

The Impact of High Quality Relationships
on Proactive Behaviour at Work:
Evidence from Independently Owned
Hospitals in Ireland

By

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DECLARATION

I hereby certify that this material, which I now submit for assessment on the programme of study leading to the award of Doctor of Philosophy is entirely my own work, and that I have exercised reasonable care to ensure that the work is original, and does not to the best of my knowledge breach any law of copyright, and has not been taken from the work of others save and to the extent that such work has been cited and acknowledged within the text of my work.

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Date: 19th September 2012

FOR MOSSY, SARAH AND CONOR

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ABSTRACT

The main aim of this study is to examine the impact of high quality relationships on proactive work behaviour. Although much research exists to suggest that job context influences proactive behaviour, less is known about the role of the social context, and in particular, the role of relationships in fostering proactivity. This study examines individual perceptions of positive relational experiences on individual proactive behaviour. Work engagement and hope were proposed as mediators of the pathway between subjective relational experiences and proactive behaviour. Using a cross level model, the role of high quality relationships within the work unit on individual proactive behaviour is also examined. Psychological safety climate was proposed as a mediator of this relationship. Finally, the impact of proactive behaviour on the job performance and quality of care delivered by individual nurses is assessed. Using a cross sectional survey design, multi-source data was collected from a representative sample of staff nurses and their respective managers drawn from four independently owned hospitals operating in Ireland. Results of multi-level regression analysis indicate that, at the individual level, subjective relational experiences are positively related to proactive behaviour. This relationship is mediated by hope but not by work engagement. At the unit level, results indicate that high quality relationships impact individual proactive behaviour indirectly via their impact on psychological safety climate. Proactive behaviour is also positively related to both job performance and quality of care. A major contribution of this study, among others, is that it provides empirical evidence of how and why high quality relationships engender a proactive approach to work. It also contributes to management practice within the independently owned hospital sector by making recommendations on how to develop a proactive workforce.

CHAPTER 1

INTRODUCTION AND OVERVIEW

1.1 Introduction

In rapidly changing environments, organisations rely on individuals and teams to promote innovation and creativity and to change behaviour accordingly. They now need employees to meet long term goals within changing and unpredictable working contexts, where doing more of the same is not likely to yield positive results. Proactive employees working in these circumstances succeed by realising that they do not necessarily have to play the hand they were dealt (Thomas, Whitman, and Viswesvaran 2010). Rather, key performers take the initiative to change circumstances to enhance their chances of reaching organisational and personal goals. Acknowledgment of this fact by scholars and practitioners alike has heralded an abundance of research in the area of proactive behaviours. Research has made significant strides in uncovering how organisations can support the development of proactivity in the workplace through interventions aimed at designing jobs and leadership roles which enhance proactivity. Despite some emphasis on the value of co-worker trust (Parker, Williams and Turner 2006) and friendly work relationships (Ashford *et al.* 1998), proactivity researchers have not yet fully explored how and why positive work relationships influence proactive behaviour. This research makes a significant contribution to these efforts by further developing the relational foundations of proactive behaviour in the workplace.

The aim of this chapter is to provide an introduction to and overview of this thesis. It begins by briefly introducing the concept of proactive behaviour and moves on to discuss the significance of the current study. As this research examines cross level relationships, the nature of mixed level research is then discussed. Next, the research questions and aims are presented and an overview of the research model and hypotheses is provided. Finally, the structure of this thesis is outlined.

So, what is proactive behaviour? In its simplest form, proactive behaviour is about making things happen. A number of definitions have been put forward to capture the meaning of proactive behaviour. Most of these describe it as the extent to which individuals engage in self-starting, future oriented behaviour to change their work situations, their work roles or themselves (Griffin, Neal and Parker 2007). This definition highlights proactivity as self-directed, anticipatory and change oriented behaviour. It further characterises proactive behaviour as a positive organisational behaviour focused on improvement of situation or self and thus is closely aligned with other research on positive psychology at work.

Positive psychology emphasises the positive strengths and virtues which enable people to thrive by “changing the focus of psychology from pre-occupation only with repairing the worst things in life to also building positive qualities” (Seligman and Csikszentmihalyi 2000: 5). Positive organisational behaviour (POB) (Luthans 2002) and positive organisational scholarship (POS) (Cameron, Dutton and Quinn 2003) apply positive psychology to the workplace. POS has been defined as “the study of that which is positive, flourishing, and life-giving in organizations” (Cameron and Caza 2004: 731). It focuses on elevating processes and outcomes of the interpersonal and

structural dynamics activated in and through organizations. Positive organisational behaviour is interested in “the study and application of positively oriented human resource strengths and psychological capacities that can be measured, developed, and effectively managed for performance improvement in today’s workplace” (Luthans 2002: 59). Although there is considerable overlap in these two movements, POS emphasises the workplace and work related outcomes, whereas POB emphasises individual psychological states and strengths which influence employee performance (Bakker and Schaufeli 2008). The current study builds a bridge between POB and POS in that it explores how high quality relationships, as a feature of work contexts, contribute to positive states which have implications for a unique dimension of employee performance – proactive behaviour.

1.2 Significance of the Current Study

This research is significant in that it makes a number of contributions to the literature on proactive behaviour. While most research on the antecedents of proactive behaviour has focused on job design, and more recently on the role of leadership, little attention has been afforded to the role of workplace relationships in engendering proactive behaviour. The way in which the role of relationships has been largely overlooked in proactivity research is perhaps not surprising considering that relationships are traditionally placed in the background of organisational life (Ragins and Dutton 2006). This study brings positive work relationships to the forefront. High quality relationships meet basic human needs and conditions required to facilitate motivated and engaged behaviour at work. This study examines two facets of high quality relationships in the workplace - individual perceptions of relational experiences and high quality relationships between unit members. Subjective relational experiences

reflect relationships which are characterised by positive regard, mutuality and relational vitality. In recognition that in most workplaces individuals are organised into groups that are exposed to similar contextual stimuli, this research also explores the impact of shared perceptions of high quality relationships. At the unit level, high quality relationships are defined in light of the theory of relational co-ordination (Carmeli and Gittell 2009; Gittell 2002). Relational coordination includes three dimensions of high-quality relationships. These are shared goals, shared knowledge, and mutual respect. By jointly examining individual relational experiences and unit level perceptions of high quality relationships, this research sheds light on how unit level and individual level factors affect proactive behaviour. In so doing, it heeds appeals by Grant and Ashford (2008: 22) for a “more systematic focussed attention to the situational antecedents of proactive behaviour” and responds to specific calls for research on how the social context impacts the decision to be proactive at work (Parker, Bindl and Strauss 2010).

This research is also significant in that it qualifies how high quality relationships between individuals are important for proactivity in the workplace by exploring mediating mechanisms. At the individual level it is argued that work engagement and hope play mediating roles in the relationship between subjective relational experiences and proactive work behaviour. The study of work engagement in the context of the current research is valuable for two reasons. Firstly, although previous research has identified social support as one of a number of key job resources which predict work engagement, it is often considered alongside the impact of autonomy and feedback (Bakker and Demerouti 2007; Bakker Demerouti and Verbeke 2004; Demerouti *et al.* 2001). Few studies have specifically focused on the importance of positive relationships for engagement. Secondly, although a number of studies have examined

the impact of work engagement on personal initiative (Sonnentag 2003; Hakanen *et al.* 2008a), there is a dearth of studies on the influence of work engagement on proactive work behaviours. The second individual level mediating mechanism addressed in the current study is hope. Hope is conceptualised as a cognitive motivational state which is uniquely important for proactive behaviour. As a cognitive state which emphasises both a sense of successful agency and the identification of pathways towards goal achievement (Snyder *et al.* 1996), hope is uniquely positioned to aid understanding of proactivity at work. To the author's knowledge, no study has examined the role of hope in developing proactive behaviour. As hope has not received much attention in organisational research, there is a need for research on the antecedents of hope in organisations. By investigating how high quality relationships influence positive states and behaviours, this research responds to calls from positive organisational behaviour scholars to identify the antecedents of positive states (Luthans 2002) and calls from proactivity researchers to explore the broader range of motivation states which influence proactive behaviour.

At the unit level, it is argued that high quality relationships between unit members impact on proactive behaviour by facilitating the development of a psychologically safe climate. Psychological safety climate has been found to be important for a number of agentic behaviours. Research has found that it mediates the relationships between high quality relationships and learning behaviours. However, this study is different in that its focus is on proactive work behaviours. So, although previous research has explored the impact of high quality relationships on psychological safety, the current study contributes to this body of work by investigating the impact of shared perceptions of high quality relationships and that of psychological safety on individual proactive work behaviours.

In an effort to build understanding of the outcomes of proactive behaviour in the current research context and to address the *so what* issue of the importance of proactivity, this study also investigates its relationships with two outcome measures, job performance and the quality of care provided by individual nurses. The performance enhancing quality of proactive behaviour is well established (Belshak and Den Hartog 2010; Thompson 2005; Grant, Parker and Collins 2009). However, to the author's knowledge, no research to date has investigated the relationship between proactive work behaviour and quality of care provided by nurses to their patients. In this sense, a further contribution of the current study is in the specification of new context specific outcomes of proactive work behaviour.

This research was carried out on a sample of nurses drawn from independently owned private hospitals in Ireland. These organisations can be clearly differentiated from public hospitals in the Irish health system in that they do not receive state funding. However, they share similarities with many public and voluntary hospitals in that they provide twenty-four hour inpatient care and offer a full range of medical and surgical treatments to their clients. The independently owned hospital sector in Ireland has experienced rapid growth in the last decade but research on this sector remains scarce. The largest employee group in healthcare systems worldwide is the nursing profession. Nurses work with a wide range of health professionals in the delivery of patient care. Other studies have examined the antecedents of 'narrow band' proactive concepts such as voice behaviour, innovation and initiative among nurses (Tangiriala and Ramanujam 2008; Knol and van Linge 2009). To the author's knowledge, no studies have investigated the drivers of more general proactive work behaviours among nurses. This study is significant in that it contributes to knowledge of the drivers of proactive behaviour among nurses working in an under researched context. A further contribution

of this research relates to the mixed level approach taken to investigate the link between high quality relationships and proactivity. The nature of mixed level research is now discussed.


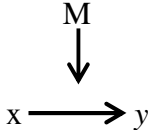
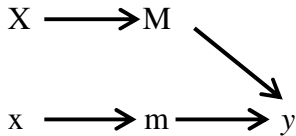
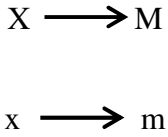
1.3 The Nature of Mixed Level Research

Mixed-level research is a form of research that attempts to bridge the micro-macro gap by developing models of phenomena that cut across levels of analysis. Multi-level research has received a lot of attention in published journals in line with predictions that “as the field of organisational behaviour develops and establishes itself as a social science, it is inevitable that researchers advocate a multilevel approach to the study of organisations” (Rousseau 1985: 2). This abundance of multi-level research provides evidence that *thinking organisationally* is now taken for granted by many organisational researchers. Rousseau (2011: 431) defines thinking organisationally as “habits of mind that understand human behaviour in relation to the groups and organisations in which they are embedded and whose actions they shape”.

One of the fundamental principles underpinning multi-level thinking is that variables reside at more than one level of analysis. As a consequence, theory, measurement and analysis should be aligned in order to understand the relationships between variables as the focus changes from one level to another (Klein and Kozlowski 2000). Meso-models represent further complexity in that they link relationships between variables across levels (Mathieu and Taylor 2007). A second fundamental principle of multi-level research is that higher level variables are more likely to influence lower level variables than is the reverse (Klein and Kozlowski 2000; Mathieu and Taylor 2007). Rousseau

(1985) provides a clear typology of mixed-level models. This typology reflects composition models, cross level structures and multi-level structures¹. Table 1.1 provides a summary of different forms of mixed-level research models.

Table 1.1 Summary of Mixed Level Research Models

Model	Example Structure
<p>Composition: Relationships between non-dependent variables at different levels</p>	
<p>Cross-Level: Relationships between independent and dependent variables at different levels</p> <p>Cross Level or Meso Moderated Model</p>	
<p>Cross Level or Meso Mediation Model²</p>	
<p>Multi-Level: Relationships between independent and dependent variables are generalised across two or more levels</p>	

Source: Adapted from Rousseau (1985)

¹ See Rousseau (1985) for a detailed description of the types of mixed models.

² The structure presented here reflects a particular type of cross level mediation model - upper level mediation model. See Matheiu and Taylor (2007) for discussion on the nature and structure of other cross level meso mediation models.

Although Rousseau (1985) categorised different forms of mixed-level models to include cross level moderator models, work by Mathieu and Taylor (2007) provides greater guidance on the nature, operationalisation and analysis of cross level or meso mediation models. The current research reflects most clearly the cross level or meso mediation model – upper level mediator as presented in Table 1.1. This is best described as when a unit level variable (high quality relationships) is used to predict an individual level variable (proactive behaviour), as mediated by another unit level variable (psychological safety climate) (X – M – y). Importantly, this mediational relationship occurs in the context of a model that also includes individual level mediation relationships (subjective relational experiences – hope work engagement – proactive behaviour; x – m – y).

1.4 Research Questions and Aims of the Research

This study investigates the following research questions:

- 1. Do individual perceptions of relational experiences and shared perceptions of high quality relationships within work units foster proactive work behaviours among nurses working in the independently owned hospital sector in Ireland?*
- 2. What is the impact of proactive behaviour on job performance and quality of care provided by these nurses?*

In order to address these research questions, four main aims were identified. The first aim is to investigate whether perceptions of high quality relationships at the individual level are important for proactive behaviour. More specifically, it aims to establish

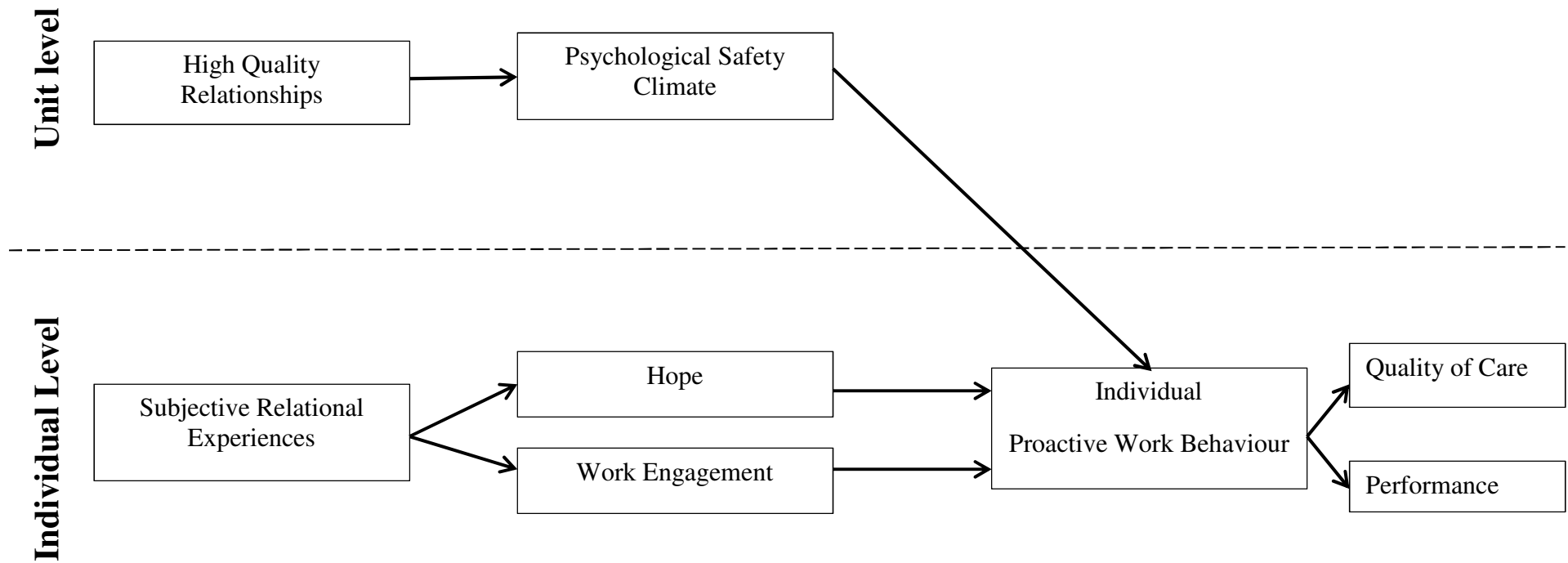
whether individual perceptions of relational experiences are positively related to individual proactive behaviour. As a contextual influence on individual behaviour, the impact of high quality relationships is likely to be mediated by more proximal individual states. This raises the issue of mediating mechanisms through which subjective relational experiences may impact individual level proactivity. Parker, Bindl and Strauss (2010) argue that the impact of situational influences on proactive behaviour is felt through positive motivational states. As such, the second aim of this research is to establish whether or not, hope and work engagement mediate the relationship between subjective relational experiences and proactive behaviour.

The third aim is to investigate the cross level effects of high quality relationships at the unit level on proactive behaviour at the individual level. Given the abundance of research indicating that unit level constructs influence behaviour at the individual level, this research tests the contention that high quality relationships at the unit level are likely to have a positive impact on the proactive behaviour of the individual via the creation of a psychologically safe work climate. In doing so, it proposes that high quality relationships at the unit level impact individual level behaviour via the linking mechanism of psychological safety climate.

The fourth aim is to examine the impact of proactive behaviour on two organisational outcomes, namely job performance and the quality of care delivered by individual nurses. Although the impact of proactive behaviour on performance has been tested before, to the author's knowledge, no research has explored the impact of proactive behaviour on the more context specific outcome of quality of patient care.

Figure 1.1 presents the predicted research model depicting the role of high quality relationships on proactive work behaviour.

Figure 1.1 The Role of High Quality Relationships on Proactive Work Behaviour: Predicted Model



Note: This model depicts the hypothesised role of *high* quality relationships in fostering proactive behaviour. It is acknowledged that quality of relationship runs along a continuum and that, as such, hypothesises that low quality relationships will result in a reduction in proactivity.

1.5 Research Hypotheses

This research tests five key research hypotheses. These are aimed at developing an understanding of the linkages between high quality relationships and proactive behaviour at the individual level and the cross level effects of high quality relationships at the unit level on individual proactive behaviour. Table 1.2 presents the research hypotheses.

Table 1.2 Research Hypotheses

H1	At the individual level, work engagement partially mediates the relationship between subjective relational experiences and individual proactive behaviour.
H2	At the individual level, hope partially mediates the relationship between subjective relational experiences and individual proactive behaviour.
H3	At the unit level, psychological safety climate mediates the relationship between high quality relationships among unit members and individual level proactive behaviour.
H4	Individual proactive behaviour is positively related to job performance.
H5	Individual proactive behaviour is positively related to quality of care.

Table 1.3 presents a definition of each of the core concepts referred to in the present study.

Table 1.3 Definition of Key Concepts

Term	Definition
Proactive work behaviour	Self-starting, future-directed behaviour aimed at changing the task, team or organisation (Griffin, Neal Parker 2007).
Subjective Relational Experiences	Relationship experiences characterised by vitality, positive regard and mutuality (Dutton and Heaphy 2003).
Relational Coordination	‘A mutually reinforcing process of interaction between communication and relationships carried out for the purpose of task integration’ (Gittell, 2002: 301).
Work Engagement	“A positive, fulfilling, work related state of mind that is characterised by a persistent positive, affective motivational state of fulfilment” (Maslach, Schaufeli and Leiter 2001: 417).
Hope	A cognitive state that is based on an interactively derived sense of successful: (1) agency (goal directed energy) and (2) pathways (planning to meet goals) (Snyder <i>et al.</i> 1996).
Psychological Safety Climate	Refers to a team member’s belief that their “team is safe for interpersonal risk taking” (Edmondson 1999: 354).
Job Performance	Those activities that are directly involved in the accomplishment of core job tasks, or activities that directly support the accomplishment of tasks involved in an organization’s technical core (Borman and Motowidlo 1993).
Quality of Care	Care that is equitable, accessible, acceptable, efficient, effective and appropriate to the needs of the patient (Redfern and Norman 1990).
Independently Owned Hospitals	Privately owned care settings which provide in-patient medical, surgical or psychiatric services on a twenty four hour basis. (Independent Hospital Association of Ireland 2012).

1.6 Structure of this Thesis

This thesis is comprised of seven chapters which are structured as follows. *Chapter one* has introduced the study and its significance and provided an overview of the thesis. *Chapter two* reviews the literature on the antecedents of proactive behaviour. *Chapter three* reviews the literature on high-quality relationships and proactive behaviour and poses the main study hypotheses. *Chapter four* provides a brief overview of the research context and the study sample. *Chapter five* discusses the research methodology employed including the philosophical foundations, the research design and the data analysis strategy. *Chapter six* presents the statistical analysis carried out on the data and the findings derived from it. This includes a description of the study sample, support for aggregation of the unit level data, descriptive statistics and the results of multi-level regression modelling. *Chapter seven* completes the thesis with a discussion of the study results. It also describes this study's contributions and concludes with a summary of the theoretical and practical implications as well as indicating future research directions.

1.7 Conclusion

This chapter presented an overview of the research. It commenced with a brief introduction to proactive behaviour which is aligned with the positive psychology movement in organisational research. The failure of the literature on proactivity to provide a full account of the relational foundations of proactive behaviour was identified and the significance of the study in terms of its contribution was discussed. Next, the research question was posed and the aims that guided the investigation were stated. The research model was presented and the five key hypotheses guiding the

empirical investigation and analysis were outlined. Finally, the overall structure of the thesis was presented. The next chapter discusses the theoretical foundations of proactive behaviour, deals with issues of definition and reviews the literature on antecedents of proactive behaviour to date.

CHAPTER 2

PROACTIVE BEHAVIOUR AT WORK

2.1 Introduction

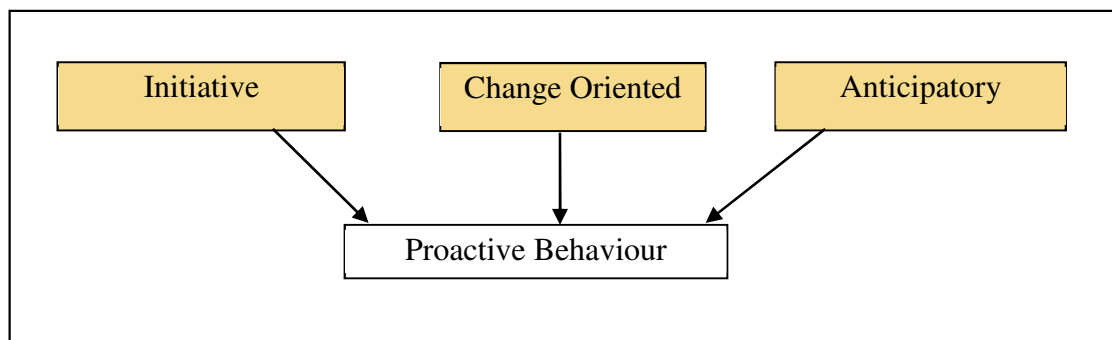
This chapter begins by defining proactive behaviour and distinguishes it from related constructs such as organisational citizenship behaviour and innovation. It then continues with a discussion on the theoretical foundations from which the concept of proactivity has emerged. A brief overview of the empirical research on proactive behaviour to date is then provided. In the past decade there has been a significant increase in the number of studies which have at their core the search for greater understanding of proactive behaviour. Researchers have focused on individual and contextual antecedents of a range of proactive behaviours. This chapter reviews the empirical research to date on the antecedents of proactivity. It concludes by identifying gaps in the proactivity literature and signalling the need for further exploration of the literature on high quality relationships.

2.2 What does it mean to be Proactive?

The Oxford English Dictionary (Online 2012) defines proactivity as “creating or controlling a situation by taking the initiative and anticipating events or problems rather than just reacting to them after they have occurred”. This definition highlights two core activities. Firstly, it emphasises using initiative and taking control in a given situation. Secondly, the definition draws attention to anticipation, emphasising the future-focused nature of proactivity. As depicted in Figure 2.1, these elements are central to most definitions of proactive behaviour and are helpful in distinguishing proactive behaviours

from more general motivated behaviours which tend to be reactive and passive in nature. For example, Grant and Ashford (2008: 8) define proactive behaviour as “anticipatory action that employees take to impact themselves and or their environments” and Griffin, Neal and Parker (2007: 332) define individual proactivity as “the extent to which individuals engage in self-starting, future oriented behaviour to change their individual work situations, their work roles or themselves”. This definition clearly highlights proactive behaviour as a motivated and engaged behaviour requiring mindful and purposeful thought. It also emphasises the core elements that proactive researchers agree are at the heart of proactive behaviour – self-starting, change oriented and future focused. The focus on impact signifies that their intent is to alter themselves or their environment and thus clearly categorises proactive behaviour as a change oriented behaviour.

Figure 2.1 Key Elements of Proactive Behaviour



In so far as proactive behaviour reflects something other than typical performance, it can be considered as an engaged behaviour. According to models of behavioural engagement (Macey and Schneider 2008), the related concepts of trait and state engagement, along with the direct and indirect influences of work conditions can be used to understand what drives behavioural engagement at work. Behavioural engagement can be defined as behaviour that transcends typical boundaries and thereby

involves doing something differently. Engaged behaviours “include innovation, demonstration of initiative, proactively seeking opportunities to contribute and going beyond what is within a specific frame of reference typically expected or required” (Macey and Schneider 2008: 15). Although this model provides a helpful framework for distinguishing engaged behaviours from engaged states, it also groups proactivity with a number of other engaged behaviours. In so doing, this conceptualisation of behavioural engagement does not provide a categorisation of behaviour that recognises the distinctions between different types (Griffin, Parker and Neal 2008). In the interest of clarifying boundaries around the proactive research domain, it is useful to distinguish proactivity from other similar constructs. Although related behaviours such as organisational citizenship behaviours, innovation and adaptivity do share common ground with proactive behaviours, clear differences can also be identified.

Organisational citizenship behaviour (OCB) can be defined as discretionary behaviour which promotes the effective functioning of an organisation (Organ, Podsakoff and MacKenzie 2006). OCB is generally conceptualised as extra-role behaviour. However, organisational citizenship behaviours are often reactive in nature and may, for example, be prompted by a request for assistance by a colleague who is overburdened (Raub and Liao 2012; Grant and Ashford 2008). Although it has been proposed by Van Dyne and LePine (1998) that proactive behaviour is extra-role, because in-role behaviour cannot be classified as self-initiated, research has suggested that proactive individuals construe their roles more broadly (Parker, Wall and Jackson, 1997) and thus redefine them to incorporate a broader range of tasks. Current consensus on the nature of proactivity is that it can include in-role and extra-role behaviour, indicating that all tasks can be undertaken more or less proactively. In this way it is conceptually distinct from organisational citizenship behaviour. Thus there is “no need to confine proactive

behaviour to citizenship or extra-role behaviour, and not all extra-role or citizenship behaviour is proactive” (Bindl and Parker 2011: 8).

Innovation does share some similarities with the concept of proactivity in that both can be described as change oriented behaviours. Although it is argued that proactivity plays an important role in the innovation process (Rank, Pace and Frese 2004), clear distinctions can also be made between proactive behaviour and innovation. Innovation can be defined as “the introduction of novelties; the alteration of what is established by the introduction of new elements or forms” (Oxford English Dictionary Online 2012). Although some proactive behaviours such as individual innovation clearly involve the introduction of new methods, tools or techniques, not all proactive behaviours involve novelty. For example, taking charge can involve improvements to existing procedures or employees can use their voice to raise awareness of existing problems.

Adaptivity involves “responding constructively to unexpected and new circumstances” in adapting to change at work (Griffin, Parker and Mason 2010: 175). Adaptivity can be distinguished from proactivity in that it involves action as a positive *response* to change whereas proactivity involves a more self-directed attempt to *initiate* change. Reflecting on the subtle differences between these similar concepts clarifies proactivity as behaviour which can be construed as in-role or extra-role; can involve novelty or the alternation of what already exists; and is self-directed.

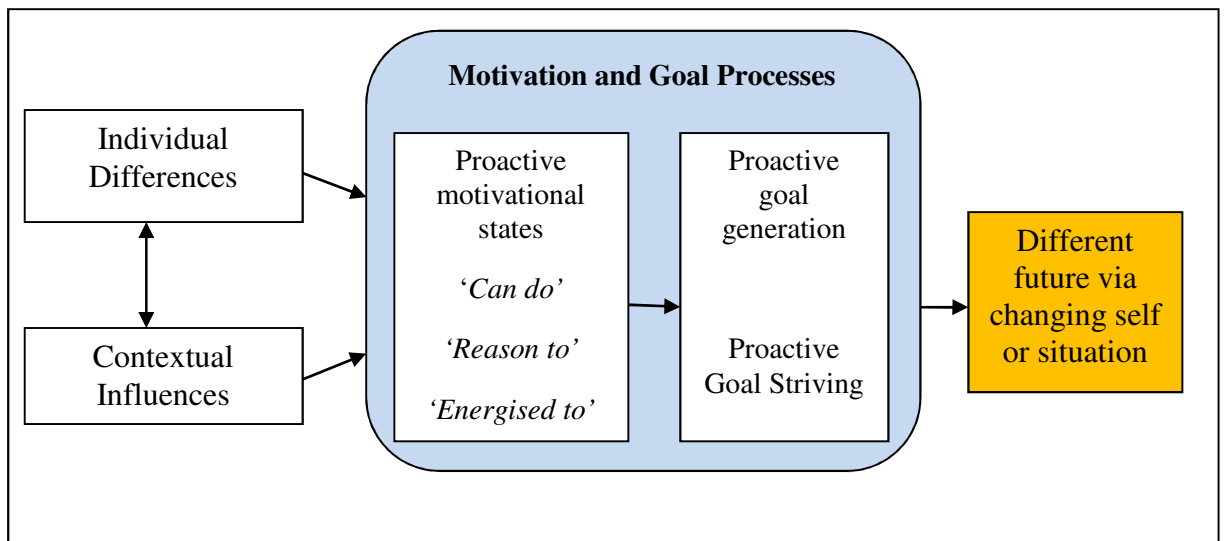
2.3 Theoretical Foundations

Research on proactive behaviour has emerged in a variety of literatures including work on social processes such as how employees actively shape their social interactions and relationships (Rioux and Penner 2001; Ashford, Blatt and VandeWalle 2003; Ashford and Cummings 1985), how they influence their own work structure (Parker, Williams and Turner 2006) and the active role that employees play in shaping change and development processes (Sonnentag 2003). Considering the lack of integration which characterises this research stream and the extent to which studies on proactivity have emerged in seemingly disconnected literatures, it has been argued that there is no single underlying theory driving this body of work (Crant 2000). This is due to the fact that research on proactivity has been phenomena-driven, that is, researchers have observed a specific behaviour and have proceeded to develop theories and analyse data to explain what has been observed (Grant and Ashford 2008). The unsystematic manner in which this body of research has developed has attracted criticism from researchers who emphasise the fragmented nature of what is known about proactive behaviour. In recognition of these concerns, theorists are now moving to develop further understanding of the universal dynamics which drive proactive behaviour. A clear priority as part of this process is understanding the theories which have emerged to explain proactivity.

Reflecting on the fundamental definition of proactivity as “motivated behaviour at work” (Bateman and Crant 1993), one approach is to situate the study in existing theory and research on motivation. Initial assumptions about the reactivity of employee behaviour (e.g. Expectancy Theory, Equity Theory and Goal Theory which all emphasise the reactive nature of agency in human behaviour), have given way to the

notion that employees also deliberately plan and act in ways to change themselves or features of their environments (Grant and Ashford, 2008). More recently, Parker Bindl and Strauss (2010) have conceptualised proactivity as a motivated conscious and goal driven process. Drawing on Kanfer and Ackerman's (1989) framework, the authors argue that individuals anticipate desired future states (goal generation) and develop strategies to achieve these states (goal striving). Proactive goal generation involves the individual envisioning and planning changes to one's self or one's environment that are self-initiated. Proactive goal striving refers to the "behaviour and psychological mechanism by which individuals seek to accomplish proactive active goals" (Parker Bindl and Strauss 2010: 832). Within this framework, the impetus for setting and striving for a proactive goal rests within the domain of proximal proactive motivational states which reflect '*can do*', '*reason to*' and '*energised to*' motivations to attain the proactive goal. This theory also proposes that in order to fully understand how motivational states drive goal generation and striving, it is important to consider personality and work context as distal variables. The final tenet of this model of proactive motivation is that it is through proximal motivational states that distal variables have their impact on proactive goal motivation. Figure 2.2 presents the model of proactive motivation.

Figure 2.2 Model of Proactive Motivation



Proactive concepts have received much attention in the past decade and the surge in interest has resulted in a proliferation of labels, constructs and measures all housed under the umbrella of proactivity. Examples include personal initiative (Frese and Fay 2001), taking charge (Morrison and Phelps 1999), voice (Van Dyne and LePine 1998), problem prevention (Parker and Collins 2010) and issue selling (Ashford *et al.* 1998). Leading researchers in the field have responded to criticisms which highlighted the need to move towards integration in understanding proactive constructs. The most recent endeavours towards synthesis have resulted in the development of new measures and frameworks for understanding broader conceptualisations of proactive behaviour. Work by Griffin Neal and Parker (2007) and Parker and Collins (2010) have led the way by developing frameworks and measures of generalised proactive behaviour. Based on a factor analysis of a variety of narrow width concepts of proactivity, Parker and Collins (2010) developed a three factor model of proactivity: the three empirically and conceptually distinct constructs are proactive work behaviour, proactive strategic behaviour and proactive person-environment fit behaviour. Grant and Parker (2009) contribute a fourth factor to this framework in the form of proactive career behaviour.

Although this four factor model does not represent all forms of proactive behaviour it provides a helpful overview of a variety of proactive behaviours. Reflecting on the dimensions of proactivity (Grant and Ashford 2008), it is clear that each of the four constructs represented within this higher order model vary in respect of their target of impact. That is, they differ in what the behaviour is intended to affect or change.

Another crucial contribution towards synthesis in the proactivity literature has been the design of measures of proactive work behaviours. In the development of a work role performance model, Griffith Neal and Parker (2007) identified three forms of proactive behaviour, individual level proactivity, team level proactivity and organisation level proactivity. This focus on individual, team and organisation has also been proposed by recent work which examines pro-self, prosocial and pro-organisational foci of proactive behaviour (Belschak and Den Hartog 2010). Proactive behaviours targeted at these three foci have been found to be empirically distinct. These various taxonomies for organisational proactive behaviour highlight the importance of target of impact as a dimension wherein proactive behaviours can differ from each other.

2.4 Antecedents of Proactive Behaviour: The State of the Art

This section provides an overview of the empirical research on the drivers of proactive behaviour. It reflects on what is known about the situational and individual influences on proactivity at work. In so doing, it also serves an important function in identifying theoretical and empirical gaps in the research to date.

2.4.1 The Role of Situational Antecedents: Job Context and Social Context

This section examines the role of job context and social context in promoting proactivity.

Job Context

Much of the research on proactive behaviour has been carried out by examining how job design can have an impact on whether individuals behave proactively.

Autonomy: Job autonomy is one the key features of job design which has consistently been found to impact proactive behaviour. Situational autonomy describes situations in which employees have discretion regarding what to do, when to do it and how to do it (Hackman and Oldham 1976; Morgeson and Humphrey 2006). Autonomy has received much attention in the proactivity literature and is recognised as an important contextual feature which encourages a variety of proactive behaviours such as problem solving and idea implementation (Parker, Williams and Turner 2006), role expansion (Axtell and Parker 2003), prosocial rule-breaking (Morrison 2006), voice (Tangirala and Ramanujam 2008) and personal initiative and prosocial proactive behaviour (Den Hartog and Belschak 2012).

Job Stressors: Research has shown how time pressure inhibits alternative ways of thinking and limits experimentation (Miles, Snow and Miles 2000). Indeed, much of the research on stressors and performance provides evidence to suggest that job stressors can have a negative impact on performance outcomes. However, research to date on proactive behaviour tells a different story. For example, in a longitudinal study carried out by Sonnentag and Fay (2002), situational constraints (e.g. malfunctioning of

process, inadequacy of tools, supplies and equipment) were positively related to personal initiative. Likewise, time pressure was positively related to personal initiative. Using a control theory approach (Carver and Scheier 1982), the authors propose that stressors are regarded as signals that a process or procedure is working below par. In this sense, although the stressor does not directly cause someone to take action, it does highlight the need for improvement which can be made by taking initiative (Sonnentag and Fay 2002). These findings were replicated and extended in a recent study by Ohly and Fritz (2010), who concluded that chronic time pressure and daily time pressure were positively related to proactive behaviour. These results certainly suggest that stressors are positively linked with initiative that is targeted at removing the stressors themselves and indicate that there are times when stressors are important for encouraging change oriented behaviours. However, they do not provide evidence to suggest that stressors will be positively related to non-stressor related proactive endeavours such as attempts to ensure that future demands are met.

Social Context

Proactivity has been largely conceptualised as a solitary behaviour which an individual undertakes to change themselves or their environment. However, the changes which are initiated occur within a social context. Thus, in order to learn more about proactivity it is necessary to explore how aspects of the social context impact on the individual's motivation to behave proactively. This section explores some key facets of the relational context which impact proactive behaviour.

Leadership: Proactive theorists suggest that one of the main ways in which leaders can engender proactive behaviour is by providing a supportive context for such behaviour to

emerge. Research has shown that leader vision, defined as “the expression of an idealised picture of the future based around organisational values” (Rafferty and Griffin 2004: 332), has a role to play in engendering proactivity. In a longitudinal study of public sector employees, Griffin, Parker and Mason (2010) found that strong leader vision reported at time 1, predicted proactive work behaviours a year later. Transformational leadership at team level and organisational level was found to be an important predictor of proactivity directed towards the team and the organisation respectively (Strauss, Griffin and Rafferty 2009). This study found that transformational team leaders enhance team member proactivity by increasing individual team member role breadth self-efficacy. The focus of the individual proactive endeavour was also of interest to Den Hartog and Belschak (2012), who found positive support for the relationships between transformational leadership and personal initiative and prosocial proactivity. Further support for the positive impact of transformational leadership on proactivity can be found in a study by Williams, Parker and Turner (2010) who examined the impact of team leadership on team proactive performance.

Despite evidence of the clear role played by transformational leadership, less consistent results have been found for the predictive power of supervisory support on proactive behaviour. Studies have found significant positive relationships between supervisor support and personal initiative (Ohly, Sonnentag and Pluntke 2006) and implementation of ideas (Axtell et al. 2000). However, although Parker Williams and Turner (2006) predicted a positive relationship between supportive supervision and proactive work behaviour among a sample of wire makers, supportive supervision was found to be unimportant in promoting proactive behaviour. Ohly, Sonnentag and Pluntke (2006) also found a significant negative relationship between supervisory support and the

suggestion of ideas. One possible explanation put forward by these authors is that supervisors cannot promote proactivity because of the initiative paradox (Campbell 2000).

Social Climate: The nature of relationships with colleagues has been found to be a factor in an individual's willingness to engage in a number of different proactive behaviours. Parker, Williams and Turner (2006) found that co-worker trust was positively related to proactive work behaviours such as implementing ideas and solving problems. This relationship was mediated by flexible role orientations, indicating that collegial trust is important for proactivity as it creates an environment where individuals are more comfortable taking the risks associated with broadening work roles. Ashford *et al.* (1998) found that friendly and trusting relationships, with critical decision makers and those who would be affected by their proactive action, predicted issue selling in a sample of female managers. Other studies have suggested that where individuals report higher levels of satisfaction with their work group they also report more engagement in voice behaviour (Van Dyne and LePine 1998). Drawing on social exchange theory, the authors argue that individuals who are satisfied with their group are likely to be more highly motivated to generate new ideas and communicate these to the group. Such relationships result in a sense of possibility and support for their proactive actions.

