

Libraries and Learning Services

University of Auckland Research Repository, ResearchSpace

Version

This is the Accepted Manuscript version of the following article. This version is defined in the NISO recommended practice RP-8-2008 http://www.niso.org/publications/rp/

Suggested Reference

Aburn, G., Gott, M., & Hoare, K. (2016). What is resilience? An Integrative Review of the empirical literature. *Journal of Advanced Nursing*, *72*(5), 980-1000. doi: 10.1111/jan.12888

Copyright

This article may be used for non-commercial purposes in accordance with <u>Wiley</u> Terms and Conditions for Self-Archiving.

Items in ResearchSpace are protected by copyright, with all rights reserved, unless otherwise indicated. Previously published items are made available in accordance with the copyright policy of the publisher.

For more information, see <u>General copyright</u>, <u>Publisher copyright</u>, <u>SHERPA/RoMEO</u>.

What is resilience?

An integrative review of the empirical literature

ABSTRACT

Aim: To use systematic methods to examine how resilience is defined within empirical research.

Background: Resilience is a term that is increasingly being used to describe and explain the complexities of individual and group responses to traumatic and challenging situations (Monroe and Oliviere 2007). It is now frequently mentioned in relation to many areas of nursing practice, including research. Given the increasing use of the term, it is timely to examine how resilience has been defined in empirical research.

Design: An integrative review of the empirical literature (2000-2015).

Data Sources: Three health-related databases were searched: Medline, PsycINFO and the Cumulative Index for Nursing and Allied Health (CINAHL). Reference and citation tracking was performed on all articles included in the review.

Review methods: The methods described by Whittemore & Knafl (2005) were used to guide this review. Two reviewers (GA and MG) were involved in screening articles for inclusion and in the data extraction process. Data were synthesised using the constant comparative method of analysis.

Results: One hundred articles were included in the final data analysis. The most significant finding of the review was that there is no universal definition of resilience. There were however some common themes identified: rising above, adaptation and adjustment, dynamic process, 'ordinary magic' and mental illness as a marker of resilience.

Conclusion: Despite the increasing use of the term 'resilience', this review has identified that there is no universal definition of resilience adopted in the research literature. Further research is required to explore this construct within the context of nursing.

SUMMARY STATEMENT

Why is this review needed?

- Resilience is a term receiving increasing interest in the academic world and is being used more and more to describe people in the health field, particularly nurses, patients and their families.
- It is timely to look at definitions people draw upon when conducting research within this field.
- This review is unique in that it uses systematic methods to explore how resilience is understood within empirical research conducted across different research fields and with different study populations.

What are the key findings?

- No universally adhered to definition of resilience in the empirical literature published this century.
- Five key definitions or concepts of resilience were identified: rising above to overcome adversity, adaptation and adjustment, 'ordinary magic', good mental health as a proxy for resilience and the ability to bounce back.
- Further research is required to explore this construct within the context of nursing.

How should the findings be used to influence policy/practice/research/education?

- Resilience is being ever more widely used within research, educational and clinical contexts, therefore, further research into this concept is of particular importance within nursing.
- This review has identified the contextual nature of resilience it is therefore important that future research defines what is meant by resilience in the context explored.

Keywords: resilience; psychological endurance; hardiness; definition; concept; nurses/midwives/nursing; literature review; integrative review

INTRODUCTION

Resilience is a term that is increasingly used to describe and explain the complexities of individual and group responses to traumatic and challenging situations (Monroe and Oliviere 2007, Boss 2006, Lindstrom 2001). It is now frequently mentioned in relation to many areas of nursing practice, for example, 'resilient' is a term now commonly used to describe patients, professionals and family caregivers (Monroe and Oliviere 2007, Jeffcott et al. 2009, Stephens 2013). It is well recognised that health professions are stressful and emotionally challenging occupations (Chang et al. 2006). The term 'resilient' has been used to describe some of the necessary characteristics of a 'surviving' health professional by professional groups and regulatory bodies, particularly within the nursing profession (Howe et al. 2012, Kinman and Grant 2010, Hodges et al. 2008, Cook 2009). Indeed, how nurses survive these working environments has been attributed to resilience (Zander et al. 2013). It is therefore unsurprising that resilience is increasingly being identified as an expected educational outcome of both undergraduate and postgraduate health professional programs (Jackson et al. 2007, McAllister and McKinnon 2009, Stephens 2013). Given the increasing interest in resilience it is timely to critically examine how it is conceptualized in empirical research. This paper presents an overview of how resilience is defined and conceptualized within the empirical research published between 2000 and 2015.

BACKGROUND

Resilience has received significant academic interest over the last twenty years. However, the majority of research in this area has been completed by psychologists working with populations of children and adolescents (Hunter 2001, Tusaie-Mumford 2001, Pilowsky et al. 2004, Henry 2001, Garmezy 1991). Moreover, whilst a number of reviews have explored resilience in various contexts, all have focused upon resilience in a particular population or clinical area. For example, Jackson et al. (2007) reviewed literature regarding resilience in the workplace, Davydov et al. (2010) investigated

research relating to resilience in the mental health setting and (Black and Lobo 2008) investigated literature around family resilience. A more wide ranging narrative review by Tusaie and Dyer (2004) explored literature from a variety of areas and used a historical perspective to map the evolution of the term resilience. This review focused on resilience linked to developmental concepts throughout the lifespan. The authors placed significant emphasis on separating features of resilience into psychological and physiological aspects (Tusaie and Dyer 2004). In line with many previous reviews in this field, the authors used narrative methods to review the literature within their particular area of interest. However, it is now recognised that systematic review methods are needed to ensure adequate coverage of the relevant literature and avoid bias in identifying and reporting studies.

Windle (2010) published a concept analysis of resilience and consulted service users and providers, to investigate how resilience could be defined. The conclusion was that resilience was 'interlaced' with everyday life. She highlighted that the presence of chronic adversity or psychopathology may interfere with a person's ability to be 'resilient'. This philosophy reflects the connection resilience may have to developmental processes and health. Similarly, from a developmental perspective, Bronfenbrenner's bio-ecological model of human development has been said to provide a framework to understanding resilience for some time (Bronfenbrenner and Morris 2007). This theory looks at layers (microsystem, mesosystem, exosystem, macrosystem and chronosystem) of support and structure surrounding an individual or community and their ability to access support in a time of crisis. A number of theoretical papers and publications use this model to explore 'resilience factors' or protective factors (Feinstein et al. 2009, Windle 2010, Waller 2003). In fact, Waller (2003) argues that this model highlights that an individual or community cannot be resilient or vulnerable all the time.

Resilience is also being referred to in government priorities and policy development. Examples of this include the Canterbury Earthquake Recovery Authority (CERA) - under the New Zealand government (Britt et al. 2012). This group have a goal of 'building community resilience, confidence and leadership so local communities can play a key role in recovery of Christchurch following the devastating 2011 earthquake (Britt et al. 2012). A further example of the use of resilience in policy is the 'Getting it right for every child' National Practice Model for Child Health in Scotland. This

framework is for health professionals and agencies to structure and analyse information consistently to understand a child or young person's needs. The document uses a resilience matrix where resilience and vulnerability are seen as opposing constructs (2012). In America, social policies and programmes have also recently undergone frequent shifts in philosophy and direction. Several policies and programmes for children, young people and their families now incorporate a model that looks at risk factors and protective factors within a framework of resilience (Jenson and Fraser 2015).

It is therefore apparent that resilience is a concept increasingly mentioned in professional, developmental, research and policy literature. Given the burgeoning interest in resilience, this review is timely.

THE REVIEW

Aim

The aim of this study was to conduct an integrative review to examine how resilience is defined and conceptualized within empirical research. The key research question was: How is resilience defined or conceptualized within twenty-first century empirical research?

Design

The integrative review methodology described by Whittemore and Knafl (2005) was used to conduct this literature review. An integrative review is the "broadest type of research review" (p. 547) described in the literature (Whittemore and Knafl 2005) and provides a framework to comprehensively investigate complex concepts or theories (Broome 1993). This methodology allows for literature from a diverse range of methodologies to be included in the review (Ganong 1987). Given the complexities in defining resilience and the diversity of the research undertaken in this field it was necessary to select a method that enabled data to be synthesized from research conducted within a range of settings and using diverse methodologies (Flemming 2007).

The broad nature of the integrative review can lead to a potential for systematic bias or error at any stage in the process and for this reason, systematic processes were utilized throughout the course of this review (Pope et al. 2007). The PRISMA statement and guidelines described by (Moher et al. 2009) were used during data extraction to ensure all articles which met the inclusion criteria were included in the data analysis phase.

The final challenge in an integrative review is the process of data analysis (Whittemore and Knafl 2005). Previous authors of integrative reviews have advocated the use of qualitative or mixed method techniques of data analysis, for example, content analysis or the constant comparative method familiar to grounded theory (Patton 2002). For the purposes of this review the constant comparative method of analysis was chosen as it has been identified as a useful method to establish systematic categories and facilitate recognition of patterns, themes, variations and relationships within qualitative datasets (Glaser 1978, Patton 2002).

Search Methods

Prior to formal development of a search strategy, a scoping search was completed in conjunction with a subject librarian to ensure all relevant terms were utilized. The following key words were included in the search: 'resilience', 'psychological endurance' or 'hardiness', and 'concept*' (including concepts, conceptual, conceptualized) or 'defin*' (including define, defined, definition).

Given the initial interest primarily being around resilience in nurses and health professionals, an initial scoping search was completed using two key nursing and allied health literature databases, Medline and the Cumulative Index of Nursing and Allied Health Literature (CINAHL). The initial scoping search indicated that a large amount of literature (over 2,000 studies) was published within a variety of fields and within a number of different populations, including but not limited to nursing, health, psychology, police, education, military and armed forces. It was evident that the literature around nursing and health professionals drew heavily on work completed within other disciplines, largely psychology. As a result, the final search was not limited to particular professions, populations or fields. Due to the large-scale nature of the

review, the search was limited to three major health related databases: Medline, PsycINFO and CINHAL.

The search was limited to peer-reviewed qualitative, quantitative and mixed methodology articles that reported empirical research and had a main focus on resilience. Additionally, how resilience was defined within the context of the study also had to be articulated. Only those studies published in the English language were included.

Table 1: Literature inclusion and exclusion criteria (to be inserted here).

