Care, Compassion and Self-Compassion: A Mixed Methods, Realistic Evaluation of a Massive Open Online Course (MOOC)

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Thesis submitted for the degree of Doctor of Philosophy

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Date submitted

6th April 2022

Dedication

This PhD Thesis is dedicated to Michael Paul McEwan

January 1973 – May 2021

My love, my best friend and wonderful daddy and step-dad to our girls.

Without his support, humour and cuddles I would never have made it through this journey.

Acknowledgements

Throughout this journey, I have had a huge amount of support and encouragement from all areas of my life, all of which deserve acknowledgement and thanks.

Firstly, to my two PhD Supervisors, Professor Jayne Donaldson, and Dr Stephen Smith, to whom I am eternally grateful for their continued support and motivation. I thank you for all the time and patience you have afforded me including when I wanted to give up, when I felt unworthy of this journey and during my times of need. You really have been a true inspiration to me.

This journey is one that many struggle with and sometimes the only people to fully understand what you are going through are PhD colleagues. Without the support of my peers, whom I now call friends, I would not have been able to get to this stage. So, I thank you Dr Elena Dimova, Dr Andrea Mohan, and Dr Ash Ward. With a very special thanks to my most wonderful and brave colleague and friend Steve Chinn, who has always made me feel like I was enough and that I was worthy of a PhD.

I cannot possibly exclude my loving and very supportive family. To my mum and Neil, thank you for all the moments of childfree writing time you gave me. To my sister Pauline, who every day is my inspiration to be a successful person. Thank you, sis, for just being you and keeping me level headed. To my brother-in-law Paul, whose infectious positivity has seen me through some of my darkest times, and who has read my words so many times he now feels like an expert in the field, thank you so very much.

To my three beautiful children, Lauryn, Sophia, and Charlotte who have had to deal with a working, studying mother for the majority of their young lives. I may not always say thank you but every day I think it and having you behind me has been a huge driving force to completing this PhD. I love each and every one of you so much and hope that I make you all proud.

Abstract

Background

Compassion is intrinsic within modern healthcare and is heavily debated and discussed within current news and literature (Dewar and Nolan, 2013; Mills *et al*, 2015). Massive Open Online Courses (MOOCs) are a relatively new phenomenon not just in healthcare but also in education, as a whole (Sarabia-Cobo *et al*, 2015; Parkinson, 2015). Their main purpose is to capture the attention of a diverse and global audience in order to increase knowledge and understanding through the provision of university level education (Sneddon *et al*, 2018; Hebdon *et al*, 2016). The Scottish Improvement Science Collaborating Centre, University of Dundee, developed a care and compassion MOOC hosted by FutureLearn, a digital education platform. This five-week MOOC provided learning resources, activities and information to healthcare professionals and the public in order to raise awareness and understanding of compassion and help improve the provision of compassionate care.

Aim

The aim of this research was to (1) evaluate a new educational intervention, delivered by a MOOC, focused on compassion, and (2) consider how and why it could help facilitate change in the attitudes, behaviours, and practices of healthcare professionals.

Design

A Realistic Evaluation approach was taken which allowed for an understanding of how an educational intervention could facilitate change in healthcare professionals by asking how and what, worked for whom, in what circumstances. The realistic evaluation design was underpinned by the philosophical principle of pragmatism which allowed for the who, what and why questions to be answered through a combination of both qualitative and quantitative methods.

Sample/Data Collection

Quantitative research was undertaken and created two sets of data. Data set 1 (3888 registered learners): fundamental demographics and attrition/retention rates (which were collected automatically via the FutureLearn platform). Data set 2 (957 completed the pre-course, 84 completed the post-course and 42 completed both): relating to those who had

completed the pre and post MOOC survey for this project (initiated, designed, and managed by the researcher for the purpose of this research).

Qualitative data were collected via two methods: MOOC discussion board (112 participants) and MOOC participant interviews (14 participants).

Results

Findings from quantitative data set 1 (MOOC demographics) – these data provided a contextual background to the online learning and demonstrated participation and engagement. 3888 learners originally registered at the beginning of the course with only 8% of this number making the conscious choice to no longer be part of the course at some point during the learning. Of those that remained registered 49% were described as active learners, 18% as social learners and the rest falling out with either of these descriptors. Additionally, findings relating to the pre, and post course survey data also demonstrated that the MOOC learning was met positively overall by the learners with the majority of those indicating that it was interactive, well balanced, and useful to their work and lives going forward.

Data set 2 (pre and post course surveys relating to compassion and self-compassion) - these data demonstrated little significant change amongst all tested categories. In keeping with the theoretical underpinning of realistic evaluation and its need to be more considered than simply if something works or not, this research considers what changes have been made within what conditions. These data could imply that, although not statistically significant, there is a trend in changes to survey responses that could suggest that learning could be providing an opportunity for deeper thought.

Findings from the qualitative analysis exposed 4 overarching themes: Changes to attitudes and behaviours around compassion; Compassionate care changes reflected in practice; The emotional burden of compassion; and Experiences of the MOOC.

Conclusion

In conclusion, it is important to acknowledge that realistic evaluation does not aim to merely prove or disprove theories but rather unearth observable patterns which can explain what works and why.

Each area of analysis; learning analytics, quantitative and qualitative, demonstrated a degree of change from pre to post course. Overall, this MOOC was acknowledged as being a potentially valuable educational tool due to its flexibility, content and most importantly the availability of discussion forums in which learners could share differing narratives and stories in order to enhance their learning. In summarising, the author identified two valuable conclusions:

Self-compassion – results demonstrated that through the MOOC learning, participants were able to link the way in which they care for themselves with the way they can care for others including colleagues and patients.

Discussion boards - provided a valuable opportunity for healthcare professionals, lay people and the general public to share thoughts, experiences, opinions and anecdotes. This rich learning environment was particularly poignant in a world in which healthcare education is restricted to learning "within healthcare".

Recommendations

Further in depth research needs to be undertaken in order to better understand the connection between online learning in complex subject areas such as compassion and possible improvement in healthcare practices. An observational study undertaken over a prolonged period of time would provide research to strengthen the argument for the use of MOOCs in healthcare education. Additionally, data which measures the patient perspective and the impact on the quality of compassionate care that they receive would provide further value in the evaluation of MOOCs in this area.

Implications for Practice

The overall findings from the research project will be used to inform educators, healthcare leaders and practitioners of the usefulness of a MOOC to learn about compassionate care.

However, the researcher identified a significant area for development in practice which would allow the vital messages of self-compassion and compassion to be shared. This could be done through the utilisation of the MOOC learning and the creation of a new champion role within healthcare, the "Compassion Champion".

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Introduction

This thesis presents a realistic evaluation of a massive open online course (MOOC) relating to care and compassion. The aim of this research was to firstly, evaluate a new educational intervention, delivered by a MOOC, focused on compassion, and, secondly, to consider how and why it could help facilitate change in the attitudes, behaviours, and practices of healthcare professionals.

The interest in this research comes from the researcher's passion for sharing an understanding of what compassionate care looks like in practice amongst healthcare professionals as well as the need to improve the quality of care delivered within healthcare settings.

Background

This background writing will provide a contextual understanding to the key topics and contributors related to this research. Compassionate care and Massive Open Online Courses (MOOCs), the main topics of research, will be introduced here as well as the key third party contributors the Scottish Improvement Science Collaborating Centre (SISCC) and FutureLearn being signposted.

Compassionate Care

Compassionate care is intrinsic within modern day healthcare and is a heavily debated and discussed topic within healthcare news and literature (Dewar and Nolan, 2013; Bray *et al*, 2014; Bridges and Fuller, 2014; Mills *et al*, 2015). However, the quality of care provided has in the past been under scrutiny due to damaging media reports about poor standards of care. More recently this has been brought to the forefront of negative media attention through reviews of practice such as the Francis Report, the Vale of Leven Hospital Inquiry, and the Morecombe Bay Enquiry (Francis, 2013; Dewar and Nolan, 2013; Harrison, 2013; McCrae, 2013; Price, 2013; Maclean, 2016; Kirkup, 2015). As a result, evidence from practice and current research has exposed the need to develop compassionate care across the NHS and beyond (Parliamentary and Health Service Ombudsman, 2011). In addition, there are professional and regulatory bodies in existence who promote compassionate care with specific standards and competencies related to this (Nursing and Midwifery Council, 2019; General Medical Council, 2019). There has been a significant link discussed in recent

evidence, between leader's, management and overall working environments which are intrinsically compassionate and the provision of care which is compassionate. The leadership associated with compassionate care also appears essential within healthcare (Firth-Cozens and Cornwell, 2009; Edinburgh Napier University, 2012).

When discussing compassionate care, often this is related to the care expected and extended out to patients with an understanding that with it comes a direct link to improved patient satisfaction and enhanced patient safety (Youngson, 2012; Sinclair *et al*, 2016a; Sinclair *et al,* 2017). Yet, compassion within any healthcare setting also has the ability to positively impact on the health and wellbeing of healthcare staff and provide greater job satisfaction (Steenbergen *et al*, 2013; Sinclair *et al*, 2017). Nurses and other healthcare professionals must be compassionate not only towards patients but also colleagues and not least themselves.

The question now is: can appropriate teaching and learning help with the improvement and integration of compassion into modern day healthcare? (Elsden, 2016). According to Hojat *et al,* (2001) to ensure exceptional standards of healthcare and positive outcomes for patients we must not only educate practitioners in the science of healthcare but also the importance of effective communication and understanding. Bray *et al,* (2014) also suggest that health professionals can be furnished with information allowing them to provide compassionate care successfully. In the past it has been suggested that compassion is teachable and should be included in core nurse education, but it seems there is still some way to go in terms of ensuring effective learning in this area (Cornwell *et al*, 2014; Adamson *et al*, 2014; Elsden, 2016).

However, the definition of compassion can often prove to be complex and challenging to determine due to its very nature and differing interpretations (Dewar and Nolan, 2013; Elsden, 2016). On examination of the current literature including up to date dictionaries, the researcher found several definitions. These chosen definitions are presented in order to demonstrate the hugely diverse ways in which one subject, compassion, can be described and interpreted:

"Understanding or being aware of another person's suffering and acting to end this suffering" (Schantz, 2007; Crawford *et al*, 2013; Papadopoulos and Ali, 2016).

"A feeling of distress and pity for the suffering or misfortune of another, often including the desire to alleviate it" (Collins Dictionary, 2017).

"Sympathetic pity and concern for the suffering or misfortunes of others" (Oxford Dictionary, 2017).

"How care is given based on empathy, respect and dignity, intelligent kindness and central to how people perceive their care" (Department of Health, 2012).

Whilst there are a variety of definitions available, the evident heterogeneous and multifaceted nature of compassion and its ability to be truly subjective and open to interpretation, makes this a very complex and challenging topic to study.

Massive Open Online Courses (MOOCs)

"A course is not a book but a journey, led by an expert, and taken in the company of fellow travellers on a common quest for knowledge" (Kirschner, 2012).   According to Turner (2015) a MOOC is *"a world that offers infinite possibilities in online learning, but one that requires adaptation"*.

Online learning is multifaceted and one form of this is a MOOC. MOOCs are a diverse form of online learning that have only recently been highlighted by the worlds media and academic circles (Gaebel, 2014). The term massive open online course or MOOC, as it is more commonly known, was created by David Cormier in 2008. The first ever MOOC was developed by the University of Manitoba, Canada in the same year. "The year of the MOOC" was in 2012, when their popularity as a platform for education soared and participant numbers reached in excess of 100,000. However, although they have been around since 2008, MOOCs still remain a rather novel mode of online education and they are particularly emergent within the world of healthcare (Sarabia-Cobo *et al*, 2015; Parkinson, 2015).

MOOCs aim to enhance knowledge and understanding using university level teaching. Their main principle is to allow increased numbers of people to have access to learning at the same time as providing an enhanced educational opportunity to the masses (Gaebel, 2013). MOOCs are often directed at a global audience and can include many people from a variety

different backgrounds (Hebdon *et al*, 2016; Sneddon *et al,* 2018). These rather new phenomena are grounded on three key philosophies: 1. educating at scale; 2. free of charge; and 3. available universally (Sarabia-Cobo *et al*, 2015). MOOCs also have no formal entry requirements (the only prerequisite is access to the internet), no limit to participant numbers and no academic accreditation (Gaebel, 2014; Kay *et al,* 2013; Turner, 2015).

Although not without their limitations, unfortunately MOOCs can suffer from poor retention and completion rates often attributed to the fact that they are free (Skiba, 2012). However, these "rates" are differentiated in a multitude of ways throughout current evidence and throughout different MOOCs, which makes it challenging to contrast and compare generally (Stokes *et* al, 2015; Pickering and Swinnerton, 2017; Meinert *et al,* 2018a). An example of rationale for non-completion is that many people will, in the first instance, sign up for a MOOC out of interest. However, they may lack the commitment and motivation to then go on to complete the course (Liyanagunawardena *et al*, 2013; Gaebel, 2015). Alternatively, a benefit that comes from undertaking a MOOC is the social interface that can occur within it. This social interface provides an opportunity for learners to participate in discussion boards within a supported environment. The discussion boards allow and encourage learners to interact freely and openly with one another (Kay *et al*, 2013). Another advantage to MOOCs is that they have the capability to go beyond the usual restrictions of demographics, social background, race, colour, gender, or even financial status and can therefore, be regarded as inclusive learning opportunities which enable a vastly diverse and non-prescribed group to learn together (Emanuel, 2013).

Although MOOCs were first recognized as far back as 2008, they are still very much in their infancy and tentative development stages. There is still much research required that could help identify elements that make up an exemplary MOOC (Turner, 2015). In terms of their current use in healthcare education, they are still a relatively innovative concept. Nonetheless, according to Allen (2013), although nursing students currently continue to learn by traditional means, it may be that in the future MOOCs become a means to support continuing professional development.

Scottish Improvement Science Collaborating Centre (SISCC)

SISCC is based in The University of Dundee and is made up of staff, policy makers, educators, and researchers, who are based both within Scotland and also internationally. SISCC aim is to reinforce the evidence involved in improvement science. They are currently involved in a project known as the Knowledge into Action at Scale project. As part of this project, SISCC, in conjunction with partner organisations, have developed a MOOC that intends to use improvement science to help make positive changes as well as enhance health and social care practices including care that is compassionate and patient-centred. This MOOC, hosted on the FutureLearn digital education platform in June/July 2017, was a free online course, available to anyone in the world with an interest in this subject. It looked at the impact of compassionate care from both a healthcare professional and a service user point of view and included themes such as; what is compassionate care and why is it important?; humanising compassionate care; caring conversations; leading compassionate care; and using improvement science to advance compassionate care (The Scottish Improvement Science Collaborating Centre, 2017).

FutureLearn

FutureLearn is a MOOC platform that started offering its services in September 2013. It was the first of its kind to be introduced within the UK. It is owned and financed by The Open University who also provide the benefit of over 40 years of experience in this nature of learning. FutureLearn also encompasses 110 partners including some of the finest universities and institutions across the world. It offers a significant variety of online courses, which are delivered in a step by step process and are accessible on any phones, tablets, or computers. Since its beginning in 2013, FutureLearn has registered in excess of 5,000,000 users to their online courses (Gaebel, 2013; FutureLearn, 2017).

Overall, this background disseminates to the reader, the importance of compassion within healthcare and of course the lack thereof in some circumstances. The complexities and challenges that come with understanding what compassion is and how it looks in terms of care are evident and must be taken into account when thinking of ways in which this could be a subject of learning. Intimation of the use of a MOOC in this endeavour was presented with

the significance of their fit within contemporary healthcare discussed. The researcher also provided information that related to the overarching project that this study sat within.

This leads the reader into the overall plan and development of this PhD project and the findings and discussion relating to the study.

Thesis Structure

This thesis is structured using the following chapters:

Chapter 1 (Review of the Literature) will discuss the importance and rationale for undertaking a literature review and in particular its position and purpose within this research. The researcher will provide details of the search strategy applied during this process and the results that were generated on completion of this. What will then follow, will be a detailed discussion, which will examine the current literature and evidence available in relation to the teaching of compassion, compassion in healthcare, MOOCs, and adult learning theory.

Chapter 2 (Methods) will outline the process utilised in terms of selecting the chosen approach to the research. It will discuss the reason for making the relevant choice of research methodology (Realistic Evaluation) and methods (Mixed), and their appropriateness to this study. To successfully achieve this, alternative paradigms and methods will be critically reviewed using current literature, as well as justification being provided as to why they were not appropriate before providing a comprehensive rationale for the final decision. The researcher will then provide an in depth discussion regarding the chosen method, Pawson and Tilley's (1997) Realistic Evaluation, which will include a full examination of this framework and its suitability to healthcare research and in particular this study.

Chapter 3 (Turning Design into Action) will provide a comprehensive explanation of the research design utilised within this research. This will include a detailed account of the selection and rationale behind the use of both phase one (pilot study) and phase two (main study). It will then give details of methods of data collection and analysis utilised during each stage of the study. This will conclude with a summary of ethical considerations and the application and approval procedures completed by the researcher before undertaking phase one (pilot study) and phase two (main study).

Chapter 4 (Descriptive Analysis) provides details of the descriptive analysis that was undertaken during the research study. Data were collected from the online learning platform FutureLearn for all of the care and compassion MOOC learners. This chapter describes the analysis from these data and provides details of the findings identified through this process.

Chapter 5 (Quantitative Findings) provides details of the results of the quantitative data collection and analysis, which were collected at the time of the pre and post course survey. The process, used to undertake this task, will be given as well as the rationale for decision making in relation to the selected methods and data analysis.

Chapter 6 (Qualitative Findings) will describe the process of qualitative data analysis and the subsequent findings. Details of decisions made, including rationale for chosen method and the identification of recurrent themes, will be provided. A comprehensive selection of direct quotes from all areas of qualitative data collection will then demonstrate the themes identified.

Chapter 7 (Realistic Evaluation and Discussion) presents the key findings from the mixed method analysis acknowledging realistic evaluation theory which underpinned this research. Consideration will be given to the original CMO configuration developed from the research hypothesis and will link this to the key findings identified from the study.

Chapter 8 (Conclusion and recommendations) will give a comprehensive conclusion to this research study. Included in this will be areas of strength and weakness identified within this piece of work and suggestions and recommendations for ways in which this can further strengthened for future research. Recommendations for further research as well as impact on future practice will also be described at this stage.

1 CHAPTER ONE: Review of literature

The goal of this chapter is to discuss the importance and rationale for undertaking a literature review and in particular its purpose within this research. The researcher will provide details of the search strategy applied during this process and the results that were generated. What will then follow, will be a detailed critical discussion examining current literature linked to the teaching of compassion, compassion in healthcare, MOOCs, and adult learning theory. Conclusion will then be drawn at the end of the review which will provide details of the gaps found amongst the literature and the rationale for this piece of research.

1.1 The Purpose of Review

The aim of the literature review process is to identify the research background linked to the study topic. Research of any kind cannot be undertaken without initially obtaining a full understanding of other literature within the same field (Polit and Beck, 2008). Based on this, the researcher used this as an opportunity to establish whether their subject was worthy of research (Creswell and Creswell, 2017). A quality and valuable review demands that the researcher spends time becoming at one with the literature, thus furnishing them with the ability to make a valuable and original contribution to current evidence (Polit and Beck, 2008). This was achieved through the researcher reviewing other studies and literature on similar topics, identifying gaps within this literature, and then cementing the significance and worth of the proposed research in filling in the gap (Creswell and Creswell, 2017).

1.2 Scoping Review

During the process of the literature review, the subject being reviewed can be singular or, as in the case of this research, be an amalgamation of more than one relevant subject (Creswell and Creswell, 2017). This study encompasses three distinct areas of research, that of compassionate care, MOOCs, and adult learning theory. Compassionate care and MOOCs form the foundation of the research and were reviewed for this reason. The researcher also chose to include literature on adult learning theory so that distinctions in learning styles and the abilities of adult learners could be made rather than discussing learning from a broader perspective, which may have included the teaching of younger individuals and children.

With the researcher having undertaken an earlier fact finding literature search, it was apparent that although these subjects are not new and have previously been researched individually, they in combination have not been discussed in the literature until now. The researcher, therefore, decided to undertake separate reviews of the available literature related to all three subjects. A tripartite consideration will then be taken with these separate review subjects being brought together for the purpose of the overall project thus creating a valuable combination and unique understanding in respect to this research.

This review used a method called scoping, which provides an outline or summary of current literature and is used to identify the main ideas within a research area. The key difference between a scoping review and a systematic review is that unlike a scoping review, a systematic review tends to focus on a particular research question (Colquhoun *et al*, 2014). Therefore, a scoping review technique was selected for this research because it afforded the researcher an opportunity to identify a range of fundamental theories based around the research subject. The scoping review was also identified as the most suitable method of review because it can be valuable when research has a diverse topic to consider. This method of review is also expedient on occasion when there is little or no current literature available relating to one or all of the subjects in question (Peters *et al*, 2015). This is a poignant thought, when considering that there may be very little evidential research which studies compassion, MOOCS and adult learning theory in combination.

1.3   Search Strategy

Although literature reviews can be undertaken in many different ways, there should be some key steps followed in order to search the literature effectively. This is an initial stage of the review process and is termed the search strategy (Polit and Beck, 2008). The search undertaken for this study was conducted in a systematic and logical way, ensuring that a record was kept, and a diverse but relevant range of areas selected (Smith and Schurtz, 2012).

Prior to beginning the search process, the researcher enlisted the expertise of a qualified librarian with knowledge of the most relevant databases that would return the optimum results for the review. This provided a means of valuable support and served to enhance the quality of the search. (McGrath *et al*, 2012; Smith and Schurtz, 2012).

Initially, the researcher identified key words and search terms to utilise during the search process, which demonstrated the consideration and thinking behind the topic and the questions or aims to be answered (Maclean and Eboh, 2014). As already mentioned earlier in this chapter, three separate reviews were undertaken due to the lack of literature available that linked all three topics together. Never before has there been a MOOC based on compassion studied in relation to its impact on healthcare practice. Following on from this, the individual searches were then combined at the end of the review through the identification of overarching key findings and conclusions. The scoping review then represents an amalgamation of these three reviews highlighting interlinked gaps in the evidence that will assist with the development of appropriate research aims.

The next stage is the identification of appropriate databases to search. This allows the researcher to exhibit the intended breadth and quality of literature to be searched (Maclean and Eboh, 2014). The use of online journal databases ensured that there was access to a wide variety of literature in one place (Creswell and Creswell, 2017). In the case of the three diverse subject matters, it was beneficial to extend the search beyond just healthcare related databases. This is because, although some databases (such as PsychINFO) appear to specialise in one specific area, they can in fact offer literature based on multiple topics. For all three searches the same databases were utilised. On the advice gained from the librarian and having read the literature regarding optimising search results, the researcher decided to examine the following databases using EBSCOhost (Creswell and Creswell, 2017): CINAHL (Cumulative Index to Nursing and Allied Health Professionals) complete with full text, Health Source: Nursing/Academic, MEDLINE (Medical Literature Online), PsychARTICLES, PsychINFO, British Education Index, Education Research Complete, ERIC (Education Resource Information Centre). Once the databases had been identified, appropriate limiters were put in place to restrict the results throughout all areas (Polit and Beck, 2008). This was to ensure that the optimum results were generated with the exclusion of a large number of irrelevant and unnecessary literature being included. Again, for consistency, the researcher applied the same limiters to all three searches as follows:

- Dates: 2008-2018 (to provide a breadth of literature)
- Language: English
- Subjects: Adult, Human (identifies the types of participants to be involved)
- Publication: Journals, Academic Journals

There were minimal limiters applied at this stage of the search as the literature advises not applying too many restrictions early on, rather maximize results initially and if required further exclude articles at an appropriate point in the future (Polit and Beck, 2008).

For the purposes of presenting the key areas from the literature, the literature review is signposted into 4 sections: 1. What is compassion in healthcare; 2. Teaching compassion in healthcare 3. Massive Open Online Courses (MOOCS) 4. Adult learning theory

1.4   What is compassionate healthcare?

This section considers the literature on compassion within healthcare. A systematic search was conducted in order to identify all relevant evidence that explicitly mentioned key terms relating to compassion. Due to the nature of compassion and its breadth within the literature, the researcher decided to split the search into two separate searches which reflected key areas of the research. This allowed for the limitation of results and kept suggested reading to the most beneficial minimum.

1. Compassion OR compassionate care AND quality improvement OR practice development OR service improvement AND healthcare

   On initial search using these key words 48 titles were generated, of this number 5 were duplicates, 6 were not available and 3 were not relevant. This left a total of 34 articles to be examined further.

2. Compassion OR compassionate care AND quality improvement OR practice development OR service improvement AND attitude and behaviour

   On initial search using these key words 55 titles were generated, of this number 25 were duplicates, 10 were not available and 4 were not relevant. This left a total of 16 articles to be examined further.

The main reasons for exclusion reflected the original limiters put in place at the time of the database search as well as excluding articles that: did not specifically focus, discuss, or refer to the subject matter (e.g., addressed closely linked yet different subjects such as patient-centred or holistic care). Patient-centred care, this is in its own right a conjectural concept

within healthcare and aligns care with individual values and beliefs (Sharp *et al,* 2016). Holistic care considers the care of patients from an all-inclusive bio-psycho-social perspective (Papathanasiou *et al,* 2013). Although compassionate care compliments these topics, there are theoretical areas of compassionate care not covered by the definitions of person-centred or holistic care (e.g., self-compassion). Therefore, the search remained focussed on compassionate care to ensure succinct results. Evidence that was not available through the internet nor the ordering service available through Stirling University Library were also excluded. The criteria for inclusion were: articles that directly linked to research on compassionate care; articles that discussed compassion or compassionate care in a healthcare context; articles that included research involving both patients and/or healthcare professionals.

Following this process, the number of articles were decreased as follows:

1. 34 articles examined, 27 excluded and 7 included
2. 16 articles examined, 13 excluded and 3 included

Figure 1: Literature Search Process – Compassionate Care
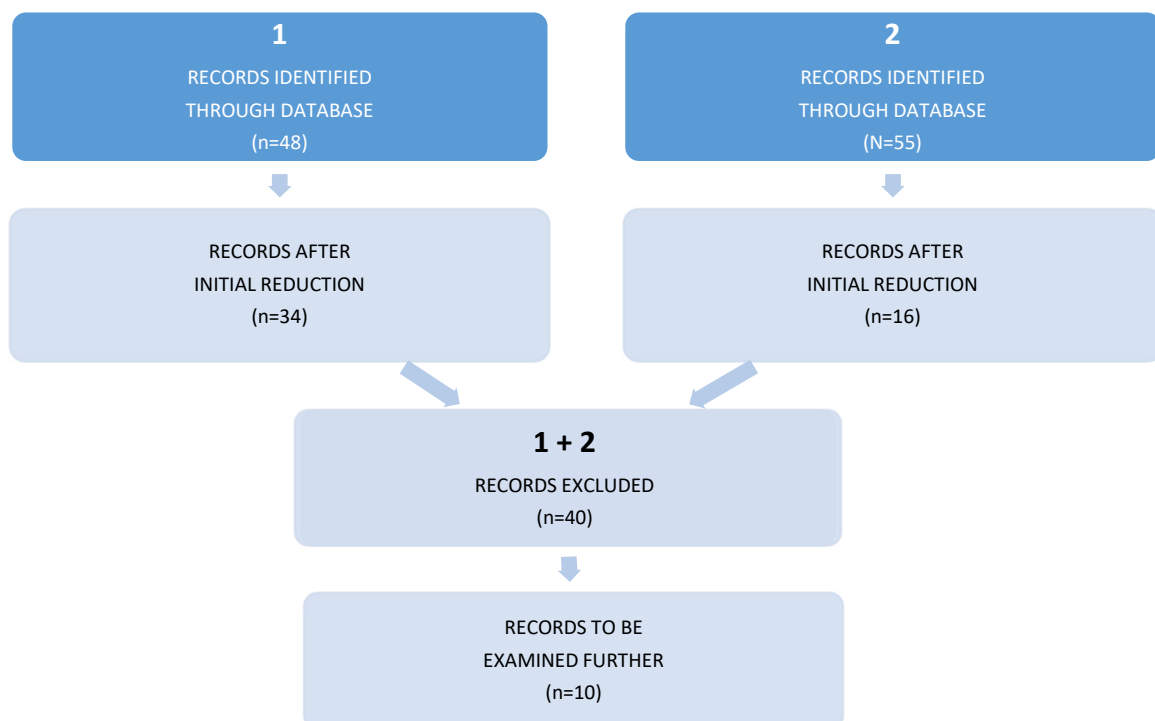
*note – the reference lists of all articles and the relating grey literature was also searched in order to identify any additional relevant studies that may have been missed by the original search. The details of any literature identified can be found within Table 1.

The researcher ensured that the process of critiquing the wide variety of evidence was systematic and consistent through the use of a combination of structured and non-structured appraisal (see table 1). All literature was initially read critically, and relevant notes taken with appropriate questions selected and answered from the eight tools that the Critical Appraisal Skills Programme (CASP) (2020) has available. These questions include consideration of the following factors: acknowledgment of the research questions/aims, appropriateness of the methods, research design, data collection and analysis methods, value of the research, findings and results and implications of the study.

The results seen below demonstrate a combination of the results of the CASP questions with the originally identified method of scoping review. This provides a valuable outline of current literature with a level of critical consideration which serves to strengthen the findings and identify the main ideas relating to this research area.

Table 1: Appraisal Evidence – Compassionate Care

Authors/Title	Type of Paper	Sample	Key Findings/Points	Limitations
Adamson, K Searl, N Sengsavang, S Yardley, J George, M Rumney, P Hunter, J Myers-Halbig, S (2018) Caring for the healthcare professional	A quantitative descriptive study Investigating the impact of Schwartz Rounds	571 responses collected	All four SR addressed the needs of staff and with 90% reported it had a positive impact and over 90% reporting that the SR were relevant Reporting of significantly greater communication with co-workers after each SR and more personal conversations with supervisors compared to non-attendees	• Sample taken from one healthcare setting so results not transferable to other environments • Difficult to measure the difference between knowledge gained through attendance and that obtained through conversations with attendees in such a small environment. • Quantitative sample – 572 – could this be deemed as small in this method of data collection • Only undertaken in Canada so results not generalisable to other parts of the world • Online surveys – came with a reward of a gift voucher after completion. Were they told about this prior to consenting in which case could be construed as coercive or may even skew results as participants may be inclined to answer as they think they should rather than openly and honestly
Bibeau, M Dionne, F LeBlanc, J (2016) Can compassion Meditation Contribute to the Development of Psychotherapists' Empathy? A review	Information article A review of the scientific literature on loving-kindness and compassion meditation and the impact this can have on psychotherapist's empathy.	n/a	Loving-kindness and compassion mediation change the brain in areas associated with positive emotions and empathy. Positively impacts on a number of empathy related variables such as altruism, positive regard, prosocial behaviour, interpersonal relationships as well as affective empathy and empathy accuracy Reduce negative effects associated with empathy for pain, thus reducing the risk of psychotherapists burnout and enhancing their self-care	• Focus on psychotherapists – unable to generalise results beyond this specific profession. • This is not a research project but a review of the literature however, the content and key points made were deemed as valuable nonetheless, • No search strategy given for finding literature and evidence – this would serve to strengthen the results as well as provide instruction should this require to be repeated
Bramley, L Matiti, M (2014) How does it really feel to be in my shoes? Patients 'experiences of compassion within nursing care and their perceptions of developing compassionate nurses	Qualitative exploratory research This research aimed to understand patient's experiences of compassion and their thoughts on compassionate nurses.	Purposive – 10 patients in a large teaching hospital in the UK	Emergent themes What is compassion, knowing me and giving me your time Understanding the impact of compassion, how it feels in my shoe's Being more compassionate, communication and the essence of nursing	• Small sample size and the exclusion of very sick patient's and those with dementia limits transferability • All participants were white British and compassionate care may be perceived differently in a more culturally representative sample • Undertaken in acute care – compassion for these patients may be directly related to their level of vulnerability and dependency on nursing care – patients less dependent on nursing care may give a different account • Participants were identified and approached by nursing staff – open to inclusion bias and unintentional coercion • Interviews were undertaken on the ward where the care was taking place • One small area of healthcare within the East Midlands, UK.
Bunniss, S Kelly, D R (2013) Flux, questions, exclusion, and compassion:	Research study An exploratory study using a constructionist methodology to understand how health	26 hours of observations 17 field interviews	Found a recurring pattern of spontaneous team forming and inter-professional shared learning to respond to care needs within the hospital as they arise. Presented in four analytical themes: motion, flux, and the	• Small exploratory study conducted in one hospital which limits the transferability and consideration out with this area. • 26 hours of observation and 17 interviews – the research could have been strengthened with the inclusion of additional data collection methods • Because the interviews undertaken within the hospital environment, the participants may not be as open and honest as they may be in a neutral environment

collective learning in secondary care	professionals work and learn together.		unpredictability of team spirit, adaptive, responsive learning through seeing, doing, and asking questions; the collective learning gap between doctors and other staff; and frustration, compassion, and the desire for improvement	• Interviewees were recruited according to availability rather than consideration given to the best sample for this research.
Crawford, P Brown, B Kvangarsnes, M Gilbert, P (2014) The design of compassionate care	Discursive paper This work was informed by a narrative literature review which investigated the tension between individual and organisational responses to contemporary demands for compassionate interactions in healthcare.	n/a	Relatively large literature on compassion in healthcare, where authors discuss the value of imbuing a variety of aspects of health services with compassion including nurses, other practitioners and ultimately among patients This contrasts with the rather limited attention that compassionate practice has received in healthcare curricula and the lack of attention to how compassion is informed by organisational structures and processes.	• Limited use of databases for literature searching which means there could be useful evidence missed from other (not so obvious) area of interest. • Not a piece of research – although key themes were identified from the literature. This was deemed as valuable and credible due to its publication in the Journal of Clinical Nursing
Day, H (2014) Engaging staff to deliver compassionate care and reduce harm	Information article Describing the pilot of a survey tool ENGAGE which aims to ascertain levels of staff engagement	Two hospital wards	Many staff did not feel nurtured or guided by their manager or acknowledged by the senior team, they did feel glad to come to work and empowered to improve patient care	• Few staff mentioned if they were registered nurses or healthcare workers – unable to make comparisons between staff members • The simple engagement tool is just that, simple, and will not be appropriate if more complex questioning is required. • The tool was developed with overall input from the author which means that the results are open to positive bias
Jones, J Winch, S Strube, P Mitchell, M Henderson, A (2016) Delivering compassionate care in intensive care units: nurses' perceptions of enablers and barriers	Empirical research Qualitative, reflexive study aiming to identify personal, professional, and organisational factors which enable or disable ICU nurses compassion	171 intensive care nurses	Identified multiple factors both inside and outside the workplace that constrained or enabled nurse's ability to be compassionate. Two main factors (1) inside the workplace were culture of the team, in particular support from colleagues and (2) congruency in work practices focused on decision making and connections with patients and families. Outside the workplace, nurses were influenced by their values about care and lifestyle factors such as family demands	• Although participants could write as many notes and as much on each one as they could – short notes may not have allowed for the depth of expression required • Workshops/Groups – anonymity – sticky notes placed at front of class. Encouraged to share personal and professional experiences. Is this anonymous or will participants be aware of others around them. • Although an area not in the ICU the workshops were still held in the hospital grounds which may also limit honest and open answers. • Only specific to ICU nurses in one hospital • The studied area was a very specialised area and therefore, is the compassion experience different in a 1:1 care setting such as ICU
Lown, B A Muncer, S J	Research study	n/a	The Schwartz Centre Compassionate Care Scale had	• Data collection methods – sample chosen randomly by whoever answered the telephone

Author	Study type / aim	Sample / method	Findings	Limitations
Chadwick, R (2015) Can compassionate healthcare be measured? The Schwartz Centre Compassionate Care Scale	Involving an assessment of psychometric characteristics of an instrument to measure patient ratings of physician compassion – The Schwartz Centre Compassionate Care Scale		strong reliability when used to rate individual physicians. The Schwartz Centre Compassionate Care Scale correlated with an overall measure of patient satisfaction with physicians and even more strongly with an item measuring emotional support	so those at the right place at the right rather than those in receipt of care. • Sample limited to patient's rather than the inclusion of physician's as the original aims describe • Researcher bias – the measurement scale used had development input from the researcher. • They used a method of split sampling – two groups of participants were asked different questions – this could create inequality in the answers being provided and therefore, challenges when conclusions are to be drawn.
MacArthur, J Wilkinson, H Gray M A Matthews-Smith, G (2017) Embedding compassionate care in local NHS practice: developing a conceptual model through realistic evaluation	Research study A critical analysis of the impact of the Leadership in Compassionate Care Programme	Three stakeholder groups Purposive sample Subjects (14), practitioners (7) and policy makers (5) 39 semi-structured interviews 3 focus groups	The level of adoption varied across wards which pointed to key contexts and mechanisms that were influential in embedding compassionate care Contextual factors that promoted adoption of the programme were stability, support, and leadership. Mechanisms were appreciative enquiry coupled with skilled facilitation	• No primary data collection included with patient or relatives – these were drawn from secondary data • Researcher – employed by the organisation leading the programme • 6 month time lag (from implementation)
Suyi, Y Meredith, P Khan, A (2017) Effectiveness of Mindfulness Intervention in Reducing Stress and Burnout for Mental Health Professionals in Singapore	Research study Which aimed to examine the effectiveness of a mindfulness programme in increasing mindfulness and compassion.	37 mental health professionals	Participants demonstrated significant improvement in four of the five mindfulness facets and in compassion levels and a significant reduction in stress, following intervention The gains in mindfulness and self-compassion scores were maintained at three month follow-up No change was observed for burnout variables	• Not a randomized control trial – unable to use a control group • Majority of respondents female which does not give an accurate representation of the population • Only mental health professionals so not generalisable to other healthcare professionals • Sample – 37 – which could be considered a relatively small sample size particularly when looking into programme effect. • Only undertaken in Singapore and therefore, results are not transferable out to other countries • The research excluded those MH professionals who themselves had a history of mental health related conditions which may in fact limit results from an additional valuable viewpoint • Came with financial reimbursement and if this was communicated to them prior to consenting then could be seen as coercive and may not generate true reflections of their feelings • No rational given from the third measurement being taken after three months – why was this second measurement left for so long and what would be the quality of results after this length of time.
Evidence unearthed through the examination of reference lists and grey literature				
Sinclair, S Russell, LB Hack, TF Kondejewski, J Sawatzky, R (2017)	A critical narrative synthesis of current literature and research around the measurement of	4 databases were searched for evidence – PubMed, Medline, Cinahl and PsychInfo As well as the grey literature	Although all studies pertained to the measurement of compassion, most of them are linked to certain elements of compassion or specific areas of care.	• Only four databases were searched and may limit the appearance of additional research in this area. • Exclusions included studies that were of a mixed method or qualitative nature – whilst a rationale for this was given, this may also limit consideration from this study angle

Measuring Compassion in Healthcare: A Comprehensive and Critical Review	compassionate care in clinical practice.	A total of nine studies which discussed seven measurement tools relating to compassion were identified	There is a need for a psychometrically valid tool in the area of compassion in healthcare to be developed.	• Research was focused on clinical settings and therefore, a huge and vital component of overall healthcare that of community was missed.
Sinclair, S Hack, TF MacInnes, CC Jaggi, P Boss, H McClement, S Sinnarajah, A Thomson, G (2021) Development and Validation of a patient-reported measure of compassion in healthcare: the Sinclair Compassion Questionnaire (SCQ)	Research study This study developed and validated a clinically informed, psychometrically rigorous, patient-reported compassion measure.	633 participants recruited over two phases. Phase one - a 54-item version of the measure was administered to 303 participants Phase two - 330 participants received the final 15-item measure	Initial strong psychometric evidence in favour of the Sinclair Compassion Questionnaire (SCQ) as a valid and reliable patient-reported compassion measure. The SCQ provides healthcare providers, settings, and administrators the means to routinely measure patient's experiences of compassion, while providing researchers a robust measure to conduct high-quality research.	• The tool was tested in four very specific areas of healthcare, some specialised so there may be challenge in adapting this measure for use in other healthcare settings • The main writer of the study and namesake of the tool, was heavily involved in this process. Therefore, there may be vulnerability to positive outcome related bias when writing up results.
White, M Butterworth, T Wells, JSG (2016) Productive Ward: Releasing Time to Care, or capacity for compassion: results from a longitudinal study of the quality improvement initiative	Research study To measure the impact that the PW system had on direct patient care time and the capacity for ward teams to provide compassionate care	Nine ward sites in Ireland Matched control sites Stratified sample of 253 ward team members from the nine areas	The areas with the PW in place reported higher levels of engagement compared to the matched control group. Direct patient time did improve in just over half of the areas but there was no significant observable change There were direct links made between engagement and time with patients The study did not demonstrate that PW had the strength to provide "time to care" and it became evident that there are many factors that contribute towards this.	• There were no baseline measurements taken prior to the PW being introduced into the participating areas • The control group would never be able to truly match the sample being used and therefore, true representation does not exist • There was no observable data to strengthen results

This literature review includes a variety of evidence that discusses compassion in healthcare. The aim of this review, therefore, is to evaluate, synthesise and critique this evidence in order to identify any gaps in knowledge and understanding. Compassion linked to healthcare within the literature is a hugely covered subject with discussion, research and study being undertaken from a multitude of angles. This breadth of literature available was previously acknowledged in the two-part literature search undertaken. All literature from the separate searches carried out has now been combined for the purpose of this review. Although all the literature identified could be linked to compassion in healthcare there was an evident diversity with the specific topics of the articles and research. Four papers discussed the

embedding of compassion within healthcare, one study questioned the ability to measure compassion in healthcare, one study considered the patient experience with another studying nurses' perceptions. There were also four articles that looked into the impact of compassion on healthcare and those working within it. Nevertheless, there were a number of common discussion points noted within the literature which the researcher felt poignant for this thesis. Mutual topics included:

- the measurement of compassion,
- work culture,
- lack of time
- mindfulness.

