

‘An investigation into the role resilience plays in the performance of managers’.

by

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Declaration.

The author hereby declares that, except where duly acknowledged and referenced, this research study is entirely his own work.

This thesis is not one for which a degree has been or will be conferred by this or any other university or institution.

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Date: June, 2014

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Dedication.

To Frank and Margaret – everything I ever needed.

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Abstract.

‘An investigation into the role resilience plays in the performance of managers’

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This DBA dissertation, comprising a series of four papers, uses an exploratory, mixed methods design to examine the relationship between psychological resilience and performance within a cohort of thirty two (32) male and female managers. The study adopted a cross-disciplinary perspective and recognises that whilst there is an extensive body of research on resilience in the clinical and developmental fields, workplace resilience remains relatively unexplored territory among researchers of business management and management practitioners alike.

In this study ‘performance’ is understood to be individual and separate from the concepts of productivity and effectiveness either in a job context or as an indicator of career success. The study assesses self-reported manager ‘performance’ on an individual level and in the context of the ‘behaviours’ that may increase or limit performance together with the manager’s learning experience and the development of resilience qualities within the critical incident process.

The primary aims of the study are to improve understanding of the importance of resilience and resilient behaviour in the context of workplace performance and as a consequence advance the introduction of the concept of workplace resilience into business management research and everyday practice.

Data collection consisted of the completion of a ‘point in time’ individual resilience assessment measure together with a Critical Incident Technique (CIT) based survey questionnaire which was designed specifically to explicate the significance of the recounted critical incidents and to facilitate the respondents’ demonstration (or otherwise) of resilient behaviour. Both instruments were administered via a single, on-line survey. Survey responses were assessed for resilience using a specially designed and compiled typology of the dimensions of resilient behaviour with numerical values attributed using a ‘Likert’ type scale. This typology represents one of the unique aspects and contributions of this research.

Data analysis revealed thematic content related to personal and professional growth, successful and unsuccessful management of challenges or adversity, lessons learned and positive or negative outcomes. Whilst male participant resilience levels were found to be average for the general population with a mean value of 79.52, female resilience levels were found to be significantly higher at 86.57. No significant relationships were found in either gender between resilience levels and years of practice or educational level.

Overall the study supported the inclusion of resilience and resilient behaviour as important components of increased performance in managers. The results demonstrate that higher levels of resilient behaviour are strongly associated with better management of challenges and adversity (critical incidents) whereas lower levels of resilient behaviour are associated with poor management of critical incidents; and that the degree of success with which a participant managed their respective critical incidents directly impacted their performance in the workplace.

This new contextual approach, now grounded in participant data, advances a relatively new perspective to conventional management theories regarding performance in the workplace. The study also makes a novel and timely contribution by introducing the construct of workplace resilience into a specific management context.

Section 1:

Introduction.

In her book 'Resilience and Development' (1999) Dr. Jeannette Johnson asks, "what if resilience is the poetry of life and we are only just learning the alphabet?" (p.228).

The construct of life resilience, the ability to maintain or regain positive levels of functioning in the face of adversity has been researched extensively in recent years at the individual, group and organisational levels and continues to be an area of increasing interest more recently in the field of management practice. Much of the research to date, originating as it has from the fields of medicine and psychology discusses resilience in terms of a state or condition and sometimes as a practice. Unsurprisingly the terms used include, mental health promotion, emotional intelligence, social-emotional competence and emotional literacy. Ungar (2004) argues that the standard terms used are not standard at all in that they do not adequately account for cultural and contextual differences in how people in other systems express resilience. According to Richardson (2002) resilience comes from within the human spirit or collective unconscious of the individual and also from external social, ecological and spiritual sources of strength and while the emphasis here is on the innate origin and driving force of the concept, the implication is that resilience is a dynamic construct and can be developed.

The traditional meaning of the term psychological resilience refers to the capacity for successful adaptation despite challenging or threatening circumstances and the development of competence under conditions of pervasive and/or severe adversity (Masten et al., 1990). Chapital (2011) provides a more contemporary and widely quoted definition "resilience is an individual's ability to generate biological, psychological and

social factors to resist, adapt and strengthen itself, when faced with an environment of risk, generating individual, social and moral success”(p.313).

In a workplace context, resilience is defined as “the positive psychological capacity to ‘bounce back’ from uncertainty, conflict, failure, or even positive change, progress and increased responsibility” (Luthans, 2002, p.695). According to Bonanno (2004) resilience can be differentiated from recovery in that recovery from an event means that there is a period in which normal functioning is suspended, whereas resilience involves maintenance of equilibrium, with no loss of normal functioning. It is the disruption caused by challenge or change that allows an individual to learn or tap into resilient qualities and achieve resilient reintegration (Richardson, 2002).

Resilience in general however, is most commonly understood as a process rather than a trait of the individual which according to Masten (2009) is more appropriately termed ‘resiliency’ i.e. ego resiliency being a personality characteristic of the individual which does not presuppose exposure to substantial adversity whereas resilience by definition does (Wilkinson et al., cited in Ungar, 2002). It is this experience of ‘adversity’ and the subsequent process of resilience building, which separates the concept of resilience from the personality trait of ego-resiliency (Luthar et al., 2002). Adversity therefore, is a prerequisite for resilience acquisition and it is this particular variable, which distinguishes resilience from other social management processes.

Early resilience research focused on the identification of resilience qualities, skills and attributes indicating strong associations with the levels of social and family support, networking and connectedness, spirituality and locus of control. In terms of resilience acquisition the generally accepted view is that resilient qualities are attained through a

process of disruption and reintegration, with or without loss. Resilient reintegration therefore, refers to the coping process that results in growth, knowledge, self-understanding and increased strength of resilient qualities. The question of how such qualities may be acquired has been addressed to some extent, through the development of a number resilience acquisition models (Flach, 1989; Richardson, 2002). There is also widespread evidence in the literature supporting links with other similarly based socially cognitive constructs. For example, studies by Tugade et al. (2004) have confirmed an association between resilience and positive emotions whilst Werner (2001) contends that those exhibiting high resilience usually have a positive social orientation. What is also clear from previous research is the strong positive correlation between social capital and resilience, Buzzanell (2010) confirms this in her statement “the process of building and utilising social capital is essential to resilience” (p.2). There is also some research by Fisk and Dionisi (2002) confirming the link between resilience and workplace related attitudes and behaviours with active individual choice and self-organisation being considered critical to the resilience acquisition process.

Clearly there is widespread support for the notion that resilience can be learned and what is increasingly apparent, particularly from the more recent literature is that resilience research is now being employed across disciplines to explain how we can motivate people and increase their ability to grow through adversity or challenge.

As we have seen the concept of resilience can be variously defined and continues to evolve, nevertheless apart from the widespread imprecision in definition and terminology there have also been questions about the construct’s validity. In 2007 Luthar expressed the view that research in this field would remain constrained without continued scientific attention to some of the serious conceptual and methodological pitfalls that have been

noted by proponents and sceptics alike. Indeed, some researchers have asserted that overall the construct of resilience is of dubious scientific value (see e.g. Kaplan, 1999). However, according to Buzzanell (2010) we should consider resilience in terms of the processes of crafting normalcy, affirming identity anchors, maintaining and using communication networks, putting alternative logic to work and legitimising negative feelings. These are not new processes, indeed some are either the same or similar to those identified in previous non-workplace related studies (e.g. Garmezy, 1984; Luthar et al., 2000). Recent studies by Friborg et al. (2005) provide further confirmation of a clear link between resilience, personality and social intelligence and the somewhat lesser, tenuous relation with cognitive abilities. There is also sufficient research to suggest that personality and social intelligence are related to resilience either as lower order factors and/or as mediators. In parallel with the developmental perspective there is also some evidence that the concept of resilience has biological validity. In a study by Charney (2004) resilience was found to be associated with particular hormones (including testosterone). Gervai et al. (2005) conducted some further studies showing a possible genetic correlation between a specific dopamine gene and decreased levels of resilience. Some researchers have even gone so far as to suggest that both resilience and resiliency are meta-theories, which provide an umbrella for most psychological and educational theories (Richardson, 2002).

Whilst the debate remains unresolved regarding the innate versus learned nature of resilience (e.g. Harvey et al., 2006) it is evidenced from previous resilience studies (albeit conducted largely in non-work based organisational settings) that there is a clear and highly significant link between resilience and individual ability to attain positive outcomes in the face of trauma or human adversity.

Based on the review of literature to date however, there appears to be very little research conducted on the link between resilience and individual manager performance, specifically within an organisational setting.

It is this potential for a new application and the lack of empirical research in this area together with the career experience of the researcher, which are the primary motivators for this study.

Resilience and Hardiness.

Hardiness is closely related to psychological resilience. The literature however, is somewhat ambiguous on the nature of the interrelation or on the extent of the interdependency. Whilst recent research, in particular by Maddi (2005; 2013) has gone some way to clarify the relationship there remains confusion regarding the separate nature (or otherwise) of the two constructs. Indeed, further confusion has been created by some studies appearing to use the terms interchangeably (see e.g. Davda, 2011).

Psychological hardiness, personality hardiness or cognitive hardiness is characterised as a combination of three attitudes (commitment, control and challenge) that together provide the courage and motivation needed to turn stressful circumstances from potential calamities into opportunities for personal growth (Maddi, 2006). There is a myriad of research from the early work by Maddi and Kobasa (1984) through to Bartone and Ursano (1989) and Wright and Ingram (1999) emphasising the importance of hardiness at the individual level. According to Maddi (2013) the attitudes and strategies of hardiness when taken together facilitate the development of resilience under stress, in effect providing a pathway towards resilience. A study by Kobasa (1979) describes a pattern of hardiness related personality characteristics exhibited by managers who

remained healthy under life stress versus those who developed health problems. Further research by Maddi et al. (1989) suggests that hardiness can be increased through training thereby enhancing performance and wellbeing. Studies have also shown that hardiness leads to beneficial health and performance effects and that it is positively related to work performance (Maddi, 2006). Hardiness has also been shown to be associated with the individual's use of active, problem-focused coping strategies for dealing with stressful events (Kobasa, 1982; Gentry and Kobasa, 1984) and according to Kobasa et al. (1982) the personality characteristics labeled 'hardiness' are component dimensions of the construct of resilience. Later studies by Bartone et al. (1989) indicated that the hardy-resilient style consistently accounted for the differences between resilient and unhealthy people whilst a more recent study, again by Bartone et al. (2009) found a general positive correlation with high levels of hardiness and levels of high-density lipoprotein (HDL) cholesterol suggesting a possible biochemical link. A very recent study by Gito et al. (2013) concerning 317 Japanese nurses found a direct correlation between resilience and hardiness.

It is clear therefore, particularly when we look at the broader range of literature, that hardiness and resilience, whilst based on the same learning/social cognitive perspective are nonetheless two interrelated but separately identifiable constructs.

Definition of Performance.

Numerous, various and extensive theories of career success and the requisite attributes have been emerging for many decades having varying emphasis on construct and dimension and with the terms 'success' and 'failure' being used to describe various outcomes or results. This inconsistency makes it difficult to generalise previous empirical research to any substantial degree. In fact, much of the non-empirical work in this area

outlines a list of suggested attributes and behaviours without any universal definition, in which case their meaning is left largely up to the reader's interpretation. Furthermore, whether self-assessed or independently judged there is also the question as to what constitutes the inherently subjective and somewhat personal nature of the so-called 'success' or 'failure' outcome.

It is also apparent that few researchers objectively measure success or failure in an empirical way and that there are somewhat divergent approaches in the literature clearly requiring further reconciliation. Nevertheless, the conceptual framework for this study has sought to move away from the traditional success/failure thematic to one of emphasising 'performance' on the basis that, as a measure, it is already well conceptualised and widely understood within management practice. Furthermore, when compared to the popular success/failure thematic, performance measures are relatively straightforward to operationalise, particularly across differing industries and cultures.

The Oxford Dictionary of English, 2nd Ed. [online] defines performance as "the action or process of performing a task or function which can be seen in terms of how successfully it is performed". The term 'job performance' is a commonly used but poorly defined concept in industrial and organisational psychology. Indeed, many of the methods employed in the literature appear inadequate with no commonly accepted uniform definition. According to Campbell et al. (1990) job performance can be defined as an individual level variable i.e. performance is something a single person does. This characterisation differentiates performance from outcomes, which are not only the result of individual performance but are also influenced by other factors outside of the individuals control such as economic or market conditions. In practice however, there are many more factors that determine outcomes than just an employee's behaviour and

actions. For example, a manager can perform well but be ineffective due to influences beyond their control, performance therefore is not the same as effectiveness, nor can it be considered to be a single unified construct given that there are a multitude of jobs, each with different performance standards. Job performance therefore, is more appropriately conceptualised as a multidimensional construct on the basis that the construct consists of more than one kind of behaviour (Campbell, 1990).

It is also evident from the literature that the terms 'job performance' or 'job success' and 'career success' seem to be used interchangeably to describe what is more appropriately termed workplace performance or workplace outcomes. In the researcher's view there is a subtle but important division of the meaning of the terms 'career success' and 'job performance' not readily apparent in the literature. According to London et al. (1987) researchers remain somewhat divided on the notion that there is a correlation between conventional career management and job performance. Indeed, some specific studies by Noe (1996) investigating the relationship between career management and job performance have cast significant doubt on the strength of any such links. Whilst the question around career management ability and the link with job performance remains largely unanswered, this study differentiates clearly between the activity of managing one's career and the ability to perform in a specific role.

The research perspective therefore, is one where performance is understood to be individual and separate from the concepts of productivity and effectiveness either in a job context or as an indicator of career success. Furthermore, this study assesses self-reported manager 'performance' on an individual level and in the context of the 'behaviours' that may increase or limit performance together with the manager's learning

experience and the development of resilience qualities within the critical incident process.

Background to Research.

There is extensive academic literature and popular media covering what makes a good leader or manager, the requisite personal attributes or traits and the most appropriate and effective contextual leadership styles. In general, conventional business and management research focus, particularly with respect to personal development has been on the common traits or the required behaviours (see e.g. work by Peter Drucker and earlier work by Henry Mintzberg) which when adopted could help managers to become successful in their leadership roles.

The practical reality however, is that managers and their firms vary enormously, their behaviour and the environment they operate in and react to are equally diverse. It is suggested therefore, that it is insufficient for researchers to focus solely on the attributes for 'success' or on a 'typical' manager profile particularly against the backdrop of rapidly changing labour market conditions and associated work environments. It is also apparent both from this researcher's working experience and the changing thematic of recent human resource literature that many managers are not coping effectively with these changes resulting in increasing absenteeism rates, employment compensation claims, mental health and psychosocial problems, all of which are manifesting in decreasing effectiveness and productivity.

There is an extensive body of research conducted across differing levels of seniority and within various organisations demonstrating that managers benefit significantly from coaching and training, resulting in increased effectiveness and productivity (McCartney

and Constance, 2005; Finkelstein, 2005; Borgen and Butterfield, 2006; Livingstone, 2010). There is also specific research by Bowles et al., 2006 (cited in Adey and Jones, 2006) demonstrating that middle managers benefit more than executive managers and those managers with higher levels of 'on the job' experience irrespective of their level within the organisation. These findings represent important considerations for this study in that they provide confirmation that management skills can be learned and also that they should be developed on a continuous basis across different roles and organisations.

In contrast to a 'what makes success' approach, this study has taken an alternative perspective to the conventional research focus which largely supports the so called 'common sense' view that management failure results primarily from patterns of ineffective leadership practices, poor judgement and unsuccessful leadership habits (Finkelstein, 2005). Similarly, research by Livingstone (2010) claims that the reasons why so many so called well educated people with outstanding academic records fail is that they are not taught the crucially important people management skills coupled with the fact that many fail to learn from their own experiences on the job. Further studies by McCartney and Constance (2005) which sought to examine the relationship among leadership skills, management skills and individual success and failure in formal organisations, raised the important and pertinent question, "why some high potential employees suffer derailment while other individuals with similar skills continue to develop and achieve organisational success"(p.191). Interestingly, the study also indicates that there is no *single* combination of management and leadership skills related to individual success.

Perhaps most significantly these findings concur with many other comparable studies, which broadly attribute the causes of failure to deficiencies in leadership, judgement,

knowledge, technical ability and learning capacity and whilst such skills are universally identified as important prerequisites for success there is no general acknowledgement that such attributes are to be found in both successful and unsuccessful managers alike.

Further expanding the innate versus learned theme, Glen (2009) argues that leadership failures of managers fall into two categories, one being that a 'defective' person is promoted into management eventually being promoted to a position in which they are incompetent due to technical or emotional unsuitability. Glen's second category is based on his contention that management, by its nature, corrupts the competence of those who hold the job. If one assumes that most people usually enter management in a generally capable state the implication here is that they will eventually and inevitably succumb to the corruptive forces of the position itself. Taking Glen's view (and acknowledging it as somewhat simplistic) assumes a certain, inevitability with respect to failure suggesting the cause to be one of incorrect selection initially and later combined with a manifestation of ethical deficiencies. Indeed, this brings into question the possible benefits of any developmental or learning intervention, a perspective running contrary to much of the previous research, which broadly supports the claim that managers can be taught the required skills.

In general, the broad base of conventional research has produced similar views in terms of cause and effect. It appears however, that there are divergent approaches to the operationalisation of these required 'attributes' and 'behaviours', in particular their nature, interrelation and relevance for both theory and practice. On this basis, it is suggested that the 'conventional' research focus on a common or typical manager profile is no longer valid, particularly against the current backdrop of rapidly changing labour market conditions and associated work environments.

In contrast, we can see from the extensive body of resilience research that skills, attitudes, strategies and one's life long self-concept evolve and strengthen with experience (Borgen and Butterfield, 2006) strongly underpinning the notion that resilience is a relevant construct for both management theory and practice and that it is inextricably linked with performance and furthermore, can offer tangible potential as a unifying theme in the context of management development.

In terms of approach, the study takes cognisance of the widely accepted view that performance in the workplace is very often dependent on not just individual capability but also the appropriate support of peers and superiors, the ability to understand personal strengths and weaknesses and the influence of environmental factors (Aryee et al., 1994). It is suggested also that this alternative perspective on the causes of poor performance rather than the conventional viewpoint or treatment (outlined previously) is a novel approach which challenges some of the widely held assumptions about what skills or attributes are required to be a successful manager and the particular 'behaviours' which impact performance.

Research Overview.

Masten and Wright (1998) characterise resilience research as having occurred in 'four waves', the first wave focused on defining, describing and measuring resilience, the second examined the processes in which resilience develops, the third wave sought to apply an understanding to these processes with a view to designing resilience building interventions and the fourth wave combined the insights and methods gained from various fields such as psychology and medicine. Several years later Richardson (2002) describes the historical focus of resilience research as having three stages, the first being the identification of traits of resilience, the second is the processes of development and

operation of resilience and the third is the concept of resilience incorporating the life force to heal, recover and even emerge strengthened.

According to Jacelon (1997) those working in the medical and psychology fields (specifically the nursing profession) have had a particular and continued interest in resilience because they help people and families in dealing with adverse situations. It is clear there has been considerable research in the medical and psychology fields with many important studies conducted during the period from the late nineties to mid to late 2000s the effect of which has been to create increased awareness and highlight the benefits of psychological resilience both to individuals and organisations.

From studies on positive dispositions in the workplace (Shirom, 2004) to research covering resilience in operating theatre nurses (Giordano, 1997) adolescent resilience (Hunter and Chandler, 1999), strategies for developing resilience in nursing students (Jacelon, 1997) to studies contributing to the theoretical development of the concept of resilience (Tusaie and Dyer, 2004) resilience is beginning to be viewed as an important, if not vital attribute in the workplace because it augments adaptation in demanding and stressful environments such as those found in many workplaces today.

A study by Kitano and Lewis (2005) concerning 'academically' or 'educationally' resilient children helped to highlight the applicability of resilience research to the field of child education with a related study by Gu and Day (2006) indicated the necessity of psychological resilience for teacher effectiveness. A study by King (2009) exploring the relationship between resilience and academic achievement demonstrated that independent of their resilience orientations, students achieving at the highest level were found to display an efficacious, learn-from-mistakes attitude to failure whilst the

underachieving students displayed unhelpful reactions to failure ranging from denial to avoidance to helplessness. An earlier study by Jackson et al. (2007) found that higher levels of resilience helped to cope with workplace adversity. A more recent study by Howe et al. (2011) concerning resilience and its relevance to medical training concluded that resilience was a useful concept to consider in medical education practice and that “its conscious exploration in professional development may add new dimensions to learning and reflective practice” (p.349). What is interesting and of particular relevance is that the study found that resilience may be of particular interest to clinical education on the basis that the construct appears to be derived from a set of attributes that could be selected from and developed during formal training and professional practice. A study by Marchant et al. (2009) on ‘mental toughness’ or ‘hardiness’ (a closely related construct to resilience) found that ratings were higher in those occupying more senior managerial positions and that mental toughness increased with age, suggesting that increased exposure to significant life events may have a positive developmental effect on mental toughness. According to Siebert (2005) when competing for a job or promotion, the more resilient person has a better chance of succeeding and those who demonstrate resilience in the workplace are better able to cope with organisational change. A 2005 study by Maddi and Khoshaba found that resilient people are better able to turn adversity into a growth experience and to leverage it into new experiences and ways of working and living.

It is clear therefore, that resilience can be differentiated from other so called ‘positive’ behavioural approaches (many of which have spawned numerous management fads) because it is a theory and research based construct with a measurement track record in the literature. Nevertheless, despite having a well-established theoretical foundation when we seek to apply resilience to the workplace it is evident that not only is research in

this area scarce and fragmented but the concept of workplace resilience is only now emerging in the literature.

Change is rapid and continuous within most organisations today, which in turn has created an increasingly difficult environment for both management and employees, resulting in a new stream of problems which have manifested in increased turnover, reduced productivity and increased absenteeism due to stress-related illness (Sparks et al., 2001; McVicker, 2003; Ganster et al., 2013).

It is only recently and against such a backdrop that the concept of workplace ‘resilience’ has entered the realms of academia, various management journals and the popular press where it has become highly topical across many management disciplines. Nevertheless the literature review to date has indicated that outside of the fields of psychology and medicine, there has been little research into the utility of resilience as a means of improving performance in the workplace. It is this lack of understanding of the variables that explicate resilience (specifically within the *workplace*) which serve to limit the applicability and generalisability of previous resilience research. It is also evident that apart from the medical and psychological studies there appears to be a dearth of formal academic work conducted within what is often termed the ‘private’ sector.

Consequently, workplace resilience and its utility in an organisational context, remains under researched. It is this research ‘gap’ which provides a significant and timely opportunity for this novel study and application of resilience and for the introduction of the concept into business management research.

In contrast to workplace resilience the construct of life resilience has received a great deal of attention across many disciplines from Garmezy's pioneering work (1982) through to Masten's (1989) and Werner and Smith's (1992) major theoretical studies of children, to the developmental framework research by Luther (1990, 2000) and more recently work by Coleman and Hagell (2007). These and other similar studies having originated from the domains of mental health and social science were fundamental in the development of resilience theory. In seeking to understand why some people cope better than others, much of this work has focused on the development of resilience in childhood and adolescence whilst the literature on adult resilience has usually examined those who have suffered some particular life adversity or trauma and have come through positively. More recently however some studies have begun to examine resilience and resilience building in the workplace and also within what is being termed a 'performance' improvement context. These more recent lines of enquiry are particularly relevant to the aims of this study in that they help to 'normalise' the concept of resilience in the workplace and expand it outside the confines of the medical world where previously it has been viewed and researched largely in the context of illness or personal crisis.

The variability in approaches to defining and researching resilience is widely acknowledged in the literature and whilst these ambiguities present significant challenges, there remains a substantial knowledge base on which this study can build. Furthermore, it is suggested that by utilising existing neurobehavioural and clinical knowledge and applying it to the workplace we can further our understanding on how and why resilient managers are capable of achieving higher levels of functioning in the workplace, better than would be otherwise expected.

Research Objectives.

Clearly there is no single overarching theory, which is sufficiently broad enough to encompass the multiple variables which, may be at play generally within 'performance' themes. Nevertheless, many developmental processes operate in similar ways (resilience is assumed to be a dynamic construct, see Rutter, 1987; Kumpfer, 1999) and are underpinned by theory bases, which are not unique to the particular field or application. In terms of theoretical underpinning therefore, this study uses existing developmental theory (i.e. those having their origin in the fields of medicine and psychology) in order to include the specific circumstances and context under study. In order to position and guide the study it was necessary to conduct a systematic search of existing resilience research focusing in particular on studies, which had been conducted within organisational settings. Whilst some recent studies addressing the thematic of workplace resilience were identified (see e.g. Howe et al., 2011; Davda, 2011; Maddi, 2013) the search yielded no specific studies concerning managers in the private sector having their focus on workplace outcomes such as job satisfaction, employee turnover, absenteeism or performance. It is apparent from the literature therefore, that workplace resilience continues to be under-researched and remains a relatively new concept in management theory and practice.

The study comprised four primary objectives. The first being to measure manager resilience levels at a 'point in time' with a view to comparison to other relevant populations and possible correlation with demographic variables. The next objective being to explore the hypothesis that managers who are better at managing adversity in the workplace (critical incidents) will exhibit higher levels of resilience. The third objective was to determine if those managers exhibiting higher levels of resilient behaviour in stressful and/or challenging times succeed in achieving better workplace

outcomes. The basic hypothesis being that higher levels of resilient behaviour improve executive functioning and in turn performance in the workplace. Lastly, the study also sought to identify other areas of research and provide recommendations for possible additions or changes to existing management theory and practice with a view to highlighting resilience as a relevant construct and as an important component in performance improvement in the workplace.

Thesis Structure.

Section 1 provides an opening introduction and background to the research topic, the aims and objectives together with the purpose, relevance and contributions of the study.

This is followed by Section 2, which includes a preface to the study's four papers in order to provide a frame of reference and to give orientation to the study. The next section introduces the first of the four papers (P1) in the cumulative paper series, which begins with an outline of the study's relevance to professional practice together with the potential to make a meaningful impact on professional practice and on the body of knowledge. Issues relating to the design of the research and the research question/s are discussed and the conceptual framework and methodology for the study are outlined. The second paper (P2) largely addresses the research design and methodology and is intended to orient the reader to previously established research approaches in resilience and to the aims of the study and the profile and description of the participants. The third paper (P3) outlines the design and methodology for the pilot study and the fourth and final paper (P4) reports the preliminary results of the study. Section 3 summarises the research aims and the rationale for the chosen methodology followed by a discussion on the main findings. Next, the key contributions and limitations of the study are identified followed by proposals for possible application to management practice and the wider literature together with suggestions for future research.

Section 4 presents selected reflective log extracts in order to chronicle the research journey and highlight key insights at each juncture followed by a section which discusses feedback received at the candidates' viva, how this was addressed, the personal impact on the researcher and his approach to the study. A brief summary of post study reflections concludes section 4.

Relevance and Contributions.

We understand the construct of resilience to be a multidimensional one, the practical reality however, is that managers and their firms vary enormously, their behaviour and the environment they operate in and react to are equally diverse. It is therefore, insufficient for researchers to focus solely on the attributes for success or on some 'typical' manager profile particularly against the backdrop of rapidly changing labour market conditions and associated work environments where it is apparent that many managers are not coping effectively with these changes resulting in increasing absenteeism rates, employment compensation claims, mental health and psychosocial problems, all of which are manifesting in decreasing effectiveness and productivity.

To date resilience research has demonstrated a preponderance of studies, which are primarily concerned with resilience in adolescence, those suffering from PTSD or neurobehavioural problems and individuals or communities coping with the aftermath of human or natural disasters. As previously discussed there are few studies dealing with people in an organisational setting who have to cope with stressful organisational challenges such as changes in job function, reporting structures, changes in role or responsibilities or job performance issues. Indeed, this researcher was unable to identify any specific studies concerning resilience and performance in the workplace, which had been conducted exclusively within a cohort of managers.

In contrast we can see from the extensive body of resilience research that skills, attitudes, strategies and one's life long self-concept evolve and strengthen with experience (Borgen and Butterfield, 2006) strongly underpinning the notion that resilience is a relevant construct for both organisational theory and practice and that it is inextricably linked with success. We have seen also that the concept of resilience can be variously defined and that it continues to evolve within the literature. Nevertheless, the basic premise of the concept of workplace resilience is far reaching and its promise as a human behaviour and practice concept can offer tangible potential as a unifying theme in the context of management development. Furthermore, the study of workplace resilience offers a *relatively* new and interesting perspective, as it appears to provide a common thread, which runs through the processes that derive from many of the most dominant conventional management theories.

Therefore, this study is important because it is, as far as this researcher is aware, the first empirical study that operationalises resilience and resilient behaviour in a representative sample of middle and senior level managers. It follows also that efforts to introduce the construct into the workplace and to explicate the effect of resilience in performance outcomes will not only challenge or extend existing theories but will be of particular interest to business management researchers and practitioners alike. In terms of relevance this study takes cognisance of the widely accepted view that performance and success is very often dependent on not just individual capability but also the appropriate support of peers and superiors, the ability to understand personal strengths and weaknesses and the influence of environmental factors (Rosenbaum, 1989; Aryee et al., 1994). The study also recognises that whilst there is an extensive body of research on resilience, it has not, hitherto been explicitly integrated into management theory or in everyday practice.

This study therefore, has formally situated the concept of psychological resilience in a new organisational context which, will contribute to an increased focus in the literature on the relevance and potential of psychological resilience within contemporary organisations. Furthermore, from a practice viewpoint, research into workplace resilience can provide us with information about how managers who face challenges or adversity throughout their careers need to behave and the actions they can take in order to overcome such challenges, further developing their resilience skills for future improved career-long performance. It is suggested also that the results of this study go some way towards advancing the case for resilience skills development and potential resilience based interventions with managers across a broad range of disciplines and enterprises.

In terms of methodological contribution, this study has presented a new 7-item typology of the components of workplace resilience (drawn from the diverse literatures in psychology, sociology and medicine) together with a specially designed instrument for assessing and quantifying resilient behaviour in managers.

Finally and perhaps most importantly, this study examines behavioural approaches to performance in a field that is a relatively new one for the study and application of resilience and which, has not, hitherto been explicitly integrated into management theory or in everyday practice.

Section 2: Cumulative Paper series

Preface

This preface to the study's four papers comprising the cumulative paper series provides a frame of reference that seeks to give orientation to what is a relatively new study of resilience in the workplace occurring within a cohort of thirty two (32) middle and senior level managers, both male and female from differing cultural backgrounds and across various industry segments.

The first of the four papers (P1) begins with an outline of the study's relevance to professional practice together with the potential to make a meaningful impact on professional practice and on the body of knowledge. Issues relating to the design of the research and the research question/s are discussed and following a detailed analysis of current resilience literature the proposed conceptual framework and methodology for the study are outlined. The paper also provides a discussion of the relevance and potential application of the Critical Incident Technique (CIT) in the study where 'episodes of failure' or 'challenges' are considered to be the critical incident in context. The construct of resilience is seen as a dynamic process and participant levels of resilience are hypothesised to facilitate 'success' or 'failure'. The construct of resilience is defined and discussed further in the context of other related constructs such as the psychological contract, multiple intelligences, hardiness, work self efficacy, career self-reliance and personality. A review of available resilience measuring instruments is presented in terms of suitability for use in the study together with a justification for the selection of the preferred instrument (Resilience Scale for Adults, Friborg et al., 2003; 2005). Following feedback received from the researcher's supervisor/s together with a review by a number of internal and external examiners several modifications to the conceptual framework and research trajectory were recommended.

These include:

- 1) The selection of the Critical Incident Technique (CIT) as an appropriate methodological tool and the use of CIT to expose episodes of failure.
- 2) The removal of the success/failure thematic (given the definition and measurement difficulties) in favour of using CIT to investigate discrete instances (of failure) which may affect performance and which in turn can be better measured.
- 3) That 'job performance' rather than 'success/failure' would be the Critical Incident (CI) in context on the basis that all managers have some level of resilience in their role and so resilience relates to job performance.
- 4) The conceptual framework was revisited with a view to clarifying the core concepts and their inter-relationships.
- 5) Caution was advised regarding the proposed analysis across enterprises, geographies, cultures, age, gender and this would be clarified in subsequent paper/s.
- 6) Further articulation of the contribution to practice and theory was undertaken and this would be expanded upon in subsequent paper/s.

The second paper (P2) largely addresses the research design and methodology. The first part of the paper is intended to orient the reader to previously established research approaches in resilience and to the aims of the study and the profile and description of the participants. The later subsection begins by discussing the applicability of a mixed methods design and the potential contributions from both the qualitative and quantitative elements. The second part of the methodology section provides a description and a discussion of the Critical Incident Technique (CIT), which is the research method chosen for the qualitative element of the study. Next, there is an explanation of how the present study came about, the study's participants are introduced generally together with the definition of relevant terms such as 'manager', 'performance' this is followed by an

explanation of the philosophical and conceptual underpinnings of the study. A revised conceptual model is presented, followed by details of the study's proposed design and finally the ethical considerations and the role of the researcher are discussed. Following feedback received from the researcher's supervisor/s together with a review by a panel of internal and external examiners several changes to the study design and methodology were recommended.

These include:

1. The removal of the 'leadership' versus 'management' debate in order to avoid the unnecessary complexity associated with these two terms in the literature.
2. Removal/dropping of the term 'Leadager' (a term created by the author).
3. Conformation that the study's focus is 'management' at both middle and senior levels.
4. Caution regarding the claim of "advancing a relatively new paradigm".
5. Clarification regarding the sample criteria and the resultant implications for generalisation.
6. Given the move from success/failure themes to one of 'performance' there is a need to define and explain how this measure will be operationalised in context.

The third paper (P3) outlines the design and methodology for the pilot study. The paper begins with a brief description of the frame of reference for the study, the researchers motivation and to what is claimed to be a relatively novel means of bringing resilience into management literature. Further analysis of the available resilience measuring scales is provided followed by an explanation and justification for the change in the measuring instrument to be used in the study. The importance of establishing how the association between the single variable measurement of resilience at a 'point in time' is highlighted and later addressed via the proposal to use the critical incident technique (CIT).