Search Outcome

The initial search elicited 2,429 articles. Further reference tracking of these articles and auto alerts set up from the three databases to email between the 29 October 2013 and 1 April 2015 identified a further 98 articles. All articles were then transferred into a reference management system so that articles could be managed in a systematic manner. At this time duplicate copies were removed and a total of 2,225 articles were screened using the title and abstract. During this screening process 1,473 articles were excluded due to the main focus not being resilience; a further 631 were excluded, as they did not report empirical research. GA (first author) and MG sifted through the remaining 121 articles to ensure consistency in the process. A data extraction tool was designed for the purpose of the study that enabled the following information to be collected for each paper: a checklist of specific inclusion/exclusion criteria, study design, population and participants studied and both original and cited definitions of resilience provided by the author were extracted. The PRISMA flowchart was used in this process (see Figure 1: (Moher et al. 2009)).

Figure 1 PRISMA Flowchart – Search and inclusion process (to be inserted here).

Quality Appraisal

Definitions of resilience were extracted from each manuscript and recorded and the original source of the definition was recorded (either study specific or taken from other literature). Of the 100 studies included in the data analysis, 75 provided an original definition of resilience but also cited other researchers when analyzing and discussing their findings. Two studies only provided their own original definitions of resilience (Jowkar et al. 2010, Patterson et al. 2004). The remainder of the studies (25) drew on definitions from other sources.

All literature that met the inclusion/exclusion criteria was included in the data analysis regardless of methodological rigour. Whittemore and Knafl (2005) highlight that quality appraisal of primary data sources is a complex process of which there is no definitive gold standard. Given this review was not looking at direct findings of research, rather definitions provided in a variety of contexts, it seemed appropriate to include all definitions. It is however important that the main source of the definition, being empirical or cited from other sources, is identified as part of the overall analysis.

Data abstraction

Following evaluation of the data using the data extraction tool described above, definitions were extracted from a total of 100 articles and tabulated. Data abstraction involved a thorough process of reading the articles line by line to ensure all definitions of resilience were extracted and represented in the table (Whittemore and Knafl 2005).

Synthesis

The goal of data synthesis was to group together definitions gathered from the 100 articles into subgroups and to identify common patterns, themes or relationships between and within the definitions provided (Whittemore and Knafl 2005). To facilitate data synthesis, theoretical coding and constant comparative analysis were utilized. Theoretical coding is a process familiar to qualitative analysis particularly grounded theory (Birks and Mills 2011). Categories are identified and coded during data collection and throughout the analysis. From the time that data collection began through to the final analysis of all data, categories and codes were developed and then constantly

revised and compared. This comparison occurred within each article or piece of data gathered but also between different articles in order to support development of a final understanding of the meaning within the data (Birks and Mills 2011, Charmaz 2006). This process identified three key categories that described resilience within the empirical literature: 1) no universal definition, 2) contextual process, and 3) key themes that explored the facets of resilience. Within this third category different definitions of resilience were grouped into fifteen themes: overcoming adversity, the ability to bounce back, recovery, successful adaptation and adjustment, 'ordinary magic' (defined as an everyday phenomenon that is inherent in all people (Masten 2001).), coping, good mental health as a proxy to resilience, maintaining an equilibrium, personality characteristic, self-esteem and self-worth, reducing stress/anxiety, positive emotions, sustaining normal development, positive outcomes and a process of learning and reflection. Further coding of the definitions led to themes being reorganized into five key definitions/concepts of resilience: rising above to overcome adversity, adaptation and adjustment, 'ordinary magic', good mental health as a proxy for resilience, and the ability to bounce back.

RESULTS

Table 2: Studies included in literature review (to be inserted here)

Overview of the literature.

Studies identified by the review process and included in data analysis covered a variety of disciplinary areas and study populations. There were twenty-five different population groups represented in this review and the lead authors came from nine different disciplines. Studies were categorized into relevant population groups, in some cases this meant the population fitted into more than one category. For example a study conducted with transgender youth was categorized into adolescent and transgender population groups (Grossman et al. 2011). Population groups with associated numbers, included adolescents (20), older adults (15), children (11), chronic illness (8), mental health (7), health professionals (7), mothers (6), undergraduate university students (5), post-trauma (4), family (4), community (5), substance abuse/illicit drug use (4), armed

forces/military (4), teachers (3), caregivers (2), family violence (2), workplace (2), foster/residential care (2), homosexuality (2), police (1), prison (1), rehabilitation patients (1), prostituted women (1), transgender (1), bereavement (1) and allogeneic stem cell transplant patients (1). Interestingly 44 of the lead authors came from a psychology background – this included developmental psychology (6), educational psychology (7) and general psychology (31). Other disciplines represented by lead authors included; nursing (20), psychiatry (12), social work (9), medicine (4), social science (3), kinesiology (2), health promotion (2), teaching (1) and for one article the discipline of the lead author was not documented. Interestingly, while nursing was strongly represented in the authorship of studies only one paper looked at resilience in the nursing population.

These studies used a variety of methodologies. Over half (52) of the studies used quantitative methodologies, 39 studies adopted a qualitative approach and nine studies used mixed methods.

Three studies presented the development and piloting of scales of resilience. These projects were included in the final analysis of data as they met criteria for inclusion and provided an interesting perspective on how resilience could be 'quantified' or 'measured'. The main focus reported in these studies was the presence or absence of signs and symptoms of mental illness or a formal diagnosis of mental illness (Connor and Davidson 2003, Friborg et al. 2003, Gartland et al. 2011). One study used a case study research method (Schilling 2007).

Themes

No universal definition

The most significant finding of this review was that there is no universally adhered to definition of resilience in the empirical literature published this century. Indeed, many authors highlighted that there are a 'myriad' of definitions of the term and that there is no single, accepted definition (Deegan 2005, Doll and Lyon 1998, Hegney et al. 2007, Ridgway 2004, Felten 2000). There has been a call for a 'coherent definition' to be presented (Ungar 2008). Despite there being no universally accepted definition, there were some common themes underpinning how researchers described resilience in the

context of their study. These key descriptions are listed in Table 3 and explored in detail below.

Key resilience researchers

Fifty-three studies referred to the following six key researchers and their work for a definition of resilience: Michael Rutter (London, United Kingdom), Norman Garmezy (New York, United States of America (USA)), Ann Masten (Minnesota, USA), Suniya Luthar (New York, USA), Dante Cicchetti (Minnesota, USA) and George Bonanno (New York, USA). They all share a background in psychology and are well known for their research, largely in the field of child and adolescent development (Davydov et al. 2010, Haase 2004).

Michael Rutter was cited by 34 of the 95 studies. He is a well-known child and adolescent psychologist who has published a variety of literature describing and investigating resilience. He has a particular interest in family resilience. Norman Garmezy's extensive work documented resilience in children after parental divorce and those who had experienced neglect or trauma in early childhood. Garmezy was cited by 25 studies. Ann Masten was the most cited researcher in this review, with 38 studies using her work to guide their research. Masten has a background in child and adolescent development. Her work in 2001 describing the concept of 'Ordinary Magic' has become highly cited by authors who argue that resilience isn't a 'black and white' concept. 'Ordinary Magic' was a very prominent theme throughout the review and is further explored below (Masten 2001). Suniya Luthar & Dante Cicchetti have published together on many occasions and collectively they were cited by eighteen studies. They both have very similar backgrounds in child development and psychology and have also published a number of works individually. Cicchetti's work was cited in five studies in the review, while the work of Suniya Luthar was cited by ten studies. By contrast, George Bonanno is a comparatively new researcher in the field; however, his work on loss, grief and trauma published in 2004 is well known and was cited by thirteen articles.

Resilience as a contextual and dynamic process.

Several authors highlighted that resilience is an ever changing and moving phenomenon (Mullin & Arce, 2008). One could show great personal strength, courage and adaptability within one setting and area of life - for example work - but may struggle and have tough hurdles to overcome in one's personal life. Gartland et al (2011) commented that resilience is not a "static characteristic of an individual, but a dynamic process across contexts and throughout the life span..." (p. 1). According to this definition an individual can be resilient one day but not the next. Some authors attributed this to the differing environments and support networks that surround the individual at different times in their lives (Masten 2001, Mullin and Arce 2008, Hegney et al. 2007, Mancini and Bonanno 2006, Luthar and Cicchetti 2000, Jowkar et al. 2010).

Five key themes underpinning researcher's definitions of resilience

Five key themes of resilience were identified by our analysis: rising above to overcome adversity, adaptation and adjustment, 'ordinary magic', good mental health as a proxy for resilience and the ability to bounce back. Some authors referred to more than one of these themes that guided their explanations within their study. Common definitions representative of these themes are presented in Table 3.

Table 3: Key themes underpinning researcher's definitions of resilience identified in the literature review (to be inserted here)

1. Rising above to overcome adversity

Garmezy, Rutter and Bonanno, along with a number of other authors reporting original research findings provided in individual studies, defined resilience as a process of overcoming adversity and rising above the challenges faced in a time of crisis or trauma (Bonanno 2004, Connor and Davidson 2003, Garmezy 1991, Garmezy et al. 1984, Felten 2001, Kralik et al. 2006, Rutter 1987, Ungar 2008, Werner and Smith 1982, Felten 2000). (Rogerson and Emes 2008) commented that the "ability to rise above adversity in the face of numerous challenges is referred to as resilience" (p. 1). These authors argue that the way in which individuals do this could be related directly to the

environment they inhabit and the interactions they have with others in that environment (Black and Ford-Giboe 2004, Garmezy 1991, Bonanno 2004, Felten 2000). Although merely "overcoming" adversity or trauma was identified as key to being 'resilient' in the literature, words such as "flourishing", "thriving" and "succeeding" were also used and relate closely to the notion of 'rising above' during crisis or trauma. These words indicated an ability to overcome difficulties or struggles to the point of becoming more successful or functioning at a higher level than previous prior to the trauma or period of adversity (Garmezy et al. 1984, Hildon et al. 2010, Masten et al. 1990, Rutter 1987, Werner and Smith 1982).

2. Adaptation and Adjustment

Some authors argued that being able to adjust or successfully adapt to new or difficult situations is a sign of true resilience (Hegney et al. 2007, Cummings et al. 2000, Montpetit et al. 2010, Easterbrooks et al. 2008, Bobek 2002). Wingo et al (2010), for example, defined resilience as a "process of adapting well in the face of adversity or trauma" (p. 769). The positive manner by which individuals respond to a challenging situation, through processes of adjustment and adaptation, was referred to by several studies reviewed (Easterbrooks et al. 2008, Garmezy 1991, Leipold and Greve 2009, Gwadz et al. 2006, Kralik et al. 2006, Lee et al. 2004, Luthar 2006, Luthar and Cicchetti 2000, Masten 2001).