The researcher utilised these topics as a framework for this critical discussion.

1.4.1 The measurement of compassion

The measurement and reporting of compassionate care has always been considered a challenge with many authors attempting to develop tools which can enhance the understanding of compassionate care in healthcare (Day, 2014; Lown *et al*, 2015). During review of the literature a number of measurement tools were identified which aimed to evaluate different areas of care within a variety of healthcare environments.

An information article written by Day (2014) describes a pilot initiative of focus groups, quality improvement and leadership coaching within two hospital wards, relating to a measurement tool called ENGAGE. Although this piece of literature is not a study, it does provide insight into the research undertaken in order to develop the ENGAGE tool. The article was published within the British Journal of Nursing, which is a reputable and reliable peer reviewed journal and therefore, the content of the article was deemed valuable by the researcher. However, a note of caution should be taken when evaluating the content of the paper as the topic of discussion, the Engage tool, was in fact developed by the paper's author Day (2014) and therefore, is vulnerable to writer bias. Nonetheless, the significance of the content of this article, in terms of understanding the current literature in this field is without doubt advantageous. The ENGAGE tool is used to measure healthcare staff's engagement in various components of their working practices. This aims to support behaviour change linked to compassionate care thus in turn reducing the instances of avoidable harm in healthcare.

Day's (2014) study entailed giving out ENGAGE cards to healthcare staff after a discussion around engagement had taken place. However, the inability to identify the exact roles of the participants, as staff did not provide this information, limited the study and therefore, comparisons were not able to be made between different staff levels (i.e., support workers and registered nurses). Attention should be given to this factor in future research as different roles within healthcare could provide different perspectives i.e., based on roles, responsibilities and interactions with others including patients.

Using the Engage tool, participants were given an opportunity to answer yes or no to the following questions; Engaged by your senior team, Nurtured by your manager, Glad to come to work, Acknowledged by your senior team, Guided by your manager, Empowered to improve patient care. The results of this were collated and distributed to managers who would look at changes that could be made in order to improve engagement levels. The key findings demonstrated that prior to engaging with this tool, staff felt undervalued and not nurtured by management. Prior to using the Engage tool, staff also discussed the lack of personalised interaction with the many patients that they provide care to which ultimately had an effect on their feelings of value. However, following interaction with the tool, the results were able to demonstrate a positive improvement in these elements and that healthcare professionals did feel more satisfied in their work as a result. When evaluating this tool, the researcher notes that details of the initial development of the tool by Day (2014) are limited. There is no rationale, planning or development process provided so therefore, it becomes a challenge to be able to fully appraise its validity and trustworthiness. Without this rationale or explanation, an additional limitation can be identified. This is the simplicity of the tool, based on its small selection of closed questions. This does not give an opportunity for additional probing or for deeper understanding. When critiquing the details of the pilot study furthermore, the researcher noted that Day (2014) obtained their sample from two wards within the hospital they were familiar with in the UK. The author was also familiar with the Engage tool itself as they themselves had input into its development. These weaknesses in the robust nature of this discussion provide an opening into the question of bias from the writer. With a vested interest in the Engage tool and its success then this discussion may be heavily weighted on an element of positive author bias.

Rather than look at staff engagement, Lown *et al,* (2015) undertook research which examined the use of a Compassionate Care Scale developed by The Schwartz Centre called The

Schwartz Centre Compassionate Care Scale (SCCCS). The SCCCS has been identified as a reliable and valid (Cronbach's alpha .925 for full 16 item and .949 for the 12 item version) tool that can be used to measure compassionate care. To strengthen the research the SCCCS was confirmed by the researchers as an internally reliable source. However, the development process involved and more specifically the development team members, reduce the strength of this tool and makes it vulnerable to positive bias. The scale involved was developed with input from the research author, therefore, they may have had bias feelings that pulled them in the direction of wanting it to succeed in its aims. Nonetheless, the findings from this research demonstrated that people in the hospital setting and physicians agreed that compassionate care is central to healthcare. Lown *et al,* (2015) examined the reliability of two scale items that related to compassion. The initial aim was to try to understand the views and thoughts, relating to compassion, of patients and physicians. This piece of research although aimed to explore the thoughts of both patients and physicians, gave details that described the sample taken for telephone interview as "patients". The study was undertaken in Boston, USA by the Schwartz Centre for Compassionate healthcare and was a mixture of focus groups and telephone surveys. For the telephone surveys the researchers used an automated dialling system of both landline and mobile telephone numbers to get in contact with English speaking patients who were over the age of 18. However, this method of recruitment seriously limits it's robustness as participants were identified randomly by whoever happened to answer the telephone. Inclusion was based on those who were in the right place at the right time rather than those who had necessarily been in receipt of healthcare at the current time. The response rate of the telephone interviews was a total of 801 respondents, however, they do not give details of the total number of calls made in order to reach the 801 respondents so a conclusion cannot be drawn in term of those that refused versus those that participated. Additionally, a method of split sampling was used in this study, where two groups of participants were asked different questions. This could provide inequalities in answers and challenges later when conclusions are being drawn. Lown *et al*, (2015) utilised a tool that aimed to measure patients' perceptions of the compassionate care that they have received from their physicians whilst in hospital. As a result of their study, they concluded that a measurement tool like this should be used more widely and be more accessible throughout healthcare.

A critical review undertaken by Sinclair *et al,* (2017) was identified through examination of the reference lists linked to the literature search evidence and was considered to be valuable

for this literature review. In this review they selected and evaluated tools for the measurement of compassion including the Compassion competence scale, the Compassion scale, the Compassionate care assessment tool, and the Compassion practices scale. In conclusion, Sinclair *et al*, (2017) discussed the need for a valid and reliable tool for the measurement of compassion due to the current lack of any such tool in healthcare. They also addressed the fact that the measurement of something complex like compassion could be problematic particularly because its understanding can vary from person to person and within different contexts. This point was previously acknowledged in the thesis introduction when a wide variety of definitions for compassion were offered. Following on from this research in 2017, Sinclair *et al,* (2021) undertook a study which produced a valid and reliable measurement tool for compassion focused on reporting from a patient perspective. This tool called, the Sinclair Compassion Questionnaire (SCQ) was developed to fill the previously identified gap. Sinclair *et al,* (2021) used a rigorous method of testing including two phases across four different areas within healthcare and concluded that the SCQ was a reliable and trustworthy instrument to be used in measuring compassion from the patient perspective.

There have been a number of attempts at developing or researching tools for the measurement of compassion. Day (2014) considered the measurement of compassion from a healthcare professional perspective and the impact that staff and colleagues being looked after compassionately has on their ability to be compassionate towards others. Sinclair *et al,* (2017) considered within their synthesis, the lack of compassion in healthcare and evaluated currently available measurement tools used within clinical settings. However, they did not clarify directly whether this related to compassion received by patients or healthcare professionals.   Sinclair *et al*, (2021) developed a tool for the purpose of measuring compassion from a patient perspective. Conversely, Lown *et al,* (2015) were quite transparent in their research with their study relating directly to patient's receiving compassionate care.

The researcher found this diverse array of evidence to be valuable and used it to identify a gap in the use of compassion related measurement tools. As a result, the researcher, searched a breadth of literature specifically looking to identify measurement tools relating to compassion which could be used in future data collection for this study. The results of this search generated details of 12 measurement tools which related to compassion in a variety of ways (see Appendix I): These are

- Compassionate love for close others and humanity (Sprecher and Fehr, 2005)

- Interpersonal reactivity index (Pulos *et al*, 2004)

- Empathy quotient (Lawrence *et al*, 2004)

- Schwartz centre compassionate care scale (Lown, *et al*, 2015)

- The Toronto empathy questionnaire (Spreng *et al*, 2009)

- Basic empathy scale (Jolliffe and Farrington, 2006)

- The self-compassion scale and its short form (Neff, 2016)

- Santa Clara Brief Compassion Scale (Hwang *et al,* 2008)

- The Compassion Scale (Pommier and Neff*,* 2020)

- The Jefferson Scale of Physician Empathy (Hojat *et al*, 2001)

- Consultation and Relational Empathy Measure (Mercer *et al*, 2004)

Although these tools do not link directly with this literature review, the researcher felt them worthy of acknowledgment and will utilise their contribution to knowledge later in this thesis.

1.4.2 Work Culture

Interestingly, the research undertaken by Day (2014) and additional research conducted by Adamson *et al*, (2018) considered the care of healthcare professionals in a compassionate manner and linked this to the overall impact on positive patient care and outcomes. In accordance with this, Lown *et al,* (2015) suggested that in order for compassionate care to be fostered in healthcare there needs to be an element of support from an organisational/cultural perspective.

Research undertaken by Adamson *et al,* (2018) evaluated The Schwartz Rounds which are an innovative quality improvement intervention. The Rounds provide an opportunity for healthcare professionals to be cared for within their working environment. They encourage environments that are safe and supportive, in which staff can talk openly and share their feelings, thoughts and challenges. The research by Adamson *et al,* (2018) was undertaken in a hospital in Canada where Schwartz Rounds were introduced. The Rounds were identified to staff through the use of staff meetings. There were no limits on staff who could attend, with meetings open to any level of healthcare professional who wanted to share or listen. Within the groups, staff were encouraged to participate in reflection based discussion and to talk about how they felt, rather than trying to solve problems or come up with the

answers. The results demonstrated that The Rounds appeared to have not only had a positive impact on the emotional wellbeing of staff but also the overall emotive feeling within the working culture. This was measured through the responses of participants and their associated median scores. Staff members (across four rounds, R1 – n=44, R2 – n=42, R3 – n=49 and R4 – n=56) attended the groups and talked about their thoughts and feelings as well as listening to others. Participants were then inclined to go back into their work environment and share their experiences with others. Consideration of the effect of information sharing must also be considered in such a concentrated sample area. Within one single hospital the likelihood of discussion with regard to conversation topic and content is high. Therefore, it is challenging to exactly measure the difference between those that attended and those that had merely had a conversation with someone who had taken part in a group and learnt from them.

This research is also limited in the fact that the sample was taken from just one single hospital thus limits this transferability and consideration of this should be taken when attempting to translate these findings further than this hospital setting. This research, if repeated, would benefit from more robust empirical work, which would include different methods of data collection in order to achieve triangulation.

Bramley and Matiti (2014) also consider the working culture within which compassion should exist. They discuss the importance of an environment that embraces compassion at all levels throughout nursing, training, education, and recruitment. Bramley and Matiti (2014) undertook qualitative exploratory descriptive research in order to understand compassion and compassionate care from the patient's experience. Their study involved semi-structured interviews with 10 patient participants, females (n=5) and males (n=5) within a UK hospital. However, the participant selection process may limit the authenticity of the findings because they were identified and approached by the nursing staff from the ward in which they were being cared for therefore, the probability of inclusion bias and unintentional coercion is high. Those in the care of the people who are in essence asking them to take part in research might feel as though they need to say yes although ethically this is not the overall intention. It is wholly possible, as well, that these nurses will select whom they feel would provide the best and most appropriate answers for the purpose of the research particularly if it means providing a positive vision of the area of care.

One point made during the interviews was that patients often recognise that care that is compassionate need not be a huge lengthy encounter but instead a compassionate relationship can be established in only a few moments. Patients also suggested that for care to be compassionate it should be individualised and patient-centred and what might be important for one patient, may be completely different for another. However, when considering the data that has been collected, thought must be given to the fact that interviews were undertaken within the ward in which participant care was taking place. Has this small but vital detail got the ability to skew the results as participants may not have felt comfortable at this time, in this area, being completely open and honest about the care they were receiving? Furthermore, when drawing conclusions from the results given by Bramley and Matiti (2014) consideration should be given to some other factors. Although qualitative data can be successfully gained from smaller sample sizes and in this case n=10, the exclusion of some patient types (i.e., unwell patients or those diagnosed with Dementia) provides a challenge when generalising findings. However, Bramley and Matiti (2014) have tried to overcome this by providing a robust description of the study in the hope that extrapolation of data can occur and appropriate inferences amongst other areas of healthcare. Bramley and Matiti (2014) also explain that all participants described themselves as white British, this again poses a question in terms of the understanding of compassion and the cultural impact of the subject. The results do not reflect what compassion might mean to those with a different ethnic and cultural background.

MacArthur *et al,* (2017) discussed compassion in terms of if and how it exists within environment and working cultures. Compassion needs to exist on an organisational level, at the very core, of healthcare in order for the ripple effect to carry it outwardly. The study by MacArthur *et al,* (2017) aimed to critically analyse the "Leadership in Compassionate Care Programme (LCCP)" and its impact as well as suggesting a model which can help drive compassionate care practices into the heart of healthcare. MacArthur *et al,* (2017) based their research on the theory of Realistic Evaluation and using this designed a qualitative longitudinal study. Data were collected through the use of semi-structured interviews, informal observations, Leadership in Compassionate Care (LCC) meetings and conferences as well as the review of LCC research outputs. Data collection ran over three phases, 6 months after the LCCP started. The sample they identified was purposive and consisted of Charge Nurses and Nurse Managers from one of the 8 participating wards and Development Sites (n=14), Senior Nurses within the LCCP (n=7) and Senior Individuals in NHS

Organisations and Higher Education Institutions (n=5). However, the research is not without limitations and one such limit was identified by MacArthur *et al,* (2017) themselves. This was based on the primary data being only collected from healthcare professionals with no consideration of patient perspective made at this point. It was only through the use of secondary data, retrieved from charge and senior nurses that the perspectives of patients were taken into account. Participants were given the opportunity to be part of either an interview (n=39) or a focus group (n=3). The results demonstrated diverse degrees of the implementation of the LCCP and from this they were able to identify key contexts and mechanisms that influenced the ability to entrench care with compassion. One of the key points within their results was that participants stated that in order to achieve excellence in nursing care, this needs to be supported and encouraged from a cultural and environmental perspective. They propose that those at the top of healthcare should be leading by example, if leaders and managers exude excellence in nursing care then those that they are responsible for will be nurtured into providing the same quality of care. A strength of this research was in its variety of areas in which the LCCP was implemented which included acute care, mental health, medical, care of the older person, maternity, surgical and community. This hugely diverse range of healthcare environments provided an opportunity for a reliable and valid generalisability to be made and valuable conclusions to be drawn.

Bunniss and Kelly's (2013) study examined the learning and working culture of healthcare professionals within secondary care environments. Their study formed part of an already existing programme which was being undertaken by National Health Service Education for Scotland (NES). They utilised a constructionist method as part of the interpretivist research paradigm. They collected qualitative data over a 3 month period, through 26 hours of observation and 17 interviews. These data were collected from one hospital but included a range of clinical healthcare staff (including nursing and clerical staff) working in a variety of healthcare settings (including medical, chronic care and outpatients). Nevertheless, this was a relatively small sample taken from one single hospital, thus limiting future transferability to other areas of healthcare. This research could benefit from additional methods of data collection to strengthen results. Key findings from Bunniss and Kelly (2013) demonstrated recent interest in the area of team working and learning within healthcare. In particular how teams can successfully work together in order to produce the best outcome for patients. Bunniss and Kelly (2013) also uncovered the existence of a learning and sharing network within healthcare in which relationships could stretch out throughout the healthcare

setting. The movement of staff from one area to another and staff turnover throughout shifts

provides an optimum environment for sharing and learning. They also found that throughout

the working day there were many instances of teaching and learning being shared amongst

staff. These occurrences were often ad hoc and unplanned in keeping with the busy

momentum of the healthcare setting. They further went on to discuss that often during these

times of sharing and teaching and learning interactions, patients were able to get involved.

The strength of this research lay in the diverse selection of clinical areas in which the widely

varied sample of participants was taken. This provides transferability of the data across

differing groupings and environments and a possible chance for a generalisation to be drawn.

Crawford *et al,* (2014) produced a position paper which consisted of a narrative literature

review looking into how compassion is perceived within the healthcare literature and

explored the individual and organisational strains in existence. Within their paper, Crawford

et al, (2014) highlight the importance of creating a work culture that embraces compassion in

order for compassion to be shared amongst staff and extend out to patients. However, this

paper lacks strength as it is not a research project, rather it is a discursive piece which could

be open to interpretation by the author. Nevertheless, they still discuss the challenges that

can arise when comparing the provision of satisfactory compassionate care with time

restrictions and workload. In this modern day of contemporary nursing, in which bed

management and constant patient turnover is encouraged, how are staff to find the time to

provide quality care that is embedded with compassion? During this review Crawford *et al,*

(2014) searched 3 databases which included PubMed, Science Direct and CINAHL using the

key words compassion, care, and design. Literature included within the review was dated

from 2000 to 2013. However, one might question the robustness of this literature review

when considering the selection of databases that were used within the search. As the

researcher for this thesis has already discussed, searching literature on a complex subject such

as compassion could benefit from an extended selection of healthcare databases. Many

databases such as PsychINFO, although appear to specialise, can often produce valuable

literature on many topics. This would have provided Crawford *et al*, (2014) an opportunity to

demonstrate an enhanced breadth and quality of evidence.

Jones *et al,* (2016) undertook a qualitative research study that explored the perceptions of

intensive care nurses on the subject of enablers and barriers to compassionate

care. Participants were recruited from one intensive care unit (ICU) in Queensland,

Australia. The fact that data collection existed only within one single ICU in Australia limits the generalisability and transferability of results beyond this area as no comparison was made to the thoughts and perceptions of ICU nurses working in another area or even that of nurses working in other healthcare area. This is particularly significant within an ICU context, which is a specialist area in which care is provided to the sickest of patients on a one to one basis. Therefore, it would be a very arduous task to compare the compassion that exists within an environment like this, with the huge variety of other areas that exist within healthcare. The sample size for the compassionate care workshops was 191 nurses (all the nurses working in the area at the time). This is a considerably high sample size for a qualitative study and provides a robust set of findings. However, a large sample is not always required to provide vigorous findings and in fact the sample size is often determined by the very paradigm under investigation. Often small sample sizes can be justified and can bring with them valuable findings (Boddy, 2016). Although if the contextual foundation of the research is to gain a representation of the whole population, as may be the case of Jones *et al,* (2016) research, then a large sample size is significant (Boddy, 2016).

The workshops worked like a "compassion café" which enabled nurses to speak freely about their thoughts and feelings in a safe and confidential environment. The results demonstrated a variety of challenges and enablers to providing compassionate care however, two main themes were identified amongst groups: 1. the overall culture existing within the working team including support from colleagues; and, 2. the connections being made with patients and their families.

A further key factor identified from outside the workplace was the nurse's external values and their own lifestyles and family situations. In terms of the culture of the work environment, participants thought it essential that this encouraged and embraced compassion and compassionate relationships. Their ability to build rapport and compassionate connections was not only influenced by their own values but also the attitudes and behaviours of patients themselves and their loved ones.

The nurses also discussed the challenges in providing compassionate care to those patients who were considered to be challenging, rude or awkward. They talked about supportive environments in which they felt comfortable to speak freely and share experiences. The interactions and communications shared amongst nurses and patient's family, carers and

loved ones were also considered to be a determinant of compassionate care. Participants discussed building a rapport with the patient and those involved with them, which helped the nurse to provide care that was built on compassion. However, what they also did consider was their own thoughts and feelings and how this may interrupt compassion i.e., when caring for certain patient types such as those with drug and alcohol addiction, people who have committed serious and violent crimes (e.g., murderers, rapists). These poignant results were collected directly from discussions and are an example of how the workshops provide an environment to allow frank and honest discussion about the role of the nurse without there being impact on their job.

However, the researcher questions the authenticity of anonymity and confidentiality in this project. Staff members were in groups and were asked to provide their personal and professional thoughts and feelings on post it notes at the front of class. Anonymity was claimed through the omission of names and the networking of individuals within the group as the task was being carried out. However, the researcher feels that this does not completely eliminate identification and may cause some people to withhold true feelings "just in case".

In conclusion, there has been much literature that has acknowledged compassionate care in the workplace environment or lack thereof. Research undertaken by Bramley and Matiti (2014) concluded that cultural behaviours can be changed if knowledge can be obtained based around an understanding of how poor compassionate interactions can impact overall. This statement has implications for the research within this PhD project as the researcher aims to understand what the impact compassion has on the environment in which healthcare professionals work. Bunniss and Kelly (2013) drew conclusions that linked the sharing and learning of compassion amongst staff with a positive impact on the environment in which they work and also patient outcome. This is a poignant consideration for the researcher of this PhD because they are looking to evaluate, the sharing and learning that can be taken from compassion education and what overall impact this can have on healthcare environments. Crawford *et al,* (2014) also emphasised in their key statements that a work environment based around compassion aids in the provision of compassion towards patients and staff alike. This again has implications for this project as the researcher is focusing on ways in which to facilitate changes in healthcare professional's attitudes, behaviours and practices that could have a compounding effect on healthcare work cultures.

1.4.3   Lack of Time

Something that is discussed heavily within the compassion related healthcare literature is the connection between the ability to provide care that is compassionate, and the time constraints associated with the work of healthcare staff.

Within their paper Day (2014) proposed that there may be evidence which describes staff cutting "care" corners even when they know this is unacceptable. Healthcare professionals and in particular nurses are finding the pressures and time limitations of today's healthcare impacting on their time to provide quality, safe care to patients. According to Day (2014), health professionals often feel that their ability and availability to provide compassionate care is progressively being drained by time limits and workload. Day (2014) further describes a connection between the lack or lessening of compassionate care, as being directly linked to a growth in instances of avoidable harm to patients (i.e., pressure ulcers and falls). Whilst examining the grey literature, an additional piece of research was uncovered which contributes to this discussion. White *et al,* (2017) agree with research such as Day (2014) and explain in their research that many healthcare professionals are quoting time and work pressures as reasons for being unable to provide compassionate care. White *et al,* (2017) undertook an exploratory longitudinal cohort study in Ireland which aimed to measure the impact of a quality improvement initiative called, Productive Ward (PW): Releasing time to care, on the direct care of patients and the ability to provide care that is entrenched with compassion. PW was developed by the UK's National Health Service Institute for Innovation and Improvement. However, the study was only conducted within this one geographical area which could limit the transferability of results to other countries. White *et al,* (2017) took a sample of participants from across nine acute medical/surgical, rehabilitation and elderly services with a control sample of 249 identified by local quality leads from the nine Irish regional healthcare wards and departments. Even though there was a control group identified, the way in which they were identified might weaken the strength of the research results. This control group sample was purposive and although selected in order to best simulate the test group in terms of size and clinical area, this can never truly be matched. There were 253 recruits in their T1 survey (first stage) and 233 recruits during their T2 survey (second stage – 12 months later). However, some question may arise as to the validity of the measurement of impact because there was no pre-intervention measurement taken. Obtaining a baseline measurement prior to roll out of the intervention would have

allowed for more robust findings and conclusions to be drawn. Nonetheless, the key findings from this research demonstrated that the implementation of an initiative such as PW encourages engagement with patients with some link to the improvement of direct patient time (White *et al*, 2017).

However, in their research Bramley and Matiti (2014) go on to discuss the challenges behind providing this care that is tailored to the individual needs of patients particularly in a healthcare system that has time and service related pressures ongoing. However, from a patient point of view when involved in instances where time was restricted, they felt that compassion did not exist, and they tended to report lacklustre or poor care. Patients' experiences of compassion also included a discussion around the importance of communication and how this can be formed by verbal and non-verbal occurrences. However, consideration was also given to challenging situations when, for staff, effective communication and compassionate care can prove to be difficult.

These points are valuable for this PhD project because the researcher wants to consider the provision of compassionate care in healthcare and what factors have the ability to positively impact on this.

1.4.4   Mindfulness

Much of the literature that discusses compassionate care and in particular the stress, fatigue and burnout that are associated with being compassionate, also considers how this can be managed. One key word that consistently emerged in the literature was "mindfulness". Suyi *et al,* (2017) discuss, in their research, the importance of mindfulness and its usefulness in reducing stress and burnout in healthcare professionals. They undertook a study which was aimed at looking into the impact of a mindfulness programme on mental health professional's compassion, stress, and burnout. However, the inclusion of only mental health professionals weakens the strength of this research as this is a specific field of healthcare which means that results will be challenging to transfer to other areas. Therefore, findings cannot be representative of healthcare professionals as a whole. This study was based in Singapore and included pre-post and follow-up data from 37 participants. Participants took part in six, two hour mindfulness sessions which were provided weekly over six weeks. These sessions included mindfulness techniques which encouraged them to foster compassionate, non-

judgmental attitudes. The compassion element of the data collection was measured through the use of the short form of the self-compassion scale (Raes *et al,* 2011) and the compassion scale (Pommier and Neff, 2020) both of which were previously acknowledged in this review. The overarching results demonstrated an increase in compassion and self-compassion scores after the intervention and a maintenance in self-compassion scores at the three month follow-up. However, what the researcher considers here is the fact that participants with a history of a mental health or related condition were excluded from this research. The overall impact of this on the results could prove to be unfavourable. The results consider only those who consider themselves stable mentally and therefore, a true measure of self-compassion in reality may not be provided. The inclusion of those who perhaps lack self-compassion or even compassion through their mental health could provide additional supportive and interesting comparative findings. The researchers themselves identify some limitations to their study particularly the challenge around including a control group. They were unable to provide a control which would substantiate a random controlled trial for two reasons: the sample size required to undertake a RCT would have been difficult to obtain and also participants were all recruited from the same area therefore, there was a risk of information sharing amongst participants.

Bibeau *et al,* (2016) undertook a literature review, examining loving-kindness and compassion meditation and the impact of these practices on psychotherapist's empathy. They suggest that previous studies have demonstrated that loving-kindness and compassion meditation have the ability to alter areas of the human brain that are linked to positive emotions and empathy. They further suggest that this positive influence can also impact and provide a reduction in stress and burnout related to the work of psychotherapists. According to Bibeau *et al,* (2016) there is an increasing awareness of the connection between psychotherapists' personal characteristics and successful psychotherapy. They also consider that specialists in brain science have identified a connection between the human brain and mind and the effect of personal relationships on these. Throughout their review, Bibeau *et al,* (2016) consider empathy and its relation to psychotherapy. They did address the issue however, that the majority of current training programmes relating to psychotherapy hone in on enhancing the knowledge base rather than considering the importance of empathy. Although Bibeau *et al,* (2016) discuss the connection with mindfulness and empathy throughout their review, they also provide details of how this also has a relationship with compassion and self-compassion. They consider within their writing that there is in fact

similarities between compassion and empathy particularly when both consider the suffering of others. According to Bibeau *et al*, (2016) mindfulness can enhance a therapeutic relationship and the elements within this which include compassion. Interestingly they also discuss how much research is available that links compassion meditation with loving-kindness and self-compassion as these two elements are important to develop if one is to be outwardly compassionate towards others. However, Bibeau *et al,* (2016) do also consider that previous research has not measured loving-kindness and self-compassion amongst healthcare professionals nor exclusively amongst psychotherapists and go on to examine their review in accordance with the general public. In this more general arena self-compassion has previously been connected to lower rates of anxiety and depression and on the other side of this increased wisdom and emotional intelligence and overall positive feelings towards life. Bibeau *et al,* (2016) hypothesise that self-compassion meditation has the ability to allow psychotherapists to control their emotional being whilst they are listening to the pain and suffering of their clients which in turn reduces the burnout and stress related to taking on another's suffering. However, the focus of this research was on psychotherapists and therefore, the ability to generalise the results beyond this specific profession will be limited.

It is essential to reason with thoughts of self-compassion as this is one of the considerations of this PhD. This study wants to investigate feelings of compassion outwardly towards others as well as linking this to the compassion we feel for oneself.

1.4.5   Conclusion

This PhD thesis aims to evaluate an online learning resource that focuses on compassionate care in healthcare. Therefore, the discussion needs to link to the research and ultimately contribute to the development of research aims. In terms of the measurement of compassion, the researcher wanted to understand what evidence was available and was being used for this purpose. Day (2014) studied the engagement of healthcare staff at work in relation to delivery of compassionate care, through the use of a tool called Engage. This was a relatively simple tool which asked only closed questions. However, one of their most significate key finding was that staff value and contentment increased after the use of the tool which had a positive impact on patient care. However, the questions within the tool were not specific to compassion or self-compassion and therefore, could not draw upon these unambiguous topics. Alternatively, Lown *et al,* (2015) did use a tool to measure compassion within

healthcare settings specifically. Although this research set out to obtain data from physicians and patients it ended up being solely a measure of patient's thoughts and feelings. However, they were able to identify importantly that measurement such as this is essential in contemporary healthcare. Sinclair *et al*, (2017) evaluated a number of tools which aimed at measuring a variety of compassion related topics. They concluded that a valid and reliable tool currently does not exist as this topic is so complex and challenging that identifying a tool for this purpose will prove to be very difficult. However, following this initial research Sinclair *et al,* (2021) developed a new robust and reliable measurement tool for use with patients which measures compassion from their viewpoint. Taking all of this information into account, the researcher is able to identify a substantial gap in the evidence that would benefit from further research. The researcher intends to research appropriate tools that will successfully measure both compassion and self-compassion specifically. The researcher will then utilise these tools in order to obtain a measurement of compassion and self-compassion existing within healthcare professionals.

The researcher must also consider the relationship between compassion and to work culture and the gap identified within the literature relating to this. Adamson *et al*, (2018) researched the Schwartz rounds, a quality improvement initiative which aimed to evaluate the health and wellbeing of staff. Their findings concluded that healthcare professionals need to be cared for along with the care that they provide to their patients. This acknowledgment in the Schwartz rounds had a positive impact on staff wellbeing and in turn in care provision. Bramley and Matiti (2014) also considered the importance of an environment that is compassionate. However, this was measured from a patient point of view. Patients suggested that compassion does not need to be a huge gesture nor a time consuming exercise. MacArthur *et al,* (2017) suggested in their research that compassion should exist throughout working environments and that was the only possible way to extend this out to patients. Bunnis and Kelly (2013) focused their findings on team working and suggested that effective team working was essential to create a compassionate environment and in turn the best outcomes for patients. Jones *et al,* (2016) looked into the compassion existing within an ICU area. They suggested that environments should embrace a culture of compassion. Crawford *et al,* (2014) also suggested that it was important to create a work environment that embraces compassion however, they further suggested that this was challenging as healthcare professionals faced time constraints. What the researcher found interesting here, in terms of working environments, and appeared to be a gap within the evidence, was that there is a lack

of understanding of what compassionate care is and what it looks like in practice. Without this understanding, particularly to the individual, work cultures and environments cannot fully encompass the theory of compassion. Therefore, the researcher intends to include an evaluation of the understanding of what compassion is and how it fits into healthcare within this research. This lack or sometimes diverse understanding of what compassion is and how it can be carried out within healthcare also impacts on the topic of time constraints.

White *et al's* (2017) key results demonstrated that healthcare professionals often related their lack of compassion with time constraints and workload. Bramley and Matiti (2014) also concluded that patients notice when time is limited, and they feel that this is when care is of poor quality. Again, this demonstrates a gap in the literature that does not address individual understanding of compassion and how this can affect its quality.

This research will aim to close this gap and evaluate the understanding that individual healthcare professionals have of compassionate care, the researcher wants to gain insight into what compassion looks and feels like to healthcare professionals.

1.5   Teaching Compassion within Healthcare

This section considers the literature on the teaching of compassion within healthcare. In order to do this successfully, first the researcher must review and summarise other literature in this field. Therefore, a systematic search was conducted in order to identify all relevant evidence that explicitly mentioned the following key terms:

Compassion OR compassionate care AND educate or teach AND healthcare

On initial search using the above key words 240 titles were generated, of this number 26 were not available and 186 were not relevant to the overall subject. This left a total of 28 articles to be examined further.

The main reasons for exclusion reflected the original limiters put in place at the time of the database search as well as excluding articles that: did not truly discuss or refer to the subject matter (e.g., closely linked subjects such as patient-centred or holistic care) and were not available through the internet nor the ordering service available at Stirling University Library. The criteria for inclusion were: articles that directly linked to the research, articles that

discussed compassion or compassionate care in a healthcare context, articles that included research involving healthcare professionals.

Following this inclusion/exclusion period a further 20 articles were withdrawn. These results then provided a total of 8 relevant and available published academic articles that were to be examined. Following this process, the number of articles were decreased as follows:

Figure 2: Literature Search Process – Teaching Compassion

| RECORDS IDENTIFIED THROUGH DATABASE (n=240) | | RECORDS AFTER INITIAL REDUCTION (n=28) | | RECORDS EXCLUDED (n=20) | | RECORDS INCLUDED (n=8) |
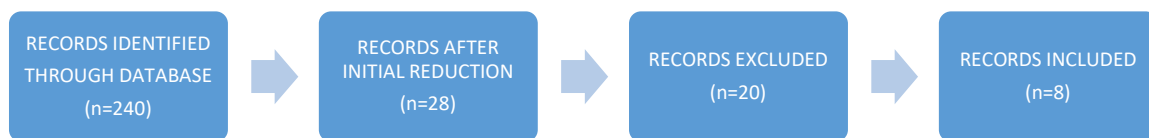
The search generated a larger number of reflective papers (5), rather than primary research with only (3) research studies being identified. However, there was acknowledgment of article quality, particularly relating to peer review status and journal impact factor. Where appropriate, for non- research pieces, author credentials were evaluated, for example consideration was given to the writer's background, qualifications, link to and expertise in the field that they had written about. Each piece included was deemed of quality and valuable for the purposes of the review. Overall, the researcher identified a significant absence of evidence and literature in this field when limiters were put in place. Unfortunately, this limited available evidence and does weaken the strength of the review as consideration cannot be taken from a variety of angles.

The researcher also ensured that the process of critiquing the wide variety of evidence was systematic and consistent through the use of a combination of structured and non-structured appraisal (see table 2). All literature was initially read critically, and relevant notes taken, and then appropriate questions were selected and answered from the collection of eight tools that the Critical Appraisal Skills Programme (CASP) (2020) has available. These questions include consideration of the following factors: acknowledgment of the research questions/aims, appropriateness of the methods, research design, data collection and analysis methods, value of the research, findings and results and implications of the study.

The results seen below demonstrate a combination of the results of the CASP questions with the originally identified method of scoping review. This provides a valuable outline of current literature with a level of critical consideration which serves to strengthen the findings and identify the main ideas relating to this research area.

*note – the reference lists of all articles and the relating grey literature was also searched in order to identify any additional relevant studies that may have been missed by the original search. The details of any literature identified can be found within Table 2.

Table 2: Appraisal of Evidence – Teaching Compassion

Authors/Title	Type of Paper	Sample	Key Findings/Points	Limitations
Adamson, E Dewar, B (2015) Compassionate Care: Student nurses' learning through reflection and the use of story	Evaluation research Which aimed to describe the use of stories within teaching to enhance compassionate care	37 Student nurses	• Sharing experiences of providing and receiving care can positively impact on students compassion • Reflecting on care is a valuable way to help change behaviours and practices • Nurse education should acknowledge theoretical and practical elements of care • Compassion should consider not only patients but relatives, loved ones and colleagues too	• One geographical area which limits transferability beyond this. • Small sample size which may not provide robust results for the purpose of evaluation • Method – not identified which weakens the strength of the study • Online discussion – no follow up data collection therefore, there was nothing that could add an additional perspective or timeline evaluation • Participants – all from the HEI that the programme was undertaken which may make this study vulnerable to participants answering more favourably. • Studied by staff they knew which again may limit their answers to what they think they should be saying rather than open and honest statements.
Beaumont, E Martin, CJH (2016)	Information article This aimed to outline a possible education	n/a	• There could be a link between increasing resilience	• This article discussed one geographical area and small sample size which limits transferability or generalisability

Heightening levels of compassion towards self and others through use of compassionate mind training	strategy for student midwives that would have the potential to affect their level of compassion		within student midwives and their ability to be compassionate • Developing an educational tool that increases student midwives self-compassion and decreases their self-criticism may protect them from compassion fatigue and burnout	• Not research – subjective and personal opinion of writer • Based on one healthcare discipline which makes it difficult to consider amongst other disciplines are these can be very different in healthcare
Geraghty, S Oliver, K Lauva, M (2016) Reconstructing compassion: should it be taught as part of the curriculum?	Professional discussion Aimed at examining whether compassion can be taught as part of educational curriculum	n/a	• Compassion teaching is important within the nursing and midwifery curriculum • Nurturing compassionate healthcare professionals provides positive outcomes in practice • If compassion is considered a natural human trait, then providing teaching may be challenging and not adequate to change innate attitudes and behaviours • Acknowledge the link between the	• Written about Australian Nursing and Midwifery programmes which limits consideration to this part of the world and may be difficult to take globally • Not a piece of research – this is discussion which is vulnerable to subjective writing • Discuss importance of compassion teaching and the lack of acknowledgment however, there is no suggested solution

			successful teaching of compassion and the impact this has on healthcare workers living with fatigue and burnout - this is evidenced within their writing	
Gustin, LW Wagner, L (2012) The butterfly effect of caring – clinical nursing teachers' understanding of self-compassion as a source to compassionate care	Qualitative phenomenological research Studying the connection between being a compassionate self and being outwardly compassionate	4 clinical nursing teachers	• Being self-compassionate positively influences compassion for others • The teaching of self-compassion is essential in the battle against compassion fatigue	• Not transparent – geographical area studied, and assumption cannot be made based on only the language used (Swedish) • Translation from Swedish to English – data becomes challenging when being translated as often what is meant originally may not be reflected in the translation
Lown, BA (2016) A social neuroscience-informed model for teaching and practising compassion in health care	Professional discussion This is clinical application research which was formed following another teaching-learning project and aimed to understand participants understanding of compassionate caring	n/a	• Compassion is essential in the support and facilitation of healing and recovery and can be strengthened through training • Compassion is directly associated with compassion behaviours and limits the effects of distress, burnout, and job dissatisfaction • The use of an appropriate framework	• Information based on USA and can't be transferred out into other parts of the world • This is not a research project and is rather a professional discussion which may have elements of opinion and subjectivity from the writer

			could inform current education practices in the teaching of compassion • Interprofessional university faculty members should join together to provide a robust and experienced teaching team in this field.	
Pearson, M (2018) Educating student midwives about compassion: A critical reflection	Critical Reflection This is the authors experience during the development of a midwifery module relating to compassion	n/a	• Compassion is essential throughout all healthcare and is lacking within some areas • Compassion may not be a quality that is naturally within us, rather it is something that should be taught through theory and practice • There is a lack of evidence available to strengthen the teaching of compassion in a non-nursing discipline such as midwifery	• Considers one healthcare discipline and in a world where areas within healthcare are very different, this makes it hard to generalise results beyond this speciality • Subjective reflection which is vulnerable to writer bias and subjectivity
Waddington, K 2016) The compassion gap in UK universities	Critical reflection This explores academia and the compassion gap that	n/a	• Higher education must have at its core a compassionate structure and ethos in order	• Personal reflection which may not truly reflect objectivity • Personal experience and opinion of author which makes the discussion vulnerable to subjectivity and bias

exists within universities			to affect those following programmes • Compassion should permeate throughout all academic practices equally like other essential skills such as leadership • Discussion and sharing stories is vital in the enhancement of compassion within healthcare	• Unsupported by research – this piece could have been strengthened through the use of supporting evidence and literature.
Whitehead, C Kuper, R Freeman, R, Grundland, B Webster, F (2014) Compassionate care? A critical discourse analysis of accreditation standards	Foucauldian discourse analysis research This study was looking for ways in which to embed compassionate care in teaching.	Formal family medicine residency training documentation	• Students should undertake learning based around compassionate care rather than just concentrate on the science of medicine • Less emphasis has been put on compassion within education in recent years	• This method discusses power relationships, however, does not consider this from a compassion viewpoint or healthcare related power relationships • Hard to identify epistemological stance – this is not made clear within the writing otherwise would have strengthened the research • This study does not give details of the underlying theory being utilised, details of which would serve to strengthen the robustness of the research
Evidence unearthed through the examination of reference lists and grey literature				
Edinburgh Napier University (2012) Leadership in compassionate care programme: Final report. Chapter 4: Embedding the principles of compassionate care within the	Qualitative action research To evaluate whether embedding compassion within nursing and nursing education can have a positive impact	Sample for Programme Strand 3 – Focus Groups 28 academic lecturers 15 undergraduate students	• The provision of compassionate care should be actions that are normal and day to day however, no matter how subtle these are they have a	• Very large project with multiple strands which makes it a complex and challenging study to disseminate • Qualitative strand from one HEI in Scotland which limits transferability beyond this area • Participants were all taken from the HEI responsible for the project and therefore, all had a vested interest in its success • Students being studied by members of staff that also taught them and who may have known them – participants may have been

undergraduate curriculum			positive influence. • There is a link between the way in which we act compassionately towards one another i.e., academic staff to students, healthcare professionals to patients etc. and positive role modelling • There are emotional costs to being compassionate • Compassion should be an identifiable trait during the selection process of student nurses and should continue to be nurtured during the undergraduate programme	eager to please with their answers rather than provide open and honest reactions

The aim of this review was to explore current literature based around the teaching and education of compassion within healthcare in order to critique and make sense of the evidence base to inform research and identify a gap in the literature.