Definitions for the study sample including resilience as a construct, the terms ‘middle’ and ‘senior’ manager and the definition and operationalisation of ‘performance’ are expanded upon further which is then followed by a listing of the limitations and delimitations of the study. The paper concludes with an outline of the ethical considerations and a brief discussion on the role of the researcher generally and then specifically within the context of the pilot study. Once again following feedback received from the researcher’s supervisor/s and the lead author of the Resilience Scale for Adults, Dr. Oddgeir Friberg of the University of Tromsø, Norway together with a review by a panel comprising internal and external examiners, several changes to the pilot study design and methodology (specifically the resilience measuring instrument used) were recommended. These include:

1. Move from the Resilience Scale for Adults (Friberg et al., 2003;2005) to the Connor Davidson Resilience Scale (Connor and Davidson, 2003).
2. Measurement of resilience levels at a ‘single point in time’
3. Removal of the testing emphasis and the hypothesis in the paper as the study does not plan to ‘test’ theory but rather to expand extant theory.
4. Expand on the methodological contributions (including CIT) as well as practice/theory contributions when writing up.
5. Review the survey questions for relevance and time taken to complete.

The fourth and final paper (P4) reports the preliminary results of the study. The paper begins by expanding on the construct of resilience within the context of the study, procedures and data collection methods are described and demographic information is presented in tabular form together with statistical analysis of the data. Participant resilience scores are presented in overall terms and these are compared to a population sample compiled specially by the researcher in order to, in the first instance, facilitate

subsequent detailed statistical analysis with respect to the resilience behavioural dimensional scale and latterly to provide further conceptual clarification for the qualitative element of the study. Critical incident data is then analysed and classified into 'successful' or 'unsuccessful' based on defined CIT based criteria. The data is then further analysed and coded using a specially compiled list of a-priori resilient behaviour dimensions. Scores are then attributed when resilient behaviour has been observed using a specially designed '*Likert type*' scale. Further regression analysis and results are presented followed by a discussion and conclusion. Once again following feedback received from the researcher's supervisor/s together with a formal review by a panel comprising both internal and external examiners, several clarifications together with additional data analysis were recommended. These include:

1. Removal of the term 'sequential' from the 'explanatory sequential design'.
2. Move from compare and contrast to a-priori prescriptive analysis.
3. Caution regarding the 'representative' claims in the study, further clarification required.
4. Arrange for a 2nd coder of data to improve inter-rater reliability of coding.
5. Further explanation of the compilation of the 7 resilient behaviour dimensions, the development of the '*Likert type*' scale and coding.
6. Further regression analysis recommended, specifically to consider in greater detail whether there is a culture, age, education and experience profile impact.
7. Further consideration to the assumptions and implications around gender findings within the study.
8. Revised/updated conclusions, to include possible methodological contributions e.g. the novel use of CIT in the study and the development of Resilience Behavioural Dimensions Scale.

Conceptual Research Manuscript

Paper 1.

‘An investigation into the role resilience plays in the failure of managers’.

Frank McCarthy, DBA student, School of Business, Waterford Institute of Technology.

Abstract

This study will examine the relationship between resilience and failure within a cohort of thirty (30) plus managers across various enterprises, geographies and cultures. As the chosen sample population consists of practicing managers operating at various levels this study will provide an “in context” view of the role resilience may play with respect to individual manager failure whilst advancing a relatively new paradigm to encompass the processes that derive from many of the most dominant conventional management theories. Given resilience is only now emerging in the organisational behaviour literature this study has adopted a cross-disciplinary perspective and draws from the established theory building and empirical findings in clinical and developmental psychology. Resilience is assumed to be a multi-dimensional construct, where individual skills, attitudes, strategies and one’s life long self-concept evolve and strengthen with experience. Resilience acquisition therefore, is understood to be a process rather than as an individual trait which, can be assessed, developed and leveraged for further manager performance improvement.

Keywords: Resilience, manager, leadership, failure.

Introduction

To date the study of resilience in many settings outside of organisational, occupational and industry community contexts has demonstrated the clear and highly significant link between resilience and individual ability to attain positive outcomes in the face of trauma or human adversity. The extensively researched and well established construct of life resilience has received considerable attention during the past thirty years from Garmezy's pioneering work (1982) through to Masten's (1989) and Werner and Smith's (1992) major theoretical studies of children, to the developmental framework research by Luther (1990; 2000) and more recently work by Coleman and Hagell (2007). Largely conducted within the discipline of Psychology much of the research to date has focused primarily on the study of children and adolescents and whilst there has been a more recent focus on the study of adult resilience this usually concerns those who have suffered some particular life adversity or trauma and have come through positively. However, very little research has been completed on the link between resilience and individual manager success in a traditional workplace setting. Indeed it is only relatively recently that the concept of workplace related 'resilience' has entered the popular press, various management journals and periodicals including the widely respected Harvard Business Review, where the April, 2011 edition was entirely dedicated to the topic.

It appears therefore that resilience is fast becoming one of the new buzzwords across all levels of Leadager¹ roles. There is however, a dearth of empirical or formal academic work to support much of the analysis being put forward or indeed many of the statements

¹ "Leadager" is a term created by the author, suggested in part by the work of Peter Drucker, "one does not 'manage' people, the task is to lead people and the goal is to make productive the specific strengths and knowledge of every individual". This term combines the titles of Manager and Leader to form a new reference.

currently being made in the press and it appears therefore that work related resilience remains largely in the domain of the popular management media. Tusaie and Dyer (2004) argue that “the fields of study related to psychology and physiology are simultaneously pushed apart by academic politics and drawn together by common elements of the human experience”(p.232). It is a variation on this theme i.e. the separation of the disciplines, which provides what is believed to be a significant and timely opportunity for the proposed academic research, which not only attempts to formally introduce the construct into management science research but also seeks to question some of the assumptions underlying conventional management theory. In contrast there is an extensive body of research conducted within various organisations (workplace settings) demonstrating that managers (in particular middle managers) benefit significantly from coaching, resulting in increased effectiveness and productivity. The same research has shown empirically that middle managers benefit more than executive managers and those managers with higher levels of ‘on the job’ experience irrespective of their level within the organisation (Bowles et al., cited in Adey and Jones, 2006).

It is the developmental nature of the construct and the potential for a new application together with the career experience of the researcher, which are the primary motivators for this study. This research project therefore, will explore how managers, seemingly with all the ‘right’ attributes, experience, interpret and deal with particular episodes of failure. A central theme will be the question of why failure becomes repetitive for some managers despite having demonstrated great personal effort and commitment and this study will examine what could be characterised as the ‘cycle of failure’ or ‘spiral failure’ encountered by some managers, specifically in the context of their cumulative management and leadership experience.

Clearly no single overarching theory is sufficient to encompass the multiple independent variables required to be considered or which may be at play generally within success/failure themes. When we consider however, that many developmental processes (resilience is assumed to be a dynamic construct, see Rutter, 1987; Kumpfer, 1999) operate in similar ways across the disciplines and that the theory bases are not unique to the particular field of study, it is deemed unnecessary to derive additional theories for the purposes of further research, rather the researcher is seeking to expand the extant developmental theories to include the specific circumstances and context under study. This will be achieved by means of a mixed methods design where quantitative methods will be employed to determine participant resilience levels whilst qualitative methods will be used to determine the extent of the association (if any) with particular and discrete episode/s of failure sustained in the course of each participants career.

The overarching aims of the study are to determine by means of a mixed methods research design, the current level of resilience of a cohort of managers and if levels of resilience are associated with job performance.

The title of the study is,

'An investigation into the role resilience plays in the failure of managers',

and the key hypothesis of this study are:

H1: A managers' resilience is positively related to job performance.

H2: A managers' level of resilience plays a significant role in failure.

This conceptual paper will seek to apply extant theory in an attempt to answer what are considered to be interesting and novel questions within the framework of a well known

thematic scheme and against the backdrop of few, if any prior studies examining the relationship between psychological resilience and individual manager failure. These research aims will be achieved by examining the relationship between resilience and particular episodes of manager failure across various enterprises, geographies and cultures in an effort to bridge the theory-practice divide and in doing so, prior empirical work will be extended in at least two ways. Firstly, as the chosen sample population consists of practicing managers it is anticipated that this study will provide an ‘in context’ view of the role resilience may play with respect to management failure. Secondly, the study advances a relatively new paradigm to encompass the processes that derive from many of the most dominant conventional management theories in a field that is a relatively new one for the study and application of resilience and which has not, hitherto been explicitly integrated into management theory or in everyday practice.

There is extensive literature covering what makes a good leader or manager, the requisite personal attributes or traits and the most appropriate and effective contextual leadership styles. It follows therefore that the conventional research focus from Henry Mintzberg’s studies in the early 80’s through to the more recent work of Peter Drucker has been on the common traits or the required behaviours which when adopted could help managers to become successful in their leadership roles. In contrast to a ‘what makes success’ approach this study will take an alternative perspective to the conventional research focus which largely supports the so called ‘common sense’ view that management failure results primarily from patterns of ineffective leadership practices, poor judgement and unsuccessful leadership habits (Finkelstein, 2005). Similarly, research by Livingstone (2010) claims that the reasons why so many so called well educated people with outstanding academic records fail is that they are not taught the crucially important people management skills coupled with the fact that many fail to learn from their own

experiences on the job. Studies by McCartney and Constance (2005) questioned why some high potential employees suffer derailment (early success but failing later in their careers) while other individuals with similar skills continue to develop and achieve success. The results of the studies indicated that there is no *single* combination of management and leadership skills related to individual success with a recommendation that developmental activities should be on-going regardless of the individual's level in the organisation. Perhaps most significantly their findings are similar to those of many other studies which broadly attribute the causes of failure to deficiencies in leadership, judgement, knowledge, technical ability and learning capacity and whilst such skills are universally identified as important prerequisites for success there is no general acknowledgement that such attributes are to be found in *both* successful and unsuccessful managers alike.

It is suggested therefore, that the conventional research focus on a 'common' or 'typical' manager profile is no longer valid and this is particularly so when we consider the current backdrop of rapidly changing labour market conditions and associated work environments. In contrast, we can see from the extensive body of resilience research that skills, attitudes, strategies and one's life long self-concept evolve and strengthen with experience (Borgen and Butterfield, 2006) strongly underpinning the notion that resilience is a relevant construct for both theory and practice and that it is inextricably linked with success and furthermore it can offer tangible potential as a unifying theme in the context of management development.

Literature Review.

Definition of Resilience.

The traditional meaning of the term psychological resilience refers to the capacity for successful adaptation despite challenging or threatening circumstances and the development of competence under conditions of pervasive and/or severe adversity (Masten et al, 1990). Chapital (2011) provides a more contemporary definition “resilience is an individual's ability to generate biological, psychological and social factors to resist, adapt and strengthen itself, when faced with an environment of risk, generating individual, social and moral success”(p.313). In a workplace context, resilience is defined as “the positive psychological capacity to ‘bounce back’ from uncertainty, conflict, failure, or even positive change, progress and increased responsibility” (Luthans, 2002). As a concept it has been researched extensively in recent years at the individual, group and organisational levels with much of the literature discussing resilience as a state, often as a condition and to some extent as a practice. The terms used include, mental health promotion, emotional intelligence, social-emotional competence and emotional literacy. Ungar (2004) argues that the standard terms used are not standard at all in that they do not adequately account for cultural and contextual differences in how people in other systems express resilience. Resilience in general however, is most commonly understood as a process rather than a trait of the individual which according to Masten (2009) is more appropriately termed ‘resiliency’ i.e. ego resiliency being a personality characteristic of the individual which does not presuppose exposure to substantial adversity whereas resilience by definition does (Wilkinson et al., cited in Ungar, 2002). It is this experience of “adversity” and the subsequent process of resilience building, which separates the concept of resilience from the personality trait of ego-resiliency. There is also some evidence that the concept of resilience has biological validity, in a study by Charney (2004) resilience was found to be associated with particular hormones (including

testosterone). Gervai et al. (2005) conducted some further studies showing a possible genetic correlation between a specific dopamine gene and decreased levels of resilience. Some researchers have even gone so far as to suggest that both resilience and resiliency are meta-theories, which provide an umbrella for most psychological and educational theories (Richardson, 2002).

Definition of success.

Numerous, various and extensive theories of career success and the requisite attributes have been emerging for many decades having varying emphasis on construct and dimension and with the terms 'success' and 'failure' being used to describe various outcomes or results. In fact, much of the non-empirical work in this area simply outlines a list of suggested attributes and behaviours without any universal definition. Early research by Everett Hughes (1958) drew a theoretical distinction between the objective and the subjective career. Specifically, Hughes defined the objective career as directly observable, measurable, and verifiable by an impartial third party, while the subjective career is only experienced directly by the person engaged in his or her career.

In 1986, Gattiker and Garwood compiled a measure of career success consisting of five factors, job success, inter-personal success, financial success, hierarchical success and life success. Alternatively Parker and Chusmir (1991) took a more 'holistic' view to include their conception of the construct 'life success', arguing that subjective career success tends to encompass factors from outside the career. Dyke and Murphy (2006) classified their findings on the meanings of career success under the four factors of balance, relationships, recognition and material success. It is clear from the literature however, that the discussion centers around the same set of well-defined measures and on the basis that these measures are widely employed and have long been considered the

hallmarks of career success (across a wide range of societies) it is proposed that such measures be used as an appropriate reference in the conduct of the proposed study.

Performance and the Psychological Contract.

The idea of the psychological contract was first put forward by Levinson et al in 1962 and developed later by Kotter (1973) and Schien (1980) and more recently by Rousseau (1995). A psychological contract represents the mutual beliefs, benefits, perceptions and informal obligations between an employer and employee (Rousseau, 1989). There is some evidence to support a link with resilience, as Collard et al. (1994) suggest, “resilience is the route to a healthy psychological contract” (p.92) and according to McLean et al. (1994) breach and violation are common occurrences with serious implications for the individual and the organisation. Kruger and Dunning (1999) found that ignorance of standards of performance is behind a great deal of incompetence.

It is suggested therefore, that although the psychological contract, encompassing a clear and comprehensive understanding of expectations between the parties will be a major determinant of what represents success it will not need to be controlled for as it is predecessor rather than a cause.

Personality, Success and Resilience.

Personality plays an important role in the explanation and prediction of behaviour (Tett et al., 1991). In a recent study by Avey et al. (2010) psychological capital² was found to be related to employees level of financial performance, referrals within the firm and manager rated performance. In addition, Caldwell and Burger (1998) found that an individual’s personality plays a significant role in workplace behaviours.

² The term is used here to represent individual motivational propensities that accrue through positive psychological constructs such as self-efficacy, optimism, hope and resilience.

Traits describe personality and many researchers have postulated (Tupes and Christal, 1961; Eysenck, 1967; Costa and McCrae, 1990) that personality is reducible to between three and five traits (factors). It is also evident from the literature that personality based preferences and behaviours in particular those outlined in the original Five Factor Model by Tupes and Christal (1961) which encompass neuroticism, extroversion, openness, agreeableness and conscientiousness have gained widespread academic support and validation with particular significance being attributed to the single factor of conscientiousness, now considered the most predictive of job performance (Hurtz and Donovan, 2000). A study conducted by McCall and Lombardo (1983) found that executives who later failed had been successful earlier on (in lower level positions) because they were viewed as technical geniuses or strong problem solvers. However, as they moved up the organisational ladder and job demands changed, some early strengths became weaknesses and some early weaknesses began to matter. The study concluded that the most common reasons for failure were specific performance problems, insensitivity to others, failure to delegate or build a team, and overdependence on a single advocate or mentor. Further work by Lombardo and McCauley (1988) found that managers who have problems later with interpersonal relationships are usually those who are successful early on in their careers because they are good at what is often referred to as task-based leadership, but requirements change as they progress in their careers. In contrast there have been some studies which have shown that the effects of personality on career success have been inconsistent (Furnham, 1992).

It is clear however, that individuals who are high in certain dispositions (particular personality traits) climb the organisational ladder with greater success than do others in the organisation (McClelland and Boyatzis, 1992). Turban and Dougherty (1994) advanced similar findings linking personality traits with higher levels of career success.

Personality scales, over and above measures of ability have been found to account for the job success of senior and middle managers (Saville et al., 1996). Clearly personality is a determinant of career and job success and there are certain personality traits with significant positive correlation. Studies relating these personality factors to resilience have been repeatedly associated with a high score on the big five measures such as emotional stability, extroversion, openness and conscientiousness (Riolfi et al, 2002) and one defining feature of those with high resilience is the positive social orientation they show towards other people (Werner, 2001). In a developmental context however, this link poses considerable practical implications as most people have extreme difficulty 'improving' or modifying their personality in order to positively influence career success. If levels of resilience are covariate with certain personality traits then it would suggest difficulty in increasing such levels by means of personality modification. On the other hand, Bandura (1997) provides an alternative perspective (and one for adoption in this study) with his contention that "people not only are simply reactors to external influences, but also, select organize and transform stimuli to modify their personality and behavior"(p.13).

Hardiness, Personality and Resilience

Psychological hardiness, personality hardiness or cognitive hardiness is characterised as a combination of three attitudes (commitment, control and challenge) that together provide the courage and motivation needed to turn stressful circumstances from potential calamities into opportunities for personal growth (Maddi, 2006). There is a myriad of research from the early work by Maddi and Kobasa (1984) through to Bartone and Ursano (1989) and Wright and Ingram (1999) emphasising the importance of hardiness at the individual level. A study by Kobasa (1979) describes a pattern of hardiness related personality characteristics exhibited by managers who remained

healthy under life stress versus those who developed health problems. Further research by Maddi, Khan and Maddi (1989) suggests that hardiness can be increased through training thereby enhancing performance and wellbeing. Studies have also shown that hardiness leads to beneficial health and performance effects and that it is positively related to work performance (Maddi, 2006). Hardiness has also been shown to be associated with the individual's use of active, problem-focused coping strategies for dealing with stressful events (Kobasa, 1982, Gentry and Kobasa, 1984) and according to Kobasa, Maddi and Kahn (1982) the personality characteristics labeled hardiness are *component* dimensions of the construct of resilience. Later studies by Bartone et al. (1989) indicated that the hardy-resilient style consistently accounted for the differences between resilient and unhealthy people whilst a more recent study, again by Bartone et al. (2009) found a general positive correlation with high levels of Hardiness and levels of high-density lipoprotein (HDL) cholesterol levels suggesting a possible biochemical link. It is also apparent from the Literature that hardiness and resilience, whilst two separately identifiable but interrelated constructs are nonetheless based on the same learning/social cognitive perspective. Hardiness therefore, is closely related to personality and psychological resilience.

Work Self-Efficacy Theory and Personality.

According to Bandura (1997) self-efficacy is belief in one's ability to succeed in certain difficult situations. Stajkovic and Luthans (1998) defined self-efficacy for the workplace as "the employee's conviction or confidence about his or her abilities to mobilise the motivation, cognitive resources or courses of action needed to successfully execute a specific task within a given context" (p.246). In an organisational context, self-efficacy has been shown to have considerable explanatory power over behaviours such as: self-regulation, achievement striving, academic persistence and success, choice of career

opportunities and career competency (Bandura, 1992). Also according to Bandura (2001) self-efficacy lies at the centre of social cognitive theory which emphasises the role of observational learning and social experience in the development of personality. Self-efficacy, has also been shown to be related to the ability to cope with pressure (Saks, 1995) and to sensitivity and interpersonal communication (McWorter, 1999) and to teamwork performance (Chen et al., 2002) and to subsequent job performance (Stajkovic and Luthans, 1998; Bandura, 2003). Therefore, perceived self-efficacy appears to be a key driver of an individuals' ability to adapt and deal with difficult situations. This is particularly relevant to manager performance because in order to negotiate the risks and challenges associated with leading and managing it is known that success is partly dependent on the strength of their perceived self-efficacy (Bandura et al., 1999). The theoretical underpinning is one where individuals with higher work self-efficacy are more likely to be successful in workplace performance.

Multiple Intelligences and Resilience.

Higher intelligence implies better analytical, creative and practical problem-solving abilities (Sternberg, 1998) and to some extent this finding can be generalised to include managers who are usually more knowledgeable, have greater perceived self-efficacy and can cope better with stressful situations. This field has proven popular for researchers in recent years with significant work being undertaken into what appear to be related intelligence theories such as the multiple intelligence theory (Gardner, 1983) the Mozart effect theory (Rausher et al, 1993) and perhaps the one with the widest contemporary appeal, the emotional intelligence (EI) theory (Salovey and Mayer, 1990). EI is defined as the ability to develop competence in self-awareness, self-management, relationship management and social awareness where each of these four domains was considered to have multiple sub-skills. Studies by Werner (1993) found that individuals high in

resilience were not necessarily intellectually stronger but more adept at effectively using whatever skills they had available. A later study by Friborg et al. (2005) found that resilience and social intelligence were positively correlated. Whetton and Cameron (2005) also claimed that effective managers are able to take different approaches to suit the various needs of differing circumstances a “type” of emotional intelligence skill. EI is not without its critics however, Matthews et al. (2004) reviewed a wide range of empirical research and concluded that there was no supporting evidence for a unitary EI theory whilst Locke (2005) maintained that EI was so broadly defined that it could not be properly tested. Interestingly, in a study by Collins (2001) it was revealed that EI competencies predicted no variation in job success over and above cognition and personality traits and further recent research by Fiori and Antonakis (2011) suggests that EI measures may be measuring personality in addition to general intelligence. There are also methodological issues as many of the studies linking resilience and intelligence have used different operationalisations of the construct, i.e. both as a process and an outcome variable and whilst there is no definitive study currently, the overall impression from the literature is that there is a positive link but it is highly contextual and not significant. The implications with respect to the proposed research are that Emotional Intelligence as a construct is not relevant.

Research on the processes leading to resilience however, clearly point to a relation with social skills and according to Werner (2001) a positive social orientation is the most protective against mal-adaptation. Nevertheless the many facets of social intelligence are not equally important for resilience as borne out in a study by Luthar (1991) which found that 'social expressiveness' (extroversion) to be the most protective over other social factors such as social cohesiveness and social resources. However, the one defining feature of those with high resilience according to Werner (2001) is the positive social

orientation they show towards other people. In Big Five terminology they are more 'extrovert' and as such are a better fit with the conception of resilience as a positive social orientation (Werner, 2001).

Resilience and Career Self-Reliance.

The sum of a person's learning affects their world view and how they approach career choice and management (Krumboltz, 2002) and this dynamic relationship between person and environment is consistent with resilience theory with clear links between the goals of constructivist approaches and the protective factors found in the research on resilience. Today the trend in career self-management is well established and widely accepted in management practice. There has been a paradigm shift from the paternalistic work relationship towards a more independent self-employed approach commonly referred to as 'career self-reliance'. London (1983) defined career motivation as a multi-dimensional construct consisting of three domains, career resilience, career insight and career identity with the former being linked to the personality traits of hardiness, self-efficacy and achievement motivation. Herriot (1992) confirms the link with career self-reliance when he describes the career concept as "sequences of negotiations of the psychological contract". Collard et al., contends that individuals who are career resilient have "an attitude that is focused and flexible and deliver solid performance in support of organizational goals for as long as they are part of the organization"(1996, p.17). Resilience as a construct has also begun to be considered in a group context with the term 'Career Resilient Workforce' coined by Waterman et al. (1994) they have written extensively about the 'Career Resilient Workforce' (1994) with an emphasis on constant change and continuous learning whilst DeFillipi and Arthur (1994) concluded that "cumulative career competencies are embodied in people's beliefs and identities, skills, knowledge, network of relationships and contacts" (p.324).

There are however some issues posed by the apparent widespread connection evident from the Literature (Herriot, 1992; Waterman et al., 1994; Collard, 1996) between career success and job success. Much of the research referred to previously utilises the term career self-reliance as a blanket description, referring both to career and job success as one and the same. Researchers are also somewhat divided on the notion that conventional career management practice has a strong correlation between career management and job performance (London et al., 1987) with later studies by Noe (1996) casting significant doubt on the strength of any links.

Whilst the question around career management ability and the link (if there is one) with job performance remains confused and unanswered in the Literature it is clear for this researcher that the activity of managing one's career and the ability to perform in a specific role are two distinct skills and will be treated separately as two different constructs in the context of the proposed study.

Resilience & Resiliency.

Early resilience research focused on the identification of resilience qualities, skills and attributes indicating strong associations with the levels of social and family support, networking and connectedness, spirituality and locus of control. The more recent research focus has moved to the question of *how* such qualities may be acquired with the development of a number resilience acquisition models (Flach, 1989; Richardson, 2002). It is generally accepted that resilient qualities are attained through a process of disruption and reintegration, beginning when a person has adapted to his/her particular situation in life. Studies by Tugade et al. (2004) have confirmed the association between resilience and positive emotions whilst Werner (2001) contends that those exhibiting high resilience usually have a positive social orientation. What is also clear from previous

research is the strong positive correlation between social capital and resilience, Buzzanell (2010) confirms this in her statement “the process of building and utilising social capital is essential to resilience”(p.2). There is some research by Fisk and Dionisi (2002) confirming the link between resilience and workplace related attitudes and behaviours with active individual choice and self-organisation being considered critical to the resilience acquisition process.

What is apparent from the more recent literature is that resilience research is now being employed across the disciplines to explain how we can motivate people and increase their ability to grow through adversity or challenge. Nevertheless, apart from the widespread imprecision in terminology and the somewhat ambitious claims (particularly in the popular management media) regarding relevance and impact there have also been questions about the constructs validity. In 2007 Luthar expressed the view that research in this field would remain constrained without continued scientific attention to some of the serious conceptual and methodological pitfalls that have been noted by proponents and sceptics alike. Indeed, some researchers have asserted that overall the construct of resilience is of dubious scientific value (see e.g. Kaplan, 1999). According to Buzzanell (2010) we should consider resilience in terms of the processes of crafting normalcy, affirming identity anchors, maintaining and using communication networks, putting alternative logic to work and legitimising negative feelings. These are not new processes, indeed some are either the same or similar to those identified in previous non-workplace related studies (e.g. Garmezy, 1984; Luthar et al., 2000). Recent studies by Friborg et al. (2005) provide further confirmation of a clear link between resilience, personality and social intelligence and the somewhat lesser, tenuous relation with cognitive abilities. There is also sufficient research to suggest that personality and social intelligence are

related to resilience either as lower order factors and/or as mediators and therefore will require particular consideration in the context of the proposed research.

Proposed Conceptual Framework

This study utilises a process-oriented framework, whose primary purpose is to conceptualise the hypothesised causal role resilience plays in the failure of managers whilst also helping to clarify the interrelation between the variables, the process by which resilience can be acquired and to control for any modifying variables and ultimately identify and situate possible levels of intervention.

Figure 1 presents the specific conceptual framework developed for the purposes of this study.

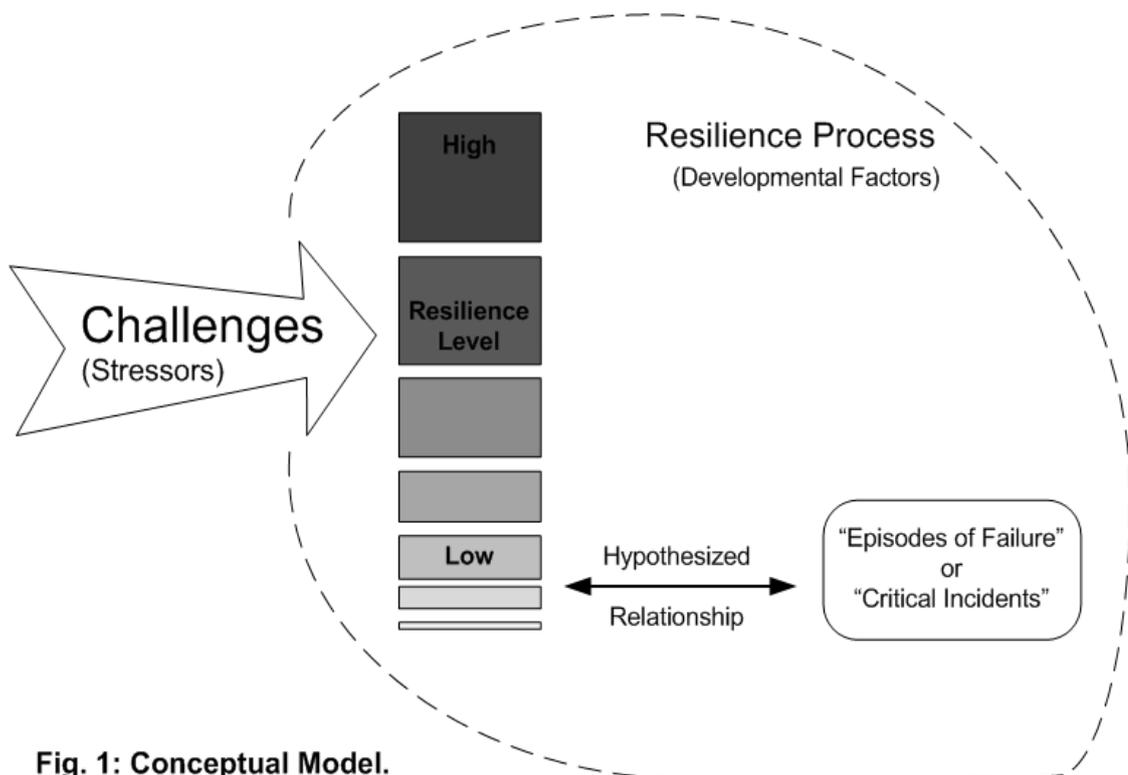


Fig. 1: Conceptual Model.

The circular nature of the process being postulated is one where Leadagers are subject to on-going challenges throughout their careers, they either overcome such challenges and become more resilient as a consequence thereby allowing them to become successful or they fail, revert to a less resilient condition and are forced to begin again.

Outline of Study

It is proposed to conduct the study in two parts, which may or may not run in parallel,

Part (i) may incorporate a three-step approach, involving the use of an appropriate instrument (Ref. Table 1.) to determine if resilience is present in the first instance. Because some studies (Luthar, 1993; Friborg, 2003) have indicated a correlation between social intelligence, personality and resilience there may be a need to assess personality traits in accordance with e.g. the Big Five factor model approach and to assess social intelligence using e.g. TSIS (Silvera et al., 2001) or an alternative social intelligence instrument and then to cross validate the data and control for social intelligence and personality traits.

Part (ii) data collection will be via a customised questionnaire and/or interview, designed specifically to test the hypotheses and extent of the correlation between resilience and failure.

Table 3. below, outlines a set of adult resilience scales of varying popularity, applicability and validity. In a recent study by Windle et al. (2011) which methodologically reviewed 15 resilience scales they found that the Connor-Davidson (CD-RISK), the resilience scale for adults (RSA) and the Brief Resilience Scale (BRS) provided the highest ratings.

A review by Wagnild (2009) of 12 studies that utilised the Resilience Scale (Wagnild and Young, 1993) reported Cronbach's alpha coefficients ranging from 0.85 to 0.94 in 11 of the 12 studies (the lowest reported score was 0.72) demonstrating high internal consistency and robustness for the scale.

Table 3. Description of Resilience Measures (adapted from Windle et al., 2011)

Scale	Author(s)	Target Pop.	Mode of Completion	Factors Measured	Comments
The Dispositional Resilience Scale(1,2&3)	Bartone et al. 1989,1991 & 2007.	Adults	Self report	Originally designed to measure psychological hardiness.	Derives from the literature on hardiness, confused with other constructs and often proposed as a measure of psychological resilience.
The Connor-Davidson Resilience Scale(CD-RISC)	Connor & Davidson (2003)	Adults	Self report	Has it's origins in clinical practice, popular measure in the context of stress coping ability.	Perspective is that resilience is a personal quality or characteristic. Widely used in medicine.
The Resilience Scale for Adults (RSA)	Friborg et al. (2003, 2005)	Adults & young adults	Self report	Interpersonal and intrapersonal factors, personal strength, social competence, family cohesion.	Focuses on the key features of resilient people, multi-level nature of the questionnaire is consistent with resilience as a dynamic process.
The Brief Resilience Scale	Smith et al. (2008)	Adults	Self report	Ability to recover from stress.	Developed with a particular focus on stress and the ability to "bounce back".
The Resilience Scale (RS)	Wagnild & Young (1993)	Adults	Self report	Degree of individual resilience	Individual level measure, developed in qualitative research and has been widely used.
Psychological Resilience	Windle, Markland & Woods (2008)	Older adults		Personal competence, self esteem and interpersonal control.	Contains items from established scales with strong empirical backing and consequently provides a good basis for generalisation.
Ego Resiliency	Kichinen (1996)	Adults	Self report	Confident optimism, productive and autonomous activity, interpersonal warmth and insight, skilled expressiveness.	Based on a previous measure(Block and Block 1993) with items drawn from the California Psychological Inventory (Gough 1987)
The Brief Resilient Coping Scale	Sinclair & Wallston (2004)	Adults	Self report	Optimism, helplessness, self-efficacy	Clinical base, very brief, possible use in identifying at risk individuals to situate interventions.
Resilience at Work Scale (RAW)	McEwen & Windwood (2011)	Adults	Self report	Living authentically, finding your calling, maintaining perspective, managing stress, interacting cooperatively, staying healthy, building networks.	Compares performance to adult Australian population, new, untested, currently being investigated further.

Research Methodology.

It can be said for the present social phenomena or construct under investigation that it is objective in nature (resilience is both theory-driven and a measureable construct) and that the environment exists independent of the researcher, suggesting that the research question, in principle pertains to a positivist, critical realist, quantitative methodological approach with the associated empirical methodology. As with most quantitative research the assumptions and prescriptions of the proposed hypothetical, deductive approach are well established and provide clear direction as to how they translate into research design and the specific methods employed for both measurement and data analysis. The post-positivist functionalist paradigm, which underlies the proposed quantitative mode of inquiry has particular appeal on the basis of two primary assumptions, i.e. that social reality has an objective ontological structure and that individuals respond and react to their respective environments. Given the nature of the proposed study (resilience is a well established, definable construct with a measurement track record in the Literature) the quantitative research approach, being deductive and particularistic whilst employing empirical measurement and statistical analysis is considered to be an appropriate methodological choice in order to measure and scientifically explain the phenomena under study.