3. 'Ordinary Magic'

Ann Masten (2001) first described 'ordinary magic' as an everyday attribute that is inherent in all people. Masten (2001) argued that resilience wasn't about anything extraordinary but a phenomenon grounded in ordinary things, for example, family, love and close friendships. She highlighted the importance of positive experiences in the work and education environments in contributing to an individual's resilience (Masten 2001). Masten (2001) argued the personal strength gathered from previous experiences and the support mustered by family and friends at a challenging or stressful period in the individual's life is critical to being 'resilient'. "Magic" also implies that this is not a concept that can be easily measured or quantified. This work was cited by many

studies included in the review (Canvin et al. 2009, Janssen et al. 2011, Dowrick et al. 2008, Gwadz et al. 2006, Theron and Malindi 2010, Montpetit et al. 2010). All of these authors build on Masten's work stating resilience is a 'common place' phenomenon (Masten 2001, Dowrick et al. 2008).

4. Good mental health as a proxy for resilience

The presence of mental illness after a period of crisis or trauma was also an interesting issue discussed in the literature. An absence, or lower incidence of mental health issues was described by a number of researchers as a method for determining whether an individual is resilient or not (Kralik et al. 2006, Burns and Anstey 2010, Rutter 1987). Within this context resilience is considered "a buffering factor that protects individuals from psychotic disorders" (p. 42) (Wagnild 2003). There was a cohort of studies identified in the review that used scale-based questionnaires to assess an individual's resilience. For example, scales measuring positive mental health (Gwadz et al. 2006), depressive symptoms (Wingo et al. 2010, Murphy and Marelich 2008), anxiety and depression (Bennett 2010) post-traumatic stress disorder symptoms (Wingo et al. 2010), affective disorders and schizophrenia (Pilowsky et al. 2004, Kasen et al. 2012) were used to assess an individual's level of resilience. Some studies used symptom checklists (Friborg et al. 2005) or assessed clinical notes of their participants and identified whether depression or anxiety were present or absent as a proxy for resilience (Larm et al. 2010).

An article published by Davydov et al (2010) further explored the relationship between resilience and mental health. They discussed resilience as a form of 'mental immunity' similar to the 'general immunity' gained from a healthy lifestyle which can protect individuals from infection and disease. Although some authors argued that good mental health could be seen as a proxy for resilience, other authors commented that resilience wasn't necessarily correlated with the presence or absence of a mental health diagnosis (Bonanno 2004, Bonanno et al. 2007, Deshields et al. 2006, Kralik et al. 2006).

5. Ability to bounce back

Edward et al (2009) and (Kumpfer 1999) highlighted that "the word resilience originates from the Latin 'resiliere' meaning to jump back and holds meaning for many

situations, whether they involve individuals or groups". Many studies argued that the ability to 'bounce back' was a key component of understanding resilience. A clear link was made between 'recovery' and 'bouncing back' – being able to recover from a trauma or difficult period, and returning to baseline health or wellbeing (Felten 2001, Garmezy 1991, Dowrick et al. 2008, Edward et al. 2009).

DISCUSSION

This is the first integrative review to explore definitions of resilience adopted within the international research literature. It is also the first literature review of any type that is not specific to a profession or field of research. Whilst five key themes underpinning definitions of resilience were identified in this review, it is clear there is no universally accepted way of defining, quantifying or measuring resilience.

This lack of a universally accepted definition of resilience within the research literature is problematic for a number of reasons. Firstly, further knowledge and understanding of this concept may enhance the ability to support health professionals, patients and their families to adopt a resilient approach in times of crisis. Secondly, currently it is difficult to grasp what this approach may look like and how this would be measured. As discussed within this review, there are several scales that 'measure' resilience. These are largely based upon absence or presence of mental illness or symptoms of a depressive illness (Gwadz et al. 2006, Murphy and Marelich 2008, Bennett 2010). Given the plethora of other literature outlining features of resilience as a process of adaptation and adjustment and the ability to bounce back, it may be that a quantitative measure using a scale may not be appropriate. Currently there is a lack of clarity of this concept due to the absence of appropriate or adequate measurement tools.

A universal definition would also be helpful in guiding research within the field. Currently it is apparent that further research into resilience would need to clarify a definition of resilience specific to each population, field and area. One argument may be that there is no need for a universal definition and that any study investigating this concept need provide a definition contextual to the field or population studied. However, a universal definition would allow both health professionals, researchers and

the general population to have clarity about a word that is being used more and more to describe individuals and families (Boss 2006, Lindstrom 2001).

A strong feature of many studies exploring and investigating resilience that was highlighted in this review frequently referred to the dynamic nature of this concept (Hegney et al. 2007, Jowkar et al. 2010, Masten 2001). These findings are congruent with previous reviews and theoretical papers published about resilience (Garmezy 1991, Luthar et al. 2000, Rutter 2012).

However, to date, resilience research has largely been undertaken from a biomedical perspective using a positivist framework. Indeed, a large number of studies included within this review used quantitative methods and scale based measures to quantify or determine an individual or group's resilience (Connor and Davidson 2003, Friborg et al. 2003, Gartland et al. 2011). Given that there are multiple understandings of resilience and many studies have highlighted the contextual nature of this phenomenon it could be argued that it is difficult to understand this concept from a purely biomedical model. There are a small number of studies that have identified the importance of including a psychosocial perspective into their research (Davydov et al. 2010, Rutter 2001, Rutter 1987, Tusaie-Mumford 2001).

We suggest that social constructionism may be an alternative framework to investigate resilience. Social constructionism critiques the view that conventional knowledge is objective and based on an unbiased view of the world (Burr 2003, Stam 2001). Social constructionists view knowledge and truth as constructed or created rather than discovered by the mind (Berger and Luckmann 1966). From the lens of a social constructionist, resilience can certainly be seen as a construct that is largely dependent upon a situation including the culture of the individual and society or community to which the individual belongs and the context the term is used within. This means resilience as a social construct could be seen as largely dependent on the beliefs and world-views of the individual or the group being described and would explain why so many characteristic driven features are used to define resilience.

Strengths and Limitations

This integrative review addresses a gap in the international literature by identifying how resilience is defined and conceptualized within empirical research conducted within the last century. Unlike other published reviews, this review isn't specific to a profession, discipline or area and uses systematic integrative review methods to review the empirical literature (Windle 2010, Young et al. 2008, Nolan 2010). However, certain limitations must be acknowledged. In order to ensure the review was of a manageable size, only three databases were included. For the same reason, only English language papers were included.

CONCLUSION

Further research is needed to explore the concept of resilience within specific population groups. Such work is of particular importance within nursing given that the term resilience is being ever more widely used within research, educational and clinical contexts. Given this review has identified the contextual nature of resilience it is important that future research defines what is meant by resilience in the context explored. Again, given the recognised importance of the context and an individual's beliefs and values upon their response to challenging situations, the use of resilience scales in isolation is likely to have significant limitations. This review has highlighted the potential weaknesses of solely working within a positivist paradigm when researching resilience. As suggested above, social constructionism may provide a useful lens to inform future research within this field.

REFERENCES

- (2012) Getting it right for Children & Families: A guide to Getting it right for every child. (Families, C. ed. Scottish Government, Scotland.
- (2013) Oxford English Dictionary Online. Oxford University Press, London.
- Alex, L. (2010) Resilience among very old men and women. *Journal of Research in Nursing*, **15**(5), 419-431.
- Bennett, K.M. (2010) How to achieve resilience as an older widower: turning points or gradual change? *Ageing and Society*, **30**(03), 369.
- Berger, P.L. & Luckmann, T. (1966) *The Social Construction of Reality.*, Allen Lane, Great Britain.
- Birks, M. & Mills, J. (2011) *Grounded Theory: A practical guide,* SAGE Publications, London, United Kingdom.
- Black & Lobo, M. (2008) A conceptual review of family resilience factors. *J Fam Nurs*, **14**(1), 33-55.
- Black, C. & Ford-Giboe, M. (2004) Adolescent mothers: resilience, family health work and health-promoting practices. *Journal of Advanced Nursing*, **48**(4), 351-360.
- Bobek, B.L. (2002) Teacher resiliency: a key to career longevity. *The Clearing House*, **75**(4), 202-205.
- Bonanno, G.A. (2004) Loss, trauma, and human resilience: have we underestimated the human capacity to thrive after extremely aversive events? *Am Psychol*, **59**(1), 20-8.
- Bonanno, G.A., Galea, S., Bucciarelli, A. & Vlahov, D. (2007) What predicts psychological resilience after disaster? The role of demographics, resources, and life stress. *J Consult Clin Psychol*, **75**(5), 671-82.
- Bonanno, G.A., Wortman, C.B., Lehman, D.R., Tweed, R.G., Haring, M., Sonnega, J. & Nesse, R.M. (2002) Resilience to loss and chronic grief: A prospective study from preloss to 18-months postloss. . *Journal of Personality and Social Psychology*, **83**, 1150-1164.
- Boss, P. (2006) Resilience and Health. *Grief Matters: The Australian Journal of Grief and Bereavement*, **9**(3), 52-57.
- Britt, E., Carter, J., Conradson, D., Scott, A., Vargo, J. & Moss, H. (2012) Resilience Framework and Guiddelines for Practice. (Development, M. o. S. ed. University of Canterbury, New Zealand.
- Bronfenbrenner, U. & Morris, P.A. (2007) The Bioecological Model of Human Development. *Handbook of Child Psychology,* **1**(14).
- Broome, M.E. (1993) Integrative literature reviews for the development of concepts. In *Concept Development in Nursing* (Rodgers, B. L. and Knafl, K. A. eds.) W.B. Saunders Company, Philadelphia, pp. 231-250.
- Brown, O., Howcroft, G. & Muthen, T. (2010) Resilience in families living with a child diagnosed with hyperactivity/attention deficit disorder. *South African Journal of Psychology*, **40**(3).
- Brown, O. & Robinson, J. (2012) Resilience in remarried families. *South African Journal of Psychology*, **42**(1), 114-126.
- Burns, R.A. & Anstey, K.J. (2010) The Connor–Davidson Resilience Scale (CD-RISC): Testing the invariance of a uni-dimensional resilience measure that is independent of positive and negative affect. *Personality and Individual Differences*, **48**(5), 527-531.