The included literature identified a diverse range of teaching and educational methods. This range of evidence has allowed the research to include discourse around the different approaches taken in the endeavour to teach compassion including geographical and professional differences such as: nursing education in an Australian university (Geraghty *et al*, 2016), family medicine training in Canada (Whitehead *et al*, 2014), UK based nursing and midwifery training (Pearson, 2018; Lown, 2016; Beaumont and Martin, 2016), clinical nurse

teaching (Gustin and Wagner, 2012), UK higher education (Waddington, 2016) as well as larger UK based compassion programmes (Adamson and Dewar, 2015).

1.5.1 Can we teach what is difficult to define?

One of the most challenging areas when discussing compassion is identifying a consistent and unanimous definition of what it is. There are a variety of definitions and understandings offered within the literature and the researcher felt it necessary to first critique and fully grasp this concept before moving into a more in depth review of the literature. The researcher also felt it necessary to acknowledge a definition of self-compassion as this element of compassion is also identified within the literature linked to this review and will be poignant for this study going forward.

Adamson and Dewar (2015) suggest within their research that we need to achieve a true understanding of compassion in order to be able to provide care that is compassionate. They also acknowledge that achieving a definition of compassion is an ongoing topic, however, they do not offer within their paper their own understanding or definition of compassion or compassionate care. However, according to Pearson (2018) compassion is the alleviation of suffering by "acting with warmth and empathy, treating people as individuals, communication, helping, caring, empathy, kindness, listening, sympathy and understanding". Alternatively, Lown (2016) suggests that compassion is "recognition, understanding, emotional resonance and empathetic concern for another's concerns distress, pain and suffering coupled with their acknowledgment and motivation and relational action to ameliorate these conditions". Within their working definition Waddington (2016) state that compassion is "feelings of deep sympathy and concern for individuals who are troubled by misfortune, accompanied by a strong desire to alleviate their distress". Geraghty *et al,* (2016) consider compassion within their work as "attentiveness, presence and saliency in order to anticipate the needs of patients or clients". And finally, compassion is described as "a quality that aims to nurture, look after, teach, guide, mentor, soothe, protect, offer feelings of acceptance and belonging" by Beaumont and Martin (2016).

While these understandings of compassion are diverse, there are many common words appearing throughout them; suffering, distress, alleviate, sympathy, empathy, misfortune, kindness, help and understanding. These are threaded throughout the literature and are used

to describe compassion, but much of the work is older with a more up to date definition hard to identify. As an alternative thought, according to Whitehead *et al,* (2014) merely knowing the significance of compassion does not make defining it a straightforward task. They don't consider a definition of compassion to be essential, nor do they think that it provides direction on how to effectively educate others on the topic. However, the lack of definition of compassion from Whitehead *et al,* (2014) affords them an element of flexibility which opens up the interpretation for their own benefit. However, this may ultimately cause some ambiguity and misperception when linking this to education.

The researcher believes that a working definition of compassion and compassionate care for use within this research is essential to make sense of the literature around this topic. In considering the concept of a modern definition the researcher has avoided terms such as compassion is "acting in a way that you would like others to act towards you" (Pearson, 2018). This is a very traditional statement that does not consider contemporary person centred and holistic care for ourselves and others. Perhaps in the dynamic healthcare world that we live in today we should be considering "treating others like they would like to be treated as individuals and treating ourselves as we understand we want to be treated". Geraghty *et al,* (2016) also reflect upon this notion and consider that the differing contexts, cultures and values of patients and healthcare professionals can affect the understanding and definition of compassion.

Furthermore, although the literature included within this review does not provide any definition relating to self-compassion, the researcher felt it necessary and appropriate to integrate this here. The link between compassion and self-compassion has been identified previously in this review and the teaching of self-compassion will also be acknowledged. There is a strong argument that if we can equip people with the skills and knowledge to help them be self-compassionate, through learning and education, then this in turn can impact on their compassion towards others (Gustin and Wagner, 2012; Mills and Chapman, 2016). Therefore, it was felt that this should be acknowledged appropriately within this review. The researcher, therefore, concluded that to fully understand the concept of self-compassion then one must also provide a working definition of this. One of the most widely used and understood definitions of self-compassion is included in writing by Neff (2016) in which they describe being "touched by and open to one's own suffering, generating the desire to alleviate one's suffering and to heal oneself with kindness". An alternative definition offered by

Kandler *et al,* (2017) is "being understanding and kind to oneself when confronted with negative experiences". In addition to this, according to Elices *et al,* (2017) self-compassion is about extending compassionate attitudes and behaviours to ourselves such as non-judgement and addressing suffering. Another consideration when it comes to self-compassion is given by Germer and Neff (2013) in which they suggest that self-compassion means to take care of yourself just like we would any loved one.

For the purpose of this research and utilising the definitions available within the literature, a broad operational definition that can embrace and reflect not only compassion, but also compassionate care and self-compassion was identified.

Compassionate care in the healthcare context is defined as: *Understanding and recognising your own and others' suffering or distress and feeling the desire to help and care through thoughts and acts of kindness.*

The reason that the researcher focused on these particular words within the definition was, it was the most suitable and effective way to understand compassion, compassionate care, and self-compassion from a multitude of perspectives. However, this is a very dynamic definition which may be subjective and open to interpretation. With a subject like compassion, it might be impossible to ever provide an objective and exact definition that is not open to interpretation as it is a subject that is dependent on context.

The researcher believes that identifying a suitable definition of compassion, compassionate care and self-compassion is essential when considering the incorporation of these subjects into education. The importance of reaching a consistent and adaptable understanding which can be taught and shared to others is clearly acknowledged within the literature.

1.5.2   Educational approaches to teaching compassion throughout the world

The researcher has already addressed the wide variety of literature identified and the global diversity involved. It is important therefore, to provide a detailed review based upon the differences identified.

Research that was based within the UK's higher education system was undertaken by Adamson and Dewar (2015) and was based on a much larger piece of research called the

Leadership in Compassionate Care Project (LCCP) (Edinburgh Napier University, 2012). The 3-year Leadership in Compassionate Care action research project aimed to understand compassion within healthcare practice and set out to use this knowledge to inform nursing education related to compassion. The research specific to Adamson and Dewar (2015) considered the part of the overall project that linked to the sharing of stories for educational purposes. Within their discussion relating to methodology Adamson and Dewar (2015) did not identify the exact method that was utilised within their research which may limit the strength and robustness of their results. However, what Adamson and Dewar (2015) did discuss within their methodology section was the integration of practice stories into a nursing module at Edinburgh Napier University. The paper that they produced provided samples of the online discussion that took place after students had undertaken the module and they facilitated this with reference to one of the six themes from the LCCP, caring conversations. This piece of literature discussed reflection within its key findings and suggested that sharing experiences of not only providing care but also being cared for can impact on student nurses' ability to be compassionate. Is it possible that there is indeed value in sharing one another's experiences and understanding of compassionate care and using this as a tool in the education of compassion?

Although this literature was very informative, consideration needs to be given to the fact that this was one very small excerpt from a much larger piece of work and the results and conclusions discussed may not reflect the aim of the overall project. However, when evaluating this research with consideration to its position within the wider LCCP the juxtaposition of topic is not contrasting and in fact Strand 3 of the overall programme actually considered the integration of compassionate care into the nursing programme in one institution in Scotland. This strand of the programme provided robust research with the inclusion of qualitative data from students (n= 15) and academic staff (n=28) in the form of focus groups as well as delivering action projects to enable the development of learning and assessment in compassionate care (Edinburgh Napier University, 2012). Some key findings to come from this project were that compassion can be demonstrated through small and even indirect actions and that this is assisted through an understanding of what compassion is. They also found that healthcare professionals could act as compassionate role models towards their patients just as academic staff could to their students which would help develop an overall culture of compassion. They also acknowledged the emotional burden of being compassionate and its link to time constraints. However, most importantly for this review

Edinburgh Napier University (2012) demonstrated in their findings that when considering the teaching of compassion, undergraduate programmes should be looking to recruit those who already display caring attributes that can be nurtured through teaching and learning. However, the researcher did consider some weakness linked to this research study and identified that the participants involved were all taken from the higher education establishment that was responsible for the project and therefore, all had a vested interest in its success. There must also be acknowledgment given to the fact that the students were from the same university and were potentially being studied by members of staff who they knew and were eager to please with their answers. Nonetheless, the research within the LCCP serves to strengthen that undertaken by Adamson and Dewar (2015) and although only a small element in its own right, nonetheless, it provided some insight into teaching related to compassion. Their key findings showed that reflection and the sharing of stories can help with student's ability to be compassionate in practice. Additionally, strength and validity in this huge research project predominantly comes from the application of action research. This method of study allows for consideration of the study topic whilst in action rather than evaluating after action. Action research further allows for those at the heart of the research topic and whom experience the issues to be resolved directly, to actively participate in the research rather than just be the subjects of the study (Coghlan, 2019). However, further thought should also be put into the use of action research in this way and the diverse mix of small studies included within the larger overall project. The way in which interaction between these occurs and the interpretation between connections is worth considering as a limitation of this overall piece of work.

Another UK perspective comes in the form of a critical reflection by Waddington (2016). This critical reflection has been published in a peer-reviewed journal so carries with it some weight in terms of applicability to the argument as well as its authenticity and reliability. The aim of this discussion comes from a slightly different angle to others within this breadth of literature, in that it considers compassion within University level teaching from an inward environment point of view. Waddington (2016) suggest that higher education must have at its core a compassionate structure and ethos in order to affect the compassionate abilities of those following its programmes. However, this piece of literature by Waddington (2016) appears to be based on the personal experiences and opinions of its author after attending a workshop related to the compassion gap in the NHS. Nonetheless, she has also provided appropriate and up to date evidence which concurs with her opinions. Although,

considering this argument from another perspective, Waddington's (2016) feelings towards universities being compassionate is heavily weighted from an organisational viewpoint. Waddington (2016) isn't suggesting that academics and other university staff are lacking compassion, instead she is proposing that it is in fact the organisational environment which has a compassion deficit. Therefore, this argument can be questioned, in that, how can we make learning environments more compassionate if it is arguably a personal attribute held within individuals. Although this was a very informative and thought provoking article, the researcher feels that it lacks weight and strength due to the nature and subjectivity of the writing. Therefore, it would have been beneficial to have demonstrated research and additional supporting evidence in this area which would provide a deeper systematic and rigorous understanding of the compassion gap within higher education in the UK.

Pearson's (2018) critical reflection of their experience of a UK-based Compassionate and Professional Midwife Module discusses the development of this ground-breaking undergraduate module within Nottingham University. This teaching module was grown from the content of the Francis Report (Francis, 2013) and had at its core values the 6Cs: compassion, commitment, care, courage, communication, and competence. Although Pearson (2018) provide here a personal reflection albeit critical, the researcher feels it could still be considered subjective when discussing the development of the compassion module due to its reflective nature. Unlike other healthcare courses that consider patients as ill or suffering, midwifery aims to provide help and care to women during a largely common and natural biological occurrence. Pearson (2018) suggested within their literature that with childbirth and labour there is such a diverse range of suffering and experience that it cannot be generalised and differs heavily from compassion within other healthcare professions. The researcher acknowledges that this article is limited in its consideration of only one discipline. Perhaps we need to think about the possibility that although there are very evident differences between professional disciplines it may also be feasible for the literature to reflect similarities amongst care provided in other healthcare settings. Should we not consider that responding to the pain and emotional distress of a woman in labour could be similar to experiencing pain and suffering as a result of a different cause for example, that of a patient in a surgical care environment? However, Pearson (2018) do partially acknowledge this within their main findings in which they recognise that compassion is essential throughout all healthcare and that it is identified as lacking in some areas through the Francis Report (Francis, 2013).

Pearson (2018) found that there was a lack of evidence available to strengthen the teaching of compassion in a non-nursing discipline such as midwifery.

Another piece of literature based in the UK that discussed compassion training from a midwifery point of view was that of Beaumont and Martin (2016). They suggest within their writing an approach to education that could prospectively enhance the quality of compassion that midwives show both inwardly to themselves and outwardly to others during times of suffering (Beaumont and Martin (2016). This piece of work discusses the incorporation of Compassionate Mind Training (CMT) into an undergraduate midwifery degree programme. Because of the discursive nature of this paper and its lack of research base, some of the information contained within it could be construed as subjective, being based, or influenced by the personal opinion of the writer. Although the nature of the article was not directly suggested within its writing it appeared to the researcher to be an evaluation, the aim of which was to identify an educational strategy to aid with student midwives internal and external compassion. However, like Pearson's (2018) article, this evidence refers to one specific discipline within the wider healthcare world and therefore, is not strong enough to infer the same implications amongst other areas of healthcare such as medicine, nursing, and allied healthcare. Nonetheless, the article's aim was met with confidence throughout, and the strategy discussed was supported well through the use of appropriate evidence and research. This provided strength and relevance to the article and ensured that it was current and validated. One of the main points made within the discussion is that student midwives can experience a different emotional journey to that of other healthcare professionals. This statement is based on the fact that Beaumont and Martin (2016) believe that within midwifery there is a high level of distress and trauma compared to other professions such as nursing. This is a similar argument to that of Pearson (2018). However, should we not consider that there are other areas within healthcare like nursing, that may come with their own increased levels of distress and trauma, such as end of life, cancer, and surgical care where healthcare professionals support their patients through some of their most vulnerable, life-changing, and emotional times. Here, the vast and diverse range of contexts in which "suffering" occurs can be once again acknowledged. Suffering is a personal emotion that cannot be exclusive to any one area of healthcare. This is an appropriate time to once again recognise the importance of the definition of compassionate care written previously.

Understanding and recognising your own and others' suffering or distress, and feeling the desire to help and care through thoughts and acts of kindness.

Whitehead *et al*, (2014) studied the integration of compassion teaching and practice within a family medicine training programme in Canada. This research honed in on the concept that although educators are required to fulfil a certain level of training based on medicine and science in order to produce competent doctors, the students on their programme must also undertake learning to support them in providing care that is compassionate. Whitehead *et al,* (2014) undertook a Foucauldian critical discourse analysis of compassionate care, in which they aimed to explore ways this could be effectively integrated into teaching and practice. This method of research comes with its limitations particularly when it is based on the theories of Michael Foucault and usually relates to the power relationships within society rather than being compassion related. As a result, this discourse analysis may limit the results by focusing heavily on the healthcare related relationship that may occur between doctor and patient. However, Whitehead *et al,* (2014) manage to address this weakness and successfully relate the power influence and value of language during these relationships within this analysis. They were able to examine the meaning of compassionate care within formal texts relating to family medicine and successfully identify valuable language which could be directly linked to practice. Discourse analysis of any kind comes with its complications and like this research it is hard to clearly identify its epistemological stance, therefore, it becomes a challenge to be able to identify the underlying theory that weakens the strength of the research it is built upon. However, this research did employ a critical social science theoretical framework in order to conduct the research thus allowing them to analyse a selection of formal documents relating to postgraduate family medicine which provided a representation of relevant research and evidence on this topic. As a result, they identified a reduction in the use of words that linked to compassionate and patient-centred care in a time period from 2006 to 2013. This in turn indicates that there may have been lesser value put on such an important element of healthcare teaching.

Gustin and Wagner (2012) undertook a research study which was grounded on the development of a teaching and learning model that supports participants in their understanding of compassion. The researcher believes this key acknowledgment of understanding compassion provides strength to this research. The belief that improving compassion comes from more than just simply teaching what it is, is essential in the diverse

world in which we live in today. The research undertaken by Gustin and Wagner (2012) was not transparent in where it was conducted with no official confirmation of country. When considering individual understanding through qualitative methods then perhaps value and trustworthiness of data needs to be considered. The researcher noted during these considerations the use of the translation from Swedish to English and the impact that this has on the strength of the research. What someone says and means in their own language may not have the same significance once translated into another language. There is no acknowledgment of this limitation given within the article therefore, it is not easy to identify whether the methods used addressed this. However, Gustin and Wagner (2012) utilised a phenomenological hermeneutic method in order to capture participant's understanding of self-compassion and compassion through both oral and written reflections. Phenomenology is a robust and valuable method of qualitative research which provides strength to this study and supports its validity. The data that Gustin and Wagner (2012) collected were analysed with the help of Watson's Theory of Human Caring (Watson and Woodward, 2010). This is a well-respected and studied theory which considers the connection between both the care giver and the care receiver and the impact of this relationship on the quality of care and healing process. As part of the critique process, the researcher felt it valuable to consider how effectively the researchers had utilised this qualitative method of study. The study did address in detail the link between qualitative data collected during teaching sessions that the researchers were involved in and their vulnerability to preunderstandings and self-interpretation. The researcher was confident that through the use of a second researcher, who was not involved in teaching, provided support and strength in the data analysis process. One of the main findings from this research was that being self-compassionate positively influences compassion shared outwardly to others. This substantiates the possible link between being compassionate to ourselves and how we act with others. The study concluded that compassion is not simply something we "do" for others but rather something that we "are" amongst ourselves and others. This very thought was amalgamated into the researcher's definition with consideration given to the feelings of self and others.

Geraghty *et al,* (2016) published their professional discussion piece in a peer-reviewed journal albeit their paper was based on Nursing and Midwifery Education in Australia. This was a reflective discussion and not research however, it was considered as valuable and appropriate for this review by the researcher because its topic of discussion specifically linked to compassion and education. Geraghty *et al,* (2016) discuss the challenges with being

compassionate nurses and midwives and how this can be overcome in higher education programmes. This article argued that compassion within nursing and midwifery education has become vulnerable in its very existence. Although seen as an important aspect in the role of a nurse or midwife it is not necessarily addressed adequately within the current teaching curriculum. Geraghty *et al,* (2016) discussed whether the concept of compassion could be successfully taught within nursing and midwifery education in Australia and if this could eradicate the decline in compassionate care within practice. They make a valid argument regarding the importance of compassion teaching and inclusion in the nursing and midwifery curriculum however, their discussion lacks a suggestion of how this can effectively be taught. Geraghty *et al,* (2016) conclude their writing by reiterating the connection between nurturing compassionate healthcare professionals with positive outcome in practice however, at no point do they provide a deeper discussion regarding the most valuable way in which this could be included within the teaching programme. The researcher, in this study, feels that rather than continue to discuss the issue and its challenges, research is needed in order to identify solutions to the problem. Much of the literature available within this review has been documented discussion, reflective or opinion pieces which have value in the overall understanding of the subject however, what is lacking is study data and research that aims to develop and evaluate projects which can help increase the level of compassion that currently exists within healthcare.

In America, Lown (2016) published a professional opinion piece which discussed a social neuroscience-informed model for teaching and practising compassion within healthcare. They suggest within this paper that compassion is essential in the support and facilitation of healing and recovery and is a value that can be strengthened through training in practice. This in turn impacts and is directly associated with compassionate and positive behaviours with a limiting effect on negative feelings such as distress, burnout, and job dissatisfaction. However, the researcher questions here the weakness in the reliability and validity of the study which they discuss. This is created by some level of acquiescence response set bias (Bowling, 2014). This is in other words known as "yes-saying" when participants tend to respond more positively in research than not. This may be particularly poignant here because participants in the study discussed by Lown (2016) were required to self-report their levels of compassion after completing a course on compassion which they had undertaken for the purpose of becoming more compassionate as a result. This is definitely something that the researcher considers when going forward into research. If we are thinking about evaluation

research, then we need to consider participant responses after choosing to be part of a teaching programme or training course. Lown (2016) made suggestion to a framework that could inform current education practices in the teaching of compassion which included: attention, recognition, emotional resonance, cognitive processing, understanding concerns/distress, empathic concern, altruistic motivation/intention to help, shared informed decision making and action. They further suggest that interprofessional faculty members should join together to provide a robust and experienced teaching team. Perhaps this can be linked to the idea of compassion being intrinsic within teaching environments as proposed by Waddington (2016).

In conclusion, the literature demonstrates that compassion and compassionate care are valued within healthcare across the world. Many countries have developed teaching and learning based around the concept of compassion in order to enhance care provided to patients. There has been discussion based around teaching through the sharing of experiences and narratives (Adamson and Dewar, 2015) which proved to be successful and an advantageous way to pull together the gap between nursing theory and practice. Adamson and Dewar (2015) detailed within their key findings, that the use of storytelling and discussions had a positive impact on the compassionate care provided by student nurses. They further concluded that this method of teaching affords students a clearer understanding of the needs of those in their care as well as addressing their own beliefs and values. These key points are particularly poignant for this PhD project going forward because the researcher wants to embrace the diverse ways in which compassion can be taught and the impact this has on the learners. Waddington (2016) contemplated the idea that perhaps the educational environment in which students learn should be underpinned with compassion so that they are able to develop their own compassionate practices. She concluded that unhealthy university environments serve to worsen the compassion crisis that currently exists within the NHS and so therefore, recommends environments that are open and honest in which staff are encouraged to hold courageous conversations. Consideration of this is key in this PhD research going forward as the researcher wants to acknowledge the teaching of compassion as a way to support staff within their work environments. Pearson (2018) acknowledged the lack of compassion in healthcare and reflected upon how this can be taught within Midwifery. Pearson (2018) concluded that although healthcare overall must be built on the foundations of compassion there is very little current evidence available that eludes to how this can be taught, with particular emphasis on Midwifery. The researcher believes that this research project will be

able to fill this gap and will identify a method of teaching compassion to not just the discipline of midwifery but throughout the whole of healthcare. Beaumont and Martin (2016) discussed within their key findings the impact of teaching student's mindfulness techniques on the provision of compassionate care. They discussed the benefits of this not only on others but also oneself. Gustin and Wagner (2012) also considered compassion towards oneself as a significant finding in their research and conclude that for a caregiver to provide compassionate care they need to first acknowledge their self-compassion. This evidence provides thought for the researcher for this PhD, on the link between self-compassion and compassion towards others and how teaching one may be able to strengthen the other. Whitehead *et al,* (2014) drew conclusions within their discourse analysis relating to the acknowledgement of compassion within formal educational documentation. They found that if this crucial value was not addressed appropriately within the development of training programmes, then there is a risk that it will be absent moving forward. The implication of this key consideration on this research going forward is the vital link between the explicit and very transparent inclusion of compassion teaching to healthcare professionals. Geraghty *et al,* (2016) conclude in their writing that compassion is vulnerable in healthcare and within their key points they suggest that not only should compassion be taught to students in healthcare but should also form part of the continued professional development of healthcare professionals. Therefore, this is key in the consideration of this project as the researcher now considers the possibility of having a system of teaching compassion that could include both students and healthcare professionals.

All of these studies and articles have considered the teaching of compassion within their own countries and have made reference to higher education and healthcare programmes that relate directly to their specific area. None of this literature or research has considered the sharing of an understanding of compassion on an online platform that is available on a mass worldwide basis. It is, therefore, evident that there is a disparity within current literature that if available would serve to close this gap and would be able to address the importance of diversely sharing such a universally acknowledged topic.

1.5.3 Can compassion be taught?

A recurrent theme identified throughout the literature and a key factor in this research going forward is whether compassion can be taught and if so, the most effective way in which to do

so. This notion of compassion as a teachable topic has been argued from a number of perspectives throughout this review literature.

Within their discussion Pearson (2018) infer that compassion may not be a quality that is naturally within us, rather it is something that should be taught and assessed within midwifery and healthcare overall. Conversely, Geraghty *et al,* (2016) suggest within their work that compassion should be considered a predisposition of human nature. These are just a couple of concepts discussed within this literature that relate to compassion being teachable or inherent within us. However, of huge importance and clearly evident throughout the majority of literature, is the disastrous care that exists when compassion is missing in both individuals, care systems and organisations. Therefore, ways in which this can be included in healthcare education in order to overcome compassion shortfalls in care, needs to be discussed. Geraghty *et al,* (2016) acknowledged this concept in their article and note that within Australia compassion is thought to be an inbuilt quality that students should already have. They also provide dialogue which represents the universities understanding of the importance of care and compassion in healthcare and how the ability to teach compassion or not is a very controversial one. So, whether believed to be an attribute intrinsic within our personalities or a theoretical topic or practical skill that is teachable, what is clear is that the message of compassion or at the very least an understanding of it should be integrated within healthcare education.

There is a wide breadth of literature which debates how compassionate care can be effectively taught within higher education and in particular within healthcare teaching and learning. Pearson (2018) suggest that the most efficient and valuable way that a topic such as compassion should be taught is through a combination of both theory and practical teaching. An example of this is the use of communication, they imply that the theory of effective communication can be taught within class however, students should be given an opportunity to put this into practice when they are interacting with those in their care. Pearson (2018) propose that this combination of theory and practice has the ability to prompt a positive change in behaviour in students. In agreement, Adamson and Dewar (2015) also suggest that nursing education should acknowledge both theoretical and practical elements of care particularly that which is compassionate and patient-centred. Additionally, they also acknowledge that this care and compassion should be extended beyond the patient out to colleagues as well as relatives and loved ones (Adamson and Dewar, 2015). However, the

teaching of compassion may be a challenge when governing bodies do not agree with its importance. According to Geraghty *et al,* (2016) the Australian Nursing and Midwifery Accreditation Council, who endorse the courses that lead to professional registration, do not see the teaching of compassion as a determinant of excellence in healthcare education. Alternatively, Australian Universities clearly recognise the link between compassionate care and positive patient experiences and suggest that Nursing and Midwifery Programmes should deliver teaching based on this. Waddington (2016) agree and also suggest that compassion should permeate throughout all academic practices alongside with other vital areas of education such as leadership and management skills. In the UK, more up to date standards produced by the Nursing and Midwifery Council (NMC) and General Medical Council (GMC) have now included compassion and person-centred care (Nursing and Midwifery Council, 2019; General Medical Council, 2019). The NMC (2021) Standards include reference to registered nurses and students providing care which is compassionate and patient-centred.

The literature demonstrates that there is disagreement between the belief that compassion is something that is a human trait instilled within us at an early stage or whether it is a skill that can be learnt by anyone given the correct learning and teaching. Nonetheless, what is apparent within the research and evidence seen to date is that it is a subject that needs to be acknowledged by higher education particularly when teaching within healthcare disciplines. The literature has become focused on the teaching of compassion as a static skill rather than sharing an understanding of what compassion is and what it looks like to provide care that is compassionate. There is also an evident lack of evidence base around the teaching of self-compassion which has been identified previously as an essential element in the definition of compassionate care. There is also a lack of literature which considers the understanding that self-compassion is also a possible innate quality within us as human beings. This presents a gap in the current literature which opens up opportunities for research to be undertaken which recognises the difference between teaching compassion and allowing people to understand compassion. This will aid in the overall healthcare endeavour to create and encourage a more compassionate workforce.

1.5.4   The Sharing of Stories as a tool in teaching compassion

Something that has become apparent to the researcher when undertaking this review and that is worth considering in more depth is the suggestion that the sharing of stories and discussions may be effective in the teaching and learning of compassion. Pearson (2018) even suggested within their critical reflection that those educating in compassion should be sharing their stories of when this has been positive. Adamson and Dewar's (2015) research involved an evaluation of a 3 year Leadership in Compassionate Care Programme (LCCP) (Edinburgh Napier University, 2012) which discussed the sharing of stories and reflection within online learning in an undergraduate nursing module and the effect this has on compassionate care. During the LCCP, a forum that obtained stories of care and emotions related to this was produced. It was these stories that were utilised within the nursing module to encourage student nurses to reflect (Adamson and Dewar, 2015). Adamson and Dewar (2015) believe that this chance to reflect on the care experiences of others is a valuable means to changing behaviours and in turn healthcare practices. Adamson and Dewar (2015) speak very passionately about the use of stories in education and how their use can provoke beneficial conversations and reflections. This sharing through stories can provide a knowledge and understanding of how other people have faced experiences. Additionally, Adamson and Dewar (2015) share the benefit of listening to others thoughts and feelings and how this can bring value to holistic, patient-centred care. Learning can come in all forms and from all people. The sharing of stories from patients, loved ones as well as mentors and colleagues can be an encouraging and motivational in the successful provision of compassionate care. Waddington (2016) concur with the notion that discussing and sharing stories is vital in the enhancement of compassion within healthcare. Within their discussion they aimed to demonstrate the positive impact that reflexive dialogue can have on compassionate practices.

On evaluating the grey literature what becomes evident when undertaking a review like this, the researcher identified a significant and informative piece of work. Smith and Willis (2018) wrote a book chapter regarding the use of stories in the education of compassionate care. This research was based on the content of one undergraduate nursing theory module which adopts the use of storytelling as a learning activity within it. Two of the learning outcomes from this module directly relate to compassion and self-compassion. The module employs stories from Compassionate Connections story world which is a collection of stories developed by NHS education Scotland, based on the real-life experiences of woman and maternity staff. This was a relatively small-scale study which without doubt adds some value

to the argument for the use of stories within compassion teaching. However, the sample sizes were relatively small (n=2 interview with students and n=5 lecturers) even for a qualitative study. There were additional data collected from an end of module evaluation which amounted to 350 students: nonetheless, the integrity within these answers could be questioned as often students asked to complete these types of evaluation at the end of a class do not spend a lot of time providing open and honest answers. The same consideration could be given to the data from students and lecturers who volunteered to participate in interviews and focus groups. These individuals formed part of this module and therefore, may provide more of a positive perspective rather than discussing that this style of learning didn't work for them. Another critique of this research is that the module was developed and integrated within the University, which was integral in the previously mentioned LCCP, Edinburgh Napier University (2012). Therefore, there was a vested interest in the success of this module and a relevance to the overall meaning of the project. Nevertheless, an important consideration is one of the key findings to come from this research, written about by Smith and Willis (2018).

It was evident that providing stories within learning journeys enables students to reason and reflect upon their own personal behaviours relating to compassion and how these link to their nursing practices.

Even though some evidence acknowledges the connection and importance of story sharing and discussion in the endeavour to enhance compassion within healthcare. There is a clear gap identified within the literature. There is little or no direct research that studies what impact these vital components of teaching and learning can have on healthcare workers understanding of compassion and how this may look to the care giver or the overall impact it may have on practice.

1.5.5 Teaching compassion and self-compassion linked to fatigue and burnout?

When examining literature based on compassionate care, much of the discussion acknowledges the link between compassion and healthcare professional's experiences of fatigue and burnout. Beaumont and Martin (2016) infer a link between self-compassion, compassion for others and compassion fatigue and burnout. They discuss this connection between increasing the resilience within student midwives and their ability to be more

compassionate and cope with stressful and emotionally distressing situations better. Within their discussion they suggest that an educational tool that increases student midwives self-compassion and decreases their self-criticism may protect them from suffering conditions such as compassion fatigue and burnout. Beaumont and Martin (2016) discussed a training programme instilled within a British midwifery programme called Compassionate Mind Training (CMT). The intervention suggested through CMT would allow for a growth in participants' compassion through a number of activities designed to improve emotional resilience. This is done through breathing, postural and imagery techniques. The overall aim was to help student midwives to cope with stressors through the nurturing of compassion. This training would also aid student midwives in their development of self-compassion and allows them to build on the skills and knowledge needed to cope with the stress and demands of academia, placement, and personal demands.

In agreement Gustin and Wagner (2012) also suggested within their research that the teaching of self-compassion is essential in the battle against conditions such as compassion fatigue. They describe this fatigue as being tired after contact with the suffering of others. Geraghty *et al,* (2016) also consider the link between nurses suffering compassion fatigue, their ability to cope with the stress of work and experiencing conditions such as stress, anxiety, and depression. Within their paper they noted that nursing and midwifery students often display signs of compassion fatigue after having to constantly provide care and empathy to their patients. They were also able to demonstrate that newly qualified nurses, in their first year of nursing unfortunately already display some level of compassion fatigue.

The current literature does recognise that there may be a direct link between the teaching and learning of compassion and the impact that this essential education has on the reduction of healthcare workers living with the feeling of compassion fatigue and burnout (Yarnell *et al*, 2015). However, there is research missing which evaluates teaching in this area and considers from a healthcare worker perception whether being able to understand compassion and self-compassion better can give them the tools and skills in order to combat stress, fatigue and burnout.

1.5.6 Conclusion

To draw overall conclusions from this literature review is challenging because the topic of compassion and in particular the teaching of it, is such a complex and controversial one. There must also be acknowledgement of the quality and nature of the literature that has been reviewed here. The researcher does address the composition of research versus non-research and accepts that some weakness exists within this review because the literature search generated a larger number of reflective, non-research pieces (5) with only three research studies being identified. Nonetheless, after critiquing the evidence, there was what the researcher considered to be a number of valuable, valid and relevant pieces of information and arguments contained within the non-research pieces. However, the researcher also acknowledges the obvious gap in the literature and the need for further research to be undertaken within this field of study.

There has been agreement amongst the literature about the importance of compassion and compassionate care and the link between this and positive patient experiences and outcomes (Hojat *et al,* 2001). However, the priority that this is given and the way in which this is integrated into healthcare education is heavily debated throughout the various texts. The evidence within this review, although all very varied in context and background, does provide some concurring key points which should be addressed. It is without doubt that compassion is an essential component of the healing and recovery process, and this care can be enhanced through the appropriate education and nurturing of healthcare professionals (Elsden 2016). Furthermore, in order to ensure that those on nursing and midwifery programmes are self-compassionate and compassionate then higher education must have at its core a compassionate structure and ethos (Edinburgh Napier University, 2012; Geraghty *et al, 2016*). The evidence points towards the development of a compassion related educational tool that will aid in the understanding of self-compassion and could in turn help in the battle against work-related fatigue and burnout. Much of the literature suggests that an understanding of compassion and its importance to ourselves, patients, loved ones and colleagues can be achieved through the sharing of stories and experiences (Edinburgh Napier, University, 2012; Adamson and Dewar, 2015).

The researcher also feels it pertinent to address the evident lack of compassion that occurs within healthcare that has been heavily documented (Francis, 2013; Harrison, 2013; Maclean, 2016; Kirkup, 2015). However, it is a challenge to be able to teach something as complex, individual, context specific and non-prescribed as compassion and it is equally hard to

demonstrate care that is compassionate to our students when it is something that is so subjective and open to interpretation with the modern day individualised care that we offer. What is abundantly evident is that there needs to be some recognition of compassion teaching provided in healthcare education and in particular programmes such as nursing and midwifery. The researcher recognises that teaching compassion may be challenging and that there is a lack of research which considers the education of compassion based around a basic understanding of the concept. This area of study would benefit from the consideration of successful ways in which a complex topic such as compassion can be integrated into healthcare education which deviates from the usual method of teaching. Rather than simply linking compassion as a general entity to all aspects of care and subtly incorporating it into the curriculum, perhaps it should be given acknowledgement as a topic in its own right. Rather than just emphasise compassion that has gone wrong such as the Morecombe Bay investigation and Francis Report (Kirkup, 2015; Francis, 2013) or sharing definitions and theories around compassion, teaching should facilitate learning where students can fully understand the meaning of compassion to themselves, to others and be taught how they put this into practice.

1.6   Massive Open Online Course (MOOC)

This section aims to review the literature on the topic of massive open online courses (MOOCs). This subject is being included within the literature review because the new educational intervention that is being evaluated is a MOOC, related to compassionate care. This review process involves the researcher undertaking a systematic search of the evidence available in this field and reviewing, comparing, and summarising the content.

The key words/terms identified for this search were:

Massive open online course or MOOC AND healthcare.

The initial search generated 62 titles, of this number 10 were not available and 23 were not relevant. This then left a total of 29 articles to be further examined.

Following this additional process the number of articles was decreased as follows: 29 articles examined, 19 excluded and 10 included. The main reasons for exclusion were the original limiters as well as any articles that were not directly related to the subject matter or that were

not available as full text. The criteria for inclusion were: articles that directly linked to the research within this study, articles that discussed massive open online courses in a healthcare context, articles that included research involving both patients and healthcare professionals and MOOC learners.

Figure 3: Literature Search Process – Massive Open Online Course

RECORDS IDENTIFIED THROUGH DATABASE (n=62) → RECORDS AFTER INITIAL REDUCTION (n=29) → RECORDS EXCLUDED (n=19) → RECORDS INCLUDED (n=10)

As part of this review, the researcher critically analysed all the included literature. This was supported by the use of the Critical Appraisal Skills Programme (CASP) (2020). The researcher utilised a combination of questions taken from the eight separate appraisal tools available from CASP. These questions include consideration of the following factors: acknowledgment of the research questions/aims, appropriateness of the methods, research design, data collection and analysis methods, value of the research, findings and results and implications of the study.

The results seen below demonstrate a combination of the results of the CASP questions with the originally identified method of scoping review. This provides a valuable outline of current literature with a level of critical consideration which serves to strengthen the findings and identify the main ideas relating to this research area.