Psychological safety climate has been found to directly predict learning behaviours (Edmondson 1999; Carmeli, Brueller and Dutton 2009) and learning from failure (Carmeli and Gittel 2009). Edmondson, Bohmer and Pisano (2001) also found that a climate of psychological safety directly predicted voice behaviours. Nembhard and Edmondson (2006) argued that psychological safety was positively related to a

motivated and engaged approach to quality improvements which they conceptualised as an extra-role effort. Furthermore, Vennekel (2000; cited in Fay and Frese, 2001) found that individual team member perceptions of psychological safety was related to personal initiative among hospital staff. Their research highlights the value of psychological safety climate for a range of risky, agentic, change oriented behaviours.

2.4.2 The Role of Individual Antecedents: Distal and Proximal

This section reports on research which examines distal and proximal individual antecedents of proactive behaviour.

Distal Individual Antecedents

A number of distal individual antecedents have been identified as important for proactive behaviour. Of note is the influence of demographics and disposition.

Demographics: Empirical research has found mixed support for the relationship between age, gender and level of education and proactive behaviour. For example, some studies have found negative relationships between age and proactive job searching, training motivation and education initiative (Kanfer, Wanberg and Kantrowitz 2001; Maurer, Weiss and Barbeite 2003; Warr and Birdi 1998; Warr and Fay 2001). Although these studies reflect a level of consistency in the negative relationship between age and behaviour aimed at enhancing person environment fit and career prospects, more mixed results have been found in relation to proactive behaviour targeted at improving work situations. For example, Morrison and Phelps (1999) found no correlation between age and taking charge, but other researchers have linked greater levels of proactivity with age among females (Warr and Fay 2001).

Studies examining the relationship between gender and proactivity have yielded similar inconsistency in results. Males have been found to be more proactive in terms of career behaviours (Kanfer, Wanberg and Kantrowitz 2001), networking behaviours (Claes and Ruiz-Quintanilla 1998) and voice behaviour (Van Dyne and LePine 1998). Bindl and Parker (2011) urge caution in the interpretation of these results because of the complex network of relationships between gender and occupational type and level. Finally, a recent meta-analysis by Thomas, Whitman and Viswesvaran (2010) found mixed support in a series of correlations relating age, experience and general mental ability and a number of proactive constructs. They concluded that key proactive concepts such as personal initiative, voice and taking charge are not merely a reflection of age, experience or mental ability.

Disposition: Earlier research on proactivity focused on the notion of proactive personality. From this perspective, individuals differ in their relatively stable behavioural tendencies to engage in proactive behaviour. The literature provides a unique insight into the inherent personality based component of proactivity. In their conceptualisation of proactive personality, Bateman and Crant (1993: 105) distinguish individuals who share the characteristics of the prototypic proactive personality as those “who are relatively unconstrained by situational forces and who effect environment change” from those who are not so classified and are relatively passive, reacting to, adapting to and ultimately shaped by their environments. This approach assumes that people who score highly on the proactive personality measure display proactive behaviours across many different contexts, regardless of situational differences within these contexts. Many streams of research support this contention linking proactive personality to network building (Lambert, Eby and Reeves 2006), proactive socialisation (Kammeyer-Mueller and Wanberg 2003) and career initiative (Seibert,

Kramer and Crant 2001). Parker and Collins (2010) also found proactive personality to be strongly correlated with a variety of different work related proactive behaviours. Research on proactive personality has shown it to have many other positive outcomes including career success (Seibert Kramer and Crant 2001), job performance (Thompson 2005), leadership (Crant and Bateman 2000) and job satisfaction (Li, Liang, and Crant 2010). Although the literature on proactive personality has been praised for identifying some of the core characteristics of proactive employees, it has also been criticised for failing to offer information about what specific behaviours should be classified as proactive (Crant 2000). Current thinking in the area of proactivity suggests that it is a process which is applicable to any set of actions. This situates proactivity as a behavioural process that can occur in-role or extra-role. Regardless of its application, Grant and Ashford (2008) argue that anticipation, planning and action directed toward future impact are all key aspects of proactivity.

Proximal Individual Antecedents

A number of proximal motivational processes have been found to have a powerful influence on the tendency to behave proactively. In many cases these motivational antecedents show how more distal individual or situational antecedents, such as job context or social context, impact proactive change oriented behaviours (Bindl and Parker 2010).

Role Breadth Self-Efficacy: Evidence exists to suggest that perceived capability is positively related to proactivity. Links have been found between role breadth self-efficacy and a number of proactive behaviours (Parker 1998). Role breadth self-efficacy refers to “one’s perceived capability of carrying out a range of proactive,

interpersonal and integrative activities beyond the prescribed technical core” (Parker and Collins 2010: 641). Individuals high in role breadth self-efficacy have a greater belief that behaving proactively is likely to result in successful outcomes and are thus motivated to engage in proactive behaviour. Individuals with low role breadth self-efficacy on the other hand are less sure of their ability to be successful in taking on tasks outside their prescribed roles and they perceive proactive behaviours as carrying more risk. Role breadth self-efficacy has been shown to predict a variety of proactive behaviours including proactive job performance (Griffin, Neal and Parker 2007), proactive problem solving (Parker, Williams and Turner 2006) and suggesting improvements (Axtell *et al.* 2000). Self-efficacy has been found to mediate the relationships between autonomy and proactivity. Parker Williams and Turner (2006) argue that autonomy both increases controllability of a task, a core dimension of self-efficacy, and facilitates enactive mastery whereby employees have the opportunity to learn new skills and undertake new responsibilities. Empirical evidence provides ample support for the relationship between autonomy and role breadth self-efficacy (Morgeson, Delaney-Klinger and Hemingway 2005; Parker and Sprigg 1999; Den Hartog and Belschak 2012).

Role Orientations: Having flexible role orientations is also important for proactive behaviour. According to Bindl and Parker (2011: 14), individuals who have a flexible role orientation define their job broadly “such as to include feeling ownership for customer satisfaction rather than possessing a narrow and passive ‘that’s not my job’ mentality”. Research has shown that flexible role orientation is positively related to idea generation, proactive problem solving and suggestion making (Parker, Williams and Turner 2006; Howell and Boies 2004; Axtell *et al.* 2000).

Goal Orientations: Dweck (1999) proposed the concept of goal orientation and identified two dimensions – learning goal orientation and performance goal orientation. Learning goal orientation reflects an individual preference to develop competence by acquiring new skills and mastering new situations. Performance goal orientation reflects a preference to demonstrate and validate one's own competence by seeking favourable judgements and avoiding negative judgements from others. Research has shown that performance goal orientations are negatively related to a number of different forms of strategic proactive behaviours, proactive work behaviours and proactive behaviours aimed at improving the person environment fit (Parker and Collins 2010) and pro-social, pro-organisation, pro-self proactive behaviours (Belschak and Den Hartog 2010). These authors argue that individuals with a performance goal orientation are unlikely to engage in proactive behaviours because such an orientation is likely to promote ego focused and defensive behaviours where individuals avoid risky behaviours which may lead others to question their abilities. Conversely individuals with a learning goal orientation are argued to emphasise learning processes rather than demonstrating capability and thus might find it less risky to engage in proactive behaviour. Consistent with this argument studies have also found that learning goal orientation was positively related to a range of proactive behaviours (Parker and Collins 2010; Belschak and Den Hartog 2010).

Commitment: In examining individual motivators of proactive behaviour researchers have drawn attention to the role of commitment. They contend that affective commitment facilitates affective activation, providing motivation to take action to reach their goals (Parker 2007). Affective commitment also enhances attachment to and identification with the team or organisation and thus provides motivation to exert effort to reach goals likely to benefit these entities. In line with this reasoning, Den Hartog

and Belschak (2007) found that commitment to the team and the organisation were both strongly correlated to personal initiative. In a cross sectional survey of one public sector agency, Strauss Griffin and Rafferty (2009) found that commitment towards the organisation was positively related to reports of proactivity towards the organisation. Support for the relationship between organisational commitment and proactivity towards the organisation were also noted by Griffin, Neal and Parker (2007). Belschak and Den Hartog (2009) revealed strong correlations between team commitment and pro-social forms of proactivity.

Affect: Drawing on Fredrickson's (1998) broaden and build theory of emotions, researchers have suggested that positive affect positively influences proactive behaviour. Parker (2007) proposed that when individuals experience positive affect they generate broader, future oriented and more challenging goals associated with proactive motivation. It is also argued that when an individual is engaged in proactive action, positive affect helps to promote goal striving by supporting individuals in staying the course even in the face of negative events or resistance they may encounter. Den Hartog and Belschak (2007) found that positive affect was correlated with self-rated personal initiative. In a day-level study of the impact of affect on proactive behaviour, Fritz and Sonnentag (2009) found that positive affect measured in the morning was positively and significantly related to proactive behaviour (as measured by taking charge) on the same afternoon and the following work day. Further research by Parker, Collins and Grant (2008; cited in Bindl and Parker 2010) showed that high arousal positive affect was positively related to taking charge and strategic scanning. Recent work by Bindl *et al.* (2012) has also highlighted that high activated positive mood was positively related to proactive goal regulation including, envisioning, planning and enacting proactive goals. Interestingly, their research indicated that low

activated negative mood was positively related to envisioning proactive goals but not enacting them. High activated negative mood was negatively related to all aspects of proactive goal regulation. Finally, research has shown how work engagement, defined as a “persistent positive affective motivational state of fulfilment” (Maslach, Schaufeli and Leiter 2001: 417), is important for self-rated personal initiative (Sonnentag 2003) and proactive behaviour (Schaufeli and Salanova 2008). Taken together, these studies provide consistent support for the relationship between positive affect, in particular activated affect, and proactive behaviour.

Table 2.1 summarises a number of key empirical studies which have examined the contextual and individual antecedents of proactive behaviour.

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Table 2.1 Empirical Studies which have examined Contextual and Individual Antecedents of Proactive Behaviour

Study	Purpose	Method/Level	Sample	Findings
Ohly and Fritz (2010)	Examine the relationships between chronic and daily time pressure and job control and creativity and proactive behavior on a daily level. Assess the mediating role of challenge appraisal within these relationships.	Longitudinal Diary study Multilevel	149 employees of automotive manufacturer	There is a positive relationship between chronic and daily time pressure and job control and challenge appraisal, daily creativity and daily proactive behaviour. The relationships between chronic work characteristics and challenge appraisal were mediated by daily measurements of work characteristics. The relationship between daily work characteristics and daily creativity and daily proactive behaviour were partially mediated by challenge appraisal.
Den Hartog and Belschak (2012)	Assess the interactive effects of personal and contextual variables on proactive behaviour.	Two cross sectional studies Surveys Individual level	Study 1: 150 employee - peer dyads from 69 diverse companies Study 2: 158 employee supervisor dyads 59 diverse companies	The relationship between transformational leadership and proactive behaviour is moderated by role breadth self-efficacy and job autonomy. In situations of high autonomy, transformational leadership relates positively to proactive behaviour for individuals high (but not low) on self-efficacy.
Parker, Williams and Turner (2006)	Examine the role of job autonomy supportive supervision and co-worker trust on proactive idea generation and implementation via mediating psychological states (role breadth self-efficacy, role orientation and control appraisals).	Cross Sectional Survey Individual level	282 UK wire makers	The relationship between job autonomy and proactive behaviour was mediated by role orientation and role breadth self-efficacy. The relationship between co-worker trust and proactive behaviour was mediated by role orientation. Supportive supervision was not significantly related to proactive behaviour.

Table 2.1 Empirical Studies which have examined Contextual and Individual Antecedents of Proactive Behaviour Contd.

Study	Purpose	Method/Level	Sample	Findings
Strauss, Griffin and Rafferty (2009)	Explore the links between transformational team and organizational leadership and proactivity towards the team and organisation.	Cross sectional design Surveys Individual level	196 employees of Australian public sector organisation	Role breadth self-efficacy mediates the relationship between transformational team leadership and proactivity towards team. Commitment mediates the relationship between transformational organisational leadership and proactivity towards the organisation.
Griffin, Neal and Parker (2007)	Develop a new model of work role performance and identify predictors of different types of performance.	Three cross sectional studies Surveys Individual level	Study 1: 491 employee - supervisor dyads from Australian state government agencies Study 2: 1228 employees from two public sector agencies in Australia Study 3: 937 health sector employees from Australia	Identifies three distinct forms of performance: proficient, adaptive and proactive. Role breadth self-efficacy predicts proactivity towards team, task and org.; team support predicts team proactivity; commitment predicts proactivity towards the organisation.
Belschak and Den Hartog (2010)	Explore whether pro-organisational pro-self and prosocial proactive behaviours are empirically distinct and to show differential relationships with other variables.	Two cross sectional studies Survey Individual level	Study 1: 117 employee – peer dyads from 18 diverse organisations in the Netherlands Study 2: 126 employee – colleague dyads from 55 diverse organisations in Netherlands	Different foci of commitment predict different foci of proactive behaviour. Learning goal orientation is positively related to all proactive behaviours. Performance prove orientation is positively linked to proactive behaviour. Performance avoid goal orientation is negatively related to proactive behaviours. Transformational leadership predicts organisational and prosocial proactivity. Proactive behaviour was positively related to task performance.
Den Hartog and Belschak (2007)	Explore the relationships between personal initiative, affect and commitment to supervisor, team, organisation and career.	Two cross sectional studies Survey Individual level	Study 1: 390 healthcare sector employees. Study 2: 80 employee-manager dyads from diverse range of industries in the Netherlands.	Different foci of commitment (team, organisation and career) were positively related to self-ratings of personal initiative when controlling for general work affect. Career commitment and organisation commitment were predictors of supervisor rated initiative. Commitment to supervisor was not related to initiative in either sample.

Table 2.1 Empirical Studies which have examined the Contextual and Individual Antecedents of Proactive Behaviour Contd.

Study	Purpose	Method/Level	Sample	Findings
Parker and Collins (2010)	Examine differences between different forms of proactive behaviour and identify antecedents of these behaviours.	Two cross sectional studies Survey Individual level	Study 1: 602 MBA graduates from range of public and private sector organisations. Study 2: 303 MBA graduates from range of public and private sector organisations.	Learning goal orientation and role breadth self-efficacy and felt responsibility for change were all positively related to strategic proactive behaviours, proactive work behaviours and proactive person environment fit behaviours. Performance goal orientations were negatively related to all forms of proactivity.
Bindl <i>et al.</i> (2012)	Examine how affect relates to proactive goal regulation.	Study 1 Cross sectional survey design Study 2 Longitudinal survey design Individual level	Study 1: 225 employees of a UK call centre. Study 2: 250 medical students from UK.	High activated positive mood positively predicted all aspects of proactivity. Low activated negative mood associated with envisioning proactive goals but not proactive action. High activated negative feeling negatively associated with all aspects of proactivity.
Schaufeli and Salanova (2008)	Investigate the mediating role of job resources(control, feedback and variety) and proactive behaviour and personal initiative.	Two cross sectional studies Survey Individual level	Study 1: 386 technology employees from diverse range of public and private organisations. Study 2: 338 managers from Dutch telecom company.	Work engagement mediated the relationship between job resources and proactive behaviour.
Ashford <i>et al.</i> (1998)	Examine the role of organisational context (warm trusting relationships with decision makers, perceived organisational support, top management openness and norms for issue selling) and proactive issue selling.	Cross sectional Survey Individual level	1018 Female graduates of a business school in the US.	Quality of relationship with decision makers, and perceived organisational support were positively related to willingness to sell issues in that they reduced concerns about image risk and enhanced perceptions of success. Norms for issue selling were associated with reduced image risk, but top management openness was not a significant predictor of image risk, perception of success or willingness to sell issues.

2.5 Identification of Theoretical and Empirical Gaps in the Proactivity

Literature

A review of the proactivity literature has identified a number of theoretical and empirical gaps in current research in this domain. Most notable is the rather limited theorising and empirical research on the role of the social context in motivating proactive behaviour. Certainly, research on the role of relationships in promoting proactive behaviour is in its infancy and studies focusing on relational concepts have, to date, presented evidence to suggest that relationships are important for reducing the risks associated with being proactive (Ashford *et al.* 1998; Parker, Williams and Turner 2006). Research from the field of positive organisational scholarship on high quality relationships and connections at work (Cameron Dutton and Quinn 2003; Dutton and Ragins 2006; Vinarski-Peretz *et al.* 2011) provides a valuable theoretical foundation from which to explore the impact of social relations on proactive behaviour. Individuals are often organised around groups in the completion of tasks that require a high level of interdependency. For this reason, the theory of relational co-ordination (Gittell 2002) is identified as representing a new perspective on why relational climate can engender proactive behaviour in that it reflects the importance of mutual respect, shared goals and knowledge. Relational co-ordination is thus identified as playing an important role in enhancing the capacity of individuals to engage in proactive behaviours.

It is also suggested that high quality relationships have implications for both *can do* and *energised to* motivations to behave proactively. The empirically tested and supported pathways through which positive relations impact proactive behaviour at the individual

level, have largely focused on self-efficacy and flexibility in role orientation. The surge in interest in positive organisational behaviours has brought to the fore a number of positive psychological states which have, heretofore, not received much attention in the literature on proactive work behaviours. It is argued that one of the most notable omissions in the research on proactive behaviour is the role of hope (Snyder 1994). The relevance of hope to proactive behaviours is apparent. An individual's belief that their proactive behaviour will make a difference, that they will be able to overcome barriers as part of the process and that they have the ability to carry out proactive tasks, is an important psychological resource, supporting both the will and the way to behave proactively. Work engagement has been identified as a motivational state which mediates the relationship between job resources and self-rated proactive behaviour (Salanova and Schaufeli 2008). Research has examined the relationship of work engagement and personal initiative. However, no studies have empirically examined the role of work engagement as a mediator of the relationship between high quality relationships and proactive behaviour. Finally, psychological safety has been espoused as an important factor for reducing the risk of behaving proactively. Although studies have explored the linkages between high quality relationships, safety climate and learning from failures (Carmeli and Gittell 2009), research has not probed the mediating role of psychological safety climate in the relationship between relational co-ordination and individual proactive behaviour.

A review of the literature on proactive behaviour also highlights a number of methodological gaps. Most of the research exploring the antecedents of proactive behaviour has focused on within-level relationships. For example, researchers have examined the role of individual antecedents on individual proactive outcomes (Den Hartog and Belschak 2012; Parker and Collins 2010; Griffin, Neal and Parker 2007).

Little research has examined the combined effect of macro and micro influences on individual proactive behaviours. Furthermore, research on proactive behaviour to date has developed in a rather fragmented fashion. Researchers have focused on antecedents, contingencies and outcomes of a variety of proactive concepts such as voice, issue selling, taking charge and personal initiative. This previous work has undoubtedly enriched understanding of the relationships between individual and contextual antecedents of agentic, change oriented behaviour. However, like other proactivity researchers, the author identifies the need for research that clearly distinguishes proactivity from related constructs and uses measures that fully capture the concept as it has been most recently defined.

2.6 Conclusion

This chapter provided a brief overview of the literature on proactive behaviour and in so doing formed a backdrop against which proceeding chapters can be examined. It commenced with reflection on the theoretical foundations of proactivity research. Proactive behaviour was described as an engaged behaviour which reflects self-starting, anticipation and change orientation and is related to, but distinct from, a number of other performance concepts. Next, this chapter presented an overview of research on the individual and contextual antecedents and outcomes of proactive behaviour leading to the identification of a number of gaps in the literature. The next chapter proposes that the literature on high quality relationships at work can contribute by filling some of these theoretical and empirical gaps.

CHAPTER 3

HIGH QUALITY RELATIONSHIPS AND PROACTIVE BEHAVIOUR

3.1 Introduction

The previous chapter identified a paucity of research examining the role of relationships in engendering proactive behaviour. This chapter begins by introducing the literature on high quality relationships in order to develop an understanding of how and why relationships at work help to foster proactivity. It discusses the effect of individual experiences of high quality relationships on individual proactive behaviour and specifically examines how relational experiences at work are important for proactive work behaviour. It also identifies hope and work engagement as mediating pathways between subjective relational experiences and proactive behaviour. Next, the literature on relational coordination is discussed in order to understand how positive relational climates impact proactive behaviour. It then discusses the role of psychological safety climate in understanding how high quality relationships between members of a work unit influence the decision of individual members of the unit to behave proactively. Research on outcomes of proactivity is also examined. Finally, this chapter presents the predicted research model and summarises the study hypotheses.

3.2 The Role of Relationships at Work

The notion that interpersonal relationships in the workplace have an impact on people's attitudes and behaviours is not new. However, recent work in the field of positive organisational psychology has highlighted the unique role of high quality relationships among organisational members in providing the basis for a life enhancing work environment (Ragins and Dutton 2006). This concept is worthy of further empirical and theoretical attention based on the following assumptions. Humans are social and have a need to belong (Maslow 1968) and thus relationships with others are an important part of the social experience in any organisation. Connections between people are dynamic and individuals change how they feel, think and behave when relating to others (Reiss 2007). Much of the work in organisations is carried out through social processes and thus relationships between work colleagues are an important element in understanding how the workplace operates (Stephens, Heaphy and Dutton 2012).

Research has shown that trust in, and satisfaction with co-workers, is important for taking a proactive approach to work, but the concept of high quality relationships at work is not limited to these elements. High quality relationships are characterised by positive subjective relational experiences (Dutton and Heaphy 2003) and enhanced relational co-ordination between members (Gittell 2002). Relational co-ordination refers to the connections between individuals which support vital information processing capacities. Subjective relational experiences refer to the heightened sense of positive arousal generated by engaging in a high quality relationship with others. Drawing on these conceptualisations, it is argued that high quality relationships provide both the capacity and subjective relational experiences, which are important for engagement in effortful, motivated proactive behaviours.

3.3 Subjective Relational Experiences and Proactive Behaviour

According to Dutton and Heaphy (2003), high quality relationships provide individuals with positive subjective relational experiences. Such experiences are characterised by a heightened sense of vitality and aliveness, positive regard and felt mutuality. Vitality refers to the sense of being alert or awake (Ryan and Fredrick 1997). Vitality provides a form of energy at work through which individuals look forward to every new day (Spreitzer Lam and Fritz 2010). *Relational vitality* refers to a sense of positive arousal and a heightened sense of positive energy arising from one's relationship with co-workers (Cameron Dutton and Quinn 2003). The concept of *positive regard* was first conceptualised by Rodgers (1951). When individuals in a relationship experience positive regard they have a heightened sense of being known or loved. In the context of work life, positive regard does not refer to a romantic attachment but rather refers to the fulfilment of basic human needs. Unconditional positive regard is important for one's own positive self-regard (Rodgers 1951). High quality relationships are also marked by feelings of mutuality. *Mutuality* refers to a sense that the people in the relationship are both engaged and actively participating. According to Miller and Stiver (1997), mutuality captures the feeling of movement in the relationship arising from mutual vulnerability and responsiveness and this encourages individuals to engage in shared activities.

There are a number of reasons why high quality relationships, characterised by positive subjective experiences are important for proactive behaviour. The importance of positive social interactions for engaged behaviours at work was highlighted by seminal research on engagement at work by Kahn (1990). In this qualitative study exploring the psychosocial conditions required for engaged behaviour at work, he highlighted how

rewarding interpersonal interactions with co-workers enhanced psychological meaningfulness. Such relationships meet relatedness needs (Alderfer 1972) and provide a source of meaning in people's lives. Meaningful relationships allow people to feel valued, promote dignity and self-appreciation and are critical antecedents of behavioural engagement at work (Vinarski-Peretz and Carmeli 2011). Proactive behaviour reflects a specific form of behavioural engagement at work. According to Macey and Schneider (2008), engagement at work is a desirable condition which has an organisational purpose. They outline that behavioural engagement reflects involvement, commitment, passion, enthusiasm, focused effort and energy. Within their model, engagement has both attitudinal and behavioural components. Behavioural engagement relates to the directly observable behavioural outcomes of both trait and state engagement. In describing the main facets of behavioural engagement, they highlight that engaged behaviours are the outcomes of psychological state engagement. They conceptualise proactive behaviour as a specific form of extra role behaviour involving discretionary anticipatory effort which involves doing more of what needs to be done or changing what needs to be changed.

The value of positive work relationships for motivated behaviour is also echoed in self-determination theory. Self-determination theory (SDT) positions relatedness as a fundamental psychological need. Relatedness needs refer to the desire to feel connected to others, to love and care and to feel loved and cared for, which facilitates intrinsic motivation. The value of relatedness for motivation has also been acknowledged in attachment theory (Bowlby 1988; Sable 2008). SDT researchers contend that relational supports provide a secure backdrop for intrinsic motivation and a sense of security that makes the behavioural expression of intrinsic motivations more likely (Deci and Ryan 2000; Gagne and Deci 2005).

Individuals in high quality relationships find the experience to be pleasurable and motivating, resulting in a psychological state likely to make them more willing to initiate improvements or changes in their work environment (Carmeli, Brueller and Dutton 2009). Research has shown how relational resources such as connectivity with others promote agentic behaviours (Spreitzer *et al.* 2005). Therefore, in line with Parker Bindl and Strauss' (2010) conceptualisation of proactivity as a motivated and effortful behaviour, it is proposed that subjective relational experiences are an important but yet unexplored contextual antecedent of proactive behaviour. It is argued that positive subjective experiences fulfil an important socio-psychological requirement for engaged and motivated proactive behaviours. Subjective relational experiences also provide a positive context for engagement in change oriented proactive behaviour which involves an element of risk taking. When individuals perceive that their colleagues hold them in positive regard and when they sense mutuality in the relationship, they are more likely to be motivated to engage in proactive behaviour.

While there is reason to believe that subjective relational experiences are related to proactive work behaviour, it is also proposed that these valuable contextual resources impact proactive behaviour via mediating psychological states. Previous research has identified that relational resources are important in building psychological states such as vigour (Carmeli *et al.* 2009), flourishing through heightened positive emotions (Fredrickson 1998) and thriving at work (Carmeli and Spreitzer 2009), which have been found to be important for a range of agentic behaviours. Recent research has also identified the importance of a supportive work context for developing the personal resource of psychological capital (Luthans *et al.* 2008). In light of this research, high

quality relationships can be conceptualised as a contextual resource which contributes to personal resources (affective and cognitive), which are important for proactive behaviour. The current research proposes that the link between subjective relational experiences and proactive behaviour is mediated by work engagement and hope at work.

3.3.1 Subjective Relational Experiences and Work Engagement

Work engagement is defined as a “positive, fulfilling, work related state of mind that is characterised by a persistent positive, affective motivational state of fulfilment” (Maslach, Schaufeli and Leiter 2001: 417). It is associated with an orientation towards work characterised by vigour, dedication and absorption. It is argued that vigour promotes energy and mental resilience and results in goal orientation behaviour and persistence in achieving objectives. Dedication is associated with feelings of enthusiasm, pride and identification with one’s job (Salanova and Schaufeli 2008). Absorption refers to being fully concentrated and engrossed in work. Research on work engagement was stimulated by work on burnout (Maslach and Leiter 1997). While engagement is characterised by high energy and strong identification with ones work, burnout relates to the opposite (Bakker and Schaufeli 2008). State work engagement refers to a persistent affective state that is malleable but not as fleeting and momentary as an emotion. An abundance of previous research has shown that job resources are positively related to work engagement. These resources include physical, social and organisational aspects of the job which reduce demands and their associated costs and are instrumental in achieving work goals and stimulating personal growth, learning and development (Bakker *et al.* 2008). Job resources, which have been found to positively predict work engagement to date, include performance feedback, social support, supervisory coaching (Schaufeli and Bakker 2004), job control, information, innovative

and social climate (Hakanen, Bakker and Schaufeli 2006), reward, recognition and value fit (Koyuncu, Burke and Fiksenbaum 2006). Longitudinal studies have also identified job control, social support, coaching, feedback, and opportunities for professional development as predictors of work engagement over time (Mauno, Kinnunen and Ruokolainen 2007; Xanthopoulou, Bakker, Demerouti and Schaufeli 2009). Job resources have proven to be the most predictive antecedent of work engagement as they set in motion a motivational process through which employees satisfy their basic needs for autonomy, competence and relatedness (Hakanen and Roodt 2010). According to the Job Demands-Resources model (JD-R Model; Demerouti *et al.* 2001; Bakker Demerouti and Verbeke 2004), autonomy and supportive work relationships are considered to be job resources which contribute to intrinsic and extrinsic motivations. Their role in facilitating the achievement of work goals highlights their role in extrinsic motivation. Job resources such as autonomy and social support are argued to contribute to intrinsic motivation by fulfilling basic autonomy and relatedness needs (Deci and Ryan 1985; Van den Broeck *et al.* 2008). In the context of the current study, subjective relational experiences are conceptualised as important social resources which satisfy basic relatedness needs. A number of key studies provide empirical support for the motivational role of job resources and work engagement. Schaufeli and Bakker (2004) reported positive relationships between job resources (social support, coaching and feedback) and work engagement across four samples of Dutch employees. Hakanen Schaufeli and Ahola (2008) found that job resources (control, social climate, supervisor support and information) were positively related to work engagement. Van den Broeck *et al.* (2008) investigated the relationships between job resources, psychological need satisfaction and engagement and concluded that when individual job resources help to meet their psychological needs for autonomy, relatedness and competence, the result is enhanced engagement. Although studies that

specifically focus on the role of social climate are limited, some empirical studies have also found support for the link between positive work relationships and engagement. For example, Saks (2006) found that perceived organisational support was a significant predictor of engagement. Research by May, Gilson and Harter (2004) revealed that meaningfulness, safety and availability were significantly related to work engagement. Furthermore, a lack of social support has consistently been found to be related to work burnout, the antipode of work engagement (Maslach, Schaufeli and Leiter 2001). So, there is ample theory and empirical evidence to suggest that positive work relationships which are characterised by subjective relational experiences result in enhanced work engagement.

Empirical research has found that work engagement is positively related to a range of attitudes and behaviours. For example, there is evidence to suggest that work engagement is positively related to organisational commitment (de Lange, de Witte and Notelaers 2008; Hakanen, Schaufeli and Ahola 2008), job satisfaction (Saks 2006) and general health and wellbeing (Hallberg and Schaufeli 2006). Numerous studies have explored the relationship between engagement and performance outcomes. Bakker and Schaufeli (2008) articulate why engaged employees perform better than their non-engaged counterparts. As engaged employees experience positive emotions and better psychological and physical health, they can create their own resources and can transfer their engagement to others and so they are individually and collectively better positioned to meet their work goals. Recent research in this domain has indicated that work engagement is important for self-rated innovative work behaviours and job performance (Agarwal *et al.* 2012; Chughtai and Buckley 2011). Results of empirical research have shown that work engagement is positively related to the self-rated performance of Dutch employees from a variety of occupations (Schaufeli, Taris and

Bakker 2006). Research has also shown that engaged employees receive higher ratings from colleagues on in-role and extra-role behaviours (Bakker, Demerouti and Verbeke 2004).

There is also reason to believe that engaged employees are likely to be more proactive than less engaged employees. It is argued that elements of work engagement, vigour, dedication and absorption, represent a powerful source of intrinsic motivation likely to result in goal oriented behaviour. Furthermore, work engagement reflects characteristics of activated positive affect (Russell 2003). In line with Fredrickson's (2003) broaden and build theory, state engagement which reflects activated affect, results in the broadening and building of thought action repertoires promoting engagement in action and approach (Bindl and Parker 2011). In this sense, work engagement reflects what Parker, Bindl and Strauss (2010) refer to as an *energised to* psychological state likely to lead to proactive behaviour. As an affect related process, it has also been found to be positively and significantly related to proactive concepts. A number of key studies have examined the relationship between feeling engaged at work and initiative, a critical component of proactivity. In a longitudinal diary study of recovery, work engagement and proactivity, Sonnentag (2003) found that day level work engagement was positively related to day level personal initiative. In a further cross national study of Spanish and Dutch employees, Salanova and Schaufeli (2008) found that work engagement as measured by vigour and dedication, was positively related to self-rated proactive behaviour and self-rated initiative. A longitudinal study carried out by Hakanen *et al.* (2008) found that work engagement at year 1 was positively and significantly related to personal initiative three years later. These studies provide evidence that feelings of energy, dedication and identification towards work are key antecedents of personal initiative. Although Salanova and Schaufeli (2008) did

report a positive relationship between work engagement and self-rated proactive behaviour, studies examining this relationship are few.

In line with models of proactive motivation, it is hypothesised that the impact of subjective relational experiences on proactive behaviour will be mediated through the positive motivational state of work engagement. When individuals have positive relational experiences at work they are likely to take a more proactive approach because they experience a heightened sense of energy towards, and identification with, their work task. As such the following hypothesis is proposed:

Hypothesis 1: At the individual level, work engagement partially mediates the relationship between subjective relational experiences and individual proactive behaviour.

3.3.2 Subjective Relational Experiences and Hope

Research on state hope in organisations is scarce despite the fact that as a positive psychological construct, it is precisely and operationally defined. Hope has been recognised as both a trait and a state like concept: “people probably have dispositional hope that applies across situations and time but they also have state hope that reflects particular times and more proximal events” (Snyder *et al.* 1996: 321). In the context of the current study, hope is defined as a positive motivational state-like concept that is not as momentary and changeable as states such as feelings but is malleable and open to development. In this sense, hope reflects a relatively stable state that is based on an interactively derived sense of successful: (1) agency (goal directed energy) and (2)

pathways (planning to meet goals) (Snyder *et al.*, 1996). Thus, according to hope theory, having both the *will* to succeed at completing the task or reaching a goal and understanding the *way* in which to complete the task or achieve the goal are essential components of hope. This definition, emphasising the *will* and the *way*, clearly distinguishes hope from other similar positive constructs such as efficacy (Bandura 1997) and optimism (Scheier and Carver 1985). Self-efficacy does share some similarity with hope in that self-efficacy and the agency components of hope are both concerned with belief about expected success. However, although evidence exists to suggest that self-efficacy is related to finding and executing task strategies, definitions of self-efficacy do not include the pathways component of hope (Peterson and Byron 2008). A similar distinction can be made in relation to optimism. Although, like hope, it does share the belief that good rather than bad things will happen (Scheier and Carver 1985), it does not include the means by which success is to be achieved (Snyder 1994). So despite some similarities in emphasis on agency, hope is unique and distinguishable from related constructs in that it emphasises both *will* and *way* pathways equally operating in an iterative manner (Luthans 2002). Furthermore, research studies have shown that hope has discriminant validity when compared to other positive psychological constructs (Mageletta and Oliver 1999; Luthans *et al.* 2007). In further clarifying the concept of hope, Stajkovic (2006) distinguishes between passive and active hope. Passive hope can be defined as an expectation that a desire will be fulfilled (e.g. hope to win the lottery). However, it is not accompanied by a related action. Active hope corresponds more directly with Snyder's (1994) conceptualisation, that it reflects an expectation regarding successful achievement of work goals and the identification of action pathways by which the goals can be attained.

There is good reason to conclude that positive work relationships are associated with hope. When individuals have positive relational experiences they feel valuable, leading to positive meaning about being an organisational member (Dutton and Heaphy 2003). Such constructive interactions contribute to positive meaning and lead to positive emotions. Research by Cacioppo, Gardner and Berntson (1999) suggests that positive emotions at work affect hope in that they facilitate approach tendencies which prompt individuals to set goals and work toward the attainment of these goals. Further evidence of the relationship between positive emotions and hope is provided by Ouweneel *et al.* (2012) who found that the experience of positive emotions had a direct effect on the level of hope as part of a day level study.

According to Fredrickson's (1998) theory of broaden and build, positive affective states expand one's thought-action repertoires, and this is relevant for hope in two key ways. In the first instance, broader patterns of thought and actions are likely to enhance the development of emotional and cognitive capacities, such as hope, required to actually implement the required changes or improvements (Vinarski-Peretz *et al.* 2011). Secondly, broadened patterns of thought and action enhance the identification of new pathways that could be taken to achieve goals. In this way, it is argued that positive subjective relationships generate positive emotions which promote more flexible and divergent thinking. This enhances employee expectations regarding goal attainment and enables them to generate alternative ways of achieving their goals.

Although research studies on the contextual antecedents of hope in the workplace are scarce, a number of studies have highlighted the role of relationships in engendering hope. For example, drawing on attachment theory, Simmons *et al.* (2009), found

empirical support for the relationship between secure attachment, as characterised by the ability to connect well and securely in relationships, and hope, amongst employees in an assisted living centre. Further support for the link between positive work relationships and hope is found in recent work on the role of context in supporting psychological capital. Luthans *et al.* (2008) argue that supportive relationships create the conditions necessary for positive psychological states, such as hope, to flourish. For example, when individuals experience positive supportive relationships “they are more likely to use the pathway generation characteristic of hope to try unproven or new methods” (Luthans *et al.* 2008: 226).

Although research on hope in organisations is in its infancy, the role of hope on outcomes has been extensively examined in domains such as sports performance and academic performance (Curry *et al.* 1997; Onwuegbuzie and Snyder 2000). Other studies indicate that hope in stressful jobs such as social work and nursing has positive outcomes for individuals (Kirk and Koeske 1995; Simmons and Nelson 2001). Recent work on hope in the workplace looks promising. Hope has been found to predict task adaptivity (Strauss and Parker 2011) and objective measures of job performance (Peterson and Byron 2008). Positive organisation scholars have also identified hope as a core dimension of psychological capital. Empirical research has found that psychological capital is positively related to supervisor rated performance (Luthans, *et al.* 2005) financial performance, more organisational citizenship behaviour and fewer deviant workplace behaviours (Avey, Luthans and Youssef 2010).

As a construct which reflects positive agentic striving towards success, it is argued that hope is a valuable psychological motivation for proactive behaviour. In that sense, it

represents a positive motivational state theorised by Parker, Bindl and Strauss (2010) as being important for a range of proactive behaviours. In line with previous research, it is suggested that hope is uniquely important for goal oriented and effortful proactive behaviours because of the cognitive processes which underlie the concepts – agency and pathways. When individuals engage in agentic and pathway oriented thinking they will be more likely to discover ways in which they might achieve their work goals than their less hopeful counterparts. Individuals reporting higher levels of hope are also able to overcome challenges and blockages because they are motivated to identify and employ alternative strategies. Individuals with low hope may be less likely to persist in the face of these road blocks because of their attributions for failure and their lower motivation to seek and pursue alternative strategies for goal attainment (Peterson and Byron 2008). People with higher hope are also more likely to see failure and threat more positively than those with less hope. This is evidenced in research which indicates that people who report higher levels of hope are likely to see setbacks and problems as challenges rather than threats and to persist in the face of these setbacks (Snyder 1999). Further research has indicated that hopeful individuals react to failure in different ways. More hopeful individuals tend to use feedback diagnostically to enhance their chances of successful goal achievement (Snyder *et al.* 1991). Those with lower levels of hope have a tendency to react to failure and negative feedback with withdrawal and self-doubt (Michael 2000; Snyder 1999). As proactive behaviour sometimes involves changing or improving the target of that behaviour, it is often subject to feedback from others, particularly in contexts which require a level of task interdependency. In such situations, it is argued that hopeful individuals are likely to try to find different ways to approach their proactive goals in the light of negative feedback rather than give up on their proactive pursuits. In summary, there is reason to consider that hope is an important psychological state for engaging in proactive behaviour. Despite calls for

further research into the role of hope in work performance, to the authors knowledge, no research to date has examined the direct effects of state hope in engendering a proactive approach to work.

Hypothesis 2: At the individual level, hope partially mediates the relationship between subjective relational experiences and individual proactive behaviour.

This research identifies the mediating role of state hope and work engagement in the relationship between subjective relational experiences and individual proactive behaviour. Incorporating positive states within the current model can help to answer calls from positive organisational scholarship researchers for investigation into positive states that influence work performance and the antecedents of these positive states in individuals (Luthans 2002). Furthermore, subjective relational experiences can be viewed as a valuable contextual resource which enhances positive *can do* and *energised to* motivational states that have been emphasised as important for proactive work behaviours.