- Burr, V. (2003) Social Constructionism, Routledge, London.
- Campbell-Sills, L., Cohan, S.L. & Stein, M.B. (2006) Relationship of resilience to personality, coping, and psychiatric symptoms in young adults. *Behav Res Ther*, **44**(4), 585-99.
- Campbell-Sills, L., Forde, D.R. & Stein, M.B. (2009) Demographic and childhood environmental predictors of resilience in a community sample. *J Psychiatr Res*, **43**(12), 1007-12.
- Canvin, K., Marttila, A., Burstrom, B. & Whitehead, M. (2009) Tales of the unexpected? Hidden resilience in poor households in Britain. *Soc Sci Med*, **69**(2), 238-45.
- Cefai, C. (2004) Pupil resilience in the classroom. *Emotional and Behavioural Difficulties*, **9**(3), 149-170.
- Chang, E.M., Daly, J.W., Hancock, K.M., Bidewell, J., Johnson, A., Lambert, V.A. & Lambert, C.E. (2006) The Relationships Among Workplace Stressors, Coping Methods, Demographic Characteristics, and Health in Australian Nurses. *Journal of Professional Nursing*, **22**(1), 30-38.
- Charmaz, K. (2006) Constructing Grounded Theory, SAGE Publications, London.
- Cohen, O., Slonim, I., Finzi, R. & Leichtentritt, R.D. (2002) Family resilience: Israeli mothers' perspectives. *American Journal of Family Therapy*, **30**(2), 173-187.
- Connor, K.M. & Davidson, J.R. (2003) Development of a new resilience scale: the Connor-Davidson Resilience Scale (CD-RISC). *Depress Anxiety,* **18**(2), 76-82.
- Cook, L. (2009) A Nurse Education and Training Board for New Zealand Report to the Minister of Health: An evaluation of the need for a Nurse Education and Training Board for the oversight of nursing education and training in New Zealand. . Ministry of Health, Wellington, New Zealand, pp. 1-52. .
- Cora-Bramble, D., Zhang, K. & Castillo-Page, L. (2010) Minority faculty members' resilience and academic productivity: are they related? *Acad Med,* **85**(9), 1492-8.
- Cowan, P.A., Cowan, C.P. & Schultz, M.S. (1996) Thinking about risk and resilience in families. In *Stress, Coping and Resiliency in Children and Families* (Hetherington, E. and Belchman, E. A. eds.) Lawrence Erlbaum Associates, New Jersey, pp. 1-38.
- Cummings, E.M., Davies, P.T. & Campbell, S.B. (2000) *Developmental psychopathology and family process: Theory, research and clinical implications.*, Guilford Press, New York.
- Daniel, B. (2006) Operationalizing the concept of resilience in child neglect: case study research. *Child: Care, Health & Development,* **32**(3), 303-309.
- Davydov, D.M., Stewart, R., Ritchie, K. & Chaudieu, I. (2010) Resilience and mental health. *Clin Psychol Rev*, **30**(5), 479-95.
- Deegan, P.E. (2005) The importance of personal medicine: a qualitative study of resilience in people with psychiatric disabilities. *Scand J Public Health Suppl*, **66**, 29-35.
- Deshields, T., Tibbs, T., Fan, M. & Taylor, M. (2006) Differences in patterns of depression after treatment for breast cancer. *Psycho-Oncology*, **15**(5), 398-406.

- Doll, B. & Lyon, M.A. (1998) Risk and resilience: Implications for the delviery of educational and mental health services in schools. *School Psychology Review*, **27**, 348-363.
- Dowrick, C., Kokanovic, R., Hegarty, K., Griffiths, F. & Gunn, J. (2008) Resilience and depression: perspectives from primary care. *Health: An Interdisciplinary Journal for the Social Study of Health, Illness & Medicine*, **12**(4), 439-452.
- Dziengel, L. (2012) Resilience, Ambiguous Loss, and Older Same-Sex Couples: The Resilience Constellation Model. *Journal of Social Service Research*, **38**(1), 74-88.
- Easterbrooks, M.A., Chaudhuri, J.H., Bartlett, J.D. & Copeman, A. (2011) Resilience in parenting among young mothers: Family and ecological risks and opportunities. *Children and Youth Services Review*, **33**(1), 42-50.
- Easterbrooks, M.A., Driscoll, J.R. & Bartlett, J.D. (2008) Resilience in Infancy: A Relational Approach. *Research in Human Development*, **5**(3), 139-152.
- Edward, K. (2005) The phenomenon of resilience in crisis care mental health clinicians. *International Journal of Mental Health Nursing*, **14**(2), 142-148.
- Edward, K.L., Welch, A. & Chater, K. (2009) The phenomenon of resilience as described by adults who have experienced mental illness. *J Adv Nurs*, **65**(3), 587-95.
- Emlet, C.A., Tozay, S. & Raveis, V.H. (2011) "I'm not going to die from the AIDS": resilience in aging with HIV disease. *Gerontologist*, **51**(1), 101-11.
- Everall, R.D., Altrows, J. & Paulson, B.L. (2006) Study of Resilience in Suicidal Female Adolescents. *Journal of Counselling & Development*, **84**, 461-470.
- Feinstein, S., Driving-Hawk, C. & Baartman, J. (2009) Resiliency and Native American Teenagers. *Reclaiming Children and Youth,* **18**(2), 12-17.
- Felten, B.S. (2000) Resilience in a multicultural sample of community-dwelling women older than age 85. *Clinical Nursing Research*, **9**(2), 102-23.
- Felten, B.S. (2001) Conceptualizing Resilience in Women Older than 85: Overcoming adversity from illness or loss. *Journal of Gerontological Nursing*, **27**(11), 46-50.
- Flemming, K. (2007) The synthesis of qualitative research and evidence-based nursing. . *Evidence Based Nursing*, **10**(3), 68-71.
- Friborg, O., Barlaug, D., Martinussen, M., Rosenvinge, J.H. & Hjemdal, O. (2005) Resilience in relation to personality and intelligence. *International Journal of Methods in Psychiatric Research*, **14**(1), 29-42.
- Friborg, O., Hjemdal, O. & Rosenvinge, M. (2003) A new rating scale for adult resilience: what are the central protective resources behind healthy adjustment? *International Journal of Methods in Psychiatric Research*, **12**(2), 65-76.
- Fuller-Iglesias, H., Sellars, B. & Antonucci, T.C. (2008) Resilience in Old Age: Social Relations as a Protective Factor. *Research in Human Development*, **5**(3), 181-193.
- Ganong, L.H. (1987) Integrative Reviews of Nursing Research. *Research in Nursing* & *Health*, **10**, 1-11.
- Garmezy, N. (1991) Resilience in children's adaptation to negative life events and stressed environments. *Pediatric Annal*, **20**, 459-466.
- Garmezy, N., Masten, A. & Tellegen, A. (1984) The study of stress and competence in children: A building block for developmental psychopathology. *Child Development*, **55**, 97-111.

- Gartland, D., Bond, L., Olsson, C.A., Buzwell, S. & Sawyer, S.M. (2011) Development of a multi-dimensional measure of resilience in adolescents: the Adolescent Resilience Questionnaire. *BMC Med Res Methodol*, **11**, 134.
- Gaugler, J.E., Kane, R.L. & Newcomer, R. (2007) Resilience and transitions from dementia caregiving. *Journals of Gerontology Series B: Psychological Sciences & Social Sciences*, **62B**(1), P38-44.
- Gillespie, B.M., Chaboyer, W., Wallis, M. & Grimbeek, P. (2007) Resilience in the operating room: developing and testing of a resilience model. *J Adv Nurs*, **59**(4), 427-38.
- Glaser, B.G. (1978) Theoretical Sensitivity, Sociology Press, Mill Valley, CA.
- Gordon Rouse, K.A. (2001) Resilient students' goals and motivation. *J Adolesc*, **24**(4), 461-72.
- Grandbois, D.M. & Sanders, G.F. (2009) The resilience of Native American elders. *Issues Ment Health Nurs*, **30**(9), 569-80.
- Grant, D. (2006) Resilience of girls with incarcerated mothers: the impact of Girl Scouts. *Prevention Researcher*, **13**(2), 11-14.
- Grossman, A.H., D'Augelli, A.R. & Frank, J.A. (2011) Aspects of Psychological Resilience among Transgender Youth. *Journal of LGBT Youth,* **8**(2), 103-115.
- Guest, Y. (2012) Reflections on resilience: a psycho-social exploration of the life long impact of having been in care during childhood. *Journal of Social Work Practice*, **26**(1), 109-124.
- Gwadz, M.V., Clatts, M.C., Yi, H., Leonard, N.R., Goldsamt, L. & Lankenau, S. (2006) Resilience Among Young Men Who Have Sex With Men in New York City. *Sexuality, Research & Social Policy: Journal of NSRC*, **3**(1), 13-21.
- Haase, J.E. (2004) The adolescent resilience model as a guide to interventions. *J Pediatr Oncol Nurs*, **21**(5), 289-99; discussion 300-4.
- Hardy, S.E., Concato, J. & Gill, T.M. (2004) Resilience of Community-Dwelling Older Persons. *J Am Geriatr Soc*, **52**(2), 257-262.
- Hartley, M.T. (2011) Examining the relationships between resilience, mental health, and academic persistence in undergraduate college students. *J Am Coll Health*, **59**(7), 596-604.
- Hauser, S.T. (1999) Understanding resilient outcomes: Adolescent lives across time and generations. *Journal of Research on Adolescence*, **9**, 1-24.
- Hegney, D.G., Buikstra, E., Baker, P., Rogers-Clark, C., Pearce, S., Ross, H., King, C. & Watson-Luke, A. (2007) Individual resilience in rural people: a Queensland study, Australia. *Rural & Remote Health*, **7**(4), 620.
- Henry, D.L. (2001) Resilient children: what they tell us about coping with maltreatment. *Soc Work Health Care*, **34**(3/4), 283-298.
- Hildon, Z., Montgomery, S.M., Blane, D., Wiggins, R.D. & Netuveli, G. (2010) Examining resilience of quality of life in the face of health-related and psychosocial adversity at older ages: what is "right" about the way we age? *Gerontologist*, **50**(1), 36-47.
- Hodges, H.F., Keely, A.C. & Troyan, P.J. (2008) Professional resilience in baccalaureate-prepared acute care nurses: first steps. *Nursing Education Perspectives*, **29**(2), 80-89.
- Howard, S. & Johnson, B. (2004) Resilient teachers: resisting stress and burnout. *Social Psychology of Education*, **7**, 399-420.