Table 3: Appraisal of Evidence – Massive Open Online Course

Authors/Title	Type of Paper	Sample	Key Findings	Limitations
Liyanagunawardena, TR Aboshady, OA (2018) Massive open online courses: a resource for health education in developing countries	Commentary This discusses MOOCS and their potential to aid in the training of those working within the healthcare sector in developing countries. They compare its use with healthcare	n/a	MOOCs are a potential tool to offer tremendous opportunity to fulfil the unmet training needs of the health sector in developing countries in two complementary ways: as a resource for training healthcare professionals and as a source for the general public	• Based on developing countries and not transferable to other more affluent areas in the world • This is not a research paper but rather a discussion of the topic. It could be open to writer bias and subjectivity

	professionals and the general public		Potential barriers to accessing MOOCs and possible solutions are discussed	
Meinert, E Alturkistani, A Brindley, D Carter, A Wells, G Car, J (2018) Protocol for a mixed-methods evaluation of a massive open online course on real world evidence	Protocol for research Aimed at describing the design of a study which evaluated learners knowledge, skills, and attitudes in a MOOC for healthcare	All learners who participated in the MOOC for any length of time will be invited to participate The aim is to recruit 16 learners	n/a	• Course evaluation may be affected by external factors to the course that may be difficult to identify and possibly weaken the research • The evaluation of the course is dependent on participant recruitment being successful via the course
Meinert, E Alturkistani, A Car, J Carter, A Wells, G Brindley, D (2018) Real-world evidence for postgraduate students and professionals in healthcare: protocol for the design of a blended massive open online course	Research protocol Which described the design and development of a blended MOOC which integrated healthcare professionals with on campus students.	Current University level students and professionals in healthcare Exact number still be addressed	n/a	• Successful implementation of course will depend heavily on learner recruitment and retention however, MOOCs sometimes have challenges around rates of retention which could affect this
Milligan, C Littlejohn, A (2016) How health professionals regulate their learning in massive open online courses	Qualitative Research Which examined the self-regulation of studying within an online platform	22,000 registrants to the course (168 countries) 350 learners in study cohort 126 identified as health professionals who completed the survey and who were invited to take part in semi-structured interviews 35 Skype interviews undertaken	Goal Setting Most participants set themselves goals, but the goals were varied Self-Efficacy Most accounts reflected high levels of self-efficacy. Some participants were not as confident of their ability to succeed due to lack of prior experience of MOOCs Learning and Task Strategies Some participants were able to take control of their learning, actively modifying their approach and managing their time. Some participants lacked skills and motivation to monitor their effort or manage their time effectively Help Seeking Half interviewed used the discussion forum area and most had a positive experience. Learners saw the value of learning from peers as well as the	• Only one single MOOC was studied so the results may not be transferable when considering other topics and MOOCs • Recruitment only considered those active after some weeks following commencement of the course however, based on the flexibility of MOOCs and the adult learners involved then activity and participation can be varied and may not provide the optimum chance for recruitment • Does not consider the link between learning pattern, strategies, and academic success

			importance of passing on their own experience	
Pickering, J Swinnerton, B (2017) An Anatomy Massive Open Online Course as a Continuing Professional Development Tool for Healthcare Professionals	Research study An exploratory study aimed to assess the use of a MOOC with healthcare professionals	2711 learners 94 completed surveys 79 confirming they worked full or part-time as healthcare professionals	Across all healthcare professions the main motivation for enrolling was to learn new things in relation to clinical practice with a majority following the prescribed course pathway and utilising core and clinically relevant material	• Although there were a huge number of learners, the overall sample size was very small particularly when assessing the success of a MOOC. • Potential sampling bias – researcher was able to recruit volunteers directly through the MOOC which provided a self-selected sample
Power, A Coulson, K (2015) What are OERs and MOOCs and what have they got to do with prep?	Information article This describes open educational resources and massive open online courses and offer suggestions on how they can influence education.	n/a	Open educational resources and Massive Open Online Courses – are free and easily accessible	• Only one healthcare discipline was discussed and consideration of the breadth of areas within healthcare was not taken • This piece of literature was not research and was rather an informative discussion open to subjectivity and writer opinion.
Rocha-Pereira, N Lafferty, N Nathwani, D (2015) Educating healthcare professionals in antimicrobial stewardship: can online learning solutions help?	Information article Examining educational interventions to aid with antimicrobial stewardship, with particular consideration given to online learning	n/a	Education interventions improve antimicrobial prescribing, but traditional tools may be insufficient to deliver training to meet the complex demands of global healthcare professionals working across a diverse range of healthcare settings	• This article discussed one very specialist subject within healthcare which makes the information challenging to transfer out to other areas of healthcare/
Sneddon, J Barlow, G Bradley, S Brink, A Chandy, S Nathwani, D (2018) Development and impact of a massive open online course (MOOC) for antimicrobial stewardship	Evaluation paper This evaluation looked into the development and impact of a MOOC and how this could be effective globally particularly within low and middle income countries	32944 people undertook the course 219 participated in the follow-up survey (6 months after completion)	Course rated good or excellent by 208 (95%) of participants 83 (38%) intended on implementing what they had learnt into their clinical practice	• Considering the large number of people who signed up for the course there was a notably low response rate which could affect rigour • Evaluation constrained by the feedback process found within FutureLearn • Only available in English – given that this aimed to measure the effect globally then it perhaps deterred people who didn't speak English or it is not their first language • Low uptake of certificate of completion and statement of participation which challenges consideration of retention/attrition rates
Stathakarou, N Zary, N Kononowicz, A (2014) Beyond xMOOCs in healthcare education: study of the feasibility in integrating virtual patient systems and MOOC platforms	Research study This study aimed to investigate how to technically integrate virtual patient systems within a MOOC platform in order to inform future education.	Two actual systems: the OpenEdx MOOC platform and Open Labyrinth virtual patient system	A single sign-on mechanism connecting Open Labyrinth with OpenEdx and based on the IMS LTI standard was successfully implemented and verified	• This research did not have the ability to evaluate the user experience which would strengthen this research
Stokes, CW Towers, AC Jinks, PV	Quantitative research	1961 learners joined 1638	Recruited a substantially younger cohort of students then average MOOC	• Only quantitative information drawn from FutureLearn

| Symington, A (2015)

Discover Dentistry: Encouraging wider participation in dentistry using a massive open online course (MOOC) | Aimed at evaluating whether a new method of learning can encourage participation in dentistry education and this career overall | actively participated

496 completed course | 10% of the 839 UCAS applications stated the MOOC as evidence

Completion rate was high

Recruitment process worked to support project aims

Students were able to learn from dental professionals who enriched learning materials with own experiences

Utilise the dental experiences of the engaged public

Extremely rich learning experience for a student wishing to explore dentistry as a career | • Learner perspective of course impact was gained from UCAS applications
• 1961 joined, 1638 actively participated, only 496 (25.3%) completed
• Definition of completion varies throughout MOOCs so figures are only broadly comparable
• Due to the open and free nature with no credit for completion, statistics cannot be a sole indicator for the successfulness of the course |
|---|---|---|---|---|

Massive Open Online Courses are a relatively new phenomenon discussed within the literature and in particular a rather novel form of education within healthcare. Nevertheless, some debate and discussion regarding the use of MOOCs within various healthcare environments can be found. The literature below provides examples of research and discussion based on this modern form of online learning.

1.6.1 MOOCs in healthcare education

In their study Stokes *et al,* (2015) detail a MOOC focused on Dentistry, designed to improve the awareness of and motivation to uptake a profession in the dental industry. This MOOC aimed to achieve this through educating learners on general and basic aspects of dentistry as well as more specific information for those who wished to pursue a degree in dentistry. The "Discover Dentistry" MOOC was designed to run for six weeks with an approximate interaction time of two to three hours per week. The MOOC attracted over 4200 learners at the point of registration however, their statistics showed that only 420 of these learners actually fully completed the course. However, they do not explicitly offer their definition of completion nor explain how learners qualified as completers. We know from previous discussion around completion/retention etc. that this is challenging to define and varies from one learning platform to the next. Due to the open nature of MOOCs in general, and more specifically this dentistry MOOC, there were a variety of learners involved including

undergraduates preparing to undertake a degree in dentistry as well as members of the public who had a personal interest in the subject matter. This provided a true strength to this study as it considered a wider range of subjects rather than concentrating only on those directly linked to dentistry, providing a rich depth of data with the inclusion of lay people. However, this research also has its limitations. All data were collected via a standardised platform which did not allow for measurement to be tailored to this research specifically. There was also a chance for self-selection participant bias to occur, because all students volunteered themselves for the research. This may have provoked self-motivation to answer more positively than if they had been selected randomly. As a result, it is difficult to generalise these findings beyond this group. Thoughts are not given to groups who are required to undertake this form of learning and who may not have the same level of motivation to participate. Looking at the findings from this research, what can be seen is a very straightforward analysis which provides no additional testing to further strengthen the findings. This throws caution to the reader's belief in the robustness and credibility of this research overall.

Alternatively, a study undertaken by Sneddon *et al,* (2018) focused on a healthcare related MOOC developed by the University of Dundee. The MOOC entitled "Antimicrobial Stewardship: Managing Antibiotic Resistance" was delivered using FutureLearn and ran over a six week period (with a suggested 3 hour a week commitment) in 2015 and 2016. This study by Sneddon *et al,* (2018) included a sample covering 163 countries worldwide which provided strength and transferability with its diverse coverage of participants. The learners not only came from a huge variety of backgrounds but there was also a diversity with the learners themselves. Although this was a healthcare related MOOC, it was not solely healthcare professionals who undertook it. Instead, there was additional richness added to the data through the inclusion of anyone who wanted to learn including lay people. Sneddon *et al,* (2018) undertook a mixed method study which evaluated the impact of an antimicrobial stewardship MOOC. This combination of qualitative and quantitative data provides strength to research as together they are able to provide a supportive structure, thus in turn providing additional validity and credibility. Their preliminary results, both quantitative and qualitative, suggest that the MOOC had the ability to engage learners in the content at the same time having the ability to supplement traditional methods of teaching. However, as with much healthcare education the ability to measure the impact this learning may or may not have in healthcare practice can prove to be problematic. Sneddon *et al,* (2018) did

evaluate the impact on practice through the use of an implementation survey, completed 6 months after completion of the course. However, this was self-reported by participants and not necessarily evidenced by action i.e., there was no direct observation of practice. The study by Sneddon *et al,* (2018) is further limited in the small overall number of participants sampled within both the quantitative and qualitative element of the research. Additionally, there were no illustrative quotes or examples recorded within the paper which could substantiate and evidence the qualitative results and therefore, unable to disprove researcher interpretation bias.

Meinert *et al,* (2018a, b) produced two papers that were concerned with a Real World Evidence MOOC. The first paper, Meinert *et al*, (2018a) provided the protocol for the MOOC that was being proposed. Within this protocol they detail the use of mixed-method analysis to be undertaken on both a pre and post course survey for outcome measurement. Meinert *et al's* (2018) (a) main focus of evaluation was learners' (on the MOOC) delivery of skills that they have gained through the MOOC, within their practices as healthcare professionals. However, just as was addressed with the research by Sneddon *et al,* (2018), it is very challenging to measure the impact of learning on healthcare practice. This evaluation was undertaken on selected learners and the timeframe for this was 1 year after the implementation of the MOOC. Although this research has not been undertaken as yet, what should be considered at this point in terms of limitations is the use of "selected" participants. This runs into thoughts of how selection will take place, what the inclusion and exclusion criteria will be and how this will affect the results. A further complication may be that the collection of data is to be 1 year post intervention which puts into question the value of what participants may have retained in terms of learning and related outcome. 12 months is a long time to expect learners to retain detailed information about their learning therefore, this might not generate the most accurate responses and instead encourage participants to guess the answers. In their second paper, Meinert *et al*, (2018b) also consider teaching in the form of a MOOC when attempting to educate healthcare professionals. They discuss in this paper the protocol related to a blended form of learning that integrates online MOOC based education with more traditional face to face university learning aimed at both healthcare professionals and postgraduate students. The learning disseminated through the MOOC over a five week period aims to impact on the learner's knowledge, skills, and attitudes. This protocol suggested that participants would be recruited during the registration process at the start of the MOOC, at which point they would be given the opportunity to choose to participate or

not. If learners agree to participate, then they will be invited to take part in a semi-structured interview. Meniert *et al*, (2018b) propose that data from interviews will be transcribed and then qualitatively analysed utilising a method of thematic analysis. As with the first paper this research has not yet been conducted however, when considering its strength and limitations at this point one must think about the possible sample size that may be obtained and the integrity of the data to be collected post MOOC.

Another article based on the provision of information is that written by Power and Coulson (2015) they discuss two forms of education that are available and effective with healthcare professionals and in particular midwives. They mention both Open Education Resources (OER's) and MOOCs and consider the effectiveness these may have when midwives are looking to complete learning for their continued professional development (CPD). All registered nurses and midwives must undertake some form of CPD in order to revalidate their registration with the NMC every three years. Although the "how and what" is not prescribed by the Nursing and Midwifery Council (NMC). In order to revalidate registered midwives and nurses must provide details and proof of 40 hours of CPD activities which can often prove to be a challenging task for healthcare professionals who are time limited with the effects of work-life balance. However, what Power and Coulson (2015) are suggesting is that the flexible and free features of online learning and in particular MOOCS make this form of education very attractive for CPD purposes.

In agreement with this, Pickering and Swinnerton (2017) further go on to suggest that MOOCS have the ability and effectiveness to create CPD opportunities for healthcare professionals. Pickering and Swinnerton (2017) discuss this within their study which aimed to investigate demographic profile, patterns of engagement and self-perceived benefits of healthcare professionals taking part in an Anatomy MOOC. This study collected data from within their MOOC entitled "Exploring Anatomy: The Human Abdomen" using a 21 item survey. Of the 2711 learners who were registered on the course, 94 completed the survey. This is a relatively small sample size in terms of drawing credible and weighted statistical conclusion particularly when the number of possible participants was over 2000. Perhaps this is a factor that needs to be addressed in terms of recruitment methods and timing of data collection. Pickering and Swinnerton (2017) utilised both a Fisher's Exact Test (to test significance across demographic, motivation and engagement) and ANOVA (to compare self-perceived benefits). The results of their statistical testing demonstrated that the main

motivation for learners to undertake and complete the anatomy MOOC was to gain new knowledge in direct relation to their practice and as a secondary result this also had a positive influence on patient support provided. When considering the results of this research by Pickering and Swinnerton (2017) a consideration in terms of limitations is the possibility of sampling bias to occur. Although the recruitment process was convenient for the researcher, they were able to recruit volunteers directly through the MOOC, which provided a sample of participants who self-selected to take part. This means that they may perhaps answer questions or react in a different way to an individual who had been randomly selected (more willing to answer positively and be helpful).

In terms of healthcare education, Stathakarou *et al,* (2014) advocate the use of MOOCs in this field. They describe the usefulness of this form of learning throughout healthcare and make reference to the belief that there is potential for these to be a familiar form of healthcare education within the next few years. This literature written by Stathakarou *et al,* (2014) is a study that aimed to investigate the technical feasibility of integrating MOOCs with virtual patients into healthcare education. The research was undertaken in order to inform future research and evaluation relating to this method of education and the possible benefits that may come with it. Stathakarou *et al,* (2014) tested this feasibility through the use of two selected systems one MOOC platform (OpenEdx) and one Virtual Patient System (Open Labyrinth) which already existed. Within their results they were able to successfully implement, link and verify both systems. They concluded that this successful collaboration of systems will allow for future research to consider this method of education within healthcare particularly when studying education at scale. However, like all research projects this is not without its limitations and one that is hugely evident when reading Stathakarou *et al*, (2014) research is the fact that they have selected, used, and drawn results from only two systems in combination. They have not offered a comparative or alternative in order to substantiate or disprove their findings. Another factor that creates a limitation in results is that at no point during the study have they gained the user perspective. The results are based only from a development and programmer point of view and so there is no testing done that relates to user friendliness, successful implementation from a user point of view or even just the thoughts and feelings on using the system from a learner point of view.

What is clear amongst this evidence is that MOOCs have been used previously and successfully within healthcare education. However, this teaching has considered very

specialised and well-defined subjects such as Dentistry, Antimicrobial Stewardship and Anatomy and the researcher in this study needs to keep this in mind. The subject of compassion is far more complex, open to interpretation and often personal to the learner. A notable challenge with the measurement of the impact of MOOC learning in practice has been addressed here and this may also be influential for the researcher moving forward as one of the vital components of this study is the ability to change healthcare practices relating to compassion.

1.6.2   MOOC Access

The dentistry MOOC described by Stokes *et al,* (2015) was able to provide an opportunity for people from all circumstances and socio-economic backgrounds to participate in higher education level learning due to its flexible, free online access. Unlike historically, where access to the internet and something as simple as a computer made online learning a challenge to those in deprived areas, access to the World Wide Web is on the rise. The antimicrobial stewardship MOOC developed by University of Dundee was aimed at providing higher education in this subject to low and middle class income countries (Sneddon *et al*, 2018). Rocha-Pereira *et al,* (2015) delve deeper into access to MOOCs and actually consider this to be a challenge and hindrance to successful online learning and they emphasis this in areas of socio-economic decline as well as remote areas of the country in which internet access is much harder to achieve. Liyanagunawardena and Aboshady (2017) talk about the access to e-learning in developing countries as a positive step towards inclusion of this usually hard to access area. They suggest that a MOOC focused on health education could be useful to not only healthcare professionals but also the general public that are currently situated within developing countries. This piece of literature written by Liyanagunawardena and Aboshady (2017) was a commentary piece that examined MOOCs and their ability to provide healthcare education within developing countries. Within their writing Liyanagunawardena and Aboshady (2017) successfully argue that MOOCs provide a great opportunity for healthcare education to exist in developing countries both for healthcare professionals and also for lay people. However, they also consider the barriers that may be faced in implementing and managing this but also offer answers to these queries. Stokes *et al*, (2015) describe an attractive feature of their studied MOOC as being free to undertake however, like many other MOOCS there may be a request to make payment in order to receive a certificate of completion. The antimicrobial stewardship MOOC studied by

Sneddon *et al,* (2018), although free to participate in, came with a price tag if learners wished to purchase the completion certificate that provided proof of their participation in the learning.

This literature considers the nature of MOOCs and how this can impact on access. MOOCs are known to be massive and open, providing an opportunity for a large group of learners to come together throughout the whole world. They also do not focus on one learner type and often amalgamate a variety of participants which is significant in MOOCs relating to healthcare as they often include professionals and lay people. This can generate a richness and depth of experience sharing amongst leaners. The researcher felt this was pertinent for the study moving forward as the evaluation was to consider healthcare practice overall so thought and attention needed to be paid to the value of contributions from the general public.

1.6.3   MOOC Learning Activities

Within the dentistry MOOC by Stokes *et al,* (2018), a variety of learning activities and materials were offered, which is another benefit of this form of online learning. Learning can take a variety of formats including peer discussions, assessment and video clips and can be very much dictated by the context and proposed outcome for learning. Sneddon *et al*, (2018) also described the flexibility with online learning in comparison to traditional methods of teaching as being hugely beneficial to learners such as healthcare professionals who can often come from a wide variety of healthcare backgrounds and environments. Sneddon *et al,* (2018) detailed learning activities within their research of the antimicrobial stewardship MOOC which included opportunities for practice reflection and online discussions. However, the content was amended slightly after the first run of the MOOC as valuable feedback from educators and learners was used to make improvements to the learning experience. Rocha-Pereira *et al,* (2015) further support the success of interaction within MOOCs and discuss the benefits both educationally and personally in the engagement and communication with other learners. Also, in agreement with the opportunity to communicate that MOOCs bring are Pickering and Swinnerton (2017). They discuss in their literature the potential for a heterogeneous group of learners sharing knowledge, skills and understanding. They direct this to utility within healthcare education and their ability to form part of a blended learning activity in connection with University based education. However, on the other hand, they also note that the open feature of the MOOC and the ability to interact with

others was not a popular element of the learning for the healthcare professionals involved and in actual fact they did not show high levels of engagement with other learners throughout the MOOC.

The MOOC to be involved in this research is to be developed to educate healthcare professionals as well as the general public about compassion and compassionate care. This study aims to evaluate the impact this may have on healthcare practices; therefore, it will be of benefit to understand the link between the learning activities undertaken and who and what can change as a result of these. Learning activities can vary greatly within the flexibility of a MOOC and different methods of teaching can prompt different reactions from different people.

1.6.4   Motivation to Learn

Motivation to learn is something that is heavily discussed within MOOC literature. In order to voluntarily sign up for this form of online learning, one must at least have some form of motivation or drive to want to take educational value from the topic. Stokes *et al*, (2015) suggest that their studied MOOC would be attractive to anyone with an incentive or enthusiasm to want to learn more about the world of dentistry. As well as motivation to learn and willingness to want to take part in a MOOC another consideration in terms of MOOC style learning was proposed by Milligan and Littlejohn (2016). In their study they evaluated the self-regulation of healthcare professionals learning within a MOOC, taking into consideration ability and motivation to learn. What they suggest is that with the hugely diverse international group that have access to learning via MOOCS comes a similarly diverse background of learners, all with different reasons to learn and levels of education. These variances in ability and motivation in turn affect the level of engagement with the learning. This is particularly poignant when there is little or no recognition given for completion of a MOOC and therefore, motivation to register and then complete generally comes from within.

Milligan and Littlejohn (2016) undertook interviews with 35 participants based in the United States of America. As a result, they identified two variances of learner: 1. efficient self-regulators who fully understand what they are learning and why they are learning it, have clear goals and know exactly how the learning will impact on their future. These types of

learners will often seek out additional learning and tasks in order to substantiate what they are learning. 2. Conversely there are the opposite type of learners who are not good at self-regulation. Their main focus is generally to get the course done and seek confirmation of this through a certificate of completion to ensure they feel satisfied. They do not have a focused motivation for undertaking the learning, and they often stick strictly to the prescribed format and suggested learning. They may also fail to see how this MOOC and its learning could be a long term benefit to them. As a result of identifying these non-self-regulating individuals, Milligan and Littlejohn (2016) suggest that perhaps as part of the MOOC structure, a system of support is put in place to assist those who are less confident to learn effectively including advice on time management, goal setting and reflection. In terms of weakness within this study, thought must be given to the obvious, that of the findings being drawn from only one particular MOOC. This evaluated one MOOC, in one context, on one subject with one single group of learners and so no comparative can be made. This research would benefit in terms of strength if additional MOOCs were used in repeat studies. Another complication that comes with MOOCs and one that must be rationalised is the fact that study participants were made up of those "active" within the MOOC learning. MOOCs often suffer from poor retention rates and this factor needs to be written into future studies. A way of strengthening future versions of this research, and one that was demonstrated by Milligan and Littlejohn (2016) themselves is collecting and linking quantitative data with qualitative data. This would provide an opportunity to support and build a robust set of findings.

Pickering and Swinnerton (2017) also considered motivation to learn and related this back to the results of their study. They considered that when evaluating results and effectiveness of a MOOC, with the use of a cohort of learners who have voluntarily participated in the learning and the research, their personal bias must also be considered. When participants self-select to participate this opens the research up to a form of sample bias in which learners have overall control of whether to be part of it or not. This then causes limitation with research quality and the generalisability of findings.

In linking this to the study to be undertaken by the researcher, it is important to consider learners motivation to be part of the MOOC. The study will specifically evaluate the impact of the MOOC on healthcare practices and therefore, it is vital that an understanding of why learners chose to sign up to the MOOC and what were the motivating factors, not only to begin the course, but also that kept them engaged throughout.

1.6.5   MOOC Measurement

In order to measure the success of the MOOC Stokes *et al,* (2015) utilised the online educational platform that hosted their MOOC, FutureLearn. Within the FutureLearn programme an availability for a pre and post MOOC survey was established which allowed for demographic information and learning analytics to be collected. From this data Stokes *et al,* (2015) were able to ascertain that they achieved a 25.3% completion rate. They discuss this in terms of being high in comparison to other MOOCs which tend to only achieve completion rates of approximately 13%. However, they also consider that the definition of completion can be a challenge to demonstrate and is very much subjective in terms of the individual MOOC subject. Difficulties with the measurement of completion can also be challenging to ascertain as more often than not MOOCs do not have formal qualification or recognition at completion. It is for these reasons that the completion rate for MOOCs should not be what determines if the course has been successful or not. Sneddon *et al,* (2018) also undertook some evaluation of their MOOC through the use of an online post-course survey and again, the initial measurement was taken at the end of the MOOC and like the MOOC studies by Stokes *et al,* (2015) was made accessible through the programme host FutureLearn. However, they also measured the impact of learning on learners practice after a 6 month period. This was done through the use of a follow-up survey. The overall aim of this study was to measure whether the MOOC was able to develop the skills and knowledge of learners in terms of antimicrobial stewardship and to facilitate a sharing of this learning with colleagues going back out into practice. However, like many aspects with the measurement of MOOC success, it is a challenge to be able to gauge the effect learning from a MOOC has had on healthcare practice. Meinert *et al,* (2018a) saw the value in evaluating the success of a MOOC by collecting data relating to impact on work environment and practice. However, they also discuss in their paper the high dropout rates associated with MOOCs, often as much as 90%, and consider that this may be down to the often minimal interaction and engagement experienced between learners and educators. Like Meinert *et al,* (2018a) Sneddon *et al,* (2018) also consider the negative aspects of MOOCs as a form of learning and in particular discuss the lack of interaction that often exists between learners and educators, thus causing feelings of remoteness and seclusion. This feeling of learning loneliness can often push learners to stop or withdraw from the course and therefore, affect rates of completion. Meinert *et al,* (2018b) also discuss the importance of course evaluation and the relation this has to understanding the success and worth of the MOOC learning. They

suggested the collection of both demographic and learning analytics as well as pre and post MOOC survey data in order to achieve an effective measurement of success. However, Rocha-Pereira *et al,* (2015) suggest that in order to pin down MOOC effectiveness and outcome related success then further research needs to be undertaken for the purpose of evaluation. Pickering and Swinnerton (2017) also discuss the measurement of MOOCs impact and agree that this can be a challenging task. Poignantly they consider completion rates as not a simple reflection of success or failure of a MOOC but instead ponder the fact that completion must be individually interpreted to each learner taking into consideration their motivations to learn. Like other similar literature they suggest that the personal aims and goals of learners will have an impact on the completion, interaction, and dropout rates which if understood effectively can then influence the understanding of the effectiveness of the particular MOOC learning.

For the purpose of this study, moving forward, the researcher felt it pertinent to consider MOOC retention/completion/attrition in more depth. It has been made clear from the evidence that this particular measurement can cause some complexity within research and the variability and open nature of MOOCs can mean that these statements are open to interpretation and fluctuating definition. Therefore, in the best interest for this research, the following operational definitions will be applied:

Retention – *the number of enrolled students who are involved in an online learning course*

Attrition – *the decline in the number of enrolled students from enrolment to end*

Active Learners – *learners who have actively participated in the learning to some degree throughout the course*

The inclusion of the word "completion" was not considered nor defined as this is a very complex element to measure in an educational intervention such as MOOC. Stokes *et al,*

(2015) suggest themselves that not only is completion a challenge to define within MOOCs but also gaining an accurate measurement of this can prove to be difficult. This research wants to consider the overall link of MOOC learning with its impact on practice and part of this is about looking beyond if it merely succeeded or failed (learners completed or didn't) and more in depth thinking about what learners took from the course that made a difference.

1.6.6   Conclusion

In conclusion, what can be observed from the literature is that MOOCs are already recognised and used in healthcare education (Stokes *et al*, 2015; Sneddon *et al, 2018*). Although they are relatively new there is still much ongoing research regarding the optimum ways in which to develop, disseminate and support these. Much current research weighs heavily on the quantitative, statistical data available that can be measured within the MOOC, such as retention and attrition rates. Some other studies delve deeper into the qualitative perspectives of learners. However, there is little actual research that has displayed a combination of these methods in order to support both sides, although some consideration of this (for future research) has been given within the literature. It is evident within the literature that MOOCs have the ability to change healthcare education for the better. However, there is a gap in this relating to the successful combination of mixed-method research which will allow for an evaluation of the success of a MOOC from a statistical learner impact as well as a self-reported outcome measurement on healthcare practice. Nor is there any evidence that evaluates a MOOC learning platform in relation to the currently widely discussed subject of compassionate care.

1.7   Adult Learning Theory

This section aims to review the literature on the topic of adult learning theory. This subject is being included within the literature review because the MOOC involves the education of adults, so it is beneficial to understand the theory behind learning in this area. This review process involves the researcher undertaking a systematic search of the evidence available in this field and reviewing, comparing, and summarising the content.

The key words/terms identified for this search were:

Adult learning theory AND healthcare.

The initial search generated 95 titles, of this number 28 were not available and 26 were not relevant. This then left a total of 41 articles to be further examined.

Following the same pattern as previously, the next stage served to further eliminate necessary articles. This additional process meant that the number of articles was decreased as follows: 41 articles examined, 32 excluded and 9 included.

Figure 4: Literature Search Process – Adult Learning Theory

| RECORDS IDENTIFIED THROUGH DATABASE (n=95) | → | RECORDS AFTER INITIAL REDUCTION (n=41) | → | RECORDS EXCLUDED (n=32) | → | RECORDS INCLUDED (n=9) |

As part of this review, the researcher critically analysed all the included literature. This was supported by the use of the Critical Appraisal Skills Programme (CASP) (2020). The researcher utilised a combination of questions taken from the eight separate appraisal tools available from CASP. These questions include consideration of the following factors: acknowledgment of the research questions/aims, appropriateness of the methods, research design, data collection and analysis methods, value of the research, findings and results and implications of the study.

The results seen below demonstrate a combination of the results of the CASP questions with the originally identified method of scoping review. This provides a valuable outline of current literature with a level of critical consideration which serves to strengthen the findings and identify the main ideas relating to this research area.

Table 4: Appraisal of Evidence – Adult learning theory

Authors/Title	Type of Paper	Sample	Key Findings	Limitations
Das, K Malick, S Khan, KS (2008) Tips for teaching evidence-based medicine in a clinical setting: lessons from adult	Commentary This article discusses evidence-based medicine and aims to dismiss the idea that this is no longer being used in practice.	n/a	Evidenced based medicine is an important tool in clinical practice It is possible to teach evidence based medicine successfully through the use of adult learning theory	• Considers evidence based medicine and does not include discussion directly linked to compassion • This is not a piece of research, instead it is an academic commentary however, it may be open to writer bias and subjectivity

learning theory. Part one				
Elliot, RW (2014) Educating Older Adults with Chronic Kidney Disease	Systematic Review This is an exploration relating to the older population and links to adult learning theory principles and strategies in order to support self-management education.	CINAHL PubMEd MEDLINE ProQuest 1998-2014 Key Words: Chronic kidney disease, older adult, elderly, self-management, health literacy, andragogy, gerogogy and adult learning principles	Currently no programmes in place that assist with health literacy More research is needed in this area so that changes can be made in practice	• This review considers the teaching of patients and does not include healthcare professionals • It is very specific to patients who have chronic kidney disease, which is a very niche area of healthcare and proves challenging when trying to generalise beyond this specialist group of patients.
Dubouloz, CJ King, J Ashe, B Paterson, B Chevrier, J Moldoveanu, M (2010) The Process of Transformation in Rehabilitation: what does it look like?	Commentary Within this there is discussion about adult learning theory and transformation. They link this to healthcare professional's consideration of this in rehabilitation.	n/a	The process of transformation provides insight regarding the complexity of patient experiences in learning to live with chronic health conditions	• This considers the teaching of patients and is not transferable to the teaching of healthcare professionals • Looks at patients who have chronic healthcare issues and the learning differences between those with long term conditions and perhaps those in other areas such as acute care may differ greatly • This was an academic commentary and not a piece of research which opens up the discussion to writer bias and subjective opinion
Jones, LC (2010) You Learn it in Your Heart: Transformative Learning Theory and Clinical Pastoral Education	Commentary This piece of work discusses transformative learning from adult learning theory and links this to Clinical Pastoral Education	n/a	Transformative learning considers the emotional side and is more than just a change in your thoughts	• This learning only looks at clinical pastoral education which is a very specialist area. It does not discuss from a patient or healthcare professional viewpoint • This is not research but rather a commentary piece which is vulnerable to being led subjectively by the writer
Knier, S Stichler, JF Ferber, L Catterall, K (2015) Patients' Perceptions of the Quality of Discharge Teaching and Readiness for Discharge	Research This study aimed to evaluate the effectiveness of a discharge planning/teaching process through a quantitative survey.	Convenience sample 36 patients pre change and 31 patients post change	The interprofessional discharge planning/teaching process significantly improved patient satisfaction levels from pre to post implementation	• Small convenience sample – hard to generalise beyond this • Selection of measurement tools – the tools selected provide one set of results – there is no evidence that perhaps different measurement tools could provide different results • Only undertaken in one area of healthcare which makes the results difficult to generalise further.
Malick, S Das, K Khan, KS (2008) Tips for teaching evidence-based medicine in a clinical setting: lessons from adult learning theory. Part two	Commentary This work considers evidence-based medicine and offers out advice for educators to successfully teach this	n/a	Evidence based medicine can be successfully taught This can be done even if time is limited due to workload	• This is a discussion on evidence based medicine which is a structured learning topic rather than something slightly more ambiguous like compassion • This is not a piece of research and therefore, not supported by any study in this area.
Moon, PJ (2008)	Commentary	n/a	Conversations between doctors and their patients concerning terminal	• Based on transformative learning and does not consider other varieties of adult

Death-Talks: Transformative Learning for Physicians	Discussing the conversations held between terminally ill patients and their physicians. This work considers the use of transformative learning in encouraging these to be more meaningful interactions		conditions are undoubtedly difficult Such encounters are made up of complex grief dynamics as well as opportunities of reflection	learning or the diversity that adult learners bring with them • Involves learning around caring for those at the end of life and their loved one, this is a very specialist area of healthcare and therefore, results may not be generaliseable to other areas of healthcare education • This is a commentary piece that may be written subjectively by the author
Rutherford-Hemming, T (2012) Simulation Methodology in Nursing Education and Adult Learning Theory	Commentary This discussion links adult learning theory with the use of simulation and considers it within healthcare and adult education.	n/a	The use of simulation has been used in healthcare education for a long time Within nursing education, simulation is being used more and more	• This learning relates only to clinical simulation and does not consider other methods education in healthcare • This is not a research study, and the discussion may be led by the subjectivity of the author
Zigmount, JJ Kappus, LJ Sudikoff, SN (2011) Theoretical Foundations of Learning through Simulation	Review Article Examining healthcare simulation and its effectiveness in adult education. It goes onto provide a framework for developing and facilitating simulation courses.	n/a	Healthcare simulation is a powerful tool to help facilitate learning for clinicians and improve patient outcomes and safety. Education needs to be delivered across a continuum from simulation to the bedside Simulations should provide an opportunity for experience, reflection, and refinement	• Not research and open to writer bias • Considers experiential learning only through the utilisation of simulation and does not consider other adult learning theories or additional methods of healthcare education

There was very little literature and in particular research studies, found that included discussion on adult learning theory in a healthcare context. The researcher was only able to identify nine articles for the purpose of this review. Nonetheless, the researcher deemed this information as valuable for the overall discussion.

Of the 9 articles that were read, only 1 was a research study (quantitative) all other pieces of literature were articles that presented information or knowledge relating to adult learning theories within healthcare. In terms of the actual discussion relating to adult learning theory, 2 articles talked about adult learning in a general manner, 2 articles discussed Knowles (1989) theory of andragogy, 1 article mentioned cognitive, social and constructivist theories and 3 articles referred very specifically to the transformative theory of adult learning

1.7.1 Adult learning theory in patient teaching

Knier *et al,* (2014) conducted a quantitative research study that evaluated the effectiveness of a change in the interprofessional discharge planning/teaching process. Within this study they utilized Knowles (1989) theory of andragogy and considered that all adult learners are autonomous who are often self-directed and will often learn more efficiently if they can visualise the benefit of their learning and refer it to their own personal situation. As a result, Knier *et al*, (2014) were able to show that taking into account the differing needs of adult learners and applying an appropriate theory to education actually enhanced the patient/carer engagement in the discharge planning/teaching process. Knier *et al*, (2014) utilised a method of survey in order to measure the effectiveness of interprofessional discharge planning and teaching process to improve patient and provider outcomes. The scales they used were the Quality of Discharge Teaching (Knier *et al*, 2015) and Readiness for Hospital Discharge Scale (Mabire *et al*, 2015) in order to gain the patient perspectives of their readiness for discharge and their satisfaction scores were recorded pre and post intervention. The findings from this research demonstrated that patient satisfaction was greatly improved after implementation of an interprofessional approach to discharge teaching. However, these findings may be difficult to generalise beyond this sample as it was a very small convenience sample that was selected, all of whom were taken from the same hospital site. The measurement tools selected may also provide weakness in this research as they offer only one set of results with no evidence to demonstrate that if different measurement tools were used, then a different set of results may be provided. This research could be further strengthened if it was repeated in other areas so that a comparison could be made.

Also interested in educating patients effectively was Elliot (2014) who discussed in their exploration paper the use of adult learning theory in educating patients rather than healthcare professionals. In terms of the longevity of older people currently within the healthcare system and the fact that they now live longer with more experience of long term chronic illness, Elliot (2014) considered that this ageing group of patients would increasingly require appropriate education on their newly diagnosed conditions. Within this article reference to andragogy is made and consideration of the following for adult learners:

- They are autonomous
- They are goal and relevancy orientated
- They are practical learners
- They are highly motivated, experienced, and engaged

Elliot (2014) wrote about teaching the older generation of learners, as this is the age group of patients who will be needing to be educated on chronic long term illness. They discuss the alternative theory of learning called gerogogy which entails teaching "older" adults which must take into account the differing and often changing elements of learning associated with this group i.e., cognitive, physical and psychological factors.

Further to this, Dubouloz *et al,* (2010) present in their paper the use of another alternative adult learning theory, transformative learning, during patient rehabilitation. When they discuss the use of transformative learning, they talk about the ability to change learners' values and beliefs on the back of new learning. A prime example of this is when a patient is diagnosed with a new chronic illness or disability. They discuss their understanding of the key concepts of transformative learning as:

- Meaning schemes – specific beliefs, judgements and feelings which act as a frame of reference
- Meaning perspectives – the structure of assumptions that exist within learners
- Distortions – meaning perspectives that are no longer relevant to a learner's reality
- Critical reflection – trying to make sense of a change event using their usual "habitual" ways, realizing they are no longer appropriate and then thinking in a new way to counteract this

Jones' (2010) commentary paper was on transformative learning within clinical pastoral education which is one theory linked to adult learning. Transformative learning in this article is described as "learning in your heart". They discuss transformative learning as the way in which people learn based on their experiences and the lives that they live. They connect the learning experiences of adults with the beliefs and values that they have come to hold in life and the environment and culture that they exist within. However, they also discuss the occurrence of the unexpected and how this might affect adult learning. This is when the learning journey changes or becomes challenging because of a change in beliefs, values, and experience. When this happens Jones (2010) argues that adult learners are faced with two options; 1. Continue to believe in their beliefs and therefore, enter into a denial of the unexpected; 2. Embrace the new expectations and use this as an opportunity to critically reflect upon this new situation. This is where transformative learning comes in and where it is used in order for adult learners to make changes to their thoughts and beliefs after

occurrences of new learning. This adult learning theory is essentially about the transformation of a learner's perspective, experience, or beliefs after gaining new knowledge through the use of critical thinking and reflection. An article written by Moon (2008) also discussed the adult learning theory of transformative learning in the context of utilising it to help assist physicians in having challenging discussions with those who are dying and their loved ones. They discuss how transformative learning helps adults to make meaning from new knowledge and how they can change their understanding and perception of things in accordance with their learning.

Dubouloz *et al,* (2010) propose a conceptual model of learning which will allow for healthcare professionals to gain an understanding of patients' transformation and how this may affect their education on their new diagnosis. As a result, healthcare professionals were able to understand more clearly the transformational learning process and the positive impact this can have on patient outcome.

Although this research doesn't clearly link to patient teaching, it is important to remember that the MOOC will be open to the general public as well as healthcare professionals. Patients will generally be made up from members of the public and so recognition of their learning as adults needs to be made.

1.7.2 Adult learning theory and Healthcare Education

Das *et al,* (2008) wrote a paper that provided recommendations on how to successfully teach evidence-based medicine with the application of adult learning theory. Within this article they discussed the need for health professionals to be trained in evidence-based medicine but recognised the challenges in doing this successfully and ensuring that it then formed part of their everyday practices. They suggested that in order to teach this fundamental part of healthcare to professionals they needed to recognise learners as adults and therefore, apply the appropriate rules of adult learning theory:

- Adults will commit to learning when the goals and objectives are considered realistic and important to them
- Adult learners need to see that the professional development learning and their day to day activities are related and relevant

- Adult Learners need direct, concrete experiences in which they apply the learning in real work

- Adult learning must be structured to provide support from peers and to reduce the fear of judgment during learning

- Adults need to receive feedback on how they are doing and the result of their efforts. They must be given opportunities to practise what they have learnt and be provided with feedback

- Adults need to participate in small group activities during learning which provide opportunities to share, reflect and generalise learning experiences

- Adult learners come to learning with a wide range of experiences, knowledge and self-direction, interests, and competencies

- Transfer of learning for adults is not automatic and must be facilitated.

Further to the above by Das *et al,* (2008), Malick *et al,* (2008) wrote the second part of the tips for teaching evidence-based medicine using adult learning theory. In their writing, they suggested that it is vital to apply the principles of adult learning theory in order to successfully teach evidence-based medicine to healthcare professionals and to help them go forward and use their new learning out in practice.

The link between adult learning theory and the teaching of healthcare related subjects is an integral thought when considering the research for this PhD. The MOOC aims to teach not only the general public but more specifically for this study, healthcare professionals. It is, therefore, essential to understand how adult learning and the theories attached to it can fit in here.

1.7.3   Clinical Simulation

Rutherford-Hemming (2012) wrote an article that discussed the use of adult learning theory within simulation teaching in nurse education. Within this article they talk about three learning theories within adult learning: cognitive, social and constructivist and their use within learning based on simulation. In terms of teaching nurses' clinical skills, there was a question of how best to teach nurses to be competent as this is complex area of learning. Providing learning through the use of simulation is a safe and effective way to teach nursing skills that doesn't involve real life human beings. Leaners are able to undertake a controlled

simulation in which they can utilise what they have learnt to assess, diagnose and treat without the risks of causing any harm to live patients. In agreement with this Zigmont *et al,* (2011) also discuss healthcare education using clinical simulation and refer to the positive impact this can have on patient safety. What they suggest is that in order to be successful in teaching through the use of simulation, educators must consider the learner, the experience and knowledge they bring with them and the relevant adult learning theories that exist within education. For the purpose of their paper and unlike that of Rutherford-Hemming (2012), Zigmont *et al,* (2011) focus on the adult learning theory of andragogy, which in essence is the teaching of adults as opposed to pedagogy which is the teaching of children. The theory of andragogy developed by Knowles (1989) that was previously discussed by Knier *et al,* (2014) considers the most effective ways in which adults may learn and put forward some ideas on what adult learners are:

- Self-directed and self-regulated
- Intrinsically motivated to learn
- Have previous knowledge and experience that are increasing resources of learning

Adult learning theory has already been linked to the teaching of healthcare professionals in a clinical simulation environment, however, it is not clear where this link would fit in terms of online teaching. The researcher wants to understand the connection and effect adult learning theory may have within an online learning environment.