The researcher has clearly and precisely specified both the independent and dependent variables under study with an up-front and clear definition of what is being sought and the phenomena under study occurs in a clearly defined, cross cultural sample with varying gender, ages and geographies and across different industries. Having tested for levels of resilience the researcher will (by means of a survey/questionnaire/interview) test to see if 'episodes' of failure were related to or caused by lack of resilience and further determine the role resilience (or related constructs) played in the success/failure

outcome. The participants will be provided with the resilience test measure via the web, each participant will complete them individually and they will be returned electronically. It is intended to provide individual access to the survey instruments by issuing a valid participant code which will be one of a number of codes (a set equivalent to the number of participants in the sample) and which will not uniquely identify the individual. The researcher will only be able to identify the individual as a participant in the group, there will be no connection made between the individual's contribution and the access code used thereby ensuring anonymity for the participant. It is intended to use SPSS statistical analysis software for the quantitative element and Nvivo analysis software for the qualitative element.

The researcher will ensure that all research undertaken complies with the *Research Ethics Code of the Waterford Institute of Technology*.

Conclusion

We understand the construct of resilience to be a multidimensional one, the practical reality however, is that managers and their firms vary enormously, their behaviour and the environment they operate in and react to are equally diverse. It is therefore insufficient for researchers to focus solely on the attributes for success or on some 'typical' manager profile particularly against the backdrop of rapidly changing labour market conditions and associated work environments where it is apparent that many managers are not coping effectively with these changes resulting in increasing absenteeism rates, employment compensation claims, mental health and psychosocial problems, all of which are manifesting in decreasing effectiveness and productivity. In contrast we can see from the extensive body of resilience research that skills, attitudes, strategies and one's life long self-concept evolve and strengthen with experience (Borgen

and Butterfield, 2006) strongly underpinning the notion that resilience is a relevant construct for both organisational theory and practice and that it is inextricably linked with success and furthermore, can offer tangible potential as a unifying theme in the context of management development. Resilience also offers a relatively new and interesting paradigm and appears to provide a common thread, which runs through all processes that derive from many of the most dominant conventional management theories.

This paper recognises, that whilst there is an extensive body of research on resilience in the clinical and developmental fields it has not, hitherto been explicitly integrated into management theory or in everyday practice. It follows that efforts to determine the role of resilience in failure/success outcomes will not only challenge or extend existing theories but will be of particular practical importance to the wider business community. Furthermore because this study transcends age, gender, geography, culture and industry type it should provide a basis for global applicability. To this end a mixed methods approach has been selected in order to provide the widest possible generalisability throughout what is considered a homogeneous population of practicing managers.

Given that workplace resilience research is still a relatively unexplored territory among academics and management practitioners alike the findings of the proposed research will also be of considerable practical use in both the selection and development of managers. Furthermore, by exploring the possibility of resilience-based interventions it should also provide opportunity for further management practice development across a broad range of disciplines, enterprises and cultures throughout the world.

In summary, the proposed study is considered to be relevant, researchable and an issue of significance and given the recurrent and enduring nature of success/failure themes and the developmental implications for managers and management practice, there is considerable merit in gaining a better understanding of why people fail and the role resilience plays in such failure.

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Research Design and Methodology

Paper 2.

‘An investigation into the role resilience plays in the performance of managers’.

Frank McCarthy, DBA student, School of Business, Waterford Institute of Technology.

Abstract

This study employs an explanatory sequential design with both quantitative and qualitative data collection tools to examine the relationship between resilience and job performance within a cohort of thirty (30) managers across various enterprises, geographies and cultures. As the chosen sample population consists of practicing managers operating at various levels this study will provide an “in context” view of the role resilience may play with respect to individual manager performance whilst advancing a relatively new paradigm to encompass the processes that derive from many of the most dominant conventional management theories. Given resilience is only now emerging in the organisational behaviour literature this study has adopted a cross-disciplinary perspective and draws from the established theory building and empirical findings in clinical and developmental psychology. Data collection consists of the completion of an individual resilience assessment measure together with a survey questionnaire using the Critical Incident Technique, both instruments will be administered via a web-based medium. This study assumes resilience to be a multi-dimensional construct, where individual skills, attitudes, strategies and one’s life long self-concept evolve and strengthen with experience. Resilience acquisition therefore, is understood to be a process rather than as an individual trait, which can be assessed developed and leveraged for further manager performance improvement.

Keywords: Resilience, manager, critical incident, performance.

Introduction

To date the study of resilience in many settings outside of organisational, occupational and industry community contexts has demonstrated the clear and highly significant link between resilience and individual ability to attain positive outcomes in the face of trauma or human adversity. The extensively researched and well established construct of life resilience has received considerable attention during the past thirty years from Garmezy's pioneering work (1982) through to Masten's (1989) and Werner and Smith's (1992) major theoretical studies of children, to the developmental framework research by Luther (1990, 2000) and more recently work by Coleman and Hagell (2007). Largely conducted within the discipline of Psychology much of the research to date has focused primarily on the study of children and adolescents and whilst there has been a more recent focus on the study of adult resilience this usually concerns those who have suffered some particular life adversity or trauma and have come through positively. However, very little research has been completed on the link between resilience and individual manager performance in a traditional workplace setting. Indeed it is only relatively recently that the concept of workplace related 'resilience' has entered the popular press, various management journals and periodicals including the widely respected Harvard Business Review, where the April, 2011 edition was entirely dedicated to the topic. It appears therefore that resilience is fast becoming one of the new buzzwords across all levels of leadager³ roles. There is however, a dearth of empirical or formal academic work to support much of the analysis being put forward or indeed many of the statements currently being made in the press and it appears therefore that work related resilience

³ "Leadager" is a term created by the author, suggested in part by the work of Peter Drucker, "one does not 'manage' people, the task is to lead people and the goal is to make productive the specific strengths and knowledge of every individual". This term combines the titles of Manager and Leader to form a new reference.

remains largely in the domain of the popular management media. Tusaie and Dyer (2004) argue that “the fields of study related to psychology and physiology are simultaneously pushed apart by academic politics and drawn together by common elements of the human experience” (p.5). It is a variation on this theme i.e. the separation of the disciplines which provides what is believed to be a significant and timely opportunity for the proposed academic research, which not only attempts to formally introduce the construct into management science research but also seeks to question some of the assumptions underlying conventional management theory.

In contrast there is an extensive body of research conducted within various organisations (workplace settings) demonstrating that managers (in particular middle managers) benefit significantly from coaching, resulting in increased effectiveness and productivity. The same research has shown empirically that middle managers benefit more than executive managers and those managers with higher levels of ‘on the job’ experience irrespective of their level within the organisation (Bowles et al., 2006, cited in Adey and Jones, 2006). It is the developmental nature of the construct and the potential for a new application together with the career experience of the researcher which are the primary motivators for this study. A central theme will be the question of why the failure to overcome such challenges becomes repetitive for some managers despite having demonstrated great personal effort and commitment and this study will examine what could be characterised as the ‘cycle of failure’ or ‘spiral failure’ encountered by some managers. This research project therefore, will explore how managers, seemingly with all the ‘right’ attributes, experience, interpret and deal with critical incidents within the context of their cumulative management and leadership experience. The study will also examine the role resilience may play in their ability to successfully manage and learn from such incidents and how this may affect the resilience acquisition process.

Clearly no single overarching theory is sufficient to encompass the multiple independent variables required to be considered or which may be at play generally within success/failure themes. When we consider however, that many developmental processes (resilience is assumed to be a dynamic construct, see Rutter, 1987; Kumpfer, 1999) operate in similar ways across the disciplines and that the theory bases are not unique to the particular field of study, it is deemed unnecessary to derive additional theories for the purposes of further research, rather the researcher is seeking to expand the extant developmental theories to include the specific circumstances and context under study. This will be achieved by means of an explanatory sequential mixed methods design where quantitative methods will be employed to determine participant resilience levels whilst qualitative methods will be used to determine the extent of the association (if any) with particular and discrete episodes or experiences (critical incidents) sustained in the course of each participants career.

This study will seek to apply extant theory in an attempt to answer what are considered to be interesting and novel questions within the framework of a well-known thematic scheme and against the backdrop of few, if any prior studies examining the relationship between psychological resilience and individual manager performance. These research aims will be achieved by examining the relationship between resilience and particular critical incidents across various enterprises, geographies and cultures in an effort to bridge the theory-practice divide and in doing so, prior empirical work will be extended in at least two ways. Firstly, as the chosen sample population consists of practicing managers it is anticipated that this study will provide an 'in context' view of the role resilience may play with respect to individual manager performance. Secondly, the study advances a relatively new paradigm to encompass the processes that derive from many of the most dominant conventional management theories in a field that is a relatively new

one for the study and application of resilience and which has not, hitherto been explicitly integrated into management theory or in everyday practice.

Statement of Problem.

There is extensive literature covering what makes a good leader or manager, the requisite personal attributes or traits and the most appropriate and effective contextual leadership styles. It follows therefore that the conventional research focus from Henry Mintzberg's studies in the early 80's through to the more recent work of Peter Drucker has been on the common traits or the required behaviours which when adopted could help managers to become successful in their leadership roles. In contrast to a 'what makes success' approach this study will take an alternative perspective to the conventional research focus which largely supports the so called 'common sense' view that management failure results primarily from patterns of ineffective leadership practices, poor judgement and unsuccessful leadership habits (Finkelstein, 2005). Similarly, research by Livingstone (2010) claims that the reasons why so many so called well educated people with outstanding academic records fail is that they are not taught the crucially important people management skills coupled with the fact that many fail to learn from their own experiences on the job. Studies by McCartney and Constance (2005) questioned why some high potential employees suffer derailment (early success but failing later in their careers) while other individuals with similar skills continue to develop and achieve success.

The results of the studies indicated that there is no *single* combination of management and leadership skills related to individual success with a recommendation that developmental activities should be on-going regardless of the individual's level in the organisation. Perhaps most significantly their findings are similar to those of many other

studies which broadly attribute the causes of failure to deficiencies in leadership, judgement, knowledge, technical ability and learning capacity and whilst such skills are universally identified as important prerequisites for success there is no general acknowledgement that such attributes are to be found in *both* successful and unsuccessful managers alike. It is suggested therefore that the conventional research focus on a 'common' or 'typical' manager profile is no longer valid and this is particularly evident when we consider the current backdrop of rapidly changing labour market conditions and associated work environments.

Purpose of Study.

The purpose of this explanatory sequential mixed methods study will be to determine the current level of resilience of a cohort of circa thirty (30) managers. All participants will then complete a Critical Incident Technique (CIT) survey questionnaire. The data collected from each study will be compared and contrasted to determine if individual levels of manager resilience are associated with job performance and the extent and nature of the relationship. In the first, quantitative phase, participants will be tested for resilience levels using the Resilience Scale for Adults (Friborg et al., 2003; 2005). In the second, qualitative phase, each of the participants will complete the CIT survey questionnaire, the results of which will be content analysed and then used to interpret, contextualise and explain the results from the first phase.

The hypotheses of this study are:

H1: *A managers' performance is positively related to resilience levels.*

H2: *A managers' resilience level plays a significant role in performance.*

H3: *Positive management of critical incidents increases resilience.*

H4: *Higher levels of resilience results in increased performance.*

Research Questions.

For the first, quantitative phase of this study the research questions are:

1. What are the levels of resilience within the sample?
2. Do resilience levels vary across cultures, gender, age, experience, geographies and industries?
3. Are resilience levels related to position?

For the second, qualitative phase of this study the research questions are:

1. How does a participants' level of resilience relate to job performance?
2. How does a participants' management of critical incidents relate to increased resilience?
3. How can the statistical results obtained in the quantitative phase be explained?

Note: There may be additional research questions for phase 2, arising from the results of phase 1.

Definition of Resilience.

The traditional meaning of the term psychological resilience refers to the capacity for successful adaptation despite challenging or threatening circumstances and the development of competence under conditions of pervasive and/or severe adversity (Masten, et al, 1990). Oscar Chapital (2011) provides a more contemporary definition “resilience is an individual's ability to generate biological, psychological and social factors to resist, adapt and strengthen itself, when faced with an environment of risk, generating individual, social and moral success”. In a workplace context, resilience is defined as the positive psychological capacity to ‘bounce back’ from uncertainty, conflict, failure, or even positive change, progress and increased responsibility (Luthans, 2002).

As a concept it has been researched extensively in recent years at the individual, group and organisational levels with much of the literature discussing resilience as a state, often as a condition and to some extent as a practice. The terms used include, mental health promotion, emotional intelligence, social-emotional competence and emotional literacy. Ungar (2004) argues that the standard terms used are not standard at all in that they do not adequately account for cultural and contextual differences in how people in other systems express resilience. Resilience in general however, is most commonly understood as a process rather than a trait of the individual which according to Masten (2009) is more appropriately termed 'resiliency' i.e. ego resiliency being a personality characteristic of the individual which does not presuppose exposure to substantial adversity whereas resilience by definition does (Wilkinson et al., cited in Ungar, 2002). It is this experience of 'adversity' and the subsequent process of resilience building, which separates the concept of resilience from the personality trait of ego-resiliency. There is also some evidence that the concept of resilience has biological validity, in a study by Charney (2004) resilience was found to be associated with particular hormones (including testosterone). Gervai et al. (2005) conducted some further studies showing a possible genetic correlation between a specific dopamine gene and decreased levels of resilience. Some researchers have even gone so far as to suggest that both resilience and resiliency are meta-theories, which provide an umbrella for most psychological and educational theories (Richardson, 2002).

Resilience and Career Self-Reliance.

The sum of a person's learning affects their world view and how they approach career choice and management (Krumboltz, 2002) and this dynamic relationship between person and environment is consistent with resilience theory with clear links between the goals of constructivist approaches and the protective factors found in the research on

resilience. Today the trend in career self-management is well established and widely accepted in management practice. There has been a paradigm shift from the paternalistic work relationship towards a more independent self-employed approach commonly referred to as 'career self-reliance'. London (1983) defined career motivation as a multi-dimensional construct consisting of three domains, career resilience, career insight and career identity with the former being linked to the personality traits of hardiness, self-efficacy and achievement motivation. Collard et al. (1996, p. 17) contends that individuals who are career resilient have "an attitude that is focused and flexible and deliver solid performance in support of organisational goals for as long as they are part of the organisation". Resilience as a construct has also begun to be considered in a group context with the term 'Career Resilient Workforce' coined by Waterman et al. (1994).

Waterman, Waterman and Collard have written extensively about the 'Career Resilient Workforce' (1994) with an emphasis on constant change and continuous learning whilst DeFillipi and Arthur (1994) concluded that "cumulative career competencies are embodied in people's beliefs and identities, skills, knowledge, network of relationships and contacts"(p.324).

There are however some issues posed by the apparent widespread connection evident from the Literature (Herriot, 1992; Waterman et al., 1994; Collard, 1996) between career success and job success. Much of the research referred to previously utilises the term career self-reliance as a blanket description, referring both to career and job success as one and the same. Researchers are also somewhat divided on the notion that conventional career management practice has a strong correlation between career management and job performance (London et al., 1987) with later studies by Noe (1996) casting significant doubt on the strength of any links.

Whilst the question around career management ability and the link (if there is one) with job performance remains confused and unanswered in the Literature it is clear for this researcher that the activity of managing one's career and the ability to perform in a specific role are two distinct skills and will be treated separately as two different constructs in the context of the proposed study.

Resilience and Resiliency.

Early resilience research focussed on the identification of resilience qualities, skills and attributes indicating strong associations with the levels of social and family support, networking and connectedness, spirituality and locus of control. The more recent research focus has moved to the question of *how* such qualities may be acquired with the development of a number of resilience acquisition models (Flach, 1989; Richardson, 2002). It is generally accepted that resilient qualities are attained through a process of disruption and reintegration, beginning when a person has adapted to his/her particular situation in life. Studies by Tugade et al. (2004) have confirmed the association between resilience and positive emotions whilst Werner (2001) contends that those exhibiting high resilience usually have a positive social orientation. What is also clear from previous research is the strong positive correlation between social capital and resilience, Buzzanell (2010) confirms this in her statement "the process of building and utilising social capital is essential to resilience"(p.2). There is some research by Fisk and Dionisi (2002) confirming the link between resilience and workplace related attitudes and behaviours with active individual choice and self-organisation being considered critical to the resilience acquisition process. What is apparent from the more recent literature however, is that resilience research is now being employed across the disciplines to explain how we can motivate people and increase their ability to grow through adversity or challenge.

Apart from the widespread imprecision in terminology and the somewhat ambitious claims (particularly in the popular management media) regarding relevance and impact there have also been questions about the constructs validity. In 2007 Luthar expressed the view that research in this field would remain constrained without continued scientific attention to some of the serious conceptual and methodological pitfalls that have been noted by proponents and sceptics alike. Indeed, some researchers have asserted that overall the construct of resilience is of dubious scientific value (see e.g. Kaplan, 1999).

According to Buzzanell (2010) we should consider resilience in terms of the processes of crafting normalcy, affirming identity anchors, maintaining and using communication networks, putting alternative logic to work and legitimising negative feelings. These are not new processes, indeed some are either the same or similar to those identified in previous non-workplace related studies (e.g. Garmezy; Luthar et al.). Recent studies by Friberg et al. (2005) provide further confirmation of a clear link between resilience, personality and social intelligence and the somewhat lesser, tenuous relation with cognitive abilities. There is also some research suggesting that personality and social intelligence are related to resilience either as lower order factors and/or as mediators.

Definition of Manager.

This study will select a cohort of 30 managers from the top and middle management levels. Top-level managers usually include the board of directors, chief executive officer, president, vice-president and director level positions. This organisational level is normally responsible for strategic planning, company policies, formulating and developing goals and for controlling and overseeing the direction of the business. Middle-level managers represent the middle band of the management pyramid and include branch, department and functional managers, accountable to top management they are more directly responsible for organisational and directional functions. A middle level

manager role can be characterised as executing organisational plans in line with stated company policies and the objectives of the top management.

Research Philosophy.

Together with the advantage of having a particular personal interest in the research topic the researcher considers the issue of theoretical and practical relevance to be of paramount importance with the ultimate objective of the study being to advance not just academia but also to bring benefits to the wider business community of practicing managers.

If we accept that all research is based on how the world is perceived and how we can best come to understand it then there can be no single 'best' method as to how this objective can be achieved. In terms of the quantitative element of the study however, there are two particularly relevant philosophical schools of thought, Positivism and Post-Positivism, which the researcher believes can provide especially relevant contextual perspectives. The positivist paradigm can be traced back to the philosophical ideas of August Comte who emphasised the experiential route through observation and reason as a means of gaining true knowledge and understanding. The assumptions contained within this scientific approach are those of determinism, empiricism, parsimony, and generalisability and given the researcher's primarily technical educational background there is an experientially acquired preference for and leaning toward the scientific method. Positivism, whilst the dominant philosophy in social research for many years, it is in its broadest sense, essentially a rejection of meta-physics, holding that the objective of knowledge is to describe phenomena that we experience through observation and measurement with knowledge of anything beyond being impossible. Positivism received major expression in the work of the mid-20th Century Behaviourists who advanced the

position that psychology could only study what could be directly observed and measured. Given that we cannot directly observe thoughts and emotions (apart from the physical and psychological expressions) the Positivist central theme has been that psychology should focus only on the re-inforcers of behaviour on the basis that individual thoughts could not be measured scientifically and therefore were not relevant. In a positivist view of the world, science was seen as the path to truth and understanding thereby allowing us to control and predict the world. This deterministic, cause and effect view would allow us discern the laws by which the world operated by applying the unique approach of the scientific method. Positivism embodies empiricism with the belief that observation and measurement should be at the core of scientific endeavour.

In recent years however, there has been a shift away from positivism to what is now termed post-positivism, the latter being a significant departure from the central tenets of positivism. What the researcher finds particularly relevant is the post-positivists recognition that scientists think and work in very much the same way we do in everyday life. No particular distinction is drawn between the process of scientific reasoning and common sense reasoning, apart from degree they are considered to be essentially the same process. Post-positivism advances the notion that there is a reality independent of our thinking (critical realism) that can be studied whilst recognising also that all observation is fallible and has error and that all theory is subject to revision and modification as new evidence is found. The post-positivist, critical realist believe that we cannot know reality with certainty but rather must continuously seek to get closer to 'reality' by means of multiple measures and observations and cross validation of such error laden measures through triangulation. The post-positivists also claim that because all observations are theory-laden and that researchers are inherently experientially and culturally biased there must be a rejection of the relativist idea of paradigmatic

incommensurability. A post-positivist reality therefore, is an imperfect one, personally constructed which cannot be totally objective but rather is a continuous attempt to reconcile multiple fallible perspectives. Objectivity is viewed, not as an individual characteristic but rather as an inherently social phenomenon, which can be approached through rigorous scientific scrutiny, where the theories that survive such intense scrutiny have inherent adaptive value and can bring us a clearer understanding of reality.

Positivism regards human behaviour as passive, which is controlled and determined by the external environment whilst ignoring the individual view and the resultant, inherently subjective interpretation of social reality. Some critics of this paradigm have suggested that objectivity should be replaced by subjectivity in the process of scientific inquiry giving rise to the term anti-positivism or naturalistic inquiry. Furthermore, anti-positivism emphasises the multi-layered and complex nature of social reality and that it is viewed and interpreted by the individual according to their particular ideological position, with knowledge being personally experienced rather than by outside acquisition. In further contrast to the positivistic, deterministic view, anti-positivists are more concerned with exploring the dimensions of a particular phenomenon rather than establishing the interrelation among the various constructs. The two paradigms presented here are concerned with two concepts of social reality. While positivism stands for objectivity, measurability, predictability, controllability and constructs laws and rules of human behaviour, anti-positivism essentially emphasises understanding and interpretation of phenomena and making meaning out of this process.

Conceptual Framework

This study utilises a process-oriented framework the primary purpose of which is to conceptualise the hypothesised role resilience plays in the performance of managers and

to explicate the process by which resilience can be acquired within an organisational setting.

Figure 1 presents the specific conceptual framework developed for the purposes of this study.

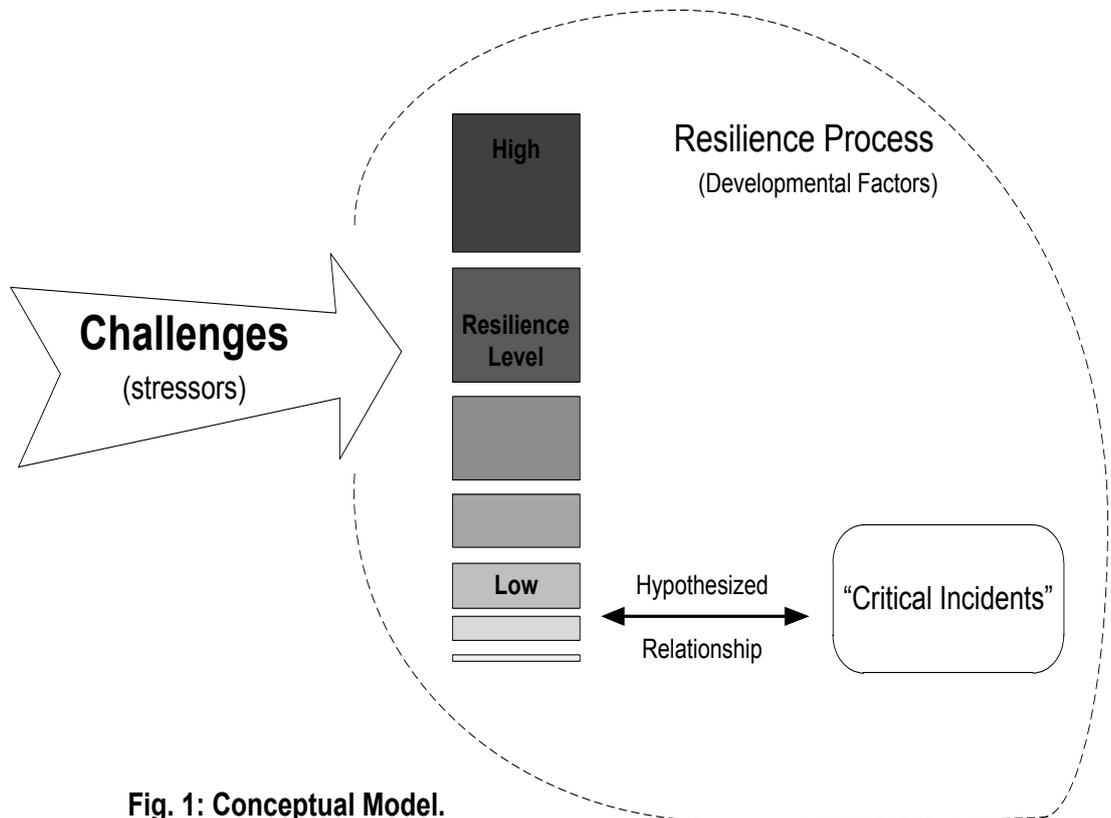


Fig. 1: Conceptual Model.

This study utilises a process-oriented framework the primary purpose of which is to conceptualise the hypothesised causal role resilience plays in the performance of managers. The circular nature of the process being postulated is one where managers are subject to on-going challenges at certain points their careers, they either overcome such challenges (critical incidents) by demonstrating resilient behaviour and become more resilient as a consequence thereby allowing them to perform better or alternatively they perform poorly i.e. they do not manage their particular Critical Incident successfully which in turn may mean they fail to build or acquire resilience resulting in a ‘cycle’ or ‘repeated’ pattern of lower performance.

Delimitations.

The delimitations of the study include:

1. The study will provide the participants perspective only, which is inherently confined to their personal experiences (critical incident).
2. This study is delimited to (a) mid and top level managers, (b) both genders, (c) various industries, (d) cross cultural and (e) multiple geographies.
3. The study will be delimited to the investigation of resilience in a workplace setting.
4. Resilience will be measured using the Resilience Scale for Adults (Friborg et al., 2005).
5. Critical Incidents will be analysed using a survey questionnaire designed specifically for the purpose.
6. The results of the study will be generalisable to mid and top level managers of (a) both genders, (b) various industries, (d) cross cultural and (e) multiple geographies.

Limitations.

Limitations of the study include:

1. Given the nature of the technique employed (CIT) the second phase of the study may be open to different interpretations by others.
2. Because a purposive sample type will be used in the quantitative phase of the study, the researcher cannot say with confidence the sample will be representative of the population (Creswell, 2002).
3. Given the interpretative nature of qualitative research the study may be subject to researcher bias.

4. Although all participants are anonymous there may be potential for bias in the interpretation of the qualitative results as the researcher is currently employed by the same company as some of the participants and knows personally a larger number of the potential participants. The researcher however, is confident that this study does not constitute research “in one’s own backyard” (Creswell, 1998).

Significance of the Study.

As resilience is a measurable construct with an established track record in the Literature this study does not contemplate deriving additional theories but rather seeks to expand the extant well-established developmental theories to include the specific circumstances and context under study. When we consider therefore, the extensive body of research in this area and the existence of a widely established theoretical base (albeit largely outside of management science) it follows that efforts to determine the impact of resilience on job performance outcomes will not only challenge or extend existing theories but will be of particular importance to the wider business community of practicing managers. In addition, because this study transcends age, gender, geography, culture and industry type it should provide a reliable basis for global applicability. To this end an explanatory sequential mixed method approach has been selected in order to provide the widest possible generalisability throughout what is considered a homogeneous population of practicing managers.

Specifically, the proposed research will allow us to;

1. Determine the extent of the role resilience plays in job performance.
2. Indicate the requirement for managers to build resilience in order to improve performance.
3. Determine if successful management of critical incidents assists in the resilience building process.

4. Identify and situate levels of intervention.
5. Assist in the selection and development of managers.

We understand the construct of resilience to be a multidimensional one, the practical reality however, is that managers and their firms vary enormously, their behaviour and the environment they operate in and react to are equally diverse. It is therefore insufficient for researchers to focus solely on the attributes for success or on some 'typical' manager profile particularly against the backdrop of rapidly changing labour market conditions and associated work environments where it is apparent that many managers are not coping effectively with these changes resulting in increasing absenteeism rates, employment compensation claims, mental health and psychosocial problems, all of which are manifesting in decreasing effectiveness and productivity. In contrast we can see from the extensive body of resilience research that skills, attitudes, strategies and one's life long self-concept evolve and strengthen with experience (Borgen and Butterfield, 2006) strongly underpinning the notion that resilience is a relevant construct for both organisational theory and practice and that it is inextricably linked with success and furthermore, can offer tangible potential as a unifying theme in the context of management development. Resilience also offers a relatively new and interesting paradigm and appears to provide a common thread, which runs through all processes that derive from many of the most dominant conventional management theories.

This researcher recognises, that whilst there is an extensive body of research on resilience in the clinical and developmental fields it has not, hitherto been explicitly integrated into management theory or in everyday practice. Given that workplace resilience research is still a relatively unexplored territory among academics and management practitioners

alike the findings of the proposed research will also be of considerable practical use in both the selection and development of managers. Furthermore, by exploring the possibility of resilience-based interventions it should also provide opportunity for further management practice development across a broad range of disciplines, enterprises and cultures throughout the world.

In summary, the proposed study is considered to be relevant, researchable and an issue of significance and given the recurrent and enduring nature of performance improvement themes and the developmental implications for managers and management practice, there is considerable merit in gaining a better understanding of both the resilience acquisition process and the role resilience may play in job performance.

Methodology.

Research Design.

According to Creswell (2003) researchers in a mixed methods approach build knowledge on pragmatic grounds. A major tenet of pragmatism is that quantitative and qualitative methods are compatible where researchers choose variables and units of analysis which are most appropriate to finding an answer to their research question (Tashakkori and Teddlie, 1998). It follows therefore that numerical and text data whether collected sequentially or concurrently can assist in gaining a greater understanding of the research problem. Creswell et al. (2003) suggest three primary considerations when designing a mixed methods study, priority, implementation and integration. Priority refers to the emphasis placed on either the quantitative or qualitative method, implementation concerns whether the quantitative and qualitative data collection and analysis comes in sequence and whether or not they are in parallel or concurrently and finally integration

refers to the phase where the mixing or connecting of quantitative and qualitative data occurs. It can be said for the present social phenomena or construct under investigation in phase 1 that it is objective in nature (resilience is both theory-driven and a measurable construct) and that the environment exists independent of the researcher, suggesting that the phase 1 research question, in principle pertains to a positivist, critical realist, quantitative methodological approach with the associated empirical methodology. As with most quantitative research the assumptions and prescriptions of the proposed hypothetical, deductive approach are well established and provide clear direction as to how they translate into research design and the specific methods employed for both measurement and data analysis. The post-positivist, functionalist paradigm which underlies the proposed quantitative mode of inquiry has particular appeal on the basis of two primary assumptions, i.e. that social reality has an objective ontological structure and that individuals respond and react to their respective environments. Given the nature of the proposed study (resilience is a well established, definable construct with a measurement track record in the Literature) the quantitative research approach, being deductive and particularistic whilst employing empirical measurement and statistical analysis is considered to be an appropriate methodological choice in order to measure and as a first step, to scientifically explain the phenomena under study. Having tested for levels of resilience in phase 1 the researcher as part of phase 2 will be using Critical Incident Techniques (CIT) to determine if the participants' management of a specific 'episode' or 'critical incident' (successfully or otherwise) is related to or caused by lack of resilience and in turn how participant resilience levels affect job performance.

It is intended therefore to use an explanatory sequential mixed methods design (Creswell, 2003) which will consist of the two phases referred to previously, firstly the quantitative data will be collected via the online completion of an appropriate resilience measure.

In the second phase data will be collected using the Critical Incident Techniques by means of a web based survey questionnaire. Data from the second phase will be used to help explain why particular results obtained in the first phase may be significant predictors of job performance. The rationale for this approach is that the quantitative data and results obtained in phase 1 provide a general picture of the research issue, i. e., what levels of resilience exist within the cohort and how they may vary according to gender, culture, age, etc. whilst the analysis of the qualitative data obtained in phase 2 will be used to try to explain those statistical results by exploring participants' views in more depth via CIT.

Because the qualitative phase represents the larger portion of data collection and analysis of the study it is intended to give this element priority with the smaller quantitative phase (resilience test) to be conducted first.

It is important to note that the results from phase 1 may have an impact on the design of the survey questionnaire to be used in phase 2, this may mean that integration will take place at such time should this be the case, if not then integration will occur later during the interpretation/meta-inference stage.

Quantitative Phase.

Subjects.

Participants will be a minimum of thirty (30) currently employed mid and top level managers, both male and female of varying ages and working within different geographies, cultures and industries. Prospective participants will be identified on the basis that they meet the criteria for inclusion as specified in section entitled "Definition of Manager". Given previous research indicates that girls are more resilient than boys (Werner and Smith, 1992) there is a possibility that random selection of gender

proportions within the study may skew the outcome thereby reducing the generalisability of the research. It may be necessary to determine the proportion of male to female mid and top managers generally in the population and to ensure such proportions are accommodated in the study design.

Type of sample.

The proposed study contemplates a purposive sample type, intentionally selecting individuals to learn to understand the phenomenon (Miles and Huberman, 1994) within the context of a predefined group i.e. mid and top level managers in their leadership roles (Leadagers). Initial assessments will be undertaken to ensure that each prospective participant is selected non-randomly according to specific characteristics and therefore meets the criteria for inclusion as a mid or top level manager within the study's definition of the term. Within the qualitative phase the data collection process usually continues until no new information is being discovered. It is not yet certain whether all the participants in phase 1 will be surveyed in phase 2, it is suggested that following analysis of phase 1 data a decision will be taken based on whether or not there are any gaps in the information which may indicate a requirement for further enquiry, this being the case then further samples will be surveyed accordingly. It is proposed to begin with a sample size of 10 with additional samples of 5 until the data yields no new information. The sample will be drawn from large multi-nationals and smaller mid-sized companies with a view to encompassing the different dynamics for managers operating within both large and smaller organisations.