- Howe, A., Smajdor, A. & Stockl, A. (2012) Towards an understanding of resilience and its relevance to medical training. *Med Educ*, **46**(4), 349-56.
- Howell, K.H., Graham-Bermann, S.A., Czyz, E. & Lilly, M. (2010) Assessing Resilience in Preschool Children Exposed to Intimate Partner Violence. *Violence and Victims*, **25**(2), 150-164.
- Humphreys, J. (2003) Resilience in sheltered battered women. *Issues Ment Health Nurs*, **24**(2), 137-152.
- Hunter, A.J. (2001) A cross-cultural comparison of resilience in adolescents. *J Pediatr Nurs*, **16**(3), 172-9.
- Ingram, R.E. & Price, J.M. (2001) The role of vulnerability in understanding psychopathology. In *Vulnerability to psychopathology: Risk across the lifespan*(Ingram, R. E. and Price, J. M. eds.) The Guilford Press, New York, pp. 3-19.
- Ishibashi, A., Ueda, R., Kawano, Y., Nakayama, H., Matsuzaki, A. & Matsumura, T. (2010) How to improve resilience in adolescents with cancer in Japan. *Journal of Pediatric Oncology Nursing*, **27**(2), 73-93.
- Jacelon, C.S. (1997) The trait and process of resilience. *Journal of Advanced Nursing*, **25**(1), 123-129.
- Jackson, D., Firtko, A. & Edenborough, M. (2007) Personal resilience as a strategy for surviving and thriving in the face of workplace adversity: a literature review. *J Adv Nurs*, **60**(1), 1-9.
- Janssen, B.M., Van Regenmortel, T. & Abma, T.A. (2011) Identifying sources of strength: Resilience from the perspective of older people receiving long-term community care. *European Journal of Ageing*, **8**(3), 145-156.
- Jeffcott, S.A., Ibrahim, J.E. & Cameron, P.A. (2009) Resilience in healthcare and clinical handover. *Qual Saf Health Care*, **18**(4), 256-60.
- Jensen, P.M., Trollope-Kumar, K., Waters, H. & Everson, J. (2008) Building physician resilience. *Canadian Family Physician*, **54**(5), 722-729.
- Jenson, J.M. & Fraser, M.W. (2015) A Risk and Resilience Framework for Child, Youth, and Family Policy. In *Social Policy for Children and Families: A Risk and Resilience Perspective*(Jenson, J. M. and Fraser, M. W. eds.) SAGE Publications, New York.
- Johnson-Garner, M.Y. & Meyers, S.A. (2003) What factors contribute to the resilience of African-American children within kinship care? *Child & Youth Care Forum*, **32**(5), 255-269.
- Jowkar, B., Friborg, O. & Hjemdal, O. (2010) Cross-cultural validation of the Resilience Scale for Adults (RSA) in Iran. *Scand J Psychol*.
- Kabiru, C.W., Beguy, D., Ndugwa, R.P., Zulu, E.M. & Jessor, R. (2012) "Making It": Understanding Adolescent Resilience in Two Informal Settlements (Slums) in Nairobi, Kenya. *Child & Youth Services*, **33**(1), 12-32.
- Karoly, P. & Ruehlman, L.S. (2006) Psychological "resilience" and its correlates in chronic pain: findings from a national community sample. *Pain*, **123**(1-2), 90-7.
- Kasen, S., Wickramaratne, P., Gameroff, M.J. & Weissman, M.M. (2012) Religiosity and resilience in persons at high risk for major depression. *Psychol Med*, **42**(3), 509-19.
- Kinman, G. & Grant, L. (2010) Exploring Stress Resilience in Trainee Social Workers: The Role of Emotional and Social Competencies. *British Journal of Social Work*, **41**(2), 261-275.

- Kinsel, B. (2005) Resilience as adaptation in older women. *Journal of Women & Aging,* **17**(3), 23-39.
- Klasen, F., Daniels, J., Oettingen, G., Post, M., Hoyer, C. & Adam, H. (2010) Posttraumatic Resilience in Former Ugandan Child Soldiers. *Child Development*, **81**(4), 1096-1113.
- Kralik, D., van Loon, A. & Visentin, K. (2006) Resilience in the chronic illness experience. *Educational Action Research*, **14**(2), 187-201.
- Kumpfer, K. (1999) Factors and processes contributing to resilience: the resilience framework. In *Resilience and development: Positive Life Adaptations*. (Johnson, G. A. ed. Kluwer Academic/Plenum, New York, pp. 179-224.
- Larm, P., Hodgins, S., Tengstrom, A. & Larsson, A. (2010) Trajectories of resilience over 25 years of individuals who as adolescents consulted for substance misuse and a matched comparison group. *Addiction*, **105**(7), 1216-25.
- Lazarus, R.S. & Folkman, S. (1984) *Stress, appraisal, and coping.*, Springer, New York.
- Lee, Sudom, K.A. & McCreary, D.R. (2011) Higher-Order Model of Resilience in the Canadian Forces. *Canadian Journal of Behavioural Science*, **43**(3), 222-234.
- Lee, I., Lee, E., Kim, H.S., Park, Y.S., Song, M. & Park, Y.H. (2004) Concept development of family resilience: a study of Korean families with a chronically ill child. *Journal of Clinical Nursing*, **13**, 636-645.
- Leipold, B. & Greve, W. (2009) Resilience: A conceptual bridge between coping and development. *European Psychologist*, **14**(1), 40-50.
- Lin, K.K., Sandler, I.N., Ayers, T.S., Wolchik, S.A. & Luecken, L.J. (2004) Resilience in Parentally Bereaved Children and Adolescents Seeking Preventive Services. *Journal of Clinical Child and Adolescent Psychiatry*, **33**(4), 673-683.
- Lindstrom, B. (2001) The meaning of resilience. *International Journal of Adolescent Medicine and Health*, **13**(1), 7-12.
- Longenecker, R., Zink, T. & Florence, J. (2012) Teaching and learning resilience: building adaptive capacity for rural practice. A report and subsequent analysis of a workshop conducted at the Rural Medical Educators Conference, Savannah, Georgia, May 18, 2010. *J Rural Health*, **28**(2), 122-7.
- Lothe, E.A. & Heggen, K. (2003) A Study of Resilience in Young Ethiopian Famine Survivors. *Journal of Transcultural Nursing*, **14**(4), 313-320.
- Luthar, S.S. (2006) Resilience in development: A synthesis of research across five decades. In *Developmental psychopathology: Risk, disorder and adaptation.* (Cicchetti, D. and Cohen, D. J. eds.) Wiley, New York, pp. 740-795.
- Luthar, S.S. & Cicchetti, D. (2000) The construct of resilience: Implications for interventions and social policies. *Development and Psychopathology*, **12**(4), 857-885.
- Luthar, S.S., Cicchetti, D. & Becker, B. (2000) The Construct of Resilience: A Critical Evaluation and Guidelines for Future Work. *Child Development*, **71**(3), 543-562.
- Mak, W.W.S., Ng, I.S.W. & Wong, C.C.Y. (2011) Resilience: enhancing well-being through the positive cognitive triad. *Journal of Counseling Psychology*, **58**(4), 610-7.
- Malindi, M.J. & Theron, L.C. (2010) The hidden resilience of street youth. *South African Journal of Psychology*, **40**(3), 318-326.

- Mancini, A.D. & Bonanno, G.A. (2006) Resilience in the face of potential trauma: clinical practices and illustrations. *J Clin Psychol*, **62**(8), 971-85.
- Mansfield, C.F., Beltman, S., Price, A. & McConney, A. (2012) "Don't sweat the small stuff:" Understanding teacher resilience at the chalkface. *Teaching and Teacher Education*, **28**(3), 357-367.
- Masten, A. (2001) Ordinary Magic: Resilience Processes in Development. *American Psychologist*, **56**(3), 227-238.
- Masten, A., Best, K. & Garmezy, N. (1990) Resilience and development: Contributions from the study of children who overcome adversity. *Development and Psychopathology*, **2**, 425-444.
- Masten, A. & Coatsworth, J.D. (1998) The development of competence in favorable and unfavorable environments: Lessons from successful children. *American Psychologist*, **53**(205-220).
- Masten, A., Hubbard, J.J., Gest, S.D., Tellegen, A., Garmezy, N. & Ramirez, M. (1999) Competence in the context of adversity: Pathways to resilience and maladaptation from childhood to late adolescence. *Development and Psychopathology.*, **11**, 143-169.
- Masten, A. & Powell, J.L. (2003) A resilience framework for research, policy, and practice. In *Resilience and vulnerability: Adaptation in the context of childhood adversities.*(Luthar, S. S. ed. Cambridge University Press, New York, pp. 1-25.
- McAllister, M. & McKinnon, J. (2009) The importance of teaching and learning resilience in the health disciplines: a critical review of the literature. *Nurse Education Today*, **29**, 371-379.
- McCubbin, H.I. & Patterson, J.M. (1981) Broadening the scope of family strength: an emphasis on family coping and social support. In *Family Strengths III: Roots of Well-being.* (Stinnett, N., Chesser, B. and DeFrain, J. eds.) University of Nebraska Press, Lincoln, pp. 177-194.
- McMurray, I., Connolly, H., Preston-Shoot, M. & Wigley, V. (2008) Constructing resilience: social workers' understandings and practice. *Health Soc Care Community*, **16**(3), 299-309.
- Moe, J., Johnson, J.L. & Wade, W. (2007) Resilience in children of substance users: in their own words. *Subst Use Misuse*, **42**(2-3), 381-98.
- Moher, D., Liberati, A., Tetzlaff, J., Altman, D.G. & Group, T.P. (2009) Preferred Reporting Items for Systematic Reviews and Meta-Analyses: The PRISMA Statement. . In *PLoS Med*, Vol. 6.
- Monroe, B. & Oliviere, D. (2007) Introduction: unlocking resilience in palliative care. In *Resilience in palliative care: acheivement in adversity*.Oxford Publishers, London, United Kingdom.
- Montpetit, M.A., Bergeman, C.S., Deboeck, P.R., Tiberio, S.S. & Boker, S.M. (2010) Resilience-as-process: negative affect, stress, and coupled dynamical systems. *Psychol Aging*, **25**(3), 631-40.
- Mullin, W.J. & Arce, M. (2008) Resilience of families living in poverty. *Journal of Family Social Work*, **11**(4), 424-440.
- Murphy, D.A. & Marelich, W.D. (2008) Resiliency in young children whose mothers are living with HIV/AIDS. *AIDS Care*, **20**(3), 284-91.
- Nolan, M. (2010) Review: Resilience among very old men and women. *Journal of Research in Nursing*, **15**(5), 433-434.