1.7.4 Conclusion

In conclusion, it is evident from the literature, albeit limited, that adult learning theory has a place in healthcare education. It has been successfully used in one piece of healthcare research (Knier *et al*, 2015) but is also heavily discussed within other forms of literature. Discourse has been presented in terms of healthcare professionals as well as patients which is important to consider when evaluating something like a MOOC which encourages learners from both a healthcare background as well as lay people and members of the public. A common discussion in healthcare education relating to transformative adult learning theory is its link to being able to change learner's values and beliefs. What cannot be seen within the literature currently is a link between adult learning theory and healthcare education in the form of a MOOC.

This research to be undertaken considers the evaluation of adult education in the form of a MOOC. The results of which can be considered with the help of adult learning theory. Particularly one such theory as transformative learning that considers the learners thoughts and beliefs. This appears to be a very poignant consideration at this stage in a MOOC about something so emotionally driven as compassionate care particularly when what one wants to measure is the change in learner's attitude and behaviours.

1.8   Key Findings from Literature Review

In summary what is presented within this literature review are some common themes that can now be used to develop appropriate research aims. One overarching theme within the literature is that a complex subject such as compassion can be challenging to define, and many authors have tried to address this previously. The researcher utilised these definitions in order to develop their own operational definition enveloping compassion and self-compassion.

A further common consideration interwoven throughout the literature is the use, successes, and barriers to the measurement of compassion and compassionate care. The successful measurement of compassion as with many other elements and factors related to this is one which is complex and has been attempted by different people in different ways. This review considered two measurement tools: ENGAGE (Day, 2014) which measured Healthcare Professionals engagement in order to support behaviour change that enhances compassionate care and The Schwartz Rounds (Adamson *et al*, 2018) a quality improvement initiative that aimed to provide an opportunity to be cared for within their working environment. This review and the considerations that came with it afforded the researcher an opportunity to rationalise the measurement of compassion for the purpose of this research. An additional tool unearthed from the academic literature was the Sinclair Compassion Questionnaire (SCQ) which aimed to measure compassion from a patient perspective. This was a valid and reliable tool developed by Sinclair *et al,* (2021) following their discovery of a gap in this area from their previous review of alternative measurement tools (Sinclair *et al*, 2017).

The latter part of the review discussed compassion in practice and detailed the challenges and barriers that healthcare professionals might face when trying to care compassionately which included an overarching consensus of lack of time, wellbeing/burnout, and work culture. The

review further discussed a widespread technique to help healthcare professionals deal with these challenges called Mindfulness. This key discussion can be linked to the aims of this study and the ability for healthcare professionals to actually practice what they have learnt within the MOOC.

After reviewing the literature, it became evident to the researcher, that this study was not a simple measurement of compassion but a consideration of a number of factors that would lead to conclusion being drawn regarding what worked for whom in what circumstances including but not limited to: adult learning theory, understanding what compassion looks like, compassionate role models and MOOC attrition/retention. It was clear that this would be a complex task and one that would need to consider a number of linked factors such as the context in which learning has taken place, the motivations and rationale for learning as well as the impact and desired outcomes, all relating to the individual participants within the online course.

1.9 Research Justification

The conclusion drawn from the review overall is that it is evident that the subjects of compassion, MOOCs and adult learning theory have been the focus of individual healthcare research in the past. However, it is further evident that no research, discussion, or investigation has been undertaken which has combined all of these subject areas. Having identified a discernible gap in current research literature pertaining to the use of online educational programmes that use methods of adult learning to teach and share lessons about compassion, this study sets out a project that intends to close this gap.

The aim of this research was to (1), evaluate a new educational intervention, delivered by a MOOC, focused on compassion, and (2), consider how and why it could help facilitate change in the attitudes, behaviours, and practices of healthcare professionals.

1.10 Implications for thesis

The development and evaluation of educational programs within healthcare is becoming increasingly common and the importance of utilising these opportunities in order to improve practice, patient outcomes and quality of healthcare becoming evident (Wand *et al*, 2010). Likewise, according to Sarabia-Cobo (2015) it is essential that an evaluation of any new

MOOC is undertaken after its conclusion as part of the wider development project. This allows for appropriate modifications to be made to subsequent runs of the MOOC which in turn will enhance the provision of materials and enrich the learner experience. Wong *et al,* (2012) also proposes that research needs to be undertaken that will examine the relationship between educational interventions, the outcome of these on participants and learners as well as impact on services and practice.

In conclusion, the overall goal of this chapter was to undertake a scoping review of the literature relating to the subjects of what is compassionate healthcare, teaching compassion within healthcare, MOOCs, and adult learning theory. The researcher then provided a critical discussion which examined this literature and allowed conclusions to be drawn and gaps in the current evidence to be identified. This vital piece of work provided valuable considerations and inspiration to take forward into the next chapter in which the researcher discusses the methodology of the study.

2   CHAPTER TWO: Methods (Philosophical Underpinnings and Designing the Research)

Following on from the literature review, this chapter will now use insight and logical thinking to deliberate and discuss potential methods that could be utilised for this research. Recognition will be given to the importance of selecting the best and most valuable philosophical underpinning for the study and the researcher will also provide details of the overall design to be applied. All of this will take into account the overall aim of the research.

This writing intends to outline the process utilised in terms of selecting the chosen approach to the research. It will discuss the reason for making the relevant choice of research methodology (Realistic Evaluation) and methods (Mixed), and their suitability to this study. To successfully achieve this, alternative paradigms and methods will be critically reviewed using current literature, as well as justification being provided as to why they were not appropriate. The researcher will then provide an in-depth discussion regarding the chosen method, Pawson and Tilley's (1997) Realistic Evaluation, which will include a robust examination of this framework and its suitability to healthcare research and in particular this study. Examples of its use within other recent healthcare research will also be reviewed in order to strengthen the rationale for its use. The chapter will then conclude with an explanation of the chosen method and design of the research and the rationale behind this selection.

2.1   Methodology and Methods

The literature review identified a notable gap in the literature. It acknowledged that there was a broad range of literature available that discussed compassion, MOOCs, and adult learning theory separately, however, there was a paucity of evidence that encompassed the three subjects together. Therefore, this study aims to close this evident gap by (1) evaluating a new educational intervention, delivered by a MOOC, focused on compassion, and, (2), consider how and why it could help facilitate change in the attitudes, behaviours and practices of healthcare professionals.

So, for the purpose of this study consideration was given to methods and methodologies that would be most consistent and appropriate for the aim relating to this study.

2.2   Overall Approach

The overall approach to be taken in research incorporates the philosophical underpinnings, design, and methods.

Figure 5: Approaching the Research (Creswell and Creswell, 2017)
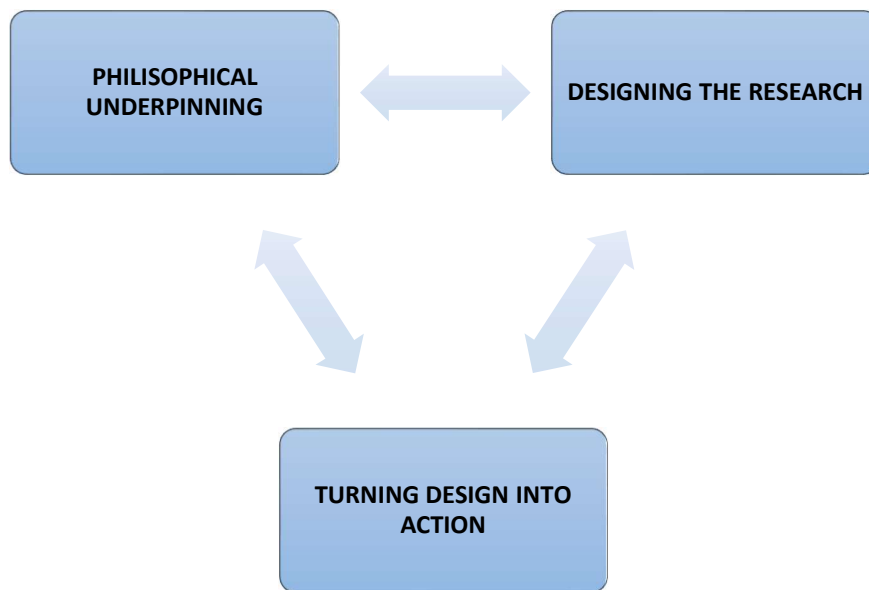
2.3   Philosophical Underpinnings

In order to address the research problem at hand it is vital to first provide elucidation of the philosophical stance to be taken during this study. At the foundation of all research are two distinct means of considering the philosophical underpinnings of a study: epistemology and ontology. These two crucial considerations are what a research problem is based upon and what essentially prescribes the way forward for the study. Ontology examines the "person" and is often known to help answer questions that relate to the nature of reality whereas conversely epistemology looks at the philosophical background of knowledge (McKie, 2014).

2.3.1   Ontology

In terms of the ontological approach to be taken for this research, the researcher wanted to reach an understanding of whether compassionate care is shaped by human understanding and is supported by individual interpretation. In other words, can an online course about care and compassion impact or influence the attitudes, behaviours, and practices of health care professionals and what it is about the course that causes a change which can be either positive or negative.

In their review paper, De Souza (2016) discussed an ontological philosophical approach developed by Roy Bhaskar called critical realism which amalgamated scientific philosophy, known as transcendental realism with critical naturalism, otherwise known as the philosophy

of human sciences. Consideration was given to critical realism within the methodology selection process. According to Kazi (2003), critical realism provides an opportunity to evaluate social research realistically and critically. Critical realism aims to provide a more widespread and broad understanding rather than merely assess discernible observations. This approach serves to evaluate the mechanisms of cause within a programme and the effect that these have on outcomes as well as the optimum circumstances for inauguration. Critical realists look further than if a programme or intervention works or not and often use this approach to dig deeper and investigate its efficacy and value. The main focus for critical realism is how particular mechanisms, carried out within certain contexts, create changes. However, fitting critical realism prescriptively to this particular study would have proved a challenge. Critical realism does not make allowances for the unpredictable nature of human study or the diverse unplanned emerging data that often comes with research of this nature. During this study, it will be necessary to collect qualitative data relating to participants thoughts and feelings and it was for this reason that critical realism was not used for this research (Dalkin *et al*, 2015).

2.3.2   Epistemology

In terms of the epistemology of this study, it considers how an understanding of the phenomenon has been reached: specifically, what kind of extended knowledge has been gained from studying online about compassionate care and how has this learning been achieved and how it might be used to make further changes and improvements in the future. Researchers are often inclined to take on either a positivist or constructivist epistemological approach (Feilzer, 2010). These are opposing broad approaches that can be utilised with each considering different methods of data collection and analysis in order to examine the phenomenon. There is also an additional approach that can be considered, which is pragmatism. A more flexible, inclusive approach to research which incorporates a variety of research elements in order to help answer research aims.

2.3.2.1   Positivism

The paradigm of positivism leans towards research that is primarily quantitative and aims to develop early hypotheses based on existing knowledge. Data are collected that will test that hypothesis and prove or disprove it (Feilzer, 2010). Positivism generally considers a

measurable and factual phenomenon; however, it is also not unknown for positivists to also study realism. Within this realism there are those often known as post-positivist critical realists, who consider that all research observation made is not perfectly sound and in fact established theory is very much unpredictable and flexible. It is because positivism is commonly related to objective and quantifiable phenomena and its inclination to ask if a programme works or not that it became problematic fitting it justifiably with this research. The researcher found that positivism also had limitations in terms of the human understanding and measurement of people's actions and decision making that would have been involved in this research (Allsop, 2013).

2.3.2.2 Constructivism

A contrasting paradigm available in research is that of constructivism which aims to understand the effects of healthcare programmes/initiatives from a human understanding and interaction point of view rather than as a single experimental variable (Pawson and Tilley, 1997; Creswell and Creswell, 2017). Constructivism often lends itself successfully to qualitative data, allowing the researcher to observe and collect relevant data, particularly relating to human reactional phenomena (Creswell and Creswell, 2017; Feilzer, 2010). These data can then be examined for patterns and relations thus building relevant theory and explanation (Allsop, 2013). Constructivism provides a means for evaluation that is based on the social nature of what is being studied. A constructivist approach to this research initially appeared to be suitable. However, the researcher also wanted to measure compassion through a quantitative method and given the expected number of participants on the MOOC a large quantitative sample could be possible. The researcher, therefore, concluded that constructivism was not an appropriate approach to link to the research aims.

2.3.2.3 Pragmatism

As a research paradigm, pragmatism dictates the design and outline of a project (Creswell and Creswell, 2017). Where often other paradigms command a particular research method to be used, and ensures that all others are rejected, pragmatism accedes that philosophically research can be variable.

Pragmatists, rather than be pulled between the dichotomy of the positivist and constructivist paradigms, look to exploit an amalgamation of both and often utilise both qualitative and

quantitative methods of study. They argue that these methods are not unalike from an epistemological or ontological view and in fact can often be cohesive in their style of research (Feilzer, 2010; Creswell and Creswell, 2017; Robson, 2017). In other words, pragmatism identifies that there is not always just one way of researching a subject and offers a fitting opportunity to undertake mixed method research allowing the researcher to use methods that, rather than being prescriptive and rigid, are flexible and can be adapted to be fit for purpose (Feilzer, 2010). This approach to research also allows for the research aims to take precedence during the method selection and an approach that finds the optimum way to answer them to be used (Creswell and Creswell, 2017).

This study aimed to evaluate a new educational intervention (MOOC) which is objective, exact and measurable whilst also aiming to understand if this learning could facilitate change in the attitude, behaviours, and practices of healthcare professionals, which is subjective, open to interpretation and hard to measure. This implies that there is a complex and diverse nature to this research, particularly due to the subject matter. Pragmatism encompasses partial elements of a variety of approaches, therefore, it was decided that it was the most fitting philosophical underpinning for this research (Feilzer, 2010; Creswell and Creswell, 2017). The flexibility and adaptability of a pragmatic approach endorsed the use of a mixed method for this research. Pragmatism allowed for the study of both the measurable online course, quantitatively and the subjective attitudes behaviours, qualitatively.

2.4 Designing the Research

The design of a study is the structure of how the project will be undertaken (Allsop, 2013). It is the appropriate methods used to acknowledge the research aims and allow for successful collection of data. There are many research methods and design types available to researchers e.g., experimental, cross-sectional, case study, longitudinal or comparative (Allsop, 2013). In order to determine the most suitable design for this study it was vital that a comprehensive review of a variety of available methods was undertaken, considering strengths and limitations related to this research.

2.4.1 Action Research

This category of research is built on problem solving and allows for participative ways of working in order to tackle relevant challenges (Waterman, 2013). It can involve looking at

change within organisation or institutions in order to make developments and advance knowledge and practice. This does involve working collaboratively with stakeholders, researchers, and participants in order to make appropriate changes and identify improvements through evaluation activities (Waterman, 2013). Although action research is often used for the improvement of healthcare practices, it very much focuses on situations within a particular context that is set and unchangeable (Koshy *et al, 2010*; Taylor and Martindale, 2014). In action research the role of researcher is very much participatory, and researchers will often be researching within their own environment in order to improve practice and in turn enhance the practices of those around them (Koshy *et al*, 2010; Waterman, 2013). This study was not suitable for action research as an approach because it is context specific (the MOOC that is being evaluated is available to anyone internationally with access to the internet, therefore, comes with a multitude of contexts), and involves researcher participation (the researcher was not involved in developing or running the MOOC) (Waterman, 2013).

2.4.2   Experimental

This research design within healthcare is often utilised when developing new clinically based treatments and interventions (Martindale and Eboh, 2014). Experiments are not only used to determine the effect of an intervention or treatment but also often to make important changes to public policy (Creswell and Creswell, 2017). Experimental research can be undertaken in many forms e.g., quasi-experimental, random control trials and cross-sectional experiments collect data from a number of subjects over a specified period of time. An essential component of experimental research is the hypothesis (Martindale and Eboh, 2014). Any given hypothesis within experimental research must meet the following qualifications: it must be realistic, testable, and falsifiable (Polit & Beck, 2017). Alternatively, experimentalists must also define appropriate null hypothesis which must also be tested either directly or circuitously with the aim of disproving this null hypothesis (Polit & Beck, 2017). In terms of its relevance to this research, although it can be used to measure the impact of interventions, experimentalists do not consider the human factors involved in the research. The effectiveness of this method has been questioned for its appropriateness to this kind of course evaluation as it considers courses to be a cohesive and prescriptive curriculum which participants undergo and is completely disregarding of the contextual factors involved and how they may play a part in the overall outcome. In fact, experiments treat the contexts as variables that are controlled by the researcher rather than the background circumstances

experienced by the human participant (Wand *et al*, 2010). This is not an appropriate approach to the research because it does not consider the human or contextual elements that are found within the online learning course, nor could the researcher control other variables with such a diverse, geographically spread group of participants.

2.4.3 Phenomenology

Phenomenological research is qualitative in nature with constructivism at its foundation. It is a method concerned with the views and experiences of people. It considers the subjective nature of interpretation by humans and relies heavily upon the understanding and description given by participants (Creswell and Creswell, 2017; Addo and Eboh, 2014). Often data are collected purposively from a small number of participants, via interviews which discuss experiences and perceptions (Creswell and Creswell, 2017). Healthcare practitioners are often involved in phenomenological research studies, in particular nurse researchers. This is because at the heart of healthcare research is an interest in the lived experiences of participants. In this way, phenomenology allows for an understanding of not only these lived experiences but also how the participant understands and interprets that experience individually (De Chesnay, 2014). Unfortunately, although it initially sounded like a fitting approach, phenomenology is not quite apt for this research due to its purely qualitative application. The nature of this research means that a mixture of both qualitative and quantitative methods is required in order to best answer the research aims. It was also vital that the researcher gained an understanding of different perspectives of the MOOC experience itself which involved collecting data relating to content and learning activities. Due to the need for a combined approach in this research, phenomenology was not suitable for this study.

2.4.4 Ethnography

A further considered method of research was ethnography, which has an anthropological and sociological background (Creswell and Creswell, 2017). This method considers the cultural background of its participants (Addo and Eboh, 2014). However, as the context was to encompass a wider field of thought, rather than specifically just culture, ethnography was deemed unsuitable for this research. The diverse and multiple contexts in which the course

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could be undertaken (e.g., worldwide, healthcare professionals, lay people etc.) meant that an ethnographic study was too limiting.

2.4.5 Case Study Research (CSR)

The goal of CSR is to carry out a study that is specific to one area and not generalisable, this could be a specific group, event, or intervention (Creswell and Creswell, 2017). It is a method of study that allows a researcher to gain a detailed understanding of the how and why of one particular area (Taylor and Martindale, 2014). CSR advises that one area should be studied in depth and therefore, was not suitable for this research which was aiming to incorporate three separate areas of study, that of compassionate care, adult learning theory as well as the experience of MOOCs. This together with the possible geographical spread of the participants, meant that CSR was deemed inappropriate for this study.

2.4.6 Programme Evaluation

All new courses, programmes or initiatives should be evaluated so that development and improvement can be undertaken to decide whether further endeavours in this area would be beneficial. This is normally accomplished through observation, analysis, exploration, and appraisal and is particularly poignant within healthcare (Robson, 2017). There are a variety of evaluation-based research methods available (including programme evaluation), all with differing designs, however, with a similar aim of observing and appraising programmes that are already established (Saks and Allsop, 2013). Programme evaluation is a distinctive style of social inquiry which allows for data to be collected in a systematic manner that observes the activities, features and outcomes of programmes or interventions thus allowing for conclusion to be drawn with regard to its success or requirement for change (Clarke, 1999; Taylor and Martindale, 2014). This method of evaluation tends to be concerned solely with whether interventions or programmes met their desired outcomes successfully or not (McEvoy and Richards, 2003). Programme evaluation aims to inform those involved in the planning or decision-making process of beneficial changes that could be made to the intervention or programme (Clarke, 1999). Typical programme evaluation sets out to confirm or deny whether a programme works or not based merely on an identified group of subjects who are in a similar and controlled environment. A programme or intervention is applied, and behavioural outcomes are then measured by the action. However, programme

evaluation does not allow for the study of the depth of connection between cause and effect. There is no consideration of the relationship between the actions of those within the programme and the outcomes observed (Pawson and Tilley, 1997).

The passion and drive for this research came from the researcher's desire to understand if the provision of compassionate care (towards patients, loved ones, colleagues, staff and self) could be impacted on within healthcare through the use of an online learning course. However, this was to be an understanding that considered not just if the programme simply makes them more, less or the same level of compassionate after completing the course, but it was also about appreciating what within the course made differences if any and what about the participants changed during their learning. Therefore, the researcher in this case, wanted to delve deeper into the understanding of the programme. Although programme evaluation has proven helpful in research previously and would seem the obvious choice for this study initially, after further exploration the researcher unearthed an alternative form of evaluation that would prove to be more pertinent in this study.

In recent years, there has been significant growth and visibility observed within the concept of evaluation research (Pawson and Tilley, 1997) and now more than ever, in our ever changing healthcare system it has become vital to be able to understand why programmes work, for whom and in what particular circumstances.

2.5   Realistic Evaluation

Rather than exploit the improper use of an incongruous method of evaluation, it was essential to look into a research method that through a theory-driven approach looked to evaluate why programmes work in specific contexts.   The researcher wanted to consider the complexities and human understanding of the programme in order to evaluate what, if any, improvement or change has been made, rather than asking closed, prescriptive questions such as "will the programme improve an individual's skills in a particular area?"

In keeping with this theory, Pawson and Tilley (1997) suggest that the evaluation of programmes should be that of a realistic nature. Realistic evaluation (Pawson and Tilly 1997) is a constituent of programme evaluation research and was formed from the original ontological approach of critical realism (Wand *et al*, 2010).

A significant difference between programme evaluation and that of a realistic nature is critical realism, which is at the heart of realistic evaluation. Critical realism allows the researcher to consider participants personal beliefs and values as contingencies that may affect outcome (Maxwell, 2015) i.e., if we expose learners to an educational programme then we should take into account the evident or unexpected contingencies that impacted on a particular outcome (Wong *et al*, 2012). This study wants to look in depth at the relationship between mechanisms and the impact on the learning journey whilst taking account of the context in which this occurs. The researcher wanted to embrace the fact that these causal relationships are not static but are contingent whilst remaining acutely aware that this is a human study relating to a subject matter fraught with emotion and feeling. Therefore, one consideration in terms of measurable contingencies is the impact of human emotion, beliefs, and values (mechanism), which in turn may provide a variable context which could affect the outcome of the learning journey. This was supported by Wong *et al,* (2012) who suggested that when researching within the field of e-learning, attention must be paid to not only measurement of effectiveness but also investigation into environments, learner and pedagogical contexts that may enhance or limit successful outcome. Furthermore, Zigmount *et al,* (2011) suggested, while discussing adult learning theory that in order for learning to be successful attention must be paid to the learner and their individuality.

Ultimately, this research wants to evaluate how we can facilitate change in healthcare by considering the meanings that individuals attach to the subject and understanding what it is about the programme that allows this to happen. The ability to do this isn't wholly available through the use of standalone programme evaluation. Realistic evaluation allows the researcher to look into the causation and its impact on study participants in more detail than Programme Evaluation. By utilising realistic evaluation as a methodology, the researcher could gain a deeper understanding of the inner workings rather than simply what is easily observed on the outside (Pawson & Tilley, 1997; Ryecroft-Malone *et al*, 2010**).**

 Therefore, Realistic Evaluation appeared to be the most appropriate methodology to utilise for this research study rather than programme evaluation.

Furthermore, the pertinent fit of realistic evaluation compared to programme evaluation in this research was evident in its non-prescriptive nature, thus allowing for a pragmatic approach and the utilisation of both qualitative and quantitative methods of research (Wand *et*

al, 2010**;** Wong *et al*, 2012; Hewitt *et al*, 2012). Realistic evaluation further permitted the use of various elements of critical realism, positivism and constructivism thus providing one suitable overarching approach, just as suggested through the use of a pragmatic approach (Rycroft-Malone *et al*, 2010). Additionally, unlike programme evaluation, it provided an opportunity for the researcher to consider both the measurable aspects of the research as well as the human elements that existed throughout the study.

2.5.1   Realist Evaluation – a methodology for this study

This paradigm of realism allows for not only the outcomes of courses to be evaluated but also considers the intended and unintended mechanisms as well as the influence of the actual content (Wand *et al*, 2010; Ryecroft-Malone *et al*, 2010). The realist paradigm is a platform of evaluation that also has at its roots a philosophy of science (Kazi, 2003; Hewitt *et al*, 2012). Although Kazi (2003) inferred "realist" evaluation within their writing about health and social work, this was very much based upon realistic evaluation, and it was purely a personal choice to emphasise realist rather than realistic. They felt that the use of realistic suggested a predisposition to the evaluation whereas for them "realist" was more categorical and absolute in terms of research (Kazi, 2003). Realistic evaluation, as it says, is a method of evaluation that considers an amalgamation of three vital research elements; real, realist and realistic however, at the root of this theory is always "real". This is argued through the theory that any course or intervention that is developed should be real to life, and therefore, the results of evaluation, be it success or fail, also real. Pawson and Tilley (1997) suggest that evaluation should always be embedded with a realist methodology as it demands a realistic stance to research. This is because evaluation tends not to be to the advantage of science directly rather a benefit to policy makers, practitioners, and participants of the course/initiative.

The researcher for this study wanted to evaluate the MOOC not only to identify outcomes but to also consider what caused, created, or even affected these outcomes. Realistic evaluation is theory led in nature and begins from a viewpoint that examines constituent theories influencing a course under investigation in terms of the context in which it is delivered, the mechanisms used to deliver the course and the intended and unexpected outcomes produced. This theory of realism provides a framework that allows research to acknowledge that a course has the ability to be successful (outcome) as long as it introduces appropriate

mechanisms of learning to those within the most advantageous conditions and environment (context). This set of rules is known as the CMO (context, mechanism, and outcome) configuration (Ryecroft-Malone *et al*, 2018). Pommier *et al,* (2010) confirm this structure and describe the realistic evaluation framework as a way of understanding the mechanisms through which course interventions produce change, recognising the contextual conditions necessary to trigger these mechanisms and developing outcome prediction patterns according to the context and mechanism triggered.

However, Kazi (2003) suggests that although Pawson and Tilley have successfully delivered a suitable outline in order to undertake a realistic evaluation, they have unfortunately not succeeded in identifying detailed methodologies that uphold their context, mechanism, outcome configuration. This is because realism is an intricate and multifarious method of evaluation in which its guiding methodologies continue to be emergent (Kazi, 2003). Evaluation that is realistic provides an opportunity to understand that there is no common rationality to evaluation research and no unequivocal science related to decision making for course developers or policy makers. The theory of realistic evaluation declares that it is possible to examine and evaluate new policies, courses or even initiatives and use the results of these studies to develop and enhance their function and sequentially their success and impact (Pawson and Tilley, 1997).

When designing a realistic evaluation, Pawson and Tilley (1997) suggest starting with a structure based on the diagram below (Figure 6), which they call the Realist Evaluation Cycle. This is based on The Wheel of Science (Wallace 1971) which looks at: **Theories** – how the mechanisms are disseminated within course contexts in order to generate outcomes; **Hypotheses** – How the course is understood, what does the course propose to do, what elements of the course are likely to produce outcomes, is there a particular group that is more likely to benefit from the course; **Observations** – the methods of data collection and analysis used to test the hypotheses; **Specification** – what the course actually did, what actually worked for whom in what circumstances.

Figure 6: Realist Evaluation Cycle
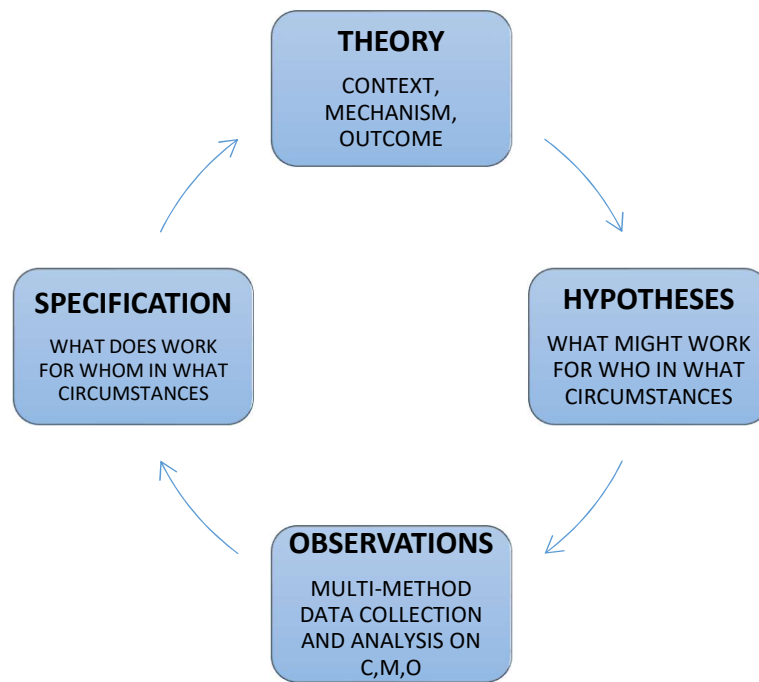
Although the researcher has provided many strengths associated with the use of realistic evaluation in research, as with all methods of research, there are criticisms and limitations that can be identified particularly when associated with specific research projects. Abhyanker *et al,* (2013) acknowledged in their realist evaluation of a normal birth programme, that the gold standard of research for successful assessment of healthcare interventions is randomized control trials or experimental designs. The researcher concedes this fact and recognises that the use of realistic evaluation may also provide some limitation to the study particularly as there will be no use of a control group that can provide a direct comparison of effect. Another criticism of the realistic evaluation method, which was identified by Hewitt *et al,* (2012) is its inability to place value on and draw conclusion through the acknowledgment of human behaviour and hugely diverse set of factors that this depth of evaluation may bring. Again, this may have an effect on the MOOC research detailed within this thesis and provide areas of weakness as the subjects being studied are human with a massively diverse set of behaviours. Additional consideration in terms of the limits of realistic evaluation and their effect on this study is the subject of care and compassion itself, which is one that is very "human" and complex. Literature is available that identifies that realistic evaluation may not be appropriate in the evaluation of more complex healthcare programmes which include dynamic and diverse content (Abhyanker *et al*, 2013; Wand *et al*, 2010).

2.5.2   Realistic Evaluation in Healthcare

The vital underpinning philosophy associated with realistic evaluation and the reason it is so different to other evaluation methods is its need to acknowledge not just if a course works or not, but in fact what has made it successful, who it works best for as well as the optimum environment for its delivery (Dalkin *et al*, 2015).

Wand *et al,* (2010) expand on this theory and explain that this method of research allows for a greater understanding of intricate healthcare courses to be reached, considering key elements, such as who do the courses work best for and what circumstances produce the most positive and beneficial results.

Realistic evaluation considers the evaluation of healthcare courses and practice taking into account the realities in which it rests. It looks to improve the content and delivery of courses in order to improve the situation. According to Kazi (2003) in order to do this, it uses data collected to evaluate and make relevant changes to the course delivery and content in order to enrich the experience and improve outcome.

Although research that is healthcare based can be carried out in many different ways, the way in which it is to be undertaken is often determined by the purpose of the research as well as the topic it is related to (Allsop, 2013). The development and evaluation of educational courses within healthcare is becoming increasingly common and the importance of utilising these opportunities in order to improve practice is ever more fundamental in improving patient outcome and quality of healthcare (Wand *et al*, 2010).

Wong *et al,* (2012) propose that research needs to be undertaken that will examine the relationship between educational interventions or courses, the outcome these have on participants as well as the impact of this going forward into practice. This is particularly poignant within healthcare education in which the outcome of learning is substantially reliant on elements such as who the educator is, who the learners are, in what environment teaching is undertaken and what platform of teaching is being used**.** One example of a teaching platform used in healthcare education is an undergraduate lecture for nursing students or another may be a practical training session (Wong *et al*, 2012). Realistic evaluation is based on the belief that if a person, undertaking a healthcare related improvement course, is furnished with particular and specific sources of information, and learning activities, then

there is the potential to alter their views and beliefs and in turn transform their attitudes and behaviours (Wand *et al*, 2010).

Although a fairly new concept in the world of healthcare research, realistic evaluation does fit in to this well, as it allows for the evaluation of both the outcome to the patient as well as improvement on a staff and organisational level (Wand *et al*, 2010). On further investigation of the use realistic evaluation within healthcare research it became evident that other researchers have successfully used this method. A selection of publications of this nature were found within the field of healthcare which feature examples of the varying ways in which realistic evaluation can be utilised in this environment (Wand *et al*, 2010; Allen *et al*, 2012; Machin and Pearson, 2014; Mitchell, 2015; McNeil *et al*, 2015; Higgins *et al*, 2015; Abhyankar *et al*, 2013; MacArthur, 2014). All papers unanimously agreed that this method of research was particularly useful when attempting to understand associations between mechanisms, contexts and outcomes in the development and delivery of healthcare courses.

In keeping with the pragmatic approach of this research, the researcher found that other researchers had approached realistic evaluation in a number of ways. Just as McNeil, Mitchell and Parker (2015) did when they used an adapted realistic evaluation to undertake an evaluation of rural interprofessional GP practice. In agreement Staley *et al*, (2012) state that realistic evaluation also has a significant purpose within healthcare improvement as it allows the use of public and participant involvement. Mitchell (2015) further concurs with this and suggests that realistic evaluation considers the thoughts and experiences of key stakeholders, practitioners and participants involved within a new course. This is essential as this method of research is thought to provide a richer depth of research understanding (Staley *et al*, 2012). This is vital in contemporary healthcare as this field and in particular health course research is vast becoming more focused on outcome and improvement practice (Wand *et al*, 2010). Educational interventions have the potential to make an impact at learner level, in healthcare service and practice and policy. Therefore, Wong *et al*, (2012) highlight that healthcare needs to address the complexities of educational interventions through the use of appropriate research methods. To add strength to this thinking, according to Wand *et al*, (2010), realistic evaluation does have a place in nursing research in particular for the evaluation of nursing practice and is specifically helpful when measuring not only improvements within patient care but also other improvements and structural contexts (e.g., staffing level).

It is this further rationale that has led the researcher to acknowledge the importance of realistic evaluation in projects of this nature and to select it as the study method that fits best in answering their research aims.

2.5.3 Context, Mechanism and Outcome in a Care and Compassion MOOC

According to Sarabia-Cobo *et al*, (2015), it is essential that an evaluation of any new MOOC, which will enhance the provision of material and enrich the learner experience, is undertaken.

In order to carry out a comprehensive evaluation of the MOOC within this research project, the researcher utilised realistic evaluation because it considers a course through an understanding of the mechanisms it is comprised of, how these mechanisms influence outcomes and the contexts in which the course is undertaken (Pawson & Tilley, 1997). This Context, Mechanism, Outcome (CMO) configuration, which was originally found within critical realism, is now applied within realistic evaluation (Wand *et al*, 2010; Dalkin *et al*, 2015). As a process, realistic evaluation enables the researcher to propose an initial CMO configuration which will allow for data to be collected in order to evaluate the course appropriately. The results of the initial analysis are then applied, and changes made to the CMO configuration accordingly (Wand *et al*, 2010; Dalkin *et al*, 2015).

According to Dalkin *et al*, (2015) when a context + mechanism = outcome formula is established within a realist research study only then will mechanisms operate successfully within the right circumstances providing anticipated outcomes.

2.5.3.1 Context

An understanding of the context in which the MOOC is delivered or received is crucial to realism as it allows for an in-depth comprehension of underlying means (Wand *et al*, 2010). As an example, individuals often interpret health in many different ways depending on their own circumstances and understanding; this can be linked to changeable features such as social class, gender, ethnicity and age group (Saks and Allsop, 2013). In terms of specific contexts related to this study and the MOOC, the open online nature allows for a hugely diverse group of learners to be involved from all over the world and from many different backgrounds and social circumstances. As well as this geographical and socio-economic diversity there is also the mixture of lay people, informal carers as well as healthcare

professionals to be considered, which as a combination, provides a massive diversity amongst backgrounds, experience and understanding.

2.5.3.2 *Mechanism*

Mechanisms are the explanation of what is happening within the MOOC that links the participation and outcomes (Pawson and Tilley, 1997). They are interpreted by the MOOC user and are the driving force, the learning tools and the choices made by the user (Wand *et al*, 2010; Dalkin *et al*, 2015). In this sense, within the MOOC it is the learning experience that determines the mechanisms of action. According to Robson (2017) and Dalkin *et al,* (2015) mechanisms are not created from MOOC activities but rather they are a reaction from those engaged in the MOOC. An example of mechanisms for this research would be not only the MOOC itself but also the many elements included within this such as content, delivery and learning activities e.g., the use of online discussion boards and the learning opportunity that they may provide.

2.5.3.3 *Outcome*

As part of the realistic research process, it is vital for an understanding of what and how outcomes are achieved as a result of a MOOC. These outcomes, which can be multiple and varying, are fundamental components of the realistic evaluation and are crucial to making suggested moderations to any course (Pawson and Tilley, 1997). In terms of this study outcomes can be seen as an impact upon the attitude, behaviour, or healthcare practices of participants. This will be explored through the user experience.

Taking account of these factors, realistic evaluation allowed the researcher to gain a deeper understanding of the context in which the intervention was undertaken, the mechanism by which the intervention worked, and the outcomes that could be changed by the intervention, rather than merely answering whether the MOOC changed participants' practice or not.

In keeping with the realistic evaluation framework, this research utilised the key components of context, mechanism and outcome observed in the following modified realistic evaluation cycle (Figure 7), seen previously.

Figure 7: Realist Evaluation Cycle – relating to this research

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THEORY

CONTEXT (Geographical location, socio-economic background, societal role or profession and individual interpretation)

MECHANISM (Care and Compassion MOOC inlcuding learner experience, learning activities and content)

OUTCOME (Impact on attitude, behaviour and practice)

SPECIFICATION

WHAT CIRCUMSTANCES/ENVIRONMENT/GROUP OF LEARNERS PRODUCED THE BEST OUTCOMES

IDENTIFICATION OF SUCCESUL MECHANISMS BOTH INTENDED AND CONTINGENT

HYPOTHESES

AN ONLINE, ADULT LEARNING COURSE CAN FACILITATE CHANGE IN THE ATTITIDE, BEHAVIOURS AND PRACTICE OF HEALTHCARE PROFESSIONALS

OBSERVATIONS

MIXED-METHOD DATA COLLECTION AND ANALYSIS QUANTITATIVE - DEMOGRAPHICS, LEARNER STATISTICS, COMPASSION AND SELF-COMPASSION MEASUREMENT

QUALITATIVE - LEARNER PERSPECTIVE, THOUGHTS AND EXPERIENCES

2.5.3.4   CMO Configuration

In realistic evaluation it is important to present the initial hypotheses as CMO configurations to aid with developing, observing, and conveying outcomes.

Figure 8: CMO Configuration

HYPOTHESIS

An online, adult learning course can facilitate change in the attitude, behaviours, and practice of healthcare professionals in the delivery of compassionate care.

<table>
<tr><td colspan="5" align="center">**CONTEXT**</td></tr>
</table>

A free and accessible MOOC open to healthcare professionals as well as the general public which aims to help learners understand what compassion and compassionate care is so that this can be improved.

Including course demographics, individual interpretation, learning activities and course details (length and format of course)

<table>
<tr><td>**MECHANISM**</td></tr>
</table>

Mechanism 1	Mechanism 2	Mechanism 3	Mechanism 4	Mechanism 5
Participants who have a want/need to understand compassion/compassionate care	The impact of individual belief, values and meaning on the outcome of the learning.	Participants motivation to learn	Approaches to learning within the MOOC	Learner activities

Mechanisms can be both intended and unintended, in keeping with the theory of realistic evaluation. The above have been identified as possible mechanisms of action prior to this research being undertaken. However, they are not merely a simple static list as discussed previously, but a variable, unfixed set of contingencies. There may be the possibility of additional unexpected mechanisms being identified post MOOC particularly when studying transformative adult learning including personal beliefs and values.

<table>
<tr><td>**OUTCOME**</td></tr>
</table>

Outcome 1	Outcome 2	Outcome 3	Outcome 4	Outcome 5
Self-reporting of changes in knowledge and understanding of compassion post MOOC	Self-reporting of changes in healthcare practices post MOOC	Completion of MOOC and the impact on related outcomes	Impact of variable demographics on completion of MOOC	Context of learning and HCP role on impact of outcome

A combination of the context and mechanisms involved within this research have the ability to demonstrate how and why a MOOC focused on compassion could facilitate change in the attitudes behaviours and practices of healthcare professionals. This is not just a measurement

of effectiveness but an investigation into environments, learner and pedagogical context that may enhance or limit successful outcome.