Thus far this section has considered the role of individual perceptions of positive relational experiences and their impact on proactive behaviour. It continues by emphasising the role of high quality relationships, as a characteristic of work units, in engendering a proactive approach to work.

3.4 High Quality Relationships within Units.

Relational coordination represents an important manifestation of high quality relationships. This can be defined as “a mutually reinforcing process of interaction between communication and relationship carried out for the purpose of task integration” (Gittell 2002: 301). Although a key facet of high quality relationships, relational coordination differs from the notion of subjective relational experiences in that it focuses on the relational dimensions of shared goals, shared knowledge and mutual respect for effective coordination. These dimensions are important in supporting high quality communications between colleagues who play distinct roles, thus enhancing the coordination of work. In turn, this is reflected in communications that are frequent, timely, accurate and problem solving in approach. According to Havens *et al.* (2010), the relation and communication dimensions are mutually reinforcing.

In today’s workplace, most individuals are involved in interdependent work processes. In such work environments *making things happen* is a social process involving interaction with colleagues, customers and supervisors rather than a single individual act played out in isolation. It is widely held that proactive behaviours often result in change which affects others, so interactions aimed at bringing about constructive change will require a high level of co-ordination with work colleagues. It is therefore argued that high quality relationships can provide an important conduit through which proactive plans become reality. There are a number of reasons why such relationships are hypothesised to be positively related to proactive behaviour.

Proactive behaviour has recently been conceptualised as a goal driven process. Individual goals are thought to be organised by two processes: goal generation and goal striving (Parker and Collins, 2010). In the context of proactive behaviour, proactive goal generation is self-initiated and involves envisioning a different future state and planning the actions needed to achieve that state. Most proactive plans will result in action affecting the self and others (via the impact on the situation). Proactive theorists agree that perceived reactions to proactive behaviour play an important part in making the decision to behave proactively. Certainly where individuals working interdependently lack shared understanding of priorities and objectives, they are less likely to be sure how colleagues will react to their proactive endeavours. This increases the risk associated with the proactive action. According to Gittells' (2002) model, shared goals among individuals, for the work process in which they are engaged, are critical determinants of effective co-ordination. These goals represent a strong bond which can facilitate unity of response to problems or issues as they arise. Thus where individuals report a high level of relational co-ordination, they are more likely to have a clear understanding of colleagues' work goals. In such a situation, proactive work behaviour can be planned and enacted with greater confidence and with reduced risk of negative response.

Shared knowledge is another feature of high quality relationships at the unit level. This involves having knowledge regarding colleagues' work roles so that those working together can understand the interconnections between work roles. This shared knowledge is important in assessing the impact of proactive work behaviours on the roles of others, and consequently, their reaction to the change oriented behaviour. In line with research by Dutton *et al.* (2001), it is suggested that normative knowledge is important for the successful implementation of proactive ideas. Individuals with

knowledge of co-workers are better equipped to sell their proactive ideas in ways that emphasise how changes result in improvements in work processes and valued outcomes.

Gittell (2002) proposes that mutual respect for the competence of others is of integral importance. It reduces the likelihood of negative relations, which undermine coordinated efforts to change or improve work processes. The value of work climates characterised by mutual respect has also been acknowledged in research as contributing to thriving at work. This research has shown how a climate of mutual respect, defined as the degree to which the work unit encourages feelings of confidence in and appreciation for others, is important for agentic behaviours such as exploration and experimentation (Spreitzer 1995; Spreitzer *et al.* 2005). Research by Nemhard and Edmondson (2006) examined how in healthcare contexts, leader inclusiveness, which focused on generating mutual respect between different status groups, was necessary for encouraging engagement in behaviours associated with quality improvement. Supportive work relationships encourage individuals to express themselves physically, emotionally and cognitively as they are less concerned about self-protection (Edmondson 2003). Research on psychological availability posits that mutual respect reduces the psychological distractions of worrying about the reactions of others. So when individuals experience high quality relationships at work, it creates an environment where psychological resources can be used for engagement in challenging proactive work behaviours and in taking measured risk. Empirical support has been found for the positive influence of good relations between co-workers on willingness to behave proactively (Parker Williams and Turner 2006; Ashford *et al.* 1998; Van Dyne and Le Pine 1998). Where relationships between co-workers are characterised by mutual respect, the risk associated with behaving proactively is reduced.

3.4.1 *The Mediating Role of Psychological Safety Climate*

There is an element of risk inherent in most proactive behaviours. So, safe climates which are perceived as having a low risk of negative response to self-initiated, change oriented behaviours are important. A psychologically safe climate is evidenced in “a sense of confidence that the team will not embarrass, reject or punish someone for speaking up...and stems from mutual trust and respect among team members” (Edmondson 1999: 354). There are a number of reasons why psychological safety is important for proactive behaviour. In understanding the decision to act proactively, *can do* motivation is important. Although perceptions of ability are relevant in assessing whether one will be capable of carrying out proactive tasks, the perceived costs of behaving proactively are equally important. Proactive theorists have drawn on self-regulation theory to suggest that individuals’ assessment of the likely outcomes of their behaviour involves weighing up the costs and benefits of the behaviour as well as their perceived ability to carry it out. Perceived costs relate to the negative aspects of acting proactively. These costs can include time, money, energy, or negative reactions from work colleagues. When individuals feel safe to engage in risky proactive behaviour, they experience less fear and are able to give more cognitive resources to the production of proactive idea generation and implementation. Furthermore, team tasks often require a level of interdependence. Team members must be willing to risk proposing changes to current practice or new ways of working to those who will be affected by such ideas. A psychologically safe climate is also important for individuals in alleviating fears that they will not be seen as troublemakers but as team members who are concerned with eliminating errors and improving work situations. In instances where individuals experience very little psychological safety, being proactive would seem overly risky and thus not worth the anticipated cost.

Research has supported these assertions, suggesting that perceptions of psychological safety are associated with a number of salient outcomes in the context of the current study. Psychological safety has been found to directly predict learning behaviours (Edmondson 1999; Carmeli, Brueller and Dutton 2009) and learning from failure (Carmeli and Gittel 2009). Edmondson, Bohmer and Pisano (2001) also found that a climate of psychological safety directly predicted voice behaviours. Nembhard and Edmondson (2006) found that psychological safety was positively related to a motivated and engaged approach to quality improvements, which they conceptualised as an extra role effort. Vennekel (2000; cited in Fay and Frese 2001) found that an individual team member's perception of psychological safety was related to personal initiative among hospital staff. Thus, research suggests that a climate of psychological safety is important for risky, agentic, change oriented behaviours.

This study identifies psychological safety as an important linking mechanism in the relationship between high quality relationships and proactive behaviour. High quality relationships are a valuable source of support for employees, providing them with a secure base (Kahn 2007). Such relationships are important for engagement in proactive behaviours, which may defy norms and involve the risk that individuals' endeavours to alter their work environment may not be positively received by peers. A growing body of research suggests that when individuals experience positive and safe interactions with co-workers they are more likely to become involved in change-oriented or risky behaviours (Anderson, De Dreu and Nijstad 2004; Kark and Carmeli 2009). When individuals have positive relational experiences they feel more psychologically safe. This frees up valuable cognitive resources so that individuals are not distracted or threatened by the reactions of co-workers. As such, they have greater psychological

availability to dedicate to and become more fully engaged with motivated and effortful proactive behaviours (Kahn 1998: 2007).

Psychological safety relates to an individual's belief about how others will respond when he or she reports an error, suggests a new idea, introduces a new work method or brings about any type of workplace change. Thus, in high quality relationships perceptions of psychological safety are enhanced. Recent empirical research supports this contention. Carmeli and Gittell (2009) found that when employees who work together have shared goals, are connected by shared knowledge of the overall work processes and when relationships are characterised by respect, they are more likely to experience psychological safety. Although extensive empirical research on psychological safety climate and proactive work behaviours is in short supply, theory has evolved to suggest that it is important in reducing the perceived risk associated with a range of proactive work behaviours (Parker, Bindl and Strauss 2010).

In summary, when relationships are characterised by shared goals and shared knowledge, individuals can enact their proactive ideas with confidence and are in a position to evaluate and successfully communicate the likely impact of any changes resulting from their proactive behaviours to others. Furthermore, where relationships are characterised by mutual respect, the fear of negative reprisal from co-workers is reduced and thus the potential risk associated with proactivity is lessened.

Hypothesis 3: At the unit level, psychological safety climate mediates the relationship between high quality relationships among unit members and individual level proactive behaviour.

3.5 Outcomes of Proactive Behaviour

In recent years, a growing number of empirical studies have identified the positive outcomes of proactive behaviour for organisations, teams and individuals. Table 3.1 summarises the main studies which demonstrate the positive outcomes of proactivity at individual, team and organisational level. These studies have shown that proactive organisations have more engagement with modern environmental activities (Aragon-Correa 1998; Ramus and Steger 2000) and report more positive financial performances than their less proactive competitors (Aragón-Correa *et al.* 2008). Frese and Fay, (2001: 298) argue that, a key characteristic of proactive behaviour, personal initiative, means “dealing actively with individual problems and applying active goals, plans and feedback which furthers individual self-development and contributes to organisational success”. This contention has found some empirical support in studies which have positively linked proactivity with firm success amongst small business owners (Frese and Fay 2001) as well as profitability amongst mid-sized companies (Baer and Frese 2003).

At the team level, Kirkman and Rosen (1999) found that measures of team proactivity were positively related to team level job satisfaction, commitment and overall team effectiveness. Further research provides support for a positive relationship between team proactivity and team learning (Druskat and Kayes 2000) and team cohesion

(Tesluk and Mathieu 1999). Hyatt and Ruddy (1997) found that team level proactivity was positively related to subjective and objective measures of team effectiveness.

The implications for proactive behaviour at the individual level are well documented. Proactive behaviour has been positively linked to service performance (Rank *et al.* 2007), entrepreneurial success (Frese and Fay 2001), career success (Seibert, Crant and Kraimer 1999), and sales performance (Crant 1995). Proactive behaviour is also related to job satisfaction (Wanberg and Kammeyer-Mueller 2000; Ashford and Black 1996) and increased career satisfaction (Seibert, Kraimer and Crant 2001). Furthermore, proactive employees have been found to outperform their less proactive counterparts on performance of core tasks (Belschak and Den Hartog 2010; Thompson 2005; Grant, Parker and Collins 2009). This research finds support for the direct relationship between proactive behaviour and performance. Recent research has probed more deeply into the relationships between proactivity and performance by exploring when proactivity is likely to result in positive performance evaluations. Grant *et al.* (2009) found that supervisors' perception of employee values and affect moderated the relationship between proactive behaviours (voice, issue selling and taking charge) and performance evaluations from supervisors. Results indicated that proactive behaviour displayed by individuals perceived as holding pro-social values and low negative affect were likely to receive more positive performance evaluations than those perceived as self-serving and displaying high negative affect.

There is good reason to expect that individual proactive behaviour should result in enhanced performance ratings. Performance and productivity benefit when employees implement suggestions for improving the way they go about achieving their work goals.

Team oriented proactive behaviour such as helping co-workers and making suggestions to improve team functioning are also likely to enhance performance. Previous research has evidenced that behaviours aimed at helping others are likely to be reciprocated over time and thus lead to enhanced performance ratings (Tsai, Chen and Liu 2007; Belschak and Den Hartog 2010). As such, it is argued that individual proactive behaviour is likely to be positively related to job performance.

Hypothesis 4: Individual proactive behaviour is positively related to job performance.

In the context of healthcare, the delivery of high quality nursing care is a crucial performance outcome. Definitions of quality of care in the domain of nursing generally contain components which highlight the importance of care that is safe, effective, patient-centred, timely, efficient and equitable (Mitchell 2008). Quality of care has been measured using patient mortality, reduction in adverse events, patient satisfaction and perceptual measures of high quality care. The use of patient mortality as an indicator has received some criticism to suggest that it is not reliable, as insufficient attention is paid to variations in case mix which limits standardisation (Leggat *et al.* 2010). Adverse events and medication errors as metrics for quality of care have also been criticised as research has indicated substantial under-reporting of these types of events (Uribe *et al.* 2002). A review of nursing literature also highlights the widespread use of perceptual measures of quality of care as the most prominent approach (Johnson *et al.* 2011; Gormley 2011; Sochalski 2004; Schmalenberg and Kramer 2008). Perceptual measures for the assessment of quality of care, using single or multi-item scales, have been found to be strongly associated with process of care criteria and

patient outcomes (Pearson, Lee and Chang 2000; Reschovsky Reed and Blumentahal 2001).

Delivery of quality patient care involves taking steps to anticipate and avoid medical errors. Furthermore, the role of the nurse extends to navigating and managing roadblocks in the co-ordination of patient care such as diagnostic tests, physical therapies and on-site and off-site procedures involving a wide range of actors across the organisation. In addition, nurses carry out a range of duties in the provision of daily care to patients such as bathing, dressing, assessing physical and psychological conditions of their patients, administering medication, carrying out minor procedures and communicating with patients and their families. Furthermore, in the interest of patient centred care, nurses are generally assigned to provide care to multiple specific patients. Although there are undoubtedly aspects of care which are heavily standardised, many of the duties of the nurse carry with them a level of discretion. Nurses can make efforts to anticipate problems before they occur, address and solve problems when they arise and initiate changes to the way their work is carried out, reflecting a proactive approach. For example, a nurse might plan ahead to anticipate what doctors or colleagues might need, chase up test results without being asked to do so and suggest better ways in which processes within the unit can be managed. In the case of each of these examples, the action taken is likely to result in a greater level of care than if a less proactive approach had been taken. Thus, it is argued that, when nurses take a proactive approach to their work the result is more effective, timely and safer care.

Hypothesis 5: Individual proactive behaviour is positively related to quality of care.

Table 3.1 Summary of Research Studies Examining Outcomes of Proactive Behaviours.

Level	Positive Outcomes	Measures of Proactivity	Sample	Source
Individual	Higher supervisor performance evaluations	Taking charge, voice, personal initiative	103 Managers and their supervisors 55 Fire-fighters and platoon supervisor	(Grant <i>et al.</i> 2009)
	Individual job performance	Pro-organisational, pro-self pro-task behaviours	126 Employee colleague dyads	(Belschak and Den Hartog 2010)
	Service performance	Proactive service performance	186 Employees supervisor dyads in a large financial services organisation	(Rank <i>et al.</i> , 2007)
	Individual task performance	Proactive personality	126 Employee supervisor dyads	(Thompson 2005)
	Sales performance	Proactive personality	131 Real estate agents	(Crant, 1995)
	Increased positive affect and lower absenteeism	Proactive coping	313 Employees from a range of industries	(Greenglass and Fiksenbaum 2009)
	Affective commitment	Personal initiative	390 Healthcare workers	(Den Hartog and Belschak 2007)
	Job satisfaction Reduction in employee turnover	Proactive feedback seeking Proactive relationship building	181 Employees new employees	(Wanberg and Kammeyer-Mueller 2000)
Career satisfaction and job promotion	Proactive personality	180 Employees and their supervisors	(Seibert <i>et al.</i> 2001)	
Team	Team performance	Team proactivity	111 Work teams	(Hyatt and Ruddy 1997)
	Team learning	Proactive problem solving	138 Graduate students (26 teams)	(Druskat and Kayes 2000)
	Team job satisfaction Team level commitment Team productivity	Team proactive behaviour	111 Work teams and their supervisors	(Kirkman and Rosen 1999)
	Team cohesion	Proactive problem management	473 individuals from 88 road crews	(Tesluk and Mathieu 1999)
Organisation	Financial performance	Strategic proactivity	General managers from 108 SMEs	(Aragón-Correa <i>et al.</i> 2008)
	Engagement with modern environmental activities	Proactivity in business strategy	CEOs of 105 firms across 10 business sectors	(Aragon-Correa 1998)
	Firm profitability	Process innovations	Managers from 47 mid sized companies	(Baer and Frese 2003)

3.6 Developing the Research Model

This study investigates the role of high quality relationships at work in fostering proactive work behaviour and also investigates outcomes of proactive behaviour. In developing an understanding of why and how the quality of relationships at the individual and unit level impact proactive behaviour, and indeed the impact of proactivity on job performance and quality of care, five key hypotheses have been identified. These are:

Hypothesis 1: At the individual level, work engagement partially mediates the relationship between subjective relational experiences and individual proactive behaviour.

Hypothesis 2: At the individual level, hope partially mediates the relationship between subjective relational experiences and individual proactive behaviour.

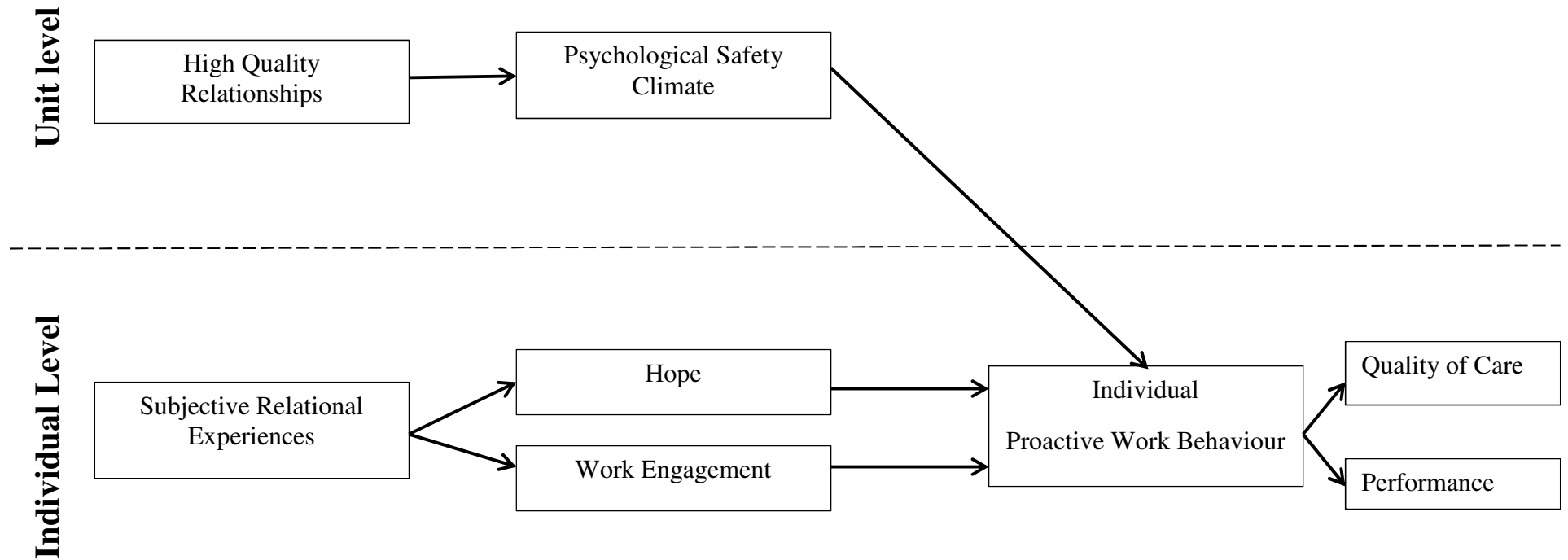
Hypothesis 3: At the unit level, psychological safety climate mediates the relationship between high quality relationships among unit members and individual level proactive behaviour.

Hypothesis 4: Individual proactive behaviour is positively related to job performance.

Hypothesis 5: Individual proactive behaviour is positively related to quality of care.

Figure 3.1 presents the predicted research model which depicts the pattern of relationships hypothesised.

Figure 3.1 The Role of High Quality Relationships on Proactive Work Behaviour: Predicted Model



3.7 Conclusions

This chapter examined the role of high quality relationships in individual proactive behaviour. Subjective relational experiences were identified as a source of motivation likely to enhance engagement in proactive work behaviours. In order to provide a broader account of the impact of high quality relationships on proactive behaviour, research and theory on relational co-ordination was also used to explain why and how relationships among team members impact proactive work behaviour. This chapter also examined previous research on the outcomes of proactive behaviour. Having reviewed the literature and theorised around the complex web of linkages between these concepts, five key research hypotheses were identified and the research model was presented. The next chapter reports on the research methodology employed to generate the data used to test the hypothesised relationships associated with the predicted model.

CHAPTER 4

THE RESEARCH CONTEXT

4.1 Introduction

The purpose of this chapter is to provide information on the research context and population represented within the current study. It also aims to highlight the significance of examining this sample in the context of the current study. A brief overview of the independently owned hospital sector in Ireland is presented and the pivotal role of the nursing profession in the delivery of high quality health care within these hospitals is considered. Positive work relationships are highlighted as a valuable feature in the nurse practice environment, which has been proven to have implications for outcomes in healthcare delivery. Finally, this chapter suggests that exploration of the drivers of proactivity among nurses is an under-researched and worthwhile research pursuit.

4.2 Overview of Independently Owned Hospitals in Ireland.

Hospitals in Ireland are categorised as either public, voluntary or independently owned. Both public hospitals and voluntary hospitals receive state funding. Although voluntary hospitals are often controlled by religious orders, in practice there is very little to distinguish them from public hospitals. Independently owned hospitals are clearly distinguishable in that they are not in receipt of any state funding (McDaid *et al.* 2009). In the past ten years, the number of independently owned hospitals in Ireland has increased significantly. There are currently 21 independently owned hospitals operating

in Ireland. Together, these hospitals provide over 2,000 beds within the Irish healthcare system and each year over 200,000 patients are treated in independently owned hospitals across the country (Independent Hospital Association of Ireland 2012).

4.2.1 Growth of the Sector

The marked increase in the number of independently owned hospitals (from thirteen in 2000 to twenty one in 2012) and the services that they provide, is the result of a number of societal and economic factors. Factors such as increased wealth in Ireland during the economic boom, increased demand for high levels of service and an increase in population which placed strain on an already overburdened public healthcare system undoubtedly contributed to the demand for private health services. The introduction of the National Treatment Purchase Fund (NTPF) in 2002 also resulted in a surge in demand for private healthcare. This initiative was proposed in the 2001 National Health Strategy 'Quality and Fairness', in order to shorten the waiting times for those in the public system who have waited for more than three months for access to the treatment that they required (Department of Health and Children 2001). Under the terms of the NTPF scheme, in the event that it is not possible to gain access to the relevant treatment in Ireland within a reasonable time, public patients may receive treatment in independently owned hospitals in Ireland or abroad. So although these hospitals are not in direct receipt of government funding, they do receive income from the state as a result of their treatment of patients from the public hospitals system waiting lists. In addition to these factors, government incentives have also played a role in the increased capacity of private healthcare services. Specifically, the generous tax incentives introduced in 2001, encouraging the construction of private hospitals were instrumental in facilitating the development of this sector (Tussing and Wren 2006).

4.2.2 Characteristics of Independently Owned Hospitals

Independently owned hospitals have a number of characteristics in common. Firstly, they provide acute in-patient medical, surgical or psychiatric services. In-patient services are defined as on-site patient care which is provided under twenty-four hour medical and nursing supervision. Across the sector, approximately thirty five per cent of the beds are in-patient (Independent Hospitals Association of Ireland 2012). This differentiates them from the many private clinics offering out-patient services only. Secondly, they are largely funded from non-governmental resources. Finally, unlike their state funded counterparts, independently owned hospitals in Ireland are not subject to the same state regulation as publicly funded hospitals. Instead, they are accredited by the Joint Commission International (JCI) or Mental Health Commission. Established in 1994, the JCI works with healthcare organisations and governments in over eighty countries to promote standards of care. Hospitals are assessed for JCI accreditation on an annual basis. The main aim of this process is to improve the safety of patient care through the provision of accreditation and certification services.

Much like their public sector counterparts, independently own hospitals provide a broad range of in-patient and out-patient services. The type of services provided by these hospitals range from general medical to surgical and specialty services. Although there is little published statistical information on the operations and staffing of the independently owned hospitals in Ireland, according to the Independent Hospital Association of Ireland (IHAI), their members employ over eight thousand workers, representing a variety of professional and non-professional groups. Approximately four thousand of these are nursing staff. As is the case with health systems worldwide,

nurses are by far the largest employee group in the independent hospital sector in Ireland. In recognition of the critical role that nurses play in the provision of modern healthcare, there is a growing interest from practitioners and researchers alike in identifying the factors that influence their approach to work (Johnson *et al.* 2011).

4.3 The Role of the Nurse in the Provision of Care

The nursing profession in Ireland is regulated by An Bord Altranais (The Nursing Board). It has responsibility for defining the scope of practice of nursing, including the range of roles, functions, responsibilities and activities, for which a registered nurse is educated, competent, and has authority to perform. The following values have been identified by An Bord Altranais (2000) as being important for nursing practice:

- Promoting and maintaining the highest standards of quality in the health services where the best interests of the patient guide decision making.
- Providing care that is delivered in a way that respects the uniqueness and dignity of each patient regardless of culture or religion.
- Upholding the therapeutic relationship between nurse and patient that is based on trust, understanding, compassion, support and which serves to empower the patient to make life choices.
- Advocating on behalf of the individual patient/client and for their family. It also involves advocacy on behalf of nursing within the organisational and management structures.
- Practicing in accordance with the best available evidence and in keeping with the principles of professional conduct.

Irrespective of the practice area, a nurse's role involves the continuous and systematic assessment, planning, implementation and evaluation of quality care. On a daily basis there are a variety of duties undertaken by the nurse in the delivery and management of direct nursing care. These include meeting the daily personal care needs of patients, monitoring their health status, administering medication and record-keeping on all aspects of care. More complex tasks involve those associated with pain management, wound management and discharge planning. The nurse also plays a role in coordinating patient care in consultation with other health professionals and communicating with patients and their families regarding current and planned care.

Nursing and midwifery education in Ireland has undergone major reform over the last decade. This change has been driven by the recommendations of the Commission on Nursing (Department of Health and Children 1998), which advocated that nursing become a graduate profession and recommended the establishment of management and clinical career pathways. An Bord Altranais has legislative responsibility under the 1985 Nurses Act for the registration of nurses in Ireland. The scope of its regulatory responsibility ranges across a variety of different nursing disciplines such as general nursing and midwifery, psychiatric, paediatric, public health, intellectual disability and nurse tutors. An Bord Altranais is required to assess, every five years, the adequacy and suitability, effectiveness and efficiency of hospitals and institutions for nurse training, and to ensure compliance with all regulations and European Directives.

4.4 Positive Nurse Practice Environments

Hospital nursing work is both physically and mentally demanding and is often associated with long working hours in the form of eight to twelve hour shifts. Working conditions for nurses are also characterised by an excessive workload, rotating shifts, night shifts, frequent changes in departments, and a psychological burden in handling critical situations (Baumann 2007). Consequently, investigation of the nurse practice environment has been a focal point of interest for nurse researchers. The quality of nurse practice environments has been linked to issues of job satisfaction, motivation, productivity, performance and patient outcomes. It is also widely acknowledged that one of the key reasons for nursing shortages and nurse turnover is unhealthy working environments, leading to weakened performance, which often drives them away from work settings (Baumann 2007). Researchers have identified a number of factors which have consistently been shown to contribute to positive practice environments. These factors include nurse participation in hospital affairs, clinical autonomy, nursing foundations for quality of care, nurse manager ability, leadership, nurse manager support, staffing and resource adequacy, and strong nurse-physician relations (Lake 2002; Laschinger and Leiter 2006; Schmalenberg and Kramer 2008). This research highlights the role of supportive social context as an important feature of nurse practice environments. Nurses often work as autonomous professionals within a multidisciplinary team with a wide network of people, including nurse colleagues, nurse management, doctors, physical therapists, dieticians and others. The requirement for interdependency between health professionals in the delivery of care clearly positions relationship quality as a factor that can contribute to individual, team and organisational outcomes in this setting. Many research studies speak to the benefits of positive relational context in healthcare environments.

Nurses' perceptions of high quality relationships with others involved in the delivery of patient care have been found to be positively related to nursing morale (Rosenstein 2002) and nurse job satisfaction (Manojlovich 2005; Chang *et al.* 2009). A study of Canadian healthcare workers found that higher levels of workplace incivility were associated with higher levels of emotional exhaustion (Laschinger *et al.* 2009). Research also examined the detrimental effects of antagonistic relationships which frequently exist between nurses and specific professional groups. For example, studies have found that poor quality relationships between nurses and physicians result in avoidable medical errors and adverse events (Rosenstein and O'Daniel 2008). Research has also identified that negative nurse physician relationships are linked to mortality rates, medical errors and length of hospital stays (Kazanjian *et al.* 2005; Gegaris 2007; Cowan *et al.* 2006). Research has also shown that when nurses believe their work setting is supportive of professional nursing practice, they are more likely to feel empowered and satisfied with their jobs (Laschinger, Almost and Tuer-Hodes, 2003). More recent research highlights the relationships between supportive practice environments and turnover intentions (Laschinger *et al.* 2012). Research on relational co-ordination suggests that the quality of relationships between healthcare providers is another crucial factor which contributes to effective coordination and which is linked to positive outcomes such as job satisfaction, retention and quality of patient care (Gittell 2002). These studies provided ample evidence of the role of positive relationships in supporting a variety of outcomes in the healthcare context. However, to the authors knowledge, no research has yet examined the role of relationships in engendering proactive work behaviours among nurses.

4.5 Proactive Behaviour in Nursing

Traditionally, the nursing profession was considered as prescriptive in nature, where the role of the nurse was to follow standardised procedures and take instruction from medical professionals. When considered in this light, there seems little scope for agentic or autonomous behaviour. However, this view of the nurse as reactive with little or no control over the tasks to be carried out, is now outdated. Although historically, role expansion in Irish nursing occurred in an ad hoc fashion, in 2000, An Bord Altranais published guidelines making recommendations for the development of nursing in the coming decades. Since then, a number of initiatives have been introduced to improve the services and quality of care provided to patients and to facilitate the expansion of the role of nurses and midwives. These initiatives have included the introduction of nurse and midwife prescribing, the introduction of nurse x-ray prescribing, the training of nurses in the area of sexual assault forensic examination and the introduction of nurse-led discharge planning. Such broadening and developing of the nursing role is welcomed by nurses themselves and by other health service professionals. Many empirical studies have highlighted the value of increased autonomy and empowerment for nurses on a range of outcomes. When nurses have more autonomy over their roles, they are able to make decisions about how they carry out their tasks. This is evidenced by research that characterises nurses as experienced and capable problem solvers, working within a profession that requires a high level of cognitive and discretionary decision making (Tucker and Edmondson 2003).

Given that the nursing role provides scope for proactivity, a number of research studies have examined the conditions which have been found to support a range of proactive concepts among this group. For example, Knol and van Linge (2009) found that informal power among nurses was particularly important for innovative work

behaviours. Other research has shown that perceptions of personal control were positively related to voice behaviours (Tangiriala and Ramanujam 2008). Research has also determined that cognitive states such as efficacy and role orientation are drivers of proactive work behaviour in a sample of healthcare workers including nurses (Griffin, Neal and Parker 2007). These studies provide empirical support for the impact of situational and individual antecedents on proactivity among nurses. However, none have specifically considered the role of high quality relationships and their impact on motivational states in engendering proactive behaviour among this employee group.

4.6 Conclusion

This chapter provided an overview of the research context. Independently owned hospitals were identified as a fast growing, yet under researched sector of the healthcare system in Ireland. As nurses represent the largest employee group in this sector, the role of the nurse and regulation of the nursing profession was outlined. In line with the nursing literature, positive work relationships were identified as a vital component of positive nursing practice environment. An overview of studies highlighting the value of relationships in the healthcare context was provided and the scope for proactive behaviour within nursing was explored. In so doing, this chapter identified a lack of research on the role of high quality relationships in promoting proactive work behaviours among nurses.

CHAPTER 5

RESEARCH METHODOLOGY

5.1 Introduction

This chapter discusses the methodology employed to address the research question and is structured as follows. Firstly, the philosophical foundations of the current research are explored. Then follows a description of the research design adopted including the main methods, data collection process and the design strategies used to minimise common method variance. It also explores issues related to sample selection, sample size and the outcomes of analysis used to estimate sample non-response bias. The main measures used to assess the study variables are then presented. Finally, this section describes the key steps taken to prepare the data for analysis.

5.2 Philosophical Foundations

The main focus of the current research is on identifying antecedents of proactive behaviour. The current study does not claim to contribute to knowledge of research philosophy, however, it is acknowledged that failure to explore the philosophical assumptions behind any study can lead to serious flaws in research quality and design. Research on proactive behaviour is firmly embedded in the tradition of positivism (for example: Den Hartog and Belschak 2012; Parker and Collins 2010; Griffin Neal and Parker 2007; Bindl *et al.* 2012). In order to allow for comparability with previous studies which have examined the antecedents of proactive work behaviour, this study also takes a positivist approach. This implies that there are distinct ontological,

epistemological and methodological principles which have guided each phase of the research study.

Ontological assumptions refer to the nature of social entities and pose the question *what is reality?* From a positivist perspective, reality is external and objective (Easterby-Smith, Thorpe and Lowe 2002). That is, social phenomena have an existence and reality separate from social actors. This notion of independence is at the heart of the positivist framework, where the role of the researcher is to make detached interpretations about data which has been collected in a value free manner (Saunders, Lewis and Thornhill 2009). Epistemological considerations are concerned with what is or should be considered acceptable knowledge. Within the positivist framework, knowledge is only of significance if it is based on observations of this external reality (Easterby-Smith, Thorpe and Lowe 2002). Knowledge is arrived at through the gathering of facts that provide the basis of laws. The process of knowledge development within the positivist framework follows the hypothetico-deductive model. The process associated with this model is as follows. In the first instance the researcher deduces a hypothesis based on what is known about a particular domain. This is usually aimed at explaining causal relationships between variables. The next step involves the operationalisation of the key constructs for measurement and use of a highly structured methodology to facilitate replication (Gill and Johnson 2002). Then the data is subjected to statistical analysis where inferences are used to support new theoretical propositions. On the basis of this analysis, the hypotheses posed can be confirmed or rejected. The final stage involves inferring the findings for the theory which initially prompted the investigation.

From a methodological point of view, the positivist tradition postulates that social phenomena should be operationalised in a way that enables facts to be measured quantitatively. This research employed the use of a highly structured methodological tool in the form of surveys. This enabled the quantification of facts which were subjected to statistical analysis techniques. This reflects the principle of reductionism, which espouses that problems as a whole are better understood if they are reduced to the simplest possible elements (Saunders, Lewis and Thornhill 2009). The current research poses a number of theory-driven hypotheses regarding the role of relationships and positive psychological states in predicting proactive behaviour among nurses. These hypotheses are logical and based on prior work in this domain and together contribute to a model reflecting the distal and proximal causes of proactive behaviour. A quantitative survey was chosen as the methodology that reflected the best fit with the overarching philosophy and the research questions (Edmondson and McManus 2007). The research design for the current study and the specific tools used to collect data are discussed in the next section.

5.3 Research Design – Quantitative Survey

In designing the research study, a quantitative cross-sectional survey was employed. This approach was chosen as it was most clearly aligned with the philosophy underpinning the research. Despite its popularity, there are a number of drawbacks associated with survey design, in particular survey error. There are a number of potential sources of error which can affect the validity of data collected using the survey technique such as sampling error, coverage error, measurement error and non-response error (Dillman 2007).

Notwithstanding the limitations of the survey approach, survey research is by far the most common form of research and is arguably the most effective method for gathering data on a large population. It is also an efficient and inexpensive approach in that it only requires data to be gathered from a small sample as opposed to the entire population (Bryman and Bell 2007). Survey research is one of the methodological approaches closely aligned to positivism and is the dominant approach employed in previous studies of proactivity. For these reasons, survey design was deemed the most appropriate to address the research questions posed in the current study.

5.3.1 Method of Data Collection

This study adopted a mixed mode approach to data collection using survey design. By using a mixed mode, researchers can combine the strengths and compensate for the weaknesses of using face to face administration or self-administration alone (Dillman 2007). In the current study a mixed mode system was employed where pre-notification, questionnaire circulation and follow up reminders were delivered in person by the researcher. Data collection was achieved via self-administered questionnaire in the absence of the researcher. In this case the data collection is single mode (self-administered questionnaire). However, providing in-person and face to face personal notification and follow-up had the added benefit of reducing coverage and non-response error (de Leeuw, Dillman and Hox 2008).

Despite the growing popularity of web-based surveys among certain samples, the data within the current study was collected using pen and paper self-administered questionnaire. Previous comparative studies have indicated that pen and paper versions

of self-administered questionnaires within the nursing profession are consistently more successful than their web based counterparts (Guise *et al.* 2010; Kramer, Schmalenberg and Keller-Unger 2009; Lusk *et al.* 2007; McFall and Milke 2007).

Self-administered questionnaires are associated with a number of advantages for both the researcher and the respondent.³ One of the most significant limitations of the self-administered questionnaire is the increased likelihood of non-response and missing data. In order to limit the extent of non-response within the current study, the researcher adopted the core strategies recommended by Dillman (2007) for enhancing response rates⁴. The details associated with the data collection procedure including the application of Dillman's (2007) five elements for enhancing response rates, is described in Section 5.5. The next section outlines the main steps taken to reduce common method variance within the data.

5.3.2 *Common Method Variance*

Common method variance refers to the variance that is attributable to the measurement method rather than the study constructs and can represent one of the greatest sources of measurement error in a study. It is a potential problem for research that seeks to understand human behaviour. Common method variance can occur when the data on the predictor and criterion variables is collected from the same source. The main procedural remedy for reducing common method variance involves collecting predictor and criterion variables from different sources (Podsakoff, MacKenzie and Podsakoff 2012). This strategy was adopted in the current study. Data was collected from two

³ See Dillman (2007) and Babbie (2007) for a detailed analysis of the advantages and disadvantages of self-administered questionnaires.

⁴ These include ensuring that the questionnaire is respondent friendly, personalising correspondence, multiple contacts with respondents and the use of incentives.

sources – staff nurses and nurse managers. Staff nurses provided the data on the key independent, mediator and moderator variables. Nurse managers provided ratings on the dependent variables. The advantage of this procedure is that it makes it impossible for the mind-set of the rater to bias the observed relationship between the predictor and criterion variable. This serves to eliminate effects such as “consistency motifs, implicit theories, social desirability tendencies, dispositional and transient mood states, and any tendencies on the part of the rater to acquiesce or respond in a lenient manner” (Podsakoff *et al.* 2003: 887).

The independent variables and psychological mediators and moderators were collected from the same source – the staff nurse. In order to lessen the impact of common method variance and to enhance the discriminant validity of these measures, a number of procedural and statistical remedies were applied. Among the procedural remedies employed was the inclusion of measures with different scale anchors. This lessened the possibility that co-variation among constructs would be the result of consistency in the scale properties. Procedural remedies at the response stage were also applied. In the first instance, staff nurses were assured that there were no right or wrong answers and were asked to answer questions as honestly as possible. This was conveyed in writing on the front of the survey instrument. Verbal assurances were also given when the questionnaires were being circulated. A second strategy was to emphasise confidentiality of the responses. Although it is optimal to promise anonymity, this was not possible with the current design because of the requirement to match each staff nurse response to a manager. However, the confidentiality of the process was emphasised at every opportunity within the data collection process. These two procedures were used to reduce the staff nurses’ evaluation apprehension, making them less likely to edit their responses to be more socially desirable, lenient and consistent

with how they think the researcher wants them to respond (Podsakoff *et al.* 2003). Further strategies aimed at increasing the motivation of respondents to respond with honesty and accuracy included explaining how the information would be used, emphasising the value to practice of the research and offering feedback on the findings.