- Oshio, A., Kaneko, H., Nagamine, S. & Nakaya, M. (2003) Construct Validity of The Adolescent Resilience Scale. *Psychological Reports*, **93**(3,Pt2), 1217-1222.
- Pargas, R.C., Brennan, P.A., Hammen, C. & Le Brocque, R. (2010) Resilience to maternal depression in young adulthood. *Dev Psychol*, **46**(4), 805-14.
- Patterson, J.H., Collins, L. & Abbott, G. (2004) A study of teacher resilience in urban schools. *Journal of Instructional Psychology*, **31**(1), 3-11.
- Patton, M.Q. (2002) *Qualitative Research and Evaluation Methods,* SAGE Publications, California.
- Pilowsky, D.J., Zybert, P.A. & Vlahov, D. (2004) Resilient children of injection drug users. *J Am Acad Child Adolesc Psychiatry*, **43**(11), 1372-9.
- Pole, N., Kulkarni, M., Bernstein, A. & Kaufmann, G. (2006) Resilience in retired police officers. *Traumatology*, **12**(3), 207-216.
- Pope, C., Mays, N. & Popay, J. (2007) *Synthesizing Qualitative and Quantitative Health Evidence: a Guide to Methods.*, Open University Press, Maidenhead.
- Prince, L.M. (2008) Resilience in African American women formerly involved in street prostitution. *ABNF Journal*, **19**(1), 31-36.
- Quale, A.J. & Schanke, A.K. (2010) Resilience in the face of coping with a severe physical injury: a study of trajectories of adjustment in a rehabilitation setting. *Rehabil Psychol*, **55**(1), 12-22.
- Ridgway, P. (2004) Resilience and recovery from psychiatric disabilities: Links in concepts and research. In *A working paper* University of Kansas, Lawrence, KS.
- Rogerson, M. & Emes, C. (2008) Fostering Resilience Within an Adult Day Support Program. *Activities, Adaptation & Aging,* **32**(1), 1-18.
- Rolf, J.E. (1999) Resilience. An interview with Norman Garmezy. . In *Resilience and development. Positive life adaptations.* (Glantz, M. D. and Johnson, J. L. eds.) Kluwer Academic/Plenum, New York, pp. 5-14.
- Rutter, M. (1987) Psychoscoial resilience and protective mechanisms. *American Journal of Orthopsychiatry*, **57**(316-331).
- Rutter, M. (1990) Psychosocial resilience and protective mechanisms. In *Risk and protective factors in the development of psychopathology*(Rolf, J., Masten, A., Cicchetti, D., Nuechter-Iein, K. and Weintraub, S. eds.) Cambridge University Press, Cambridge, pp. 181-214.
- Rutter, M. (2001) Psychosocial Adversity: Risk, Resilience and Recovery. In *The Context of Youth Violence: Resilience, Risk and Protection*(Richman, J. M. F., M.W. ed. Greenwood Publishing Group, pp. 13-42.
- Rutter, M. (2012) Resilience as a dynamic concept. *Dev Psychopathol*, **24**(2), 335-44.
- Sammons, P., Day, C., Kington, A., Gu, Q., Stobart, G. & Smees, R. (2007) Exploring variations in teachers' work, lives and their effects on pupils: key findings and implications from a longitudinal mixed-method study. . *British Educational Research Journal*, **33**(5), 681-701.
- Schilling, T.A. (2007) An Examination of Resilience Processes in Context: The Case of Tasha. *The Urban Review,* **40**(3), 296-316.
- Segovia, F., Moore, J.L., Linnville, S.E., Hoyt, R.E. & Hain, R.E. (2012) Optimism predicts resilience in repatriated prisoners of war: a 37-year longitudinal study. *J Trauma Stress*, **25**(3), 330-6.

- Smith, B.W., Dalen, J., Wiggins, K., Tooley, E., Christopher, P. & Bernard, J. (2008) The brief resilience scale: assessing the ability to bounce back. *Int J Behav Med*, **15**(3), 194-200.
- Stajduhar, K.I., Funk, L., Shaw, A.L., Bottorff, J.L. & Johnson, J. (2009) Resilience from the perspective of the illicit injection drug user: an exploratory descriptive study. *Int J Drug Policy*, **20**(4), 309-16.
- Stam, H.J. (2001) Introduction: Social Constructionism and its critics. *Theory & Psychology*, **11**(2), 291-296.
- Stephens, T.M. (2013) Nursing student resilience: a concept clarification. *Nursing Forum*, **48**(2), 125-133.
- Stumblingbear-Riddle, G. & Romans, J.S.C. (2012)
 Resilience among Urban American Indian Adolescents: Exploration int o the role of culture, self-esteem, subjective wellbeing, and social support. . American Indian and Alaska Native Mental Health Research, 19(2), 1-63.
- Takviriyanun, N. (2008) Development and testing of the Resilience Factors Scale for Thai adolescents. *Nursing & Health Sciences*, **10**(3), 203-208.
- Theron, L.C. & Malindi, M.J. (2010) Resilient street youth: a qualitative South African study. *Journal of Youth Studies*, **13**(6), 717-736.
- Tusaie, K. & Dyer, J. (2004) Resilience: a historical review of the construct. . *Holistic Nursing Practice,* **18**(1), 3-11.
- Tusaie-Mumford, K.R. (2001) Psychosocial resilience in rural adolescents: optimism, perceived social support and gender differences. Vol. Ph.D. University of Pittsburgh, pp. 132 p.
- Ungar, M. (2008) Resilience across cultures. *British Journal of Social Work,* **38**, 218-235.
- Waaktaar, T. & Torgersen, S. (2010) How resilient are resilience scales? The Big Five scales outperform resilience scales in predicting adjustment in adolescents. *Scand J Psychol*, **51**(2), 157-63.
- Wagnild, G. (2003) Resilience and successful aging: comparison among low and high income older adults. *Journal of Gerontological Nursing*, **29**(12), 42-49.
- Waite, P.J. & Richardson, G.E. (2004) Determining the efficacy of resiliency training in the work site. *Journal of Allied Health*, **33**(3), 178-183.
- Waller, M.A. (2003) Resilience in Ecosystemic Context: Evolution of the Concept. *American Journal of Orthopsychiatry,* **71**(3), 290-297.
- Walsh, F. (2003) Family Resilience: A Framework for Clinical Practice. *Family Process*, **42**, 1-18.
- Werner, E. (1990) Protective factors and individual resilience. In *Handbook of early intervention* (Meisels, S. and Shonkoff, J. eds.) Cambridge University Press, Cambridge, England, pp. 97-116.
- Werner, E. & Smith, R.S. (1982) *Vulnerable but invincible: A longitudinal study of resilient children and youth.,* McGraw-Hill, New York.
- Werner, E. & Smith, R.S. (1992) *Overcoming the odds: High-risk children from birth to adulthood.*, Cornell University Press, Ithaca, NY.
- Whittemore, R. & Knafl, K. (2005) The integrative review: updated methodology. *Journal of Advanced Nursing*, **52**(5), 546-553.
- Wiles, J.L., Wild, K., Kerse, N. & Allen, R.E. (2012) Resilience from the point of view of older people: 'There's still life beyond a funny knee'. *Soc Sci Med*, **74**(3), 416-24.

- Windle, G. (2010) What is resilience? A review and concept analysis. *Reviews in Clinical Gerontology*, **21**(02), 152-169.
- Wingo, A.P., Fani, N., Bradley, B. & Ressler, K.J. (2010) Psychological resilience and neurocognitive performance in a traumatized community sample. *Depress Anxiety*, **27**(8), 768-74.
- Young, A., Green, L. & Rogers, K. (2008) Resilience and deaf children: a literature review. *Deafness & Education International*, **10**(1), 40-55.
- Zander, M., Hutton, A. & King, L. (2013) Exploring resilience in paediatric oncology nursing staff. *Collegian (Royal College of Nursing, Australia)*, **20**(1), 17-25.

Appendix:

Table 1: Literature inclusion and exclusion criteria.

Inclusion	Exclusion
Written purely in the English language	Written in languages other than English
No restriction on population group used in study other	Opinion pieces or theoretical discussions
than ensuring study was completed with a human	
population.	
Papers published in a health database	Literature published before the year 2000.
Literature published this century	Papers which lack a definition of resilience
(2000-2013)	
Empirical research	Papers for which resilience is only a minor focus.
Literature with a main focus on resilience	
Literature provided a definition or defined how	
resilience was understood in the context of the study.	

Figure 1 PRISMA Flowchart - Search and inclusion process

9 Mixed Methods

Identification: # of records identified through # of additional records identified through other sources. database searching Reference Tracking: 37 Database email alerts (29 October 2013 - 1 April 2015): 61 TOTAL -2429 Screening: # of duplicates removed: # of records screened by title # of records excluded: and abstract using criteria Main topic resilience: 1473 TOTAL - 423 Not empirical research: 631 Eligibility: # of full text articles excluded # of full text articles screened for Not written purely in English: 3 eligibility 126 Not empirical Research: 23 (6 Lit reviews, 17 theoretical papers) TOTAL Excluded: 26 Included: # of studies included in data analysis: 100 52 Quantitative 39 Qualitative

Table 2: Studies included in literature review

	Author, Year (Country)	Title	Population
1	Alex, 2010 (Sweden)	Resilience among very old men and women	"Old people" living in a mid-size town in northern Sweden.
2	Ben-Zur et al, 2011 (Israel)	Resilience and distress: Israelis respond to the disengagement from Gaza and the second Lebanese war.	Israeli population
3	Bennett, 2010 (England)	How to achieve resilience as an older widower: turning points or gradual change?	Older widowed men
4	Bonanno et al, 2007 (New York)	What predicts psychological resilience after disaster? The role of demographics, resources, and life stress.	Adults in the New York State, New Jersey (six months post September 11 Terrorist attacks).
5	Brown et al, 2010 (South Africa)	Resilience in families living with a child diagnosed with hyperactivity/attention deficit disorder.	Parent/caregiver over 18yrs of age, family with a child between 7-12 years with ADHD.
6	Brown et al, 2012 (South Africa)	Resilience in remarried families.	Stepfamilies in the Nelson Mandela Metropolitan Municipality.
7	Burns et al, 2010 (Australia)	The Connor-Davidson Resilience Scale: Testing the invariance of a uni- dimensional resilience measure that is independent of positive and negative effect.	Individuals enrolled on the electoral roll in Canberra or Queanbeyan, Australia.
8	Campbell-Sills et al, 2006 (United States of America)	Relationship of resilience to personality, coping, and psychiatric symptoms in young adults.	Undergraduate students at San Diego State University.