2.6   Methods

The key to developing a realistic evaluation that it is valuable and relevant is the detail within the design, which considers the most suitable and relevant ways in which to collect, analyse and interpret data (Creswell and Creswell 2017). This is determined by the actual purpose of the evaluation to be undertaken and in particular the research aims that are to be answered (Robson, 2017).

There are three main methods of research: qualitative, quantitative, and mixed methods (Creswell and Creswell, 2017). Qualitative data strives to understand individual experiences of a phenomenon and is often complex in nature requiring intricate analysis (Low, 2013; Creswell and Creswell, 2017). Advantageously it allows for a malleable way of thinking about the research and often presents a deeper understanding of why things occur. A limitation of qualitative research can be the sample size which is often small and not generalisable to a population (Addo, 2014). Quantitative researchers collect data based on numbers and statistics, providing a more objective perspective (Creswell and Creswell, 2017). Benefits of this method are the ability to measure quantity thus producing valuable large data sets that can be generalisable to the total population. However, a weakness is that data are often collected at a specific point in time and does not allow for the consideration that participants have the ability to make modifications to their answers according to how they feel and act (Creswell and Creswell, 2017).

Research that is based within healthcare is now more than ever utilising mixed method approaches. In support if this, a systematic review by Zhu *et al*, (2018) explored research methods relating to MOOCs and considered the contemporary use of mixed method research. They revealed in their paper that of 146 MOOC studies undertaken between 2014 and 2016 52 (35.6%) utilised a combination of qualitative and quantitative methods. Applying a mixed methods approach allows the researcher to synthesise the two methods in order to provide the most beneficial chance of responding to the research questions (Creswell and Creswell, 2017) Although qualitative and quantitative research methods vary greatly and may be underpinned by contrasting epistemological and ontological philosophes they provide an opportunity to

complement one another, play to each other's strengths and span the deficits of their respective limitations (Wand *et al*, 2010; Creswell and Creswell, 2017). In spite of this, Feilzer (2010) is apprehensive of mixed method research as it can often lead to heterogeneous results which can be complex in translation. They are concerned that there is a fine line between these two methods complimenting or undermining one another. Although differences do exist between qualitative and quantitative research, they need not be separated or treated individually.

As previously discussed in this chapter, mixed method research is also the common choice in pragmatism which has been selected as an approach for this research project (Feilzer, 2010). Pragmatism aims to end the segregation of qualitative and quantitative paradigms and instead uses a combination of these to find out whether the research has answered the aims successfully (Feilzer, 2010). The advantages of applying mixed method research is that a combination of qualitative and quantitative has the ability to give greater validity by seeking corroborative findings as well as offset the limitations of a single methodology (Creswell and Creswell, 2017). However, Zhu *et al*, (2018) imply that within MOOC research, quantitative methods are often favoured as there can be a direct and straightforward retrieval of data from the MOOC.

Nonetheless, it is becoming prevalent to synthesise qualitative and quantitative methods and findings for the purpose of healthcare related studies. However, when doing so, it is crucial to understand the types of data that are to be gained from each method and also how this will go forward and inform new knowledge in this area (Tritter, 2013). Synthesis of these data is critical to learning and understanding new knowledge. For the purpose of this research, it was important to collect data that were both quantitative (through a large-scale survey) and qualitative (through semi-structured interviews and an online discussion board), in order to address the research aims, thus generating more comprehensive results. Nevertheless, what one must consider in these research circumstances is that the combination of numerical and textual data, has the potential to generate paradigmatic contradictions. Research of this nature must be prepared to acknowledge these complications and the impact on results when there is a divergence between what is indicated by survey results versus what a participant has openly and honestly said within a questionnaire or interview (Mengshoel, 2012).

When looking at the best mixed method of research to apply to this realistic evaluation research, consideration was given to two distinct approaches. Explanatory sequential mixed methods allow for an initial phase of quantitative data collection and analysis to be undertaken. Following this a subsequent qualitative phase then provides a more detailed in-depth exploration of key issues that might explain some of the quantitative findings. The challenge with this is the justification and validation of what would be a very evident difference in sample size (Creswell and Creswell, 2017). Alternatively, a convergent parallel mixed methods study allows the researcher to unite the quantitative and qualitative data which are collected at more or less an equivalent time within the research (Creswell and Creswell, 2017). Malina *et al,* (2010) suggest that whether the data is collected iteratively or simultaneously, the result will still be more robust than either method undertaken separately.

Initially it appeared that an explanatory sequential mixed method approach was the most apt way forward for this project as there was a paucity of evidence combining compassionate care, online education and changes in attitudes, behaviours, and practice. However, following consideration of the research approach and realising that a pragmatic approach was being taken it was decided that a convergent, parallel mixed methods design would be best suited in these circumstances (Creswell and Creswell, 2017). This was partly due to the MOOC being run by another university and therefore, the researcher had no control over the timings of the MOOC. The researcher collected qualitative and quantitative data at a similar time after which the results were then combined in order to address the research aims (Creswell and Creswell, 2017). In keeping with this method qualitative and quantitative data were collected initially, separately, with corresponding analysis being undertaken sequentially. The researcher used an initial phase of study that consisted of a broad, generalisable survey or questionnaire undertaken on a large sample. This would provide evidence and identification of significant areas for further exploration e.g., impact on practice. Once the quantitative analysis was complete, the findings were then used to sequentially analyse the qualitative data. This was done in order that participants' data were used and further explored in order to capture their personal views, thoughts and feelings, the data from which were used to provide further elucidation of the original quantitative data (Creswell and Creswell, 2017). According to Driscoll *et al,* (2007) the use of sequential research techniques provides an opportunity for the inclusion of emergent or unexpected themes. This is particularly poignant in the contingent value of realistic evaluation.

It is challenging to find weakness or limitation of mixed methods within the literature because much of the evidence describe a method, which is robust and valuable through its combination of quantitative and qualitative methods. However, one factor to be considered when utilising mixed methods and that which has been acknowledged by the researcher is the additional time that is required in order to successfully collect and analyse both sets of data. Driscoll *et al,* (2007) validated this time constraint, particularly in terms of sequential design, where the development and execution of two separate study components is far more time consuming than that of just one. According to Mengshoel (2012) mixed method research should be undertaken by a team of combined qualitative and quantitative researchers who will bring with them the expertise and experience needed to optimise the research methods. However, they also acknowledge that bringing in two different researchers, with two sets of skills, is not always beneficial and often these collaborations end due to disagreement, prior to the research being concluded (Mengshoel, 2012). The researcher acknowledges that with mixed methods comes the need to have or acquire the knowledge to undertake both quantitative and qualitative research. This has been further considered within the data analysis sections of this thesis, during which the researcher describes their ability and comfort in handling qualitative research, however, acknowledges a deficit and learning opportunity that will come with the quantitative element of the study. O'Cathain (2010) further address this educational gap particularly when it comes to understanding mixed method research. However, they acknowledge that the current literature available is making advance towards closing this gap.

Additionally, the researcher must address the impact of mixed method on sample size. Driscoll *et al,* (2007) also addressed this fact and considered that often there can be a huge reduction in sample size from a large initial quantitative data set to a reduced qualitative data sample. The researcher was mindful of this and its ability to restrict later analysis. However, Malina *et al,* (2010) still advocate the use of a combination of qualitative and quantitative methods in the study of complex, human and socially relatable topics.

Figure 9: Approaching the Research (adapted from Creswell and Creswell, 2017)

```
┌─────────────────────┐              ┌─────────────────────┐
│    PHILISOPHICAL    │  ◄────────►  │ DESIGNING THE RESEARCH │
│     UNDERPINNING    │              │  REALISTIC EVALUATION │
│      PRAGMATISM     │              │     MIXED METHODS     │
└─────────────────────┘              └─────────────────────┘

              ┌─────────────────────┐
              │  TURNING DESIGN INTO │
              │        ACTION        │
              │  SURVEYS/INTERVIEWS  │
              │  STATISTICAL/THEMATIC│
              │       ANALYSIS       │
              └─────────────────────┘
```
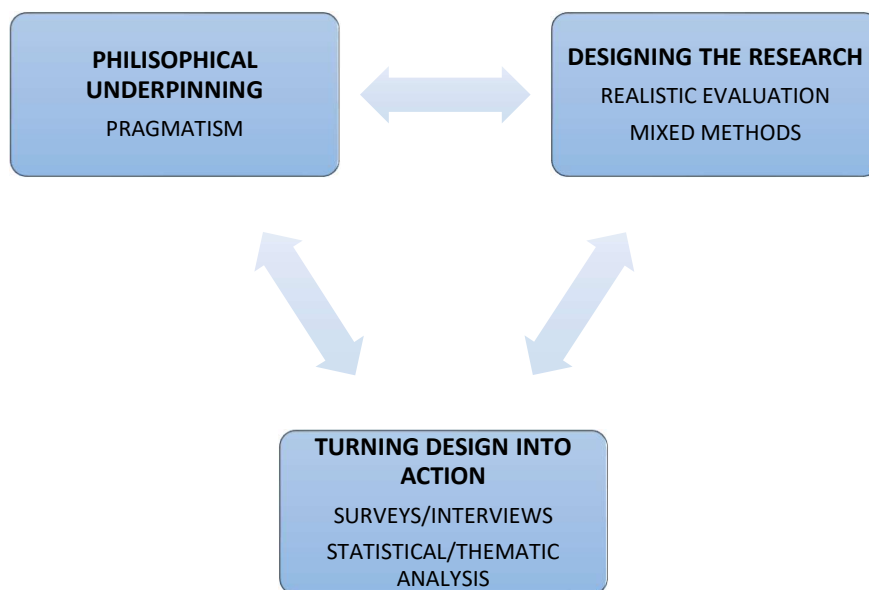
In conclusion, this chapter has provided a detailed discussion on the overall approach to be taken for this study, this process included the appraisal of different methods and methodologies in research and consideration of the most appropriate philosophical underpinning, method, and design for this study. During this decision making, the researcher considered the phenomena to be researched, the research aims associated with it, the way in which the study is to be undertaken and the associated philosophical underpinnings. The initial stage informed the best philosophical underpinning to be used. After a period of exploration and thought, the researcher identified pragmatism as the most suitable approach to take. During this process alternative paradigms and methods were critically reviewed. This allowed a flexibility in the design of the study as well as permitting the use of a mixed method of data collection incorporating both qualitative and quantitative data. Statistical and demographical contextual measurement could then be evaluated as well as consideration of the human elements and individual responses that can impact on mechanisms of action. A comprehensive rationale for the chosen methodology (Realistic Evaluation) has also been provided as well as reasoning given regarding those that have not been selected. With the selection of a realistic evaluation, the researcher was able to provide a deeper understanding of this methodology and its fit with the study aims. In keeping with the theory of RE, a hypothesis was developed which was presented as a CMO configuration. All of this allowed the researcher to move into the next stage of the research and begin to turn the design into action.

3 CHAPTER THREE: Turning Design into Action

This chapter aims to provide a comprehensive explanation of the research design utilised within this research. This will include a detailed account of the selection and rationale behind the use of both a pilot and main study. It will then give details of the methods of data collection and analysis utilised during each stage of the study.

3.1 Phases of Research

This research was undertaken in two distinct phases which were carried out sequentially. The **first phase** was a **pilot study** which was undertaken in order to understand the MOOC development process and also to act as a trial in which the researcher was able to test various elements of the study including recruitment and data collection methods thus improving the main study's feasibility and rigour. This was supported by Henson and Jeffrey (2016) who states that a pilot study can strengthen research through a progressive enhancement of not only the research process but also researcher's practices. This initial pilot stage included a review of potential tools/scales for the measurement of compassion, ethical considerations as well as qualitative and quantitative methods of data collection and analysis. Phase one (pilot study) was beneficial as it informed appropriate changes to the main study.

The **second phase** was the **main study** which, after amendments informed by phase one (pilot study), acted as the principal focus of data collection and analysis for the research project. This stage included a scoping review of the literature, revised ethics considerations, and amended quantitative and qualitative data collection and analysis methods. Within this phase of the research, the mixed method design encompassed a parallel collection of quantitative and qualitative data, followed by a sequential data analysis of firstly quantitative data and then qualitative data.

Figure 10: Illustration of the Research Process

PHASE ONE – PILOT STUDY
January – October 2016

ETHICS

QUALITATIVE

DOCUMENTARY ANALYSIS

DEVELOPMENT TEAM INTERVIEWS

MOOC LEARNER INTERVIEWS

QUANTITATIVE

REVIEW OF COMPASSION MEASUREMENT TOOLS/SCALES

MOOC LEARNING ANALYTICS/STATISTICS

MOOC ONLINE SURVEYS

AMENDMENTS TO PROCESS FOLLOWING PILOT

PHASE TWO - MAIN STUDY
November 2016 – October 2017

ETHICS

QUANTITATIVE

ONLINE STATISTICS

ONLINE SURVEYS

DATA ANALYSIS

QUALITATIVE

DISCUSSION BOARD

LEARNER INTERVIEWS

DATA ANALYSIS

3.1.1   Phase One (Pilot Study)

This phase of research was used as a pilot for the overall project and allowed for an initial evaluation to take place, this was undertaken between January and October 2016. Phase one was then used to inform the main study and permitted appropriate amendments to be made.

This is a key area considered by Pawson and Tilley (1997) who suggest that in order for evaluation to be successful and help it achieve its objectives then it must be undertaken cumulatively and not just as a "one off". The following section will provide a description of each element of phase one (pilot study) in detail.

3.1.1.1   Ethical Dimensions and Considerations

Ethical approval for phase one was gained from the General University Ethics Panel (GUEP) University of Stirling on the 3rd October 2016 (see Appendix IV).

Potential ethical issues that were considered within this application were: Data collection methods, informed consent, and the inclusion of a topic like compassion which could possibly be sensitive. (See Appendix III).

3.1.1.2   Qualitative Element of the Phase One (Pilot Study)

As part of a pilot study, it is important to capture an understanding of the development process of the intervention (MOOC) as well as the intended learning journey to be taken within it (Gaebel, 2014). For this study, acquisition of this information was achieved through qualitative research methods involving a documentary analysis of planning documents and interviews with the MOOC development team. Given the underpinning theory of realistic evaluation, the researcher wanted to gain the views of the MOOC development team (through documentary analysis and interviews) around the context in which the MOOC was framed (e.g., why was it developed for healthcare professionals and lay people?), their intended mechanism of action (e.g, why was the learner journey through the MOOC mapped in the way it was?), and the outcomes they hoped to achieve in the learner when they had completed the MOOC course (e.g., did MOOC development team expect to change learners' attitudes and behaviour?). Pawson and Tilley (1997) endorse this method within evaluation and suggest that it is important to recognise the importance if stakeholder input when undertaking a realistic evaluation with their thoughts and views inclusive within the evaluation process

3.1.1.2.1 Documentary Analysis

At the time this study commenced the MOOC development team were already heavily absorbed in the planning and development of the MOOC content and design. Therefore, in order to capture the data relating to the development discussions that had already taken place,

the researcher undertook an analysis of documents pertaining to this. This documentation validated the methods and rationale utilised during this process. Another fundamental purpose of this documentary analysis was to understand the thoughts and considerations of those within the development team, at the time of planning meetings, and collect data relating to this.

3.1.1.2.1.1 Sample

A purposive sample of documents was selected in order to provide the relevant information in terms of the process of developing the MOOC (Miller and Alvarado, 2005).

On initial review there were 185 documents identified in total (including minutes of meetings, discussion notes, weekly planners, transcripts, week outlines, timelines, information sheets and project plans). However, only 57 of these were deemed appropriate for analysis as many were image files, voice recordings or in unreadable formats. On closer inspection, this number was then further reduced when another 27 documents were discarded due to duplication and documents containing irrelevant information (such as, discussion that was not directly related to this MOOC and details of plans that did not impact on the development of the MOOC) thus providing the most quality and relevant data. This left a total number of 30 documents, to be included in the documentary analysis. This is in keeping with the purpose of documentary analysis in which it is less significant to become embroiled in the number of documents, rather it is vital to consider the quality and content of each document and the purpose of the analysis in the wider research project (Bowen, 2009).

3.1.1.2.1.2 Consent

Consent to have access to all of these documents via The University of Dundee's BOX system was sought from the Lead for the MOOC development team. The researcher sent a comprehensive information sheet and consent form to this individual which detailed the nature and purpose of this study using appropriate and clear language. Having read over this information and with no further clarification sought or questions asked the MOOC Leader then sent back a signed consent form (see Appendix V).

3.1.1.2.1.3 Documentary Data Collection

All data were collected via the University based shared document loading system called BOX, that the researcher had been given consent to access. Within this system there was a wide variety of documentation identified relating to the development and content of the MOOC. A systematic search of these documents (discussed below) was undertaken to find all relevant and appropriate documents used by the development team.

3.1.1.2.1.4 Data Analysis

In order to begin the analysis process, the 30 chosen documents were split into two categories, based on the subjects/discussions contained within them; MOOC development which consisted of 11 documents and MOOC content which was the remaining 19 documents. When reading the materials for the purposes of analysis it was evident that documents such as minutes of meetings and discussion notes provided an understanding of decision making and the rationale of development team input and relationships. Documents such as planners, transcripts and design outlines provided an insight into the content and overall run of the MOOC.

On initial appraisal, all of the documents sourced appeared to include a compelling and robust supply of information. Unfortunately, the researcher was unable to verify or authenticate most of the documents as they were not signed. However, they had all been uploaded to the official secure shared folder of the organisation involved so confirmation of authenticity of fact was gained with that knowledge. All selected documents were written using language that was understandable and did not contain meanings or abbreviations that were specific to any area. The content of all documents was easy to understand and interpret and written in a clear, readable fashion. There were only a select few individuals responsible for writing and uploading the documents which meant there was also consistency with the content and appearance.

Bowen (2009) suggests that in order to complete a documentary analysis successfully, the researcher should use elements of both content and thematic analysis. They go onto further state that "document analysis involves skimming (superficial examination), reading (thorough examination), and interpretation". Content analysis is the process of organising information into categories related to the central questions of the research and obscures the *'interpretive*

processes that turn talk into text'. Thematic analysis is a form of pattern recognition within the data, with emerging themes becoming the categories for analysis (Fereday & Muir-Cochrane, 2006). During this process the researcher is expected to demonstrate objectivity (seeking to represent the research material fairly) and sensitivity (responding to even subtle cues to meaning) in the selection and analysis of data from documents. Following these guidelines, a description of the process undertaken during this analysis is given below.

It is vital to understand the full meaning of the content of each document and its relationship within the research rather than just simply identify individual key words (Bowen, 2009). For that reason, the researcher spent some time acquainting themselves with the content of each document. In this case, each document was read fully by the researcher and specific and repetitive words and themes identified, by highlighting them throughout the text (Shaw *et al*, 2004). Each document was then re-read on several separate occasions in order to check that all relative themes/key words had been successfully identified. This part of the analysis was the most time consuming but also the most vital element to get right.

3.1.1.2.1.5 *Results*

The above analysis of the documents produced approximately 100 common words and themes (all of which were individually repeated more than three times) for example: person-centred, compassion, behaviour change, care setting environment. The connection between the themes was found often through subtle cues in the meaning of sentences, or in the similarity of meaning between key words and phrases. Some themes emerged more strongly than others. Since there was a relatively small set of data, the researcher decided to use a Word Cloud diagram to demonstrate which themes had the strongest and weakest emphasis. This research tool is a visual representation of data often used in literary and educational research (McNaught and Lam, 2010). All common text data found is displayed with the most commonly found words/themes highlighted clearer and more frequently (Williams *et al*, 2013). The researcher believed that at this initial stage of the study, the use of a fast and visually engaging tool was beneficial for early analysis. However, attention must be paid to the limitations in the use of a tool such as this. Although the word cloud affords researchers a quick and understandable representation of common words/themes identified through analysis, one must take careful consideration of the context in which they were taken (Williams *et al,* 2013). This also leaves deliberation of the display of frequency based simply

upon the number of times it was written, again it does not take into account the contextual occurrence of words/terms (McNaught and Lam, 2010).

Nonetheless, the researcher deemed the analysis and related word cloud to be valuable in phase one (pilot) of the research. This information was utilised, and the themes identified drawn upon throughout the creation of the interview schedule intended for the MOOC development team. This afforded the researcher the ability to go into the interviews with a baseline overview and understanding of the nature of deliberations and focus of discussion which has previously taken place.

Figure 11: Document Analysis Results – Word cloud.

3.1.1.2.2 Interviews with MOOC Development Team

Qualitative interviews with the development team were scheduled after the documentary analysis in order to gain a deeper awareness of their thoughts and feelings during the development process. In keeping with realistic evaluation, it is essential that the input of those involved in the designing and creation of the intervention is valued (Pawson and Tilley, 1997).

3.1.1.2.2.1 Recruitment and Sample

Initially an information sheet was provided to everyone on the development team via the SISCC (Scottish Improvement Science Collaborating Centre) Lead. Any members of the

MOOC development team who wished to volunteer were invited to contact the researcher directly via email. This request was made through the SISCC lead using the same standard email that was be devoid of any form of persuasion or pressure. Five potential participants (out of the six members of the development team) contacted the researcher to agree to take part; the course leader, an online learning expert, and three learning week leads. Further discussion regarding arrangement for interview then took place between researcher and participant.

3.1.1.2.2.2 Consent

An information sheet and consent form (see Appendices VI and VII) were sent to all participants at the time of volunteering in order to give them more information and allow time to take this on board. Prior to the commencement of interview formal consent was obtained via return of the signed consent form. Verbal consent was also sought at the start of the interview with clarification that they were happy to proceed and also giving them an opportunity to ask any questions. During the informed consent process the researcher used language and documentation that was easy to understand. All participants were reminded that their involvement was voluntary and that they were able to withdraw from the study at any point without consequence or change in relationship with the wider project. Also, as part of this informed consent process the researcher requested permission to share anonymised data with the wider project (SISCC) where appropriate: all of the participants consented to this.

3.1.1.2.2.3 Data Collection

In order to optimise data gathering and for this undertaking to be fruitful, the collection of data was undertaken, via semi-structured interview. The content of the semi-structured interview was developed, with the help of the documentary analysis results. With this, the researcher intended to gain an understanding of the process of MOOC development: This included learning activity content, decision making and rationale for the development of the MOOC, particularly focused on context, mechanism and outcome with particular attention paid to: in what contexts did the MOOC development team hope that the MOOC was used? (E.g., what group of healthcare practitioners was the course aimed at and why?); what mechanisms were assumed by the MOOC development team? (E.g., what elements of the course were used to influence the learners' behaviour in relation to providing care that was

compassionate?); what outcomes were hoped to achieve? (E.g., influence in learners' attitude and behaviours).

All interviews were digitally recorded and held in a private space in which the researcher aimed to minimise distractions or interruptions. Those participating were notified that the process was to take no longer than one hour. The first interview that was undertaken was with a week lead who is also the secondary supervisor (SS) for this PhD. This was a challenge to deal with as the researcher had to remain thoughtful and focused during the interview process taking into account the role that the interviewee was playing. However, it was also very valuable as it provided a unique opportunity to reflect upon the interview process and following discussion between the researcher and the participant (back in their role as supervisor), was able to make minor but appropriate changes to the format and questioning of the interview (such as more probing questions that could elucidate deeper conversation and more focused questioning relating to the outcome of undertaking the MOOC).

3.1.1.2.2.4 Data Analysis

All interviews were undertaken and concluded prior to the commencement of any part of the analysis process to ensure consistent results. The researcher chose not to follow an iterative analysis process, and analysing each interview after its conclusion, so that full immersion in all available data could be reached simultaneously. Interviews were then transcribed verbatim using an appropriate transcription service. The researcher decided to utilise an appropriate transcription service, rather than undertake it themselves due to the time constraints relating to the running of the MOOC. However, they also recognise that this limited their own ability to read, understand and fully envelope themselves within the meaning. Therefore, the researcher ensured that the transcribed data were read over by the researcher and compared against the recordings in order to check for accuracy. This step in the analysis process provided a chance to gain a broad appreciation of the data.

The researcher decided to utilise the traditional method of thematic content analysis with the use of post-it notes and pens. This was favourable over a relevant computerised qualitative data analysis programme as it afforded the researcher the opportunity to fully immerse themselves in the data. Manual searching, organising, and coding was undertaken with the researcher able to unearth emergent and repetitive themes and identify relationships amongst

these. An overview of the steps taken illustrates the researcher becoming embedded within the content of the transcripts (reading and rereading) and developing an appropriate coding structure (considering the overarching theme of the realistic evaluation and appropriately reflecting the context, mechanism, and outcome framework) (Braun and Clarke, 2013).

3.1.1.2.2.5 Results

Comments and observations made were predominantly positive however, there was some suggestions for improvement. Some discussion involved the advertisement and recruitment drive associated with the MOOC, with particular attention paid to the successful recruitment of healthcare professionals within the NHS. All of the team were happy with their content within the MOOC overall however, some opinion around the limited time for development was offered. Due to constraints with the timing of the first run of the MOOC there was somewhat of an urgency to write the content in time. This also proved challenging with members of the development team undertaking this on a voluntary basis, with heavily rationed moments to spend on the MOOC amongst other responsibilities and commitments. Nonetheless, most were happy with the look and feel of the learning within the course and the variety of learning activities offered.

In terms of discussing the CMO related to the MOOC, overall, the learning was aimed at healthcare professionals and hoped to capture those who had the motivation and time (either professionally, personally, or both), to understand compassion better and use this to improve the compassionate care that they provide to self and others. There were many areas of learning that the team felt could influence this however, interview discussion did often include suggestion that the common theme running throughout the learning journey (based on one thank you letter from a service user) helped with consistency and understanding. The team felt that the use of a variety of learning activities including videos, reading and discussion boards would help with learners understanding of compassion in their context and could impact on their practice behaviours moving forward. Overall, from interview discussion it was apparent that the team hoped to achieve a common outcome, that of positively changing attitudes and behaviours relating to healthcare compassion practices.

The results of the interview analysis were then used to form a report both for the purpose of this study and for the MOOC development's team subsequent run of the course. These

considerations would be combined with the results of the testing below to generate a list of intended changes from the pilot to the main study.

3.1.1.2.3 Interviews with MOOC Learners

A further qualitative exploration to be evaluated in terms of phase one (pilot study) was the thoughts and feelings from MOOC participants (whom were identified healthcare practitioners). This was to ascertain, from their personal perspective, how completing the course had impacted on their practice. However, the overarching benefit to be gained from this element of the pilot study was to test the recruitment and data collection methods for use in the main study.

3.1.1.2.3.1 *Recruitment and Sample*

At the end of the MOOC, volunteers to participate in interviews were sought. If they wished to gain further information and go forward with participation, then they were asked to provide a name and email address that they could be contacted on. The researcher then made contact with all those that were suitable and met the initial inclusion criteria (i.e., were healthcare professionals). At this time, they were given more detailed information with regard to the research and the expectations of them as a participant as well as given the opportunity to ask questions. If in agreement, the researcher then made arrangements for interview.

The sample consisted of individuals who were willing to volunteer to take part in the research with a limit of 12 participants being placed on this phase of the research. This number of participants was identified because qualitative research does not necessarily involve large numbers of participants; instead, small numbers are possible with the aim of gathering relevant, contextual, rich data (Addo, 2014). Therefore, 12 participants was deemed an adequate representation of the views and opinions of the group that the researcher was intending to study. All participants were to meet the inclusion criteria which included being in formal health or social care work and must also be able to speak and understand English in order to be part of the interview process.

3.1.1.2.3.2 *Consent*

Individuals who volunteered to participate in this part of the research were provided with a comprehensive information sheet (see Appendix XVI) and were asked to provide informed

consent prior to commencement of the interview. An opportunity to ask any questions was provided before committing and again prior to the interview starting. During this process all language and documentation was appropriate and easy to understand. All participants were clearly notified that their involvement was voluntary and that they were free to withdraw from the study at any point without consequence.

3.1.1.2.3.3 Data Collection

Data were collected in the form of semi-structured interviews by telephone. It was decided that the most appropriate time to collect this data was 10 weeks after the online course had finished. This was in order to allow participants time to reflect upon their own attitudes, and possibly implement new behaviours. All interviews were digitally recorded, and the researcher ensured that they undertook their end of the discussion in a private space in which there were no distractions or interruptions. However, this could not be specified or controlled in respect of the participant's environment. Those participating were notified that the process would take no longer than one hour. There was a low response rate to the request for volunteers (n=8), and a drop-out rate (n=5), therefore, there were only 3 interviews undertaken. Some reasons for this low response rate were: lack of time to participate, lack of memory of MOOC after the 10-week time delay from completion to interview.

3.1.1.2.3.4 Data Analysis

Due to the low sample size, there was a limited data available for analysis. For this reason, and time constraints linked to the impending subsequent run of the MOOC, the researcher decided not to undertake an analysis of the data collected from MOOC learners, during phase one (pilot study). However, this exercise still proved to be beneficial and met its aim of testing the recruitment and data collection methods for moving into the main study. It was further advantageous as it afforded the researcher a chance to weigh up the best methods of analysis for use with this qualitative data collected in the main study.

3.1.1.2.3.5 Results

Some of the key points identified whilst undertaking these learner interviews, which were taken forward into the main study were: thinking about providing an additional arena in which qualitative data from this perspective could be collected (perhaps linked more closely within the MOOC). Another piece of crucial information that came to light when speaking

with MOOC participants 10 weeks after the course had finished, was their lack of recall on the subject, their learning experience as well as how this had fitted into their healthcare practice. Within the interviews, it became evident that participants felt that such a long delay in discussing the MOOC impacted on their ability to evoke appropriate memories. This information was taken on board when considering changes to the main study.

3.1.1.3 Quantitative Element of Phase One (Pilot Study)

A quantitative stage of phase one (pilot study) was also undertaken to allow for the testing of proposed data collection methods. It was determined by the researcher at this stage, that along with typical demographic and learner statistics being measured, that they wanted to obtain an understanding of compassion and self-compassion from participants before and after the MOOC.

3.1.1.3.1 Review of compassion measurement tools/scales

Based on the aims of the research and the want to measure participants understanding of compassion and self-compassion, the researcher felt it pertinent to identify an appropriate tool/s for this purpose. This was accomplished through a comprehensive review of available tools (identified through the literature review). During this process, the researcher thoroughly searched the literature and initially identified 12 tools for the measurement of compassion or related themes i.e., empathy. Those 12 tools were further evaluated in terms of content, reliability, and validity (see Appendix I) with the researcher concluding that the most fit for purpose and appropriate tools to be used were: The Self-Compassion Scale (Neff, 2016) and The Santa Clara Brief Compassion Scale (Hwang *et al*, 2008).

3.1.1.3.1.1 Recruitment and Sample

Demographic and learner statistics were collected by FutureLearn from participants at the point of registration onto the MOOC, therefore, specific recruitment was not required by the researcher. This data were the design and responsibility of FutureLearn, and the researcher did not have input into this. The sample involved at this stage was determined by the numbers of individuals registering at the beginning and taking part in the MOOC. All data available collected during phase one (pilot) were used thus providing a comprehensive insight into the contextual background of learners as well as registration and drop out and rates and activity levels throughout the course. The total number of participants who started the

MOOC in week one was 9608, all of whom were required to complete the FutureLearn questions as a prerequisite of moving forward to the next stage of the course.

For the compassion and self-compassion related online surveys, recruitment was carried out via the FutureLearn platform. MOOC participants who met the inclusion criteria were asked to complete a quantitative survey at the beginning and conclusion of the course aimed at measuring their own understanding of compassion and self-compassion. Although available through the FutureLearn platform, unlike the demographics, it was the researcher who independently designed, structured, and managed this data collection method. These surveys were advertised to participants within the MOOC platform and were available via a link to an external website that had been developed and managed by The University of Dundee (who hosted the larger SISCC project and MOOC). With regard to the sample size for the collection of this data, this was not determined by the researcher. Instead, this sample size came from those learners who sought the opportunity to undertake the questionnaire. The number of learners identified as having completed the initial questionnaire was 1686 and at the end of the MOOC was 124. Although there appeared to be a significant drop out rate, this was in keeping with the usual pattern of a MOOC participation. Therefore, phase one (pilot) concluded that it was still feasible to collect data in this way.

3.1.1.3.1.2 Consent

Due to the online nature and anonymity of participants undertaking the MOOC consent was obtained online (see Appendix XIV). Prior to commencement of the MOOC, a brief description of the project was provided. If a participant wished to learn more at that stage, then they were asked to click on a link which took them to a website containing more comprehensive information. Participants who still wished further information or who had any questions relating to the study were given contact details for the person responsible during this phase of the research.

3.1.1.3.1.3 Data Collection

Statistical data were collected directly from the course provider FutureLearn which considered information such:

- Number of individuals who start the MOOC

- Engagement through weeks 1-5 (this was measured through the viewing or completion of each step of the learning or the posting of a comment at any step by individual learners)

- Dropout rates (the number of learners who chose to no longer participate)

- Activity levels of learners (this was measured through completion of each individual step by a learner)

- Relevant demographical data such as age range, country of origin and whether they are health care professionals or a lay person.

For the purpose of this study the researcher also wanted to collect data on a large scale that was measurable, clear and exact so therefore, decided to use a data collection tool in the form of a questionnaire/survey. These online surveys consisted of questions relating to compassion and self-compassion utilising the two previously identified tools the Self-Compassion Scale (SCS) (Neff, 2003) and The Santa Clara Brief Compassion Scale (SCBCS) (Hwang *et al*, 2008). For the purpose of this study, both short versions were employed. It is very rare that any instrument in research is 100% validated however, both tools are the optimum choice for their intended purpose through content validity being evidenced with both tools measuring the elements that are required for this research. Both tools are also reliable, in that they both consistently measure that which they are required to measure (Cazzell and Snow, 2007). The combination of the two tools asked participants 17 questions in total and measured their answers on an appropriate rating scale.

3.1.1.3.1.4 *Data Analysis*

Phase one focused on testing the feasibility of the data collection methods. Due to the limitations of the underlying MOOC software during phase one, inferential statistical analysis was not possible and therefore, undertaking a test on the data analysis techniques was not relevant.

3.1.1.3.1.5 *Results*

What became apparent from this vital testing within phase one was that the FutureLearn software ability was not able to link participant's first and second completion of the questionnaire, and therefore, analysis, could not detect any clear change at individual

participant level. The researcher fed this information back to FutureLearn, which allowed it to be acknowledged. The researcher worked with FutureLearn to change the reporting mechanism for the main study, thus allowing individual data to be linked pre- and post-MOOC, thus allowing a full analysis of the data from the main study to comprehensive and sufficient results to meet the needs of the project.

3.1.2   Phase Two (Main Study)

Following the completion of phase one (pilot study) and the first run of the MOOC all relevant data and information were collated. Phase two (main study) was then developed in accordance with these suggestions and the relevant changes are discussed below. Phase two was undertaken between November 2016 and October 2017. Any areas that were unchanged followed the same format as described within phase one.

Overall, the following changes were to be made from phase one (pilot study) to phase two (main study) based on the report (see Appendix X):

Intended changes to be made to study to reflect the above suggestions
1. Provide an arena for discussion to reflect upon participation in the MOOC as well as impact on practice going forward. This will act as a focus group for the purpose of data collection.

2. Dedicate more time and thought to ways in which the MOOC can be advertised and promoted on a wider scale particularly across health and social care thus aiding with recruitment. NHS Highland are already on board with this task and are willing to support in anyway.

3. Bring interviews forward – rather than holding them up to 10 weeks after completion of the course they will be undertaken within 4 weeks of the end date

4. Look into how long the MOOC content and in particular the final discussion board will be "live" and available to learners.

5. Link participant data in the completion of the pre and post course survey.

3.1.2.1 Documentary Analysis and Development Team Research

It was decided that it would not be necessary to repeat the collection of data relating to the development process, including the documentary analysis and interviews with the MOOC development team, in the main study. This data had been collected sufficiently and had served its appropriate purpose. There were also relevant time constraints that required to be considered during the main study within the research process,

3.1.2.2 MOOC Content

The MOOC development team made no changes to the MOOC content between the first and second run of the MOOC.

3.1.2.3 Ethical Dimensions and Considerations

The same potential ethical issues were identified within this application, as was in the original phase one application.

Ethical approval for the main study was gained from the General University Ethics Panel (GUEP) on the 7th July 2017 (see Appendix IX).

3.1.2.4 Pre and Post Course surveys

3.1.2.4.1 Data Collection

Following the evaluation of the first phase and discussion with FutureLearn it was decided that relevant changes would be made in order to collect relevant data from within the MOOC platform. All learners were invited to take part in the pre and post course survey as part of the course introduction (i.e., the learner did not have the additional task of accessing an external website) in order to promote ease of access and potentially recruit more participants. This was initiated and designed by the researcher who was fully and independently responsible for this element of the data collection. FutureLearn merely were the mechanism used to collect it (see Appendices XI and XII).

3.1.2.4.2 Data Analysis

The demographic and statistical information (collected via FutureLearn) was to be used for quantitative analysis purposes. Although much of this would be descriptive, it aimed to provide a contextual background to the MOOC and the participants within it. Analysis would

involve organising the information into meaningful illustrative tables and figures relating to appropriate statistical measurements e.g., retention/leaving analytics, age, gender etc.)

In terms of the compassion related questionnaires, the rating system utilised within each of these would be used. Due to changes made following, phase one, there was now an opportunity to link each individual participant to his/her score pre and post course rather than restricted to collective group level data analysis. This was achieved through the detection of an anonymous identifying number which was given randomly to each participant during registration of the MOOC. This number allowed for a comparison to be made of the survey results of each number at the two time points (pre and post MOOC). Detailed analysis would be undertaken using the open source statistical package R (Team RC, 2018), along with the support if an experienced statistician. Analysis would involve initial testing of normality as well as paired t-testing to examine differences in means pre and post course.

3.1.2.4.3 Results

Results will be presented in chapter four and five of the thesis.

3.1.2.5 *Online Discussion Board*

After careful consideration from the phase one, mainly due to the poor response rate for the telephone interviews, the researcher explored other methods of qualitative data collection. Identification of a further opportunity to collect qualitative data from learners, who were healthcare practitioners, involved introducing an online discussion board in week 5 of the course.

3.1.2.5.1 Recruitment and Sample

This online discussion board was available and visible to all learners on the course however, it was specified in the instructions that this should be a discussion undertaken by healthcare practitioners only. The number of participants for this discussion was not restricted as it was available to all health care participants within the online course (see Appendix XV).

3.1.2.5.2 Consent

Consent for the online discussion board was obtained via the FutureLearn platform (see Appendix XVI). This is due to the fact that they collect data and information as part of their own processes and for their own statistical purposes. This is carried out successfully at the

point of registration during which time FutureLearn express that data and information obtained from learners during the course may be used for research purposes.

3.1.2.5.3 Data Collection

This method of data collection aimed to encourage those healthcare practitioners who had completed the course to discuss in an anonymous capacity and familiar environment, their thoughts, and feelings toward undertaking the course and its possible impact on their practice going forward. Participants were aware that their postings could be used for this research study.

Those online learners who wished to participate in the discussion board were asked to share their experiences of undertaking the course, how they felt that the course may have impacted them as a person and how it may improve their future practice. Specific questions added in order to prompt a more in-depth discussion included: Can you tell us a little bit about what motivated you to register for the course? Which elements of the course did you find particularly interesting or engaging? How do you see your practice changing now you have completed the course?

3.1.2.5.4 Data Analysis

The data collected from the discussion board were analysed using the same thematic analysis process as other qualitative data collected during the research. Once all discussion contributions were identified and printed out then a thematic content analysis was to be embarked upon. Analysis of this data was conducted using the traditional method of pens and post it notes because the researcher chose not to employ the assistance of a software package. This allowed for full immersion into the data through the manual writing and organisation of the post it notes.   This would allow the identification of emergent and repetitive themes and relationships.

3.1.2.5.5 Results

Results will be presented in chapter six of the thesis.

3.1.2.6 Interviews with MOOC Participants

3.1.2.6.1 Data Collection

These interviews (see Appendix XV111) followed the same format to that of phase one. However, there was one essential amendment made which was to bring the timing of the interviews forward. Many participants discussed during pilot interviews that they were undertaken so long after completion of the course and many people had forgotten the content. Therefore, following consideration of the literature in knowledge decay (Debenham, 2000; Su *et al,* 2000), it was decided by the researcher to carry out these interviews 2-3 weeks after completion of the final week of the online course rather than continuing with the original 10-week period.