In exploring the potential issue of common method variance within the staff nurse data, the Harman One Factor test was employed. This is one of the most widely used tests to assess the extent of common method variance. It involves subjecting all measures from the same source to an exploratory factor analysis. If common method variance is a significant problem, then either (a) the analysis will generate a lone single factor or (b) although a number of factors may emerge, one general factor will account for the majority of the covariance amongst the measures (Podsakoff *et al.* 2003). All staff nurse data was subjected to factor analysis using principal axis factoring and oblique rotation. This technique identified 13 factors explaining a total variance of 67% with the first factor explaining 24%. The outcome of this Harman One Factor test, coupled with the procedural remedies outlined above, enabled the researcher to conclude with some confidence that common method variance within the staff nurse data was not a major limitation.

5.4 Pre-testing the Data Collection Tools

Before commencing the data collection, the study instruments were subjected to four steps in pre-testing as recommended by Dillman (2007):

1. Review by Academic Experts: The questionnaire was reviewed by members of faculties in the DCU Business School and the DCU Nursing School experienced in the construction of questionnaires. The questionnaire was also reviewed by two senior

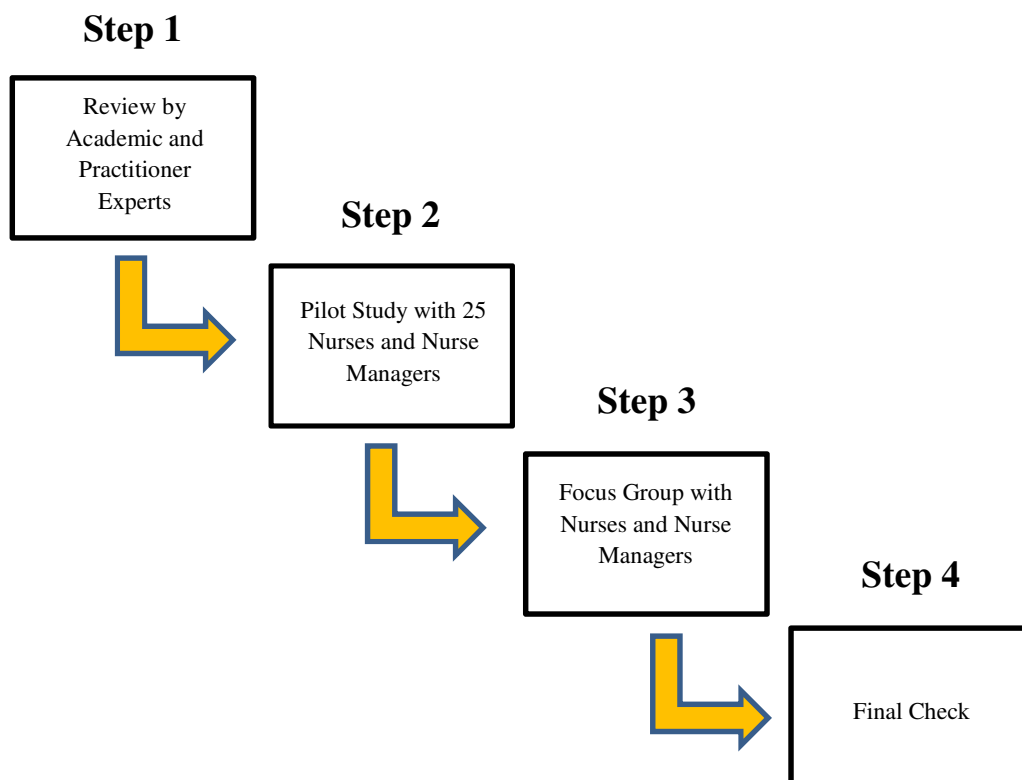
nursing managers working in the independent hospital sector and a senior member of the Irish Nurses and Midwives Organisation (INMO). Feedback from these parties was helpful in identifying whether all the necessary questions were included, whether the structure and flow of the questionnaire was user friendly and whether response categories were likely to yield valid responses.

2. Pilot Study: The next step in pre-testing was a pilot study involving 25 nurses which emulated the main procedures proposed for the main study. The pilot sample should mirror as closely as possible the target population (Pole and Lampard 2002). The pilot sample used was similar to the target population in that it included nurses working in a hospital setting. The pilot questionnaire was administered to the pilot sample at their workplace. They differed from the target population in that they were working in a publicly funded care of the elderly hospital rather than an independently owned hospital. The main aim of the pilot study was to assess the extent to which the respondents understood the information requested of them and whether they were able and willing to give it (Bateson 1984). As such, the chosen pilot sample was deemed to be capable of fulfilling this function. Participants were informed of the purpose of the overall study and also that the purpose of their participation was to develop and improve the survey instruments. Participants in the pilot study were provided with all the survey documents (letter of introduction, questionnaire and return envelope). Feedback was sought on ease of understanding of survey questions, length of time taken to complete the questionnaire, structure and flow of the main sections and the effectiveness of instructions provided.

3. Focus Group: A focus group comprising three staff nurses, two nurse managers and a director of nursing from the pilot organisation was held. At this meeting, the main survey instruments and accompanying material were discussed along with the proposed procedural strategy for administering the survey in the main study. This provided an opportunity for the researcher to probe feedback that was received in the second phase of pretesting and also to look for more information on the extent to which the instrument was sufficiently tailored to the healthcare setting.

4. Final Check: In a fourth step, four academic colleagues, not involved with the development of the instruments, were asked to complete the questionnaires. The main aim of this step was to identify any errors or omissions that had not been identified in earlier phases of pretesting. These steps are summarised in figure 5.1.

Figure 5.1 Four Steps in Pre-testing the Survey Questionnaire



The outcomes of pre-testing were used to further refine and develop both questionnaires. Recommendations relating to the main instrument referred to requests for further clarity on instructions. Analysis of the responses on the questionnaire itself indicated that most individuals understood the information that was required and understood how to convey their responses appropriately. The time taken to complete the questionnaire was also noted and provided as an indicator for those completing the survey as part of the main study. The feedback from practicing nurses was particularly helpful in determining terminology appropriate to the research context, which was then used to make minor amendments to the study measures. Recommendations for improvement to supporting materials included additions to the covering letters with further emphasis on strategies to protect the confidentiality of the data.

5.5 The Research Sample

The population of interest are staff nurses working in the independent hospital sector in Ireland. Drawn from this population, the research sample for the current study are staff nurses and their managers working in independently owned hospitals in Ireland. The study sample was generated using probability sampling. This method was chosen as it is recognised as the best strategy to employ to limit sampling error in quantitative research (Bryman and Bell 2007). Probability sampling is generally recognised as the technique likely to generate a sample more representative of the population of interest than non-probability sampling techniques (Lohr 2008). The specific probability technique adopted was one stage cluster sampling. As applied to the current study this specific technique involved the following:

1. A sampling frame was devised. Drawing on data from the Independent Hospitals Association of Ireland (IHAI) and the Irish Medical Directory (IMD) all independently owned hospitals operating within Ireland were included in the sampling frame. This identified twenty one independently owned hospitals.

2. A former postgraduate student of the author’s research supervisor worked at executive level in one of the hospitals and was contacted for feedback on the study. Following discussions on the nature of the research she expressed an interest in having her organisation participate. Three other hospitals were randomly selected from the sampling frame. These hospitals were approached regarding the study. In each case the hospital agreed to participate.

3. Having sampled four clusters, the entire population of staff nurses within each research site were invited to participate. Table 5.1 below outlines the population of staff nurses within each research site.

Table 5.1 Population in each Research Site

Research Site	Staff Nurse Population
SITE 1	202
SITE 2	224
SITE 3	115
SITE 4	79
Total	620

5.6 Data Collection Procedure

This section outlines the main steps undertaken in order to gather the research data. Preliminary steps such as obtaining ethical approval for the study and gaining access to the research sample are presented. The procedure involved in collecting the data from the sample is then outlined.

5.6.1 Ethical Approval

Ensuring that ethical principles were upheld was a priority in developing the research design and data collection procedure. Before the data collection process commenced, ethical approval for the study was sought and granted. Initially, ethical approval to commence the fieldwork was granted by Dublin City University's Research Ethics Committee (DCU REC). Copies of the application and the letter of approval are presented in Appendices A and B respectively. Following approval from the DCU REC, ethical approval was also sought from and granted by the ethical committees in each of the four research sites.

With the aim of maximising the benefits to the staff nurses and managers, each participating site was promised that a report of the research findings would be made available to them. Furthermore, the researcher offered to provide workshops to staff nurses and nurse managers focusing on the outcomes of the research and the ensuing practical guidelines recommended. Finally, as a token gesture of thanks, all participants were offered the opportunity to be entered into a draw for one of two gift vouchers. This had the dual effect of conveying gratitude to participants and of incentivising

participants to take part. Research participants had the opportunity to opt in or out of this draw⁵.

5.6.2 Access

The initial challenge to data collection within any research project relates to access. In order to secure access to the research population, initial email contacts were made with senior management. From this, the following procedure was applied:

- A research proposal was emailed to the key contact in each organisation, outlining the main purpose of the research, the research questions, planned data collection process and main benefits of participation.
- Initial meetings were held with senior management to discuss the research.
- Group meetings were conducted with presentations by the researcher to the Director of Nursing and all nurse managers within the research site. Getting the support and cooperation of these nurse managers was vital for two reasons. First, as part of the research design, nurse managers were asked to participate in the research by rating the proactivity, performance and quality of care provided by each staff nurse who participated. It was essential that they understood the rationale for the research and specifically what it would entail. These group meetings also provided an open forum for the nurse managers to clarify details and voice any concerns relating to the process. Second, the nurse managers within these organisations assumed the role of gatekeepers to the main research sample - the staff nurse. Their support and co-

⁵ Use of this form of incentivisation is common in management research (Lee and Allen 2002; Binnewies, Sonnentag, Mojza, 2010). Studies that have investigated the impact of incentivisation on response bias have found some evidence to suggest that education is a factor in that those less educated are more likely to respond when financial incentives are used (Petrolia and Bhattacharjee 2009). Within the current study it is unlikely that the decision to incentivise introduced significant bias given the homogeneity of education levels within nursing samples (Vangeest and Johnson 2011).

operation was vital in terms of gaining physical access to the different areas of each hospital and to the staff nurses working within them. A summary of their role in the research was circulated at the meetings. A copy of this is presented in Appendix C.

5.6.3 Data Collection

This study employed a mixed mode approach to data collection (Dillman 2007). The pre-notifications, circulation of questionnaires and follow up reminders were delivered in person by the researcher with the clear intention of enhancing the credibility of the research, inspiring confidence in the data collection process and, ultimately, increasing response rates. Data was collected using self-administered questionnaires only. After meetings with the nurse managers within each research site, data collection commenced using the following process:

1. Circulation of Staff Nurse Survey Packs: Personally addressed and labelled survey packs were hand delivered to staff nurses on their wards at morning or night shift handover meetings or at meetings organised specifically for the purpose of discussing the research. Each survey pack contained:
 - A personally addressed cover letter. This is presented in Appendix D.
 - A copy of the staff nurse survey. This is presented in Appendix E.
 - A pre-addressed, postage paid, return envelope.
 - A pen.

In most cases, two or three visits per unit within each organisation were required to secure meetings with a majority of potential participants. This was a time consuming process given the geographical dispersion of participants. However, the benefit of

this approach was that it allowed for valuable face to face contact with prospective participants, enabling the researcher to briefly talk through the research process and to allay any fears regarding confidentiality or loss of anonymity. This was particularly important since the research design involved collecting supervisor ratings which represent a higher hurdle for participation than is generally characteristic of this type of research. In order to ensure that staff nurse responses could be matched to supervisor responses a number of steps were followed:

- Each staff nurse survey was assigned a code. These codes were developed by the researcher using a master sheet of staff nurse names.
- This code was then entered on the top right hand corner on the first page of the staff nurse survey allowing the researcher to identify specific staff nurses who had agreed to participate and in respect of whom nurse manager data was needed.
- A second set of codes was then used when collecting the nurse manager data. This represented a further enhancement to the confidentiality of the process where the researcher was the only person able to link the staff nurse data with its matching nurse manager data.

2. Reminder Postcards and Posters: Reminder postcards and posters were designed and delivered by hand to each unit approximately two weeks after the initial circulation of staff surveys. Copies of the reminder postcards and posters can be found in Appendices F and G respectively.

3. Return of Staff Nurse Survey: These were returned by post to the researcher in the postage paid envelopes provided. Data was manually entered into the software

package SPSS. Hard copies of the data were held in a locked filing cabinet pending analysis of the data.

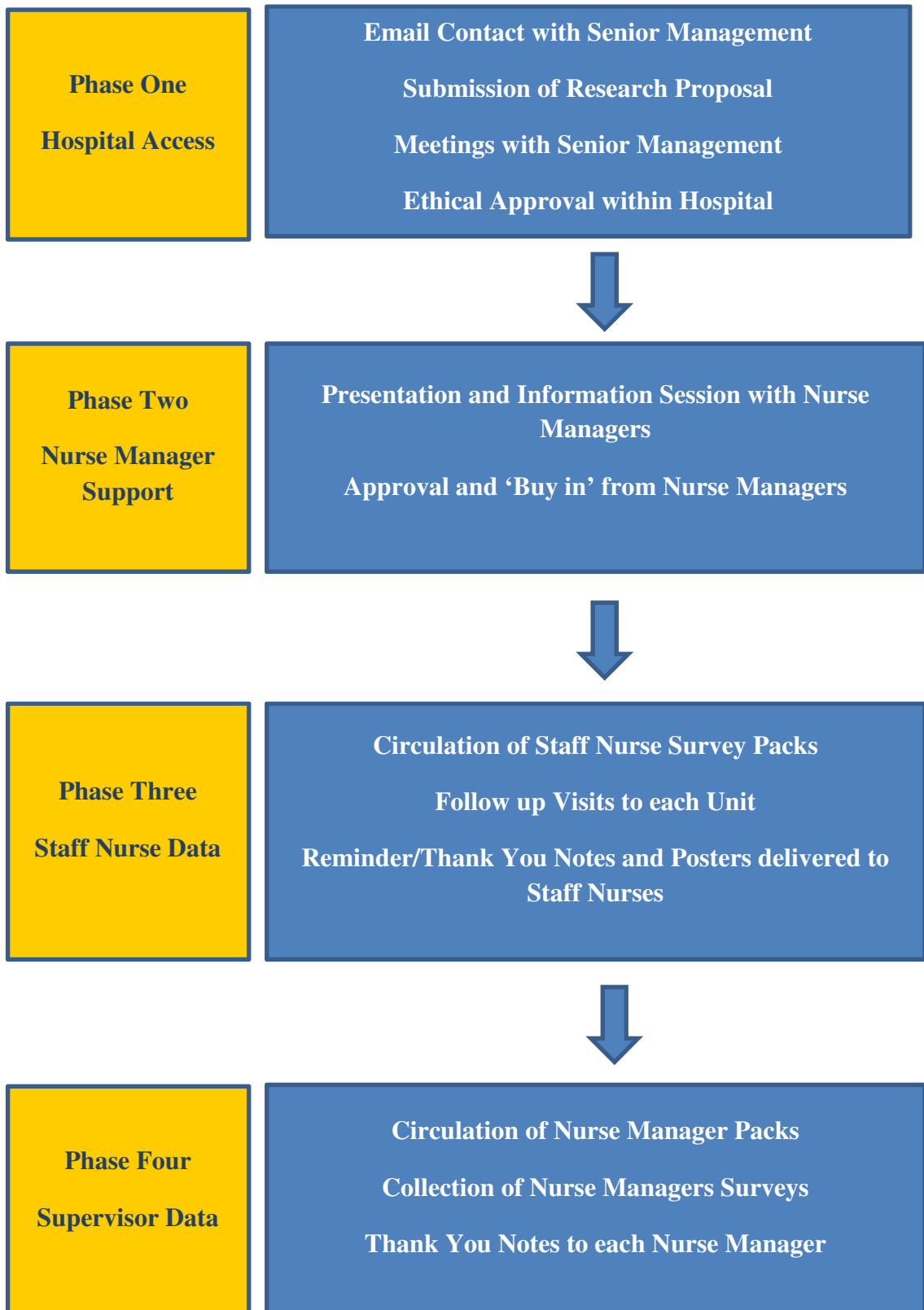
4. Circulation of the Nurse Manager Survey Packs: Following collection of data from the staff nurses within each site, survey packs were delivered to each nurse manager and included:

- A personalised letter explaining their role in the research and a list of staff nurse names and codes representing their staff nurses who chose to participate. This letter is presented in Appendix H.
- Copies of the nurse manager survey (one for each of their supervisees who participated). This is presented in Appendix I.
- A pre-addressed, postage paid return envelope.
- A pen.

Within the supervisor ratings forms, nurse managers were asked to rate the proactivity, quality of care and overall performance of each of the staff nurses on their unit who opted to participate. A separate coding scheme was devised for the nurse manager surveys. The nurse manager survey packs were hand delivered, allowing for face to face contact with the managers and providing an opportunity to verbalise some of the instructions. These ratings were then either collected by hand or returned by post, depending on the preference of each manager. Thank you notes were circulated following the collection of nurse manager data.

An overview of the main phases in the data collection process, from initial contact to final data collection within each research site, is provided in Figure 5.2.

Figure 5.2 Main Phases in Data Collection within Each Research Site



5.7 Survey Responses

Response rate is a key indicator of the success of any survey in representing the population of interest. It can also be used as an indicator of the success of the data collection method (Lynn 2008). Previous research has pointed to the fact that surveys administered to nurses have been characterised by declining response rates (Ulrich and Grady 2004). The response rate for this study was 48.4% for staff nurses and 92% for nurse managers representing a final sample size of 272 staff nurse – nurse manager dyads – an effective dyadic response rate of 43%. This response rate compares satisfactorily to response rates reported in other studies using matched employee - manager data. For example Gong *et al* (2012) reported a response rate of 54% for their sample of 201 managers and employee dyads. Anand *et al.* (2010) reported a response rate of 51% representing 246 matched employee manager dyads. Thompson (2005) reported a 5% response rate for 126 employee supervisor dyads. The response rates for each research site for individual staff nurses and their nurse managers in this study are presented in Table 5.2 below.

Table 5.2 Number of Respondents and Response Rates from each Research Site.

	Staff Nurses (n)	Response Rate	Matched Manager Responses (n)	Response Rate
SITE 1	81	40%	73	90%
SITE 2	112	50%	100	89%
SITE 3	61	53%	59	96%
SITE 4	42	53%	40	95%
Total	296	48%	272	92%

5.7.1 Respondents vs. Non-respondents

Non-response error is said to be potentially present when a significant number of people decide not to respond to the questionnaire and these people have different characteristics to those who chose to respond (Dillman 2007). With regard to the current study the figures outlined above indicate that of the 620 eligible to participate in the study, 324 chose not to participate. In order to assess the extent to which respondents differed from non-respondents, comparisons were made between these two groups based on the only demographic data available on which comparisons could be made i.e. gender and nursing discipline. This data was provided for all nurses (respondents and non-respondents) by hospital management at each site. Table 5.3 provides comparative data for respondents and non-respondents by gender and nursing discipline.

Table 5.3 Comparison of Respondents and Non-Respondents on Gender and Nursing Discipline

Demographic Characteristics	Respondents		Non-Respondents		Statistics
Gender	Males	3%	Males	3.8%	χ^2 (1, n = 620) = .322, p = .57
	Females	97%	Females	96.2%	
Nursing Discipline	Theatre	24.5%	Theatre	26.5%	χ^2 (4, n = 620) = 8.79, p = .06).
	Endoscopy	5.5%	Endoscopy	8.3%	
	ICU	7.3%	ICU	4.5%	
	Nursing Wards	59.2%	Nursing Wards	57.8%	
	Other	3.5%	Other	2.9%	

In order to examine whether respondents are more likely to represent a particular gender or indeed a particular nursing function, the data concerning these variables was subject

to the Chi Square test for independence. This indicated that there were no significant differences between respondents and non-respondents in respect of gender where χ^2 (1, n = 620, = .322, p = .57) or nursing discipline where χ^2 (4, n = 620, = 8.79, p = .06). Although this analysis was carried out on a limited number of sample characteristics, it does provide some evidence to suggest that respondents and non-respondents did not differ significantly.

Further comparison analysis was conducted on the responses of those who returned their survey within two weeks of receiving it and those who returned it only after follow up reminders and site visits. The assumption behind this test is that late respondents are similar to non-respondents (Armstrong and Overton 1977). Comparisons were made between early and late respondents against a number of demographic characteristics including, age, gender, tenure in nursing career and tenure in current organisation. The results of this analysis are presented in Table 5.4.

Table 5.4 Comparison of Early and Late Respondents

Demographic Characteristic	Early Respondents	Late Respondents	Statistics
Age	Mean 40.83	Mean 38.90	F Stat = 2.579
	SD 9.81	SD 10.51	P value = .109
Tenure in Nursing Career	Mean 18.05	Mean 16.32	F Stat = 2.129
	SD 9.85	SD 10.34	P value = .146
Tenure in Organisation	Mean 8.88	Mean 7.82	F Stat = 1.393
	SD 7.54	SD 7.49	P value = .239
Gender	Female 96.7%	Female 97.5%	X ² (1) = .182
	Male 3.3%	Male 2.5%	P value = .670

These results indicate that there are no significant differences in age ($p = .109$), tenure in nursing career ($p = .146$), or tenure in organisation ($p = .239$). Results also indicate that there is no significant association between the stage at which individuals responded and their gender $\chi^2 (1, n=296, = .182, p = .670)$.

These findings are in keeping with previous studies that have identified smaller than anticipated differences between nurse respondents and non-respondents and between early and late responders (Barriball and While 1999; Ford and Bammer 2009). It is argued that this may be due to the homogeneity of nurses with regard to their knowledge, training, attitudes and behaviour (VanGeest and Johnson 2011).

5.8 Operationalisation of the Study Variables

This section reports on the measures used to generate the data required to test the five research hypotheses as outlined in Table 5.5.

Table 5.5 Research Hypotheses

H1	At the individual level, work engagement partially mediates the relationship between subjective relational experiences and individual proactive behaviour.
H2	At the individual level, hope partially mediates the relationship between subjective relational experiences and individual proactive behaviour.
H3	At the unit level, psychological safety climate mediates the relationship between high quality relationships among unit members and individual level proactive behaviour.
H4	Individual proactive behaviour is positively related to job performance.
H5	Individual proactive behaviour is positively related to quality of care.

Established measures drawn from past research were used to collect the study data.

Table 5.6 presents the data sources of the main study variables.

Table 5.6 Source of Data for Main Study Variables

Construct	Source Staff Nurse	Source Nurse Manager
Subjective Relational Experiences	√	
Work Engagement	√	
Hope	√	
High Quality Relationships	√	
Psychological Safety Climate	√	
Proactive Work Behaviour		√
Quality of Nursing Care		√
Job Performance		√
Controls (Tenure, Proactive Personality)	√	

A description of each measure is provided within the following sections. The measures themselves can be found in the study questionnaires in Appendices E and I.

5.8.1 Individual Level Predictors

Hypothesis one proposes that, at the individual level, work engagement partially mediates the relationship between subjective relational experiences and individual proactive behaviour. *Hypothesis two* proposes that, at the individual level, hope partially mediates the relationship between subjective relational experiences and individual proactive behaviour. The scales used to measure the individual level predictor variables are now discussed.

Subjective Relational Experiences: Subjective relational experiences are characterised by heightened senses of vitality and aliveness, positive regard and felt mutuality. The items used in this study were adopted from Vinarski-Peretz *et al.* (2011). The measure contains nine items which underpin the three constructs of positive regard, relational

vitality and mutuality. Sample items measuring positive regard are “*I feel liked in my workplace,*” or “*I feel admired in my workplace*”. Items measuring mutuality include “*My co-workers and I are committed to one another at work,*” and “*There is a sense of empathy between my co-workers and myself*”. Items measuring relational vitality include “*The relationships with my co-workers make me feel alive at work*” and “*The relationships with my co-workers give me a sense of vitality at work*”. These items were measured on a 5 point scale with response categories ranging from 1 (not at all) to 5 (to a great extent). The scale was used in its original form and is presented in section 5 of Appendix E.

Work Engagement: Work engagement is defined as a “persistent positive, affective motivation stage of fulfilment” (Maslach, Schaufeli and Leiter 2001: 417). Work engagement was measured using the 9 item short form Utrecht Work Engagement Scale (UWES -9). The short form version reflects three underlying constructs: Vigour, Dedication and Absorption. Items include “*When I get up in the morning I feel like going to work*” (Vigour), “*My job inspires me*” (Dedication) and “*I am immersed in my work*” (Absorption). This variable was measured on a 7 point frequency scale with response categories ranging from 0 (*never*) to 6 (*always*). The scale was used in its original form and is presented in section 2 of Appendix E.

Hope: Hope is defined as a positive motivational state that is based on an interactively derived sense of successful agency (goal directed energy) and pathways (planning to meet goals) (Snyder *et al.* 1996). State hope was measured using 6 items developed by Snyder *et al.* (1996). This 6-item measure of hope comprises three agency items and three pathways items. Sample items include “*At the present time, I am energetically*

pursuing my goals", *"At this time, I am meeting the goals that I have set for myself"* and *"I can think of many ways to reach my current goals"*. This variable was measured on a 5 point scale with response categories ranging from 1 (*strongly disagree*) to 5 (*strongly agree*). The full scale is presented in section 3 of Appendix E.

5.8.2 Unit Level Predictors

Hypothesis three proposes that, at the unit level, psychological safety climate mediates the relationship between high quality relationships among unit members and individual level proactive behaviour. The scales used to measure the unit level predictor variables are now discussed.

High Quality Relationships: High quality relationships at the unit level are measured by relational coordination. Relational coordination is defined as “a mutually reinforcing process of interaction between communication and relationships, carried out for the purpose of task integration” (Gittell, 2002: 301). Such relationships are characterised by shared goals, shared knowledge and mutual respect. Relational coordination was measured using a 10-item scale developed by Carmeli and Gittell (2009). Staff nurses were asked for their individual perceptions of relational coordination in the unit where they work. The items were adapted to the current study context through reference to ‘patient care’. Sample items include *“In this unit, people share a common vision regarding patient care”*, *“In this unit, we share with one another the subject we are working on”* and *“There is a great deal of respect between one another at work”*. Relational co-ordination was measured on a 5 point scale with response categories ranging from 1 (*strongly disagree*) to 5 (*strongly agree*). The full scale, as used in this study is presented in section 4 of Appendix E.

Psychological Safety Climate: Psychological safety climate is defined as a “sense of confidence that the team will not embarrass, reject or punish someone for speaking up... and stems from mutual trust and respect among team members” (Edmondson, 1999: 354). Psychological safety climate was measured using 7 items developed by Edmondson (1999). The original scale was slightly adapted for the current study by replacing the word ‘team’ with ‘unit’. Sample items include: “*Members of this unit are able to bring up problems and tough issues*” and “*It is safe to take a risk in this unit.*” This variable was measured on a 5 point scale, with response categories ranging from 1 (*strongly disagree*) to 5 (*strongly agree*). The scale as it was used in this study is presented in section 4 of Appendix E.

5.8.3 Proactive Work Behaviour and Outcome Variables

Hypothesis four proposes that individual proactive behaviour is positively related to job performance. *Hypothesis five* proposes that individual proactive behaviour is positively related to quality of care. The scales used to measure these variables are now discussed.

Proactive work behaviour: Proactive work behaviour is defined as self-starting, future-directed behaviour aimed at changing the task, team or organisation (Griffin, Neal Parker 2007). Within the current study, three forms of proactive behaviour were measured reflecting three different targets of proactivity: Individual task proactivity, team proactivity and organisational proactivity. All three measures were developed by Griffin, Neal and Parker (2007). The items were adapted for this study by replacing the word ‘organisation’ with ‘hospital’ and ‘team’ with ‘unit/ward’. Nurse Managers provided the data for the proactivity of their subordinate staff nurses. Nurse Managers were asked to reflect on the extent to which the specific nurses they were rating had engaged in proactive behaviour over the previous six week period. Sample items

include the extent to which the nurse in question “*Initiated better ways of doing their core tasks*” (individual task proactivity), “*Improved the way their work unit does things*” (team proactivity) “*Made suggestions to improve the overall effectiveness of the hospital*” (organisational proactivity). This variable was measured on a 5 point scale with response categories ranging from 1 (*not at all*) to 5 (*to a great deal*). The entire scale is presented in section 1 of Appendix I.

Quality of Nursing Care: Quality of nursing care describes nursing care that is equitable, accessible, acceptable, efficient, effective and appropriate to the needs of the patient (Redfern and Norman 1990). The measure of quality patient care used in the current study was based on a 4-item measure developed by Griffin Neal and Parker (2007) and adapted to a nursing context by Johnson *et al.* (2011). Nurse Managers provided the data for the quality of care provided by their subordinate staff nurses. A sample item is: “*When dealing with patients, to what extent does this nurse provide quality patient care?*” and “*To what extent does this nurse provide timely patient care?*” This variable was measured on a 5 point scale with response categories ranging from 1 (*not at all*) to 5 (*to a great extent*). A copy of the measure as it is used in the current study is presented in section 4 of Appendix I.

Job Performance: Job performance was defined as those activities that are directly involved in the accomplishment of core job tasks, or activities that directly support the accomplishment of tasks involved in an organisation’s “technical core” (Borman and Motowidlo, 1993). Performance was measured using a scale developed by Williams and Anderson (1991). Nurse managers rated the performance of their subordinate staff nurses using five items. Sample items include “*He/she adequately completes assigned duties*” and “*He/she fulfils responsibilities specified in their job description*”. This

variable was measured on a 5 point scale with response categories ranging from 1 (*strongly disagree*) to 5 (*strongly agree*). This scale was used in its original form and can be found in section 3 of the nurse supervisor questionnaire presented in Appendix I.

5.8.4 Control Variables

Tenure: Tenure in organisation was measured by the number of years the staff nurse had worked in the current organisation. A number of studies have found that context specific knowledge and the development of routines have been important for proactive behaviour (Dutton *et al.*, 2001; Howell and Boies 2004; Ohly *et al.* 2006). As such the effect of tenure needs to be controlled as those with a longer tenure are likely to have more context specific knowledge which may affect their levels of proactivity.

Proactive Personality: Proactive personality reflects a stable disposition towards proactive behaviour. Bateman and Crant (1993) distinguish individuals who share the characteristics of the prototypic proactive personality, as those who are relatively unconstrained by situational forces and who effect environment change. Proactive personality was used in the current study in order to control for the effect of this dispositional inclination towards proactive behaviour. Proactive personality was measured using the 6 item shortened version of Bateman and Crant's (1993) 17 item Proactive Personality Scale recommended by Claes Beheydt and Lemmens (2005). Sample items include "*If I see something I don't like, I fix it*", "*I excel at identifying opportunities*" and "*No matter what the odds, if I believe in something I will make it happen*". This variable was measured on a 5 point scale with response categories ranging from 1 (*strongly disagree*) to 5 (*strongly agree*). A copy of the measure is presented in section 11 of Appendix E.

5.9 Data preparation

5.9.1 Descriptive Statistics

Descriptive statistics were generated on all the key study variables in order to give the researcher a familiarity with the data and an insight into the main characteristics of the sample. The means, medians and standard deviation for each item were calculated and inspected. Furthermore, the distribution of the key variables was visually examined using histograms. Examination of descriptive statistics also helped to identify minor entry errors.

5.9.2 Dealing with Outliers

An outlier is a case with such a strange or extreme value that it distorts statistical analysis (Tabachnick and Fidell 2007). Outliers can lead to both type I and type II errors and thus require identification within the data and application of a strategy to limit their impact. The means, trimmed means and medians were used to locate outliers. Representation of data using Boxplots, which provide a visual depiction of extreme values, was also employed. This process identified a number of outliers, which in each case were examined to assess whether they represented valid values. If these were due to errors in inputting or poor specification of missing values, they were corrected. If they were representative of real responses, the 5% trimmed mean and mean values were examined. If these two values are very similar, it indicates that the values are not too different from the remaining distributions and thus may not pose much of a problem to subsequent analysis (Pallant 2010). In the case of any remaining outliers, the 5% trimmed mean mirrored the mean and so they were retained.

5.9.3 Dealing with Missing Data

Missing data has the potential to become a pervasive problem within any dataset. When identifying cases that contain missing data, the primary concern is not related to the amount of missing data but rather to the patterns of missing data. Tabachnick and Fidell (2007) characterise three forms of missing data: MCAR (missing completely at random), MAR (missing at random, called ignorable response), and MNAR (missing not at random or non-ignorable). When data is randomly distributed, it poses less of a threat to the credibility of the data. However, if the missing values throughout a dataset occur in a non-random pattern, it is likely that such values will affect the generalisability of the study results (Tabachnick and Fidell 2007). Within SPSS, Missing Value Analysis serves to highlight patterns within missing data. The analysis within this test is carried out on items where more than 5 % of the cases contain missing values. Separate variance t-test explores whether the missing values are related to other variables and EM correlation and Little's MCAR test is used to assess the likelihood that data is missing completely at random. In order to carry out a missing values analysis all items were entered into the analysis. The results of these tests indicated that missing values were completely at random and thus unlikely to pose any threat to the generalisability of the study results (Chi-Square = 14925.224, $p > .05$).

5.9.4 Multi-Collinearity

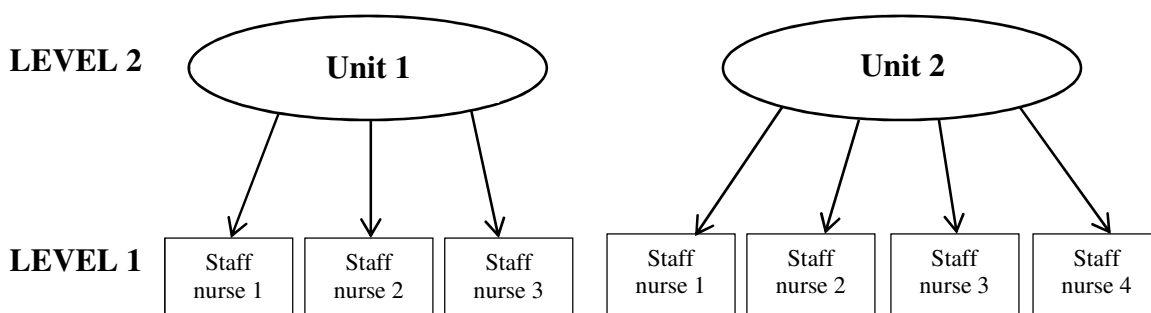
Multi-collinearity is a problem that can occur in data if variables are too highly correlated (i.e. where $r = .90$ or above). Multi-collinearity can cause numerous problems with particular implications for the stability of the analysis. At a logical level if independent variables are too highly correlated with each other this indicates that they may contain redundant information and that they are not all needed within the same analysis. Redundant variables within the same analysis pose a threat in that they can

inflate the size of error terms and consequently weaken the analysis. With this in mind, Pallant (2010) advises against including two variables with a correlation of $r = .70$ or more in the same analysis. Saunders Lewis and Thornhill (2009) advocate that multicollinearity is not a major problem if the correlation between two variables is less than $r = .90$. Review of the correlation matrix for the key study variables indicate that multicollinearity is not a problem within the data where none of the main study variables are correlated above $r = .70$.

5.9.5 Analysis Strategy

Multi-level modelling (MLM) was the analysis strategy applied in the current study. MLM, also referred to as hierarchical level modelling (HLM) is an analytical strategy recommended in data analysis where individuals within the study are organised in a structural hierarchy. The individual is at the lowest level in the structural hierarchy. Different levels might include the team, department, organisation or even country. In the current study, data was collected at the lowest level possible i.e. the individual staff nurse. However, these individuals were nested within units across each organisation. Furthermore, nurse managers provided data for each staff nurse who participated. Nurse managers rated between 1 and 16 staff nurses and 8 was the mean number of staff nurses rated by any given nurse manager. Thus, the nurse manager data collected contains a level two effect i.e. the 'supervisor effect'. As such there is a possibility that the data in this study expresses a lack of independence between the independent variables and the dependent variables. Figure 5.3 represents the structure of the data from the current study.

Figure 5.3 Hierarchical Structure of the Study Data



This nested structure violates the independence assumption required by traditional statistical analysis such as ordinary least squares (OLS) multiple regression. One of the key advantages of employing MLM is that it “does not require independence of errors as is the case with multiple regression analysis” (Tabachnick and Fidell 2007: 782). Failure to acknowledge the structured level of the data can lead to interpretative and statistical errors. To this end, the technique used to analyse this dependent variable data needs to take into account the fact the individual staff nurses were organised in units under nurse managers. The fact that individuals in the data share a common context (i.e. the unit) and that nurse managers provided ratings for staff nurses in their units, means that these ratings are not independent of one another. Multi-level modelling is an ideal analytical approach for this type of data. It provides the correct parameter estimates and significance tests by estimating the *within unit* and *between unit* variances and covariances separately. It also uses the correct standard errors for both within team (i.e. individual-level) and between unit (i.e. unit-level) effects (Chen *et al.* 2007; Bliese 2000).

5.10 Conclusions

This chapter discussed the methodology employed to address the main research questions. Positivism was identified as the philosophy underpinning the approach taken to the research. The research design including the main methods, processes and strategies used to minimize common method variance were also presented. Probability sampling was used to generate a sample of staff nurses working in independently owned hospitals in Ireland. The steps involved in pre-testing the questionnaire were explained and the measures used to assess the study variables were examined. Finally, this chapter described the preliminary steps taken to prepare the data for analysis. The product of this analysis is presented in Chapter 6.

CHAPTER 6

DATA ANALYSIS AND RESEARCH FINDINGS

6.1 Introduction

This chapter reports the data analysis and research findings used to explore the hypotheses proposed in previous sections. Before describing the results, the steps taken to prepare the data for analysis are outlined. As such, the first sections include a description of the study sample, the results of factor analysis used to explore the factor structure of each of the variables, a brief outline of the descriptive statistics and the correlation analysis of the key study variables. The remainder of this chapter is dedicated to presenting the results of multi-level modelling of the study hypotheses.

6.2 Describing The Study Sample

Table 6.1 below provides an overview of the staff nurses drawn from four independently owned hospitals in Ireland who participated in the current study. The large majority of the nurses sampled were female (97%). Staff nurses ranged in age from 21 to 62 and the average age of study participants was 40 years. The average organisational tenure for a staff nurse was 9 years service. Organisational tenure ranged from 4 months to 37 years service. The average tenure in nursing was 18 years. The range of responses for tenure in nursing was quite broad ranging from nine months to forty one years. Nurses within the sample were spread across a range of nursing specialities. The majority of respondents were involved in general ward nursing (59%) with a significant proportion representing nurses working in the areas of theatre (24%)

and endoscopy (7%). ICU nurses (6%), and other nurses (ER nurses and Clinical Nurse Specialists 3%) were also represented.

Table 6.1 Demographics of Staff Nurses Study Sample.

Gender	N	%
Male	7	2.7%
Female	253	97.3%
Age	N	%
Under 25	15	5.8
25-40 years	118	45.4
40-55 years	94	36.2
55+ years	29	10.8
Organisational Tenure	N	%
Less than 1 year	33	12.2
1-5 years	80	29.6
5-10 year	77	28.5
10-20 year	43	15.9
20 years +	31	11.5
Nursing Tenure	N	%
Less than 1year	3	1.1
1-5 years	34	12.6
5-10 year	43	15.9
10-20 year	91	33.7
20 years +	93	34.4
Nursing Function	N	%
Theatre	63	24.2
Endoscopy	15	5.8
Intensive Care	19	7.3
Wards Nursing	154	59.2
Other (ER, CNS's)	9	3.5

Note: Some of the data for these variables is missing; CNS = clinical nurse specialist

These individual staff nurses were located within 38 units across four organisations. The size of each unit ranged from 1 to 15 with an average unit size of 8 nurses. Table 6.2 presents the breakdown of the type of units represented in the data. The average tenure of staff member in each unit was 8.49 years. The large majority of the units were in-patient wards (50%). Theatre (13%) and Endoscopy (16%) were also well represented.