Procedure

The participants will be provided with the instrument materials via the web, each participant will complete them individually and anonymously following which they will

be returned electronically. It is intended to provide individual access to the survey instruments by issuing a valid participant code which will be one of a number of codes (a set equivalent to the number of participants in the sample) and which will not uniquely identify the individual. The researcher will only be able to identify the individual as one of a number of participants in the group, there will be no connection made between the individual's contribution and the access code used thereby ensuring anonymity for the participant. The same participant access code will be used in the qualitative and quantitative elements in order to ensure data matching from both phases.

Data Collection.

Table 1. below, outlines a set of adult resilience scales of varying popularity, applicability and validity. In a recent study by Windle et al. (2011) which methodologically reviewed 15 resilience scales they found that the Connor-Davidson (CD-RISK), the resilience scale for adults (RSA) and the Brief Resilience Scale (BRS) provided the highest ratings. A review by Wagnild (2009) of 12 studies that utilised the Resilience Scale (Wagnild and Young, 1993) reported Cronbach's alpha coefficients ranging from 0.85 to 0.94 in 11 of the 12 studies (the lowest reported score was 0.72) demonstrating high internal consistency and robustness for the scale.

The first, quantitative phase of the study is concerned with measuring levels of resilience using the Resilience Scale for Adults (RSA), Friberg et al. (2003; 2005) which is suitable for use with adults and young adults, it is a self-report survey with particular emphasis on interpersonal and intrapersonal factors, personal strength, social competence and family cohesion. This instrument was chosen because it has been used successfully in a workplace context and in particular because it focuses on the key features of resilient

people whilst the multi-level nature of the questionnaire is consistent with resilience as a dynamic process.

The data will be collected at a point in time, automatically stored in a database which will be accessible via the web through a specific URL, informed consent will be sought before permitting access to the questionnaire. Given the track record of the chosen instrument it is considered unnecessary to pilot test this phase of the study. In order to improve response rates (which are typically low for web-based surveys) the researcher will according to Dillman (2000) employ a three phase follow up sequence, apart from the initial solicitation this involves sending reminders usually within five days following distribution of the access URL, if necessary a second e-mail ten days later and again if necessary a third e-mail fifteen days later reiterating the prior agreement to participate and the importance of their input.

Data Analysis.

It is intended to use SPSS (version 19 or later) to perform the statistical analyses of the quantitative results and Nvivo for the analysis of the qualitative data.

Reliability and Validity.

Reliability refers to the accuracy and precision of a measurement procedure and is usually expressed by the Pearson 'r' coefficient, whilst validity refers to the degree to which a study accurately reflects or assesses the specific concept or construct that the researcher is attempting to measure (Thorndike, 1997). In a recent study by Windle, Bennett and Noyes (2011) which methodologically reviewed 15 resilience scales they found that the Connor-Davidson (CD-RISK), the resilience scale for adults (RSA) and the Brief Resilience Scale (BRS) provided the highest ratings.

Table 1. Description of Resilience Measures (adapted from Windle et al., 2011)

Scale	Author(s)	Target Pop.	Mode of Completion	Factors Measured	Comments
The Dispositional Resilience Scale(1,2&3)	Bartone et al. 1989,1991 & 2007.	Adults	Self report	Originally designed to measure psychological hardiness.	Derives from the literature on hardiness, confused with other constructs and often proposed as a measure of psychological resilience.
The Connor-Davidson Resilience Scale(CD-RISC)	Connor & Davidson (2003)	Adults	Self report	Has it's origins in clinical practice, popular measure in the context of stress coping ability.	Perspective is that resilience is a personal quality or characteristic. Widely used in medicine.
The Resilience Scale for Adults (RSA)	Friborg et al. (2003, 2005)	Adults & young adults	Self report	Interpersonal and intrapersonal factors, personal strength, social competence, family cohesion.	Focuses on the key features of resilient people, multi-level nature of the questionnaire is consistent with resilience as a dynamic process.
The Brief Resilience Scale	Smith et al. (2008)	Adults	Self report	Ability to recover from stress.	Developed with a particular focus on stress and the ability to "bounce back".
The Resilience Scale (RS)	Wagnild & Young (1993)	Adults	Self report	Degree of individual resilience	Individual level measure, developed in qualitative research and has been widely used.
Psychological Resilience	Windle, Markland & Woods (2008)	Older adults		Personal competence, self esteem and interpersonal control.	Contains items from established scales with strong empirical backing and consequently provides a good basis for generalisation.
Ego Resiliency	Kichinen (1996)	Adults	Self report	Confident optimism, productive and autonomous activity, interpersonal warmth and insight, skilled expressiveness.	Based on a previous measure(Block and Block 1993) with items drawn from the California Psychological Inventory (Gough 1987)
The Brief Resilient Coping Scale	Sinclair & Wallston (2004)	Adults	Self report	Optimism, helplessness, self-efficacy	Clinical base, very brief, possible use in identifying at risk individuals to situate interventions.
Resilience at Work Scale (RAW)	McEwen & Windwood (2011)	Adults	Self report	Living authentically, finding your calling, maintaining perspective, managing stress, interacting cooperatively, staying healthy, building networks.	Compares performance to adult Australian population, new, untested, currently being investigated further.

Reliability and Validity.

Reliability refers to the accuracy and precision of a measurement procedure and is usually expressed by the Pearson 'r' coefficient, whilst validity refers to the degree to which a study accurately reflects or assesses the specific concept or construct that the researcher is attempting to measure (Thorndike, 1997). In a recent study by Windle, Bennett and Noyes (2011) which methodologically reviewed 15 resilience scales they found that the Connor-Davidson (CD-RISK), the resilience scale for adults (RSA) and the Brief Resilience Scale (BRS) provided the highest ratings.

Qualitative Phase.

Overview of Critical Incident Technique.

A critical incident can be described as one that makes a significant positive or negative contribution to an activity or phenomenon (Grove and Fisk, 1997). The Critical Incident Technique (CIT) first introduced to the social sciences by Flanagan (1954) is a method which involves a set of procedures to collect, content analyse, and classify observations of human behaviour. Flanagan describes it as a set of procedures for collecting direct observations of human behaviour in such a way as to facilitate their potential usefulness in solving practical problems and developing broad psychological principles.

The critical incident technique outlines procedures for collecting observed incidents having special significance and meeting systematically defined criteria (Flanagan, 1954). Critical incidents are a useful approach to identifying performance improvement needs and their sources. They provide a rich, in-depth perspective of life in an organisation that is usually not apparent through more quantitative methods of data collection (Gremler, 2004). Since its introduction the CIT method has been used in a wide range of disciplines including management (Ellinger and Watkins, 1998) and can be used both quantitatively and qualitatively. According to Chell and Pittaway (1998) when used qualitatively it can

facilitate the investigation of significant occurrences (events, incidents, processes or issues) identified by the respondent, the way they are managed, and the outcomes in terms of perceived effects. When used qualitatively the CIT provides more discursive data which can be subjected to narrative analysis and be coded and categorised according to the principles of grounded theory. The objective in both cases is to gain understanding of the incident from the perspective of the individual, taking into account cognitive, affective and behavioural elements. There are a number of ways critical incidents can be gathered but in the social sciences a common approach is by means of a questionnaire where the respondent is asked to provide a detailed account of their own experience/s. These critical incidents are then analysed (usually by content analysis) according to the general aim of the study and then inductively developed into main and sub categories.

It is clear therefore that the literature provides widespread support for the view that CIT is a robust research method which has proven effectiveness across a wide range of disciplines including management. The clearly defined set of procedures are easy to apply and manage and CIT offers considerable potential for the proposed study particularly in the context of performance improvement and the process of resilience acquisition. The key advantages and disadvantages are summarised below together with the researchers' justification for selecting CIT as an appropriate data collection technique for the proposed study.

Advantages

Data collected using CIT is usually context rich and can provide first-hand perspectives on human activities and their significance. According to Ellinger and Watkins (1998) this focus on recalled and observed incidents brings an immediacy and authenticity whilst Chell (1998) maintains that this insight into real-life individual experiences assists the identification of broader patterns and understandings. CIT interviews also allow linkage

between context, strategy and outcomes (Chell, 1998) and according to Bitner et al. (1990) CIT is particularly useful when a thorough understanding is needed when describing or explaining a phenomenon. Whilst CIT is generally considered to be a qualitative method some researchers are finding useful compatibilities between CIT and other research methods such as case study or grounded theory (Chell, 1998). With respect to the present study CIT can provide concrete information for managers (Strauss, 1997) it can also provide relevant data for practical purposes of actioning improvements and highlighting the management implications (Chell and Pittaway, 1998) and is particularly well suited for use in assessing perceptions of people from different cultures (Stauss and Mang, 1999), in effect CIT is considered to be a culturally neutral method (Ruyter et al., 1995).

Disadvantages

Given the CIT method relies on respondents to accurately and honestly report the incident and that the particular incident may have occurred some time previously there may be issues with recall or bias or a danger the respondent may seek to reinterpret the incident differently. There is an inherent bias towards recent incidents given these are 'fresher' in the mind and therefore easier to recall. Chell (1998) has also identified issues around reliability and validity and some researchers (Chell, 1998; Kain, 2004) have claimed that CIT lacks the strong theoretical under-pining of other qualitative methods such as for example, participatory action research.

Rationale for CIT.

CIT offers a clearly defined, systematic and sequential research process (Hughes et al., 2007). Throughout the Literature CIT has been demonstrated to be a sound method with a proven track record within a wide range of qualitative research studies.

The relevance of CIT today is further reinforced by the fact that few changes to the method have been either suggested or made since its introduction by Flanagan more than fifty years ago.

CIT five-step process

The following is an outline of the five step process (adapted from Flanagan, 1954)

1. Establish the general aims.
2. Establish plans and specifications.
3. Collect the data.
4. Analyse the data.
5. Interpret and report the data.

Data Collection.

Selection of an appropriate critical incident is vital as it must be sufficiently important not only in relation to aspects of performance but also with respect to the impact it may or may not have on the resilience building process. The procedure involves participants being asked to identify specific incident/s which they have experienced personally and which have had an important effect on the final outcome of a particular situation with the emphasis being on the critical incident rather than on participant opinions. The second, qualitative phase in the study will focus on explaining the results of the tests conducted in the first, quantitative phase. It is anticipated that the CIT results following description and comparison, will serve the purpose of illuminating a particular issue (Creswell, 2002) such as the role resilience plays in job performance. The survey questionnaire will include between fifteen and twenty open ended questions and will be pilot tested on at least three managers selected from the target population, those selected will not participate in the study proper. The content of the questions will be grounded in the results of the

quantitative phase i.e. the levels of participant resilience and will focus on the resilience acquisition process in terms of critical incident management and the issue of a possible relationship between resilience and job performance.

Data Analysis.

CIT utilises an inductive data analysis process that aims to classify critical incidents and identify critical behaviours. Flanagan (1954) recommends these be arranged into a series of well-defined, mutually exclusive categories and sub-categories of decreasing generalisability and increasing specificity. Flanagan (1954) also considered this to be the most challenging aspect of the analysis phase as it depends on the “insight, experience and judgment” (p.327) of the researcher.

Advantages and Limitations of Explanatory Sequential Design.

Advantages include:

1. The sequential nature of the method means it is easily implemented by a sole researcher.
2. It is a particularly useful method for exploring quantitative results in more detail.
3. This design is especially useful when unexpected results arise from a quantitative study.

Limitations include:

1. There is usually more work, resources and time associated with this type of design.
2. Results from the quantitative phase may show no significant differences.

Ethical Considerations.

According to Lee and Renzetti (1990) ethics is integral to every aspect of management research, rather than as a consideration to be taken into account in the exception, such as when researching sensitive topics or using controversial methods such as covert

observation. Bell and Bryman (2007) also contend that an anthropologist's primary responsibility is to the people being studied whilst Sin (2005) advises that we must treat ethical issues as central to the conduct of all management research. The basic principle of voluntary participation requires that people not be coerced into participating in research. This is considered especially relevant with respect to the present study given the sensitive nature of the subject (performance) and the likely attitude of prospective participants to discussing critical 'episodes' or 'incidents'. Closely related to the notion of voluntary participation is the principle of informed consent, requiring that prospective research participants must be fully informed about the procedures and risks involved in research and must give their consent to participate. To this end an informed consent form will be developed stating that the participants are guaranteed certain rights and that they agree to be involved in the study, this will be stated on the web survey and will reflect compliance by participation. Permission will be sought from all prospective participants in advance of any information being sought and to include also the initial information required in order to determine suitability. This will be achieved by identifying in the first instance a listing of potential participants (the sampling frame) based on pre-defined characteristics (the mid and top level manager definition) and then formally inviting those considered eligible to participate in the study (the sample). Ethical standards also require that researchers do not place participants in a situation where they might be at risk of harm either physical or psychological. The researcher considers this issue of particular relevance to the proposed study on the basis that there will be legitimate concerns that participation may adversely affect career or promotional prospects within the organisation. In order to protect the privacy of research participants and to ensure willing, open and honest participation it is the researchers' intention to guarantee participant confidentiality with complete anonymity throughout the study.

As previously outlined in the design section above it is intended that the identifying information will be known only to the participant thus ensuring individual data will remain confidential within the context of the study sample. Given the identified sampling frame will contain participants from within the researchers current organisation there is a requirement to address the issues of possible conflicts of interest and affiliation bias. Also, under the framework of the Economic and Social Research Council (2005) researchers are required to consider potential harm not only to respondents but also to organisations or businesses as a result of the work and whilst the proposed study will be undertaken independently of any organisation or business it is intended that the sampling frame will include participants from the researchers current employer organisation. To this end it is intended to clearly state in advance the researchers' affiliations or potential conflicts of interest such that these may be taken into account by participant and reviewer (Murphy, 2001). The researcher will also advise the organisation of the nature and scope of the research and seek permission before any potential participants employed by that organisation are contacted and before any research work is undertaken.

Finally, the researcher will ensure that all research undertaken complies with the regulations of the Waterford Institute of Technology, 'Guidelines for Responsible Practice in Research and Dealing with Problems of Research Misconduct', 2002.

Role of the Researcher.

The researcher plays a different role in each phase of the study, e.g. in quantitative studies, the researchers' role is, theoretically non-existent and according to Simon (2005) in the perfect quantitative study participants act independently of the researcher as if he or she was not present. In the proposed study the researcher will administer (via the web)

the resilience assessment test and collect the data using the standardised procedures for the instrument. The chosen measure has a proven track record with respect to reliability and validity and is widely considered to be a robust measure. In the second, qualitative phase the researcher is considered more like an 'instrument' of the data collection process and according to Cresswell (2003) given their experience with the participants and personal involvement with the research topic the researcher, as a consequence, will assume a more participatory role. In this study it is intended that the researcher will play an etic role i.e. non-participatory with a view to maintaining an objective, outside view. The researcher is an experienced manager with over twenty years working at mid and top level management roles in large multi-national companies across a number of geographies, industries and cultures.

Although anonymity with respect to participant input is guaranteed it is important to note that the researcher has worked closely with some of the participants (currently estimated to be 30% of the total sample) additionally many of the participants are known personally to the researcher. It is intended that the researchers' academic supervisor will provide guidance and supervision on all the research procedures and the proposed data analysis methods of the study.

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Pilot Study – Design and Methodology

Paper 3.

‘An investigation into the role resilience plays in the performance of managers’.

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Abstract

This pilot study employs an explanatory sequential design with both quantitative and qualitative data collection tools to examine the relationship between resilience and performance within a sample of three (3) managers from different enterprises and cultures. The researcher is taking a point in time measurement of the respondents' level of resilience together with a record of a specific positive or negative critical incident experienced by each respondent in their management career. Based on the information collected the researcher will make an assessment as to the suitability and applicability of the Critical Incident Technique survey to explicate the criticality of the recounted critical incidents and to determine the effects, if any, on the resilience acquisition process and in turn on performance. Resilience has proven to be quantifiable by scales such as the Connor-Davidson Resilience Scale (CD-RISC) and this pilot study will also allow the researcher to determine the appropriateness of such a scale for use within the main study.

Keywords: Pilot, resilience scale, critical incident, workplace.

Introduction.

To date the study of resilience in many settings outside of organisational, occupational and industry community contexts has demonstrated the clear and highly significant link between resilience and individual ability to attain positive outcomes in the face of trauma or human adversity. The extensively researched and well established construct of life resilience has received considerable attention during the past thirty years from Garmezy's pioneering work (1982) through to Masten's (1989) and Werner and Smith's (1992) major theoretical studies of children, to the developmental framework research by Luther (1990, 2000) and more recently work by Coleman and Hagell (2007). Largely conducted within the discipline of Psychology much of the research to date has focused primarily on the study of children and adolescents and whilst there has been a more recent focus on the study of adult resilience this usually concerns those who have suffered some particular life adversity or trauma and have come through positively. However, very little research has been completed on the link between resilience and individual manager performance in a traditional workplace setting. Indeed it is only relatively recently that the concept of workplace related 'resilience' has entered the popular press, various management journals and periodicals including the widely respected Harvard Business Review, where the April, 2011 edition was entirely dedicated to the topic. It appears therefore that resilience is fast becoming one of the new buzzwords across all levels of management.

There is however, a dearth of empirical or formal academic work to support much of the analysis being put forward or indeed many of the statements currently being made in the press and it appears therefore that work related resilience remains largely in the domain of the popular management media. Tusaie and Dyer (2004) argue that "the fields of study related to psychology and physiology are simultaneously pushed apart by academic

politics and drawn together by common elements of the human experience”. It is a variation on this theme i.e. the separation of the disciplines which provides what is believed to be a significant and timely opportunity for the proposed academic research, which not only attempts to formally introduce the construct into management science research but also seeks to question some of the assumptions underlying conventional management theory.

In contrast there is an extensive body of research conducted within various organisations (workplace settings) demonstrating that managers (in particular middle managers) benefit significantly from coaching, resulting in increased effectiveness and productivity. The same research has shown empirically that middle managers benefit more than executive managers and those managers with higher levels of ‘on the job’ experience irrespective of their level within the organisation (Bowles et al., cited in Adey and Jones, 2006). It is the developmental nature of the construct and the potential for a new application together with the career experience of the researcher which are the primary motivators for this study. A central theme will be the question of why the failure to overcome such challenges becomes repetitive for some managers despite having demonstrated great personal effort and commitment and this study will examine what could be characterised as the ‘cycle of failure’ or ‘spiral failure’ encountered by some managers.

This research project therefore, will explore how managers, seemingly with all the ‘right’ attributes, experience, interpret and deal with critical incidents within the context of their cumulative management and leadership experience. The study will also examine the role resilience may play in their ability to successfully manage and learn from such incidents and how this may affect the resilience acquisition process.

Clearly no single overarching theory is sufficient to encompass the multiple independent variables required to be considered or which may be at play generally within success/failure themes. When we consider however, that many developmental processes (resilience is assumed to be a dynamic construct, see Rutter, 1987; Kumpfer, 1999) operate in similar ways across the disciplines and that the theory bases are not unique to the particular field of study, it is deemed unnecessary to derive additional theories for the purposes of further research, rather the researcher is seeking to expand the extant developmental theories to include the specific circumstances and context under study. This will be achieved by means of an explanatory sequential mixed methods design where quantitative methods will be employed to determine participant resilience levels whilst qualitative methods will be used to determine the extent of the association (if any) with particular and discrete episodes or experiences (critical incidents) sustained in the course of each participants career.

This study will seek to apply extant theory in an attempt to answer what are considered to be interesting and novel questions within the framework of a well-known thematic scheme and against the backdrop of few, if any, prior studies examining the relationship between psychological resilience and individual manager performance. These research aims will be achieved by examining the relationship between resilience and particular critical incidents across various enterprises, geographies and cultures in an effort to bridge the theory-practice divide and in doing so, it is expected that prior empirical work will be extended in at least two ways. Firstly, as the chosen sample population consists of practicing managers it is anticipated that this study will provide an 'in context' view of the role resilience may play with respect to individual manager performance. Secondly, the study advances a relatively new paradigm to encompass the processes that derive from many of the most dominant conventional management theories in a field that is a new

one for the study and application of resilience and which has not, hitherto been explicitly integrated into management theory or in everyday practice.

Statement of Problem.

There is extensive literature covering what makes a good leader or manager, the requisite personal attributes or traits and the most appropriate and effective contextual leadership styles. It follows therefore that the conventional research focus from Henry Mintzberg's studies in the early 80's through to the more recent work of Peter Drucker has been on the common traits or the required behaviours which when adopted could help managers to become successful in their leadership roles.

In contrast to a 'what makes success' approach this study will take an alternative perspective to the conventional research focus which largely supports the so called 'common sense' view that management failure results primarily from patterns of ineffective leadership practices, poor judgement and unsuccessful leadership habits (Finkelstein, 2005). Similarly, research by Livingstone (2010) claims that the reasons why so many so called well educated people with outstanding academic records fail is that they are not taught the crucially important people management skills coupled with the fact that many fail to learn from their own experiences on the job. Studies by McCartney and Constance (2005) questioned why some high potential employees suffer derailment (early success but failing later in their careers) while other individuals with similar skills continue to develop and achieve success. The results of the studies indicated that there is no *single* combination of management and leadership skills related to individual success and recommended that developmental activities should be on-going regardless of the individual's level in the organisation. Perhaps most significantly their findings are similar to those of many other studies which broadly attribute the causes of

failure to deficiencies in leadership, judgement, knowledge, technical ability and learning capacity and whilst such skills are universally identified as important prerequisites for success there is no general acknowledgement that such attributes are to be found in *both* successful and unsuccessful managers alike.

It is suggested therefore that the conventional research focus on a 'common' or 'typical' manager profile is no longer valid and this is particularly evident when we consider the current backdrop of rapidly changing labour market conditions and associated work environments.

Definition of Resilience.

The traditional meaning of the term psychological resilience refers to the capacity for successful adaptation despite challenging or threatening circumstances and the development of competence under conditions of pervasive and/or severe adversity (Masten, Best and Garmezy, 1990). Chapital (2011) provides a more contemporary definition "resilience is an individual's ability to generate biological, psychological and social factors to resist, adapt and strengthen itself, when faced with an environment of risk, generating individual, social and moral success". In a workplace context, resilience is defined as the positive psychological capacity to 'bounce back' from uncertainty, conflict, failure, or even positive change, progress and increased responsibility (Luthans, 2002).

As a concept it has been researched extensively in recent years at the individual, group and organisational levels with much of the literature discussing resilience as a state, often as a condition and to some extent as a practice. The terms used include, mental health promotion, emotional intelligence, social-emotional competence and emotional literacy.

Ungar (2004) argues that the standard terms used are not standard at all in that they do not adequately account for cultural and contextual differences in how people in other systems express resilience.

Nevertheless, the extensive body of research has produced little agreement amongst researchers on a single definition of resilience and according to Carle and Chassin (2004) scholars define the construct of resilience in a multitude of ways. There is also conflicting views in the literature as to whether or not resilience is an innate quality or a dynamic process. Resilience in general however, is most commonly understood as a process rather than as a trait of the individual which according to Masten (2009) is more appropriately termed 'resiliency' i.e. ego resiliency being a personality characteristic of the individual which does not presuppose exposure to substantial adversity whereas resilience by definition does (Wilkinson et al., cited in Ungar, 2002). According to Luther and Cicchetti (2000) resilience is commonly studied and explained in the context of a two-dimensional construct concerning the exposure of adversity and the positive adjustment outcomes of that adversity. It is this experience of 'adversity' and the subsequent process of resilience building which separates the concept of resilience from the personality trait of ego-resiliency.

The widespread use of labels in early resilience research such as 'hardy', 'tough' and 'invulnerable' suggested that particular individuals possessed certain qualities, which gave them an innate ability to bounce back and overcome adversity. However later research has shown that resilience is not some remarkable, innate quality but rather an 'ordinary magic' involving a developmental process that incorporates the normative self-righting tendencies of individuals (Masten, 2001). There is also some evidence that the concept of resilience has biological validity, in a study by Charney (2004) resilience was

found to be associated with particular hormones (including testosterone). Gervai et al. (2005) conducted some further studies showing a possible genetic correlation between a specific dopamine gene and decreased levels of resilience. Some researchers have even gone so far as to suggest that both resilience and resiliency are meta-theories which provide an umbrella for most psychological and educational theories (Richardson, 2002). In summary, every person has an innate capacity for resiliency, a self-righting tendency that operates best when people have resiliency-building conditions in their lives (Bernard, 1995) and resilience is no longer viewed as a fixed attribute but rather as an alterable set of processes that can be fostered and cultivated (Masten, 2001).

Definition of Manager.

This study pilot study will select a sample of three (3) managers from middle to top management levels. Top-level managers usually include the board of directors, chief executive officer, president, vice-president and director level positions. This organisational level is normally responsible for strategic planning, company policies, formulating and developing goals and for controlling and overseeing the direction of the business. Middle-level managers represent the middle band of the management pyramid and include branch, department and functional managers, accountable to top management they are more directly responsible for organisational and directional functions. A middle level manager role can be characterised as executing organisational plans in line with stated company policies and the objectives of the top management.

Subjects.

There will be three (3) active or recently active mid and top level managers participating in this pilot study, both male and female of varying ages and experience, working within

different cultures and industries. Each participant will be required to meet the criteria as specified in the section entitled 'Definition of Manager'.

Definition of Performance.

The Oxford Dictionary of English, 2nd Ed. [online] defines performance as “the action or process of performing a task or function which can be seen in terms of how successfully it is performed”. The term 'job performance' is a commonly used but poorly defined concept in industrial and organisational psychology. It is also clear from the literature that many of the methods employed appear inadequate with no commonly accepted uniform definition. According to Campbell et al. (1990) job performance can be defined as an individual level variable i.e. performance is something a single person does. This concept differentiates performance from outcomes which are not only the result of individual performance but are also influenced by other factors outside of the individuals control such as economic or market conditions. In practice however, there are many more factors that determine outcomes than just an employee's behaviour and actions. For example a manager can perform well but be ineffective due to influences beyond their control, performance therefore is not the same as effectiveness, nor can it be considered to be a single unified construct given that there are a multitude of jobs, each with different performance standards . Job performance therefore, is more appropriately conceptualised as a multidimensional construct on the basis that the construct consists of more than one kind of behaviour (Campbell, 1990).

In the context of this study performance as a concept is understood to be individual and separate from the concepts of productivity and effectiveness either in a job context or as an indicator of career success. It is intended to measure manager 'performance' on an individual level in the context of the behaviours that may increase or limit performance

together with the manager's learning experience and the development of resilience qualities within the critical incident process.

Pilot Study Aims.

The purpose of this explanatory sequential mixed methods pilot study will be to determine the current level of resilience of a cohort of three (3) mid to senior level managers. At the same time and together with the resilience test each participant will complete a Critical Incident Technique (CIT) survey questionnaire. The data collected from each study will be compared and contrasted to determine if individual levels of manager resilience are associated with performance and the extent and nature of the relationship.

In the first, quantitative phase, participants will be tested for resilience levels using the Connor-Davidson Resilience Scale (Connor and Davidson, 2003). In the second, qualitative phase, each of the participants will complete the CIT survey questionnaire, the results of which will be content analysed and then used to interpret, contextualise and explain the results from the first phase.

Specific objectives include:

- Test the consent forms and recruitment process and help identify issues in advance of the full study.
- Test the suitability and applicability of the Critical Incident Survey and data collection method to determine issues in advance of the full study and make changes as necessary.
- Test the suitability of the resilience test instrument and data collection method to determine issues in advance of the full study and make changes as necessary.

- Test any elements of the study which may lead to discomfort or difficulties for the participant e.g. the proposed survey for the recounting of a particular critical incident may need to be altered or certain questions removed altogether.
- Provide guidance with respect to outcome measures for the full study.

The hypotheses of the main study are:

H1: A managers' performance is positively related to resilience levels.

H2: A managers' resilience level plays a significant role in performance.

H3: Positive management of critical incidents increases resilience.

H4: Higher levels of resilience results in increased performance.

Research Questions.

For the first, quantitative phase of the main study the research questions are:

1. What are the levels of resilience within the sample?
2. Do resilience levels vary across cultures, gender, age, experience and industries?
3. Are resilience levels related to position?

For the second, qualitative phase of the main study the research questions are:

1. How does a participant's level of resilience relate to job performance?
2. How does a participant's management of critical incidents relate to increased resilience?
3. How can the statistical results obtained in the quantitative phase be explained?

Note:

There may be additional research questions to be incorporated into phase 2 of the main study arising from the results of phase 1 of the pilot study.

Type of sample.

The proposed pilot study contemplates a purposive sample type, intentionally selecting individuals to learn to understand the phenomenon (Miles and Huberman, 1994) within the context of a predefined group i.e. mid and top level managers in their management roles. The sample will be drawn from large multi-nationals and smaller mid-sized companies with a view to encompassing the different dynamics for managers operating within large and smaller organisations. Initial assessments will be undertaken to ensure that each prospective participant is selected non-randomly according to specific characteristics and therefore meets the criteria for inclusion as a mid or top level manager within the study's definition of the term.

Procedure

The participants will be provided with individual access to the instrument materials via a unique link which is assigned to a specific e-mail address. Only the recipient will know his/her unique link and the researcher will not be able to see each assigned link within the collector. Each participant will complete the resilience test and survey individually and anonymously and the information is then returned electronically to the survey host. The researcher will only be able to identify the individual as one of a number of participants in the group, there will be no connection made between the individual's contribution and their unique link thereby ensuring anonymity for the participant.

Both the CIT survey and the resilience test measure are completed as part of a single survey in order to ensure data matching from both phases.

Research Design.

According to Creswell (2003) researchers in a mixed methods approach build knowledge on pragmatic grounds. A major tenet of pragmatism is that quantitative and qualitative methods are compatible where researchers choose variables and units of analysis which are most appropriate to finding an answer to their research question (Tashakkori and Teddlie, 1998).

According to Ungar (2006) qualitative methods are especially relevant to resilience research because:

- They are well suited to the discovery of unnamed processes.
- They study the phenomenon in very specific contexts.
- Their trustworthiness is strengthened by the thickness of the description of that context.
- They elicit and add power to minority 'voices' which account for unique localised definitions of positive outcomes.
- They promote tolerance for these localised constructions by avoiding generalisation in favour of transferability.
- They require the researchers to account for the bias inherent in the social location.

Resilience research also indicates there has been frequent use of both quantitative and qualitative methods and according to Creswell and Clark (2011) the field of resilience research can be furthered by bringing together the differing strengths of a mixed methods design that contextualises participants' experiences through the combination of both numbers and voices. Methodological challenges aside it follows that numerical and text data whether collected sequentially or concurrently (the former being the case with this study) can assist in gaining a greater understanding of the research problem.

Creswell et al. (2003) suggest three primary considerations when designing a mixed methods study, they are, priority, implementation and integration. Priority refers to the emphasis placed on either the quantitative or qualitative method, implementation concerns whether the quantitative and qualitative data collection and analysis comes in sequence and whether or not they are in parallel or concurrently and finally integration refers to the phase where the mixing or connecting of quantitative and qualitative data occurs.

It is intended therefore to use an explanatory mixed methods design (Creswell, 2003) which will consist of the two phases referred to previously. Both the quantitative and qualitative data will be collected via completion of an online survey comprising a resilience test using the CD-RISC scale (Connor and Davidson, 2002) and a specially designed survey using CIT (Flanagan, 1954) to determine if the participants' management of a specific 'episode' or 'critical incident' (successfully or otherwise) is related to or caused by lack of resilience and in turn how participant resilience levels affect performance. Data from the qualitative phase will be used to help explain why particular results obtained in the quantitative phase may be significant indicators and/or predictors of performance.

Advantages and Limitations of Explanatory Mixed Methods Design.

Advantages include:

1. It is a particularly useful method for exploring quantitative results in more detail.
2. This design is especially useful when unexpected results arise from a quantitative study (Morse, 1991).

Limitations include:

1. There is usually more work, resources and time associated with this type of design.
2. Results from the quantitative phase/element may show no significant differences.

Measurement Instrument Review.

Researchers place significant importance on the construct of resilience as an explanatory factor regarding manager success, they also acknowledge the necessity for a valid resilience measure, however there remains as yet no consensus on the most suitable instrument for measuring this multidimensional construct. According to Karairmak (2010) the most popular scales used in adult resilience research are the Resilience Scale (Wagnild and Young, 1993), the Clinical Assessment Package for Assessing Client Risks and Strengths (Gilgun, 1999), the Ego Resilience Scale (Kichinen, 1996) and the Resilience Scale for Adults (Friborg et al., 2003; 2005). In recent years the CD-RISC scale developed in 2003 by Dr. K. Connor and Dr. J. Davidson of the Duke University Medical Centre has earned widespread attention and increased use by researchers.

The CD-RISC has been tested on general population (Yu and Zhang, 2007), university students (Singh and Yu, 2010), middle-aged women (Lamond et al., 2008) and earthquake survivors (Karairmak, 2010). A study by Yu and Zhang (2007) has shown the scale to have sound psychometric properties with good internal consistency (values found for Cronbach's alpha were above .70) and there appears to be widespread application of the scale across different populations. Nevertheless, the researcher is unaware of any study that has used the CD-RISC scale with a sample that exclusively includes managers in a workplace context. Whilst previous resilience research has clearly demonstrated the

need for reliable and valid measures it is evident from the Literature that there is no apparent 'gold standard' (Windle et al., 2011). From the researcher's perspective the instrument employed needs to demonstrate that it accurately measures what it aims to within the selected population and that it is well accepted by responders.