9	Campbell-Sills et al, 2009 (United States of America)	Demographic and childhood environmental predictor of resilience in a community sample.	Residents of metropolitan Memphis, who had working telephone numbers and were 18 years of age or older.
10	Canvin et al, 2009 (United Kingdom)	Tales of the unexpected? Hidden resilience in poor households in Britain.	Individuals living in areas of multiple deprivation in England and Wales (as identified by social welfare and health workers).
11	Cefai, 2004 (Malta)	Pupil resilience in the classroom: A teacher's framework.	Primary school pupils
12	Cohen et al, 2002 (Israel)	Family Resilience: Israeli mother's perspectives.	Israeli mothers whose families underwent a crisis or stressful life event within the last year.
13	Connor et al, 2003 (United States of America)	Development of a new resilience scale: The Connor-Davidson Resilience scale (CD-RISC).	General population; Primary Care Outpatients, Psychiatric Outpatients in private practice, People with generalized anxiety disorder, people with PTSD.
14	Cora-Bramble et al, 2010 (United States of America)	Minority faculty members' resilience and academic productivity: Are they related?	Past participants of the AAMC minority faculty career development seminar.
15	Daniel, 2006 (Scotland)	Operationalising the concept of resilience in child neglect: case study research	Children aged between 5-10yrs where the main cause for concern was neglect (Identified by local authority).

16	Deegan, 2005 (United States of America)	The importance of personal medicine: A qualitative study of resilience in people with psychiatric disabilities.	People enrolled in community support programs designed for those with a severe and persistent mental illness.
17	Dowrick et al, 2008 (Australia)	Resilience and depression: perspectives from primary care.	Data from a longitudinal study of the management of depression in primary care.
18	Dziengel, 2012 (England)	Resilience, Ambiguous Loss, and Older Same-Sex Couples: The Resilience Constellation model.	People in a same-sex relationship for ten years or more, one person in relationship over 50yrs.
19	Easterbrooks et al, 2011 (United States of America)	Resilience in parenting among young mothers: Family and ecological risks and opportunities.	First-time young mothers (under the age of 21 years) and their infants.
20	Easterbrooks et al, 2008 (United States of America).	Resilience in Infancy: A relational approach.	First-time young parents (under the age of 21 years) and their infants.
21	Edward, 2005 (Australia)	The phenomenon of resilience in crisis care mental health clinicians.	Experienced practicing crisis care clinicians in mental health, aged 18 yrs or older.
22	Edward et al, 2009 (Australia)	The phenomenon of resilience as described by adults who have experienced mental illness.	People between ages 18-64 years who have experienced a mental illness as classified by the DSM-IV and have been in remission for at least six months.
23	Ellingsen et al, 2014 (United States of America)	Resilient parenting of children at developmental risk across middle childhood.	162 families in a longitudinal study of young children.

24	Emlet et al, 2010 (United States of America)	"I'm not going to die from the AIDS": Resilience in aging with HIV disease.	Men and Women, aged 50 years or older, living with HIV/AIDS.
25	Everall et al, 2006 (Canada)	Creating a Future: A study of resilience in suicidal female adolescents.	Females between 15-24 years with self-reported suicidality.
26	Felten, 2000 (United States of America)	Resilience in a Multicultural Sample of Community-Dwelling Women Older than Age 85.	Women, age 85yrs and older who are legally competent and live outside a skilled nursing facility.
27	Friborg et al, 2005 (Norway)	Resilience in relation to personality and intelligence	Applicants to military college
28	Friborg et al, 2003 (Norway)	A new rating scale for adult resilience: what are the central protective resources behind healthy adjustment?	Patients at an adult outpatient clinic who were offered psychotherapy for the first time.
29	Fuller-Iglesias et al, 2008 (United States of America)	Resilience in old age: Social Relations as a Protective Factor.	Older adults (65yrs +) who had experienced high levels of adversity.
30	Gartland et al, 2011 (Australia)	Development of a multi-dimensional measure of resilience in adolescents: the Adolescent Resilience Questionnaire.	Adolescents in Victoria, Australia at government and catholic secondary schools.
31	Gaugler et al, 2007 (United States of America)	Resilience and Transitions from dementia caregiving.	Informal caregivers of persons with Alzheimers disease or a similar disorder.
32	Gillespie et al, 2007 (Australia)	Resilience in the operating room: developing and testing of a resilience model.	Operating Room nurses across Australia, members of the

			Australian College of Operating Room Nurses.
33	Gordon Rouse, 2001 (United States of America)	Resilient students' goals and motivation.	Urban Caucasian high school sophomores.
34	Grandbois et al, 2009 (United States of America)	The Resilience of Native American Elders	Native American elders, aged 55yrs and older who have maintained ties with their families and tribal community.
35	Grant, 2006 (United States of America)	Resilience of Girls with Incarcerated Mothers: The impact of girl scouts.	Participants in the girl scout Lonestar council's enterprising girl scouts beyond bars program.
36	Grossman et al, 2011 (United States of America)	Aspects of psychological resilience among transgender youth.	Transgender youth aged 15-21 years.
37	Guest, 2012 (England)	Reflections on resilience: a psychosocial exploration of the life-long impact of having been in care during childhood.	Adults over the age of 35yrs who had been in foster and/or residential care as children for a minimum of five years.
38	Gwadz et al, 2006 (United States of America)	Resilience among young men who have sex with men in New York City.	Young men (17-28yrs) who have sex with men who congregate in New York City.
39	Hardy et al, 2004 (United States of America)	Resilience of Community-Dwelling older persons.	Community-dwelling persons, aged 70yrs and older who did not have a terminal illness and were not disabled.
40	Hartley, 2011 (United States of America)	Examining the relationships between resilience, mental health, and academic persistence in undergraduate college students.	Undergraduate students

41	Hayter et al, 2014 (Australia)	Resilience, self-esteem and self-compassion in adults with Spina Bifida.	Adults with a diagnosis of Spina Bifida.
42	Hegney et al, 2007 (Australia)	Individual resilience in rural people: a Queensland study, Australia.	People living in a medium sized rural town in southeastern Queensland.
43	Hildon et al, 2010 (England)	Examining resilience of quality of life in the face of health-related and psychosocial adversity at older ages: What is "right" about the way we age?	Members of the Boyd Orr Cohort.
44	Howard et al, 2004 (Australia)	Resilient teachers: resisting stress and burnout.	Resilient teachers in highly disadvantaged areas who were at risk of stress and burnout.
45	Howell et al, 2010 (United States of America)	Assessing resilience in preschool children exposed to intimate partner violence.	Children aged 4-6yrs who were exposed to intimate partner violence in the past two years.
46	Humphreys, 2003 (United States of America)	Resilience in Sheltered Battered Women	Women who had resided in one of four battered women's shelters in the San Francisco Bay area for 21 days or more.
47	Hunter, 2001 (Ghana)	A cross-cultural comparison of resilience in adolescents.	Adolescents (aged 13-18yrs) in an adolescent shelter, in a local leadership youth group and within the community of Ghana.
48	Ishibashi et al, 2010 (Japan)	How to improve resilience in adolescents with cancer in Japan	Adolescents with cancer in Japan.
49	Janseen et al, 2011 (The Netherlands)	Identifying sources of strength: resilience from the perspective of older people receiving long-term community care.	Community dwelling people aged 55yrs and

			older that attend a healthcare centre.
50	Jensen et al, 2008 (Canada)	Building Physician Resilience	Family practitioners with reputations for resilience in a community population of 350 family physicians.
51	Johnson-Garner et al, 2003 (United States of America)	What factors contribute to the resilience of African-American children within kinship care?	Kinship Care families listed at a private child welfare agency.
52	Jowkar et al, 2010 (Iran)	Cross-cultural validation of the Resilience scale for Adults (RSA) in Iran	Undergraduate students between 19-26yrs at Shiraz University.
53	Kabiru et al, 2012 (Kenya)	"Making It": Understanding adolescent resilience in two informal settlements (slums) in Nairobi, Kenya.	12-19 year old adolescents living in two Nairobi slums.
54	Karoly et al, 2006 (United States of America)	Psychological "resilience" and its correlates in chronic pain: Findings from a national community sample.	Individuals with chronic pain across the USA.
55	Kasen et al, 2012 (United States of America)	Religiosity and resilience in persons at high risk for major depression.	High risk youth – having a parent who received treatment for moderate or severe depression.
56	Kinman et al, 2011 (England)	Exploring stress resilience in trainee social workers: The role of emotional and social competencies.	Trainee Social Workers.
57	Kinsel, 2005 (United States of America)	Resilience as Adaptation in Older Women	Women aged 70-80 years, residing in South Central Ohio
58	Klasen et al, 2010 (Germany)	Posttraumatic resilience in former Ugandan Child Soldiers.	Previous Child Soldiers in Northern Uganda, at time of study between 11-17 years of age.

59	Kralik, D., van Loon et al, 2006 (Australia)	Resilience in the chronic illness experience	Men and women aged between 21-65 years with self-perceived chronic illness or fatigue.
60	Larm et al, 2010 (Sweden)	Trajectories of resilience over 25 years of individuals who as adolescents consulted for substance misuse and a matched comparison group.	Individuals who consulted the only clinic for adolescents with substance misuse problems in an urban area in Sweden from 1968- 1971.
61	Lee et al, 2004 (Korea)	Concept development of family resilience: a study of Korean families with a chronically ill child.	Parents with a child who had a diagnosis of cancer with uncertain medical outcome.
62	Lee et al, 2011 (Canada)	Higher-order model of resilience in the Canadian Forces	Canadian Force recruits between 2005-2006.
63	Leipold et al, 2009 (Germany)	Resilience: A conceptual bridge between coping and development.	Middle age and older adults.
64	Lin et al, 2004 (United States of America)	Resilience in parentally bereaved children and adolescents seeking preventive services.	Children between 8-16 years of age who experienced the death of a biological parent or parent figure.
65	Longenecker et al, 2012 (United States of America)	Teaching and Learning Resilience: Building adaptive capacity for rural practice. A report and subsequent analysis of a workshop conducted at the Rural Medical Educators Conference.	Participants of the 2010 Rural Medical Educators annual daylong meeting.
66	Lothe et al, 2003 (Norway)	A Study of Resilience in Young Ethiopian Famine Survivors.	Public Orphanage of young adults, aged 6-27 years.
67	Mak et al, 2011 (Hong Kong)	Resilience: Enhancing well-being through the positive cognitive triad.	Chinese young adults who attend university or

			tertiary institutions in Hong Kong.
68	Malindi et al, 2010 (South Africa)	The hidden resilience of street youth.	Children who spent time on the streets earning money to supplement family income (aged 10- 17 years).
69	Mansfield et al, 2012 (Australia)	"Don't sweat the small stuff": Understanding teacher resilience at the chalk face.	Graduating teachers and early career teachers who are registered with the teacher registration body.
70	McMurray et al, 2008 (England)	Constructing resilience: social workers understandings and practice.	Social workers of children and young people at risk of becoming looked after.
71	Moe et al, 2007 (United States of America)	Resilience in Children of Substance Users: In their own words.	Children participating in the Betty Ford Children's Program between October 2001 and October 2002.
72	Montpetit et al, 2010 (France)	Resilience-as-process: Negative affect, stress and coupled dynamic systems.	Subsample of individuals participating in the Notre Dame Longitudinal Study of Aging.
73	Mullin et al, 2008 (United States of America)	Resilience of families living in poverty.	Community social workers employed as at social service agency in the North End of Springfield, Massachusetts.
74	Murphy et al, 2008 (United States of America)	Resiliency in young children whose mothers are living with HIV/AIDS.	Mothers with a diagnosis of AIDS or who were HIV symptomatic.