Table 6.2 Types of Unit Within the Unit Level Sample.

Unit Type	N	%
Theatre	5	13.1%
ICU	2	5.2%
Minor Theatre/Endoscopy	6	16%
Day Wards	4	10.5%
In-Patient Wards	19	50%
ER	1	2.6%
Other	1	2.6%
Total	38	100%

6.3 Factor Structure of Key Variables

In order to examine the factor structure of each of the key variables, items associated with each were subjected to exploratory factor analysis using SPSS. All variables were analysed using principal axis extraction and oblique rotation⁶. The Kaiser criterion eigenvalues and Catell's (1966) scree test were used in determining factor retention. Only items with a loading of over 0.4 were interpreted (Tabachnick and Fidell 2007). Each factor analysis was also tested against Bartlett's test of sphericity (Bartlett 1954) and the Kaiser-Meyer-Olkin(KMO) measure of sampling adequacy (Kaiser 1970). In all cases the factor analysis indicated that Bartlett's test of sphericity was significant ($p < .05$) indicating that factor analysis was appropriate. Results from the Kaiser-Meyer-Olkin (KMO) index ranged from between .70 and .93, well within the suggested minimum value of .60 for a good factor analysis (Tabachnick and Fidell 2007).

6.3.1 Subjective Relational Experiences

Table 6.3 below presents the factor analysis for the nine items measuring subjective relational experiences. This analysis generated two factors with eigenvalues of over 1. Examination of the factor loadings of the nine items did not uncover a strong theoretical rationale for a two factor solution. As such the mean score of the nine item scale was calculated and used in subsequent analysis.

⁶ Exploratory factor analysis was initially carried out using principal components extraction and varimax rotation however, information from the component correlation matrices of each analysis suggested that factors were highly correlated (>.3 in each case). Oblique rotation was chosen as an alternative to varimax rotation as it allows for the factors to be correlated (Tabachnick and Fidell 2007). High correlations between factors violate the assumptions underlying varimax rotation.

Table 6.3 Results of Factor Analysis of Subjective Relational Experience Items

No.	Item	Factor	
		1	2
1.	I feel liked in my workplace		.769
2.	I feel admired in my workplace		.690
3.	I am popular among my co-workers		.849
4.	My co-workers and I are committed to one another at work	.558	
5.	There is a sense of empathy between my co-workers and myself	.469	
6.	I feel that my co-workers and I do things for one another	.737	
7.	The relationships with my co-workers make me feel alive at work	.936	
8.	The relationships with my co-workers give me a sense of vitality at work	.957	
9.	The relationships with my co-workers make me feel full of positive energy at work.	.905	
<i>Eigenvalues</i>		5.39	1.32
<i>% variance explained</i>		56.47	10.98

6.3.2 Hope

Table 6.4 below presents the results of the factor analysis for the six items measuring Hope. The analysis generated a two factor solution with factor one explaining 37% and factor two explaining 8% of the variance. One item “*There are lots of ways around any problem*” failed to load above the 0.4 cut off. The factor solution was not clear with no obvious theoretical distinction between the two factors. As such, the overall mean score across the five remaining items was computed and used in subsequent analysis.

Table 6.4 Results of Factor Analysis for Hope Items

No.	Item	Factors	
		1	2
1.	If I should find myself in a jam at work I could think of many ways to get out of it		.796
2.	At the present time I am energetically pursuing my work goals	.665	
3.	<i>There are lots of ways around any problem*</i>		
4.	Right now I see myself as being pretty successful at work	.769	
5.	I can think of many ways to reach my current work goals	.694	
6.	At this time I am meeting the work goals that I have set for myself	.571	
<i>Eigenvalues</i>		2.73	1.01
<i>% of variance explained</i>		37.11	8.10

Note: * These items were omitted from the scale for subsequent analysis.

6.3.3 Work Engagement

Table 6.5 presents the results of factor analysis on the nine work engagement items. The results provide support for a clean one factor solution. This factor alone accounts for 49% of the variance. The overall mean score across the nine items was computed and used in subsequent analysis.

Table 6.5 Results of Factor Analysis on Work Engagement Items

No.	Item	Factor 1
1.	When I get up in the morning I feel like going to work	.671
2.	At my work I feel bursting with energy	.663
3.	At my job, I feel strong and vigorous	.793
4.	I am proud of the work that I do	.657
5.	My job inspires me	.740
6.	I am enthusiastic about my job	.821
7.	I am happy when I am working intensely	.762
8.	I am immersed in my work	.664
9.	I get carried away when I am working	.438
<i>Eigenvalues</i>		4.86
<i>% of variance explained</i>		48.71

6.3.4 High Quality Relationships – Unit Level

Table 6.6 below presents the factor analysis for the 10 items measuring high quality relationships at the unit level. This analysis generated three separate factors with eigenvalues of over 1. The three factor solution was in line with the theoretical sub-dimensions of this construct. Factor one represents mutual respect, factor two represents the shared knowledge within the unit and factor three represents the extent to which shared goals exist within the unit. Two items from the shared knowledge dimension failed to load above the 0.4 cut off on any one factor. These were “*People working in this unit know what tasks their co-workers deal with*” and “*In this unit we share with one another the subject we are working on*”. The remaining two items were excluded from any further analysis. As there was a clear theoretical foundation for the three factor solution, items from factor 1 were computed to represent the mean score for mutually respectful relationships within the unit. The mean of the item scores in factor 3 were computed to represent a mean score for shared goals within the unit.

Table 6.6 Results of Factor Analysis of Unit Level High Quality Relationships Items

No.	Items	Factor		
		1	2	3
1.	In this unit people share a common vision regarding patient care			.894
2.	In this unit people work towards common goals in relation to patient care			.906
3.	People working in this unit act without having a clear direction			.443
4.	<i>People working in this unit know what tasks their co-workers deal with*</i>			
5.	<i>In this unit we share with one another the subject we are working on*</i>			
6.	Sharing with one another at work gives us a better understanding of each other's needs *		.949	
7.	Sharing with one another about our work issues enables us to better understand how our actions impact other co-workers*		.682	
8.	There is a great deal of respect between one another at work	.655		
9.	When someone expresses his/her different opinion, we respect it	.750		
10.	Mutual respect is at the core of our relationships in this unit	.917		
<i>Eigenvalues</i>		<i>4.646</i>	<i>1.263</i>	<i>1.011</i>
<i>% of variance explained</i>		<i>42.737</i>	<i>9.261</i>	<i>6.883</i>

Note: *These items were omitted from the scale for subsequent analysis.

6.3.5 Psychological Safety Climate

Table 6.7 present the results of factor analysis for the 7 items measuring unit psychological safety. Three items failed to load above the 0.4 cut off. These items were excluded from further analysis. Overall the results of the factor analysis indicated the absence of a clear factor structure. As such a mean score for the remaining four items was calculated and used in all subsequent analysis. Shorter versions of the scale have been used in previous studies (Nembhard and Edmondson 2006; Tucker, Nembhard and Edmondson 2007).

Table 6.7 Results of Factor Analysis of Psychological Safety Climate Items

No.	Items	Factor	
		1	2
1.	If you make a mistake in this unit, it is often held against you	.610	
2.	<i>Members of this unit are able to bring up problems and tough issues*</i>		
3.	People who work in this unit sometimes reject others for being different	.537	
4.	<i>It is safe to take a risk in this unit*</i>		
5.	It is difficult to ask other members of this unit for help	.588	
6.	No one in this unit would deliberately act in a way that undermines my efforts		.741
7.	<i>Working with members of this unit, my unique skills and talents are valued and utilized*</i>		
<i>Eigenvalues</i>		2.188	1.124
<i>% of variance explained</i>		23.443	7.750

Note: * These items were omitted from the scale for subsequent analysis.

6.3.6 Proactive Work Behaviour

Table 6.8 presents the results of factor analysis for proactive work behaviour. The factor analysis of the nine item proactive behaviour scale revealed one factor with an eigenvalue over one. The factor explains 79 % of the total variance. All items loaded above the 0.4 cut off. Although the scale in previous studies reported a three factor solution (Griffin, Neal and Parker 2007), the results here indicate support for a one factor solution. As such the mean value of the nine items was calculated to produce an overall score for proactive work behaviour.

Table 6.8 Results of Factor Analysis of Proactive Work Behaviour Items

No.	Items	Factor 1
1.	Initiated better ways of doing core tasks	.863
2.	Came up with ideas to improve the way in which core task carried out	.915
3.	Made changes to the way their core task or duties are carried out	.906
4.	Suggested ways to make their unit more effective	.899
5.	Improved the way their work unit does things	.940
6.	Developed new and improved methods to help their work unit perform better	.914
7.	Made suggestions to improve the overall effectiveness of the hospital	.851
8.	Involved themselves in changes that help to improve the effectiveness of the hospital	.860
9.	Came up with ways of increasing efficiency within the hospital	.854
<i>Eigenvalue</i>		7.33
<i>Percentage of variance explained</i>		79.16

6.3.7 Job Performance

Table 6.9 presents the results of factor analysis on the five supervisors rated job performance items. As expected the results provide support for a clean one factor solution. This factor alone accounts for 74% of the variance. The overall mean score across the 5 items was computed and used in subsequent analysis.

Table 6.9 Results of Factor Analysis of Job Performance Items

No.	Item	Factor 1
1.	They adequately complete assigned duties.	.928
2.	They fulfil responsibilities specified in their job description.	.955
3.	They meet the formal requirements of the job	.902
4.	They complete tasks that are expected of them	.953
5.	They neglect aspects of the job they are obligated to perform	.469
<i>Eigenvalues</i>		3.88
<i>% of variance explained</i>		74.30

6.3.8 Quality of Care

Table 6.10 present the results of factor analysis for the items measuring quality of care. The results of the factor analysis indicate support for a one factor solution. All items load well above the 0.4 cut off with 77% of the variance explained by this factor alone. The overall mean score for these four items was computed and the summated variable was used in all subsequent analysis.

Table 6.10 Results of Factor Analysis on Quality of Care Items

No.	Item	Factor 1
<i>To what extent does this nurse...</i>		
1.	Provide quality patient care	.869
2.	Provide timely patient care	.897
3.	Spend time thinking ahead to prevent possible complications	.896
4.	Spend time planning how a patient's status and needs might change over time	.853
<i>Eigenvalues</i>		3.17
<i>% of variance explained</i>		77.27

6.3.9 Proactive Personality

Table 6.11 below presents the results of the factor analysis for the six items measuring proactive personality. As expected, the results indicate support for a clean one factor solution which explains 44% of the variance. The overall mean score across the six items was computed and was used in subsequent analysis.

Table 6.11 Results of Factor Analysis of Proactive Personality Items

No.	Item	Factor 1
1.	If I see something I don't like, I fix it	.625
2.	No matter what the odds, if I believe in something I will make it happen	.683
3.	I love being a champion for my ideas, even against others' opposition	.696
4.	I am always looking for better ways to do things	.576
5.	If I believe in an idea, no obstacle will prevent me from making it happen	.765
6.	I excel at identifying opportunities	.618
<i>Eigenvalues</i>		3.18
<i>% of variance explained</i>		43.99

6.4 Aggregation of Unit Level Data

The final study sample comprised 38 units. For the unit level constructs of shared goals, mutual respect and psychological safety climate, the unit average of these variables was computed. Thus, the final score used in analysis represented the average perception within the unit on each of these variables. In order to justify aggregation to the unit level, inter-rater agreement (IRA) and inter-rater reliability (IRR) were

examined.⁷ Both of these concepts assess the extent to which ratings provided by one unit member are similar to ratings provided by one or more other unit members (LeBreton *et al.* 2003). The most popular estimate of IRA for multiple items is the $R_{WG(j)}$ index (James, Demaree and Wolf 1984). If all raters in a group are in complete agreement the $R_{WG(j)} = 1$. If there is complete lack of agreement the $R_{WG(j)} = 0$. The rule of thumb value for $R_{WG(j)}$ is .60 (James, 1982). The more commonly acceptable value is .70. Intra class correlations (ICC1 and ICC2) are used to assess inter-rater reliabilities. ICC(1) values represent the level of consensus and consistency one would expect if a rater was randomly selected from the population of raters and his or her scores were compared to the mean score obtained from the sample of raters (Bliese 2000; James 1982). ICC(2) values represent the extent to which the mean rating assigned by a group of raters is reliable. ICCs simultaneously measures inter-rater agreement and inter-rater reliability. High values may only be obtained when there is both absolute consensus and relative consistency in judges' ratings (LeBreton and Senter 2008). The $R_{WG(j)}$, ICC1 and ICC2 for the unit level variables for this study are presented in Table 6.12.

⁷ Estimates of inter-rater agreement are used to address whether ratings provided by team members are interchangeable or equivalent in terms of their absolute value. Estimates of inter-rater reliability are used to address the relative consistency of unit members ratings (LeBreton and Senter 2008).

Table 6.12 $R_{WG(j)}$'s, ICC(1)s and ICC(2) for Aggregated Data.

Variable	$R_{WG(j)}$	ICC1	ICC2
HQR – Mutual Respect	.88	.19	.62
HQR – Shared Goals	.78	.02	.17
Psychological Safety Climate	.71	.17	.60

Note: N= 38 units; HQR = High Quality Relationships

The $R_{WG(j)}$ for each of the three variables was well above the rule of thumb value of .60 (James, 1982) and also above the more conventional .70 cut off point. In this study, the ICC(1) values for mutual respect and psychological safety were higher than the median value of .12 reported by James (1982)⁸. The ICC(2) values for these variables were also satisfactory when compared to the .60 cut-off point recommended by Glick (1985). As indicated in Table 6.12, shared goals failed to meet the minimum thresholds for aggregation. This indicates that although the data on shared goals does indicate agreement between raters, it lacks reliability. LeBreton *et al.* (2003) demonstrated how it is possible to have high levels of IRA ($R_{WG(j)}$) yet low levels of inter-rater reliability and inter-rated agreement (ICC1 and ICC2) highlighting that when between-target variance becomes substantially restricted, correlation-based estimates of these measures are attenuated. It is generally accepted that in order to justify aggregation, thresholds pertaining to both IRA and IRR must be reached. As such, shared goals was excluded from further analysis.

⁸ The ICC1 and ICC2 for subjective relational experiences were also calculated and compared to those of mutual respect. The ICC values for subjective relational experiences were low (ICC1 = .04 ICC2 = .023) indicating substantial within team (individual level) variability relative to unit level measure of mutual respect. This supports the distinct levels at which these two measures reside (Chen *et al.* 2007).

6.5 Means, Standard Deviations and Correlations

Table 6.13 presents the means, standard deviations and correlations between the main study variables. Although the correlations between the unit level constructs of mutual respect and psychological safety climate were computed using $n = 260$, these scores for individual units were assigned down to individuals within those units. Thus, the effective N for mutual respect and psychological safety is 38. The results show that all proposed relationships were significant and in the proposed directions. For example, proactive work behaviour was significantly related to subjective relational experiences and the individual ($r = .304, p < .01$) and mutual respect at the unit level ($r = .271, p < .01$). Subjective relational experiences were also correlated with hope ($r = .344, p < .01$) and work engagement ($r = .406, p < .01$). Mutual respect was also positively correlated with psychological safety climate ($r = .451, p < .01$). In terms of the proposed mediators, the correlation matrix identified that work engagement ($r = .124, p < .05$), hope, ($r = .301, p < .01$) and psychological safety climate ($r = .325, p < .01$) were all positively correlated with proactive work behaviour. Furthermore, proactive work behaviour was also positively related to both quality of care ($r = .525, p < .01$) and job performance ($r = .517, p < .01$).

Table 6.13 Means, Standard Deviations, Correlations and Reliabilities for Study Variables

Variables	Mean	SD	1	2	3	4	5	6	7	8	9	10	11
1. Proactive Work Behaviour	3.10	1.02	(.97)										
2. Subjective Rel. Experiences	3.81	.62	.304**	(.88)									
3. Hope	3.79	.53	.301**	.344**	(.75)								
4. Work Engagement	4.45	.88	.124*	.389**	.406**	(.88)							
5. Mutual Respect	4.00	.37	.271**	.265**	.199**	.087	(.83)						
6. Psychological Safety Climate	3.72	.45	.325**	.213**	.193**	.105	.451**	(.67)					
7. Quality of Care	4.20	.75	.525**	.168**	.190**	.177**	.057	.103	(.92)				
8. Job Performance	4.43	.48	.517**	.236**	.204**	.142*	.126*	.110	.717**	(.89)			
9. Proactive Personality	3.48	.57	.072	.256**	.381**	.236**	-.007	-.004	.008	.032	(.82)		
10. Tenure	8.76	7.81	.206**	.156*	.131*	.117	.106	.154*	.232**	.187**	.027	(-)	
11. Age	40.58	10.30	.021	.219**	.083	.245**	.083	.091	.114	.070	.083	.654**	(-)

Note: ** p< 0.01, * p< 0.05; n = 260 individual, N= 38 units; Internal consistency reliabilities appear in parentheses along the diagonal.

Table 6.14 also presents further summary information on the internal consistency reliabilities of the study variables at the individual and the unit level. With the exception of one variable, all scales reported Cronbach alphas of above the .7 cut off advocated by Nunnally and Bernstein (1994). As outlined in the previous section, exploratory factor analysis of the psychological safety scale indicated that three items failed to load above the .4 cut off on any factor. The reliability was calculated for the remaining four items however this was indicated at .59. The item total statistics as part of the reliability analysis indicate that removing the item “*No one in this unit would deliberately act in a way that undermines my efforts*” would result in a significant increase in the reliability of the scale to .67. As such the mean score for the three remaining items measuring psychological safety was calculated. Although this falls short of Nunnally and Bernstein’s (1994) guideline, several published studies from good peer reviewed journals have also reported reliabilities of below .70 (Salanova and Schaufeli 2008). Furthermore, the reliability for psychological safety reported in this study is in line with reliabilities for other shortened version of this scale. Nemhbhard and Edmonsond (2006) reported the reliabilities of the shortened scale of .73. Similarly Tucker, Nemhbhard and Edmonson (2007) reported .74. Further statistical analysis carried out on the current study data also indicated that the unit psychological scale was reliable⁹ and thus it was decided to retain this variable.

⁹ Following from recommendations by Robinson Shaver and Wrightman (1991) the inter-item correlation matrix was generated for the three psychological safety items. All inter-item correlations were significant and were correlated above the .30 criteria proposed by these authors.

Table 6.14 Internal Consistency Reliabilities for Key Variables

Construct	No. of Items	Alpha
Proactive Work Behaviour	9	.97
Subjective Relational Experiences	9	.88
Hope	5	.75
Work Engagement	9	.88
Mutual Respect Within Unit	3	.83
Psychological Safety Climate	3	.67
Quality of Nursing Care	4	.92
Job Performance	5	.89
Proactive Personality	6	.82

6.6 Multi-level Regression Analysis

Multi-level regression analysis using SPSS Mixed command was used to analyse the study data. Multi-level regression analysis is the most appropriate technique to employ in the current study for two reasons. Firstly, unlike general multivariate regression, multi-level regression analysis takes into account variation in individual proactive behaviour scores which is caused by the fact that the data is hierarchical. The hierarchical structure of the data is due to the fact that individual nurses were nested in units and unit managers rated all individuals on proactive behaviour and outcomes. Secondly, multi-level modelling allows for the testing of cross level effects required to measure the impact of unit level measures on individual behaviours.

6.6.1 The 'Step Up' Approach to Multi-level Modelling

Multi-level regression analysis involves a series of steps with the desired aim of specifying a model that fits best with the data. Although there are a number of ways to approach this analysis, one of the most common approaches is the “*Step Up*” approach advocated by Raudenbush and Bryk (2002). The first step in this process involves specifying the “*unconditional model*” or “*null model*”. This involves fitting a model where the fixed intercept is the only fixed effect parameter. The only random effect within this model is the effect associated with the level two units. This model is the baseline model against which the fit criteria from all subsequent models are compared. Then controls are added to the model and their additive benefit is assessed. Next, the level one predictors are used to develop the model further, followed by the addition of random slopes in which the slopes between the independent and dependent variables are allowed to vary across units. The final step involves adding level two or three predictors depending on the study design. In the context of the current study, the only random factor is the unit. Controls, level one predictors and level two predictors are also considered in the proceeding sections of this chapter. As the models reported here involve meso-mediational analysis, all level one and level two predictors were centred around the grand mean (Mathieu and Taylor 2007; Hofmann and Gavin 1998). As per practice, dependent variables were not centred (Tabachnick and Fidell 2007).

As outlined above, in addition to adding fixed effects, multi-level modelling allows the user to build models using random effects. Results of analysis within SPSS Mixed Models indicated that random slopes were not necessary. In order to confirm the accuracy of the parameter estimates, and confirm that the omission of random slopes represented the best models, each model was also run with the base module R (Venables

and Smith 2011) in combination with the “nlme” multilevel package (Pinheiro *et al.* 2008) which specifies a different estimation method.¹⁰ West, Welsh and Galecki (2006) argue that R is based on a more stable algorithm. Results of this analysis indicated that the variance in slopes across units was very small and that allowing the slope of predictor variables to vary across units did not improve any of the models. In all cases, entering random slopes results in poorer model fit statistics. As such, the findings presented in the next section represent the models with the best fit to the study data and report accurate parameter estimates for each of the study hypotheses. Furthermore, these models do account for clustering around the dependent variables and accurately test within and cross level effects of level one and level two predictors on the dependent variables of interest.

6.6.2 Assessing Model Fit

A number of criteria were used to assess the fit of the estimated models to the study data. In terms of the overall model fit, the model information criteria including the -2 LogLikelihood, Akaike's Information Criterion (AIC) and Schwarz's Bayesian Criterion (BIC) were assessed. This use of these criteria is based on comparison with alternative models and the significance of the improvement in the model criteria given the addition (or removal) of relevant parameters. Models are identified as improved when the introduction parameters lead to reduction in the size of the AIC, BIC and -2 Log Likelihood. The significance of the likelihood test statistic is determined by referring to a Chi Square distribution with the appropriate degrees of freedom (West, Welsh and

¹⁰ Mixed models in SPSS rely on the Newton-Raphson(N-P) and Fisher scoring algorithms. Functions in R use the Expectation-Maximization(EM) method (West, Welsh and Galecki 2006).

Galecki. 2006). In terms of the fixed effects, the significance of beta co-efficients and their associated statistics are used to determine significance. Furthermore, the percentage variance in the dependent variable or the pseudo R² for each model was also calculated. The pseudo R² was calculated for each model using the following formula:

$$R^2 = \frac{(\sigma^2 \text{ null model} - \sigma^2 \text{ comparison model})^{11}}{\sigma^2 \text{ null model}}$$

The change in pseudo R² for each model was calculated for the within level variances. This is a helpful statistic for understanding the reduction in unexplained variance (or residual error) at each step in the analysis. However, it should not be interpreted in the same manner as multiple R² employed in single level regression analysis as it is not calculated in the same manner and thus the numbers generated are not directly comparable. For ease of interpretation, the pseudo R² for the within level (individual level) is presented for individual level tests. The pseudo R² for within unit(individual) and between units is presented for analyses which included level 2 predictors. The next sections report on the models used to test the hypotheses posed in the current study.

¹¹ σ^2 represents the error variances of the null and comparison models.

6.6.3 Control Variables

The impact of a number of control variables was taken into account when modelling the impact of antecedents within the research model investigated. In the first instance, it was deemed important to assess the impact of organisation tenure as a demographic control variable. Proactive personality was also entered as a control in order to account for variance in the model due to a dispositional tendency to behave proactively. Finally, although organisation could be considered as a third level effect within the analysis, data was collected from only four organisations, and thus there is an insufficient number of units at level three (Tabachnick and Fidell 2007). Nonetheless, given that organisations might differ in their average proactivity, due perhaps to cultural differences between organisations, it was important to explore any differences in relation to proactive behaviour. The results of a one way ANOVA indicated that, indeed, average supervisor proactivity rating from the fourth organisation was significantly higher than that of the three other organisations ($F=5.299, p = .001$). To this end, the nominal variable *Organisation* was dummy coded using contrast coding and entered as a third control to account for this variation when considering model fit statistics.

Although it is acknowledged that daily work in some nursing disciplines may provide greater scope for behaving proactively than others, the results of one way ANOVA revealed no significant variation in proactive behaviour among different disciplines of nursing ($F=1.349, p = .252$). Thus, in favour of parsimony within the multi-level models tested, nursing discipline was excluded as a control. Furthermore, it could be argued that length of supervisor relationship might affect the results in that the longer the duration of the supervisory relationship, the greater the opportunity exists to observe

proactive behaviour. In the case of length of supervisory relationship, the nurse managers had supervised their staff nurses for on average 4 years. As part of a supplementary analysis the duration of supervisor relationships was added as a control when testing the models. This did not substantially change the results. The size of estimate change was less than .02 and all significance levels remained unchanged. Similarly, in the case of gender, entering gender as a control in the current study did not change the results of analysis in any substantial way. The size of parameter estimates change for other predictor variables was less than .01 and all significance levels remained unchanged. Adding these variables as controls would have made the models unnecessarily complex and, given that they did not change the parameter estimates of the predictor variables, both gender and length of supervisor relationships were excluded from further analysis.

6.6.4 Overview of Hypotheses Tests

The test results of each of the study hypotheses using multilevel regression modelling are summarised in Tables 6.15 to 6.24. In order to test for within level mediating effects, the four conditions for mediation outlined by Baron and Kenny (1986) were applied. These are:

1. The independent variable should be related to the dependent variable ($X \rightarrow Y$);
2. The independent variable should be related to the mediator ($X \rightarrow M$);
3. The mediator should be related to the dependent variable ($M \rightarrow Y$);

4. The direct relationship between the independent variable and dependent variable should become weaker (partial mediation) when accounting for the effect of the mediator ($XM \rightarrow Y$).

In addition, because recent research suggests that the Baron and Kenny mediation test is too conservative and that indirect effects can still be significant when Baron and Kenny's criteria are not fully met (MacKinnon *et al.* 2002), mediated hypotheses (both within level and across level) were also tested using the Monte Carlo Method for Assessing Mediation (MCMAM) and the Sobel test. In the first instance the MCMAM (Selig and Preacher 2008) using the program of R (Venables and Smith 2011) was employed. The MCMAM originally described by MacKinnon, Lockwood and Williams (2004) has been used for examining mediation in multi-level models¹². In the MacKinnon, Lockwood and Williams (2004) simulation, the MCMAM performed better than the widely used Sobel test (Sobel, 1982). However, in order to cross verify the results, the Sobel test for mediation was also applied.

In respect of cross level mediation effects, Mathieu and Taylor's (2007) rules of evidence for meso-mediation were followed. These are:

¹² The method relies on the assumption that the *a* and *b* parameters have normal sampling distributions. Using the inputted parameter estimates and the associated standard errors, random draws from the *a* and *b* distributions are simulated and the product of these values is computed. This procedure is repeated a very large number of times and the resulting distribution of the *a*b* values is used to estimate a confidence interval around the observed value of *a*b*. The interpretation of the analysis is based on the estimated confidence interval around the observed value of *a*b*. If the confidence interval as output of this analysis does not contain the value of zero then mediation is demonstrated (Selig and Preacher 2008).

1. Consider the influence of any methodological controls and covariates on substantive variables using the appropriate analyses.
2. Evaluate the relative magnitude and significance of variance that resides within and between level 2 units, for each potential level 1 mediator and criterion.
3. Conduct within level mediational tests following the single level rules of evidence.
4. Directly test the (X^{*13} and M^*) influences, from whatever level, on lower-level outcome variables by entering them simultaneously in the appropriate analysis.
5. Test the influence of X^* (from whatever level) on M^* .

6.7 Subjective Relational Experiences and Proactive Work Behaviour.

Hypotheses 1 and 2 propose that the relationship between subjective relational experiences and proactive behaviour is partially mediated by work engagement and hope. In testing this mediation model the first phase of analysis involves assessing the direct effects of subjective relational experiences on proactive behaviour. Following the step up strategy, the first step of this analysis involves assessing the null model to which other models will be compared. The next step involves entering the model controls of organisational tenure, site and proactive personality resulting in Model 1. The third and final step adds subjective relational experiences as an individual level predictor of proactive work behaviour. The results of this analysis are presented in Models 1, 2 and 3 of Table 6.15. The null model provides a baseline for comparing subsequent models.

¹³ *denotes that the relationship must be significant for inference to be supported.

The results from Model 1 (Table 6.15) indicate that of the three controls entered, only organisational tenure was positively and significantly associated with proactive behaviour ($\gamma^{14} = .02$, SE=.01, $t = 2.638$). Adding the three controls into the model as part of step one resulted in an improvement in the model fit statistics (AIC and BIC) and a reduction in model deviance ($\Delta -2 \times \log = 3.2$). Subjective relational experiences are added to develop Model 2 (Table 6.15). These results indicate that subjective relational experiences are positively and significantly related to proactive behaviour ($\gamma = .31$, SE=.09, $t = 3.416$, $p < .01$). Furthermore, Model 2 is identified as the model with the best fit with a further reduction in all model fit criteria including a reduction in model deviance ($\Delta -2 \times \log = 8.41$, $p < .01$). Finally, taken together, subjective relationship experiences as a predictor and the study controls, explained 7% of the variance in proactive work behaviour at the individual level. In summary the results presented in Table 6.15 indicate that the first condition for mediation has been met.

¹⁴ γ is the algebraic symbol gamma, which is used to reflect the parameter estimates of fixed effects within multi-level analysis.

Table 6.15 Multi-level Estimates For Models Where Subjective Relational Experiences Predict Proactive Behaviour

Fixed Effect Parameters	Null model			Model 1			Model 2		
	Estimate	SE	<i>t</i>	Estimate	SE	<i>T</i>	Estimate	SE	<i>t</i>
<i>Step 1 Intercept</i>	3.13	.10	28.80***	3.52	.24	14.23***	3.50	.23	14.91***
<i>Step 2 Controls</i>									
Tenure				.02	.01	2.638**	.01	.01	2.310*
Proactive personality				.17	.09	1.171	.07	.10	.721
Organisation				-.45	.27	-1.664	-.44	.25	-1.716
<i>Step 3 Level 1 Predictor</i>									
Subjective Relational Experiences							.31	.09	3.416**
AIC			670.49			667.29			658.88
BIC			677.49			674.32			665.85
-2 x log			666.49			663.29			654.88
Δ -2 x log (deviance)						3.20			8.41**
	Estimate	SE		Estimate	SE	Pseudo R²	Estimate	SE	Pseudo R²
Within group(individual) residual variance	.71	.06		.68	.06	4%	.66	.06	7%

Note: SE = Standard Error; ***p < .001, ** p < .01, * p < .05; n = 260 individual nurses, n=38 units.

6.8 The Mediating effects of Hope and Work Engagement.

The results of previous analysis on the relationships between subjective relational experience and proactivity behaviour presented in Table 6.15 above indicated that the condition specified in step one of Baron and Kenny's (1986) guidelines has been met. The second condition for mediation regards the relationship of the independent variable (subjective relational experiences) with the mediators (hope and engagement). Tables 6.16 and 6.17 present the results of these separate multi-level regression tests.

Table 6.16 shows the findings from multi-level modelling for subjective relational experiences predicting hope. Having estimated the null model, Model 1 fitted a model with control variables only. Tenure ($\gamma = .01$, $SE = .00$, $t = 2.07$, $p < .05$) and proactive personality ($\gamma = .33$, $SE = .05$, $t = 6.08$, $p < .001$) were significantly related to hope. Adding the three controls into the model as part of step 1 resulted in a significant improvement in the model fit statistics and a significant reduction in model deviance ($\Delta -2 \times \log = 24.76$, $p < .001$). Subjective relational experiences are added to develop Model 2 (Table 6.16). These results indicate that subjective relational experiences are positively and significantly related to hope ($\gamma = .21$, $SE = .05$, $t = 4.21$, $p < .001$). Model 2 in which subjective relational experiences are added as a predictor is identified as the model with the best fit with a further reduction deviance ($\Delta -2 \times \log = 13.11$, $p < .001$). Taken together, subjective relationship experiences as a predictor and the study controls explained 19% of the variance in hope at the individual level. These results indicate that the second condition for mediation in relation to hope has been met.

The relationship between subjective relational experiences and work engagement was examined within a separate model. Table 6.17 presents the findings from multilevel modelling for subjective relational experiences predicting work engagement. As above, having estimated the null model, Model 1 fitted a model with controls only. Of the three controls only tenure ($\gamma = .01$, $SE = .01$, $t = 2.523$, $p < .05$) and proactive personality ($\gamma = .30$, $SE = .09$, $t = 3.233$, $p < .01$) were significantly related to work engagement. Adding the controls into the model as part of step one resulted in a significant improvement in the model fit statistics and a reduction in the model deviance ($\Delta -2 \times \log = 6.08$). Subjective relational experiences was added to develop Model 2 (Table 6.17). These results indicate that subjective relational experiences are positively and significantly related to work engagement ($\gamma = .49$, $SE = .08$, $t = 5.88$, $p < .001$). Model 2 in which subjective relational experiences is added as a predictor is identified as the model with the best fit with a further reduction in all model fit statistics and resulting in a significant reduction in model deviance ($\Delta -2 \times \log = 29.42$, $p < .001$). Taken together, subjective relational experiences as a predictor and the controls explained 17% of the variance in work engagement at the individual level. Thus, the results in Table 6.17 indicate that the second condition for mediation in relation to work engagement outlined by Baron and Kenny (1986) has been met.

Table 6.16 Multi-level Estimates For Models Where Subjective Relational Experiences Predict Hope

Fixed Effect Parameters	Null model			Model 1			Model 2		
	Estimate	SE	<i>t</i>	Estimate	SE	<i>t</i>	Estimate	SE	<i>t</i>
<i>Step 1 Intercept</i>	3.79	.04	89.74***	3.78	.10	37.75***	3.76	.09	39.26***
<i>Step 2 Controls</i>									
Tenure				.01	.00	2.07*	.01	.00	1.60
Proactive personality				.33	.05	6.08***	.27	.05	4.97***
Organisation				.02	.10	.211	.03	.10	.318
<i>Step 3</i>									
Subjective Relational Experiences							.21	.05	4.21***
AIC			402.33			377.57			364.46
BIC			409.37			384.58			371.47
-2 x log			398.33			373.57			360.46
Δ -2 x log (deviance)						24.76***			13.11***
	Estimate	SE		Estimate	SE	Pseudo R²	Estimate	SE	Pseudo R²
Within unit(individual) residual variance	.26	.02		.22	.02	15%	.21	.02	19%

Note: SE = Standard Error; ***p < .001, ** p < .01, * p < .05; n = 260 individual nurses, n=38 units

Table 6.17 Multi-level Estimates For Models Where Subjective Relational Experiences Predict Work Engagement

Fixed Effect Parameters	Null model			Model 1			Model 2		
	Estimate	SE	<i>t</i>	Estimate	SE	<i>t</i>	Estimate	SE	<i>t</i>
<i>Step 1 Intercept</i>	4.45	.07	57.10***	4.25	.18	42.00***	4.22	.17	23.638***
<i>Step 2 Controls</i>									
Tenure				.01	.01	2.523*	.01	.00	2.003*
Proactive Personality				.30	.09	3.233**	.16	.09	1.771
Organisation				.24	.20	1.175	.26	.19	1.342
<i>Step 3 Level 1 Predictor</i>									
Subjective Relational Experiences							.49	.08	5.882***
AIC			652.59			646.51			617.14
BIC			659.63			653.52			626.09
-2 x log			648.59			642.51			613.09
Δ -2 x log (deviance)						6.08			29.42***
	Estimate	SE		Estimate	SE	Pseudo R²	Estimate	SE	Pseudo R²
Within unit(individual) residual variance	.69	.06		.65	.06	6%	.57	.05	17%

Note: SE = Standard Error; ***p < .001, ** p < .01, * p < .05; n = 260 individual nurses, n=38 units

The next stage of analysis involved testing the direct effects of hope and engagement on proactive behaviour in order to satisfy the third condition for mediation outlined by Baron and Kenny (1986). Table 6.18 presents the results of this stage of the analysis. As in the previous analysis the first model presents the null model where only the intercept of proactive behaviour is fixed. Model 1 added the effect of the controls on proactive behaviour. As in Table 6.15, of the three controls entered only organisational tenure was positively and significantly associated with proactive behaviour ($\gamma = .02$, $SE = .01$, $t = 2.63$, $p < .01$). In Model 2 both hope and engagement were entered into the analysis as fixed predictors. Entering these predictor variables results in a significant improvement in model fit ($\Delta -2 \times \log = 5.61$, $p < .05$). Results presented in Model 2 indicate that hope is a significant predictor of proactive behaviour ($\gamma = .40$, $SE = .12$, $t = 3.38$, $p < .01$) fulfilling the third condition for mediation in relation to hope. Model 2 also indicates that, contrary to expectation, work engagement was not significantly related to proactive behaviour ($\gamma = -.02$, $SE = .07$, $t = -.387$, $p > .05$). As a non-significant predictor, work engagement did not meet the third condition for mediation. Taken together, the predictor variables and control variables explained 9% of the variance at the level of the individual.

To summarise, the results outlined in Table 6.18 indicate that hope is positively related to proactive work behaviour. The results also ruled out the possibility that work engagement partially mediates the relationship between subjective relational experience and proactive behaviour. Although the correlation matrix indicated that work engagement and proactive behaviour were correlated, when entered into multi-level

analysis, which accounted for clustering within the dependent variable, the relationship fell to a non-significant level.

In order to test the fourth condition for mediation, both the predictor variables, subjective relational experiences and hope were entered into the model at the same time to produce Model 3 in Table 6.18. This model resulted in a further improvement in model fit ($\Delta -2 \times \log = 5.45, p < .05$). Examination of the estimates exposed a weakening of the relationship between subjective relational experience and proactive behaviour when also controlling for the effects of hope, meeting the final condition for mediation outlined by Baron and Kenny (1986). These findings indicate that hope partially mediates the relationship between subjective relational experiences and proactive behaviour. In order to test the significance of the mediation the Monte Carlo Method for Assessing Mediation (MCMAM; Selig and Preacher, 2008) using the program of R (Venables and Smith 2011) was employed. Sobel's (1982) test of significance for indirect effects was also applied in order to cross verify the results. Table 6.19 below reports the significant partially mediating effect of hope on the relationship between subjective relational experiences and proactive behaviour.

Table 6.18 Multi-level Estimates For Models Where Subjective Relational Experiences, Hope and Work Engagement Predict Proactive Behaviour

Fixed Effect Parameters	Null model			Model 1			Model 2			Model 3		
	Estimate	SE	<i>t</i>	Estimate	SE	<i>t</i>	Estimate	SE	<i>t</i>	Estimate	SE	<i>t</i>
<i>Step 1 Intercept</i>	3.13	.10	28.80***	3.52	.24	14.23***	3.51	.23	15.09***	3.49	.22	15.52***
<i>Step 2 Control</i>												
Tenure				.02	.01	2.638**	.01	.01	2.247*	.01	.01	2.121
Proactive personality				.17	.09	1.171	.04	.10	.410	-.00	.10	-.073
Organisation				-.45	.27	-1.664	-.45	.25	-1.769	-.43	.24	-1.778
<i>Step 3 Level 1 Predictors</i>												
Subjective Rel. Experiences										.28	.09	2.89**
Engagement							-.02	.07	-.387	-.08	.07	-1.15
Hope							.40	.12	3.381**	.35	.12	2.92**
AIC			670.49			667.29			661.68			656.23
BIC			677.49			674.32			668.64			663.18
-2 x log			666.49			663.29			657.68			652.23
Δ -2 x log						3.20			5.61*			5.45*
	Estimate	SE		Estimate	SE	Pseudo R²	Estimate	SE	Pseudo R²	Estimate	SE	Pseudo R²
Within unit(individual) residual variance	.71	.06		.68	.06	4%	.66	.06	7%	.65	.06	9%

Note: SE = Standard Error; ***p < .001, ** p < .01, * p < .05; n = 260 individual nurses, n=38 units

Table 6.19 Direct and Mediated effects of Subjective Relational Experiences on Proactive Behaviour

Model	a (SE)	b (SE)	a*b	Lower Bound	Upper Bound	c'(SE)	c	Sobel z-value
<i>Individual level indirect path</i>								
SRE → Hope → Proactive Behaviour (H2)	.21(.05)	.35(.12)	.08	0.0208	0.1412	.31(.09)	.39	2.39**

Note: SE = Standard Error, *p <.05. The estimates presented in this table are based on Model 2 of Table 6.15 and Model 3 of Table 6.17. a = regression coefficients for the association between subjective relational experiences and hope; b= the regression coefficient for the association between hope and proactive behaviour when subjective relational experiences are also a predictor of proactive behaviour; c' = the regression coefficient for the association between subjective relational experiences and proactive behaviour (direct effect); a*b = regression coefficient for the indirect association between subjective relational experiences and proactive behaviour via hope(indirect effect); and c = sum of a*b and c' (total effect).