The study proper originally contemplated the use of the resilience measurement instrument entitled Resilience Scale for Adults (RSA). However, following direct consultation with the author and subsequent advice received (see Dr. Oddgeir Friberg, personal communication, 16th July, 2013) the researcher decided to undertake a further review of the available resilience scales with a particular focus on the Connor-Davidson Resilience Scale (CD-RISC) as a more appropriate measure for use in the proposed study and one which had particular emphasis on the assessment of resilience levels at a specific point in time. An important consideration for this study was the fact that the CD-RISC measure (similar to the RSA) had also been used successfully in previous studies within a workplace context.

Data Collection.

The first, quantitative phase of the study is concerned with selecting an appropriate instrument to measure levels of adult resilience in a workplace context. Reliability refers to the accuracy and precision of a measurement procedure and is usually expressed by the 'Pearson r coefficient' whilst validity refers to the degree to which a study accurately reflects or assesses the specific concept or construct that the researcher is attempting to measure (Thorndike, 1997). In a recent study by Windle et al. (2011) which methodologically reviewed 15 resilience scales they found that the Connor-Davidson (CD-RISC), the resilience scale for adults (RSA) and the Brief Resilience Scale (BRS) provided the highest ratings. A review by Wagnild (2009) of 12 studies that utilised the Resilience

Scale (Wagnild and Young, 1993) reported Cronbach's alpha coefficients ranging from 0.85 to 0.94 in 11 of the 12 studies (the lowest reported score was 0.72) demonstrating high internal consistency and robustness for the scale. Table 1. below, outlines a set of adult resilience scales of varying popularity, applicability and validity.

Table 1. Description of Resilience Measures (adapted from Windle et al., 2011)

Scale	Author(s)	Target Pop.	Mode of Completion	Factors Measured	Comments
The Dispositional Resilience Scale(1,2&3)	Bartone et al. 1989,1991 & 2007.	Adults	Self report	Originally designed to measure psychological hardiness.	Derives from the literature on hardiness, confused with other constructs and often proposed as a measure of psychological resilience.
The Connor-Davidson Resilience Scale(CD-RISC)	Connor & Davidson (2003)	Adults	Self report	Has it's origins in clinical practice, popular measure in the context of stress coping ability.	Perspective is that resilience is a personal quality or characteristic. Widely used in medicine.
The Resilience Scale for Adults (RSA)	Friborg et al. (2003, 2005)	Adults & young adults	Self report	Interpersonal and intrapersonal factors, personal strength, social competence, family cohesion.	Focuses on the key features of resilient people, multi-level nature of the questionnaire is consistent with resilience as a dynamic process.
The Brief Resilience Scale	Smith et al. (2008)	Adults	Self report	Ability to recover from stress.	Developed with a particular focus on stress and the ability to "bounce back".
The Resilience Scale (RS)	Wagnild & Young (1993)	Adults	Self report	Degree of individual resilience	Individual level measure, developed in qualitative research and has been widely used.
Psychological Resilience	Windle, Markland & Woods (2008)	Older adults		Personal competence, self esteem and interpersonal control.	Contains items from established scales with strong empirical backing and consequently provides a good basis for generalisation.
Ego Resiliency	Kichinen (1996)	Adults	Self report	Confident optimism, productive and autonomous activity, interpersonal warmth and insight, skilled expressiveness.	Based on a previous measure(Block and Block 1993) with items drawn from the California Psychological Inventory (Gough 1987)
The Brief Resilient Coping Scale	Sinclair & Wallston (2004)	Adults	Self report	Optimism, helplessness, self-efficacy	Clinical base, very brief, possible use in identifying at risk individuals to situate interventions.
Resilience at Work Scale (RAW)	McEwen & Windwood (2011)	Adults	Self report	Living authentically, finding your calling, maintaining perspective, managing stress, interacting cooperatively, staying healthy, building networks.	Compares performance to adult Australian population, new, untested, currently being investigated further.

Resilience Scale for Adults

The Resilience Scale for Adults (RSA) Friborg et al. (2003; 2005) is a 37-item, 5-point semantic differential Likert scale which is suitable for use with both adults and young adults, it is a self-report survey with particular emphasis on personal competence, social competence, family coherence, social support and personal structure. This instrument was originally chosen because it has been used successfully in a workplace context (see “Resilience, personality and intelligence”, Friborg, et al., 2005) and because the study was conducted in a comparable sample population the context was considered especially relevant. The scale also included a particular focus on the key features of resilient people whilst the multi-level nature of the questionnaire was consistent with resilience as a dynamic process.

Furthermore in a review of resilience measuring instruments by Ahern et al. (2006) the RSA scale reported high on construct validity and discriminant validity was indicated by differential positive correlations between scale, the Sense of Coherence Scale (Antonovsky, 1993) and the Hopkins Symptom Checklist (Parloff et al., 1953). However, following advice received on July 16th, 2013 from the RSA lead author, Mr. Oddgeir Friborg;

“ I am sorry to say that the RSA is not a good measure for testing levels of resilience. It is rather a measure of protective factors/resources that may be important for a future positive outcome. As such, it is better suited for predictive purposes. As your study is concerned with comparing different resilience levels with some particular incidents, our RSA scale is not to be recommended. You should instead consider using other "resilience" scales that are more oriented towards "levels" of resilience, for example the Connor-Davidson scale”.

Based on how the research had evolved over the previous months together with the advice received from Dr. Friborg and subsequent correspondence with Dr. Jonathan Davidson (joint author of the CD-RISC scale) the researcher undertook a further review of available instruments with a specific focus on a scale which would be better suited to measurement of resilience at a point in time.

Connor–Davidson Resilience Scale

The literature regarding management and leadership suggests that the resilience levels of managers may help to explain management success however it is apparent from the Literature that there is no particular resilience measure which has been widely accepted by researchers. Indeed the methodological review conducted by Windle et al.(2011) found no ‘gold standard’ measure although when we examine those scales specifically developed for use in the adult population the CD-RISC (25 items), the RSA (37 items) and the Brief Resilience Scale (10 items) received the highest quality ratings.

The Connor–Davidson Resilience Scale (CD-RISC) contains 25 items, each of which is rated on a 5-point (0–4) Likert scale, respondents indicate their level of agreement from *strongly disagree* (0) to *strongly agree* (4) with higher scores reflecting greater resilience. Originally designed for use within mental health clinical sites the scale has been widely used in studies covering post-traumatic stress disorder (PTSD)and the treatment of other types of anxiety disorders. A study by Windle et al. (2011) which evaluated the scale for validity, reliability and factor structure indicated that the CD-RISC had sound psychometric properties and distinguishes well between those with lesser and greater resilience. The researcher’s perspective is that resilience is a personal quality (not necessarily a personality trait) which reflects an individuals’ ability to cope with stress.

The CD-RISC scale also scored highest in the study on psychometric evaluation and importantly for this study it was considered to be a good individual measure and had also been previously applied with intervention. In an earlier review of resilience measuring instruments by Ahern et al. (2006) which correlated the scores of the scale with other more established instruments the CD-RISC scale was found to have convergent validity scoring highest on each of the selected criteria across all the scales reviewed. Whilst this study contemplates a multi-level perspective of resilience as a dynamic process the purpose of the instrument is to measure resilience levels at a 'point in time', on this basis the CD-RISC is considered preferable to the RSA which is more appropriate for use as a measure of protective factors/resources that may be important for a future positive outcome (Friborg, 2013).

Overview of Critical Incident Technique.

A critical incident can be described as one that makes a significant positive or negative contribution to an activity or phenomenon (Grove and Fisk, 1997). The Critical Incident Technique (CIT) first introduced to the social sciences by Flanagan (1954) is a method which involves a set of procedures to collect, content analyse, and classify observations of human behaviour. Flanagan described it as a set of procedures for collecting direct observations of human behaviour in such a way as to facilitate their potential usefulness in solving practical problems and developing broad psychological principles.

The critical incident technique outlines procedures for collecting observed incidents having special significance and meeting systematically defined criteria (Flanagan, 1954). Critical incidents are a useful approach to identifying performance improvement needs and their sources. They provide a rich, in-depth perspective of life in an organisation that is usually not apparent through more quantitative methods of data collection (Gremler, 2004). Since its introduction the CIT method has been used in a wide range of disciplines

including management (Ellinger and Watkins, 1998) and importantly for this study can be used both quantitatively and qualitatively.

According to Chell and Pittaway (1998) when used qualitatively it can facilitate the investigation of significant occurrences (events, incidents, processes or issues) identified by the respondent, the way they are managed, and the outcomes in terms of perceived effects. When used qualitatively the CIT provides more discursive data which can be subjected to narrative analysis and be coded and categorised according to the principles of grounded theory. The objective in both cases is to gain understanding of the incident from the perspective of the individual, taking into account cognitive, affective and behavioural elements. There are a number of ways critical incidents can be gathered but in the social sciences a common approach is by means of a questionnaire where the respondent is asked to provide a detailed account of their own experience/s. These critical incidents are then analysed (usually by content analysis) according to the general aim of the study and then inductively developed into main and sub categories. It is clear therefore that the literature provides widespread support for the view that CIT is a robust research method which has proven effectiveness across a wide range of disciplines including management. The clearly defined set of procedures are easy to apply and manage and CIT offers considerable potential for the proposed study particularly in the context of performance improvement and the process of resilience acquisition.

The key advantages and disadvantages are summarised below together with the researchers' justification for selecting CIT as an appropriate data collection technique for the proposed study.

Advantages

Data collected using CIT is usually context rich and can provide first-hand perspectives on human activities and their significance. According to Ellinger and Watkins (1998) this focus on recalled and observed incidents brings an immediacy and authenticity whilst Chell (1998) maintains that this insight into real-life individual experiences assists the identification of broader patterns and understandings. CIT interviews also allow linkage between context, strategy and outcomes (Chell, 1998) and according to Bitner et al. (1990) CIT is particularly useful when a thorough understanding is needed when describing or explaining a phenomenon. Whilst CIT is generally considered to be a qualitative method some researchers are finding useful compatibilities between CIT and other research methods such as case study or grounded theory (Chell, 1998). With respect to the present study CIT can provide concrete information for managers (Strauss, 1997) it can also provide relevant data for practical purposes of actioning improvements and highlighting the management implications (Chell and Pittaway, 1998) and is particularly well suited for use in assessing perceptions of people from different cultures (Stauss and Mang, 1999) and according to Ruytor et al. (1995) CIT is considered to be a culturally neutral method.

Disadvantages

Given the CIT method relies on respondents to accurately and honestly report the incident and that the particular incident may have occurred sometime previously there may be issues with recall or bias or a danger the respondent may seek to reinterpret the incident differently. There is an inherent bias towards recent incidents given these are 'fresher' in the mind and therefore easier to recall. Chell (1998) has also identified issues around reliability and validity and some researchers (Chell, 1998; Kain, 2004) have

claimed that CIT lacks the strong theoretical under-pining of other qualitative methods such as for example, participatory action research.

Summary Rationale for CIT.

CIT offers a clearly defined, systematic and sequential research process (Hughes et al., 2007). Throughout the Literature CIT has been demonstrated to be a sound method with a proven track record within a wide range of qualitative research studies. The relevance of CIT today is further reinforced by the fact that few changes to the method have been either suggested or made since its introduction by John Flanagan almost sixty years ago.

Data Collection.

Selection of an appropriate critical incident is vital as it must be sufficiently important not only in relation to aspects of performance but also with respect to the impact it may or may not have on the resilience building process. The procedure involves participants being asked to identify specific incident/s which they have experienced personally and which have had an important effect on the final outcome of a particular situation with the emphasis being on the critical incident rather than on participant opinions. The second, qualitative phase in the study will focus on explaining the results of the tests conducted in the first, quantitative phase. It is anticipated that the CIT results following description and comparison, will serve the purpose of illuminating a particular issue (Creswell, 2002) such as the role resilience plays in performance.

CIT Data Analysis.

CIT utilises an inductive data analysis process that aims to classify critical incidents and identify critical behaviours. Flanagan (1954) recommends these be arranged into a series of well-defined, mutually exclusive categories and sub-categories of decreasing generalisability and increasing specificity. Flanagan (1954) also considered this to be the

most challenging aspect of the analysis phase as it depends on the “insight, experience and judgment” (p.327) of the researcher.

Survey Overview

The purpose of the survey is to determine in the first instance the resilience levels of each participant using the CD-RISC instrument (Connor and Davidson, 2003;2005) and to record a Critical Incident of each participant using the Critical Incident Technique (Flanagan, 1954).

Respondents

The online pilot survey will be sent to three (3) mid to senior level managers. The survey will be anonymous and voluntary.

Topics and Format

According to Creswell (2003) the overall design of a survey, as well as the design of individual questions, can have a significant impact on the quality of research. The pilot survey consists of three sections. In the first section (A) demographic information is collected from the respondents in a series of 29 questions. The second section (CI) asks the participant to describe a key successful or unsuccessful event (Critical Incident) that has occurred in their career to date and which they feel played a significant role in their performance. By “incident” we mean any observable human activity that is sufficiently complete in itself to permit inferences and predictions to be made about the person performing the act. To be critical, an incident must occur in a situation where the purpose or intent of the act seems fairly clear to the observer and where its consequences are sufficiently definite to leave little doubt concerning its effect (Flanagan, 1954).

Within section 2 there are three sets of questions concerning the following;

Context (CT) - in which the incident occurred.

Behaviour (BR) - exactly what the participant did that was effective or ineffective.
Consequences (CE) - of their behaviour and whether or not the consequences were within the participants control (See appendix 3 for the survey).

The final section (PRTM) requests the participant to complete the psychological resilience test measure using the Connor-Davidson Resilience Scale (CD-RISC). There are 25 questions and the respondent is required to answer all questions (See appendix 2 for instrument).

Delimitations.

The delimitations of the study include:

1. The study will provide the participants perspective only, which is inherently confined to their personal experiences (critical incident).
2. This study is delimited to (a) mid and top level managers, (b) both genders, (c) various industries, (d) cross cultural and (e) multiple geographies.
3. The study will be delimited to the investigation of resilience in a workplace setting.
4. Resilience will be measured using the CD-RISC (Connor and Davidson, 2003; 2005).
5. Critical Incidents will be analysed using a survey questionnaire designed specifically for the purpose.
6. The results of the main study will be generalisable to mid and top level managers of (a) both genders, (b) various industries, (d) cross cultural and (e) multiple geographies.

Limitations.

Limitations of the study include:

1. Given the nature of the technique employed (CIT) the second phase of the study may be open to different interpretations by others.
2. Because a purposive sample type will be used in the quantitative phase of the study, the researcher cannot say with certainty that the sample will be representative of the population (Creswell, 2002).
3. Given the interpretative nature of qualitative research the study may be subject to researcher bias.
4. Although all participants are anonymous there may be potential for bias in the interpretation of the qualitative results.

Note: The researcher is currently employed by the same company as some of the participants and knows personally a larger number of the potential participants. The researcher however, is confident that this study does not constitute research in one's own backyard (Creswell, 1998).

Significance of the Study.

As resilience is a measureable construct with an established track record in the Literature this study does not contemplate deriving additional theories but rather seeks to expand the extant well-established developmental theories to include the specific circumstances and context under study. When we consider therefore, the extensive body of research in this area and the existence of a widely established theoretical base (albeit largely outside of management science) it follows that efforts to determine the impact of resilience on

performance outcomes will not only challenge or extend existing theories but will be of particular importance to the wider business community of practicing managers.

In addition, because this study transcends age, gender, geography, culture and industry type it should provide a reliable basis for wider applicability throughout what is considered a homogeneous population of practicing managers.

Specifically, the proposed research will allow us to;

1. Determine the extent of the role resilience plays in performance.
2. Indicate the requirement for managers to build resilience in order to improve performance.
3. Determine if successful management of critical incidents assists in the resilience building process.

We understand the construct of resilience to be a multidimensional one, the practical reality however, is that managers and their firms vary enormously, their behaviour and the environment they operate in and react to are equally diverse. It is therefore, insufficient for researchers to focus solely on the attributes for success or on some 'typical' manager profile particularly against the backdrop of rapidly changing labour market conditions and associated work environments where it is apparent that many managers are not coping effectively with these changes resulting in increasing absenteeism rates, employment compensation claims, mental health and psychosocial problems, all of which are manifesting in decreasing effectiveness and productivity.

In contrast we can see from the extensive body of resilience research that skills, attitudes, strategies and one's life long self-concept evolve and strengthen with experience (Borgen

and Butterfield, 2006) strongly underpinning the notion that resilience is a relevant construct for both organisational theory and practice and that it is inextricably linked with success and furthermore, can offer tangible potential as a unifying theme in the context of management development. Resilience also offers a *relatively* new and interesting paradigm and appears to provide a common thread, which runs through all processes that derive from many of the most dominant conventional management theories.

This researcher recognises, that whilst there is an extensive body of research on resilience in the clinical and developmental fields it has not, hitherto been explicitly integrated into management theory or in everyday practice. Given that workplace resilience research is still a relatively unexplored territory among academics and management practitioners alike the findings of the proposed research will also be of considerable practical use in both the selection and development of managers. Furthermore, by exploring the possibility of resilience-based interventions it should also provide opportunity for further management practice development across a broad range of disciplines, enterprises and cultures. In summary, the proposed study is considered to be relevant, researchable and an issue of significance and given the recurrent and enduring nature of performance improvement themes and the developmental implications for managers and management practice, there is considerable merit in gaining a better understanding of both the resilience acquisition process and the role resilience may play in performance.

Ethical Considerations.

An informed consent form will be provided stating that the participants are guaranteed certain rights and that they agree to be involved in the study, this will be included in the web survey (or invitation to participate) and will reflect compliance by participation.

Permission will be sought from all prospective participants in advance of any information being sought and to include also the initial information required in order to determine suitability. Ethical standards also require that researchers do not place participants in a situation where they might be at risk of harm either physical or psychological. The researcher considers this issue of particular relevance to the proposed study on the basis that there will be legitimate concerns that participation may adversely affect career or promotional prospects within the organisation.

In order to protect the privacy of research participants and to ensure willing, open and honest participation it is the researchers' intention to guarantee participant confidentiality with complete anonymity throughout the study. As previously outlined in the design section above it is intended that the identifying information will be known only to the participant thus ensuring individual data will remain confidential within the context of the study sample. Given the identified sampling frame will contain participants from within the researchers current organisation there is a requirement to address the issues of possible conflicts of interest and affiliation bias. Also, under the framework of the Economic and Social Research Council (2005) researchers are required to consider potential harm not only to respondents but also to "organisations or businesses as a result of the work" and whilst the proposed study will be undertaken independently of any organisation or business it is intended that the sampling frame will include participants from the researchers current employer organisation. To this end it is intended to clearly state in advance the researchers' affiliations or potential conflicts of interest such that these may be taken into account by participant and reviewer (Murphy, 2001). The researcher will also advise the organisation of the nature and scope of the research and seek permission before any potential participants employed by that organisation are contacted and before any research work is undertaken.

Finally, the researcher will ensure that all research undertaken complies with the regulations of the Waterford Institute of Technology, “Guidelines for Responsible Practice in Research and Dealing with Problems of Research Misconduct”, 2002.

Role of the Researcher

In the proposed study the researcher will administer (via the web) the resilience assessment test and the CIT survey and the data will be collected using the recommended procedures for the each instrument. The chosen resilience test measure (CD-RISC) has a proven track record with respect to reliability and validity and is widely considered to be a robust measure. In the second, qualitative phase using the CIT the researcher is considered more like an ‘instrument’ of the data collection process (Creswell, 2003) and given the researcher’s experience with the participants and personal involvement with the research topic the researcher, as a consequence, will assume a more participatory role. The researcher is an experienced manager with over twenty years working at mid and top level management roles in large multi-national companies across a number of geographies, industries and cultures. Although anonymity with respect to participant input is guaranteed it is important to note that the researcher has worked closely with some of the participants (currently estimated to be 30% of the total sample) additionally many of the participants are known personally to the researcher. It is intended that the researcher’s academic supervisor will provide guidance and supervision on all the research procedures and the proposed data analysis methods of the study.

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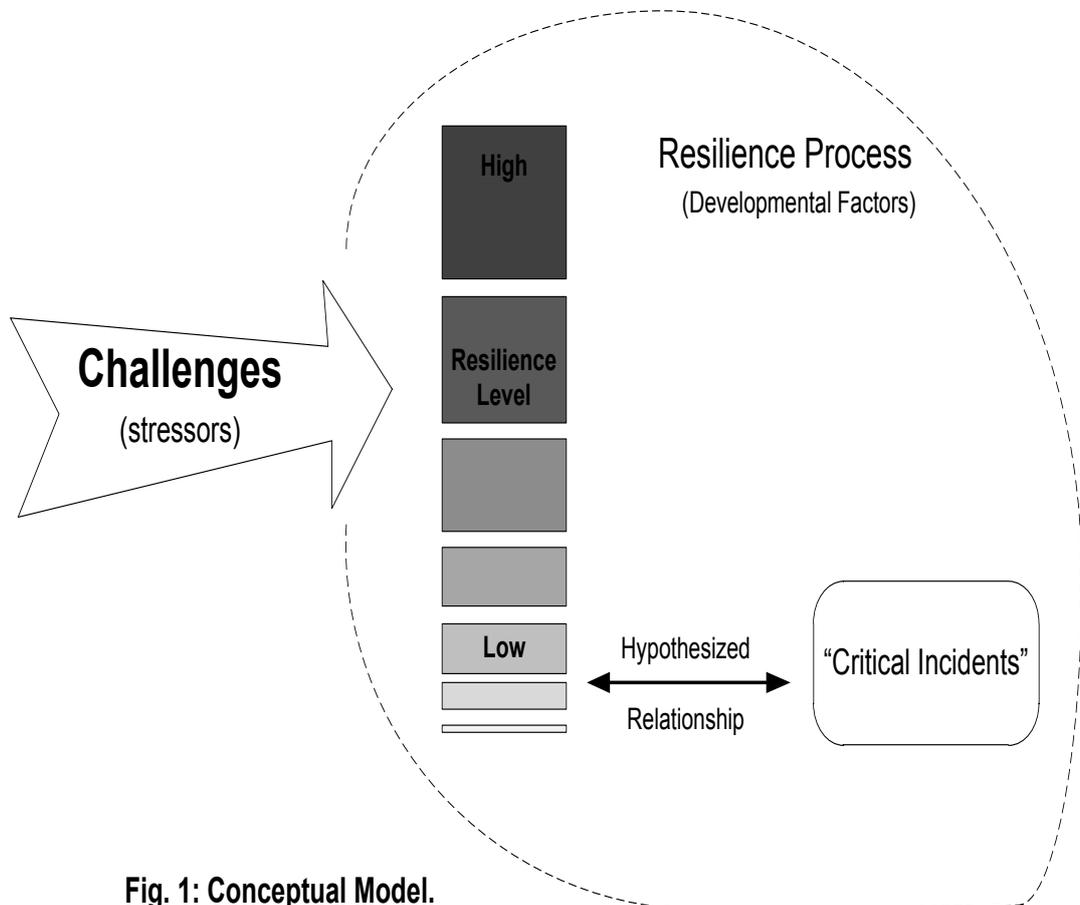
Appendices (3)

Appendix 1.

Guiding Theoretical Framework

Resilience is a dynamic process in which the individual displays positive adaptive skills despite having experienced significant trauma or adversity. According to Windle et al.(2011) the capacity for adaptation and 'bouncing back' is facilitated by the assets and resources available to the individual within their particular environment. According to Masten (1994) resilience is a pattern over time, characterised by good eventual adaptation despite risk, acute stressors, or chronic adversities Implicit in the concept of resilience as a dynamic process is the understanding that resilience can grow or decline over time depending on the interactions taking place between an individual and their environment (Werner and Smith, 1992). It follows therefore that individuals may be more or less resilient at certain times during their working life. Resilient people are more capable of adapting to change and can use past successes to confront current challenges and use positive emotions to recover from negative emotional experiences (Tugade and Fredrickson, 2004). Resilient people demonstrate a positive attitude in situations where expected results are not achieved which in turn can enhance their willingness to learn providing valuable insights such that past mistakes are not repeated. Garmezy's (1991) triadic model of resilience provided a widely accepted framework for understanding the resilience process. The model describes the dynamic interactions between risk and protective factors on the individual, family and environmental levels whilst emphasizing that resilience is a process that empowers individuals to both shape and be shaped by their environment. There is also a strong emphasis in the Literature on the iterative nature of the processes between the individual and their environment and this is seen by many researchers as providing the crucial underpinnings for developing resilience.

Figure 1 presents the specific conceptual framework developed for the purposes of this study.



This study utilises a process-oriented framework the primary purpose of which is to conceptualise the hypothesised role resilience plays in the performance of managers and to explicate the process by which resilience can be acquired within an organisational setting. The circular nature of the process being postulated is one where managers are subject to on-going challenges throughout their careers, they either overcome such challenges (critical incidents) and become more resilient as a consequence thereby allowing them to perform better or they fail, revert to a less resilient condition and are forced to begin again.

Appendix 2.

Connor-Davidson Resilience Scale (CD-RISK)

Connor-Davidson Resilience Scale 25 (CD-RISC-25)

initials ID# date / / visit age

For each item, please mark an "x" in the box below that best indicates how much you agree with the following statements as they apply to you over the last month. If a particular situation has not occurred recently, answer according to how you think you would have felt.

	not true at all (0)	rarely true (1)	sometimes true (2)	often true (3)	true nearly all the time (4)
1. I am able to adapt when changes occur.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
2. I have at least one close and secure relationship that helps me when I am stressed.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
3. When there are no clear solutions to my problems, sometimes fate or God can help.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
4. I can deal with whatever comes my way.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
5. Past successes give me confidence in dealing with new challenges and difficulties.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
6. I try to see the humorous side of things when I am faced with problems.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
7. Having to cope with stress can make me stronger.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
8. I tend to bounce back after illness, injury, or other hardships.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
9. Good or bad, I believe that most things happen for a reason.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
10. I give my best effort no matter what the outcome may be.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
11. I believe I can achieve my goals, even if there are obstacles.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
12. Even when things look hopeless, I don't give up.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
13. During times of stress/crisis, I know where to turn for help.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
14. Under pressure, I stay focused and think clearly.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
15. I prefer to take the lead in solving problems rather than letting others make all the decisions.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
16. I am not easily discouraged by failure.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
17. I think of myself as a strong person when dealing with life's challenges and difficulties.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
18. I can make unpopular or difficult decisions that affect other people, if it is necessary.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
19. I am able to handle unpleasant or painful feelings like sadness, fear, and anger.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
20. In dealing with life's problems, sometimes you have to act on a hunch without knowing why.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
21. I have a strong sense of purpose in life.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
22. I feel in control of my life.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
23. I like challenges.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
24. I work to attain my goals no matter what roadblocks I encounter along the way.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
25. I take pride in my achievements.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>

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Appendix 3.

Survey Questionnaire.

Thank you for agreeing to participate in our study. We guarantee confidentiality throughout, there is no record of your name in this survey and the information you provide will be anonymous and will not be passed to anyone outside this study. Please read the questions carefully, there are no right or wrong answers and most of the questions deal only with your personal opinion and experience. Once again, we appreciate your participation and help with this study.

Section A.

Your answers to the following questions will provide useful information about yourself but you will remain as an anonymous participant.

Please answer each one.

QDG1. What country do you work in now? _____

QDG2. Have you ever worked for a multinational company?

- Yes
- No

If “yes” what countries have you worked in _____

QDG3. Is your current employer a multinational or global company?

- Yes
- No

QDG4. How long have you worked for your current employer _____

QDG5. How long have you worked in your current role _____

QDG6. How long have you worked at your current level

QDG7. What is your age?

- Less 30
- Between 30 and 40
- Between 40 and 50
- Between 50 and 60
- Over 60

QDG8. What is your sex?

- Male
- Female

QDG9. How would you classify your job?

- Senior Management
- Middle Management
- Other _____

QDG10. How many years of work experience do you have at Middle and Senior level?

- Senior Level - please indicate years _____
- Middle Level - please indicate years _____

QDG11. Please indicate the highest education level you have completed:

- Some secondary education/high school
- Completed secondary education/high school
- Some college/university/technical school.
- Undergraduate/Primary degree.
- Master's degree
- Ph.D./Doctoral degree.
- Other _____

QDG12. What is your country of citizenship/passport? _____

ADG13. How long (in years) have you lived in your country of citizenship? _____

QDG14. Have you ever worked outside of your country of citizenship for a period of at least 6 consecutive months?

- Yes
- No

QDG15. How many years did you work outside of your country of citizenship? _____

QDG16. What is the country that you identify with most? _____

QDG17. What is your country of birth, if different from your country of citizenship? _____

**QDG18. What is your native or mother tongue?
_____**

QDG19. How many employees are there in your entire company?

- Less than 100
- Between 100 and 500
- Between 501 and 999
- Between 1,000 and 4,999
- Between 5,000 and 9,999
- More than 10,000

QDG20. How many employees are there in your local organisation?

- Less than 100
- Between 100 and 500
- Between 501 and 999

- Between 1,000 and 4,999
- Between 5,000 and 9,999
- More than 10,000

QDG21. What is the main industry that your organisation operates within?

- Education
- Financial Services.
- Hospitality Services.
- Public Service.
- Healthcare Services
- Logistics/Transportation
- Construction/Engineering/ Manufacturing
- Retail /Sales/ Marketing/ Advertising
- Information Technology/Telecoms/Software
- Other _____

QDG22. What is the major activity that your work group does?

- Administration
- Engineering/ Manufacturing/ Production
- Finance/ Accounting
- Human Resource Management
- Marketing/ Sales/ Customer Service
- Planning
- Purchasing/ Inventory Management
- Research and Development/ Design
- Other _____

QDG23. In an ideal job, how important would it be for you to have a network to rely on in the performance of your job?

- Not at all Important
- Very Unimportant
- Neither Important nor Unimportant
- Very Important
- Extremely Important

QDG24. In an ideal job, how important would it be for you to have sufficient time for your personal or family life?

- Not at all Important
- Very Unimportant
- Neither Important nor Unimportant
- Very Important
- Extremely Important

QDG25. In an ideal job, how important would it be for you to work with people who cooperate well with one another?

- Not at all Important
- Very Unimportant
- Neither Important nor Unimportant
- Very Important
- Extremely Important

QDG26. In your private life, how important is personal steadiness or stability to you?

- Not at all Important
- Very Unimportant
- Neither Important nor Unimportant
- Very Important
- Extremely Important

QDG27. In your private life, how important is persistence or perseverance to you?

- Not at all Important
- Very Unimportant
- Neither Important nor Unimportant
- Very Important
- Extremely Important

QDG28. In your current job, how often do you feel nervous or tense at work?

- Never
- Rarely
- Sometimes
- Often
- All of the Time

QDG29. To what extent do you agree or disagree with the statement:

“When people have failed in life, it is often their own fault”

- Strongly Disagree
- Disagree
- Neither Agree nor Disagree
- Agree
- Strongly Agree

Section CI.

In the next section you will be asked to describe a key successful or unsuccessful event (Critical Incident) that has occurred in your career to date and which you feel played a significant role in your performance. By “incident” we mean an event or series of events which have caused you to re-examine your career direction or rethink the way you behave or do business.

There are three sets of questions concerning the following;

1. Context—in which the incident occurred.
2. Behaviour – exactly what you did that was effective or ineffective.
3. Consequences – of the behaviour and whether or not consequences were within your control.

Your responses are confidential, anonymous and no individual is named in the survey.

Q.CT. The following series of questions provide a framework for you to describe a key successful or unsuccessful event (Critical Incident).

- Describe the event itself. When did it happen?
- What were the circumstances surrounding the incident?
- What caused the incident?
- What was the situation? What was happening at the time?
- What led up to the event? What was the background?
- What assumptions did you make about the problem or situation?
- Were there any events particularly good or helpful to you?
- Were there any events particularly bad or unhelpful to you?
- What happened as a result?
- What will you do if you are faced with a similar situation in the future?

Q.BR. The following series of questions address how you behaved during the event and how you managed the event.

- Describe what you did that was effective / ineffective?
- What actions/behaviour did you observe which were being taken by others?
- Exactly what did you do or not do that was especially effective or ineffective
- What was the outcome or result of your action/s?
- Why do you feel this action was effective or ineffective?
- What more effective action do you feel you could have taken?

Q.CE. The following series of questions address what you consider were the consequences of your behaviour.

- What was the outcome of your behaviour?
- What were the consequences of your behaviour?
- Were the consequences due to your behaviour?
- Did this help or not help the incident to occur?
- What resulted that led you to believe the action was effective or ineffective?
- What would you have done differently if you could do it over again?
- What will you do differently in the future?

Section PRTM.

The next section involves completion of a psychological resilience test measure using the Connor-Davidson Resilience Scale (CD-RISK). Please answer each question.

CD-RISC instrument appears here.

Preliminary Findings

Paper 4.

‘An investigation into the role resilience plays in the performance of managers’.

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Abstract

This paper reports the preliminary results of a study that is investigating the role resilience plays in the performance of managers. The study employed an explanatory design with both quantitative and qualitative data collection tools to examine the relationship between resilience and job performance within a cohort of thirty six (36) managers both male and female operating in various enterprises, geographies and cultures. Participants completed a ‘point in time’ individual resilience assessment measure (25 item Connor-Davidson Resilience Scale) together with a specially designed Critical Incident Technique based questionnaire, both instruments were administered via a single web-based survey. Thematic data contained in the CIT narratives was analysed using prescriptive content analysis and recommended CIT data analysis techniques in order to access meaning with regard to resilience and performance. Qualitative analysis revealed thematic content related to personal and professional growth, successful and unsuccessful management of challenges or adversity, lessons learned and positive or negative outcomes. Whilst male participant resilience levels were found to be average for the general population with a mean value 79.52 (SD=10.4), female resilience levels were found to be significantly higher at 86.57 (SD=7.76). No significant relationships were found in either gender between resilience levels and years of practice or educational level. Overall the study demonstrated that higher levels of resilient behaviour are strongly associated with better management of challenges and adversity (critical incidents) whereas lower levels of resilient behaviour are associated with poor management of critical incidents. The findings strongly support the inclusion of resilient behaviour as an important component of increased performance in managers.