3.1.2.6.2 Data Analysis

As with previous qualitative data analysis, all interviews were to be undertaken and concluded prior to the commencement of any analysis to ensure consistent results. Interviews would then be transcribed verbatim using an appropriate transcription service. Once transcripts were available a thematic content analysis was to be embarked upon. Analysis of this data was conducted using the traditional method of pens and post it notes because the researcher chose not to employ the assistance of a software package. This allowed for full immersion into the data through the manual writing and organisation of the post it notes. This would allow the identification of emergent and repetitive themes and relationships.

3.1.2.6.3 Results

The results will be presented in chapter 6 of the thesis.

The aim of this chapter was to provide a comprehensive explanation of the research design utilised within this research. This section contained within it, a detailed account of the selection and rationale behind the use of two phases of research, a pilot and main study. It then went on to provide a description of the data collection and analysis methods to be used during each stage of the study. Pulling all these elements together, the researcher was then able to provide details of the vital factors to be integrated into the ethics application for both phase one and two. The researcher will now present the data analysis findings unearthed, opening with the descriptive quantitative analysis.

4 CHAPTER FOUR: Descriptive Quantitative Analysis (FutureLearn Data)

The intentions of this chapter is to provide details of the quantitative descriptive analysis that was undertaken during this research. The findings from this analysis will be presented including additional explanation as to their relevance to the overall study aim and link to the realistic evaluation, in particular the contextual component.

This analysis, although predominantly descriptive, provides a vital contextual background to the educational intervention (MOOC). This is necessary as the evaluation of such a variable and complex intervention can be challenging (Koralesky, 2021). This will afford the researcher a depth of contextual understanding to aid in the search for causal mechanisms throughout later presentation of results. The context of an intervention embraces the elements surrounding and within it such as retention and attrition rates, learning activities and educational benefit. It also encompasses participant characteristics which exist prior to learning being undertaken such as: demographics, social and personal attributes.

In order to understand the content, approach and participant characteristics of the intervention quantitative research was undertaken which was collected through the FutureLearn educational intervention (MOOC). The data were gathered using a combination of FutureLearn analytics available within the programme and a pre and post course survey that participants had access to.

4.1 FutureLearn Data Analytics

Figure 12: Demographics – course measures

Course Measures

Pie chart values: 3888, 302, 2552, 1749, 663

Legend: ■ Joiners ■ Leavers ■ Learners ■ Active Learners ■ Social Learners
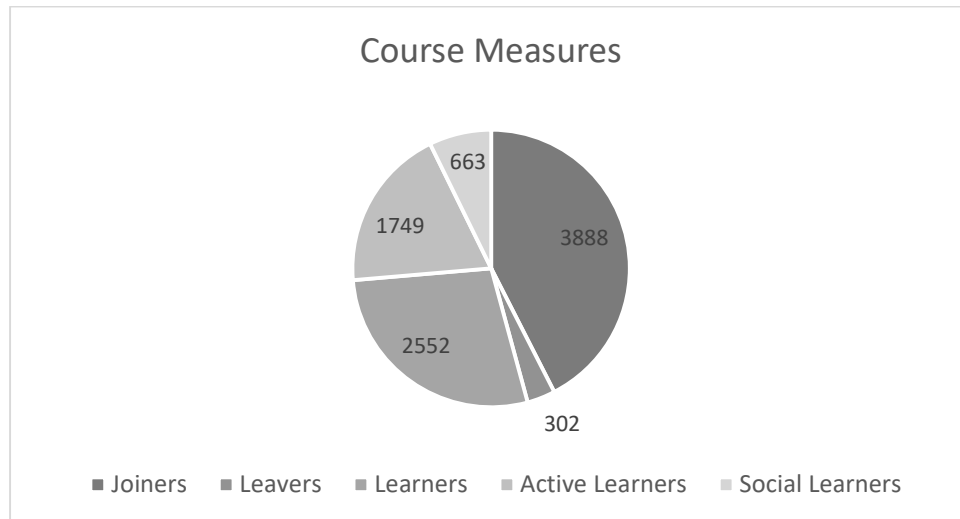
Definitions (as described by FutureLearn)
Joiners – the number of enrolments made for the course including educators, admins and learners
Leavers – users who have chosen to no longer be part of the course.
Learners – users who have **viewed** at least one step at any time in any course week (including those who may have gone onto leave).
Active Learners – those who **completed** at least one step at any time in any course week (including those who may have gone onto leave).
Social Learners – those who have posted at least one comment on any step

Figure 12 shows statistics collected by FutureLearn from within the MOOC programme analytics. This revealed that 3888 individuals had initially registered for the MOOC in week one and by the end of the course 3586 registrants still remained. This demonstrated that only 8% of those who enrolled chose to no longer be part of the course by the end. Of those that remained registered on the course, 1749 (49%) were described as active learners, and 663 (18%) as social learners, with the remaining number of learners not meeting the criteria to be social or active learners (see definitions above).

The definitions above are those used by FutureLearn, however, previously in the literature review, the researcher developed operational definitions for the purpose of this study. This is to encourage an altered thought process from just measuring if they completed the course or not to evaluating retention and active learning from an adult learning point of view. These definitions were:

Retention – the number of enrolled students who are involved in an online learning course

Attrition – the decline in the number of enrolled students from enrolment to end

Active Learners – learners who have actively participated in the learning to some degree throughout the course

So, when examining the above data in combination with the definitions developed for this study, we are able to consider that the 8% of learners who chose to no longer take part, as the attrition rate for the MOOC. Therefore, the remaining 92% can be considered the retention rate as they are all learners who were involved in the course (in some way) until the end. This can be further broken down to understand that of these 92% (defined by FutureLearn as active or social learners), 67% can be identified as active learners according to these definitions. The challenges with defining and debating retention and attrition rates are not new and have been identified in previous research (Stokes *et al,* 2015). A comprehensive discourse of this topic and the link to this research will be provided within the discussion chapter later in this thesis.

4.2   Pre and Post Course Survey Results

The open online nature of this educational intervention naturally generates a wide-ranging and varied group of learners. Therefore, in order to comprehensively evaluate the MOOC, it was essential that attention is paid to participant's individuality. Consideration should be given to the unique value of participant experiences and circumstances (Zigmount *et al*, 2011). Of the 3888 learners who joined the MOOC at registration, 830 completed the pre-course survey and 95 of those completed the post-course survey, either fully or partially (both including a combination of The Self-Compassion Scale (Neff, 2016) and The Santa Clara Brief Compassion Scale (Hwang *et al*, 2008).

Table 5: MOOC Demographics from pre-course survey*

EMPLOYMENT		AGE		COUNTRY		GENDER	
FULL-TIME CARER	21 (2%)	<18	39 (5%)	UK	663 (80%)	FEMALE	736 (89%)
RETIRED	36 (4%)	18-25	73 (9%)	REST OF THE WORLD	167 (20%)	MALE	88 (10.3%)
SELF-EMPLOYED	43 (5%)	26-45	294 (35%)			OTHER	6 (0.7%)
STUDENT	69 (8%)	46-65	402 (48%)				
UNEMPLOYED	70 (9%)	>65	22 (3%)				
EMPLOYED	591 (72%)						

*note – not all participants provided answers to all questions therefore, demographic numbers are not always equal to the full 830.

4.2.1 Employment Status

The dominant employment status was employed with 72% (n=591) of learners describing themselves as such. However, of the 830 responses 82% (n=684) described their current job role as healthcare related with the majority of these being either nurses or support workers. This confusion with responses could signify a lack of understanding of employment status with participants. The other options of unemployed, self-employed, student, retired and full-time carer all had relatively low rates under 10% of the total number.

4.2.2 Age Range

A wide age range participated in the MOOC from under 18s to over 65s*. The highest numbers were concentrated within age ranges 46-65 which totalled 48% (n=402), with those 26-45 making up 35% (n=294) of the total.

*The youngest participant was 13 and the oldest was 89.

4.2.3 Country

The geographical variables were split between participants based within the UK and then those across the rest of the world. This was to allow a relatively easy comparison to be made as the number of individual countries beyond the UK was substantial. The majority of MOOC participants 80% (n=663) described their country of learning as the UK with only 20% (n=167) coming from other areas.

4.2.4 Gender

The majority of learners on the MOOC 89% (n=736) selected their gender as female and 10.3% (n=88) selected male. 0.7% (n=6) of participants selected "other" as a response to this question.

4.2.5 Where the course was undertaken

An additional question that was asked of learners was in what environment had the learning been undertaken. The highest number of learners 60% (n=25) undertook learning within their home environment with the next most popular place being at work 21% (n=9). 14% (n=6) took the course between a combination of their home and work environments and 2% (2) whilst on holiday.

4.3 Pre Course Survey

This analysis was undertaken on data collected through responses to the pre course survey (see Appendix XI) which was completed by participants (n=957). This specifically looked at learner's motivation to participate as well as previous learning experience. An important consideration at this point is that completion of the survey was voluntary and self-motivated therefore, participants were under no pressure to complete nor was there a requirement to answer all questions. Due to the survey being completed either in full or partially, with the

added option for participants to select more than one answer, there was an impact on respondent numbers for each question which can be observed as variable.

Table 6: Reasons for joining the course

To help with job/career	46%	441
To help with academic studies	32%	311
To help for personal reasons	36%	349
To help with social networking	73%	698

Table 6 above shows the numbers of respondents who undertook the MOOC for various reasons and as can be seen from the results that the most popular reason was to help with social networking (73%) which was defined as (share expertise and support with others, socialise with other learners, network with professionals and experts, get feedback and support from others and to learn from others' perspectives and experiences).

Table 7: Previously taken a course delivered online

Yes	61%	553
No	36%	325
Not sure	2%	22

Table 7 shows the majority of respondents (61%) had undertaken some form of online/e-learning prior to the Care and Compassion MOOC.

Table 8: Type of previous online learning taken

Course on FutureLearn	43%	235
Course on a different learning platform	29%	156
Online course for university credit	25%	135
Online continuing professional development or work related course	57%	309
Open learning resource (YouTube, Wikipedia)	31%	170
Other (unspecified)	6%	34

Table 8 shows that just under half (43%) of those who had undertaken previous online learning had done so via the same learning platform, FutureLearn.

4.4 Post Course Survey

The following tables display the analysis which further examines the learning analytics and was undertaken to specifically look at the respondents who completed the post course survey either in full or partially (n=94).

Table 9: Satisfied with the course content

	Yes		No	
Videos and Animations	99%	93	1%	1
Written course content	96%	90	4%	4
Video Subtitles	91%	86	9%	8

Table 9 shows respondents' feelings of satisfaction towards 3 key areas of course content. The majority of learners were satisfied with all areas, with only a very small number not satisfied.

Figure 13: MOOC Learning Activities
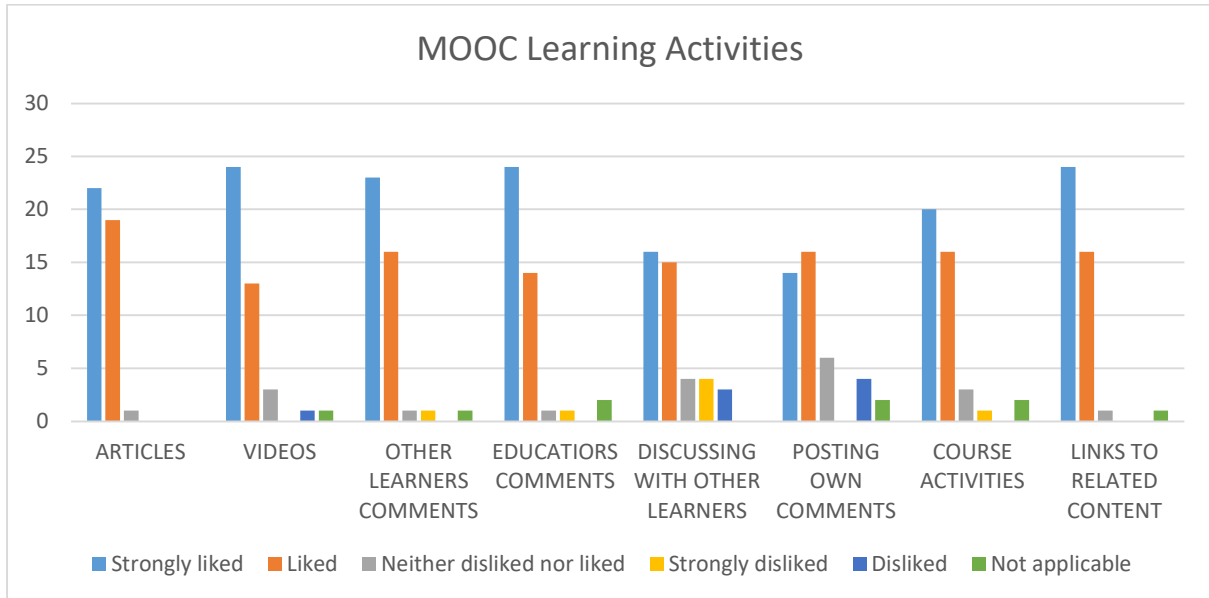
Figure 12 shows the course content/material and the numbers of respondents who like/disliked each form of teaching. As can be seen overall all activities or learning opportunities were either strongly liked or liked by the majority of respondents.

Table 10: How engaging were the educators

Very unengaging	2%	2
Fairly unengaging	5%	5
Neither unengaging or engaging	4%	4
Fairly engaging	28%	26
Very engaging	60%	56
Don't know	1%	1

Table 10 demonstrates how engaging the learners felt that the educators were throughout the MOOC. Just under 90% of respondents reacted with a positive response and described the educators as either fairly or very engaging.

Table 11: How easy or difficult did you find the course

Much harder than I wanted	1%	1
Slightly harder than I wanted	4%	4
About the level I wanted	70%	66
Slightly easier than I wanted	13%	12
Much easier than I wanted	11%	10
Not applicable	1%	1

In table 11 the learners were asked to select how easy or difficult they felt the MOOC was in comparison to what they wanted. Just over 70% were happy that the MOOC learning was at the level that they were looking for. Although interestingly approximately 24% thought the course was in some way easier than they would have liked.

Figure 14: Improved Work Practice

Improved Work Practice
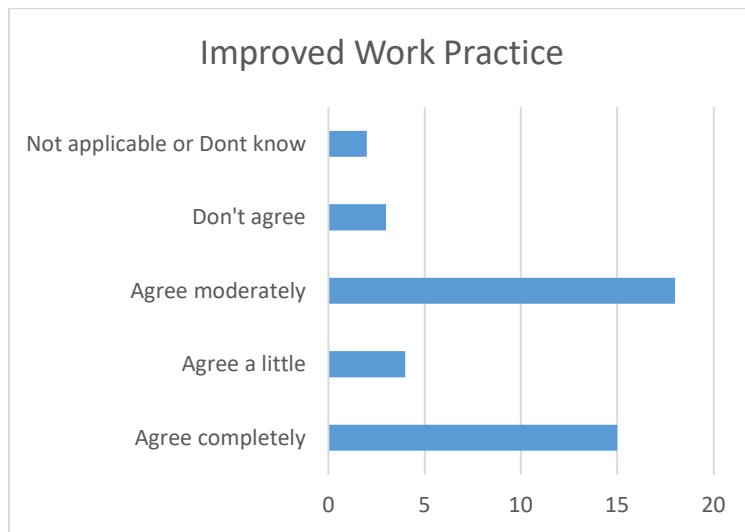
Figure 15: Work Positively Influenced

Work Positively Influenced
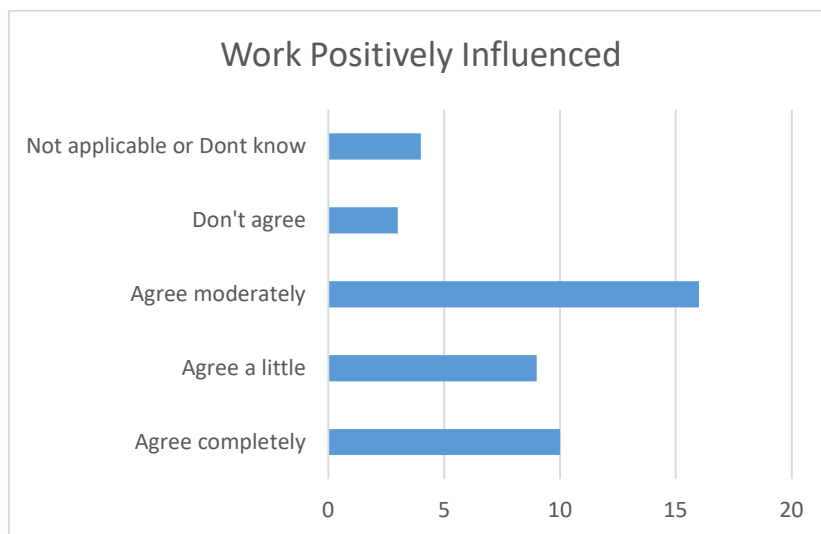
The nature and subject of the MOOC meant that this questioning examined improvement and influence directly relating to the provision of compassionate care within work practices. Therefore, in terms of the intended outcome figures 14 and 15 illustrate that the majority (88% and 83%) of learners agreed, moderately, a little or completely, they could see improved compassionate work practices and a positive influence on their compassionate work ethic following completion of the course.

Figure 16: MOOC Met Overall Needs
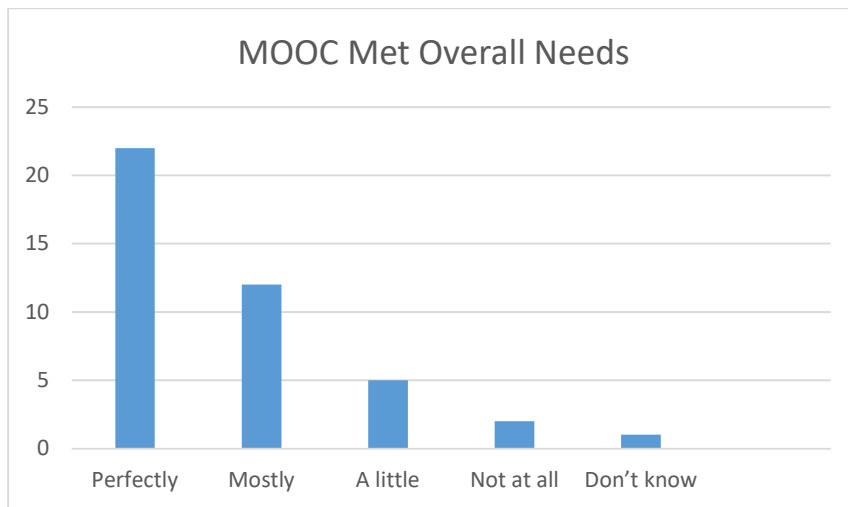
Figure 16 indicates that **93% of learners described** the MOOC as meeting their overall needs either perfectly, mostly or a little and 7% selecting either not at all or don't know as an answer.

This chapter has presented the results of the quantitative descriptive analysis element of the overall study. This was most poignant when considering the contextual constituent of realistic evaluation and provided an understanding of the "circumstances" fragment of "what worked for whom in what circumstances". This then led the researcher onto the next chapter suitably which presents another data set of quantitative findings.

5 CHAPTER FIVE: Quantitative Findings from the Self-Compassion Scale (SCS) and the Santa Clara Brief Compassion Scale (SCBCS)

This chapter will detail the results of the pre and post MOOC scores associated with measuring self-compassion using the Self-Compassion Scale (Neff, 2016) and compassion using the Santa Clara Brief Compassion Scale (Hwang *et al*, 2008). For the purposes of presenting the data in this section, the Self-Compassion Scale is represented as 'SC' while the Santa Clara Brief Compassion Scale is represented as 'C'.

5.1 Analysis

5.1.1 Initial testing

Prior to beginning the quantitative phase of this study, the researcher identified that this aspect of research would provide a learning and development opportunity and therefore, elected to consult with a professional Statistician who brought valuable expertise and knowledge. On reflection, this effective combination of researcher and Statistician provided an enhanced set of skills and expertise across subject matter and analysis process which served to enrich the analysis and strengthen the reliability and validity of the research results. Statisticians can help applied researchers towards selecting the most suitable and statistically valid methods to answer research aims. The Statistician should also provide assistance with looking for complications relating to the validity of data, for example, missing data or extreme outliers. Following a period of learning about quantitative methods and statistical analysis by the researcher, the most appropriate method for the data collected in this study was selected. This process involved several consultations between the researcher and Statistician, allowing for adequate discussion of the study, the design and the research aims. As a result, the following steps were undertaken:

1. All analyses were carried out using the open source statistical package R (Team RC, 2018). The rationale for selection of this particular programme came from discussion with the Statistician and consideration of what analysis was to be undertaken and the most appropriate way in which to achieve this. The R package provided a statistical environment that afforded the researcher a suitable programme for undertaking all of the appropriate tests for the purpose of this study in a manner in which they understood and were comfortable disseminating effectively within the analysis writing.

2. Preliminary inspection of missing information in the dataset led to identify 3 individuals (out of 45) with 1 missing response on average. Following careful consideration, the pattern of missing data was assumed not to be related to the outcome; the units with missing values were thus excluded from the data, leading to a final sample size of N=42 who were from a range of countries (n=7).

3. After testing the Normality with the data from the SC survey, using the Shapiro-Wilk Test (see figure 17 below), a paired t-test was selected to examine the differences in means in the pre and post course responses. The paired t-test is used to ascertain whether there is evidence of a difference in the means of two sets of dependent observations (typically, repeated measurements on the same individuals).

4. Normality was also tested for the data from the C survey (see figure 17 below), following which evidence of this assumption not being met led to choosing a Wilcoxon signed-rank test as more appropriate than a t-test. This test is in some sense analogous to the paired t-test described previously, without requesting the assumption of Normality. The main difference is that instead on differences in means, the focus is on differences in mean ranks.

5.1.1.1 Testing for Normality

The testing of normality is a central component of statistical data analysis. Although this process fundamentally determines whether a sample used has been obtained from a normally distributed population, it also serves to strengthen results obtained and aid researchers when reaching conclusions that are rigorous (Keselman *et al*, 2013; Hernandez *et al*, 2021).

Figure 17: Distribution of Scores – Self-Compassion (SC)
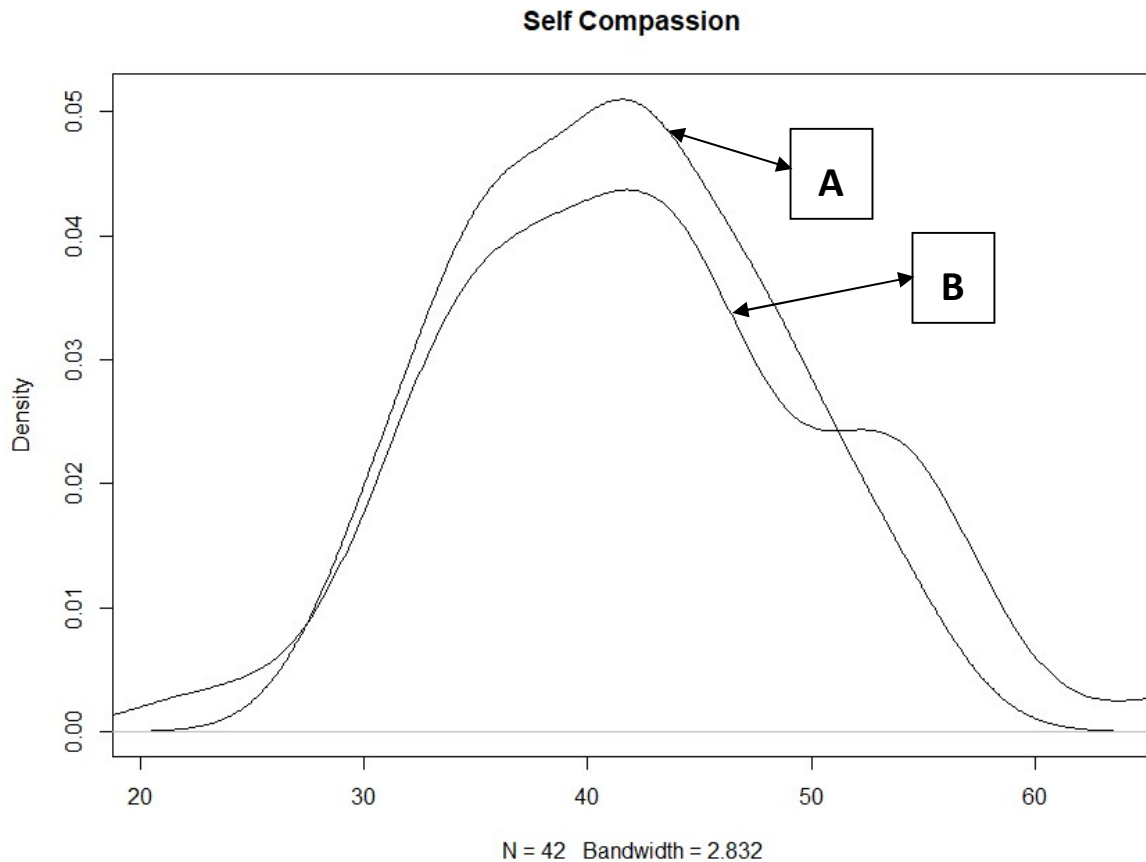
A
Self-Compassion (Pre Course)
Shapiro-Wilk Normality test
W = 0.97739, p-value = **0.5627**

B
Self-Compassion (Post Course)
Shapiro-Wilk Normality test
W = 0.9757, p-value = **0.5021**

Figure 17 above shows the distribution of Total SC scores, thus illustrating the total values from both the pre and post course surveys relating to Self-Compassion. Therefore, the following can be observed:

As a visual reference both pre and post course Total SC distributions appeared to be bell-shaped and symmetric, suggesting that the scores may in fact, be normally distributed. The normality of a data set is determined when the testing can illustrate that the mean is found in the middle of the curve with symmetry observed around the mean. To further strengthen this assumption of normality, the p-value of the Shapiro-Wilk test indicates, in both cases, lack of evidence of a departure from this Normality. This information was then used to identify the most appropriate test for examining the differences in total scores from pre to post course.

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Figure 18: Distribution of Scores – Compassion (C)

Compassion

N = 42 Bandwidth = 1.272
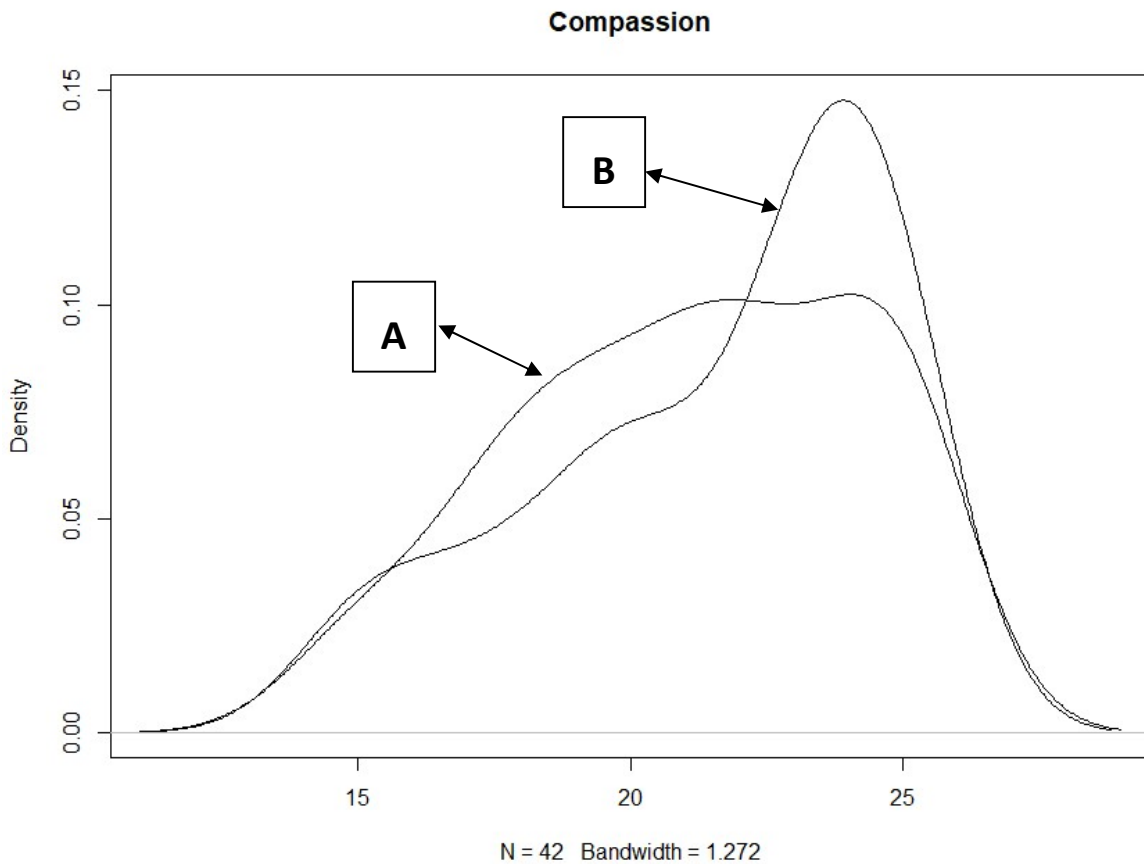
A
Compassion (Pre Course)
Shapiro-Wilk Normality test
W = 0.92055, **p-value = 0.006299**

B
Compassion (Post Course)
Shapiro-Wilk Normality test
W = 0.87694, **p-value = 0.000315**

Figure 18 displays an evident skewness in both cases which suggests a departure from the assumption of Normality. Both distributions (A for the pre scores, B for the post scores) present negative skewness, with B presenting higher likelihood of larger scores than A. This negative skewness is illustrated by asymmetry on either side of a mean which is offset to one side rather than in the middle, therefore, what is seen is not a straightforward mirror image and evidence that the data is not distributed equally. The Shapiro-Wilk test also yielded very low p-values in both cases, suggesting there is enough evidence to reject the assumption of Normality for this data set. As before, this information was then used to identify the most appropriate test for examining the differences in total scores from pre to post course.

However, in the case of both tests for normality in compassion and self-compassion, consideration must be given to the fact that the Shapiro-Wilk test is built on null hypothesis significance testing (Gonzalez-Estrada, 2019) which aims to look at the likelihood of an effect. This is an indicator that, given the small sample available for this testing there may be a deficiency in the evidence which would show that there is a violation of assumption. Assumptions are offered during all parametric testing and consider common data characteristics. The most commonly employed statistical tests make the assumption of Normality, a violation of which can lead to wrong p-values, inflated type I error probabilities, and potentially misleading conclusions.

5.1.1.2 *Testing of pre and post survey scores*

Following discussion of these initial results, it was decided to run additional testing to examine the differences between the pre and post test scores for both self-compassion (SC) and compassion (C). For this, observation of the p-values was sought in order to indicate evidence of statistically significant differences.

5.1.1.2.1 Self-Compassion

The first undertaken was the differences in means pre-post SC. Since the distribution was already deemed normal following the Shapiro-Wilk Test then the researcher determined that a paired t-test was the most suitable test to be used for this purpose. The paired t-test aimed to determine whether a mean value is the same between two related groups. Results of this testing are as follows:

Paired t-test
t = -1.5528, df = 41, **p-value = 0.1282**
alternative hypothesis: true difference in means is not equal to 0
95 percent confidence interval:
-3.1769653 0.4150606
sample estimates:
mean of the differences

-1.380952

As can be noted from information given previously, the p-value output from this test is 0.1282 (p>0.05) which suggests no statistically significant changes between the means from the pre and post course surveys relating to self-compassion. This demonstrates that there is

no significant observable difference between participant scores in the SC survey after taking part in the compassion MOOC.

5.1.1.2.2 Compassion

The differences in mean ranks between the pre-post C was then tested. However, in light of the Normality testing from the Shapiro-Wilk Test and results demonstrating a departure from normal distribution then a Paired T-Test would not be appropriate here. After consideration, a Wilcoxon signed-rank test was deemed more applicable. The Wilcoxon rank test compares the mean ranks of two populations (Field, 2013). Results of this testing are as follows:

Wilcox.test
Wilcoxon signed rank test with continuity correction
V = 160.5, **p-value = 0.2174**
alternative hypothesis: true location shift is not equal to 0

The p-value from this test is noted as 0.2174 ($p>0.05$) which again shows no statistically significant changes in the mean ranks from the pre and post course scores of the compassion survey. Again, this demonstrates overall that no observable difference can be seen in the scores from the compassion survey after undertaking the MOOC.

5.1.1.2.3 Overall results

Having considered these initial results, the researcher was disappointed to be unable to note a significant difference in pre and post course scores for both compassion and self-compassion. This had been an early expectation that was hypothesised and considered a palpable outcome of the learning. The researcher had hoped to be able to prove, as a foundation to this realistic evaluation, a significant difference in learners understanding of compassion and self-compassion after they had participated in the MOOC, thus aiding in the demonstration of MOOC success. However, through the realistic evaluation theory, the researcher was able to consider the impact in more depth. Rather than considering if there was a clear change between pre and post learning, the researcher wanted to investigate what may have worked for whom and in what circumstances. Therefore, more extensive testing was undertaken.

5.1.2 Additional Testing

In order to delve deeper into what worked for whom in what circumstances and consider changes from different perspectives, comparisons were made using a selection of variables between the pre and post course survey for SC and C. The variables available within the statistical data collection that were measured throughout this testing were participant's country, employment status, job role and gender. They were selected in order to provide the best contextual consideration from a learner perspective. During this comparison the Welch Two Sample t-test was used to test the hypothesis that two groups have equal means. This test was selected because it is beneficial when the means of two groups are being tested and the variables are diverse.

Results of this testing are displayed in the form of Box Plot's, which are a graphical display of key features of a set of observations. Box Plots are useful when you are looking to examine and compare more than just medians and means and rather are investigating the dispersion of data.

The centre of the box plot is the median and the top and bottom are the limits (within the box, the middle 50% of observations are displayed). There are "whiskers" sticking out from either end of the box and these display the highest and lowest scores. A typical normal distribution would be shown with a median line in the middle of the box and whiskers displayed equally on either side. However, if the median lies close to the bottom of the box and whiskers are shorter at the lower end then this demonstrates positive skewness. Alternatively, if the median is closer to the top of the box and whiskers shorter at the top then this represents a negatively skewed distribution (Field, 2013).

Note to consider: Some inconsistencies regarding the frequency of distributions of some of the variables in the dataset were observed: specifically, when the data collection tools were developed by Future Learn they did not provide a standard of answer but instead allowed for respondents to input free text, this allowed for some inconsistencies in the format of responses (e.g., with country of origin we were given UK, Uk, uk, United Kingdom, united kingdom etc.). Therefore, it was decided to recode the variables at this stage for consistency.

Figure 19: Box plot - Comparison of non-UK/UK and non-employed/employed - compassion
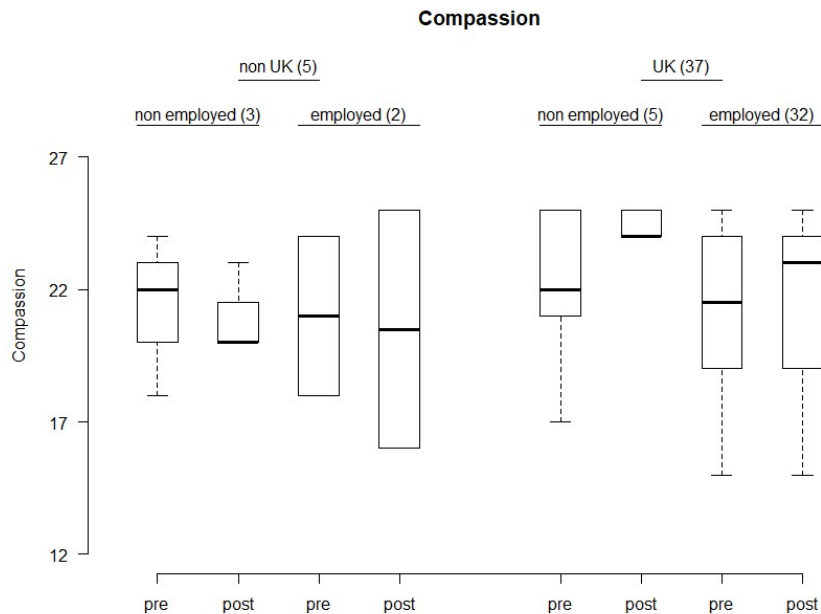
On preliminary, transient visual inspection of the above box plot's (figure 19) the researcher noted an overall suggestion that no significant changes could be seen from pre to post MOOC, (in relation to compassion amongst these sub groups. Nonetheless, all results are valuable for use in this realistic evaluation and some areas worth noting are:

- Both the non-UK, non-employed and employed medians went down from pre to post survey therefore, indicating that the scoring for their understanding of compassion and how compassionate they were, decreased after undertaking the MOOC. However, both the UK, non-employed and employed medians increased from pre to post survey, suggesting the opposite and that, even if just slightly, their scores did improve after their learning journey. Additionally, the majority of median scores for learners within the UK data set were higher than those learning outside the UK.

- There are many things that could be considered contributing factors here for instance; could this be indicative of complexities amongst those studying the MOOC from outside the UK? Are there perhaps challenges with language or translation? Perhaps these data suggest differences in the understanding of compassion throughout the world.

Figure 20: Box plot - Comparison of non-UK/UK and non-employed/employed – self-compassion
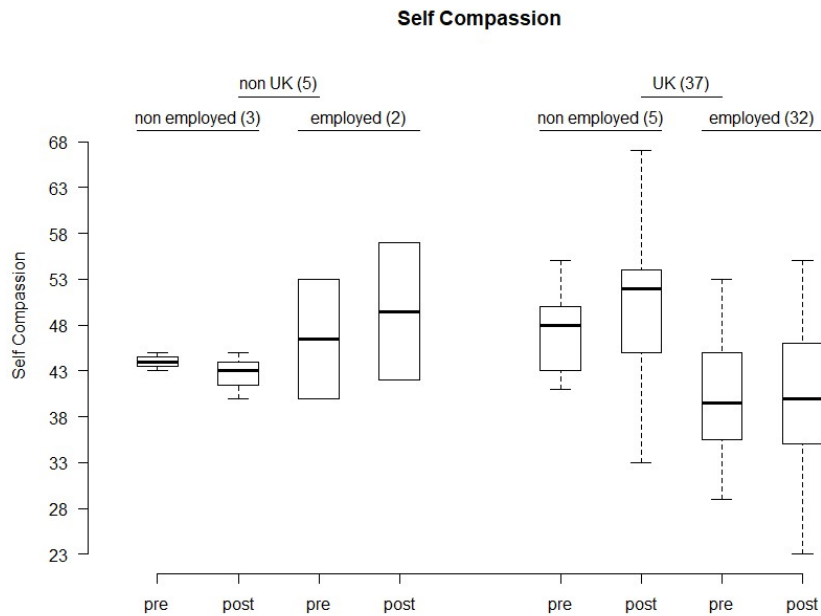
Once again, on initial inspection of the above data results (figure 20) the researcher observed no remarkable significant change in the pre and post MOOC scores (in relation to self-compassion) for these sub groups. Nonetheless, for consideration of the bigger aim of the study, and for comparative transparency, the following is worth noting:

- Out with the UK, the Median scores of those non-employed Median decreased after the course however, contrary to this the scores of those employed actually increased after undertaking the course. Interestingly when then looking at the UK data, the scores of those employed remained unchanged after participating in the MOOC. Overall, the distribution of scores can be seen to be much greater throughout UK participants, than those living throughout the rest of the world.

- These findings may draw similar conclusions to that of the compassion survey, in that perhaps the MOOC being developed within the UK, by a British development team, may impact on complexities faced by those living in other areas of the world.

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- One slightly more noticeable difference in distribution can be seen in the data of those not employed but living within the UK. There seems to be a considerable increase in distribution of scores after undertaking the course.

- The researcher surmises that this may demonstrate a positive impact of the learning. In keeping with the realistic evaluation and thinking about what works for whom in what circumstances – perhaps the learning from the MOOC, although didn't increase scores overall, created new thinking in learners, therefore, making their answer selection more varied and distribution of scores increased.