6.9 High Quality Relationships, Psychological Safety and Proactive Behaviour

Hypothesis 3 proposes cross level mediation effects of high quality relationships, as represented by mutual respect, on individual proactive behaviour via their effect on psychological safety climate. Developing the cross level mediational model involved a number of key steps which broadly echo those set out by Baron and Kenny (1986) and Kenny, Kashy and Bolger (1998). These were also supplemented by recent work on meso-mediational models by Mathieu and Taylor (2007). In testing these relationships across levels, the analytical strategy chosen should bear in mind that lower level variables and relationships are more subject to influence from upper level variables than the reverse. As such, in considering the effects of higher level units on individual level behaviour, the model must control for the individual level predictors of the individual behaviour first. In testing the indirect effects of mutual respect on psychological safety climate, the following conditions were tested.

1. Mutual respect is positively related to climate of psychological safety ($X \rightarrow M$).
2. Psychological safety is positively related to proactive work behaviour ($M \rightarrow y$).
3. Psychological safety is positively related to proactive work behaviour ($XM \rightarrow y$) even when controlling for the impact of mutual respect and all level one predictors.

The first condition requires a relationship to be established between mutual respect and psychological safety climate. In testing this, unit aggregated scores for each of these variables were used and thus simple linear regression was employed. Relationships

between level 2 variables can be modelled using ordinary least squares (OLS) regression assuming that there is no further meaningful nesting in higher level units (e.g., organizations) creating non-independence (Mathieu and Taylor 2007: 28). Table 6.20 presents the results of this initial analysis. Model 1 presents the control model. In Model 2, mutual respect was added as a predictor of psychological safety climate. Results indicate that mutual respect is positively and significantly related to psychological safety climate ($b = .75$, $SE = .20$, $p < .01$). Adding psychological safety climate as a predictor resulted in a change in adjusted R^2 of 24%. This further signals that the first condition for cross level indirect effects has been met.

Table 6.20 OLS Regression where Mutual Respect predicts Psychological Safety Climate

	Model 1			Model 2		
	Beta	SE	<i>t</i>	Beta	SE	<i>T</i>
<i>Step 1 Control</i>						
Tenure	.02	.02	1.04	.01	.02	.793
<i>Step 3 Predictors</i>						
Mutual Respect				.75	.20	3.61**
R²			.029			.287
Adjusted R²			.002			.247
Δ R²						.238

Note: *** $p < .001$, ** $p < .01$, * $p < .05$, $n = 260$ individual nurses, $n=38$ units

The next condition pertains to the existence of a relationship between psychological safety climate and proactive behaviour. Table 6.21 presents the analysis in relation to this hypothesis. The null model, Model 1 and Model 2 reflect the model with no predictors, model with controls only and the model where mutual respect is the only fixed predictor respectively.¹⁵ Model 3 (Table 6.21) adds psychological safety climate to the model with controls only (Model 1). Adding psychological safety as a fixed predictor brings about an improvement in model fit statistics including a reduction in model deviance of ($\Delta -2 \times \log = 7.77, p < .01$). These results also indicate that psychological safety climate is a significant predictor of individual level proactive work behaviour ($\gamma = .58, SE = .18, t = 3.195, p < .01$), thus fulfilling the second condition in assessing cross level indirect effects.

The third and final condition requires that the indirect effects of mutual respect on proactive behaviour be tested when controlling for all level one predictors in the model first. The results of this part of the analysis are presented in Model 5 (Table 6.21). Model 5 enters the controls and both level one and level two predictors. These results indicate that, as expected, there is a non-significant relationship between mutual respect and proactive behaviour but the relationships between psychological safety climate and proactive behaviour is significant ($\gamma = .42, SE = .19, t = 2.119, p < .05$). This indicates that the conditions for testing indirect effects of mutual respect on proactive behaviour have been met.

¹⁵ Although there was no requirement to test for this relationship it is interesting to note that when level one predictors are excluded from the model there is a significant relationship between mutual respect and proactive behaviour ($\gamma = .60, SE = .25, t = 2.392, p < .05$), which would satisfy the necessary X-y condition for testing cross level mediation. As this relationship drops to non-significance in model 4 when level one predictors are added ($\gamma = .41, SE = .24, t = 1.693, p = >.05$), the possibility of cross level mediation is precluded. However, this does not preclude the existence of an indirect relationship.

To test the significance of the indirect effects of mutual respect on proactive work behaviour via psychological safety, the parameter estimates from this model were subjected to the MCMAM and Sobel tests. Table 6.22 provides the results of these tests. Both the MCMAM and the Sobel test indicate the presence of significant indirect effects. These results indicate that although psychological safety climate does not mediate the relationship between mutual respect at the unit level and individual proactive behaviour, mutual respect exhibits an indirect cross-level relationship with individual proactive work behaviour, via psychological safety climate.

Table 6.21 Multi-level Estimates For Models Where Subjective Relational Experiences And Mutual Respect Predict Proactive Behaviour

Fixed effect Parameter	Null Model	Model 1	Model 2			Model 3			Model 4			Model 5		
	Est. (SE) <i>t</i>	Est. (SE) <i>t</i>	Est.	SE	<i>t</i>	Est.	SE	<i>t</i>	Est.	SE	<i>t</i>	Est.	SE	<i>t</i>
<i>Step 1 Intercept</i>	3.13(.10)***	3.52(.24)***	.99	1.07	.927	1.25	.73		1.79	1.03	1.738	1.29	1.01	1.267
<i>Step 2 Controls</i>														
Tenure		.02(.01)**	.02	.00	2.596**	.01	.01	2.422*	.01	.01	2.127*	.01	.01	1.977
Proactive personality		.17(.09)	.16	.09	1.689	.16	.09	1.718	.01	.10	.030	.00	.10	.07
Organisation		-.45(.27)	-.37	.25	-1.432	-.41	.24	-1.654	-.38	.24	-1.579	-.39	.23	-1.663
<i>Step 3 Level 1 Predictors</i>														
Subjective Relational Experiences									.26	.10	2.672**	.26	.09	2.613*
Work Engagement									-.08	.07	-1.184	-.08	.07	-1.164
Hope									.33	.12	2.759**	.32	.12	2.70**
<i>Step 4 Level 2 Predictors</i>														
Mutual respect			.60	.25	2.392*				.41	.24	1.693	.14	.26	.548
Psychological Safety						.58	.18	3.195**				.42	.19	2.119*
AIC	670.49	667.29			662.77			659.52			654.39			651.42
BIC	677.49	674.32			669.74			666.49			661.34			658.36
-2 x log	666.49	663.29			658.77			655.52			650.39			647.42
Δ -2 x log		3.20			4.52*			7.77**			5.13			2.97
	Est (SE)	Est (SE)	Est.	SE	Pseudo R²	Est.	SE	Pseudo R²	Est.	SE	Pseudo R²	Est.	SE	Pseudo R²
Within unit(individual) residual variance	.71(.06)	.68(.06)	.68	.06	4%	.68	.06	4%	.65	.06	8%	.65	.06	11%
Between unit residual variances	.32(.10)	.29(.09)	.24	.08	25%	.24	.08	25%	.20	.07	37%	.17	.06	46%

Note: Est = Estimate, SE = Standard Error; ***p < .001, ** p < .01, * p < .05; n = 260 individual nurses, n=38 units

Table 6.22 Tests of Indirect Effects of Unit level Mutual Respect on Proactive Behaviour.

Model	a (SE)	b (SE)	a*b	Lower Bound	Upper Bound	c'(SE)	c	Sobel z-value
<i>Cross- level indirect paths</i>								
Mutual respect → Psy. Safety → Proactive Behaviour (H3)	.76(.20)	.42(.19)	.31	0.0288	0.6895	.14(.26)	.45	1.93*

Note: SE = Standard Error; *p < .05. The estimates presented in this table are based on Model 2 of tables 6.21 and Model 3 of Table 6.22 a = regression coefficient for the association between mutual respect and psychological safety; b = the regression coefficient for the association between psychological safety and proactive behaviour when mutual respect is also a predictor of proactive behaviour; c' = the regression coefficient for the association between mutual respect and proactive behaviour (direct effect); a*b regression coefficient for the indirect association between mutual respect and proactive behaviour via psychological safety(indirect effect); and c = sum of a*b and c' (total effect).

6.10 The Impact of Proactive Behaviour on Outcomes

Hypotheses 4 and 5 proposed that individual proactive behaviour would be positively related to job performance and quality of care respectively. Tables 6.23 and 6.24 provide the results of the analyses used to test these relationships. A number of considerations were taken into account when identifying controls within the models predicting job performance and quality of care. In order to account for the fact that nurses with greater tenure and organisational experience may receive higher supervisor ratings for both outcome variables, tenure was retained as a control (Grant and Ashford 2008). Research has shown that individuals with a dispositional tendency toward proactive behaviour often receive higher ratings of performance outcomes than their less proactive counterparts (Thompson 2005), and so, proactive personality was also retained in the analysis as a control. Results of a One-Way ANOVA indicated no significant differences across the four organisations in relation to job performance ($F=2093, p = .10$) or quality of care ($F=.676, p = .568$). As such this was excluded as a control. However, in the case of quality of care the inclusion of length of supervisory relationships in the analysis did indicate that this was a significant predictor. As such, this was added as a control in the proceeding analysis.

The results presented in Table 6.23 provide support for the hypothesized relationship between proactive work behaviour and job performance. The first model presents the null model where only the intercept of job performance is fixed. Model 1 added the effect of the controls on job performance. The results from Model 1 (Table 6.23) indicates that adding the three controls into the model as part of step one resulted in a significant improvement in all the model fit statistics, including a reduction in model

deviance ($\Delta -2 \times \log = 5.58$). In Model 2, proactive work behaviour was entered into the analysis as a fixed predictor resulting in an improvement in all model fit statistics including a further significant decrease in model deviance ($\Delta -2 \times \log = 81.34$, $p < .001$). Results presented in Model 2 indicate that proactive work behaviour is positively related to job performance ($\gamma = .27$, $SE = .02$, $t = 9.870$, $p < .001$). Furthermore, the pseudo R^2 statistic indicates that the model accounts for 44% of the individual level residual variance providing strong support for Hypothesis 4.

Table 6.24 reports the findings on the relationship between proactive work behaviour and quality of patient care. Model 1, in which controls were added, resulted in a significant improvement in model fit statistics and a significant reduction in model deviance ($\Delta -2 \times \log = 15.73$, $p < .01$). Results presented in Model 2 suggest that proactive work behaviour is a significant predictor of quality of care ($\gamma = .51$, $SE = .04$, $t = 12.70$, $p < .001$). Entering proactive work behaviour as a fixed effect in Model 2 resulted in an improvement in all fit statistics and a significant reduction in model deviance ($\Delta -2 \times \log = 116.76$, $p < .001$). Finally, the pseudo R^2 statistic indicates that the model accounts for 50% of the individual level residual variance providing strong support for Hypothesis 5.

Table 6.23 Multi-level Estimates For Models Where Proactive Behaviour Predicts Job Performance

Fixed effect Parameters	Null model			Model 1			Model 2		
	Estimate	SE	<i>t</i>	Estimate	SE	<i>t</i>	Estimate	SE	<i>t</i>
<i>Step 1 Intercept</i>	4.41	.04	93.027***	4.41	.04	99.478***	4.39	.04	109.94***
<i>Step 2 Level 1 Control</i>									
Tenure				.01	.00	1.513	-.00	.00	-.231
Proactive Personality				.04	.05	.860	-.01	.04	-.157
Length of Supervisory Relationship				.01	.01	.637	-.01	.01	.695
<i>Step 3 Level 1 Predictor</i>									
Proactive Work Behaviour							.27	.02	9.870***
AIC			319.44			319.86			240.52
BIC			329.86			340.70			264.83
-2 x log			313.44			307.86			226.52
Δ -2 x log (deviance)						5.58			81.34***
	Estimate	SE		Estimate	SE	Pseudo R²	Estimate	SE	Pseudo R²
Within unit(individual) residual variance	.18	.05		.15	.01	16%	.10	.01	44%

Note: Est = Estimate, SE = Standard Error; ***p < .001, ** p < .01, * p < .05; n = 260 individual nurses, n=38 units

Table 6.24 Multi-level Estimates For Models Where Proactive Behaviour Predicts Quality Of Care

Fixed effect Parameters	Null model			Model 1			Model 2		
	Estimate	SE	<i>t</i>	Estimate	SE	<i>t</i>	Estimate	SE	<i>t</i>
<i>Step 1 Intercept</i>	4.18	.06	60.41***	4.18	.06	65.72***	4.16	.06	60.852***
<i>Step 2 Level 1 Control</i>									
Tenure				.01	.00	1.68	-.00	.01	-.572
Proactive Personality				.03	.07	.420	-.08	.06	-1.360
Length Super. Relationship				.03	.01	2.24*	.03	.01	2.952
<i>Step 3 Level 1 predictor</i>									
Proactive work behaviour							.51	.04	12.703***
AIC			537.29			527.46			412.80
BIC			547.71			548.30			437.11
-2 x log			531.29			515.56			398.80
Δ -2 x log (deviance)						15.73**			116.76***
	Estimate	SE		Estimate	SE	Pseudo R²	Estimate	SE	Pseudo R²
Within unit(individual) residual variance	.48	.04		.45	.04	6%	.24	.02	50%

Note: SE = Standard Error; ***p < .001, ** p < .01, * p < .05; n = 260 individual nurses, n=38 units

6.11 Conclusion

This chapter presented the results of the analysis used to test the hypotheses generated within Chapter 3. It began by presenting a breakdown of the study sample which reflected a largely female population, with an average age of 40 years drawn from a range of nursing specialities. Following from this, the results of factor analysis to examine the underlying structure of the key variables was described. As Hypothesis 3 involved testing relationships across levels, analysis was carried out to justify aggregation of these variables to the unit level.

The remainder of this chapter presented the results of multi-level modelling to test the study hypotheses. First, the individual within level effects of subjective relational experience on individual proactive behaviour as mediated by hope and work engagement was examined. Interestingly, Hypothesis 1, which proposed that work engagement would at least partially mediate the relationship between subjective relational experiences and proactive behaviour was not supported. Results provided support for Hypothesis 2, which examined the direct effects of subjective relational experiences on proactive behaviour as well as the partial mediating effects of hope within this relationship. The final phase of analysis tested the cross level effects of mutual respect and psychological safety climate on individual proactive behaviour. Results suggest support for Hypothesis 3, indicating the indirect effects of mutual respect on proactive behaviour via the linking mechanism of psychological safety climate. Support was also found for the relationships between proactive work behaviour and both of the outcome variables, job performance and quality of care. The findings indicate support for Hypotheses 4 and 5. These findings are discussed in the next chapter.

CHAPTER 7

DISCUSSION AND CONCLUSIONS

7.1 Introduction

The overall objective of this study was to investigate the effect of high quality relationships on proactive behaviour at work. Firstly, the study examined the relationship between individual perceptions of subjective relational experiences and proactive work behaviour. As part of an individual level multiple mediation model, it was proposed that two psychological states, hope and work engagement would mediate this relationship.

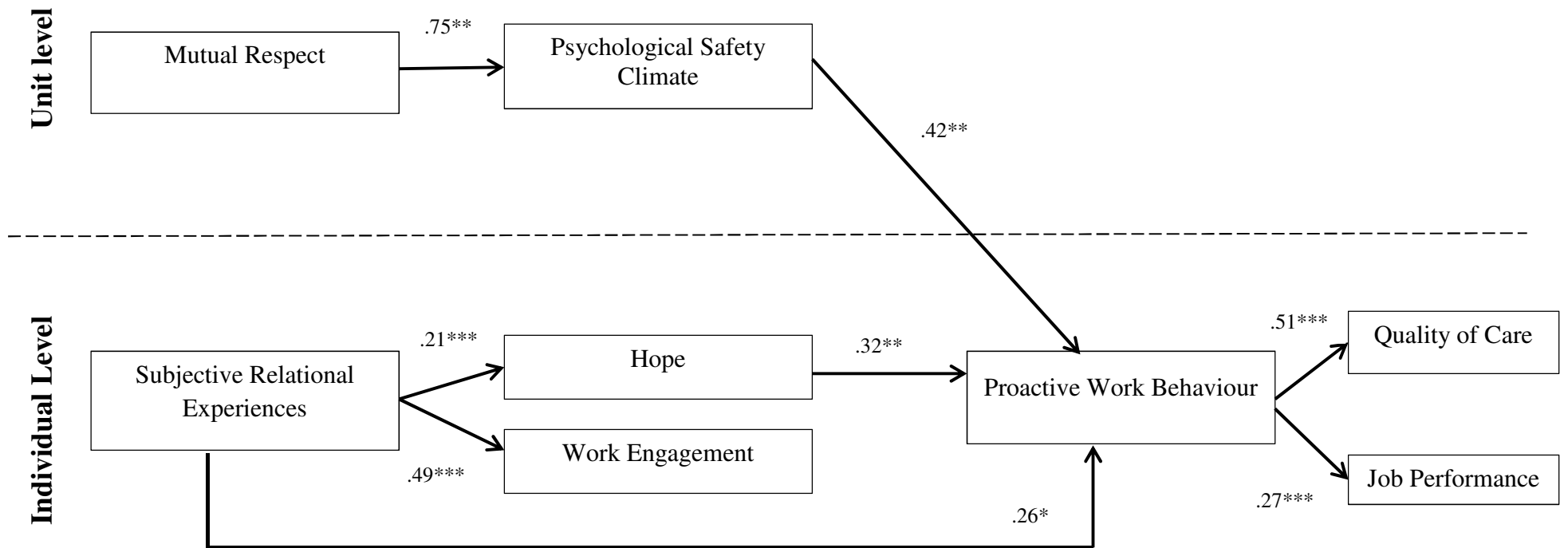
Secondly, in exploring the role of unit level relational constructs on proactive behaviour, it investigated the role of high quality relationships within the work unit on proactive behaviour via their impact on the climate of psychological safety. Finally, this study also investigated the relationships between proactive behaviour and two organisationally relevant outcomes: individual job performance and the quality of patient care delivered by individual nurses. Multi-source survey data was collected from a representative sample of 260 staff nurses, nested in 38 units across four organisations. Hypotheses were tested using multi-level modelling. Table 7.1 outlines the main hypotheses, the conditions tested as evidence of support for each hypothesis and a summary of the empirical results. Based on these findings, the research model representing the best fit with the study data is presented in Figure 7.1.

Table 7.1 Summary of Hypotheses and Empirical Results

Hypothesis and Associated Tests	Empirical Support
H 1 At the individual level work engagement partially mediates the relationship between subjective relational experiences and proactive behaviour	X
x → y a. Subjective relational experiences are positively related to proactive work behaviour	√
x → m b. Subjective relational experiences are positively related to work engagement	√
m → y c. Work engagement is positively related to proactive behaviour	X
xm → y d. When controlling for the effects of engagement, the relationship between subjective relational experience and proactive work behaviour weakens	X
H 2 At the individual level hope partially mediates the relationship between subjective relational experiences and proactive behaviour	√
x → y a. Subjective relational experiences are positively related to proactive work behaviour	√
x → m b. Subjective relational experiences are positively related to hope	√
m → y c. Hope is positively related to proactive behaviour	√
xm → y d. When controlling for the effects of hope, the relationship between subjective relational experience and proactive work behaviour weakens	√
H 3 At the unit level high quality relationships impact individual level proactive behaviour via their impact on psychological safety climate	√
X → M a. Mutual respect is positively related to psychological safety climate	√
M → y b. Psychological safety climate is positively related to proactive behaviour	√
XM → y c. When controlling for the effects of level one predictors and mutual respect, psychological safety climate remains positively related to proactive work behaviour	√
H 4 Individual proactive work behaviour is positively related to job performance.	√
H 5 Individual proactive work behaviour is positively related to quality of care.	√

Note: x, m and y refer to the variables at the individual level. X and M refer to unit level variables.

Figure 7.1 Research Model Representing the Best Fit with Study Data



Note: $n = 260$ staff nurses, $N = 38$ units; Although multi-level models are assessed using overall fit statistics, fixed effect parameter estimates and significance levels are presented here as they give an indication of strength of relationships between variables; $***p < .001$, $** p < .01$, $* p < .05$

This chapter continues with a discussion of the main research findings. Next, the contribution of the current study is stated. There follows a consideration of the implications of the study findings for the development of theory on proactive behaviour and management practice. This chapter concludes by presenting the limitations of the study and suggesting some future research directions.

7.2 Discussion of Key Findings

In investigating the role of high quality relationships on proactive behaviour this research made a number of key findings. These are now discussed.

7.2.1 The Role of Subjective Relational Experiences and Proactive Work Behaviour

The majority of work on proactive behaviour has focused on the role of job design (Parker Williams and Turner 2006; Sonnentag and Fay 2002) and leadership (Griffin, Parker and Mason 2010; Williams, Parker and Turner 2010; Strauss, Griffin and Rafferty 2009). In broadening our understanding of other contextual influences on proactive behaviour, studies have also investigated the role of trust (Parker Williams and Turner 2006) and social support (Ashford *et al.* 1998) on *narrow band* concepts of proactivity such as problem prevention, implementation and issue selling. This research shares with these studies an interest in how contextual influences are important for predicting proactive behaviour. More specifically, the results of this study show that individual perceptions of positive relational experiences at work play a part in developing a proactive workforce. Study findings indicate that when nurses characterise their relationships with others in their work environments as including positive regard, mutuality and vitality, they are more likely to display proactive work

behaviour. These results are congruent with the theories of behavioural engagement which argue that relationships are a critical component of meaningful work environments, which in turn create an essential prerequisite for work behaviours reflective of behavioural engagement (Kahn 1990; Macey and Schneider 2008). The findings are also consistent with Dutton and Heaphy's (2003) relational theory on the importance of high quality relationships for motivating employees towards greater performance. Furthermore, given the current research context, the findings have face validity as the healthcare literature has repeatedly stressed the importance of positive working environments in enhancing performance outcomes in healthcare (Laschinger 2010).

7.2.2 The Mediating Role of Hope and Work Engagement

As part of a multiple mediation model, both hope and work engagement were hypothesised to mediate the relationship between subjective relational experiences and individual proactive behaviour. This study found support for the hypothesis that hope partially mediated the effect of subjective relational experiences on proactive work behaviour. This finding is interesting for two reasons. In testing the conditions for mediation, this study identified the direct effect of hope on proactive behaviour. Research on hope in organisations is in its infancy with relatively few studies considering the role of hope on behavioural outcomes. In particular this study highlights hope as an important psychological state that is directly related to proactive work behaviour. This finding is consistent with hope theory (Snyder 1994) which suggests that individuals high in hope are more likely to hold positive expectations regarding the success of their actions and are able to identify alternative pathways to achieving their goals. The findings identify hope as a mediating mechanism between positive relational contexts and positive work behaviours. Subjective relational

experiences are a source of positive affect which helps to build positive expectations about success and broaden cognitive strategies on how proactive goals can be attained. In other words, high quality relationships are important for encouraging proactive behaviour because they provide individuals with the resources they need to muster the will necessary and to see the way to achieve their proactive goals. This finding is in keeping with recent models of proactive motivation (Parker, Bindl and Strauss 2010) which specify that proximal positive psychological states mediate the relationships between distal contextual antecedents and proactive behaviour.

Interestingly, support was not found for Hypothesis 1 which proposed that work engagement would mediate the relationship between subjective relational experiences and proactive behaviour. In keeping with the Job Demands-Resources model (Demerouti *et al.* 2001), the analysis indicated that subjective relational experiences acted as a social resource which was positively related to work engagement. However, no support was found for the relationship between work engagement and proactive behaviour. This is puzzling given that, in the current study, work engagement was defined and measured as a psychological motivational state which, in line with theories of behavioural engagement (Kahn 1990; Macey and Schneider 2008) and theories on proactive motivation (Parker, Bindl and Strauss 2010), would be expected to be positively associated with proactive behaviour. When consideration is given to the fact that the data used in this study was based on supervisor reports of proactive work behaviour, this non finding is, perhaps, less surprising in light of previous research. Although previous studies have found a positive relationship between work engagement and extra-role performance (Bakker, Demerouti and Verbeke 2004) and even proactive performance (Salanova and Schaufeli 2008), many of these studies reflect longitudinal designs using self-report measures only (Christian, Garza and Slaughter 2011).

Furthermore, as part of post hoc analysis within the current study, a positive significant relationship was found between work engagement and self-rated proactivity. This finding is very much in keeping with findings from previous studies. However, the reliance on self-report data for outcome variables in studies of work engagement have been acknowledged by researchers who recommend the use of multi-source data in future studies (Bakker and Demerouti 2007; Simpson 2009). This is sound advice given the well-established body of research which suggests that employees generally tend to rate themselves more positively than their supervisors do, leading to inflated relationships when outcome variables are self-rated (Atwater and Yammarino 1997; Korsgaard, Meglino and Lester 2004). Recent research also highlights that positivity bias in employee self-ratings is more pronounced for self-ratings of *creative performance* such as problem solving, generating new ideas and other behaviours which are less well specified and standardised than in-role performance. As the data reported in the current study was multi source in origin, many of the biases associated with reliance on self-report data alone have been avoided.

The non-finding in the current study does signal that the relationship between work engagement and supervisor rated proactive behaviour is contingent on something that has not been specified in the current model. Recent theorizing on moderators of the relationship between engagement and performance outcomes provides some leads for future exploration (Bindl and Parker 2010). These authors argue that goal orientations may moderate the relationship between positive affective states such as work engagement and proactive behaviour. Dweck (1999) proposed the concept of goal orientation and identified two dimensions – learning goal orientation and performance goal orientation. Learning goal orientation reflects an individual preference to develop competence by acquiring new skills and mastering new situations. Performance goal

orientation reflects a preference to demonstrate and validate one's own competence by seeking favourable judgements and avoiding negative judgements from others. Individuals with a tendency towards performance goal orientation may be highly engaged in their job task but unlikely to engage in highly visible proactive behaviours for fear of failure leading to the questioning of their ability. These individuals are more likely to 'stick to the knitting', focusing their efforts on low effort goals that enable them to look good while being assured of success (Dweck and Leggett 1988). Positioning performance goal orientation as a moderator of the relationship between engagement and proactive work behaviour makes theoretical sense particularly when considered in tandem with findings that hope has a direct relationship to proactive work behaviour. Hope theorists argue that individuals with high levels of hope are more likely to focus on learning goals than on performance goals (Snyder *et al.* 2002). Furthermore, learning goal orientation has been found to be positively correlated with hope, reflecting the contention that it relates to a concern for improvement and personal mastery (Kenny *et al.* 2010; Roedel, Schraw and Plake 1994).

The results of this study indicate that although hope does partially mediate the relationship between subjective relational experiences and proactive work behaviour, it may be mediated by another construct which has not been represented in this model. In considering other potential mediators of this relationship, recent work by Vinarski-Peretz and Carmeli (2011) provides some interesting leads. Their work has shown how psychological meaningfulness and psychological availability play a mediating role in the relationships between care felt for individuals at work and innovation at work. Psychological meaningfulness is defined as "the feeling that one is receiving a return on investment of one's self in a current of physical, cognitive or emotional energy" (Kahn 1990: 703). In the case of the current research, it is possible that psychological

meaningfulness partially mediates the relationship between subjective relational experiences and proactive work behaviour.

7.2.3 The Role of High Quality Unit Relationships and Individual Proactive Behaviour

Interesting findings were also revealed in relation to the unit level data. Before discussing the nature of these findings, it is valuable to reflect on the specific features of relationships at the unit level which were examined. Originally it was intended to test a broader conceptualisation of high quality relationships as they are defined within the literature on relational co-ordination, that is the extent to which unit members share knowledge, hold shared goals and have mutual respect for one another. Results of exploratory factor analysis and aggregation statistics resulted in a reduction in the number of dimensions that could reasonably be used to test these hypotheses. These results indicated the necessity of dropping shared goals and shared knowledge from the analysis. However, the findings did uncover an interesting interplay of relationships between mutual respect within a unit and individual proactive behaviour. Specifically, the results indicate that mutually respectful relationships are valuable to the extent that they create a work climate where people are not fearful of negative reactions from their colleagues. These findings are consistent with research on theories of relational co-ordination which underscore the importance of high quality relationships for psychologically safe working climate. Consistencies with these findings can also be found in research on perceived organisational support (Eisenberger *et al.* 1986) which highlights the role of supportive contexts for the development of psychological safety. The findings further indicate that, when nurses feel psychologically safe they are more likely to behave proactively. Feeling psychologically safe reduces fears and concerns regarding how proactive endeavours will be received by colleagues (Edmondson 1999). Where there is a low level of psychological safety, nurses are likely to be concerned

about embarrassment or rejection as a result of their potentially provocative ideas or actions. In these environments, the cost of behaving proactively may be too high. This is in line with self-regulation theory which posits that individuals weigh up the costs and benefits of their behaviour before deciding to act. Finally, the current research also indicates that climate for psychological safety is a key linking mechanism between mutually respectful unit relationships and individual proactive behaviour. So, although mutually respectful relationships do not influence proactive behaviour directly, they are vitally important for creating work climates where the costs associated with proactive behaviour are low.

7.2.4 Outcomes of Proactive Behaviour

Finally, the results indicate that proactive behaviour is positively and significantly related to performance and quality of care. Consistent with previous research, these results signal that individual proactivity is related to job performance (Belschak and Den Hartog 2010; Thompson 2005; Grant, Parker and Collins 2009). The findings from this study indicate that when nurses take a proactive approach, which involves efforts to improve work tasks or processes, and anticipate and prevent problems in their work, they are considered to be better performers than their less proactive colleagues. This research also indicates that individuals who exhibit more proactive work behaviour are more likely to deliver a higher quality of care to their patients. When nurses plan ahead to anticipate what doctors or other colleagues might need, chase up test results without being asked to do so, suggest better ways in which processes within the unit can be managed or think and plan ahead to meet the needs of their patients, they contribute to upholding high standards of care. This is an important finding given the primacy of the delivery of high quality care in all healthcare contexts and the nature of the costs associated with poor quality care.

7.3 The Contribution of the Current Study

This research makes a number of valuable contributions to the literature on proactivity. Although previous research has examined the role of relational concepts such as co-worker trust (Parker, Williams and Turner 2006) and social support (Ashford *et al.* 1998), these studies have limited conceptualisation of the value of relationships for reducing the risks which may be associated with proactive behaviour. In considering the role of subjective relational experiences, this study takes a different theoretical perspective on the role of relationships in predicting proactive behaviour by focusing on relationships as a critical component for behavioural engagement at work. One contribution resides in the fact that it broadens understanding of the ways in which the nature of work relationships play an important part in fulfilling psychosocial needs for relatedness and meaningfulness. Support for the value of subjective relationships on work performance is provided by recent research linking them to innovative work behaviours (Vinarski-Peretz *et al.* 2011). However, to the author's knowledge, no research has empirically examined the role of subjective relational experiences on proactive work behaviour (Griffin, Neal and Parker 2007). This study enriches a broader form of research on the importance of positive relationships for proactive behaviour in the workplace and furthermore, responds to calls for consideration of socially oriented determinants of proactive behaviour (Bindl and Parker 2011).

In considering the role of positive relational climate on proactive work behaviour, this study also responds to calls from researchers to consider the role of work climates on proactive behaviour. Despite the fact that theoretical models of proactive behaviour generally give consideration to individual level antecedents and contextual antecedents including climate and norms (Bindl and Parker 2010; Crant 2000), empirical research

has emphasised investigation of individual antecedents on individual proactivity or unit level predictors of unit level proactivity (Strauss, Griffin and Rafferty 2009). While job context and leadership context have received attention, antecedents of proactive behaviour at the unit level are much less well researched. By focusing on the role of constructive relational work climates in addition to individual relational experiences, this study helps to close this gap in empirical research by specifying both individual and unit level predictors of individual level proactive work behaviour.

This study further identifies unique pathways showing how individual perceptions of positive relational experiences in addition to the levels of mutual respect within a unit influence the decision to behave proactively. In so doing, it contributes to broadening awareness of specific motivational states that are important. The results of this study indicate that hope exercises a significant direct effect on proactive behaviour. To the authors knowledge, no previous research has considered the relationship between hope and proactive behaviour. This study provides empirical evidence for the contention that when individuals feel a sense of agency and can identify pathways to attainment of their goals they are more likely to exhibit proactive behaviour at work. Although previous research has identified the role of psychological safety on a number of proactive concepts (voice, learning from failure, innovation), this study is unique in that it has empirically established a link between psychological safety climate and individual proactive work behaviour as conceptualised and operationalized by Griffin, Neal and Parker (2007). Finally, this research has developed understanding of the relationship between work engagement and proactive behaviour. Specifically, it has identified that there was no direct relationship between work engagement and supervisor rated proactive behaviour. In terms of research design, this research deliberately aimed to avoid the limitations of previous research which has based conclusions on single source

data. Thus, this study also represents constructive replication of previous research resulting in a more stringent test of the replicability of previous findings. Constructive replication has been recognised as vital for establishing the external validity of a study and is key to the accumulation of scientific knowledge (Colquitt and Zapata-Phelan 2007).

This study also makes a contribution to understanding the drivers of proactive behaviour in the context of healthcare. Healthcare professionals are typically overburdened, and often barely able to complete their required tasks in the workday, let alone devote time to improving processes or tasks and preventing problems (Tucker and Edmondson 2003). Thus, the empirical results reported here contribute to an understanding of antecedents of proactive behaviour in healthcare environments. Furthermore, this study highlights the relationship between proactivity and valued work outcomes in the context of healthcare. Specifically, this research has demonstrated how proactive behaviour is also associated with increased job performance and quality of care provided by individual nurses. The relationship between proactive behaviour and job performance has been previously established. To the author's knowledge, no previous research has identified the linkages between proactivity and quality of patient care. This is an important contribution of the current study because, in the context of health services and particularly in the discipline of nursing, provision of quality care is of prime importance. The business of nursing is consumed with the objective of providing care that is safe, timely and meets the needs of patients. Low levels of care are associated with costly outcomes such as increased infection rates, incidence of safety errors and mortality rates. This study is significant in that it has identified new and context specific outcomes of proactive work behaviour.

Research on proactivity to date is characterised by a proliferation of overlapping yet non-integrated concepts, all housed under the umbrella term of proactive behaviour. Repeated calls have been made for researchers to move towards consensus on the theory and measurement of proactive behaviour. This study focuses on the antecedents of proactive work behaviour and draws on work by Griffin, Neal and Parker (2007) to measure this concept. Their measure was developed in order to capture proactive performance as distinct from adaptive or proficient performance. The decision to focus on a measure of proactive behaviour which reflects the very essence of contemporary definitions of proactivity was deliberate and contributes to a move towards synthesis in how proactive behaviour is conceptualised and promoted. Furthermore, although these measures have been applied to a mixed sample of workers in healthcare (Griffin, Neal and Parker 2007), to the authors' knowledge, this is the first study to apply these measures to a sample of nurses alone, which increases the accuracy and validity of the findings in relation to this specific sample group. While a number of other studies have examined the drivers of related proactive concepts, such as personal initiative, voice and innovation among nurses, this study differs from these by focusing on proactive work behaviour. The independently owned hospital sector has experienced a steady growth in numbers within the Irish economy. Given that nurses are by far the largest employee group working in these hospital settings, this study makes a contribution to the understanding of the drivers of proactive behaviour among nursing staff working in a generally under researched industry.

Finally, this study also makes a methodological contribution by employing multi-level analysis to investigate the joint effects of individual and unit level influences on individual proactive behaviour. In modelling individual level and cross level unit predictors on individual level outcomes, this research provides evidence to suggest that

both the quality of relational experiences, as perceived by the individual, and high quality relationships within work units play unique and critical roles in motivating individuals to take a proactive approach to their work. This represents a broader perspective on the value of high quality relationships and provides a fuller account of the role of relationships in predicting proactive work behaviour than has been provided in previous research.

Table 7.2 summarises the main contributions of this research across a number of dimensions. Specifically, it outlines the ways in which this thesis supports previous research, develops or contributes to previous research and makes an original or new contribution to research.

Table 7.2 Contributions of the Current Research

	SUPPORTED	DEVELOPED	NEW
THEORY	<p>Support for a model of proactive motivation (Parker, Bindl and Strauss 2010).</p> <p>Support for Kahn's (1990) theory on the psycho-social conditions required for engaged behaviour.</p>	<p>Explanation of why new situational antecedents within this existing framework (high quality relationships) are important for individual proactive behaviours.</p> <p>Consideration of new mediating psychological states such as hope.</p>	<p>New theorising around the relationship between relational co-ordination and individual proactive behaviour whereby the role of relational coordination in facilitating the capacities of individuals to enact their proactive ideas is explored.</p> <p>New theorising regarding the relationship between hope and proactive behaviour whereby hope represents a motivational state which enhances belief regarding the will and the way to implement proactive behaviours.</p>
EMPIRICAL EVIDENCE	<p>Supports empirical research on the impact of distal contextual and proximal psychological states on individual proactive behaviour.</p> <p>Supports research which has found a positive relationship between proactivity and performance.</p>	<p>Research on the role of work engagement in predicting proactive work behaviour. Previous studies have found direct linkages between engagement and self-rated proactivity.</p> <p>Constructive replication of previous studies indicating that this relationship does not hold when supervisor ratings of proactive behaviour are applied.</p>	<p>New empirical evidence of the relationships between subjective relational experiences, hope and proactive work behaviour.</p> <p>Cross-level model generated new empirical evidence of the role of mutually respectful work climates and their impact on individual proactive work behaviour. New evidence of linking role of psychological safety climate in the relationship between mutual respect and proactive work behaviour.</p> <p>New empirical evidence of the relationship between proactive work behaviour and quality of care.</p>
METHOD	<p>Supports research which has employed a cross-sectional research design with the use of a survey to collect data.</p>	<p>Development of existing research through the use of multiple sources of data to explore the study hypotheses.</p> <p>Builds on previous research by adopting a multi-level approach to the exploration of antecedents of proactive behaviour.</p>	<p>New methodological approach to examination of the relationship between work engagement and proactivity. All other studies have used self-report measures to test this direct relationship. This study has tested the direct relationship between work engagement and proactivity using supervisor ratings of proactivity.</p>
CONTEXT	<p>Supports previous studies which have examined a variety of proactive concepts within health service contexts.</p>	<p>Proactive work behaviour as defined by Griffin Neal and Parker (2007) has been applied to general health sector employees, but the current study applies the measure of proactive work behaviour to a sample of staff nurses only.</p>	<p>This study was conducted on nurses working in independently owned hospitals in Ireland, which represents a new context for exploring the role of relationships on proactive behaviour.</p>
PRACTICE	<p>Reaffirms value of promoting high quality relationships among employees for positive organisational outcomes in healthcare contexts.</p>	<p>Highlights the specific added value of subjective relational experiences and mutual respect for engendering proactive behaviour.</p>	<p>This study makes a number of recommendations for practice which to date have not been considered as important for promoting proactivity in the workforce.</p> <p>New implications for the delivery of enhanced quality of care.</p>

Source: Format adapted from Farndale (2004).