75	Oshio et al, 2003 (Japan)	Construct validity of the adolescent resilience scale.	Undergraduate students in Aichi prefecture in Japan.
76	Pargas et al, 2010 (Australia)	Resilience to Maternal depression in young adulthood.	Women and their young adult offspring selected from a prospective birth cohort study of children born between 1981 and 1984 at Mater Misericordaie Mother's Hospital in Brisbane, Australia.
77	Patterson et al, 2004 (United States of America)	A study of teacher resilience in urban schools.	Population drawn from research conducted by the council for great city schools in 2001.
78	Pilowsky et al, 2004 (United States of America)	Resilient children of injection drug users.	Parents 18 years of age or older with a history of injection drug use in the preceding ten years and had at least one biological child aged 6-11 yrs living with them Children that were HIV positive were excluded.
79	Pole et al, 2006 (United States of America)	Resilience in retired police officers.	Male Caucasian Retired Police officers who had served in Michigan police.
80	Prince, 2008 (United States of America)	Resilience in African American Women formerly involved in street prostitution.	Women from a non-faith based transitional home for prostituted women in an urban area.
81	Quale et al, 2010 (Norway)	Resilience in the face of coping with a severe physical injury: a study of trajectories of adjustment in a rehabilitation setting.	Patients at Sunnaas Rehabilitation Hospital between age 16-68 years

			of age, admitted between Feb 2003 and Jan 2005.
82	Ritchie et al, 2014 (Canada)	Promoting resilience and wellbeing through an outdoor intervention designed for Aboriginal adolescents.	Adolescents from Wikwemikong Unceded Indian Reserve in northern Ontario, Canada.
83	Rogerson et al, 2008 (Canada)	Fostering resilience within an adult day support program	Adults at a local adult day support program in Alberta, Canada
84	Schilling, 2007 (United States of America)	An examination of resilience processes in context: The case of Tasha.	Tasha, a 21 yr old African-American women who grew up in a low- income, high-risk urban area.
85	Schumacher et al, 2014 (Germany)	Resilience in patients after allogeneic stem cell transplantation.	Patients with leukemia, lymphoma, myeloma, aplastic anemia, post allogeneic stem cell transplant, aged 20–76 years at University Hospital Muenster, Germany.
86	Segovia et al, 2012 (United States of America)	Optimism predicts resilience in repatriate prisoners of war: a 37 year longitudinal study.	Robert E. Mitchell center for prisoner of war studies includes repatriates from all services and all recent U.S. conflicts.
87	Smith et al, 2008 (United States of America)	The brief resilience scale: assessing the ability to bounce back.	People from a medium sized metropolitan area.
88	Stajduhar et al, 2009 (Canada)	Resilience from the perspective of the illicit injection drug user: An exploratory descriptive study.	Focus group interview data obtained from a larger qualitative study in Victoria, Canada in 2010.

89	Stumblinbear-Riddle et al, 2012 (United States of America)	Resilience among urban American Indian Adolescents: Exploration into the role of culture, self-esteem, subjective well-being, and social support.	American Indian Adolescents from an urban area in a south central region of the United States of America.
90	Takviriyanun, 2008 (Thailand)	Development and testing of the Resilience Factors Scale for Thai adolescents.	Tenth-Twelfth graders in four high schools in Bangkok.
91	Theron et al, 2010 (South Africa)	Resilient street youth: a qualitative South African study.	Black youth that either frequented a drop in center in the rural eastern Free State province or were resident at a shelter for street children in an urban area.
92	Ungar, 2004 (Canada)	The importance of parents and other caregivers to the resilience of high-risk adolescents.	High-risk adolescents, aged between 13-17 yrs with differing assessments of their mental health.
93	Ungar, 2008 (Canada)	Resilience across cultures.	Aboriginal communities around the world – multiple sites.
94	Vilete et al, 2014 (Brazil)	Resilience to trauma in the two largest cities of Brazil: a cross sectional study.	15-75 year olds living in the two largest cities in Brazil.
95	Waaktaar et al, 2010 (Norway)	How resilient are resilience scales? The Big Five scales outperform resilience scales in predicting adjustment in adolescents.	Adolescents from three schools in Norway (two secondary high schools and one college).
96	Waginald, 2003 (United States of America)	Resilience and successful aging: Comparison among low and high income older adults	Samples from three different studies were used to explore relationships between and

			among low income, resilience and successful aging.
97	Waite et al, 2004 (United States of America)	Determining the efficacy of resiliency training in the work site.	12 work units in Northern Utah.
98	Wiles et al, 2012 (New Zealand)	Resilience from the point of view of older people: 'There's still life beyond a funny knee'	Two New Zealand communities (Glen Innes, Auckland and Tokoroa)—both scoring highly on the New Zealand deprivation index, culturally diverse and had high numbers of older people who have there for a long time.
99	Windle et al, 2008 (United Kingdom)	Examination of a theoretical model of psychological resilience in older age.	Data collected during the 2002 European Study of Adult wellbeing.
100	Wingo et al, 2010 (United States of America)	Psychological resilience and neuro-cognitive performance in a traumatized community sample.	Urban, low-income highly traumatized predominantly African-American men and women.

Table 3: Definitions of Resilience extracted from the literature

Key Theme	Definition	Sources
1. Rising above to overcome adversity	"Resilience or resiliency is the capacity to endure and overcome hardship"	(Longenecker et al. 2012)
	"A resilient personis able to cope despite the adverse conditions in which they live."	(Kralik et al. 2006)
	"a personal strength that may help people cope with adversity"	(Black and Ford-Giboe 2004, Kralik et al. 2006)
	"The study of resilience focuses on identifying processes that account for positive outcomes in the face of adversity"	(Luthar et al. 2000, Masten and Coatsworth 1998)
	"an ability or capacity to overcome challenges"	(Sammons et al. 2007, Mansfield et al. 2012)
	"the ability to thrive in the face of stress and other adversity"	(Bonanno 2004, Campbell-Sills et al. 2009)
	"the ability to "maintain a stable equilibrium" in the face of adversity and to show healthy functioning across time"	(Bonanno 2004, Pole et al. 2006)
	"Adults have defined resilience as a process of overcoming adversity without incurring negative consequences"	(Garmezy 1991, Rutter 1990, Werner and Smith 1982)
2. Adaptation and Adjustment	"growth and adaptation despite exposure to significant stressors"	(Hegney et al. 2007, Rolf 1999)
	"allow individuals to adapt well, not only to major life events, but to daily hassles as well"	(Cummings et al. 2000, Lazarus and Folkman 1984, Montpetit et al. 2010)
	"positive adaptation despite adversity"	(Garmezy 1991, Leipold and Greve 2009, Luthar 2006, Masten 2001, Rutter 1987, Gwadz et al. 2006, Luthar and Cicchetti 2000, Easterbrooks et al. 2008, Lee et al. 2004, Kralik et al. 2006)
	"successful adaptation following exposure to stressful life events"	(Werner and Smith 1992)
	"an adaptation process used by families to cope with a stressful situation"	(Lee et al. 2004, McCubbin and Patterson 1981)
	"an adaptive capacity or strength, postulating it as an adaptive capacity for balance in a family when confronting crises"	(Lee et al. 2004, Cowan et al. 1996, Walsh 2003)
	"the ability to adjust to varied situations and increase one's competence in the face of adverse conditions"	(Mansfield et al. 2012, Bobek 2002)
3. 'Ordinary Magic'	"The conclusion that resilience is made of ordinary rather than extraordinary processes offers a more positive outlook on human development and adaptation, as well as direction for policy and practice."	(Masten 2001, Canvin et al. 2009)
	"Responding to adversity is regarded by the respondents as 'ordinary magic' and has become a part of their lives."	(Janssen et al. 2011)
	"We propose two key elements of resilience –ordinary magic and personal medicine – which enable people to survive and flourish despite current experience of emotional distress."	(Dowrick et al. 2008)

	"resilience rather than being rare is a common place phenomenon."	(Dowrick et al. 2008, Masten 2001, Gwadz et al. 2006, Theron and Malindi 2010)
	"the "ordinary magic" of dealing with difficult life circumstances results from the normal functioning of human adaptational systems"	(Masten and Powell 2003, Montpetit et al. 2010)
4. Good Mental Health as a proxy for resilience.	"resilience may be viewed as a measure of stress coping ability and, as such, could be an important target of treatment in anxiety, depression and stress reactions"	(Connor and Davidson 2003)
	"resilience is often conceptualised as existing along a continuum with vulnerability and implies a resistance to psychopathology"	(Ingram and Price 2001)
	"resilience has been defined according to PTSD symptoms and according to depression symptoms"	(Bonanno 2004, Bonanno et al. 2007, Deshields et al. 2006, Bonanno et al. 2002, Quale and Schanke 2010)
	"resilience has been conceptualised as a positive outcome, the criteria for which commonly include positive mental health or absence of psychopathology"	(Hauser 1999, Masten et al. 1999, Everall et al. 2006)
5. Ability to bounce back	"the ability to spring back after adversity"	(Felten 2001, Jacelon 1997)
	'the ability to rebound or spring back, the power of something to resume its original shape or position after compression or bending'	(Dowrick et al. 2008, Edward et al. 2009)
	"In order to be resilient one needs to learn to "bend, but not break," and acknowledge that adapt- ability is more important than hardiness"	(Longenecker et al. 2012)
	"Resilience refers to the ability to "bounce back," to return to typical functioning following stress or trauma"	(Luthar 2006, Luthar et al. 2000, Werner 1990)
	"Bounce back from adverse times", "bounce back from any issues and problems that may arise in the classroom" and "bounce back from the stress and hard experiences and continue teaching effectively".	(Mansfield et al. 2012)

^{*} Please note – Italics highlight original quotations taken directly from the empirical research, other quotations have been cited within the empirical research reviewed.