0.045
Job category	0.091	0.069	0.071	0.073
Training	-0.105*	-0.090*	-0.091*	-0.093*
Self-leadership		0.207***	0.199***	0.200***
Growth mindset			0.046	0.040
Self-leadership x Growth mindset				0.060
R^2 Change		0.094	0.094	0.096
F for R^2 Change		22.058***	1.042	1.868
R^2	0.054	0.041	0.002	0.003
F	4.965***	7.293***	6.599***	6.137***
[1] n = 486. Values are standardised regression coefficients. * $p < 0.05$; ** $p < 0.01$; *** $p < 0.001$. [2] Psychological empowerment is the dependent variable.				

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