7.4 Implications for Management Practice

This study highlights the value of high quality relationships in the workplace for proactive behaviour by articulating how such relationships can boost psychological resources and motivate nurses towards proactive behaviour. Conversely, low quality relationships at work erode psychological resources and deplete employee motivation leading to lower levels of performance. The research findings have several implications for management practice concerned with enhancing the quality of relationships between individuals and within teams in the workplace.

The human resource function within an organisation is well positioned to contribute to the development of high quality relationships amongst employees through the recruitment, reward and training of employees. The approach taken to the selection of employees has implications for employee expectations and the image of the organisation. A variety of relational skills can be used as a basis for selection. These include empathetic competence (the ability to understand others' experience and perspectives), emotional competence (the ability to understand emotional cues), authenticity (the ability to express one's own thoughts and feelings) and fluidity of expertise (the ability to move from the expert to non-expert role) (Baker and Dutton 2006). When relational elements are used as part of the selection criteria, organisations are likely to recruit individuals who are capable of building high quality relationships with others. In this way selection, techniques that emphasise the importance of relational skills develop positive relationships in the workplace by directly affecting the supply of people who are skilled in such interactions. Furthermore, where unit members work interdependently, organisations should also select for cross functional

teamwork which has been found to be particularly important in strengthening mutual respect across functional boundaries (Gittell, Seidner and Wimbush 2010).

Organisations could also consider rewarding relational skills on a formal basis. Formal recognition of relational skills is a signal to the workforce that these skills are valued and reflect expected ways of interacting. Formal systems which reward relational skills necessitate that organisations have the capacity to monitor and assess their development. Baker and Dutton (2006) advocate the use of 360 degree feedback as a potential method of assessment. Where individuals are rewarded formally or informally for these skills, it is likely that they will be more motivated to develop and build high quality relationships. In addition, typically, formal reward systems focus on individual performance. Linking reward to group level achievements rather than focusing on individual achievements alone is also likely to foster improved collaborative practice (Gittell Seidner and Wimbush 2010). Informal rewarding of behaviour can also contribute to positive work relations. For example, verbal acknowledgment of this behaviour signals that such behaviour is valuable and appreciated by the organisation.

This research highlights the role of organisations in nurturing ways for organisational members to build meaningful work relationships. Thus, managers may need to pay closer attention to employee needs for high quality relationships as an important enabler for enhanced proactivity. In practice this could involve providing skills-based training and coaching in relationship-building and collaborative practice for leaders and managers. Cultural assessment tools can also be used to measure whether or not attitudes change over time. In the healthcare sector, creating a work context characterised by positive relationships is partly within the nurse manager's control.

Nurses are committed professionals who want to provide the best care possible for their patients. Working with colleagues who respect each other's unique contribution to patient care can alleviate the stresses associated with a fast paced and often overburdened healthcare sector. In times of financial constraint, creating a work environment that encourages positive interactions among team members is even more important for stimulating a proactive approach to the delivery of high quality care.

The research findings have implications for the leadership styles adopted throughout an organisation. Organizational leaders have long faced the challenge of motivating employees. In today's workplace where relationships have come to the forefront, there is a need to display new forms of leadership that go beyond traditional heroic-types (Fletcher, 2004; Uhl Bien, 2006). Managers can potentially change workplace relationships to construct work environments that more readily meet the conditions for behavioural engagement. A form of leadership that encourages collaboration and open communication and shapes trustful and enabling work environments in the organization will be a significant step forward.

This research has identified ways in which proactivity can be stimulated and sustained. However in order to support proactive behaviour, managers and organisations must respond to the proactive endeavours of their employees. For example, if an individual takes a proactive approach and is effective in solving a recurring problem (because the organisation responds to this effort), their motivation for proactive behaviour in the future will be strengthened. In terms of understanding how work engagement can be converted to proactive behaviour, employee goal orientations were identified as a potential moderator. Goal orientation has been characterised as a relatively stable

personality characteristic but it can be influenced by situational cues. Organisations can undertake certain strategies to enhance the likelihood that employees will approach their work with a learning goal orientation. Formal training programmes have a key role to play in embedding these values. Other strategies include leadership models that involve setting development objectives, encouraging employees to pursue developmental opportunities and providing feedback on improving employee performance. Performance management systems that balance long and short term results and identify potential for improvements are also likely to encourage learning goal orientations over performance goal orientations (VandeWalle 2001).

These implications for practice signal to organisations and managers that high quality relationships do not happen spontaneously (Carmeli, Breueller and Dutton 2009). However, work practices and procedures, implemented by leaders who are role models for positive relational interactions can enable the development of high quality relationships which have been proven to encourage proactivity at work.

7.5 Limitations and Future Research Directions

In assessing the conclusions drawn by this research there are a number of limitations that should be taken into account. Firstly, the cross-sectional design used for this study means that despite the strong theoretical reasoning behind the sequence of connections proposed within the model, no inferences can be made regarding cause and effect. Thus, future research should investigate the relationships reported here using a longitudinal design. Furthermore, as part of a longitudinal research design using diary studies, future research might also measure how hope or work engagement at the start of the work day is related to the frequency of proactive behaviour at the end of the day.

This would enable researchers to understand how daily fluctuations in these psychological states have potential to impact on daily proactive behaviour.

This study used self-report data for the independent and mediating variables and thus the potential for common method bias in relation to these predictor variables is acknowledged. However, high quality relations, hope, engagement and psychological safety are perceptual in nature and thus the use of self-report data in measuring these constructs was appropriate. The validity of self-report data has been criticized in the past but it has been suggested that this problem may be overstated in the literature (Chan 2009) and noted that often these issues do not exist (Spector 2006). In an effort to alleviate problems associated with self-report data, the guidelines advocated by Podsakoff, MacKenzie and Podsakoff (2012) and Podsakoff *et al.* (2003) were adopted, such as inclusion of measures with different scale anchors, emphasising confidentiality of the research and highlighting the value of the research to practice. A significant strength of the current study is the use of different sources for the predictor (staff nurses) and criterion (nurse unit managers) variables.

It is acknowledged that the findings of this study may be context specific and thus the findings cannot be generalised beyond the current context. In the first instance, this study reports empirical findings from nurses working in independently owned hospitals in Ireland. As such, the findings cannot be generalised to nurses working in publicly funded hospitals. There are some clear distinctions between these organisations in terms of the governance structures, unionisation, funding structures and potential cultural differences between organisations within these sectors. This notwithstanding, there are also clear similarities between these two sectors in terms of the nature of the work, the similarity of role descriptions across contexts and the requirement to work

interdependently with other health professionals. Of note, however, is research by Barsade (2002) who argued that the effects of emotional contagion would likely be stronger in customer service care-giving samples. As such, the effects of high quality relationships on proactive behaviour may be stronger given the study context. Further research should seek to apply these findings to other industries in order to enhance workplace proactivity.

Although this study did control for the effect of trait proactivity, the effects of trait affectivity of the staff nurses was not modelled within the data analysis. As hope and work engagement are affective in nature, it would be interesting to control for positive affect when testing the study hypotheses. Future research might also examine a broader catalogue of personality traits and their influence on the relationships modelled here. For example, new research might assess whether the effects of high quality relationships on proactive behaviour are more pronounced for individuals high in neuroticism or introversion.

Individuals in organisations often interact with multiple and distinct referent groups such as colleagues, managers and related internal and external stakeholders. Consequently, the measures used in this study specifically asked the nurses involved to consider the range of individuals with whom they work in the delivery of patient care including doctors, other nurses and other care providers. Future research should investigate how and why relationships with different groups of individuals' influence their proactivity at work. For example, research could explore whether positive relationships with physicians are more important for proactive behaviour than positive relationships with nurse co-workers or indeed nurse managers. In this sense, measuring relationships in different parts of individual networks would be valuable. Although

previous research would indicate that positive relationships with each of these groups is important for a variety of different outcomes, future empirical research should explore the impact of positive relationship with different referent groups on proactive behaviour.

Finally, this research has been successful in identifying the role of positive work relationships in cultivating proactive behaviour. Future research should seek to identify empirical evidence of the antecedents of subjective relational experiences at work. What are the situational influences on the development of relationships characterised by positive regard, mutuality and vitality? One potential avenue for investigation is that of the role of leaders. Promising work by Carmeli *et al.* (2009) has identified the role of relational leadership in shaping bonding social capital at work. Future research might also extend this line of investigation to examine the effect of relational leadership styles on the subjective relational experiences of employees.

7.6 Conclusions

This research reported on the role of positive work relationships in promoting proactive work behaviour. The study used survey data collected from a representative sample of staff nurses and their supervisors from four independently owned hospitals. The results of this study provide strong empirical evidence to suggest that when individuals experience positive regard, mutuality and vitality in their work relationships they are motivated to engage in proactive work behaviours. At the same time, this research acknowledges that, more often than not, individuals in organisations are organised in work units and thus share similar contextual stimuli. Thus, in modelling cross level effects of unit level predictors on individual level outcomes, this research also provides

evidence to suggest that high quality relationships within work units play a critical role in creating the climate of psychological safety necessary for individuals to take a proactive approach to their work. Moreover, this research clarifies the value of proactive work behaviour in the context of healthcare environments by empirically linking it to valued outcomes such as job performance and quality of care. The research has implications for practice particularly in relation to the leadership styles and management systems adopted within these environments. Consideration of the structure of work, rewards and incentives and the adoption of relational leadership styles are likely to pay dividends in the form of proactivity amongst nursing staff. In turn, this has positive implications for some of the most valued organisational outcomes in the context of healthcare. In conclusion, this research advances understanding of why people behave proactively at work by explaining and demonstrating the complex processes through which high quality relationships at work cultivate the psychological conditions necessary for engagement in proactive work behaviours.

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APPENDIX A

Application to DCU Research Ethics Committee



**Dublin City University
RESEARCH ETHICS COMMITTEE**

**APPLICATION FOR APPROVAL OF A PROJECT
INVOLVING HUMAN PARTICIPANTS**

Application No. (office use only) DCUREC/2011/

Period of Approval (office use only)/...../..... to/...../.....

This application form is to be used by researchers seeking ethics approval for individual projects and studies. The **signed original and an electronic copy** of your completed application must be submitted to the DCU Research Ethics Committee.

Note: If your research requires approval from the Biosafety Committee, this approval should be in place prior to REC submission. Please attach the approval from the BSC to this submission.

NB - The hard copy must be signed by the PI. The electronic copy should consist of one file only, which incorporates all supplementary documentation. The completed application must be proofread and spellchecked before submission to the REC. All sections of the application form should be completed. Applications which do not adhere to these requirements will not be accepted for review and will be returned directly to the applicant.

Applications must be completed on the form; answers in the form of attachments will not be accepted, except where indicated. No handwritten applications will be accepted. **Research must not commence until written approval has been received from the Research Ethics Committee.**

PROJECT TITLE Antecedents and Outcomes of Proactive Behaviour: Exploring the Role of High Quality Relationships

PRINCIPAL INVESTIGATOR(S) Professor Patrick Flood, & Jennifer Farrell

Please confirm that **all** supplementary information is included in your application (in both signed original and electronic copy). If questionnaire or interview questions are submitted in draft form, a copy of the final documentation must be submitted for final approval when available.

	INCLUDED	NOT APPLICABLE
Bibliography	<input checked="" type="checkbox"/>	<input type="checkbox"/>
Recruitment advertisement	<input type="checkbox"/>	<input checked="" type="checkbox"/>
Plain language statement/Information Statement	<input checked="" type="checkbox"/>	<input type="checkbox"/>
Informed Consent form	<input type="checkbox"/>	<input checked="" type="checkbox"/>
Evidence of external approvals related to the research	<input type="checkbox"/>	<input checked="" type="checkbox"/>
Questionnaire	<input checked="" type="checkbox"/> draft <input type="checkbox"/> final	<input type="checkbox"/>
Interview Schedule	<input type="checkbox"/> draft <input type="checkbox"/> final	<input checked="" type="checkbox"/>
Debriefing material	<input type="checkbox"/>	<input checked="" type="checkbox"/>
Other	<input type="checkbox"/>	<input checked="" type="checkbox"/>

Please note:

- Any amendments to the original approved proposal must receive prior REC approval.
- As a condition of approval investigators are required to document and report immediately to the Secretary of the Research Ethics Committee any adverse events, any issues which might negatively impact on the conduct of the research and/or any complaint from a participant relating to their participation in the study

Please submit the **signed original, plus the electronic copy** of your completed application to:
Ms. Fiona Brennan, Research Officer, Office of the Vice-President for Research
(fiona.brennan@dcu.ie, Ph. 01-7007816)

Guidelines to Applicants

1.1 PRINCIPAL INVESTIGATOR(S): *The named Principal Investigator is the person with primary responsibility for the research project. Doctoral researchers and Research Masters or their supervisors may be listed as Principal Investigators, depending on the conventions of the discipline and on the individual case. It should be made clear, in subsequent sections of this application, who is carrying out the research procedures. In the case of Taught Masters and undergraduate student projects the supervisors are Principal Investigators.*

2.0 PROJECT OUTLINE: *Provide a brief outline of the project, aims, methods, duration, funding, profile of participants and proposed interaction with them. This description must be in everyday language that is free from jargon. Please explain any technical terms or discipline-specific phrases.*

2.1 LAY DESCRIPTION: *Provide a brief outline of the project, including what participants will be required to do. This description must be in everyday language which is free from jargon. Please explain any technical terms or discipline-specific phrases. (No more than 300 words).*

2.2 AIMS OF AND JUSTIFICATION FOR THE RESEARCH: *State the aims and significance of the project (approx. 400 words). Where relevant, state the specific hypothesis to be tested. Also please provide a brief description of current research, a justification as to why this research should proceed and an explanation of any expected benefits to the community. **NB – all references cited should be listed in an attached bibliography.***

2.3 PROPOSED METHOD: *Provide an outline of the proposed method, including details of data collection techniques, tasks participants will be asked to do, the estimated time commitment involved, and how data will be analysed. If the project includes any procedure which is beyond already established and accepted techniques please include a description of it. (No more than 400 words.)*

2.4 PARTICIPANT PROFILE: *Provide number, age range and source of participants. Please provide a justification of your proposed sample size. Please provide a justification for selecting a specific gender.*

2.5 MEANS BY WHICH PARTICIPANTS ARE TO BE RECRUITED: *Please provide specific details as to how you will be recruiting participants. How will people be told you are doing this research? How will they be approached and asked if they are willing to participate? If you are mailing to or phoning people, please explain how you have obtained their names and contact details. This information will need to be included in the plain language statement. If a recruitment advertisement is to be used, please ensure you attach a copy to this application.*

3.3 POTENTIAL RISKS TO PARTICIPANTS AND RISK MANAGEMENT PROCEDURES: *Identify, as far as possible, all potential risks to participants (physical, psychological, social, legal or economic etc.), associated with the proposed research. Please explain what risk management procedures will be put in place.*

3.6 ADVERSE/UNEXPECTED OUTCOMES: *Please describe what measures you have in place in the event that there are any unexpected outcomes or adverse effects to participants arising from involvement in the project.*

3.7 MONITORING: *Please explain how you propose to monitor the conduct of the project (especially where several people are involved in recruiting or interviewing, administering procedures) to ensure that it conforms with the procedures set out in this application. In the case of student projects please give details of how the supervisor(s) will monitor the conduct of the project.*

3.8 SUPPORT FOR PARTICIPANTS: *Depending on risks to participants you may need to consider having additional support for participants during/after the study. Consider whether your project would require additional support, e.g., external counselling available to participants. Please advise what support will be available.*

4.0 INVESTIGATORS' QUALIFICATIONS, EXPERIENCE AND SKILLS: *List the academic qualifications and outline the experience and skills relevant to this project that the researchers and any supporting staff have in carrying out the research and in dealing with any emergencies, unexpected outcomes, or contingencies that may arise.*

5.2 HOW WILL THE ANONYMITY OF THE PARTICIPANTS BE RESPECTED? *Please bear in mind that where the sample size is very small, it may be impossible to guarantee anonymity/confidentiality of participant identity. Participants involved in such projects need to be advised of this limitation.*

5.3 LEGAL LIMITATIONS TO DATA CONFIDENTIALITY: *Participants need to be aware that confidentiality of information provided can only be protected within the limitations of the law - i.e., it is possible for data to be subject to subpoena, freedom of information claim or mandated reporting by some professions. Depending on the research proposal you may need to specifically state these limitations.*

6.0 DATA/SAMPLE STORAGE, SECURITY AND DISPOSAL: *For the purpose of this section, "Data" includes that in a raw or processed state (e.g. interview audiotape, transcript or analysis). "Samples" include body fluids or tissue samples.*

8.0 PLAIN LANGUAGE STATEMENT: *Written information in plain language that you will be providing to participants, outlining the phases and nature of their involvement in the project and inviting their participation. Please note that the language used must reflect the participant age group and corresponding comprehension level.*

9.0 INFORMED CONSENT FORM: *This is a very important document that should be addressed by participants to researchers, requiring participants to indicate their consent to specific statements, and give their signature.*

FOR FURTHER INFORMATION AND NOTES ON THE DEVELOPMENT OF PLAIN LANGUAGE STATEMENTS AND INFORMED CONSENT FORMS, PLEASE CONSULT THE DCU REC WEBSITE: WWW.DCU.IE/RESEARCH/ETHICS

1. ADMINISTRATIVE DETAILS

THIS PROJECT IS:
(tick as many as apply)

- Research Project
 Practical Class
 Student Research Project
(please give details)
 Research Masters
 PhD
 Taught Masters
 Undergraduate
 Funded Consultancy
 Clinical Trial
 Other - Please Describe:

Project Start Date: November 2008

Project End date: July 2012

1.1 INVESTIGATOR CONTACT DETAILS (see Guidelines)

PRINCIPAL INVESTIGATOR(S):

TITLE	SURNAME	FIRST NAME	PHONE	FAX	EMAIL
Prof.	Patrick	Flood	017006943	N/A	Patrick.Flood@dcu.ie
Ms	Farrell	Jennifer	0868620541	N/A	Jennifer.farrell@dcu.ie

OTHER INVESTIGATORS:

TITLE	SURNAME	FIRST NAME	PHONE	FAX	EMAIL

FACULTY/DEPARTMENT/SCHOOL/ CENTRE: DCUBS

(NB – if Nursing, please note all students including PhD's must attach the letter from the Nursing Ethics Advisory Committee to this application)

1.2 WILL THE RESEARCH BE UNDERTAKEN ON-SITE AT DUBLIN CITY UNIVERSITY?

- YES NO *Data will be collected selected research sites*

1.3 IS THIS PROTOCOL BEING SUBMITTED TO ANOTHER ETHICS COMMITTEE, OR HAS IT BEEN PREVIOUSLY SUBMITTED TO AN ETHICS COMMITTEE?)

- YES NO *Approval will be sought from the Research Ethics Committees at each of the research sites.*

DECLARATION BY INVESTIGATORS

The information contained herein is, to the best of my knowledge and belief, accurate. I have read the University's current research ethics guidelines, and accept responsibility for the conduct of the procedures set out in the attached application in accordance with the guidelines, the University's policy on Conflict of Interest and any other condition laid down by the Dublin City University Research Ethics Committee or its Sub-Committees. I have attempted to identify all risks related to the research that may arise in conducting this research and acknowledge my obligations and the rights of the participants.

If there any affiliation or financial interest for researcher(s) in this research or its outcomes or any other circumstances which might represent a perceived, potential or actual conflict of interest this should be declared in accordance with Dublin City University policy on Conflicts of Interest.

I and my co-investigators or supporting staff have the appropriate qualifications, experience and facilities to conduct the research set out in the attached application and to deal with any emergencies and contingencies related to the research that may arise.

Signature(s):

Principal investigator(s): _____

Print name(s) in block letters: _____

Date: _____

2. PROJECT OUTLINE

2.1 LAY DESCRIPTION *(see Guidelines)*

This research aims to explore the relationship between positive work relationships, motivational states and proactive work behaviour. The research also aims to explore the relationship between proactive behaviour and outcomes such as performance, employee wellbeing and quality of care delivered to patients. The study participants will be staff nurses and their supervisors. The research data will be collected via questionnaires. Participants will be asked to complete the survey instruments and return them by post to the researcher. The study is funded by the Irish Research Council for Humanities and the Social Sciences.

2.2 AIMS OF AND JUSTIFICATION FOR THE RESEARCH *(see Guidelines)*

Proactivity has been defined as behaviour that is self starting, change oriented and future focused (Parker, Bindl & Strauss 2010). Research to date has found that proactive behaviour leads to positive outcomes for individuals, teams and organisations. At the individual level it has been found to be positively related to individual performance (Belschak & Den Hartog 2010; Grant, Parker & Collins 2009; Rank, *et al.* 2007; Frese & Fay 2001) career success (Seibert, Crant & Kraimer 1999), individual wellbeing (Den Hartog & Belschak 2007), and job satisfaction (Wanberg & Kammeyer-Mueller 2000). Research to date provides evidence to suggest that proactive behaviour is in part driven by contextual influences and has identified a number of critical antecedents of this motivated behaviour such as characteristics of job design and leadership. The current study aims to build on this body of research by exploring the less well understood linkages between high quality relationships, proactive behaviour and performance outcomes.

The notion that interpersonal relationships in the workplace have an impact on employee behaviour is not new. Indeed the wider literature on proactive behaviour provides initial evidence to suggest that the nature of relationships with colleagues is an important factor in determining individual willingness to engage in a variety of proactive behaviours (Parker Williams & Turner, 2006; Ashford *et al.*, 1998; Van Dyne & LePine, 1998; Williams *et al.*, 2010). These studies highlight the importance of positive relationships in what is often conceptualised as risky behaviour. Following work by Dutton and Heaphy (2003) on high quality connections, this study conceptualises high quality relationships as positive relational experiences between co-workers. Such experiences are characterised by positive regard, mutuality and vitality. Although initial evidence suggests that high quality relationships are important for engagement in innovative behaviours (Vinarski-Peretz, Binyamin and Carmeli, 2011) and learning behaviours (Carmeli, Brueller and Dutton, 2003), to my knowledge no research has examined the role of high quality relationships in motivating engagement in proactive behaviours. This study draws on Kahn's theory of behavioural engagement at work to suggest that high quality relationships provide an important source of intrinsic motivation to engage in effortful and motivated proactive behaviour.

As proactive behaviour is widely conceptualised as a motivated behaviour, there is broad support for the notion that positive motivational states play an important mediating role in the relationship between contextual variables and the decision to behave proactively. Research on relationships at work has also identified that relational resources are important in building positive psychological states such as vigour (Carmeli, Ben Hador, Waldman & Rupp, 2009), flourishing (Fredrickson, 1998) and thriving (Carmeli & Spreitzer, 2009). This research proposes that the relationship between high quality relationships and proactive behaviour is mediated by salient positive motivational states: hope, (Luthans & Youssef, 2004), work engagement - a persistent positive, affective motivation stage of fulfilment at work (Maslach, Schaufeli & Leiter, 2001) and psychological safety – the belief that one is able to express oneself without fear of negative consequences (Edmondson, 1999).

In summary the research explores the role of high quality relationships in providing the motivation to engage in proactive behaviours at work. It is proposed that high quality relationships boost motivational states important for engagement in effortful and often risky proactive approaches to work. It is further proposed that, in the context of healthcare, proactive behaviour among nurses will be related to enhanced job performance including a higher quality of patient care:

Some of the key questions this research addresses are:

1. What is the role of high quality relationships at work in supporting nurses to take a proactive approach to their work?

2. How do high quality relationships help to build positive psychological resources (psychological capital, psychological safety and work engagement) required for proactivity among nurses?
3. How can proactive behaviour enhance the delivery of nursing care and thus the quality of patient care?

This study will make a vital contribution to research on proactive behaviour. To date little empirical research has been carried out on the relationships between positive work relationships, motivational resources and proactive behaviour. This research is crucial in developing understanding of why and how positive work relationships make a difference in the decision to take a proactive approach to work. From a practitioner's point of view this study is important for a number of reasons. Understanding the role of positive, respectful relationships in developing a proactive approach to work is of critical importance in the identification and development of organisational strategies to develop such an approach which can in turn lead to positive outcomes for patients (through the delivery of enhanced quality of care and enhanced performance) and for individual nurse employees (by enhancing wellbeing). Furthermore understanding the role of individual perceptions of organisational norms that support proactive behaviour will enable organisations to identify practices and procedures that help to develop work climates which encourage proactivity.

The potential value and contribution of the proposed study was assessed and positively reviewed by three leading international academics: Professor Sharon Parker, University of Western Australia; Professor Jane E Dutton, University of Michigan and Professor Gerard Hodgkinson Leeds University Business School. Consultations on the development of the model were also sought from Professor Jackie Shapiro, London School of Economics and Professor Denise Rousseau, Carnegie Mellon University.

2.3 PROPOSED METHOD *(see Guidelines)*

It is proposed to carry out this research using a cross sectional research design. The level of analysis in this study is the individual. The principle method of data collection within this design is self-completion questionnaire. The research involves the collection of data from both staff nurses and their supervisors. The staff nurse questionnaire gathers data on many of the key study variables such as perceptions of relationship quality with co-workers and motivational states. The supervisors are asked to rate the proactivity, performance and quality of care delivered by each participating staff nurse. Table 1 below provides a list of measures contained in the staff nurse and supervisor questionnaires. Participation in the study will involve completion of a questionnaire. The estimated time commitment to complete the employee questionnaire is 20 minutes. The estimated time commitment to complete the supervisor questionnaire should take no longer than 5 minutes. The research design proposed here is within established and accepted techniques within both management and nursing research disciplines. The use of supervisor ratings of proactivity and performance is of critical importance in reducing the problem of common method bias. This research design follows the procedural remedies outlined by Podsakoff *et al.* (2003) in obtaining measures of the key predictors and criterion variables from different sources. This strategy is widely held as important in eliminating the effects of consistency motive, implicit theories, and social desirability tendencies. Failure to collect the data on criterion variables will greatly threaten the validity of the conclusions drawn from the research.

The data will be analysed using the statistical package SPSS. Descriptive statistics will be generated on all study variables. Hypothesised relationships, including mediated and moderated pathways between study variables will be tested using regression analysis techniques within SPSS. At no stage will any individual response or participating organisation be identified in the results. All analysis will be carried out an aggregated level. Under no circumstances will individual responses or cases be singled out for analysis.

Key Study Variables	
Nurse Employee Survey	Supervisors Survey
Proactive Personality(Control)	Proactive approach to work
High Quality Relationships	Performance (in role & extra role)
Relational Co-ordination	Quality of Patient Care
Hope	

Psychological Safety Work Engagement Top management openness Task interdependency Performance Workload	
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2.4 PARTICIPANT PROFILE (see Guidelines)

The participants of interest are staff nurses working in independently owned Irish Hospitals. Participation in the study is open to all ages and both genders.

In determining the minimum number of participants required to achieve valid results the proposed methods of analysis were a key consideration. The research follows the advice of Hair *et al's* (2005) recommendation in relation to most multivariate analysis techniques that for each key predictor variable 20 cases are required. In the case of this study the minimum sample size required to attain valid results is approximately 240. However due to potential non response which is estimated at approximately 40% within the study sample it is intended to invite 400 nurses to take part.

2.5 MEANS BY WHICH PARTICIPANTS ARE TO BE RECRUITED (see Guidelines)

Access to each research site will first be negotiated with the senior management. The next step will involve submission to the Research Committee's in each research site. Following approval of the research project at senior management level the Nurse supervisors will be introduced to the study by senior management. The Principle Investigator (Jennifer Farrell) will also meet with the supervisors to explain the purpose of the study and to address any queries the supervisors may have. Following agreement from the supervisors the main study participants (staff nurses) will be invited to participate. Participants within each site will then be informed of the purpose of the study and invited to participate through a letter of introduction. This will be circulated to prospective participants within the internal mail system. At this stage a copy of the survey questionnaire will also be included to enable those who chose to participate to do so.

2.6 PLEASE EXPLAIN WHEN, HOW, WHERE, AND TO WHOM RESULTS WILL BE DISSEMINATED, INCLUDING WHETHER PARTICIPANTS WILL BE PROVIDED WITH ANY INFORMATION AS TO THE FINDINGS OR OUTCOMES OF THE PROJECT?

The results of this research are primarily for publication in the principle investigators PhD thesis. Data analysis will be reported at the aggregate level (the entire data set). No individual responses or results will report within the PhD thesis. Names and any other identifying information of participating organizations will not be published in the thesis.

Participant organizations will also be provided with a report summarizing the main research findings. These summary reports will present findings at an aggregated level only. Under no circumstances will individual responses be reported. Staff of each organization will also be offered the opportunity to attend a seminar outlining the main findings and implications of the research. Results discussed at the follow up seminars will be presented at an aggregated level. No individual responses or will be presented.

2.7 OTHER APPROVALS REQUIRED

YES NO NOT APPLICABLE

(If YES, please specify from whom and attach a copy. If NO, please explain when this will be obtained.)

Permission to gain access to each research site will be sought from the senior management of each organisation. The research proposal and protocol will also be submitted to the Research Committees of each of the participating hospitals. We are currently awaiting management approval from the first research site. The remaining two research sites will be approached following approval from the initial research site.

2.8 HAS A SIMILAR PROPOSAL BEEN PREVIOUSLY APPROVED BY THE REC?

YES NO

(If YES, please state both the REC Application Number and Project Title)

3. RISK AND RISK MANAGEMENT

3.1 ARE THE RISKS TO SUBJECTS AND/OR RESEARCHERS ASSOCIATED WITH YOUR PROJECT GREATER THAN THOSE ENCOUNTERED IN EVERYDAY LIFE?

YES NO *If YES, this proposal will be subject to full REC review*
If NO, this proposal may be processed by expedited administrative review

3.2 DOES THE RESEARCH INVOLVE:

	YES	NO
• use of a questionnaire? (attach copy)?	<input checked="" type="checkbox"/>	<input type="checkbox"/>
• interviews (attach interview questions)?	<input type="checkbox"/>	<input checked="" type="checkbox"/>
• observation of participants without their knowledge?	<input type="checkbox"/>	<input checked="" type="checkbox"/>
• participant observation (provide details in section 2)?	<input type="checkbox"/>	<input checked="" type="checkbox"/>
• audio- or video-taping interviewees or events?	<input type="checkbox"/>	<input checked="" type="checkbox"/>
• access to personal and/or confidential data (including student, patient or client data) without the participant's specific consent?	<input type="checkbox"/>	<input checked="" type="checkbox"/>
• administration of any stimuli, tasks, investigations or procedures which may be experienced by participants as physically or mentally painful, stressful or unpleasant during or after the research process?	<input type="checkbox"/>	<input checked="" type="checkbox"/>
• performance of any acts which might diminish the self-esteem of participants or cause them to experience embarrassment, regret or depression?	<input type="checkbox"/>	<input checked="" type="checkbox"/>
• investigation of participants involved in illegal activities?	<input type="checkbox"/>	<input checked="" type="checkbox"/>
• procedures that involve deception of participants?	<input type="checkbox"/>	<input checked="" type="checkbox"/>
• administration of any substance or agent?	<input type="checkbox"/>	<input checked="" type="checkbox"/>
• use of non-treatment of placebo control conditions?	<input type="checkbox"/>	<input checked="" type="checkbox"/>
• collection of body tissues or fluid samples?	<input type="checkbox"/>	<input checked="" type="checkbox"/>
• collection and/or testing of DNA samples?	<input type="checkbox"/>	<input checked="" type="checkbox"/>
• participation in a clinical trial?	<input type="checkbox"/>	<input checked="" type="checkbox"/>
• administration of ionising radiation to participants?	<input type="checkbox"/>	<input checked="" type="checkbox"/>

3.3 POTENTIAL RISKS TO PARTICIPANTS AND RISK MANAGEMENT PROCEDURES *(see Guidelines)*

Although this is a low risk research project, the research design cannot guarantee complete anonymity (due to the process involved in matching employee and supervisor data). However the procedure used for matching the nurse employee and supervisor data reflects best practice in this area and endeavours to provide the highest level of protection to participants

The procedures for matching employee and supervisor data are outlined in detail in section 5.2. The main features of the procedure ensure that:

- only the principal investigator (Jennifer Farrell) will be able to link the employee name to the supervisor ratings of proactivity and performance.
- at no stage will any of the surveys (nurse employee **or** supervisor) being returned to the researcher contain identifying data.
- findings are presented at aggregated level only. Under no circumstances will individual or supervisor ratings of individual participants be presented in the PhD thesis, company report or presentation to staff members. At no stage will participating organizations be identified in the PhD thesis.

3.4 ARE THERE LIKELY TO BE ANY BENEFITS (DIRECT OR INDIRECT) TO PARTICIPANTS FROM THIS RESEARCH?

YES NO *(If YES, provide details.)*
 Participating organisations will receive a report outlining the main findings of the research and recommendations on management practice. The researchers have also offered to provide workshops to staff members to outline key study findings.

3.5 ARE THERE ANY SPECIFIC RISKS TO RESEARCHERS? *(e.g. risk of infection or where research is undertaken at an off-campus location)*

YES NO *(If YES, please describe.)*

3.6 ADVERSE/UNEXPECTED OUTCOMES *(see Guidelines)*

The letter of introduction and survey guidelines provide contact details for both principal researchers and contact details of a third party (DCU Ethics Committee). Participants are directly advised to contact the researchers for further information related to the research. They are advised to contact the DCU Ethics committee if they have any ethical concerns in relation to the research.

3.7 MONITORING *(see Guidelines)*

The data collection process will be conducted by Jennifer Farrell (PhD candidate). Each phase of the research process will be closely supervised by Professor Patrick Flood. Adherence to best practice and conformance to procedures set out in this proposal will be ensured through weekly meetings between the principal investigators (Professor Flood and Jennifer Farrell) for the duration of the research. The research design to date has been overseen by Professor Patrick Flood. Professor Gerard Hodgkinson Leeds University has also acted as an external advisor on the research design to date. Professor Hodgkinson will continue to act as external advisor to the study until July 2012.

3.8 SUPPORT FOR PARTICIPANTS *(see Guidelines)*

It is not envisaged that participants will require additional support during or after their participation in the study. However they are encouraged to contact the researchers if they have any queries regarding their participation.

3.9 DO YOU PROPOSE TO OFFER PAYMENTS OR INCENTIVES TO PARTICIPANTS?

YES NO *(If YES, please provide further details.)*

4. INVESTIGATORS' QUALIFICATIONS, EXPERIENCE AND SKILLS (Approx. 200 words – see Guidelines)

Patrick Flood is a Professor of Organizational Behaviour and Head of the HRM and Organizational Psychology Group at DCUBS. He is also a Director of the Leadership, Innovation and Knowledge Research Centre (LINK). Prof. Flood is an expert in the area of leadership, high performance work systems and innovation. Professor Flood also has a special interest in leadership, management and performance in healthcare organisation. Professor Flood has extensive experience in quantitative research approaches and his research was recently recognised with the awarding of "The DCU Presidents Research Award 2010/2011"

Jennifer Farrell is a PhD candidate in DCUBS. Jennifer graduated with her MBS (by Research) from the University of Limerick in 2003. Her MBS Thesis was awarded the Charles Harvey Award for Excellence in Postgraduate Research in 2003. Her research expertise was also recognized in the awarding of Best Paper at the Irish Academy of Management Conference, Trinity College 2003. Her MBS research also adopted a quantitative approach and also involved collection of data from multiple sources in a number of participating organizations. The research design involved in her MBS Thesis involved questionnaires. Jennifer has undertaken a number of GREP research modules as part of her registration on the PhD program (including Constructing a Research Thesis, Philosophy of Research and Quantitative Data Analysis). Jennifer has had extensive experience in teaching health services management. She was course director for the BA in Health Services Management and Diploma in Health Services Management at the University of Limerick before commencing her PhD studies full time. She is a graduate of the International Teachers Programme and was shortlisted for the Excellence in Teaching award at University of Limerick for her work on the Universities Health Services Management programmes. This experience has equipped her with an understanding of the proposed research context.

5. CONFIDENTIALITY/ANONYMITY

5.1 WILL THE IDENTITY OF THE PARTICIPANTS BE PROTECTED?

YES NO (If NO, please explain)

IF YOU ANSWERED YES TO 5.1, PLEASE ANSWER THE FOLLOWING QUESTIONS:

5.2 HOW WILL THE ANONYMITY OF THE PARTICIPANTS BE RESPECTED? (see Guidelines)

As indicated this study involves nurse employees and their supervisors. It is critical that as part of the data collection process the principal investigator (Jennifer Farrell) is able to match the nurse employee and supervisor data. The following procedure will be adopted to enhance and respect the anonymity and confidentiality of participants as part of this matching process.

1. In order to protect the identity of study participants each questionnaire will be assigned a unique code which will be entered in the header in the top right hand corner of each survey. These codes will be developed by the principal investigator using a master sheet of employee names. The principal investigator, (Jennifer Farrell) will be the only person with access to the list of employee names and corresponding codes on staff nurses questionnaires. This document will be kept in an encrypted file on the principal investigator's (Jennifer Farrell) DCU computer.
2. Supervisors participating in the study will be supplied with a short master sheet of employee names and codes of their supervisees only. As a further precaution to protect the anonymity of study participants these codes will be different to those assigned to the employee questionnaires. Only the principal investigator (Jennifer Farrell) will have access to these matching codes. This document will also be kept in an encrypted file on the principal investigator's (Jennifer Farrell) DCU computer.
3. The supervisor questionnaires will have no names on them thus enhancing confidentiality of the study participants. When filling out the rating forms for each employee the supervisors will be asked to enter the code corresponding to the employee name they are rating on the questionnaire. The supervisors then return their questionnaire directly to the researcher using the stamped addressed envelope provided. The effect of this strategy is that **only the principal investigator (Jennifer Farrell) will be able to link the employee name to the supervisor ratings of proactivity and performance.**
4. The original excel file containing the master sheet of codes will be known only to the principal investigator (Jennifer Farrell). The master sheet will be saved in an encrypted excel file and will be deleted from the principal investigator's (Jennifer Farrell) computer following inputting and matching of all data. The hard copy of the master sheet will be kept in a locked cabinet in the principal investigator's (Jennifer Farrell) office (Q306, DCUBS). The hard copy of the master sheet of codes will be shredded following the input and matching of data.

5. Questionnaires will be returned directly to the principal researcher (Jennifer Farrell) in a pre-addressed stamped envelope. Only the principal researcher (Jennifer Farrell) will have access to hard copies of these surveys.
6. Data will be entered into SPSS and will be matched with the employee data. As part of the data entering process, no names will be used. Data from each questionnaire will be entered using codes only. The surveys will be kept in a locked cabinet in the principal investigator (Jennifer Farrell) office and will be shredded on campus once the data has been entered into SPSS.
7. In order to protect the anonymity of participants, research findings will be presented at aggregated level only. Under no circumstances will individual or supervisor ratings of individual participants be presented in the PhD thesis, company report or presentation to staff members. At no stage will participating organizations be identified in the PhD thesis.

5.3 LEGAL LIMITATIONS TO DATA CONFIDENTIALITY: *(Have you included appropriate information in the plain language statement and consent form? See Guidelines)*

YES NO *(If NO, please advise how participants will be advised.)*

The letter of introduction and survey clearly highlight the voluntary nature of their participation and their right to withdraw from the study. Participants will not be asked to sign a consent form. Their completion of the questionnaire represents implicit consent to take part. Requiring participants to use a consent form in this instance would work against the confidentiality of the process.