Keywords: Resilience, manager, critical incident, performance.

Introduction

To date the study of resilience in many settings outside of organisational, occupational and industry community contexts has demonstrated the clear and highly significant link between resilience and individual ability to attain positive outcomes in the face of trauma or human adversity. The extensively researched and well established construct of life resilience has received considerable attention during the past thirty years from Garmezy's pioneering work (1982) through to Masten's (1989) and Werner and Smith's (1992) major theoretical studies of children, to the developmental framework research by Luther (1990, 2000) and more recently work by Coleman and Hagell (2007). Largely conducted within the discipline of Psychology much of the research to date has focused primarily on the study of children and adolescents and whilst there has been a more recent focus on the study of adult resilience this usually concerns those who have suffered some particular life adversity or trauma and have come through positively. Previous research has demonstrated that higher levels of resilience in employees has been associated with greater job satisfaction, work happiness and organisational commitment (Youssef and Luthans, 2007). However, very little research has been completed on the link between resilience and individual manager performance in a traditional workplace setting.

In contrast there is an extensive body of research conducted within various organisations (workplace settings) demonstrating that managers (in particular middle managers) benefit significantly from coaching, resulting in increased effectiveness and productivity. The same research has shown empirically that middle managers benefit more than executive managers and those managers with higher levels of 'on the job' experience irrespective of their level within the organisation (Bowles et al., cited in Adey and Jones, 2006). The study utilised an explanatory mixed methods design where quantitative methods (Connor-Davidson Resilience Scale) were used to determine participant

resilience levels whilst qualitative methods (Critical Incident Technique) were used to determine the extent of the association (if any) with particular and discrete episodes or experiences (critical incidents) sustained in the course of each participants career. This study applied extant theory in an attempt to answer what are considered to be interesting and novel questions within the framework of a well-known thematic scheme and against the backdrop of few, if any prior studies examining the relationship between psychological resilience and individual manager performance.

Definition of Resilience.

The traditional meaning of the term psychological resilience refers to the capacity for successful adaptation despite challenging or threatening circumstances and the development of competence under conditions of pervasive and/or severe adversity (Masten, Best and Garmezy, 1990). Chapital (2011) provides a more contemporary definition “resilience is an individual's ability to generate biological, psychological and social factors to resist, adapt and strengthen itself, when faced with an environment of risk, generating individual, social and moral success”.

In a workplace context, resilience is defined as the positive psychological capacity to ‘bounce back’ from uncertainty, conflict, failure, or even positive change, progress and increased responsibility (Luthans, 2002). As a concept it has been researched extensively in recent years at the individual, group and organisational levels with much of the literature discussing resilience as a state, often as a condition and to some extent as a practice. The terms used include, mental health promotion, emotional intelligence, social-emotional competence and emotional literacy. Ungar (2004) argues that the standard terms used are not standard at all in that they do not adequately account for cultural and contextual differences in how people in other systems express resilience.

Resilience in general however, is most commonly understood as a process rather than a trait of the individual which according to Masten (2009) is more appropriately termed “resiliency” i.e. ego resiliency being a personality characteristic of the individual which does not presuppose exposure to substantial adversity whereas resilience by definition does (Wilkinson et al., cited in Ungar, 2002). It is this experience of ‘adversity’ and the subsequent process of resilience building which separates the concept of resilience from the personality trait of ego-resiliency. Resilience therefore, can be interpreted as a measure of success in maintaining life balance in the face of stressors (Bosworth and Earthman, 2002). There is also some evidence that the concept of resilience has biological validity, in a study by Charney (2004) resilience was found to be associated with particular hormones (including testosterone). Gervai et al. (2005) conducted some further studies showing a possible genetic correlation between a specific dopamine gene and decreased levels of resilience. Some researchers have even gone so far as to suggest that both resilience and resiliency are meta-theories which provide an umbrella for most psychological and educational theories (Richardson, 2002).

Definition of Manager.

The study included a cohort of (n=32) managers operating at senior and middle management levels in different geographies and industries. Senior-level managers usually include the board of directors, chief executive officer, president, vice-president and director level positions. This organisational level is normally responsible for strategic planning, company policies, formulating and developing goals and for controlling and overseeing the direction of the business. Middle-level managers represent the middle band of the management pyramid and include branch, department and functional managers, accountable to top management they are more directly responsible for organisational and directional functions. A middle level manager role can be

characterised as executing organisational plans in line with stated company policies and the objectives of the top management.

Methods

The online, anonymous and voluntary survey was sent directly by the researcher to 40 prospective participants who were deemed to have met the criteria of middle and senior manager as defined in the study. In all 36 of the 40 surveys were returned giving a response rate of 90%, which is very high for this type of study but probably related to the fact that many of the subjects were personally known to the researcher. The survey used in this study (see appendix 2) contained three sections, the first of which gathered demographic data from respondents in a series of 18 questions, the second section, through a series of 14 questions/prompts solicited a narrative on a specific critical incident and the final section established a score on the Connor-Davidson resilience scale (Connor and Davidson, 2003) where respondents were asked to rate each statement on a 25-item Likert scale from zero (not true at all) to four (true nearly all the time). The CD-RISC is designed as a self-rating scale where the subject is directed to respond to each question with reference to the previous month, understanding that if a particular situation has not arisen in this time, then the response should be determined by how the person thinks they would have reacted. Scoring of the full 25-item scale is based on summing the total of all items, each of which is scored from 0 to 4. The full range is therefore from 0 to 100, with higher scores reflecting greater resilience. The entirety of the initial set of prospects were known personally to the researcher either directly or indirectly whilst the researcher had also worked closely with approximately 20 of the sample. Each of the 40 prospective participants was invited to forward the explanatory e-mail containing the anonymous survey link to other managers in their network and invite

them to participate. The survey instrument used in this study and the invitation e-mail to participants are shown in appendices 2 and 4 respectively.

Procedure

Each participant was provided with the survey link via the web. The survey link and output data together with some of the preliminary analysis for this paper was generated using Qualtrics software, version 53607 of the Qualtrics Research Suite, copyright © 2014. The link provided was anonymous and the researcher was only able to identify the individual as one of a number of respondents. No individual was named in the study. The single survey instrument was custom designed and needed to be a single survey in order to address a key component of the research which required matching between the recounted critical incident (CIT) data and participants tested (CD-RISC) resilience score.

Delimitations and Limitations of the Study.

The delimitations of the study include:

1. The study will provide the participants perspective only, which is inherently confined to their personal experiences (critical incident).
2. This study is delimited to (a) mid and top level managers, (b) both genders, (c) various industries, (d) cross cultural and (e) multiple geographies.
3. The study will be delimited to the investigation of resilience in a workplace setting.
4. Resilience will be measured using the Connor - Davidson Resilience Scale (Connor and Davidson, 2003).
5. Critical incidents were analysed using a survey questionnaire designed specifically for the purpose.

Limitations of the study include:

1. The majority of respondents are Irish (83% of the total sample).
2. The sample comprised 22% (8) female and 78% (28) male respondents.
3. Given the nature of the technique employed (CIT) the qualitative data analysis of the study may be open to different interpretations by others.
4. Because a purposive sample type was used in study, the researcher cannot say with confidence the sample will be representative of the population (Creswell, 2002).
5. Given the interpretative nature of qualitative research the study may be subject to researcher bias.
6. Although all participants are anonymous there may be potential for bias in the interpretation of the qualitative results as the researcher is currently employed by the same company as some of the participants and knows personally a larger number of the potential participants. The researcher however, is confident that this study does not constitute research in one's own backyard (Creswell, 1998).

Data Collection

According to Flanagan (1954, p. 338) "an incident is critical if it makes a 'significant' contribution, either positively or negatively to the general aim of the activity" and it should be capable of being "critiqued or analysed". The selection of an appropriate critical incident therefore is vital as it must be sufficiently important not only in relation to aspects of performance but also with respect to the impact it may or may not have on the resilience building process. The procedure involved participants being asked to identify a specific incident, which they have experienced personally and which has had an important effect on the final outcome of a particular situation with the emphasis being on the respondents replies and opinions rather than on the incident itself.

The second, qualitative phase of the study focused on explaining the results of the tests conducted in the first, quantitative phase. The survey questionnaire included 18 demographic questions followed by 14 questions which acted as prompts to respondents covering the critical incident element followed by the Connor Davidson (2003) resilience scale, a 25-item Likert type questionnaire. The content of the CIT questions were formulated with a view to participant's resilience scores and sought to focus on the resilience acquisition process in terms of critical incident management, participant learning and the possibility of a relationship between resilience and job performance.

The survey was previously pilot tested on three managers selected from the target population. Output from the pilot study resulted in a number of useful changes to the layout and content of the final survey instrument and those selected for the pilot study did not participate in the study proper.

Demographic Characteristics.

In all, 36 surveys were returned within a period comprising the last 2 weeks of Dec/2014 and the first 3 weeks of Jan/2014. There were 28 male respondents (78%) and 8 female respondents (22%). The age range of the respondents was from 30 years to 60 years and the mean age was 45 years (SD=6.32). Two of the responses received were incomplete with respect to the resilience test (CD-RISC) where one of the 25 Likert scale questions remained unanswered. In both cases the mean value for each unanswered question was substituted and the overall resilience score calculated. Three responses were returned with the CIT section unanswered, all three responses were used only as part of the resilience mean and standard deviation score calculation.

Table 1 below provides a summary profile of the respondents.

Table 1.

Table 1 Profile of Respondents				
	Entire Sample N=36		Male n=28	Female n=8
Sex(%)			78	22
Resilience Score				
Mean	80.89		79.52	86.57
Std. Dev.	(10.24)		(10.40)	(7.76)
Nationality(No. of Resp)				
Irish	30		23	7
British	2		2	
Brazilian	4		3	1
Ages(years)				
Mean	45.00		45.36	43.75
Std. Dev.	(6.32)		(6.37)	(6.41)
Educational Level (no. of Resp)				
High School	5% (2)			25% (2)
Some College/U/T.School	14% (5)		14% (4)	12.5% (1)
Univ/Primary Degree	25% (9)		26% (7)	25% (2)
Masters	56% (20)		60% (17)	37.5% (3)
Experience(years)				
Av. Middle	10.78		10.57	11.50
Av. Senior	6.39		6.39	6.37
Av. Total	17.17		16.96	17.87
International Exp.(years)				23
No. of Respondents	18		15	3
Av. No. of Months	50.05		48.75	50.00
Multi Natnl. Experience	56%		48%	62%
Parent Company Size				
< 100	11		9	2
100-500	4		3	1
501-999	4		2	2
1,000-4,999	5		4	1
5000-10,000	2		2	
>10,000	10		8	2
Local Org Activity				
Administration	5		4	1
Eng/Manuf/Prod	5		4	1
Finance/Accounting	1		1	
Human Resource Mgt.	6		4	2
Marktg/Sales/Cust. Service	11		8	3
Planning	2		2	
Purchasing/Inventory Mgt				
Research & Dev/Design	1		1	
Other	5		4	1

The average respondent had a total of 17.17 years management experience, 10.78 years of which was at middle level and 6.39 years at senior level. A total of 20 respondents have masters level qualifications (17 male and 3 female), there were 9 respondents with primary degrees (7 male and two female) and 5 respondents with some university or technical college and the remaining two females with high school level. There were 15

male and 3 female respondents with international work experience (only a minimum of 3 months or more was counted) with an average total duration of 51.6 months and 50.0 months respectively. In so far as the researcher could determine there are no comparable resilience scores available for the Irish or UK population either generally or for managers. Therefore, in order to facilitate comparison the researcher has compiled a list of previous studies on selected populations in table 2 below.

Table 2. Mean (SD) CD-RISC Scores in Selected Population Sample.

Authors	Scale	Sample	Mean (SD)	Location	Comments
Connor et al (2003)	25	458	80.4 (12.8)	USA	National random digit dial sample
Lamond et al (2008)	25	1395	75.7 (13.0)	USA	Community sample over age 60
Yu et al (2009)	25	560	65.4 (13.9)	China	Community sample
Ito et al (2009)	25	220 434	55.8 (14.8) 64.3 (16.7)	Japan	Undergraduates mean age 20 Undergraduates mean age 36
Ha et al (2009)	25	143	66.8 (12.7)	Korea	Health Volunteers
Sutherland et al (2009)	25	64	82.7 (8.0)	USA	Women in University Community
Faria et al (2010)	25	421	73.4 (12)	Portugal	Community sample
McTighe (2009)	25	139	75.7 (10.9)	USA	Social workers in the vicinity of terrorist attacks in NYC 9/11/01
Peng et al (2012)	25	1998	61.7 (20.6)	China	Medical students
Johnson et al (2011)	25	225	71.6 (16.2)	USA	Active duty Marines.
Ziaian et al (2012)	25	53 35 82	60 69 67	Australian Refugees	Africa, Former Yugoslavia Middle East.
Gillespie et al (2007)	25	735	75.9 (11.0)	Australia	Operating theatre surgical nurses.
New et al (2009)	25	42	80.4(9.5) 82.0(17.7) 62.3(23.1)	USA	Healthy controls Trauma exposed non-PTSD PTSD
Manzano-Garcia and Calvo	25	783	79.8 (9.8)	Spain	Business owners and entrepreneurs

Note: Adapted from Connor and Davidson (2003).

Resilience Score Results

The following preliminary findings with respect to resilience scores analysis are based on the 36 valid responses comprising 28 male respondents (78% of the total sample) and 8 female respondents (22% of the total sample). As a resilience scale reference point the original validation study (Connor and Davidson, 2003) reported the mean score for the US general population as 80.40 with standard deviation of 12.80.

The preliminary results of this study show for the total population, a mean resilience score of 80.61 with a standard deviation of 10.34, a slightly higher mean value than that reported for the general US population but with a lower standard deviation. Males scored 79.52 (SD=10.40) and females 86.57 (SD=7.76). This significantly higher score by female managers requires further investigation however it does not appear to be related to experience or education or time served at middle or senior level (see correlation analysis below). The average age for the male population was 45.36 (SD=6.32) years and for females 43.75 (SD=6.32) years. The average experience at middle and senior level for males was 10.57 years and 6.39 years respectively and similarly the average experience at middle and senior level for females was 11.5 years and 6.37 years respectively.

The Pearson correlation test was used to evaluate the relationship between resilience scores and experience/education.

Years of Experience and Resilience-Total Sample.

In the first instance a Pearson correlation analysis was conducted on the total sample to examine whether there is a relationship between reported years of experience and participant resilience scores as measured by the CD-RISC scale. The results revealed that there is a weak positive correlation ($r = 0.23$) but that it is not significant with $p = 0.21$ (two tailed).

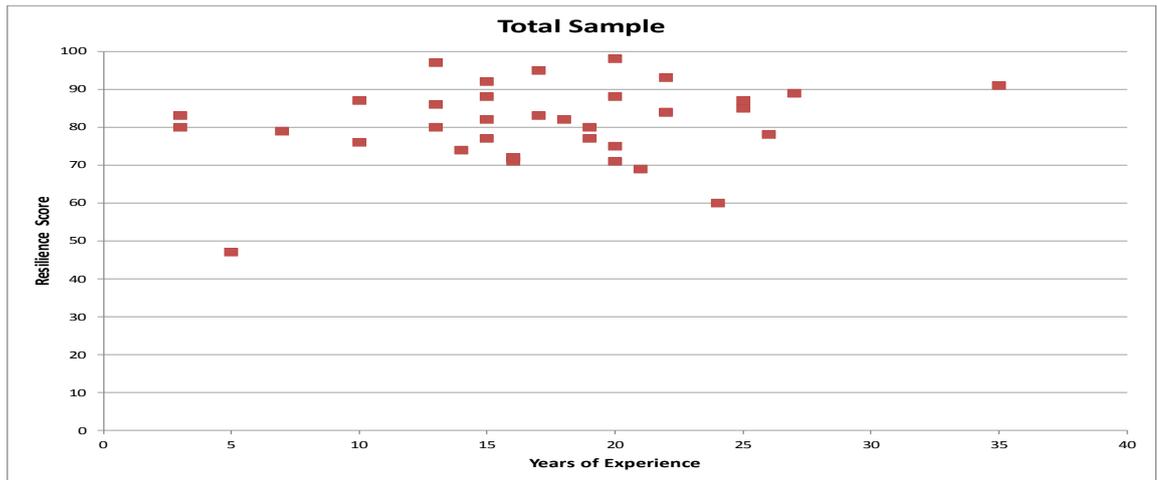


Figure 1. Years of experience and resilience are not significantly correlated with each other ($r=0.23$).

Education Level and Resilience-Total Sample.

A Pearson correlation analysis was conducted on the total sample to examine whether there is a relationship between reported education level and participant resilience scores as measured by the CD-RISC scale. The results revealed that there is a weak negative correlation ($r = 0.21$) but that it is not significant with $p=0.24$ (two tailed).

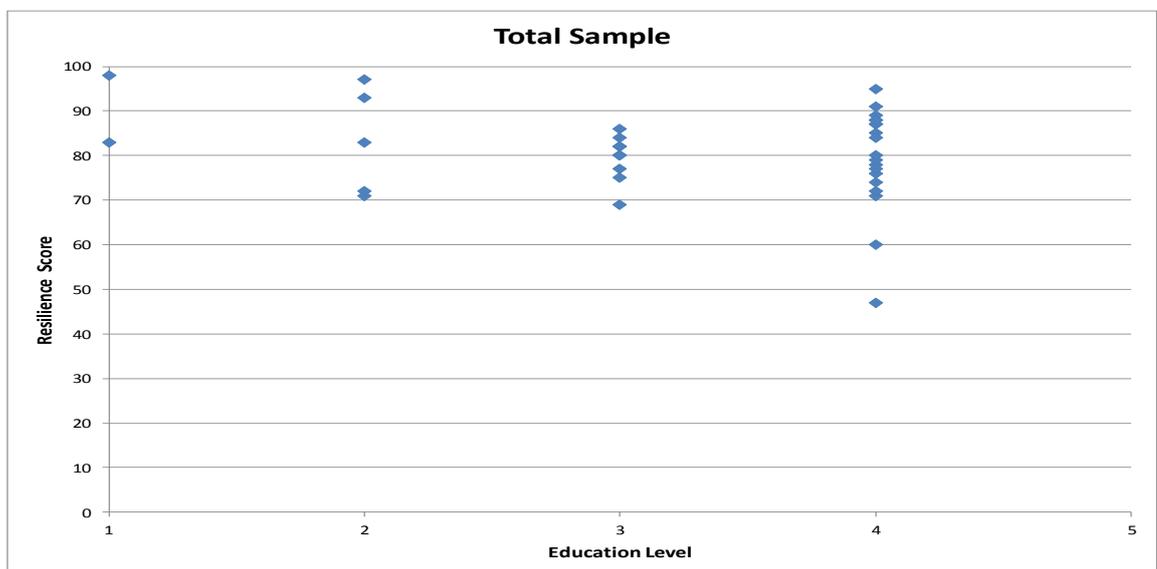


Figure 2. Education Level and resilience are not significantly correlated with each other ($r=-0.21$).

Note: 0: Some secondary education/high school, 1: Completed secondary education/high school, 2: Some college/university/technical school, 3: Undergraduate/primary degree, 4: Master’s degree, 5: Ph. D/Doctoral degree.

Years of Experience and Resilience-Males.

A Pearson correlation analysis was conducted on the male population to examine whether there is a relationship between reported years of experience and participant resilience scores as measured by the CD-RISC scale. The results revealed that there is a weak positive correlation ($r = 0.18$) but that it is not significant with $p=0.32$ (two tailed).

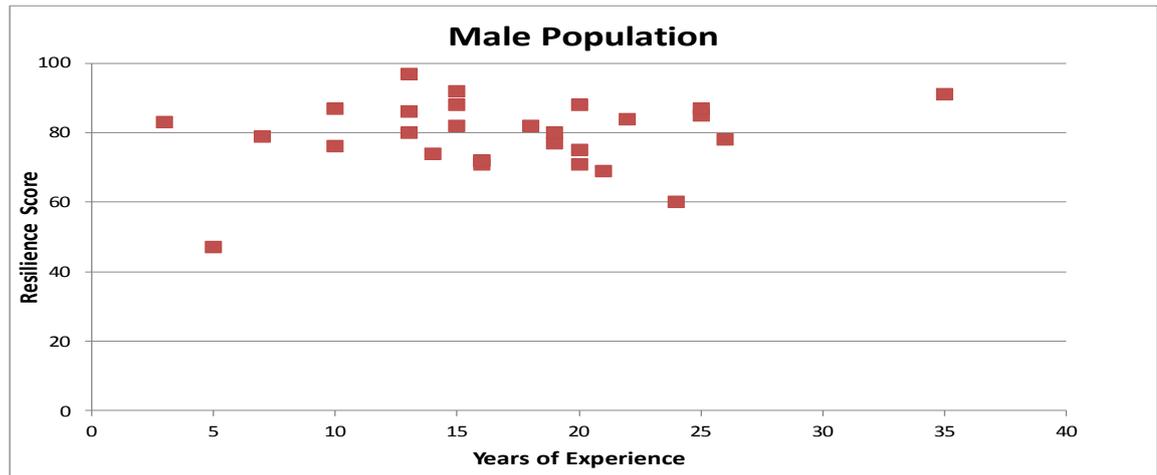


Figure 3. Years of experience and resilience are not significantly correlated with each other ($r=0.18$).

Education Level and Resilience-Males

A Pearson correlation analysis was conducted on the male population to examine whether there is a relationship between reported education level and participant resilience scores as measured by the CD-RISC scale. The results revealed that there is no correlation ($r = -0.07$).

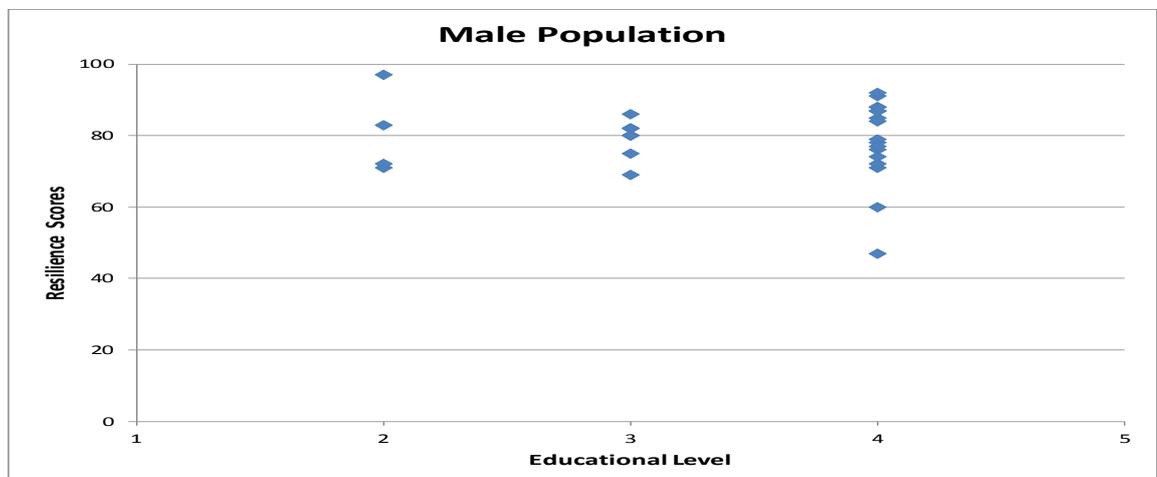


Figure 4. Education Level and resilience are not significantly correlated with each other ($r=-0.07$).

Note:0:Some secondary education/high school, **1:** Completed secondary education/high school, **2:** Some college/university/technical school, **3:** Undergraduate/primary degree, **4:** Master's degree, **5:** Ph. D/Doctoral degree.

Education Level and Resilience-Females.

A Pearson correlation analysis was conducted on the female population to examine whether there is a relationship between reported education level and participant resilience scores as measured by the CD-RISC scale. The results revealed that there is a weak negative correlation ($r = -0.24$) but that it is not significant with $p=0.18$ (two tailed)

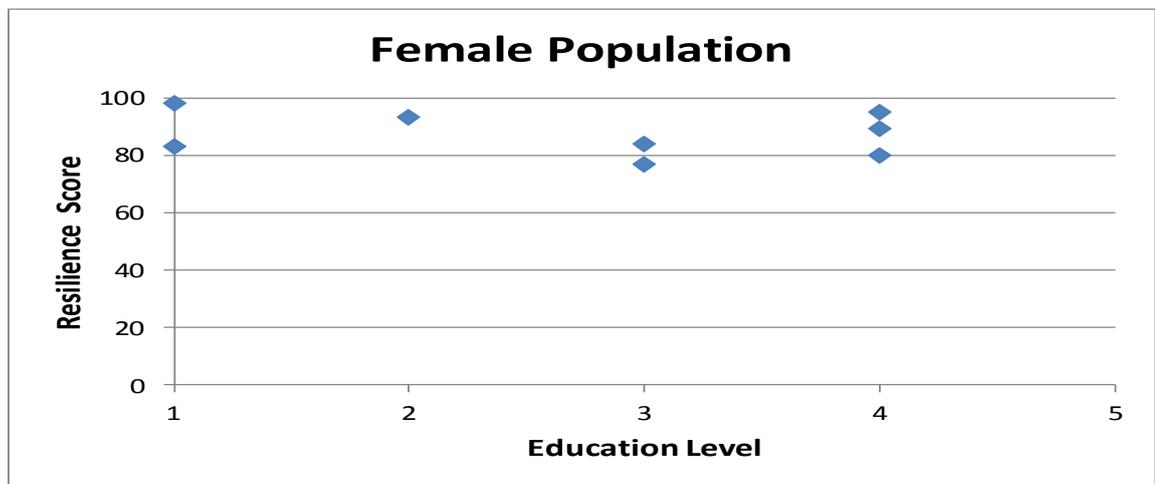


Figure 5. Education level and resilience are not significantly correlated with each other ($r=-0.24$).

Years of Experience and Resilience-Females.

A Pearson correlation analysis was conducted on the female population to examine whether there is a relationship between reported years of experience and participant resilience scores as measured by the CD-RISC scale. The results revealed that there is a moderate positive correlation ($r = 0.49$) and that it is significant with $p=0.004$ (two tailed). Greater years of experience for females are associated with higher levels of resilience. The mean age for males and females in the study was 45.36 and 43.75 years respectively and total experience for males was 16.96 and for females 17.87 years.

Females were 1.61 years younger on average but had slightly more management experience than males.

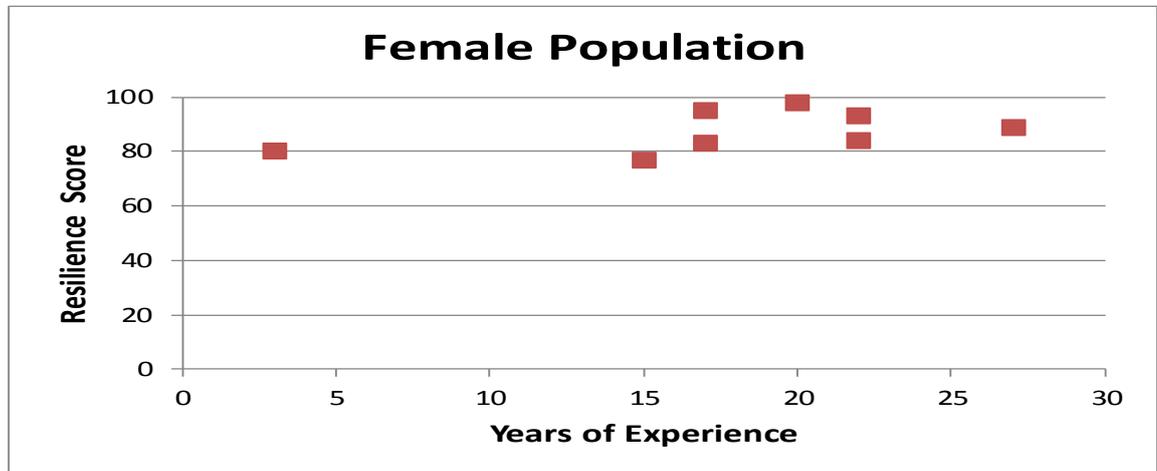


Figure 6. Years of Experience and resilience are significantly positively correlated with each other ($r=0.49$, $p<0.05$).

Resilience, Gender, Education and Years of Experience.

As evidenced in table 2 mean CD-RISC assessed scores for resilience vary across differing populations and whilst there is no gender specific data available in the literature the preliminary results of this study show a significantly higher resilience score by female managers with a lower standard deviation than that for males. It is evident also from the literature that many previous studies on resilience among different gender groups consistently show mixed results e.g. Werner and Smith (1982) found gender differences in resilience outcomes, specifically the impact of self-efficacy on resilience was significantly stronger for females than for males. Fergusson and Horwood (2003) in a 21-year longitudinal study found that females were more resilient to externalising responses, while males were more resilient to internalising responses. However, in a study by Peng et al. (2012) involving Chinese medical students, men were found to have significantly higher CD-RISC resilience scores than women and conversely in a study by Widom et al. (2007) using a different instrument, females were found to be more resilient in

adolescence and in early adulthood. Therefore support for gender differences in resilience levels either in the general population or specific populations remains unclear.

According to a recent report by Grant Thornton International (2013) women represent 35% of the total workforce in Ireland whilst the percentage of women in senior positions in Ireland is only 21% compared with 19% in the UK and 23% in the EU. There are much higher levels in eastern European countries where the percentage is considerably higher at circa 35% and China where 51% of senior positions are occupied by women. However, whilst the higher resilience score result for females in the study is not unexpected the mean value is significantly higher than the male population and appears to indicate a requirement for higher levels of resilience in female managers (this issue requires further investigation). With respect to education, a positive relationship has been found with higher levels of education by Campbell-Sills et al. (2009) nevertheless in a US based study of older adults by Lamond et al. (2008) education level was not found to be a predictor of resilience. However, apart from the moderate relationship found between resilience levels in females and years of experience all other correlation tests performed show no significant relationship with either educational level or years of experience.

Classification of Critical Incidents

According to Kumpfer (1997) the resilience process begins with an initiating event, an acute stressor or challenge (critical incident) and ends with an outcome, in the case of the present research this 'outcome' may be the demonstration of resilient behaviour which may provide the basis for successful management of the critical incident which in turn builds resilience, ultimately leading to a positive resilience based learning outcome. These three dimensions, i.e. the acute stressor or challenge, the demonstration of

resilient behaviour and a positive learning outcome form the overall data analysis framework approach.

The critical incidents were analysed in the first instance by carefully and repeatedly reading the survey data following which an initial assessment was made in order to determine whether the respondents either described and/or perceived the incidents as successful (positive) or unsuccessful (negative). The ‘challenge’ or ‘subject to adversity’, the ‘learning experience’ and the ‘positive outcome’ events were then used to categorise the management of the critical incidents into one of two categories, those that were deemed ‘successful’ and those that were deemed ‘unsuccessful’. In so classifying the incidents the researcher paid particular attention to answers to the following questions:

“Why do you feel this action was effective or ineffective ?”

“What was the outcome or result of your action/s ?”

“What more effective action do you feel you could have taken ?”

“What will you do differently in the future”

These scores were then tabulated in quartiles to facilitate descriptive analysis as follows:

(1)top quartile scores 87 to 100, (2) second quartile scores 81 to 86, (3) third quartile scores 75 to 80, and (4) bottom quartile scores 50 to 74. Table 3 below shows the results of this initial review.

Table 3

Critical Incident(n=32)	Resilience Score (points)				Total
	50-74	75-80	81-86	87-100	
Successful (Positive)	1	3	6	9	19
Unsuccessful (Negative)	6	5	0	2	13

From a total of 32 valid C.I.T. responses 19 (59% of the total sample) were deemed positive with the 3rd and 4th quartile resilience scores (i.e. above average scores for the general population) accounting for 15 of the 19 respondents (47% of the total sample) indicating that higher scores on the resilience scale are associated with positive outcomes with respect to critical incidents. There were 13 incidents deemed to be negative (41% of the total sample) and conversely 11 of the 13 incidents (35% of the total sample) are situated in the 1st and 2nd quartiles of the resilience scores (i.e. below average scores for the general population) indicating that lower resilience scores are associated with negative outcomes with respect to critical incident management. Whilst the necessity to be 'subject to adversity', the 'learning outcome' and 'positive management' are relatively objective in terms of definition and straight forward in terms of observation the dimensionality of resilience behaviour requires further definition and description.

The literature on resilience suggests broad agreement regarding the underlying dimensions of the construct of psychological resilience. In order to classify and describe the dimensions of resilient behaviour, which are meaningful and relevant to the study the researcher has compiled the list in table 4 below. These categories have been suggested following a broad review of the literature on psychological resilience and include 7 dimensions which have been augmented by a number of seminal research studies and papers in the area (see note 1).

Data Analysis.

According to Flanagan (1954) there are countless ways in which a given set of incidents can be classified. In selecting the general nature of the classification, the principal consideration should usually be that of the uses to be made of the data. As the primary purpose of this study is to determine the role resilience plays in the performance of

managers the frame of reference depends largely on whether the functional description is to be used primarily to identify participants demonstrating (or otherwise) resilient behaviour, whether their management of the recounted critical incident has resulted in increased resilience and how important the outcome is perceived to be relative to future performance. CIT utilises an inductive data analysis process that aims to classify critical incidents and identify critical behaviours. Flanagan (1954) recommended these be arranged into a series of well defined, mutually exclusive categories and sub-categories of decreasing generalisability and increasing specificity.

On the basis that this is a 'within case' study the initial process involved reading and re-reading each case in order to establish, in the first instance, tentative categories, themes or dimensions related to the chosen frame of reference. The data in each case was then coded according to the 7 dimensions detailed in Table 4. Data from each respondents CIT survey was then classified according to the appropriate dimension. Using a specially designed 7 item Likert 'type' scale (see appendix 3) equal numerical values were assigned to each dimension. Scores were then attributed to each CIT response whenever each dimension was observed within the participants response with one point allocated to each observation of each dimension up to a maximum of four points per dimension. In the instances where a particular dimension was not observed then zero value was attributed for that dimension. In this way, if respondents were to score high (i.e. demonstrate resilient behaviour across most if not all of the dimensions) they needed to exhibit scores on most or all of the 7 dimensions. The Pearson correlation test was used to evaluate the relationship between resilience scores and the analysed output from the CIT data. Statistical significance was taken to be $P \leq 0.05$.

Table 4.

Dimensions of Resilient Behaviour	Description
Situational and Emotional Awareness (SEA)	Resilient people are aware of the situation and cognisant of personal strengths and weaknesses. They can understand, control and manage feelings and emotional reactions to the behaviour of those around them. This helps them to exercise control of the situation and creatively think of new ways to solve problems.
Problem Solving Skills(PSS)	During critical situations resilient people are able to identify solutions and take advantage of opportunities whereas non resilient people sometimes develop tunnel vision and have difficulty appreciating important details which can lead to mis-interpretation of the situation or the wrong actions being taken.
Expect and Accept Setbacks(EAS)	Resilient people accept set-backs more readily, they have a reflective ability which allows them to remain open, flexible and they demonstrate a willingness to adapt to change.
Internal Locus of Control(ILC)	Resilient people have a positive self-concept a high level of self-efficacy and positive internal locus of control. There is a ready acceptance of responsibility for failure in situations within their control. A high level of self-belief and a strong appreciation that they can positively influence outcomes.
Network and Social Connections(NSC)	Resilient people have high levels of empathy and optimism, they seek out and engage positive role models, mentors and usually make efforts to develop a network of co-workers, and/or family for support. This facilitates social connectivity, alternative perspectives, the creation of new solutions and important emotional support.
Being willing to Ask for Help(WAH)	Asking for help is a core resilient behaviour, a decision to do this requires reflective skills.
Identifying as a Survivor versus Victim(ISV)	In times of crisis resilient people will demonstrate a can do, positive attitude rather than internalise the problem and view themselves as a victim, they demonstrate a 'survivor' mentality always trying to identify solutions and focusing instead on a positive outcome.

Note 1. Information augmented from Bandura (1997), Almedon (2005), Ungar (2004), Rutter (1987) and Kumpfer (1997).

The a priori dimensions defined in table 4 have been used in a prescriptive way to identify the presence or absence of each of the itemised resilient behaviours within case. The researcher designed a Likert type rating scale consisting of 7 items, rated zero to four. Frequency of observations were made based on '*not evident*', '*rarely evident*', '*sometimes evident*', '*often evident*' and '*very evident*', scored zero to 4 respectively, with a maximum obtainable score of 28 points. Points were attributed on an equal weight basis (i.e. behaviours of a given type were all assigned the same general magnitude and level of importance) to each of the 7 resilient behaviour related dimensions.

Following prescriptive content analysis and coding of the data according to the listed a-priori dimensions, a total score for resilient behaviour was then calculated using the specially designed scale described previously. Each participant's total score represented the extent to which resilient behaviour had been both evident and used in the respondent's management of their respective critical incident. These scores were then tabulated in quartiles to facilitate descriptive analysis as follows:

(1) top quartile scores 16-20, (2) second quartile scores 11-15, (3) third quartile scores 6-10, and (4) bottom quartile scores 0-5.

Lastly, a binary logistic regression test was conducted in order to determine the probability ratio i.e. the odds of being in one category (successful) versus the other (unsuccessful), the predictive capacity of the model and the model 'fit' based on resilience behaviour scores and the impact (if any) of including additional IV's e.g. CD-RISC Scores.

Table 5.

Critical Incident(n=32)	Resilience Behavioural Score (points)				Total
	0-5	6-10	11-15	16-20	
Successful (Positive)	0	3	11	5	19
Unsuccessful (Negative)	8	5	0	0	13

Resilience and Resilient Behaviour.

There is a significant ($p=0.002$) and strong positive correlation between CD-RISC scores and resilience behaviour scores ($r=0.51$). This result is not unexpected given managers who have higher levels of resilience are more likely to exhibit resilient behaviour and vice versa.

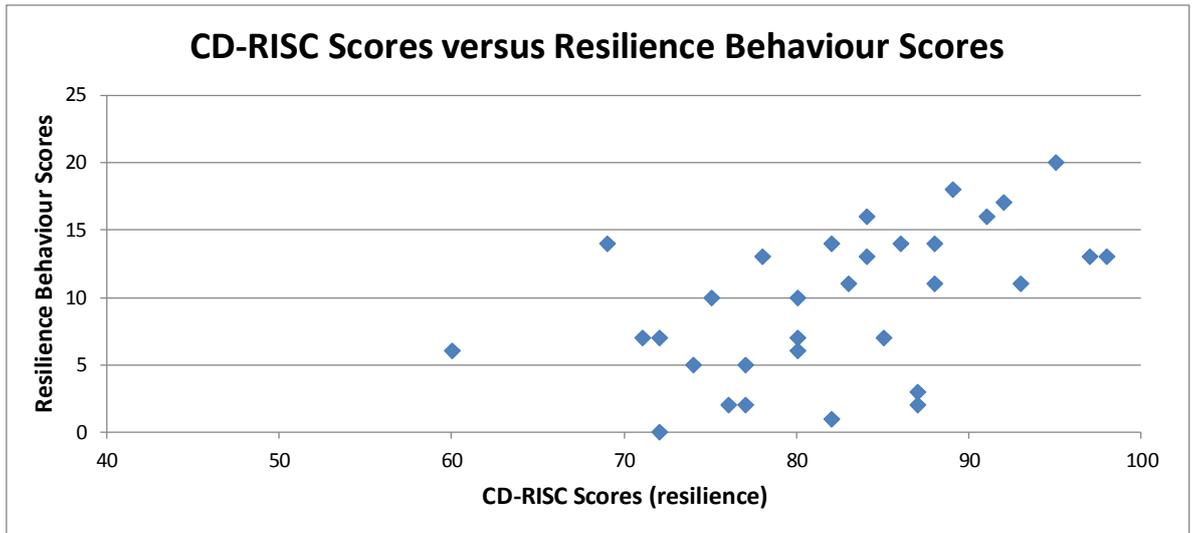


Figure 7. CD-RISC scores and resilience behaviour scores are significantly positively correlated($r=0.51$).

Resilience and Performance

CD-RISC and behavioural resilience scores tabulated in the data summary (table 6) were used to conduct a binomial logistic regression test (using SPSS 22) to determine the probability ratio i.e. the odds of being in one category (successful) versus the other (unsuccessful). The independent variables are, CD-RISC scores and resilience behaviour scores. The dependent variable (the outcome) is binary i.e. successful or unsuccessful.

Table 6.

Data Summary (Logistic Regression)

Variable	Obs	Mean	Std Dev.	Min.	Max.
CD-RISC Score	32	80.61	10.34	60	98
Res Behavioural Score	32	9.63	5.46	0	20

Regression Results.

The minimum ratio of valid cases to independent variables for logistic regression is 10 to 1, with a preferred ratio of 20 to 1. In this analysis, there are 32 valid cases and 1

independent variable. The ratio of cases to independent variables is 32 to 1, which satisfies the minimum requirement.

The original model (before any independent variable was entered) predicted a success rate of 59.4%. By adding resilient behaviour scores as the independent variable the overall classification rate computed by SPSS increased to 90.6% with an 89.5% accuracy on the 'success' category and a 92.3% accuracy on the 'unsuccessful' category, this is a considerable improvement on the 59.4% correct classification with the constant model suggesting that with predictor, the model is significantly better. The probability of the model chi-square (35.605) was <0.000 (less than or equal to the level of significance of 0.05) therefore the null hypothesis that there is no difference between the model with only a constant and the model with independent variables was rejected. The existence of a relationship between the independent variable and the dependent variable was supported. The Nagelkerke R square value is 0.815 indicating a strong relationship of 81.5% between the predictor and the prediction. The Exp (B) value was 0.461 indicating the odds of being classified as 'successful' decreases with a one unit increase in the predictor variable.

The significance result for a Hosmer and Lemeshow test was 0.964 (i.e. >0.05) implying that the model's estimates fit the data at an acceptable level. The probability of the Wald statistic for the variable 'resilient behaviour' was 0.006 (i.e. ≤ 0.05) therefore this independent variable contributed significantly to the prediction. These results therefore support the view that managers exhibiting a higher level of resilient behaviour are more likely to be classified as 'successful'.

Furthermore, following the addition of the CD-RISC (resilience scores) the overall classification rate increased to 93.8% (from 90.6%) to a 94.75% (from 89.5%) accuracy on the 'success' category. There was no change to the prediction for the 'unsuccessful' category. However, the Wald statistic of 0.177 (i.e. >0.05) indicates that the addition of the CD-RISC scores did not make a significant contribution to prediction. The number of cases where the observed variable was 'success' which were predicted correctly was 17 with 2 cases incorrectly predicted whilst the number of cases where the observed variable was 'unsuccess' which were predicted correctly was 12, with 1 case incorrectly predicted. The casewise list revealed 3 of the 32 cases did not fit the model whilst an observed 'U' shaped classification plot indicated the predictions were well differentiated with cases clustered at each end, showing correct classification and no false positives or negatives.

Discussion.

The aims of this study were to determine if increased demonstration of resilient behaviour correlates with successful management of critical incidents and in turn improves performance.

Preliminary analysis shows that resilient levels within the total sample and as measured by the CD-RISC scale to be 80.61 (SD=10.34) which are slightly above those reported for the general US population at 80.4 (SD=12.8). In this study however, female managers were found to have significantly higher resilience scores on the same scale of 86.57 (SD=7.76) than male managers 79.52 (SD=10.4) whilst having similar levels of experience and education. It is important to note that female managers comprise 22% of the total sample in this study, however females represent 35% of the Irish workforce and occupy 19% of the senior management positions in Ireland (source: Grant Thornton International, 2013) therefore our study at 19% contains a representative and comparable

gender sample in that we expect women to represent approximately 22% (versus 19%) of management positions in Ireland. However, making useful comparisons or investigating further is difficult given there is a dearth of information with respect to resilience research in an Irish context and even less when one considers the workplace.

Whilst there is some evidence in the literature that differences in resilience levels can occur across cultures, of the 32 respondents in this study only six identified as non-Irish, two of which identified as British. When their respective resilience scores were removed from the analysis there was negligible difference to the mean values of either male or female scores suggesting that there is little or no cultural bias in the results.

Nevertheless, the gender difference in measured resilience levels is an interesting finding (requiring further investigation and analysis) as it may indicate that female managers are required to be more resilient than male managers if they are to operate successfully. Indeed, in the working experience of this researcher there is strong anecdotal evidence to suggest that female managers particularly in middle and senior roles need to behave in a more 'tougher', 'hardier' or perhaps even more 'resilient' manner than their male counterparts in order to 'offset' male perceptions that women managers are not as strong as men.

This study demonstrated that higher levels of resilient behaviour are strongly associated with better management of challenges and adversity (critical incidents) whereas lower levels of resilient behaviour are associated with poor management of critical incidents. Higher levels of resilient behaviour were associated with a greater likelihood to successfully manage the challenges (critical incidents) experienced by managers in what is a demanding and stressful profession. This implies that in order to be successful

(perform better) a manager should have and use resilience based skills and the more he or she does so the more likely they are to perform better. The study also found a strong correlation between resilience level assessed through the CD-RISC instrument and the resilient behavioural scores reinforcing the view that managers who exhibit resilient behaviour previously and overcome their respective challenges are more likely to develop higher levels of resilience for use throughout their careers and personal life.

The present findings must be cautiously interpreted considering, in the first instance that the majority of the respondents were recruited from Ireland which has its own cultural characteristics, different from those of the United States for instance where much of the research on resilience has taken place and therefore comparisons with respect to prior studies are difficult to defend. Nevertheless, there is a need to conduct further cross-cultural or cross-national studies to both ratify the results found here and also to verify whether the results of this study are sustainable for culturally different countries. The instrument used in this study to assess resilience levels (CD-RISC) is self-reporting and has been designed to produce a 'point in time' so that the calculated values are current whereas the critical incident may have occurred sometime previously also the calculated values may be negatively or positively influenced by the respondent's emotional state at the time of reporting. The study sample consisted of 32 middle and senior level managers with a mean age of 45 years ($SD=6.32$) the subjects were mostly males (78%) and Irish (81%) therefore generalising the results across the general population of middle and senior managers would be inappropriate.

Conclusions.

This study is important because it is the first empirical study that operationalises resilience and resilient behaviour in a representative sample of middle and senior level

managers. Resilience and resilient behaviour provide information about how managers who face challenges or adversity (e.g. critical incidents) throughout their careers need to behave and the actions they can take in order to overcome such challenges, further developing their resilience skills for future improved career-long performance.

The overall findings of the study strongly support the inclusion of resilience and resilient behaviour as an important component of increased performance in managers.

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Appendix 1.

Connor-Davidson Resilience Scale (CD-RISK)

Connor-Davidson Resilience Scale 25 (CD-RISC-25)

initials ID# date / / visit age

For each item, please mark an "x" in the box below that best indicates how much you agree with the following statements as they apply to you over the last month. If a particular situation has not occurred recently, answer according to how you think you would have felt.

	not true at all (0)	rarely true (1)	sometimes true (2)	often true (3)	true nearly all the time (4)
1. I am able to adapt when changes occur.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
2. I have at least one close and secure relationship that helps me when I am stressed.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
3. When there are no clear solutions to my problems, sometimes fate or God can help.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
4. I can deal with whatever comes my way.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
5. Past successes give me confidence in dealing with new challenges and difficulties.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
6. I try to see the humorous side of things when I am faced with problems.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
7. Having to cope with stress can make me stronger.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
8. I tend to bounce back after illness, injury, or other hardships.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
9. Good or bad, I believe that most things happen for a reason.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
10. I give my best effort no matter what the outcome may be.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
11. I believe I can achieve my goals, even if there are obstacles.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
12. Even when things look hopeless, I don't give up.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
13. During times of stress/crisis, I know where to turn for help.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
14. Under pressure, I stay focused and think clearly.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
15. I prefer to take the lead in solving problems rather than letting others make all the decisions.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
16. I am not easily discouraged by failure.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
17. I think of myself as a strong person when dealing with life's challenges and difficulties.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
18. I can make unpopular or difficult decisions that affect other people, if it is necessary.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
19. I am able to handle unpleasant or painful feelings like sadness, fear, and anger.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
20. In dealing with life's problems, sometimes you have to act on a hunch without knowing why.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
21. I have a strong sense of purpose in life.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
22. I feel in control of my life.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
23. I like challenges.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
24. I work to attain my goals no matter what roadblocks I encounter along the way.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
25. I take pride in my achievements.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>

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Appendix 2.

Survey Questionnaire.

Thank you for agreeing to participate in our study. We guarantee confidentiality throughout, there is no record of your name in this survey and the information you provide will be anonymous and will not be passed to anyone outside this study. Please read the questions carefully, there are no right or wrong answers and most of the questions deal only with your personal opinion and experience. Once again, we appreciate your participation and help with this study.

Section A.

Your answers to the following questions will provide useful information about yourself but you will remain as an anonymous participant.

Please answer each one.

QDG1. What country do you work in now? _____

QDG2. Have you ever worked for a multinational company?

- Yes
- No

If “yes” what countries have you worked in _____

QDG3. Is your current employer a multinational or global company?

- Yes
- No

QDG4. How long have you worked for your current employer _____

QDG5. How long have you worked in your current role _____

QDG6. How long have you worked at your current level _____

QDG7. What is your age?

- Less 30
- Between 30 and 40
- Between 40 and 50
- Between 50 and 60
- Over 60

QDG8. What is your sex?

- Male
- Female

QDG9. How would you classify your job?

- Senior Management
- Middle Management
- Other _____

QDG10. How many years of work experience do you have at Middle and Senior level?

- Senior Level - please indicate years _____
- Middle Level - please indicate years _____

QDG11. Please indicate the highest education level you have completed:

- Some secondary education/high school
- Completed secondary education/high school
- Some college/university/technical school.
- Undergraduate/Primary degree.
- Master's degree
- Ph.D./Doctoral degree.
- Other _____

QDG12. What is your country of citizenship/passport? _____

ADG13. How long (in years) have you lived in your country of citizenship? _____

QDG14. Have you ever worked outside of your country of citizenship for a period of at least 6 consecutive months?

- Yes
- No

QDG15. How many years did you work outside of your country of citizenship? _____

QDG16. What is the country that you identify with most? _____

QDG17. What is your country of birth, if different from your country of citizenship? _____

**QDG18. What is your native or mother tongue?
_____**

QDG19. How many employees are there in your entire company?

- Less than 100
- Between 100 and 500
- Between 501 and 999
- Between 1,000 and 4,999
- Between 5,000 and 9,999
- More than 10,000

QDG20. How many employees are there in your local organisation?

- Less than 100
- Between 100 and 500
- Between 501 and 999
- Between 1,000 and 4,999
- Between 5,000 and 9,999
- More than 10,000

QDG21. What is the main industry that your organisation operates within?

- Education
- Financial Services.
- Hospitality Services.
- Public Service.
- Healthcare Services
- Logistics/Transportation
- Construction/Engineering/ Manufacturing
- Retail /Sales/ Marketing/ Advertising
- Information Technology/Telecoms/Software
- Other _____

QDG22. What is the major activity that your work group does?

- Administration
- Engineering/ Manufacturing/ Production
- Finance/ Accounting
- Human Resource Management
- Marketing/ Sales/ Customer Service
- Planning
- Purchasing/ Inventory Management
- Research and Development/ Design
- Other _____

QDG23. In an ideal job, how important would it be for you to have a network to rely on in the performance of your job?

- Not at all Important
- Very Unimportant
- Neither Important nor Unimportant
- Very Important
- Extremely Important

QDG24. In an ideal job, how important would it be for you to have sufficient time for your personal or family life?

- Not at all Important
- Very Unimportant
- Neither Important nor Unimportant
- Very Important
- Extremely Important

QDG25. In an ideal job, how important would it be for you to work with people who cooperate well with one another?

- Not at all Important
- Very Unimportant
- Neither Important nor Unimportant
- Very Important
- Extremely Important

QDG26. In your private life, how important is personal steadiness or stability to you?

- Not at all Important
- Very Unimportant
- Neither Important nor Unimportant
- Very Important
- Extremely Important

QDG27. In your private life, how important is persistence or perseverance to you?

- Not at all Important
- Very Unimportant
- Neither Important nor Unimportant
- Very Important
- Extremely Important

QDG28. In your current job, how often do you feel nervous or tense at work?

- Never

- Rarely
- Sometimes
- Often
- All of the Time

QDG29. To what extent do you agree or disagree with the statement:

“When people have failed in life, it is often their own fault”

- Strongly Disagree
- Disagree
- Neither Agree nor Disagree
- Agree
- Strongly Agree

Section CI.

In the next section you will be asked to describe a key successful or unsuccessful event (Critical Incident) that has occurred in your career to date and which you feel played a significant role in your performance. By “incident” we mean an event or series of events which have caused you to re-examine your career direction or rethink the way you behave or do business.

There are three sets of questions concerning the following;

- 1.Context – in which the incident occurred.
2. Behaviour – exactly what you did that was effective or ineffective.
3. Consequences – of the behaviour and whether or not consequences were within your control.

Your responses are confidential, anonymous and no individual is named in the survey.

Q.CT. The following series of questions provide a framework for you to describe a key successful or unsuccessful event (Critical Incident).

- Describe the event itself. When did it happen?
- What were the circumstances surrounding the incident?
- What caused the incident?
- What was the situation? What was happening at the time?
- What led up to the event? What was the background?
- What assumptions did you make about the problem or situation?
- Were there any events particularly good or helpful to you?
- Were there any events particularly bad or unhelpful to you?
- What happened as a result?
- What will you do if you are faced with a similar situation in the future?

Q.BR. The following series of questions address how you behaved during the event and how you managed the event.

- Describe what you did that was effective / ineffective?
- What actions/behaviour did you observe which were being taken by others?
- Exactly what did you do or not do that was especially effective or ineffective
- What was the outcome or result of your action/s?
- Why do you feel this action was effective or ineffective?
- What more effective action do you feel you could have taken?

Q.CE. The following series of questions address what you consider were the consequences of your behaviour.

- What was the outcome of your behaviour?
- What were the consequences of your behaviour?
- Were the consequences due to your behaviour?
- Did this help or not help the incident to occur?
- What resulted that led you to believe the action was effective or ineffective?
- What would you have done differently if you could do it over again?
- What will you do differently in the future?

Section PRTM.

The next section involves completion of a psychological resilience test measure using the Connor-Davidson Resilience Scale (CD-RISK). Please answer each question.

CD-RISC instrument appears here.

Appendix 3.

Res. Bhr. Dimensional Scale - 7 item Likert Type.

Codes	Dimensions	Not evident(0)	Rarely evident(1)	Sometimes Evident(2)	Often evident(3)	Very evident(4)	Sub Total
SEA	Situational and Emotional Awareness						
PSS	Problem Solving Skills						
EAS	Expect and Accept Setbacks						
ILC	Internal Locus of Control						
NSC	Network and Social Connections						
WAH	Being willing to Ask for Help						
ISV	Identifying as a Survivor versus Victim						
Notes:							Total Score <input style="width: 50px; height: 20px;" type="text"/>

Appendix 4.

Solicitation e-mail to prospective participants.

Hi *Name of person*

I hope you are keeping well.

As part of my Doctoral thesis I am completing a study concerning the impact resilience has on performance in middle and senior level managers (see note below to prospective participants) and was wondering if you would be interested in participating? Although we know each other the survey is anonymous and **no individual is identified in the study** nor is any of the information shared outside of the study. It's estimated the survey should take about 20 minutes to complete. I would also like to ask you to identify other middle and senior level managers whom you know and you think might consider participating, if so could you please forward the note below?

Here is an anonymous link to the survey

https://qtrial.qualtrics.com/SE/?SID=SV_4NppzIImciZPh7T

Thanks for your help with this, I really appreciate it and would be glad to return the favour at any opportunity.

Kind regards,

Frank.

Note to prospective participants:

I am a Doctoral student working on a research project concerning resilience in middle and senior level managers, how resilience is acquired and the effect on job performance. To date resilience has been extensively researched within the discipline of Psychology however there has been relatively little research conducted into resilience in a workplace context and one of the aims of this study is to attempt to formally introduce the construct of resilience into management and management practice. The title of my research is 'An investigation into the role resilience plays in the performance of managers'. The study will involve both male and female managers working in different industries and geographies around the globe. My study consists of two phases; the 1st quantitative phase involves the completion (on-line test) of the Connor-Davidson (CD-RISK) resilience measure to test resilience levels of all participants. The 2nd qualitative phase will use Critical Incident Techniques (also on-line via a customised survey) and involves asking you to describe a key successful or unsuccessful event (Critical Incident) that has occurred in your career to date and which you feel played a significant role in the performance of your job either negatively or positively.

The survey should take approximately 20 minutes to complete and you can return to the survey on multiple occasions.

I guarantee confidentiality throughout, no individual is named in this study and the information provided is anonymous and will not be passed to anyone outside of this study.

Psychological resilience is an interesting and topical subject and it is intended also to share the results of the study with all participants such that you may gain something in return for your participation or indeed comment on the overall findings.

Here is the anonymous link to the survey

https://qtrial.qualtrics.com/SE/?SID=SV_4NppzIImciZPh7T

Once again, thank you for your participation.

Frank McCarthy, DBA student, Waterford Institute of Technology, Waterford, Ireland.

Email fpemccarthy@gmail.com

Section 3:- Conclusions and Recommendations.

Overall Summary and Research Aims.

The overall aim of the mixed methods exploratory study presented in this thesis was to measure and explore resilience in the workplace in order to increase understanding of how resilience impacts performance. Specific objectives of the study included the assessment of participant resilience levels and resilient behaviour in order to undertake comparative analysis with other populations and demographics and furthermore, to determine if increased demonstration of resilient behaviour correlates with successful management of critical incidents and in turn impacts performance.

The use of the Connor-Davidson resilience scale (CD-RISC) to determine participant resilience levels represents the quantitative element of the study and this data was used to ground the study in terms of manager resilience in context. Participant responses to the critical incident techniques (CIT) based questionnaire provided the qualitative data for the study. A specially created resilience behaviour scale (unique to the study) was used in the first instance, to identify resilient behaviour and then as a means of quantifying the level of resilient behaviour in the context of the participant's management of their particular critical incident. Quantitative data analysis allowed assessment of manager resilience and comparisons to other demographics and populations whilst the qualitative data was used to determine if the participants' management of a specific 'episode' or 'critical incident' (successfully or otherwise) is related to or caused by lack of resilience and in turn how participant resilience levels impact performance.

The study was conducted within a cohort of thirty two (32) managers both male and female operating in various enterprises and geographies. Participants completed a 'point

in time' individual resilience assessment measure (25-item Connor-Davidson Resilience Scale) together with a specially designed Critical Incident Technique based questionnaire, both instruments were administered simultaneously via a single web-based survey. As the chosen sample population consists of practicing managers this study aimed to provide an 'in context' view of the role resilience plays with respect to individual manager performance. On the basis that resilience is only now emerging in the organisational behaviour literature this study adopted a cross-disciplinary perspective and draws from the established theory building and empirical findings in clinical and developmental psychology.

Furthermore, the study assumes resilience to be a multi-dimensional construct, where individual skills, attitudes, strategies and one's life long self-concept evolve and strengthen with experience. Resilience acquisition therefore, is understood to be a process rather than as an individual trait, which can be assessed, developed and leveraged for further manager performance improvement.

Method and Methodology

Tashakkori and Teddlie (1998) defined mixed methods in simple terms as “the combination of qualitative and quantitative approaches in the methodology of a study” (p.ix). Johnson and Onwuegbuzie (2004) describe mixed methods as “the class of research where the researcher mixes or combines quantitative and qualitative research techniques, methods, approaches, concepts or language into a single study” (p.14). It is clear from the literature that mixed methods studies regularly employ diverse philosophical positions which according to Greene (2007) “are often referred to as dialectal stances that bridge post-positivist and social constructivist worldviews, pragmatic perspectives, and transformative perspectives” (p.20).

According to Creswell (2003) researchers in a mixed methods approach build knowledge on pragmatic grounds. A major tenet of pragmatism is that quantitative and qualitative methods are compatible where researchers choose variables and units of analysis, which are most appropriate to finding an answer to their research question (Tashakkori and Teddlie, 1998). Some researchers have argued that quantitative research does not facilitate a good understanding of the context in which people talk and consequently some of what is said can go ‘unheard’ arguing instead that these deficiencies are actually strengths within qualitative research.

Alternatively, qualitative research can be seen as being more open to researcher bias and less generalisable than quantitative findings due to the relatively small sample size common in qualitative studies. Further conformation is provided by Creswell and Clark (2011) when they state “the intent in using this design is to bring together the differing strengths and non-overlapping weaknesses of quantitative (large samples, size, trends, generalisation) with those of qualitative methods (small sample, details, in depth)” (p.12). It appears therefore, that the historical argument in favour of mixed methods research has been that it provides strengths that offset the weaknesses of both quantitative and qualitative research.

Whilst the debate continues, Currall and Towler (2003) have enumerated what they claim are three major advantages to the diversity of mixed methods employed in management and organisational research. Firstly, the methodological variety mirrors the variety of research questions posed by management and organisational researchers. Secondly, the heterogeneity of research methods is needed because of the number of theoretical paradigms that management and organisational research draws from and lastly, the research itself can involve many different levels of analysis.

Clearly, management is a diverse and multi-disciplinary field which draws on various theoretical frameworks and this wide diversity is reflected in the numerous and varied approaches taken by researchers within management science. Nevertheless, the broader base of resilience research indicates there has been frequent use of both quantitative and qualitative methods. According to Creswell and Clark (2011) the field of resilience research can be furthered by bringing together the differing strengths of a mixed methods design that contextualises participant experiences through the combination of both numbers and voices. Methodological challenges aside it follows that numerical and text data whether collected sequentially or concurrently (the later being the case with this study) can assist in gaining a greater understanding of the research problem.

Creswell et al. (2003) suggest three primary considerations when designing a mixed methods study, they are, priority, implementation and integration. Priority refers to the emphasis placed on either the quantitative or qualitative method, implementation concerns whether the quantitative and qualitative data collection and analysis comes in sequence and whether or not they are in parallel or concurrently and finally integration refers to the phase where the mixing or connecting of quantitative and qualitative data occurs. Bryman (2008) argued that mixed method studies should have a well defined rationale with a clear link to the research questions, he also cautions “that a combination of quantitative and qualitative data based on the administration of one research instrument does not represent a true integration of quantitative and qualitative research because one will tend to be subordinate to the other” (p.103).

According to Ungar (2006) qualitative methods (for a variety of reasons enumerated in Paper 3) are especially relevant to resilience research, he states also that, “qualitative research addresses two specific shortcomings noted by resilience researchers:

arbitrariness in the selection of outcome variables and the challenges accounting for the sociocultural context in which resilience occurs” (p.87). Ungar and Liebenberg (2005) have stated that “typically, studies of resilience have employed designs that integrate established test instruments with demonstrated validity and reliability” (p.211) and furthermore within a context that is attentive to how different groups define their worlds and successful growth in them, “one can see the need for a mixed methods approach” (p.214).

Overview of Method.

A mixed methods exploratory study was conducted with the overall aim of measuring resilience levels in managers and exploring how resilience and resilient behaviour affect performance. Both the quantitative and qualitative data were collected via completion of an online survey which contained three sections, the first of which gathered demographic data from respondents in a series of 18 questions, the second section, through a series of 14 questions/prompts solicited a narrative on a specific critical incident and the final section established a score on the Connor-Davidson resilience scale (CD-RISC) where respondents were asked to rate each statement on a 25-item Likert scale from zero (not true at all) to four (true nearly all the time). The CD-RISC is designed as a self-rating scale where the subject is directed to respond to each question with reference to the previous month, understanding that if a particular situation has not arisen in this time, then the response should be determined by how the person thinks they would have reacted. Scoring of the full 25-item scale is based on summing the total of all items, each of which is scored from 0-4. The full range is therefore from 0 to 100, with higher scores reflecting greater resilience.

Qualitative data collected from the CIT based survey responses was classified according to each of the 7 dimensions of resilient behaviour (see Table 4, Paper 3). Using a specially designed 7-item Likert 'type' scale (see appendix 3, Paper 3) equal numerical values were assigned to each dimension. Scores were then attributed to each CIT response whenever each dimension was observed within the participants response with one point allocated to each observation of each dimension up to a maximum of four points per dimension. In the instances where a particular dimension was not observed, then zero value was attributed for that dimension. In this way, if respondents were to score high (i.e. demonstrate resilient behaviour across most if not all of the dimensions) they needed to exhibit scores on most or all of the 7 dimensions.

The use of CIT in the Study.

A critical incident can be described as one that makes a significant positive or negative contribution to an activity or phenomenon (Grove and Fisk, 1997). The critical incident technique is a method involving a set of procedures to collect, content analyse, and classify observations of human behaviour in such a way as "to facilitate their potential usefulness in solving practical problems and developing broad psychological principles" (Flanagan, 1954, p.1). Importantly for this study, critical incidents are seen as a useful approach to identifying performance improvement needs and their sources and they provide a rich, in-depth perspective of life in an organisation that is usually not apparent through more quantitative methods of data collection (Gremler, 2004).

Since its introduction the CIT method has been used in a wide range of disciplines including management (Ellinger and Watkins, 1998). It can be used both quantitatively and qualitatively and according to Chell and Pittaway (1998) when used qualitatively it can facilitate the investigation of significant occurrences (events, incidents, processes or

issues) identified by the respondent, the way they are managed, and the outcomes in terms of perceived effects. When used qualitatively (as is the case with the present study) the CIT provides more discursive data, which can be subjected to narrative analysis and be coded and categorised according to the principles of grounded theory. The objective in both cases is to gain understanding of the incident from the perspective of the individual, taking into account cognitive, affective and behavioural elements. With respect to the present study CIT can provide concrete information for managers (Strauss, 1997) it can also provide relevant data for practical purposes of actioning improvements and highlighting the management implications (Chell and Pittaway, 1998) and is particularly well suited for use in assessing perceptions of people from different cultures (Stauss and Mang, 1999). Importantly for this study, CIT is considered to be a culturally neutral method (Ruyter et al., 1995).

It is clear therefore, that the literature provides widespread support for the view that CIT⁴ is a robust research method, which has proven effectiveness both in qualitative and quantitative studies and across a wide range of disciplines including management.

Whilst there are a number of ways critical incidents can be gathered this study employed a common approach taken in the social sciences, which was by means of a specially designed questionnaire. Based on CIT techniques, the questionnaire asks the respondent to provide a detailed account of their own experience/s (critical incident). Participant responses are then analysed according to the data analysis procedure detailed in the study design.

⁴ Paper 3 provides a detailed summary of the CIT processes together with a discussion of the key advantages and disadvantages, and the data collection and analysis methods.

The Role of the Researcher

Bryman and Bell (2007) contend that an anthropologist's primary responsibility is to the people being studied whilst Sin (2005) advises that we must treat ethical issues as central to the conduct of all management research. Ethical standards require that researchers do not place participants in a situation where they might be at risk of harm either physical or psychological. Confidentiality and anonymity are of particular relevance to the study given the sensitive nature of the subject matter (performance) and the likely attitude of prospective participants to discussing critical 'episodes' or 'incidents'. In addition, the entirety of the initial set of prospects were known to the researcher either directly or indirectly whilst the researcher had also worked closely with approximately 20 of the initial sample. Furthermore, several prospective participants were working in the same organisation at the time the study was conducted so there was likely to be legitimate concerns that participation in the study may adversely affect career or promotional prospects.