6 DATA/SAMPLE STORAGE, SECURITY AND DISPOSAL *(see Guidelines)*

6.1 HOW WILL THE DATA/SAMPLES BE STORED? *(The REC recommends that all data be stored on campus)*

Stored at DCU
 Stored at another site *(Please explain where and for what purpose)*

6.2 WHO WILL HAVE ACCESS TO DATA/SAMPLES?

Access by named researchers only
 Access by people other than named researcher(s) *(Please explain who and for what purpose)*
 Other : *(Please explain)*

6.3 IF DATA/SAMPLES ARE TO BE DISPOSED OF, PLEASE EXPLAIN HOW, WHEN AND BY WHOM THIS WILL BE DONE?

The data of concern in this study relates to the master sheet of codes and employee names and the individual employee nurse and supervisor surveys. Following input into SPSS this documentation will be shredded on campus by the principal investigator (Jennifer Farrell).

7. FUNDING

7.1 HOW IS THIS WORK BEING FUNDED?

This research is being funded by the Irish Council for Humanities and Social Sciences (IRCHSS)

7.2 PROJECT GRANT NUMBER (If relevant and/or known)

N/A

7.3 DOES THE PROJECT REQUIRE APPROVAL BEFORE CONSIDERATION FOR FUNDING BY A GRANTING BODY?

YES NO

7.4 HOW WILL PARTICIPANTS BE INFORMED OF THE SOURCE OF THE FUNDING?

The source of funding is highlighted to participants in the letter of introduction and on the front cover of the survey

"This research is being funded by the Irish Council for Humanities and Social Sciences (IRCHSS)"

7.5 DO ANY OF THE RESEARCHERS, SUPERVISORS OR FUNDERS OF THIS PROJECT HAVE A PERSONAL, FINANCIAL OR COMMERCIAL INTEREST IN ITS OUTCOME THAT MIGHT COMPROMISE THE INDEPENDENCE AND INTEGRITY OF THE RESEARCH, OR BIAS THE CONDUCT OR RESULTS OF THE RESEARCH, OR UNDULY DELAY OR OTHERWISE AFFECT THEIR PUBLICATION?

YES NO *(If Yes, please specify how this conflict of interest will be addressed.)*

8. PLAIN LANGUAGE STATEMENT *(Approx. 400 words – see Guidelines)*

My name is Jennifer Farrell and I am a PhD candidate working on a research project which examines the role of positive work relationships with proactive behaviour and performance. I am carrying out this research at Dublin City University under the supervision of Professor Patrick Flood. As nurses are at the frontline in the delivery of quality patient care I would like to take this opportunity to invite you to participate in the study. Participation in the study is voluntary. You are under no obligation to take part and you are free to withdraw from the research at any time. Outlined below are answers to some questions you may have regarding your participation.

What is the purpose of the study?

The study explores the factors that influence proactivity among nurses and in particular examines how relationships at work influence proactivity at work and how this in turn impacts work performance and employee well-being. This is important as it will help us to learn more about how relationships at work influence the approach people take to work and how this affects their work performance.

The study is funded by the Irish Research Council for Humanities and Social Sciences (IRCHSS)

What will be involved if I choose to participate?

Participation in the study involves completion of the enclosed questionnaire. The questionnaire includes questions on topics such as your approach to work, relationships between colleagues, how you feel about your work and your performance at work. We hope that you find participation in the study interesting and stimulating. Completing this questionnaire should take no more than 20 minutes. Following completion of the questionnaire you are asked to return it directly to the researcher in the enclosed stamped addressed envelope.

As part of the research your supervisor has agreed to complete a short questionnaire survey which should take no more than five minutes to complete and involves feedback on your proactivity and performance in the nursing role. Your supervisor returns the survey directly to the researcher in an enclosed stamped addressed envelope. **Please note that under no circumstances will results of the employee survey or supervisor survey be divulged to either party.**

How will my anonymity and confidentiality be protected?

It is important to note that at no stage will any of your individual responses to the survey be identifiable. The data collected will be analysed in aggregate form only. The code on each questionnaire is in place to protect your identity

for tracking your survey. The coding system has been designed specifically to protect your identity. The data gathered is for research purposes only. The data will be kept in a locked cabinet for the duration of the research project and will be destroyed following analysis.

Who can I contact if I want further information?

If you would like further information on the study please contact me by phone at 086 8620541 or by email at Jennifer.farrell@dcu.ie or Professor Patrick Flood at 01 7006943 or email at Patrick.flood@dcu.ie

If you have any ethical concerns relating to this research please contact: Fiona.Brennan@dcu.ie

9. INFORMED CONSENT FORM (Approx. 300 words – see Guidelines)

N/A Please see section 5.3

Ashford, S. J., Rothbard, N. P., Piderit, S. K., & Dutton, J. E. (1998). Out on a limb: The role of context and impression management in selling gender-equity issues. *Administrative Science Quarterly*, 43(1), 23-57.

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APPENDIX B

DCU Research Ethics Committee Approval letter

Prof. Patrick Flood
DCUREC

7th June 2011

REC Reference: DCUREC/2011/058

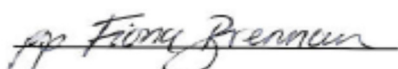
Proposal Title: **Antecedents and Outcomes of Proactive Behaviour:
Exploring the Role of High Quality Relationships**

Applicants: Prof. Patrick Flood, Ms. Jennifer Farrell

Dear Patrick,

Further to expedited review, the DCU Research Ethics Committee approves this research proposal. Should substantial modifications to the research protocol be required at a later stage, a further submission should be made to the REC.

Yours sincerely,

A handwritten signature in black ink, appearing to read 'Donal O'Mathuna', is written over a horizontal line.

Dr. Donal O'Mathuna
Chair
DCU Research Ethics Committee



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APPENDIX C

Research Summary For Nurse Managers

PROACTIVE BEHAVIOUR AND RELATIONSHIPS AT WORK RESEARCH STUDY

INTRODUCTION

My name is Jennifer Farrell and I am a PhD Researcher working on an independent research project on proactive behaviour among nurses. I am carrying out this research at Dublin City University under the supervision of Professor Patrick Flood.

PURPOSE OF THE STUDY

Proactivity describes an approach to work that involves initiating improvements and preventing problems. The study explores the factors that influence proactivity among nurses and in particular examines how relationships at work influence a proactive approach at work. The study also looks at whether proactivity impacts the quality of patient care and job performance. Your participation is very important as your views will enable us to learn more about the features of work life that drive proactive behaviour and ultimately result in positive outcomes for nurses and their patients.

PARTICIPATION

All staff nurses in the hospital will be invited to take part. Their participation involves filling out a survey. The survey includes questions on topics such as their approach to work, their relationships with colleagues and how they feel about their work.

Your participation involves providing some feedback on the proactivity of the staff nurses who opt to participate in the study. This feedback questionnaire will take around 5 minutes to complete. It includes questions on topics such as their proactivity and overall approach to their work (quality of care and performance). I hope that you find the study interesting and stimulating.

Your feedback is a vital part of the overall research project. It is only by combining the staff nurse responses with your feedback that we can learn more about these topics. The following are the key steps in the process.

1. The researcher will supply you with a list of names and codes for individuals who participated.
2. You are asked to complete a rating form for each participant using the code only.
3. These forms are then posted back directly to the researcher.

As a token of appreciation for your time, completed surveys will be entered into a prize draw for one of two €100 An Post "One 4 All" vouchers.

CONFIDENTIALITY AND ANONIMITY

This survey is *strictly confidential*. A number of measures are in place to protect the anonymity and the confidentiality of all responses:

1. A coding system has been designed to ensure that your identity is protected. This is known only to the researcher. At no stage will anyone inside your organisation see your responses.
2. Surveys are returned directly to the researcher and all responses are completely confidential.
3. The data gathered is for research purposes only. Findings will only be provided in aggregate form in the finished PhD Thesis. A report of overall findings only will be provided to the organisation. At no stage will any individual responses be analysed or reported.

Your participation in the study would be greatly appreciated. If you would like further information or a copy of the research findings please contact me by phone at 086 8620541 or by email at Jennifer.farrell@dcu.ie

Many thanks,



Jennifer Farrell
DCU Business School

The Researchers

Jennifer Farrell

Jennifer Farrell is a PhD student at Dublin City University. Jennifer received her MBS degree at the University of Limerick where she has subsequently taught on a number of Health Services Management and Professional Development programmes for nurses. Jennifer's research interests lie in understanding how relationships at work impact peoples' behaviour and their wellbeing.



Jennifer Farrell, PhD Researcher, DCU Business School,

T: (086) 8620541

E: Jennifer.farrell@dcu.ie

Prof. Patrick Flood

Patrick Flood is Professor of Organizational Behaviour at Dublin City University, Head of the HRM-Organisational Psychology Group and a Deputy Director of the LInK Research Centre. Patrick's research interests include leadership and top team effectiveness; HRM and organisational performance; management practices and hospital performance



Professor Patrick Flood, DCU Business School,

T: (01) 7006943

E: Patrick.flood@dcu.ie

APPENDIX D

Sample Cover Letter Staff Nurse Survey

PROACTIVITY RESEARCH STUDY

Dear [Nurse Name],

My name is Jennifer Farrell and I am a PhD student working on an independent research project on proactive behaviour among nurses. I am carrying out this research at Dublin City University under the supervision of Professor Patrick Flood. I would like to invite you to take part in this research.

PURPOSE OF THE STUDY:

Proactivity describes an approach to work that involves initiating improvements and preventing problems. The study explores the factors that influence proactivity among nurses and in particular examines how relationships at work influence a proactive approach to work. The study also looks at how proactivity impacts the overall approach to the job and quality of patient care. As a nurse working on the frontline in the delivery of care your opinions on these issues are very important as they will enable us to learn more about the features of work life that support nurses to be proactive and ultimately result in positive outcomes for nurses themselves and their patients.

YOUR PARTICIPATION:

The survey will take no more than 20 minutes to complete. Participation in the study is voluntary and you are free to withdraw at any time. The survey includes questions on topics such as your approach to work, your relationships with colleagues and how you feel about your work. I hope that you find the study interesting and stimulating. A copy of the research findings will be available upon request.

As part of the research project your manager has agreed to complete a short five minute survey. This includes some questions on your proactivity and your overall approach to the nursing role (performance and care provided). This is completely confidential and is not shared with anyone in your organisation.

As a token of appreciation for your time, completed surveys will be entered into a draw for a chance to win one of two €100 An Post "One 4 All" vouchers.

YOUR CONFIDENTIALITY AND ANONIMITY:

This survey is *strictly confidential*. A number of measures are in place to protect the anonymity and the confidentiality of your responses.

1. A coding system has been designed to ensure that your identity is protected. This is known only to the researcher. At no stage will anyone inside your organisation see your responses.
2. Surveys are returned directly to the researcher and all responses are completely confidential.
3. The data gathered is for research purposes only. Findings will only be provided in aggregate form in the finished PhD thesis. A report of overall findings only will be provided to the organisation. At no stage will any individual responses be analysed or reported.
4. The research has been approved by the Research Ethics Committee at DCU. The committee can be contacted for queries at 01 7007816 or by email at Fiona.Brennan@dcu.ie

Enclosed please find the study survey and a postage paid envelope for returning your completed survey. Your participation in the study would be greatly appreciated. If you would like further information or a copy of the research findings please contact me by phone at 086 8620541 or by email at Jennifer.farrell@dcu.ie

Many thanks,



Jennifer Farrell
Research Scholar
DCU Business School

APPENDIX E

Staff Nurse Survey



Proactive Behaviour and Relationships at Work Survey

PURPOSE OF THE STUDY

Welcome to our survey about the drivers and outcomes of proactivity at work. Proactivity involves initiating improvements and preventing problems in the workplace. Your views on this are important as they will help us to learn more about how relationships at work influence proactive behaviour and how this impacts important outcomes for nurses and their patients.

GUIDE TO THE SURVEY

The survey should take about 20 minutes to complete. There are no trick questions. There are no right or wrong answers to any of the questions. Some questions may seem similar which is deliberate. Participation in the study is voluntary. This is a **confidential survey**. Under no circumstances will your individual responses be made available to anyone in your organisation. The survey code is in place for us to track this survey and to protect your privacy and identity. Nobody other than the researchers and you have access to this code. The data gathered in this survey is for research purposes only.

As a token of appreciation for your time and effort we would like to offer you the chance to enter a draw to WIN ONE OF 2 x €100 AN POST 'ONE 4 ALL' vouchers. Simply indicate your interest in the draw in the final section of the questionnaire.

If you have any queries please contact me: Jennifer Farrell, PhD Researcher,
DCU Business School T: (086) 8620541 E: Jennifer.farrell@dcu.ie

The Researchers

Jennifer Farrell

Jennifer Farrell is a PhD student at Dublin City University. Jennifer received her MBS degree at the University of Limerick where she subsequently taught on a number of Health Services Management and Management Development programmes for nurses. Jennifer's research interests lie in understanding how relationships at work impact peoples' behaviour and their wellbeing.

Jennifer Farrell, PhD Researcher, DCU Business School.
T: (086) 8620541 | E: Jennifer.farrell@dcu.ie



Prof. Patrick Flood

Patrick Flood is Professor of Organizational Behaviour at Dublin City University, Head of the HRM-Organisational Psychology Group and a Deputy Director of the LInk Research Centre. Patrick's research interests include leadership and top team effectiveness; HRM and organisational performance; management practices and hospital performance.

Professor Patrick Flood, DCU Business School.
T: (01) 7006943 | E: Patrick.flood@dcu.ie

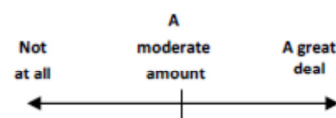


**This research is funded by the Irish Research Council for Humanities and Social Sciences.
This research has been approved by the Research Ethics Committee at Dublin City University.
If you have queries relating to ethics please contact Fiona.Brennan@dcu.ie**

SECTION 1 YOUR APPROACH TO WORK

The following statements are about the approach you take to your work. Please indicate the extent to which you have carried out the following behaviours at work during the past six weeks. Please circle one number only for each statement.

During the past six weeks to what extent have you.....



	1	2	3	4	5
1. Initiated better ways of doing your core tasks	1	2	3	4	5
2. Come up with ideas to improve the way in which your core tasks or duties are carried out	1	2	3	4	5
3. Made changes to the way your core tasks or duties are carried out	1	2	3	4	5
4. Suggested ways to make your unit/ward more effective	1	2	3	4	5
5. Improved the way your work unit/ward does things.	1	2	3	4	5
6. Developed new and improved methods to help your work unit perform better	1	2	3	4	5
7. Made suggestions to improve the overall effectiveness of the hospital	1	2	3	4	5
8. Involved yourself in changes that help to improve the effectiveness of the hospital	1	2	3	4	5
9. Come up with ways of increasing efficiency within the hospital	1	2	3	4	5
10. Tried to develop procedures and systems that are effective in the long term even if they slow things down to begin with	1	2	3	4	5
11. Tried to find the root cause of things that go wrong	1	2	3	4	5
12. Spent time planning how to prevent recurring problems	1	2	3	4	5
13. Generated creative ideas	1	2	3	4	5
14. Searched out new techniques, technologies and or ideas	1	2	3	4	5
15. Promoted and championed ideas to others	1	2	3	4	5
16. Spoken up and encouraged others at work to get involved with issues that affect you	1	2	3	4	5
17. Kept well informed about issues where your opinion might be useful to your workplace	1	2	3	4	5
18. Spoken up with new ideas or changes in procedures	1	2	3	4	5
19. Communicated your views about work issues to others at work even if your views differed and others disagreed with you	1	2	3	4	5
20. Tried to bring about improved procedures in your workplace	1	2	3	4	5
21. Tried to institute new work methods that are more effective	1	2	3	4	5
22. Tried to implement solutions to pressing organisational problems	1	2	3	4	5

SECTION 2 HOW YOU FEEL ABOUT YOUR JOB

Please read each statement and indicate *how often* you feel this way about your job. For each statement circle one response only.

	Never	Almost never A few times a year or less	Rarely Once a month or less	Some times A few times a month	Often Once a week	Very Often A few times a week	Always Every day
1. When I get up in the morning I feel like going to work	0	1	2	3	4	5	6
2. At my work I feel bursting with energy	0	1	2	3	4	5	6
3. At my job, I feel strong and vigorous	0	1	2	3	4	5	6
4. I am proud of the work that I do	0	1	2	3	4	5	6
5. My job inspires me	0	1	2	3	4	5	6
6. I am enthusiastic about my job	0	1	2	3	4	5	6
7. I am happy when I am working intensely	0	1	2	3	4	5	6
8. I am immersed in my work	0	1	2	3	4	5	6
9. I get carried away when I am working	0	1	2	3	4	5	6

SECTION 3**HOW YOU FEEL AT WORK**

These statements ask about *how you feel at work*. Please read each statement carefully and indicate the extent to which you agree or disagree with each of these statements. Please circle only one number for each statement using the following scale:

1 = Strongly Disagree

2 = Disagree

3 = Unsure

4 = Agree

5 = Strongly Agree

1.	I feel confident analysing a long term problem to find a solution	1	2	3	4	5
2.	I feel confident in representing my team/ward in meetings with management	1	2	3	4	5
3.	I feel confident contributing to discussions about the hospital's strategy	1	2	3	4	5
4.	I feel confident helping to set targets or goals in my team/ward	1	2	3	4	5
5.	I feel confident contacting people outside of my organisation to discuss problems	1	2	3	4	5
6.	I feel confident presenting information to a group of colleagues	1	2	3	4	5
7.	If I should find myself in a jam at work I could think of many ways to get out of it	1	2	3	4	5
8.	At the present time I am energetically pursuing my work goals	1	2	3	4	5
9.	There are lots of ways around any problem	1	2	3	4	5
10.	Right now I see myself as being pretty successful at work	1	2	3	4	5
11.	I can think of many ways to reach my current work goals	1	2	3	4	5
12.	At this time I am meeting the work goals that I have set for myself	1	2	3	4	5
13.	If I have a setback at work I have trouble recovering from it and moving on	1	2	3	4	5
14.	I usually manage difficulties one way or another at work	1	2	3	4	5
15.	I can be "on my own" so to speak at work if I have to	1	2	3	4	5
16.	I usually take stressful things at work in my stride	1	2	3	4	5
17.	I can get through difficult times at work because I've experienced difficulty before	1	2	3	4	5
18.	I feel I can handle many things at a time in this job	1	2	3	4	5
19.	When things are uncertain for me at work I usually expect the best	1	2	3	4	5
20.	If something can go wrong for me at work it will	1	2	3	4	5
21.	I always look on the bright side of things regarding my job	1	2	3	4	5
22.	I'm optimistic about what will happen to me in the future at work	1	2	3	4	5
23.	In this job things never work out the way I want them to	1	2	3	4	5
24.	I approach this job as if "every cloud has a silver lining"	1	2	3	4	5

SECTION 4**YOU AND YOUR WORK COLLEAGUES**

Please indicate your level of agreement with each of the following statements regarding the people whom with you work on a regular basis in the delivery of patient care including nurses, doctors and other care providers. For each statement please circle one response using the following scale:

1 = Strongly Disagree

2 = Disagree

3 = Unsure

4 = Agree

5 = Strongly Agree

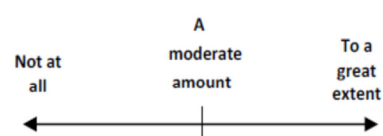
1.	In this unit people share a common vision regarding patient care	1	2	3	4	5
2.	In this unit people work towards common goals in relation to patient care	1	2	3	4	5
3.	People working in this unit act without having a clear direction	1	2	3	4	5
4.	People working in this unit know what tasks their co-workers deal with	1	2	3	4	5
5.	In this unit we share with one another the subject we are working on	1	2	3	4	5
6.	Sharing with one another at work gives us a better understanding of each other's needs	1	2	3	4	5
7.	Sharing with one another about our work issues enables us to better understand how our actions impact other co-workers	1	2	3	4	5
8.	There is a great deal of respect between one another at work	1	2	3	4	5

SECTION 4 YOU AND YOUR WORK COLLEAGUES Continued

	1 = Strongly Disagree	2 = Disagree	3 = Unsure	4 = Agree	5 = Strongly Agree
9. When someone expresses his/her different opinion, we respect it	1	2	3	4	5
10. Mutual respect is at the core of our relationships in this unit	1	2	3	4	5
11. When an error has been made regarding patient care people in this unit blame others rather than sharing responsibility	1	2	3	4	5
12. People in this unit communicate in an accurate manner regarding patient care	1	2	3	4	5
13. People in this unit communicate in a timely manner regarding patient care	1	2	3	4	5
14. People in this unit communicate frequently about patient care	1	2	3	4	5
15. My co-workers will think worse of me if I often try out new approaches on my job.	1	2	3	4	5
16. People will think I am crazy if I come up with new ways of doing my job.	1	2	3	4	5
17. Other people will think worse of me if I try to change the way things operate	1	2	3	4	5
18. If you make a mistake in this unit, it is often held against you	1	2	3	4	5
19. Members of this unit are able to bring up problems and tough issues	1	2	3	4	5
20. People who work in this unit sometimes reject others for being different	1	2	3	4	5
21. It is safe to take a risk in this unit	1	2	3	4	5
22. It is difficult to ask other members of this unit for help	1	2	3	4	5
23. No one in this unit would deliberately act in a way that undermines my efforts	1	2	3	4	5
24. Working with members of this unit, my unique skills and talents are valued and utilized	1	2	3	4	5
25. People in our unit actively attack problems	1	2	3	4	5
26. Whenever something goes wrong, people in our unit search for a solution immediately	1	2	3	4	5
27. Whenever there is a chance to get actively involved, people in our unit take it	1	2	3	4	5
28. People in our unit use opportunities quickly in order to attain goals	1	2	3	4	5
29. People in our unit usually do more than they are asked to do	1	2	3	4	5
30. People in our unit are particularly good at realising ideas	1	2	3	4	5

SECTION 5 YOUR RELATIONSHIPS WITH YOUR COLLEAGUES AT WORK

This section asks *about your relationships with your colleagues at work*. Please indicate the extent to which your relationships with the people you work with in the delivery of patient care (including nurses, doctors and other care providers) are characterised by the following statements. Please circle one number only for each statement



1. I feel liked in my workplace	1	2	3	4	5
2. I feel admired in my workplace	1	2	3	4	5
3. I am popular among my co-workers	1	2	3	4	5
4. My co-workers and I are committed to one another at work	1	2	3	4	5
5. There is a sense of empathy between my co-workers and myself	1	2	3	4	5
6. My co-workers and I do things for one another	1	2	3	4	5
7. My relationships with my co-workers make me feel alive at work	1	2	3	4	5
8. My relationships with my co-workers give me a sense of vitality at work	1	2	3	4	5
9. My relationships with my co-workers provide me with positive energy at work.	1	2	3	4	5

**You are more than half way through the questionnaire.
Please continue to the final sections. Thank you.**

SECTION 6
YOU AND YOUR JOB

Please indicate the extent to which you agree that the following features are present in your current job. Please circle one number only for each statement

	Strongly Disagree	Disagree	Unsure	Agree	Strongly Agree
1. I have control over how I do my work	1	2	3	4	5
2. I can influence management to obtain the things I need to do my work	1	2	3	4	5
3. I have influence in the decisions that affect patient care	1	2	3	4	5
4. I have input into the policies and procedures in my unit	1	2	3	4	5
5. I have autonomy/independence in my work	1	2	3	4	5
6. I have adequate support services to allow me to spend time with patients	1	2	3	4	5
7. I have enough time to discuss patient care problems with other nurses	1	2	3	4	5
8. There are enough registered nurses on staff to provide quality patient care	1	2	3	4	5
9. There is enough staff to get the work done	1	2	3	4	5
10. I work closely with others in doing my work.	1	2	3	4	5
11. I frequently must coordinate my efforts with others.	1	2	3	4	5
12. My own performance is dependent on receiving accurate information from others.	1	2	3	4	5
13. The way I perform my job has a significant impact on others.	1	2	3	4	5
14. My work requires me to consult with others fairly frequently.	1	2	3	4	5
15. On your most recent shift how many patients in total were on your unit/ward?					<input type="text"/>
16. Counting yourself, how many registered nurses in total provided direct patient care on your unit/ward during the most recent shift you worked?					<input type="text"/>
17. In general, how would you describe the quality of nursing care delivered to patients on your unit/ward? Please rate by circling a number on the following scale:					

Very poor	Poor	Neither	Good	Excellent
1	2	3	4	5

SECTION 7
PATIENT CARE

This next set of statements relate to the *quality of care provided by you to your patients*. There are no right or wrong answers to these questions and your responses are completely anonymous so please answer as accurately as possible.

When dealing with patients to what extent do you ...

	Not at all		A Moderate amount		To a great extent
1. Provide quality patient care?	1	2	3	4	5
2. Provide timely patient care?	1	2	3	4	5
3. Spend time thinking ahead to prevent possible complications?	1	2	3	4	5
4. Spend time planning how a patient's status and needs might change over time?	1	2	3	4	5
5. Inform the patient about what might happen after your shift	1	2	3	4	5
6. Make suggestions to patients to improve their longer-term recovery and health	1	2	3	4	5
7. Anticipate what the patient or their family might need to know and communicate this to them	1	2	3	4	5
8. Actively encourage patients to share information and give feedback	1	2	3	4	5
9. Repeatedly follow up things (e.g., test results) without being asked.	1	2	3	4	5
10. Think ahead to identify what doctors/ others working with you might need (e.g. equipment, forms, etc)?	1	2	3	4	5

SECTION 8 YOUR PERFORMANCE AT WORK

This section asks you to rate your overall performance at work. Please indicate your level of agreement with each of the following statements.

	Strongly Disagree	Disagree	Unsure	Agree	Strongly Agree
1. I adequately complete assigned duties.	1	2	3	4	5
2. I fulfil responsibilities specified in my job description.	1	2	3	4	5
3. I neglect aspects of the job I am obligated to perform.	1	2	3	4	5
4. I complete tasks that are expected of me.	1	2	3	4	5
5. I meet formal performance requirements of the job.	1	2	3	4	5

SECTION 9 YOUR MANAGEMENT

Please indicate the extent to which each of the following statements is true or untrue of your manager. Please circle one number only for each statement

	Very Untrue	Untrue	Neither True nor Untrue	True	Very True
1. Good ideas get serious consideration from management above me.	1	2	3	4	5
2. Management above me is interested in ideas and suggestions from people at my level in the organisation.	1	2	3	4	5
3. When suggestions are made to management above me, they receive fair evaluation.	1	2	3	4	5
4. Management above me takes action on recommendations made from people at my level.	1	2	3	4	5
5. I feel free to make recommendations to management above me to change existing practices	1	2	3	4	5
6. Good ideas do not get communicated upward because management above me is not very approachable	1	2	3	4	5

Please indicate the extent to which your manager.....

	Not at all		A moderate amount		A great deal
7. Encourages collaboration	1	2	3	4	5
8. Builds a trustful work environment	1	2	3	4	5
9. Encourages open communication	1	2	3	4	5

SECTION 10 YOUR WORK RELATED WELLBEING

The next set of statements relate to your well-being at work. Please indicate your level of agreement with each of the following statements:

	Strongly Disagree	Disagree	Unsure	Agree	Strongly Agree
1. I have clear goals and a satisfying work life purpose	1	2	3	4	5
2. I have very clear goals and aims in my work life.	1	2	3	4	5
3. I find meaning, purpose and mission in my work life.	1	2	3	4	5

The following list of statements describes some of the ways people in general feel at different times. Please indicate how often you feel each of these ways at work:

	Never	Rarely	Some times	Often	Always
1. Bored	1	2	3	4	5
2. Depressed or very unhappy	1	2	3	4	5
3. On top of the world	1	2	3	4	5
4. Particularly excited or interested in something	1	2	3	4	5
5. Very lonely or remote from other people	1	2	3	4	5
6. So restless you couldn't sit long in a chair	1	2	3	4	5
7. Vaguely uneasy about something without knowing why	1	2	3	4	5
8. Pleased about having accomplished something	1	2	3	4	5

SECTION 11**ABOUT YOU IN GENERAL**

The next set of statements is about your personality. Please indicate your agreement with each of the following statements. For each statement please circle one response only.

	Strongly Disagree	Disagree	Unsure	Agree	Strongly Agree
1. If I see something I don't like, I fix it	1	2	3	4	5
2. No matter what the odds, if I believe in something I will make it happen	1	2	3	4	5
3. I love being a champion for my ideas, even against others' opposition	1	2	3	4	5
4. I am always looking for better ways to do things	1	2	3	4	5
5. If I believe in an idea, no obstacle will prevent me from making it happen	1	2	3	4	5
6. I excel at identifying opportunities	1	2	3	4	5
7. I am constantly on the lookout for new ways to improve my life	1	2	3	4	5

SECTION 12**BACKGROUND INFORMATION**

Please answer the following questions by filling in the blank spaces.

- Your gender: Male Female
- Your age: _____ years
- How many years have you worked as a registered nurse....?
 - To date in your career: _____ years
 - To date in this hospital: _____ years

That was the final set of questions for the survey. If you wish to share any additional comments please use the following space.

- I would like to be included in the draw for the An Post "One for All" vouchers (please tick): Yes No
- I would be happy to participate in a follow up study at a later date (please tick): Yes No

Thank you for taking the time and effort to complete this survey.

Returning the questionnaire

Please place it in the enclosed, postage paid envelope and post to the researcher

APPENDIX F

Reminder Postcards



Proactive Behaviour and Relationships at Work Survey

Recently you received an invitation to participate in a research study about the drivers and outcomes of proactivity among nurses.

If you have already returned the study survey, thank you very much for participating!

If you have not yet completed the survey, please do so and return it directly to the researcher in the prepaid envelope provided. Your views on this are important as they will help us to learn more about how work environments support nurses in being proactive.

If you did not receive the survey, or if you need another copy contact:
Jennifer Farrell, Research Scholar, DCU Business School, Dublin 9,
Tel: 086 8620541 or Email: Jennifer.farrell@dcu.ie

Thank you. Your participation is greatly appreciated.

This is a confidential and independent study. All completed surveys are entered into a draw for one of two €100 An Post "One 4 All" vouchers.

APPENDIX G

Reminder Posters



Proactive Behaviour and Relationships at Work Survey

A couple of weeks ago you received a survey about the drivers and outcomes of proactivity among nurses. If you have already returned the survey, **thank you very much for participating!**

If you have not completed the survey, please do so and return it directly to the researcher in the prepaid envelope provided.

If you did not receive the survey, or if you need another copy contact:
Jennifer Farrell, Research Scholar, DCU Business School, Dublin 9,
Tel: 086 8620541 or Email: Jennifer.farrell@dcu.ie

Thank you. Your participation is greatly appreciated.

APPENDIX H

Sample Cover Letter Nurse Manager Survey

[Date]

PROACTIVE BEHAVIOUR AND RELATIONSHIPS AT WORK RESEARCH STUDY

Dear [Nurse manager name],

I hope this letter finds you well. Thanks for your support to date on the Proactivity Research Project. I now enclose the Supervisors Surveys for nurses working on [Unit Name]. Your role in the process involves completing one of the enclosed Supervisors Surveys for each individual nurse who opted to participate in the research. This is a **strictly confidential** process.

Your role in the research is crucial. It is only by analysing the staff and supervisor data together that we can answer the research questions with confidence.

Below please find the **master list of nurse names and codes** for those who are participating in the research:

Name	Code
[NURSE NAME]	810
[NURSE NAME]	813
[NURSE NAME]	815

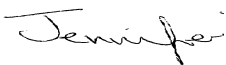
The steps involved in this process are as follows:

1. You are asked fill out a Supervisor Survey for each of the nurses above. In order to avoid rater fatigue it is advisable to take short breaks between every rating.
2. Please enter the code for the nurse you are rating in Section 1 of the survey. **Do not** enter their name.
3. Continue to fill out each survey always keeping in mind the specific nurse you are rating.
4. When you have completed all rating forms please place them all in the **enclosed envelope for collection**. **I will return to collect the surveys on:** [Date]

Please let me know if you have any queries or questions. You can contact me at 086 8620541 or by email at Jennifer.farrell@dcu.ie

Thanks again for your involvement in this research project.

Kind regards,



Jennifer Farrell
Research Scholar
DCU Business School

APPENDIX I

Nurse Manager Survey



Proactive Behaviour and Relationships at Work Supervisor Survey

PURPOSE OF THE STUDY

Thank you for agreeing to take part in this study on the drivers and outcomes of proactivity at work. Proactivity involves initiating improvements and preventing problems in the workplace. Your involvement in this research is important as it will help us to learn more about how relationships at work influence proactive behaviour and how this impacts nurses and their patients.

GENERAL INSTRUCTIONS

The survey should take about five minutes to complete. In this survey you are asked provide your feedback on a specific nurse. Please refer to the schedule of names and codes and *indicate in the first section of the survey*, which nurse you are rating. Please enter the employee code.

This survey is *strictly confidential*. Under no circumstances will your individual ratings be made available to anyone in your organisation. The data collected will be analysed in aggregate form only. Nobody other than the researchers and you have access to the coding scheme. The data gathered in this survey is for research purposes only.

If you have any queries please contact me: Jennifer Farrell, PhD Researcher,
DCU Business School, T: (086) 8620541, E: Jennifer.farrell@dcu.ie

This research is funded by the Irish Research Council for Humanities and Social Sciences.
This research has been approved by the Ethics Committee at Dublin City University.
If you have queries relating to ethics please contact: Fiona.Brennan@dcu.ie

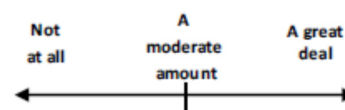
SECTION 1 THE PERSON YOU ARE RATING

Please enter the code for the person you are about to rate

Please note this code can be found in the master list of nurse names and codes provided to you by the researcher.

SECTION 2 THEIR PROACTIVITY

This section asks you to think about the approach the nurse you are currently rating takes to his or her work. Please indicate the extent to which this person has demonstrated the following behaviours in the past 6 weeks. Please circle one number only for each statement.



During the past six weeks to what extent has this nurse.....

	1	2	3	4	5
1. Initiated better ways of doing their core tasks	1	2	3	4	5
2. Come up with ideas to improve the way in which their tasks or duties are carried out	1	2	3	4	5
3. Made changes to the way their core tasks or duties are carried out	1	2	3	4	5
4. Suggested ways to make their unit/ward more effective	1	2	3	4	5
5. Improved the way their unit/ward does things.	1	2	3	4	5
6. Developed new and improved methods to help their unit/ward perform better	1	2	3	4	5
7. Made suggestions to improve the overall effectiveness of the hospital	1	2	3	4	5
8. Involved themselves in changes that help to improve the overall effectiveness of the hospital	1	2	3	4	5
9. Come up with ways of increasing efficiency within the hospital	1	2	3	4	5
10. Tried to develop procedures and systems that are effective in the long term even if they slow things down to begin with	1	2	3	4	5
11. Tried to find the root cause of things that go wrong	1	2	3	4	5
12. Tried to prevent reoccurring problems	1	2	3	4	5
13. Generated creative ideas	1	2	3	4	5
14. Searched out new techniques, technologies and or ideas	1	2	3	4	5
15. Promoted and championed ideas to others	1	2	3	4	5
16. Spoken up and encouraged others at work to get involved with issues that affect them	1	2	3	4	5
17. Kept well informed about issues where their opinion might be useful to your workplace	1	2	3	4	5
18. Spoken up with new ideas or changes in procedures	1	2	3	4	5
19. Communicated their views about work issues to others at work even if their views differed and others disagreed with them	1	2	3	4	5
20. Tried to bring about improved procedures in their workplace	1	2	3	4	5
21. Tried to institute new work methods that are more effective	1	2	3	4	5
22. Tried to implement solutions to pressing unit/hospital problems	1	2	3	4	5

SECTION 3 THEIR OVERALL APPROACH TO WORK

Please indicate the extent to which you agree with the following statements in relation to the nurse you are currently rating. Please circle one number only for each statement

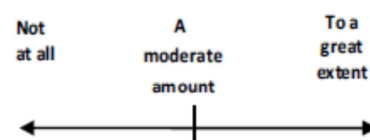
	Strongly Disagree	Disagree	Unsure	Agree	Strongly Agree
1. He/she adequately completes assigned duties.	1	2	3	4	5
2. He/she fulfils responsibilities specified in their job description.	1	2	3	4	5
3. This nurse meets formal performance requirements of the job.	1	2	3	4	5
4. He/she completes tasks that are expected of him/her.	1	2	3	4	5
5. He/she neglects aspects of the job they are obligated to perform.	1	2	3	4	5

SECTION 3 THEIR OVERALL APPROACH TO WORK continued

	Strongly Disagree	Disagree	Unsure	Agree	Strongly Agree
6. This person attends meetings that are not mandatory, but that are considered important.	1	2	3	4	5
7. This person attends functions that are not required, but that help the hospital's image.	1	2	3	4	5
8. This person keeps abreast of changes in the hospital.	1	2	3	4	5
9. This person reads and keeps up with hospital announcements, memos, and so on.	1	2	3	4	5
10. This person helps others who have been absent.	1	2	3	4	5
11. This person helps orient new people even though it is not required.	1	2	3	4	5
12. This person helps others who have heavy workloads.	1	2	3	4	5
13. This person helps others who have work-related problems.	1	2	3	4	5
14. This person is always ready to lend a helping hand to others.	1	2	3	4	5

SECTION 4 QUALITY OF PATIENT CARE

The next set of statements relate to the quality of care provided by the nurse you are currently rating. Please circle one number only for each statement



When dealing with patients to what extent does this nurse....

	1	2	3	4	5
1. Provide quality patient care	1	2	3	4	5
2. Provide timely patient care	1	2	3	4	5
3. Plan ahead to prevent possible complications	1	2	3	4	5
4. Plan how a patient's status and needs might change over time	1	2	3	4	5
5. Inform the patient about what might happen after their shift	1	2	3	4	5
6. Make suggestions to patients to improve their longer-term recovery and health	1	2	3	4	5
7. Anticipate what the patient or their family might need to know and communicate this to them	1	2	3	4	5
8. Actively encourage patients to share information and give feedback	1	2	3	4	5
9. Repeatedly chase up things (e.g., test results) without being asked.	1	2	3	4	5
10. Plan ahead to identify what doctors/ others working with them might need (e.g. equipment, forms, etc)	1	2	3	4	5

Please indicate how often each of the following has occurred over the past year *involving this nurse or their patients*. Please circle one number only for each statement

	Never	Rarely	Occasionally	Frequently
11. Patient received wrong medication, time, or dose	1	2	3	4
12. Failure to follow correct falls prevention procedures	1	2	3	4
13. Failure to follow infection control procedures	1	2	3	4
14. Complaints from patients or their families	1	2	3	4

Please continue to the final page to complete this rating.

15. Compared to other nurses in your hospital, please evaluate the **overall performance** of the nurse you are currently rating on a scale of 0 to 100. Please circle the number that best represents your rating.

Much lower than others		Lower than others		About Average			Higher than others		Much higher than others	
0	10	20	30	40	50	60	70	80	90	100

16. Compared to other nurses in your hospital, please evaluate the **quality of patient care** delivered by the nurse you are currently rating on a scale of 0 to 100. Please circle the number that best represents your rating.

Much lower than others		Lower than others		About Average			Higher than others		Much higher than others	
0	10	20	30	40	50	60	70	80	90	100

SECTION 5

BACKGROUND INFORMATION

1. How long have you supervised the nurse you are currently rating? _____Months_____ years

That was the final set of questions for the survey. If you wish to share any additional comments please use the following space.

Thank you for taking the time and effort to complete this survey.

Returning the questionnaire

Please place it in the enclosed envelope for collection by the researcher