In order to ensure willing, open and honest participation it was necessary to protect the anonymity of every participant from the outset, interviews were therefore eliminated as a means of collecting the qualitative data on the basis that anonymity would be lost and participants were more likely to be stifled in their responses if they were identified within the study. The basic principle of voluntary participation requires that people not be coerced into participating in research. Closely related to the notion of voluntary participation is the principle of informed consent, requiring that prospective research participants must be fully informed about the procedures and risks involved in research and must give their consent to participate. To this end, a formal invitation (see appendix 4) was extended via e-mail (in advance of any information being sought) to all prospective participants detailing the researchers affiliations and stating also that all

participants are guaranteed anonymity, no individual is identified in the study and that all information is confidential.

Each of the original 40 prospective participants was also invited to forward the explanatory e-mail containing the anonymous survey link to other managers in their network and invite them to participate. Consequently, the final 32 participants of the study consisted of respondents from the original prospect list together with those who responded to the forwarded e-mail solicitation.

Reflecting on the Coding Process – 2nd Coder

As detailed in Paper 4, the researcher compiled a list of a-priori defined codes which were based on the literature and which sought to describe and capture resilient behaviour through a series of questions, framed using the Critical Incident Technique (CIT). Data analysis involved the identification and coding of themes (behaviours) that were observed in the text. It is not uncommon however, that different coders may vary in their interpretation of the text's content and therefore conclusions made by a single interpreter (coding alone) may differ from what another coder may conclude with respect to the same text. As the author created the codes and the resilient behavioural scale specifically for the study it is important to point out that there may be increased risk of human error or possible bias in the interpretation and scoring of participant responses. Furthermore, it is also widely accepted in qualitative research that a systematic coding process, consistently used by each coder, should be more reliable compared with a process where each coder uses his or her own idiosyncratic methods (Myles and Hubermann, 1994).

In order to minimise possible bias and eliminate potential errors it was decided to separately re-code all 32 responses. This was undertaken by Dr. Valerie Brett who is a

non-teaching member of the staff of the Centre for Enterprise Development and Regional Economy (CEDRE), School of Business, Waterford Institute of Technology, an organisation affiliated to the Waterford Institute of Technology. This 2nd coding process resulted in 12 of the 32 having differences of at least 2 points (i.e. 8% of the total score). Both coders subsequently undertook a joint review of the text and initial coding results. The outcome of which was 9 of the 12 participant resilience behavioural scores were further reconciled to within a 2 point difference (8% of the total score) leaving three unresolved scores all of which contained a 5 point (20%) difference between coders. The data table was then updated using the median value of the three unresolved scores. Further analysis showed a small decrease in the mean value for the resilient behaviour score associated with the 'success' category and a slight increase in the mean score associated with the 'unsuccess' category.

Overall, the outcome of the 2nd coding process resulted in no change in the categorisation or predictive capacity of the model or to any of the correlations previously reported.

Summary of Key Findings.

According to Kumpfer (1997) the resilience process begins with an initiating event, an acute stressor or challenge (critical incident) and ends with an outcome. With respect to this study the 'outcome' may be the demonstration of resilient behaviour. Thus providing the basis for successful management of the critical incident which in turn builds resilience, ultimately leading to a positive resilience based learning outcome. These three dimensions, i.e. the acute stressor or challenge, the demonstration of resilient behaviour and a positive learning outcome represent the criteria for the first stage in the qualitative data analysis approach.

The recounted critical incidents were analysed in the first instance by carefully and repeatedly reading the survey data following which an assessment was made in order to determine whether the respondents either described and/or perceived the incidents as successful (positive) or unsuccessful (negative). The ‘challenge’ or ‘subject to adversity’, the ‘learning experience’ and the ‘positive outcome’ events were then used to categorise the management of the critical incidents into one of two categories, those that were deemed ‘successful’ and those that were deemed ‘unsuccessful’.

The second stage of qualitative data analysis involved coding and then ‘quantifying’ the data obtained from the CIT questionnaire responses. In the first instance, the researcher compiled a typology of the components of resilient behaviour (see Table 4, Paper, 4) in order to classify and describe the dimensions of resilient behaviour, which are meaningful and relevant to the context of the study. Data from each respondent’s CIT questionnaire was then classified according to each of the 7 dimensions detailed in Table 4. Using a specially designed 7-item Likert ‘type’ scale (see Appendix 3) equal numerical values were assigned to each dimension. Scores were then attributed to each CIT response whenever each dimension was observed within the participants response with one point allocated to each observation of each dimension up to a maximum of four points per dimension. In the instances where a particular dimension was not observed then zero value was attributed for that dimension. In this way, a total score for resilient behaviour was calculated for each respondent.

Thematic data contained in the CIT narratives was analysed using prescriptive content analysis (based on the 7 a-priori codes) and recommended CIT data analysis techniques in order to access meaning with regard to resilience and the management of critical incidents. In general, qualitative analysis revealed thematic content related to personal

and professional growth, successful and unsuccessful management of challenges or adversity, lessons learned and positive or negative outcomes.

Quantitative Analysis.

Overall quantitative results of the study show that resilience levels within the total sample as measured by the CD-RISC scale were 80.61 (SD=10.34) a score only marginally above that reported for the general US population at 80.4 (SD=12.8).

In this study however, female managers were found to have significantly higher resilience scores on the same scale of 86.57 (SD=7.76) than male managers 79.52 (SD=10.4) whilst having similar levels of experience and education. It is important to note that female managers comprise 22% of the total sample in this study, however females represent 35% of the Irish workforce and occupy 19% of the senior management positions in Ireland (Grant Thornton International, 2013) therefore our study at 22% contains a representative and comparable gender sample in that we expect women to represent approximately 19% (versus 22% in the sample) of management positions in Ireland. However, making useful comparisons or investigating further is difficult given there is a dearth of information with respect to resilience research in an Irish context and even less when one considers the workplace.

Whilst there is some evidence in the literature that differences in resilience levels can occur across cultures, of the 32 respondents in this study only six identified as non-Irish, two of which identified as British. When their respective resilience scores were removed from the analysis there was negligible difference to the mean values of either male or female scores suggesting that there is little or no cultural bias in the results. Nevertheless, this is an interesting finding (requiring further investigation and analysis) as it may

indicate that female managers are required to be more resilient than male managers if they are to operate successfully.

Linear regression techniques were used to analyse the effects of gender, experience, age, and education level. A linear regression of resilience scores against demographic variables confirmed the gender differential with the resilience score falling by 7.478 units moving from female to male managers. Each extra year in age leads to a 0.443 increase in resilience score whilst each extra year of total experience leads to a 0.146 increase in resilience score. Surprisingly, as we move up the education level (i.e. high school through to masters level) there is a decline in resilience scores for the total sample. None of the relationships between the demographic variables and resilience scores are statistically significant, however this may be due to the relatively small sample size ($n=32$). Analysis tests proved all correlations to be relatively low with a variance inflation factor of 1.412 indicating no risk of multi-collinearity.

In summary, no significant relationships were found in either gender between resilience levels and years of practice or educational level.

These particular findings are not surprising as research in this area is somewhat equivocal. For example, in a large study by Gillespie et al. (2007) concerning resilience in the workplace and involving over 1,400 operating theatre nurses, neither age, experience, education or years of employment were found to have contributed to resilience at statistically significant levels whereas in an earlier study by Tesluk and Jacobs (1998) education and work experience were shown to be positively related to job performance. However, a recent study by Davda (2011) which was conducted to pilot test the newly developed Ashridge Resilience Questionnaire (ARQ) found that those in senior level

managerial positions scored higher on the ARQ suggesting a correlation between position and resilience level. The study also demonstrated that any variance in resilience scores cannot be consistently explained by gender. It is evident also from the literature that many previous studies on resilience among different gender groups consistently show mixed results. For example, Werner and Smith (1982) found gender differences in resilience outcomes, specifically the impact of self-efficacy on resilience was significantly stronger for females than for males. Fergusson and Horwood (2003) in a 21-year longitudinal study found that females were more resilient to externalising responses, while males were more resilient to internalising responses. However, in a study by Peng et al. (2012) involving Chinese medical students, men were found to have significantly higher CD-RISC resilience scores than women and conversely in a study by DuMont et al. (2007) using a different instrument, females were found to be more resilient in adolescence and in early adulthood. Consequently, support for gender differences in resilience levels either in the general population or specific populations, remains unclear.

Qualitative Analysis

According to Howell (2007) when the dependent variable is binary (in this case, the likelihood of being in one category versus the other) then logistic regression is preferable to ordinary linear regression. A binary logistic regression of success/failure versus demographic variables revealed that the odds of having a 'success' resilience score for male managers falls by 80.5% versus that of female managers. Each additional year in age for both genders leads to a 1.30% increase in the chance of being in the success category and each additional year in total experience leads to a 4.10% increase in the chance of being in the 'success' category and moving to a higher level education category leads to a decline of 37.60% in the chance of being in the 'success' category. Similarly, none of the relationships between the demographic variables and resilience score are

statistically significant (all sig. values are greater than 0.05) and once again this may due to the relatively low sample size (n = 32).

A logistic regression of resilience scores against demographic variables and success/failure (controlling for gender age, education) revealed that moving from a failure (0) to a success (1) leads to a 9.749 rise in one's resilience score. This is a statistically significant finding (p-value = 0.002) and supports the view that those individuals who have higher levels of resilience are more likely to be in the 'success' category due to better management of their respective critical incidents. Analysis tests proved all correlations to be relatively low with a variance inflation factor of 1.664 indicating no risk of multi-collinearity.

Overall the analysis of the qualitative data demonstrated that higher levels of resilient behaviour are strongly associated with better management of challenges and adversity (critical incidents) whereas lower levels of resilient behaviour are associated with poor management of critical incidents.

Discussion.

According to Wolcott (2009, p.113) when writing up qualitative research, sections entitled 'conclusions' or 'findings' should be avoided on the basis that they suggest rigorous analysis more appropriate to a quantitative study.

This study demonstrated that higher levels of resilient behaviour are strongly associated with better management of challenges and adversity (critical incidents) whereas lower levels of resilient behaviour are associated with poor management of critical incidents. Higher levels of resilient behaviour were associated with a greater likelihood to

successfully manage the challenges (critical incidents) experienced by managers in what is a demanding and stressful profession. This implies that in order to be 'successful' (i.e. perform better) a manager should have and use resilience based skills and the more he or she does so, the more likely they are to perform better. The study also found a strong correlation between 'point in time' resilience levels assessed through the CD-RISC instrument and the resilient behavioural scores reinforcing the view that managers who exhibit resilient behaviour previously and who overcome their respective challenges are more likely to develop higher levels of resilience for use throughout their careers.

This study used a mixed methods design and according to Creswell and Clark (2011) mixed methods studies add strength to research outcomes when each phase of the study or types of data, compliment the other. The use of the critical incident technique within the survey instrument helped to 'extract' the qualitative data. Furthermore, quantitative data, gathered from the measurement of resilience levels (CD-RISC) was used to explicate qualitative data from the surveys, for example high resilience scores from the CD-RISC measure were reflected in high resilience behavioural scores in the CIT survey responses. The use of the resilient behavioural scale (by quantifying the qualitative data from the survey responses) helped to deepen the understanding of the recounted critical incident and add strength to the prescriptive coding process. The design of a new instrument to analyse and measure resilient behaviour allowed the 'quantising' of the qualitative data obtained from the survey questionnaire and represents a unique feature of this study.

Overall, the use of a mixed methods design, combining both qualitative and quantitative data, helped to underpin the findings of the study.

Key Contributions

This study has demonstrated empirically that managers who exhibit higher levels of resilient behaviour are more likely to successfully manage the challenges (critical incidents) experienced at particular points in their working lives. It is the first study to do so and represents an initial but important step in the integration of resilience into management theory and in everyday practice. The study is distinct in its contribution to what could be characterised as a novel understanding of the importance of resilience for managers and management practice. This research is one of the few efforts to date, which has sought to introduce the construct of workplace resilience into management practice. Furthermore, the results of the study provide substantive support for the broader hitherto theoretical claim that resilience is a key skill for managers and is an important, if not vital component in performance.

In terms of methodological contribution this is one of the few mixed method studies that has used the Critical Incident Technique (CIT) to examine the role resilience plays in the performance of managers. Furthermore, the compilation of a new typology of resilient behaviour together with the design of a new instrument to analyse and measure resilient behaviour, represents a unique feature of this study.

Recent theoretical and practical developments in the field of management science indicate an increasing emphasis and value being placed on resilience in the workplace and how resilience can be developed by manager and employer alike. Resilience is no longer viewed as a fixed attribute but rather as an alterable set of processes that can be fostered and cultivated (Masten, 2001).

This study serves to highlight the importance of resilience development and acquisition and the purposeful learning this provides to managers and management practice.

Prior research has shown that the so called 'conventional' skills such as intelligence, experience, education and decision making ability are prerequisites for success. The results presented in this study however, make a strong case for paying greater attention to the importance of resilience as a necessary component in manager performance. The study also makes a significant contribution to the literature by identifying the distinct advantage of demonstrating resilient behaviour over 'conventional' skills in order to successfully manage critical incidents and improve performance. The resultant shift in emphasis has pervasive theoretical and practical implications for the study of resilience in organisational settings as it moves attention from the more conventional approach to success and performance to one that recognises both the importance and developmental nature of resilience within a workplace context.

Clearly, much work remains to be done before we are in a position to make substantive claims in quantifiable terms such as productivity or profit improvement. Indeed, future studies will also need to include utility analysis elements in order to address the dearth of empirical data that exists today in terms of *quantifying* the impact of resilience on performance and the benefits for all concerned.

This study is important however, because it is the first empirical study that operationalises resilience and resilient behaviour in a representative sample of middle and senior level managers. Resilience and resilient behaviour provide information about how managers who face challenges or adversity (critical incidents) throughout their careers need to behave and the actions they can take in order to overcome such challenges, further developing their resilience skills for future improved, career-long performance.

Limitations of the Study.

The present findings must be cautiously interpreted considering, in the first instance, that the majority of the respondents were recruited from Ireland which has its own cultural characteristics, different from those of the United States for instance where much of the research on resilience has taken place and therefore comparisons with respect to prior studies are difficult to defend. Nevertheless, there is a need to conduct further cross-cultural or cross-national studies with larger sample sizes to both ratify the results found here and also to verify whether the results of this study are sustainable for culturally different countries. In assessing the validity of the findings, it should be noted that the specially designed instrument, created by the researcher for the purposes of classifying and quantifying the components of resilient behaviour whilst drawn from established theories, research and measures, there is a need for further work to be undertaken in order to determine the reliability and appropriateness of such an instrument. Furthermore, whilst the results of this study demonstrated the link between resilience and better management of critical incidents, the methodology, specifically the instrument created for classifying and quantifying resilient behaviour, needs to be tested for reliability and validity.

A major limitation of the study results from the fact that many of the findings are based largely on the analysis of participant responses in the form of an on-line survey and it is the self-reported and interpretive nature of the performance data, which may have introduced some loss of objectivity and researcher bias. The results of the study demonstrated the link between resilience and better management of critical incidents, nevertheless it is suggested that future studies may wish to utilise more objective and contemporaneous measures of manager effectiveness and/or performance improvement

(if and when they become available) across a larger sample size and to include differing cultural contexts.

Additionally, whilst the instrument used in this study to assess resilience levels (CD-RISC) is well established, it is self-reporting and has been designed to produce a 'point in time' measure of resilience so that the calculated values are current whereas the critical incident may have occurred sometime previously thus, the findings should be interpreted with this limitation in mind. A further limitation (which again involves the measured resilience scores) relates to the possibility of the calculated values being negatively or positively influenced by the respondent's emotional state at the time of reporting.

The study is further limited by the relatively small sample size which consisted of 32 middle and senior level managers, mostly male (78%) and Irish (81%) and although more than 20 companies were involved the study was restricted to three nationalities, Irish, British and Brazilian. Consequently, the sample size, gender mix, operationalisation instrument and limited cultural range of the study present inherent restrictions on the generalisability of the results whilst the purposive sample type means the researcher cannot say with confidence that it is representative of the population (Creswell, 2002).

Implications for Practice and Future Research.

As practitioners we endeavor to identify and explore new ways to improve performance in the workplace. This study of resilience, in line with previous studies has been shown to generally relate to desirable workplace outcomes and therefore has important practical implications for management practice and for the training and development of managers.

It is generally accepted that the role of the researcher is to disseminate and promote the use of their research outcomes (Miles and Huberman, 1994; Wolcott, 2010).

At the outset of the study all managers who agreed to participate in the research were offered the opportunity,

“to share the results of the study with all participants such that you may gain something in return for your participation or indeed comment on the overall findings”.

It is intended therefore, to provide each participant with a summary report covering the research findings and to invite commentary. This is considered a good, first step in the introduction of the study's findings to practice and also as an opportunity to engage with practitioners on the subject matter directly. It is the researcher's intention also to disseminate the results by publishing paper/s in specialist and general, national and international journals and by presentation of paper/s at both national and international conferences.

This study provides a starting point for further studies on resilience in the workplace and offers a change in perspective with a focus on a resilience concept that is 'strengths based' rather than the prevailing 'deficit' approach taken by conventional theory and practice. This study has drawn from the literature on resilience, originating as it has from the fields of psychology and medicine and having a primarily fortigenic approach. Nevertheless, in the years ahead it is anticipated that many important research opportunities will arise as the integration of the concept of workplace resilience and organisational behaviour continues to develop across all areas of management research. It is hoped also that future studies will incorporate many of the widely accepted and

established business performance indicators such as reduced absenteeism, job turnover and productivity. Such utility analysis will help to address the dearth of empirical data that exists today by *quantifying* the impact of resilience on workplace outcomes and the benefits for all concerned.

As we have seen, the concept of workplace resilience has been variously defined and understood and is only now emerging in the literature. It is suggested therefore, that a concept analysis study of workplace resilience could be undertaken which will increase understanding of the term and its implications for practitioners and researchers alike.

Furthermore, analysis of the quantitative data showed that resilience for the group was similar to that of the average US population, however resilience for female managers was significantly higher. Given the literature remains ambiguous with respect to gender differences this finding is important, as this is the first study to explore resilience and performance specifically within a cohort of managers.

It is suggested a larger qualitative study of managers (perhaps with equal male and female populations) could be undertaken to investigate further the gender differential. This would not only build on existing knowledge of the impact of resilience in the workplace but also help to contribute to existing strategies for resilience building in practice.

Clearly, there is still much to be learned about the role resilience plays in workplace outcomes, nevertheless enough is already known for us to recognise that building personal resilience has the capacity to assist managers to survive and thrive in their work environment. Furthermore, when we consider that even the most resilient managers are likely to be overcome by a consistently challenging working environment, research that

focuses on development of resilient qualities can draw on the concept of resilience and its relationship with performance.

Given the many challenges facing managers today it is timely to explore innovative ways of nurturing and supporting managers so that they are better able to perform within ever changing performance paradigms in the organisational structures of the future.

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Section 4:

Reflective Log Extracts

November, 2010.

Having formulated my own views on what makes a 'successful' manager and read some of the literature..... I began to consider and reflect on why good people fail, by good I mean talented, trained, committed, motivated.

There is a huge body of work around what makes a good manager, the most popular attributes e.t.c , much of the research focuses on the actions needed to become successful in your chosen career.

This is a very broad area, well researched, I do feel that I can offer a different focus i.e. instead of 'what makes success' we could look at 'what makes failure'..... too simplistic ?

What does 'good' mean ?

What does 'success' mean ?

Key Insights.

Researcher's motivation for the study, initial consideration of the 'success/failure' theme.

November, 2010

Received this quote from Cut-e .

"During their career successful managers often develop particular behavioural preferences or styles that enable them to cope successfully with the various challenges of their professional life. Occasionally, these styles crystallise into a fixed set of behavioural patterns that hamper a flexible reaction when confronted with new situations, people or problems, and thus transform from success factor to a risk for further professional development".

Key Insights.

Thought this went to the heart of my research topic, possible explanation or view for the repetitive or cyclical failure under study - powerfully simple, explanatory and predictive.

December, 2010

Received initial feedback on my draft PDP, on the positive side the research topic is considered to be a “useful and important one, and with justification, this may have the potential to enhance our knowledge and understanding”..... “however the document requires further development and refinement”

Key Insights.

Conformation on the research topic with further development required.

January, 2011.

Select a level of management, ‘managers’ too broad.

Should I use ‘success’ or ‘failure’ as a datum, reference, benchmark ?

Success not easy to define objectively.

Key Insights.

Narrowing topic area, success/failure debate continues but beginning to pose operationalisation challenges.

May, 2011

A possible theme: explore how managers, seemingly with all the ‘right’ attributes, fail in their careers.

- career resilience is a totally different concept to job performance.

- research could be used within a range of professional resilience skills which will help managers succeed and identification of what may be important in the selection and development of future leaders.

Key Insights.

Differentiation of career success with job success, identification of possible value and uses of the research.

June, 2011

Resilience has become the new buzzword across all levels of “Leadager” roles.....I coined this phrase!, it combines the term Manager and Leader, whilst there has been much written about each separately I see the roles as one.....

This will be a major assumption for my research topic.

On-going review of the literature is confirming my earlier assessment that there is dearth of empirical or formal academic work in the context of work related resilience.....

July, 2011

Copied the table below, manager versus leader, its really an historical or conventional view which I disagree with entirely in todays context, its outdated and not relevant.

Why continue to maintain any difference ? why not combine the roles ? At a very basic level it seemed to me that there was no actual necessity for a distinction but rather the characterisation had developed independently of the disciplines needs.

It appears that being a ‘manager’ is almost an intermediate step to becoming a ‘leader’.

Key Insights.

Introduction and discussion of the leader/manager theme also research gap spotting/opportunity.

August, 2011.

How my ‘world view’ can lead to different perspectives on knowledge production.

Establishing my own philosophical perspective.....

Research topic definition and associated hypothesis, e.g.

'the role resilience plays in the failure of middle managers' OR 'the role resilience plays in the success of middle managers'

Key Insights.

Defining my philosophical perspective, the recognition of the assumptions underlying the literature reviewed, clarification of management 'level'.

October, 2011

How we define success, what matters most, too subjective, need measures which are objective and generally acceptable and recognised.

Many studies indicate there is not one combination of management and leadership skills related to individual success, see this as crucial point, "no one cause " seems obvious.

Key Insights.

Insurmountable issues both defining and measuring success, literature on both the theoretical and practical conventional approach indicates causes of failure are many and varied.

October, 2011.

Received Workshop 2 assignment feedback.

Coverage is too short, overly broad and not deep enough.

I have some difficulty with this statement, it is not possible to compile deep analysis of the possible causes of failure, as numerous and varied as they are within a 6000 word assignment.

I am awaiting a re-submission date.

I am looking not at the 'how' or 'why' but rather the (possibly causal) relationship between the variables and the generalisability of my research findings.

Do I have a new idea ? is my route marked out by the extant literature

Previously my thinking was:

-Understanding - answer to 'why'

-Description - answer to 'what'

-Explanation – answer to 'how'

Proving relationships, determining the extent and if they are causal therefore the management of validity, reliability and generalisability is paramount for what will be a quantitative study.

Some qualitative methodology is being considered in order to address the failure 'episodes' with resilience in the context of career.

Key Insights.

Change from what was originally a quantitative study to a consideration of a mixed method approach.

November, 2011.

Friedrich Nietzsche's view "that which does not kill us makes us stronger" although dramatic and somewhat one dimensional in the context of today's world, it is a distal inference that resilience can be learned.

- many developmental processes operate in similar ways across the disciplines and the theory bases are not unique to the particular field of study, so the researcher does not need to derive additional theories but can expand the existing theories within the new context under study.

Resilience also offers a relatively new and interesting paradigm.....

I am excited by the thought that this research could be generalisable across a broad range of disciplines, enterprises and cultures.

H1: 'An investigation into the role resilience plays in the failure of middle managers'.

H2: 'An investigation into the role resilience plays in the success of middle managers'.

Application spotting, under-researched, lack of empirical support.

'Resilience' is a construct with an established measurement track record in the Literature.

January, 2012

The inclusion of the critical incident technique to expose episodes of failure is a valuable suggestion.....

Examiner Feedback:

'Contemplate the dependent variables in context; psychological contract, career success, job performance, positive emotions. These do not appear in the title, but job performance is in H1'

Resilience relates to job performance, thus it was suggested that job performance could be the CI in context.

Key Insights.

Initial discussion on critical incident technique (CIT) – Flanagan (1954) and beyond - as an appropriate methodological tool. Removal of the failure/success debate or theme, substitution of performance and raising of questions around how this could be operationalised.

May, 2013

With an upfront statement on gender, culture, etc. am I setting high expectations for the reader with what is a relatively small sample size.

How will I measure performance – how am I going to operationalise that?

I am satisfied that the Resilience Scale does not need to be modified to be used in an industry setting relatively small sample so need to be careful about how much I hope to be able to generalise.

October, 2013.

Feedback confirms the study represents a novel means of bringing resilience into the management literature.

Pilot study considered a very worthwhile component of the study.

Need to access meaning with regard to resilience and performance, question whether content analysis can facilitate this.

Key Insights.

Drop the testing emphasis and the hypothesis as I am not planning to 'test' theory. Deployment via an on-line survey needs further work. Further consideration required on the potential practice/theory contributions which could include the use of CIT in the study.

March 2014.

A 'representative sample' of 36 managers needs qualifying and more information on the classification of critical incidents given a great deal rests on the qualitative interpretation of this data set.

Developed Likert 'type' scale for scoring of participant resilient behaviour.

Considering having the data analysed by a 2nd coder.

Key Insights.

Removed the term 'sequence' from the 'explanatory sequence design', it is not applicable.

Removed the term 'Likert' to describe the specially designed resilient behaviour scale.

Qualified the term 'representative', on reflection the small sample size together with the small number of countries represents a primary limitation of the study. Decided to

arrange 2nd coding to improve inter-rater reliability. Conducted additional regression analysis.

Summary Chronicle of Research Journey.

- 1) Removal of the failure/success debate and thematic.
- 2) Introduction of performance as the IV in context and how this can be operationalised.
- 3) Removal/dropping of the term 'Leadager'.
- 4) Clarification of the study focus as 'management' rather than 'leadership'.
- 5) Move from the RSA to CD resilience scale.
- 6) Move from 2 phases to one and removal of the 'sequential' method.
- 7) Identification and use of CIT as a suitable instrument.
- 8) Move from compare and contrast to a-priori prescriptive analysis.
- 9) Compilation/tabulation of the 7 resilient behaviour dimensions and coding.
- 10) Design of behavioural Likert 'type' scale.
- 11) Removal of the testing emphasis and the hypothesis - not planning to 'test' theory.
- 12) Inclusion of 2nd coder data analysis- to improve inter rater reliability.
- 13) Further SPSS analysis.
- 14) Revised/updated conclusions including methodological contributions (use of CIT).

Post Study Reflection.

The results of this study present a strong case for both management theory and practice to move on from the traditional or conventional approach to management success (where many studies sought to identify and highlight the causal nature of individual

personal weaknesses and suggest remedies) to one where particular behavioural traits or skills (specifically those that are resilience based) are seen as important and critical to improved manager performance and success within the workplace.

Resilience research offers a relatively new perspective, which in turn opens up further avenues for research not simply as a substitute for the traditional approach but as a complimentary addition, which expands the scope of study of how managers can improve performance within workplace settings.

Feedback from Viva.

There is no doubt the DBA is a transformative experience and like many doctoral students I found the process to be grueling, seriously challenging and extremely hard work. As with most doctoral programmes they culminate with a viva voce where the candidate must present a verbal defense of the study. Whilst I was 'recommended' and I was aware that nearly all students are required to make changes, it was the extent of the examiners amendments that surprised me. My initial reaction to this news was a huge feeling of disappointment and of being letdown. I was not expecting, what at first seemed quite substantial changes and like many doctoral students I saw the viva as the end of my DBA journey. It was going to be very difficult for me psychologically, to get back into working mode.

On reflection it is clear to me now that I did not provide sufficient justification for particular aspects of the study in the opening section of my submission. I believe that the lack of an abstract at the front of the thesis was also a particularly unhelpful oversight on my part. Whilst not wishing to detract from the examiners comments, the lack of explanation and clarity regarding my research topic, my epistemological stance, the

chosen methodology and the procedure led to unnecessary confusion regarding certain aspects of the research and a focus by the examiners on the methodology rather than on the research itself. Whilst this was somewhat confused by the structure* of the DBA thesis, I believe these shortcomings did not reflect well on the work that had been done and gave the impression that the study was not sufficiently thorough.

On the positive side, the requested changes, while substantial and wide ranging, were nonetheless largely about adding information and further explanation and clarification rather than questioning the rationale, the approach of the study or its potential. Nevertheless, there was some caution advised regarding overstating the value of study results and the anticipated impact on practice.

Overall, the recommended changes included; strengthening the theoretical base for the study, expanding the methodological section, further explanation of the rationale for using Critical Incident Technique, further detail on procedures and application of the instruments used, explicit clearer justification for the use of regression analysis in the data analysis, more information on the methodological contribution and the limitations of the study, qualification of the findings and the impact on practice and correction of typographical and referencing errors.

Following a short period to allow me reflect and refocus I began to change my thinking from the 'pass or fail' mentality to a more positive outlook where I viewed the feedback as providing me with a further opportunity to improve my work. This could only benefit me personally and further strengthen my work for the future.

Having obtained the list of changes required I met with my supervisor. We discussed how we would approach the recommendations, clarify any uncertainties and agreed an overall plan, including a realistic timetable for making the changes and deadline for re-submission. All changes were discussed and agreed with my supervisor. On-going advice and guidance was provided in order to ensure that everything the examiners required was covered and fully addressed in the re-submission and within the allowed timelines.

In summary, the viva offered a valuable chance to gain extra perspectives on my work, to improve the quality of the work and to refine it further whilst at the same time reinforcing the potential of the work in terms of its contribution to knowledge and practice. In terms of lessons learned I believe it is imperative to seek the assistance and guidance of your supervisor regularly and consistently through the course of the programme, particularly given the format of the DBA and the 'cumulative' nature of the paper series.

* The DBA thesis format at WIT comprises a series of four papers, which are written at different times over the 4-year programme. The thesis differs from the typical PhD format in that the latter is normally produced as a single document at the final stages of the programme. It is suggested therefore, that the DBA thesis format is more likely to include some duplication across the paper series. For example, this researcher had undertaken a pilot study, which necessitated certain sections such as the methodology being reproduced in two of the four papers.

Appendix 5

Linear regression of resilience scores against demographic variables.

Coefficients^a

Model		Unstandardized Coefficients		Standardized	t	Sig.
		B	Std. Error	Coefficients		
				Beta		
1	(Constant)	72.305	12.131		5.960	.000
	gendercat	-7.478	4.119	-.305	-1.815	.079
	agecat	.443	.349	.271	1.269	.214
	totalexperience	.146	.293	.096	.497	.623
	educationcat	-2.517	2.110	-.224	-1.193	.242

a. Dependent Variable: resscore

Model Summary

Model Summary

Model	R	R Square	Adjusted R Square	Std. Error of the Estimate
1	.476 ^a	.227	.127	9.66519

a. Predictors: (Constant), educationcat, totalexperience, gendercat, ageca

Test for Multicollinearity.

Correlations

		gendercat	agecat	educationcat	totalexperience
gendercat	Pearson Correlation	1	.107	.327	-.056
	Sig. (2-tailed)		.534	.051	.744
	N	36	36	36	36
agecat	Pearson Correlation	.107	1	.442**	.550**
	Sig. (2-tailed)	.534		.007	.001
	N	36	36	36	36
educationcat	Pearson Correlation	.327	.442**	1	.101
	Sig. (2-tailed)	.051	.007		.558
	N	36	36	36	36
totalexperience	Pearson Correlation	-.056	.550**	.101	1
	Sig. (2-tailed)	.744	.001	.558	
	N	36	36	36	36

** . Correlation is significant at the 0.01 level (2-tailed).

Binary logistic regression of success/failure V demographic variables.

		B	S.E.	Wald	df	Sig.	Exp(B)
Step 1 ^a	gendercat	-1.634	1.188	1.893	1	.169	.195
	agecat	.013	.086	.021	1	.884	1.013
	totalexperience	.041	.073	.320	1	.572	1.042
	educationcat	-.471	.577	.668	1	.414	.624
	Constant	2.033	3.522	.333	1	.564	7.633

a. Variable(s) entered on step 1: gendercat, agecat, totalexperience, educationcat.

Linear regression of resilience scores V demographic variables and success /failure

Model		Unstandardized Coefficients		Standardized Coefficients	t	Sig.
		B	Std. Error	Beta		
1	(Constant)	80.592	11.091		7.266	.000
	gendercat	-4.022	3.350	-.190	-1.200	.241
	agecat	.037	.288	.024	.127	.900
	totalexperience	.027	.242	.020	.110	.913
	educationcat	-1.025	1.780	-.096	-.576	.570
	successfailure	9.749	2.794	.546	3.489	.002

a. Dependent Variable: resscore

Correlation Test.

		gendercat	agecat	educationcat	totalexperience	successfailure
gendercat	Pearson Correlation	1	.107	.327	-.056	-.284
	Sig. (2-tailed)		.534	.051	.744	.115
	N	36	36	36	36	32
agecat	Pearson Correlation	.107	1	.442**	.550**	.024
	Sig. (2-tailed)	.534		.007	.001	.896
	N	36	36	36	36	32
educationcat	Pearson Correlation	.327	.442**	1	.101	-.165
	Sig. (2-tailed)	.051	.007		.558	.367
	N	36	36	36	36	32
totalexperience	Pearson Correlation	-.056	.550**	.101	1	.096
	Sig. (2-tailed)	.744	.001	.558		.603
	N	36	36	36	36	32
successfailure	Pearson Correlation	-.284	.024	-.165	.096	1
	Sig. (2-tailed)	.115	.896	.367	.603	
	N	32	32	32	32	32

** . Correlation is significant at the 0.01 level (2-tailed).