Figure 21: Box plot - Comparison of non-registered/registered and female and male - compassion
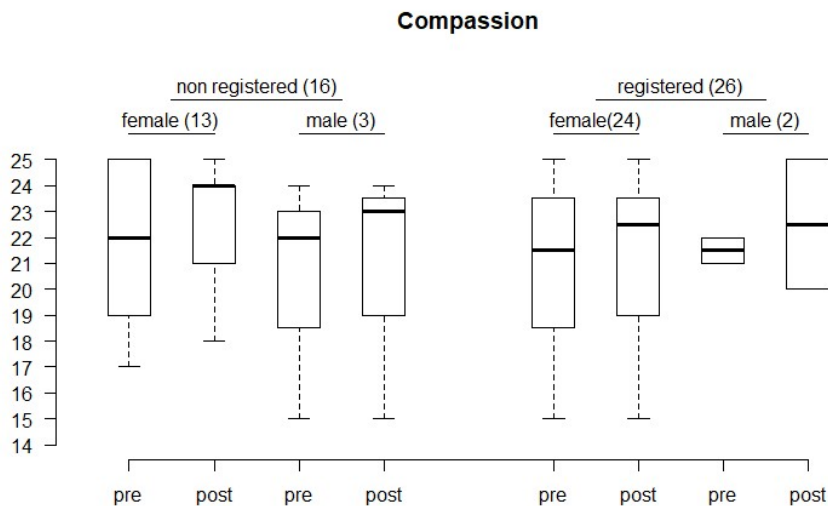
Now looking at a different set of sub groups and the data relating to their compassion survey scores pre and post MOOC (figure 21), the researcher once again observes very little change after undertaking this learning. However, to present additional value the researcher looked deeper into these results and noted the following key points:

- Overall the median scores of both registered professionals and those not registered did increase, even if just slightly, after undertaking the learning on the MOOC. Demonstrating that their understanding of compassion and how compassionate they felt they were improved after the course. Another interesting point is that the majority

of pre to post MOOC medians (except male pre) were higher than the medians in the registered professionals.

- This is an interesting point to make, particularly when the researcher has previously discussed in the literature review that professionally registered practitioners are bound by the ethos of compassion and should be aware of this and the link to practice.

- Both female and male learners amongst both registered and non-registered groups demonstrated an increase in median scores from pre to post MOOC. Which gives some indication that the MOOC learning had some impact amongst this data set albeit limited.

- Looking further into the actual distribution of scores what the researcher noted was an evident increase in score distribution for both registered and non-registered male participants.

- Again, as the researcher has already considered, although this data does not represent a significant change overall and is not able to demonstrate whether the MOOC worked specifically. What could be pondered here is that the learning had the ability to change the thought process of some individuals.

Figure 22: Box plot - Comparison of non-registered/registered and female and male – self-compassion
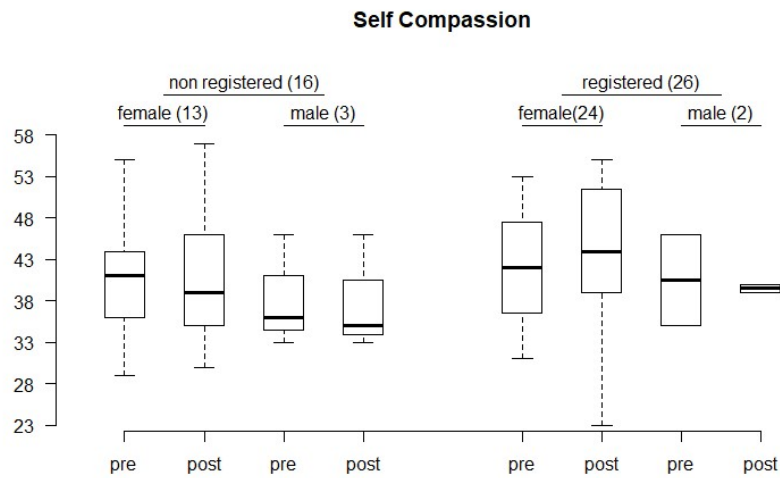
In keeping with this process, the researcher undertook an initial transitory visual inspection of the data. The above box plot's (figure 22) show no significant or vast changes from pre to post MOOC survey scores (in relation to self-compassion). Nonetheless, results were deemed valuable with the researcher noting the following interesting points:

- Completely opposing to the researchers initial hypothesis, that this learning would make a positive impact, what can be seen amongst this data set is that both female and male non-registered professional medians scores decrease from pre to post MOOC. Showing that after undertaking their learning their understanding of self-compassion and how self-compassionate they thought they were actually went down. However, the registered females demonstrate an increase in their scores after participating in learning although alternatively the males in the same group showed a decrease in scores.

- Another observation between the gender groups was that all median scores amongst the females were actually higher than that of both groups of males.

- However, although there is not always positive reports in terms of increase in median scores from the data what can also be seen is that the distribution of scores greatly increased in both male and female registered professionals after their journey on the MOOC. So, although the scores did not increase to show they have a better

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understanding and are more self-compassionate, rather the learning has got them considering a wider range of answers to the questions.

Going deeper into some of the interpretations above what the researcher is aware of is that in both figure 21 and 22 there appeared to be a change in the range of scores selected by different groups from pre to post MOOC. A tentative interpretation for this could be that, where observed, variations in range could be linked to thinking that taking the course has affected the way the students think about C and SC, in such a way that when an increase is observed, this could mean a destabilisation of prior beliefs, where a decrease, a stabilisation. However, at this stage this is purely speculation and without more data and further analysis there are no analytic grounds to substantiate this claim.

Note – a fundamental consideration to make at this point in the research is the effect that the small sample size has on results (e.g., male sample size is 5 therefore, to draw exact conclusions may be arduous).

5.2   Key Points

Overall, relatively negligible changes seem to have occurred between scores in the pre and post course surveys across categories UK and Non-UK, employed and non-employed, registered, and non-registered and gender. However, it can be observed that some variability in the range of scores between the pre and post course surveys seems to be present, under headings: UK v Non UK Self-Compassion, Employed v non-employed Self-Compassion, Registered v Non Registered Self-Compassion and Male v Female Self-Compassion.

Rather than the dissemination of results that are clear-cut and positive, this research must now also consider negative findings which support the null hypothesis. Although researchers may try to supress or mask negative findings, the researcher for this study instead wanted to consider them as part of the wider overall project of realistic evaluation. The negative findings in this case were a significant constituent of the theory of realistic evaluation and afforded the researcher an opportunity to consider the impact in more depth as well as being forced to think more critically around the overall impact of MOOC teaching (Matosin *et al*, 2014). Looking at this in more detail, it is worth noting that although this research is not able to provide solid evidence of a clear difference in scores (either positively or negatively) from taking the pre course survey to completing the MOOC and undertaking the post course survey. What it is able to intimate, is that there is a definite difference in answer selection from these two time points. In keeping with the theoretical underpinning of realistic

evaluation and its need to be more considered than simply if something works or not, this research considers what changes have been made within what conditions. These data could imply that, although not making an evidential change, the learning could possibly be providing an opportunity for deeper thought.

This chapter presented the results of the pre and post MOOC scores associated with measuring self-compassion using the Self-Compassion Scale (Neff, 2016) and compassion using the Santa Clara Brief Compassion Scale (Hwang *et al,* 2008). After initially looking at the data a variety of testing ensued which provided findings relating to compassion and self-compassion. Although there was not a transparent difference in survey scores found, there were some noteworthy observations made which could be expended for realistic evaluation purposes. Having completed this analysis, it then led the researcher to the qualitative findings which will be depicted within the following chapter.

6 CHAPTER SIX: Qualitative Findings

The intention of this chapter is to present the qualitative analysis and findings using data taken from the MOOC surveys, MOOC discussion boards and participant interviews. The researcher will provide details of key themes identified through analysis and illustrative quotes to correspond with each theme.

The following findings are a combination of the three areas in which qualitative data were collected from the MOOC:

1. Free text answers within the MOOC
2. Responses posted on MOOC discussion boards
3. MOOC participant interviews

6.1 Free text answers within MOOC surveys

Of the 3888 learners who joined the MOOC at registration, 830 completed the pre course survey and 95 of those completed the post course survey (both of which included questioning on demographics, experience as well as The Self-Compassion Scale (Neff, 2016) and The Santa Clara Brief Compassion Scale (Hwang *et al*, 2008) either fully or partially. During these surveys there was opportunity for participants to provide free text answers and comments amongst some areas of questioning. These free text comments which included expressions of opinions and critical and constructive feedback, were collated from a qualitative point of view, and thematically analysed (Braun and Clarke, 2013).

Participants were not identifiable through the free text data so allocation of an appropriate ID number for quotes was not undertaken.

6.2 MOOC Discussion Board

112 individuals took part in the discussion forum that formed part of the fifth week of the MOOC. There was a clear explanation of the purpose of the discussion provided before access was given, this included that the contents may be used for research purposes and anyone wishing to contribute at this stage had to work in a healthcare related role. Of these 112 participants (7 were engaged in multiple interactions and ongoing discussions however, the other 105 only provided a one-off comment). Participants also took this opportunity to

interact and provide feedback, advice and comments to others who had participated within the discussion. From the discussion content the researcher was able to identify from the total of 112 participants there were 7 nurses (one being retired), 1 social worker, 1 midwife, 3 hospital volunteers, 3 support workers and 5 who describe themselves as carers. All other healthcare roles were unidentifiable from what they had said (n=92).

Participants were allocated numbers in order to anonymise data – these were DP (Discussion Participant) 1, 2, 3 etc.

6.3 MOOC Participant Interviews

37 individuals initially showed interest in the MOOC and/or the research project by contacting the researcher by email. Due to the strict inclusion criteria of having to be working within healthcare, 32 of those were eligible to take part. After preliminary discussion with this group, 17 people confirmed their interest in taking part in an interview relating to this research.

At the time of making interview arrangements 14 individuals, all from a background of healthcare, intimated their interest and went on to participate in the interview process (1 student nurse, 5 nurses, 3 nurse educators, 1 dementia support worker, 3 allied health professionals (including an AHP support worker, occupational therapist, and an audiologist) and 1 chaplain).

Participants were allocated numbers in order to anonymise data – these were IP (Interview Participant) 1, 2, 3 etc.

6.4 Analysis

A thematic content analysis of all three sets of qualitative data was undertaken which identified emergent and repetitive themes and relationships amongst these (Braun and Clarke, 2013).

After initially analysing each data set individually, a pattern of overlap and parallel theme building emerged. As a result, it was decided to further refine the analysis, amalgamating all three (i.e., survey, discussion board and interview data) areas of analysis.

The results of this process offered the emergence of four principal categories. Within each of these categories subsequent themes were identified (see table 11 below). Verbatim quotes taken from the data have been included within the findings in order illustrate the categories and themes through the words of participants.

Many of these themes have already been acknowledged through the literature review undertaken at the beginning of this study e.g., the link between compassion towards oneself and being able to be outwardly compassionate, the need for a compassionate environment, sharing and learning about each other's experiences and time constraints. It is curious to find parallel ideas once again appearing throughout discussions relating to compassion and self-compassion.

Table 12: Categories and themes identified within the data

1) **Changes to attitudes and behaviours around compassion**
   - Only through knowing ourselves can we really show compassion
   - It's just a jargon word
   - Inspired to be more compassionate
   - Additional tools to help me do better
   - What is important to the patient
   - Compassion is not just for patients

2) **Compassionate care changes reflected in practice**
   - It's often the really tiny acts
   - Don't have the time
   - Conversations with people
   - Lots of little things I'd like to try
   - Compassion within teams
   - Learning process and activity

3) **The emotional burden of compassion**
   - Food for thought
   - The emotive discussion
   - What is compassionate care
   - Reflective practice

4) **Experiences of the MOOC**

- Sharing and learning together
- Attention grabbing
- They've got kids, families, and a life
- Can we find the time?
- As efficient as the equipment and the user

6.4.1   Theme: Changes to Attitudes and Behaviours around compassion

6.4.1.1   *Only through knowing ourselves can we really show compassion*

The majority of participants recognised their own awareness of compassion prior to undertaking the MOOC. In contrast however, many participants had been much less aware of self-compassion at the start of the MOOC. Participants were then able to acknowledge the importance of self-compassion after their learning from the MOOC, and stated that they were

> "…more aware of looking after my own emotional and physical wellbeing as this course has highlighted that our own wellbeing is important too if we want to be able to give a good standard of care to others" [Survey Free Text].

Additionally, having increased their knowledge of self-compassion within the MOOC, participants appeared to have gained an understanding of the link between the ability to be compassionate towards others and being compassionate towards yourself. Those that understood that having self-compassion was looking after oneself and the impact that has on the environment around you, the patients you are looking after and the quality of work that you do (e.g., burnout):

> "If staff are not looking after themselves or not being cared for by others – then they will be burnt out and will not be able to provide compassionate care to others" DP68 [Discussion]

> Self-compassion "…is important so that you don't end up being a mood hoover on everyone around you" IP10 [Interview]

There was also acknowledgment given to how staff interact with their colleagues and the effect this may have on their ability to be self-compassionate. Healthcare professionals, in particular, often concentrate their thoughts on patients, who are of course fundamental.

However, after considering the content of the MOOC some participants now expand their compassion out to the people they work alongside and sometimes even the wider team:

> *"If you want to keep compassion in your heart you've got to have it for you and your colleagues so you can give it to your patients"* IP10 [Interview]

One participant reflected upon self-compassion and considered the busy pressurised job roles that many healthcare professionals work in, and the time constraints involved with this work

> *"We don't worry about our sore feet or sore backs. If something needs done, you get on with it"* IP14 [Interview].

Suggesting that perhaps it is not that they are not or do not want to be self-compassionate perhaps instead it is other factors that stop them being able to be.

6.4.1.2   *"It's just a jargon word"*

The MOOC appeared to expand participants' understanding of what compassion actually was. Many participants felt that the MOOC allowed learners to think more deeply about compassion and what it means to them:

> *"I particularly like this course as it made you realise someone who comes into your care, through a debilitating illness is still and foremost a vulnerable person needing a lot of understanding and compassionate care"* [Survey Free Text]

> *"The course opened up a few more doors into understanding it"* IP5 [Interview]

However, in contrast, one individual not from a healthcare background suggested that learners from a variety of backgrounds not just healthcare professionals could benefit from the MOOC:

> *"I was outside the target audience of healthcare providers, but I found the experience very valuable by giving me a vocabulary and structure for understanding compassionate care in the medical setting, but which can also be used in so many other areas of life"* [Survey Free Text]

There were multiple discussions throughout interviews about what compassion actually was and how people understood it within healthcare. Many participants believed that it is very difficult to define compassion particularly in terms of the care of oneself or another and one participant suggested that:

"The definition of compassion, it's a really personal one to each individual" IP3 [Interview].

Additionally, some considered that due to the lack of understanding of what compassion is it is therefore, difficult to understand how each individual should feel about it. Healthcare professionals may not use the word frequently or in the right context or they may not even think what compassion means to them but perhaps they show compassion, nonetheless.

> *"Sometimes it's just a jargon word, people don't think what it really means and what it means to them"* IP8 [Interview]

6.4.1.3 Inspired to be a more compassionate person

Many participants talked about how their perceptions had changed as a result of undertaking the course. In particular they discussed the positive impact that the learning had when they thought about themselves on a personal level as well as their interactions within home and work environments, describing that

> *"[The MOOC] impacted on me as a person and made me look at conversations I have in my family setting, as a patient and as a professional"* DP5 [Discussion].

Whilst another participant stated that:

"Compassionate care should be extended to our family and friends to support them on a day to day basis" [Survey Free Text].

Some participants felt that they had seen subtle yet still very evident changes to their confidence after completing the MOOC. Confidence was mentioned in different ways. However, the principal idea remained the same in that the learning from the MOOC had allowed them to become a more confident person as well as a more confident healthcare professional:

"It has made me more confident in my role" DP2 [Discussion]

"It increased my confidence as a student nurse in my future placements" [Survey Free Text]

Many of the healthcare professionals wanted to acknowledge that they did feel they were compassionate prior to undertaking the course, however, they also reflected that the course had made them realise that it wasn't straightforward, and that compassion was complex and perhaps what they thought and believed before was not the case now:

"Although I always thought I treated patients and relatives in a compassionate person centred manner, I have come to realise there was so much more I should have done" DP14 [Discussion]

Student nurses as well as others currently undertaking an academic course took part in the MOOC and they were able to relate their learning back to their education. One participant discussed compassionate care in relation to learning or studying:

"Providing compassionate care to oneself and to others will make one's life happier and fruitful, thus when one is learning/studying it will make learning easy and enjoyable if one has compassion in one's heart" [Survey Free Text]

6.4.1.4 *Additional tools to help me do better*

With a variety of lay people and healthcare professionals undertaking the MOOC and providing feedback there were many different perspectives of compassionate care discussed with some people focusing on receiving care, some providing it, other talking about learning it and others discussing how it affected them as a person. One individual contributed feedback that amalgamates these points and contemplates how this one very emotive subject can affect or change individuals in a number of ways.

"This course has given me some tools and vocabulary for both engaging in compassionate care and in asking for it from healthcare providers. It has helped me to build some personal skills e.g., knowing who I am, listening and not being judgmental. Accepting others opinions. Being compassionate in giving care" [Survey Free Text]

Many participants talked about additional tools that they had learnt about and how they can be used within their practices to enhance elements of compassion. Participants talked about how useful the tools would be going forward. One learner in particular talked about the tools, along with other learnt and personal skills, being something, they would now be utilising in their daily practices:

> *"Given me the drive, enthusiasm and tools to turn around not only for myself but for others to bring some compassion and thought into each day"* DP10 [Discussion]

> *"It has given me the drive and tools to implement small changes so that they will become embedded in the culture of my workplace"* [Survey Free Text]

Another participant reaffirmed this and acknowledged that actually they are always aware of being compassionate and provide care in this manner, however, the course has now provided tools that can now help to improve this:

> *"I have always strived to care compassionately and now I have additional tools to help me do better"* DP3 [Discussion]

When discussing their application of learning into practice, there was discussion of the utilisation of valuable tools that were shared within the MOOC:

> *"It gives you more understanding and more tools in order to be compassionate in your practice"* IP4 [Interviews]

A small group of healthcare professionals discussed the challenges of providing compassionate care during difficult times. They talked about putting aside their personal feelings and treating the situation like any other in order to still do their best for the patient. They believed that the MOOC gave them the skills and tools to be able to think about the situation or patient as a whole and on a much deeper level:

"How we are treated by colleagues or patients. A patient who was always so rude to me and that made it hard for me to want to be nice. The course it gave me tools to help me try to be more compassionate and try to have an understanding or at least how do I find out why he is so mean to me and what I can change to improve interaction" IP4 [Interview]

One participant described their, and their teams', use of some of the tools following completion of the course:

"So actually, we are a small team there only are four of us, but we have already agreed that we've popped the seven C's up on a poster in our training rooms, which is a start, but you know to really look at our lesson plan and some of the conversations we have around at the beginning of our sessions for however long they are actually referring to the seven C's but we are actually demonstrating them too" IP 4 [Interview]

6.4.1.5   What is important to the patient?

Many participants when thinking about compassion and compassionate care described it as holistic, as working with and for others and considered it to be a values based action which directly related to behaviours:

"Care that is not only task focused but involves listening to a person, trying to understand their frame of reference and what matters to them and taking care to behave in a way that will optimise the benefit they will feel from the care you are providing. This would include not only what we do but how we do it, the language we use, how we can create a helpful care environment and try to care in a way that is personalised and takes into account the person's natural support network, personal meaningful priorities, needs, strengths and assets and their social circumstances" [Survey Free Text]

"Being kind, helpful and probably doing what the person wants rather than what you think they might need" [Survey Free Text]

In terms of participants using learning from the course to make changes to the way in which they provided care embedded with compassion, there was a lot of very strong discussion regarding enhanced interactions and considering the patient. Participants were able to begin

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to think of the wider patient situation more and that they shouldn't just be doing "for" the patient:

"I realised that when I set goals with patients – it should be their goals" IP5 [Interviews]

One individual touched on the impact that this learning has had on their thought process and how what they have taken on makes them consider things that go wrong in healthcare and where this can be prevented:

"If there was a wee bit extra care and compassion and there was that wee bit more emphasis on patient care and on the patients then it wouldn't be as bad as it is, there wouldn't be as many mistakes – there wouldn't be quite a lot of things" IP9 [Interview]

One participant provided a real life example of when they used their learning from the MOOC to consider the patient as centre to the compassionate exchange:

"I actually had a patient stuck in my head and it's one of the first people I had since doing that element of the course. And she was very tearful and very emotional and there were all sorts of things having gone on having just arrived home and very traumatic reason for being in hospital. And actually to sit and try and unpick some of those issues, actually to stop and say what does matter to you, and actually it helped me feel that I was actually being compassionate I guess and took me away from the very matter of fact other areas that I had to, not tick the boxes off, but the things that I knew I had to be doing and actually stopped and put the person in the middle and made sure that was what I was revolving around. And I feel that I was able to then give them the time to actually answer that and to actually identify actually where are they coming from, what is the motivator for them" IP3 [Interview]

6.4.1.6 *Compassion is not just for patients*

The MOOC allowed participants, and in particular healthcare professionals, to think beyond what they already knew. Many admitted to thinking only about the patients that they work with as those that should be cared for compassionately. However, after undertaking the MOOC they were able to acknowledge that compassion should be extended much further and deeper:

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> *"This course helped me to see that staff need to be treated with compassion as well as the patients"* [Survey Free Text]

However, talking about compassion and interactions within healthcare some participants did discuss this in direct relation to their colleagues. There was a lot of very strong feelings of how the MOOC was able to make them think about compassion from a different angle:

> *"Before the course I felt it was about how we interact with our patients, but it is as much about how we care and how we convey our services to each other and to other service providers as well as service users"* IP1 [Interview]

> *"I am spending more and more time just talking to staff, just listening and chatting"* IP2 [Interview]

One statement made by a participant put this into perspective and incorporated it into the wider care issues that exist within healthcare:

> *"It wasn't just about how we dealt with patients, it's how we deal with each other, so other colleagues, professionals, other disciplines. If everybody got that message and actually tried very hard to behave in practice the way that comes across in the programme, we would have a fraction of the issues that we have with patients"* IP2 [Interview]

6.4.2 Theme: Compassionate care changes reflected in practice

6.4.2.1 *It's often the really tiny acts*

Many participants considered compassion as a direct act or behaviour and described it using actions such as those related to listening and talking as well as the way in which they undertake tasks. One participant described the importance of actions either verbal or non-verbal in changing their practices:

> *"Showing that I care by my actions, touch, language when appropriate, being respectful of others"* [Survey Free Text]

Further to this, data suggested that prior to undertaking the MOOC there was a difference in people's understanding of how healthcare professionals can be compassionate with many

being of the belief that this involved big gestures that went above and beyond their normal role. However, the MOOC emphasised that compassion can be easily integrated into daily work practices. Additionally, after the MOOC many participants were able to recognise the small actions within their practices that could enhance a moment of compassionate care. These small actions included:

"........a warm hug or hold their hand, touch a shoulder" DP65 [Discussion]

"A kind word and five minutes of caring conversation goes such a long way" DP14 [Discussion],

"holding somebody's hand, you can offer them a tissue, you can put your hand on their shoulder" IP3 [Interview].

A contrasting view from one participant subtly acknowledged the time constraints placed on healthcare staff and the limited availability to spend any quality care time with patients. They intimated that although they currently do spend time with patients it often leaves them feeling guilty. However, the MOOC has taught them the importance of compassionate care rather than worrying about other duties, describing,

> *"I am going to feel less guilty about spending time talking to patients"* DP5 [Discussion].

6.4.2.2 Don't have the time

Contrary to the previous acknowledgement where participants had begun to understand that it's the little things that matter in compassionate care, there was another theme identified amongst participants that involved challenges to providing compassionate care. They discussed that although they are able to acknowledge compassionate care and after undertaking the MOOC have an improved understanding of its importance within healthcare settings there are still the same constraints and pressures that mean putting into practice can be problematic:

> *"Humanity and mindfulness is there in all of us but when we allow deadlines and work pressure to take over we forget to practice this important area of care"* DP101 [Discussion]

Another strong feeling evident throughout the data was the issue of timing. This is a topic that is discussed heavily throughout healthcare and is often described as a challenge when thinking about making changes and improvement to practice. Those that talked about this were very passionate about how they felt and talked about their time limitations very strongly. They felt that they are aware of what compassion is and what compassionate care should look like however, their workload, priorities and ever-increasing responsibilities limits their ability to provide this level of care. The MOOC made them think about the reality of working with people versus the constraints of healthcare:

> *"Some hadn't appreciated how we had become so health focused and so righteous in what we are doing. We are doing things to people rather than doing things with people"* IP3 [Interview]

> *"We get caught up with waiting lists and numbers and meeting targets when actually what it is about is what we are delivering to our patients and how good are we at giving it to patients and supporting them"* IP5 [Interview]

> *"I might know about compassionate care but if I don't have the time and the workload is tight and there are other things needing done – then you don't have the time for it"* IP11 [Interview]

6.4.2.3   Conversations with people

When discussing taking learning into practice a common train of thought amongst participants was the ability to share with others. The overarching consensus was that the MOOC had the ability to provoke thought and discussion amongst colleagues and that learners had a want and/or need to share their learning and the course itself with others around them:

> *"Been able to make reference to the course and some of the resources and content when speaking to staff"* DP13 [Discussion]

Along with the discussions, many participants also felt comfortable and confident enough to go on to recommend the MOOC to others around them. They felt that the content and learning was invaluable to the work of healthcare professionals and the subject of compassionate care was worth acknowledging:

> *"I was talking about the course and a few people were thinking about doing it – that shows it's influenced them to think about their compassionate care"* IP11 [Interview]

> *"The care and compassion MOOC, that's one that I would definitely recommend staff to do. I know if it comes up again I will definitely be encouraging them to try it"* IP1 [Interview]

One participant even talked about how sharing the message of the MOOC and having caring conversations with colleagues has actually impacted on the wider team environment:

> *"Made me have conversations with people about the course which made each other appreciate each other"* IP3 [Interview]

6.4.2.4   Lots of little things I'd like to try

Another theme emerging from the data was the impact that the learning would have on work practices in healthcare. Many learners acknowledged that their practices would change positively as a result of what they have learnt:

> *"I was looking to improve my practice and increase my knowledge both of which I feel I have achieved"* DP47 [Discussion]

One person who although made reference to making changes to practice did state that these would be subtle changes rather than big huge alterations to their current practices:

> *"In regards to change in my practice - well there have already been some subtle changes"* DP47 [Discussion]

6.4.2.5   Compassion within teams

A key finding from the discussion during interviews was the changes to practice and recognition of how people worked before and after completing the course. Although the MOOC is aimed at individuals and is looking to improve practices through its learning, there was acknowledgment given to the fact that healthcare is not run by an individual and that change needs to be made at a higher level in order to demonstrate and encourage positive change down the line:

"If we don't culturally get the right message across to our teams then we can't really expect them, nor can we criticise then when they are working and behaviour with patients isn't what we want it to be" IP2 [Interview]

Thinking further into the working environment and the influence this and colleagues has on change, there did appear to be a clear identifiable group amongst participants who considered that change, of any description, wasn't something everyone wanted or needed particularly when it comes to those with many years of experience. The age old saying "you can't teach an old dog new tricks" touched upon the way in which this group felt. One participant related this well to the practices of some of their colleagues:

"Some of the older ones that have been there a few years they are kind of set in their ways, they like the way things are done, they don't want to change the way things are. They have got their way of dealing with people and it's hard, it's hard to instil that into somebody that has been doing the same thing for thirty years" IP9 [Interview]

6.4.2.6 *Learning Process and Activity*

Conversation amongst participants often included suggestions on where this MOOC could be taken in the future. Many registered practitioners are required to undertake additional learning in order to validate their registration with their governing body and during conversation it appeared that some learners had considered this when registering and undertaking the MOOC. There was a feeling that perhaps learning like this, although often undertaken in their own time, could still count towards their personal development:

"I thought it would be good for my appraisal and revalidation" DP5 [Discussion]

As well as within their training, all staff going to work in the NHS and most staff entering into a role in healthcare will have to complete a period of induction which includes key training and learning on subjects relevant to their role going forward. Some interview participants talked about this when thinking how the MOOC could fit into learning on mass and be able to cover all those going to work in healthcare:

"We should be looking at things like this for induction purposes, you know on your induction day" IP3 [Interview]

"I feel it should be compulsory for all working in any form of health or social care, including doctors and other allied medical professionals" DP69 [Discussion]

Some of the participants who were involved in an academic context as well as practical work of healthcare discussed the possibility of including the MOOC learning as part of the undergraduate nursing programme, to capture their interest in compassion at this early stage. They acknowledged the importance of ensuring learning like this is provided to students coming into the healthcare professions:

"I would love to be able to put this in the undergraduate programme, I think it would be a very positive influence for undergraduate nurses" IP8 [Interview]

"I want to encourage my students to discuss what compassionate care is and ensure it is always within their thoughts" DP11 [Discussion]

One University academic described an example of taking their learning from the MOOC back into teaching:

"Within my teaching in this next semester I will be doing first year quality nursing care modules and I will be getting them to unpick compassion maybe a bit more because I think sometimes it's just a jargon word without really thinking about what that means and what it will mean to them if they progress in this career" IP5 [Interview]

Some of the participants also considered undertaking the MOOC in different ways in order to accommodate the nature of healthcare and the need for regular group updates:

"There is scope for small teams to perhaps do it together as a team, you know as part of their weekly huddle" IP13 [Interview]

6.4.3   Theme: The emotional burden of compassion

6.4.3.1   *Food for thought*

Some learners discussed the MOOC as providing a valuable thought process when considering compassion, but it also left them wanting to delve deeper into the subject:

"I found it to be an eye opening experience. It made me realise just how lacking in knowledge I am, but it makes me want to explore the subject in depth" [Survey Free Text]

A few considered the emotional aspects of compassion and described it using words such as love:

"Love and deep concern, respect and care palpable in the touch, visible in the eyes, audible in the voice, discernible in the body language" [Survey Free Text]

One of the points made several times during discussion was the ability that the MOOC had of creating times of thought. Many talked about the course being thought provoking and providing an opportunity to think beyond what they were simply being taught:

"The MOOC provided information in a thought provoking way" DP81 [Discussion]

6.4.3.2   *The emotive discussion*

It was almost impossible to have any discussion with participants without some form of emotional dialogue coming through. Compassion is a highly emotive subject, and this shone through much of the data. Most of the participants talked about different parts of the MOOC making them feel emotional. Some individuals even shared their learning with others around them to see if they found it emotional too.

One Care Home Nurse, while undertaking the MOOC at work, showed a video link to a variety of colleagues and it had an immense effect on the group who were not healthcare professionals or involved in direct patient care:

"I went and got maintenance and housekeeping (staff), I didn't say anything, I said here watch this for a minute and see what you think – they were all just about crying at the end of it" IP3 [Interview]

The same individual then shared it with a family member, to see if the emotion of compassion stretched beyond those that look after patients and again the effect was profound:

"I even showed it to my husband, who is a retired banker, he didn't do the course, but it made him cry" IP3 [Interview]

Another very strong feeling that came across was how shocking it was that as healthcare professionals, we need to be taught something so fundamental and yet vitally important as how to be compassionate. This was particularly poignant within one interview with an individual completely shocked that compassion is out there as a teachable subject in the first place:

"I'm shaking my head that people need to be taught compassion, it blows my mind" IP10 [Interview]

On the other hand, another person considered that perhaps just because of the role that someone is in doesn't necessarily mean that compassionate actions come naturally to them:

"We all think that because we are nurses, of course we are compassionate" IP7 [Interview]

6.4.3.3 What is compassionate care?

Some very powerful descriptions and interpretations of compassionate care came out of the data which appeared to show a deep level of thought provocation and knowledge translation:

"Permitting the client to take an active role in his/her care, by listening to what is said and most of all by treating the person as a valued member of society who is now unwell" [Survey Free Text]

"Care that empowers a person in his/her own care. The patient feels s/he is included in the caring process. The service provider on the other hand provides person-centred care despite the conditions such as lack of staffing, prejudices and any other factors which prevents a person from providing therapeutic care" [Survey Free Text]

"Listening, connecting emotionally, having curiosity and courage within that caring relationship. Being able to compromise when seeing others perspectives. Having consideration for those perspectives and then being able to collaborate with that person and maybe others for that person's benefit" [Survey Free Text]

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"Providing support to the person and to myself so an acceptance and understanding can be reached, that can help the process. To show understanding of the personality, needs and comforts this person has thrived on and to replicate them to improve their sense of wellbeing in their state of vulnerability" [Survey Free Text]

6.4.3.4 Reflective practice

With such an emotional, stressful, and busy job many practitioners are encouraged to reflect on their practices and learning as part of their responsibilities. Some of the participants felt that this MOOC provided an optimum opportunity for this:

"It wasn't the content that stretched me as much as the you know, reflection on areas of my own practice" IP13 [Interview]

Two people in fact, felt that on reflection, the MOOC actually provided positive affirmation of what they were already achieving within their practices:

"Doing that wee [small] short programme actually helped me to reconfirm in my head, yeah I've got the right ideas, I have got the right view, my behaviour in practice is in line with what would be expected" IP2 [Interview]

"Reinforced the kind of knowledge and experience that I already have" *IP15 [Interview]*

6.4.4 Theme: Experiences of the MOOC

6.4.4.1 Sharing and Learning Together

One very mutual feeling towards the MOOC was the undeniable need for discussion and interaction amongst MOOC learners as well as with educators. Participants found this area hugely beneficial and vitally important for learning with accreditation given to the opportunity to network and debate with so many other learners from such a variety of backgrounds and circumstances. Many participants described the discussions as allowing learners to chat to one another as well as with the educators which appeared to be widely accepted as a useful tool. The variety, opportunity and regularity of discussion and ability to comment seemed to be very successful:

> *"A lot more to learn from all the participants who have their own views of compassionate care to share"* DP108 [Discussion]

Many felt that having the opportunity to share and hear different stories, perspectives and opinions was a unique and hugely advantageous learning tool. There was also some affirmative feedback regarding learners being able share their own views within discussions and the benefit that comes with this:

> *"Psychologically therapeutic as it allows individuals to express their perspectives without judgment"* DP87 [Discussion]

> *"Forums (Discussion) were a way of expressing how you were feeling about what had been asked and getting some feedback without being overwhelmed"* IP5 [Interview]

The data showed that many participants considered their opportunity to interact with their fellow learners and this point was made particularly poignant with healthcare professionals as they were able to interact with lay people and non-professionals:

> *"Overall, it was interesting hearing different perspectives from a range of people from all over rather from just a small group of nursing professionals from the same ward"* [Survey Free Text]

> *"Any learning that I do I am with either nurses or academics, it was really nice to be with a really big mixture of the general public, people from social care, people from health and see all the different perspectives"* IP8 [Interview]

However, there was also some mention of the size and overwhelming content of the various discussion boards and how the huge numbers of learners taking part meant that it often was quite impossible to keep up and be able to read the whole discussion thread. This also affected some learner's ability and desire to provide comment or feedback:

> *"It was a bit overwhelming because there would have been two hundred comments, so I couldn't go through all of those comments. I didn't comment as much as I would have if there were less people"* IP8 [Interview]

6.4.4.2 Attention grabbing

The majority of feedback was encouraging from this perspective with most people satisfied with the general length and setup of the MOOC as well as enjoying the learning activities provided:

> *"Pleasantly surprised at the content, the different mediums the course offered and the level of expected participation"* [Survey Free Text]

There was a lot of comments that discussed the success and variety of the learning activities that were provided throughout the MOOC. Many people were impressed by the standard and diversity of the teaching tools which kept them engaged:

> *"I very much liked the variety of teaching and learning experiences that were offered"* [Survey Free Text]

Many of the comments that were left as part of the surveys included positive feedback regarding the video links included within the MOOC. These seemed to be a very popular tool for learning and the reality of them enabled learners to think deeper into what they were learning about:

> *"Very uplifting video clips and powerful way to look at healthcare* [Survey Free Text]

Although there was some comment made around selected video clips not being so great, with a couple of learners finding them unnecessarily long and not entirely useful:

> *"One or two of the videos were a bit on the lengthy side, I found it hard to take in all that was being said"* [Survey Free Text]

Although none of these areas of learning were common, with some finding particular learning very interesting and engaging with others finding this same learning hard to work through and tedious. This may show a difference in people's direct interests, personalities and learning styles. However, no participant found every learning style, or weeks activities uninteresting which substantiates the common feelings of a successful use of variety of learning:

"I thought the learning mix was really good. You would have a chunk maybe two or three paragraphs to read but then it would go to a video or a case study or question. I thought that was brilliant because it did hold your attention" IP10 [Interview]

When thinking about the MOOC as a successful learning tool, although the learning activities and content appeared to have been received positively, participants often discussed the want for additional learning activities. They were looking for this as a form of checking their learning and providing an opportunity to undertake tasks related to the subjects. Some were also looking for the chance to undertake further reading, if they so wished, which would allow them to go deeper into the learning and promote independent learning away from the MOOC. Those that had been involved in previous experience with FutureLearn also described their other MOOCs as having regular tests to check knowledge and learning:

"There wasn't much in the way of tasks it was more just listening to what people were saying – them giving you information" IP9 [Interview]

"Include more external references to further research so people can read it for themselves" IP14 [Interview]

6.4.4.3 They've got kids, families, and a life

Some participants intimated that the online feature of the course was well done, and they found it to be helpful for their workload:

"I love how it has been so flexible, that I can do it when it suits me" DP21 [Discussion]

"It fitted in with my job and home life well and I felt I have achieved something valuable" [Survey Free Text]

A big area for discussion throughout interviews and worth mentioning at this point was the different feelings between online learning of the future versus the more old fashioned face to face learning styles that many learners are used to:

"I actually prefer face to face learning – I think a lot of stuff I have learned in that course has already floated out of my head. I think when you are face to face you get a

chance to reflect and go over things as a group which I think this course was lacking"
IP10 [Interview]

"It surprised me, I thought there would be a lot you missed out because it was online. However, I still think you can't beat being in a room with people debating things" IP12 [Interview]

An overarching theme that emerged was the success of the online nature of the MOOC. Many participants found this an enormously positive driving force behind their decision to not only begin the MOOC but to also continue to learn until the end. Many described the ability to "jump in and out" as being super useful particularly to assist with successful time management:

"Having a learning method like this provided you've got a relatively organised head – you can jump in, login, do half an hour, come out and go and get on with something else – its flexible" IP2 [Interview]

This was also discussed further with the online nature and the ability to undertake it on a variety of devices being very popular as this substantiated the flexibility and ability to delve in and out in a variety of settings and environments:

"I can grab ten minutes, half an hour here, there, anywhere so I can do it when I am work, when I am sitting at home, when I am out. I can do it through a phone, a tablet, a laptop whatever" IP2 [Interview]

6.4.4.4   *Can we find the time?*

With such a variety in course length and expected study time with online learning courses, particularly MOOCS, there was quite a lot of acknowledgment from learners around this. There was a strong feeling and lots of positive comments with regard to the 5 week course being just right for learning:

"I found it easier to find the time to complete this course than the last time I tried to do one" [Survey Free Text]

However, there was also some mention amongst learners about feeling under pressure with only having 5 weeks to complete:

> *"I did feel under pressure to keep up – fell behind quite a bit quickly* [Survey Free Text]

Consideration of the fact that all interview participants came from a healthcare background who were either working or studying on a part or full-time basis needed to be made when discussing the work life balance of online learning. Although many found the MOOC very flexible (as discussed above) there was also the impact that additional learning may have on someone's life both at work and at home. Working in healthcare can be a highly emotional, stressful, and busy responsibility, couple that with life in general then taking additional learning on voluntarily can sometime be a tricky balancing act:

> *"I am mindful all the time of actually we want the people who are working with our patients right now to be doing this stuff and they would just not have had the time to do that, and they are unlikely to do it in their own time because they've got kids, families and a life"* IP7 [Interview]

During many interviews, participants discussed the timing of the MOOC and its effect on how they got on with it. The MOOC did run over 5 weeks during the summer which provided challenges for some in terms of holidays. For those that found this difficult, their main areas of concern were the weeks they missed and their chances to catch up and how this would reflect on their quality of learning:

> *"I did struggle with the timing of it because it ran over the summer holidays, I was actually away on holiday for three weeks out of the six, seven week window so I ended up rushing in the end to get through it and maybe not participating in it as well as I did at the outset"* IP8 [Interview]

> *"I had two weeks holiday booked over the 5 week period and that was a mistake for me because it made me a bit rushed. I did have to do a lot of cramming in my own time at the end"* IP12 [Interview]

However, on the other hand some participates felt that the way the MOOC was laid out into manageable bites provided the perfect opportunity for learning:

"I liked how it was broken down into small steps – so if you only had a short period of time, I could say right I'm only going to do like two steps tonight" IP4 [Interview]

Like many areas of learning, there was much mention of the length of the course. There were mixed feelings from participants about the 5 week length with some feeling that it was either too short or too long, but this could be down to individual learning styles and abilities rather than the content of the MOOC. There were some participants, however, that felt that the length of the course was ideal for its purpose:

"I felt the 5 weeks to complete the amount of content and the kind of background reading stuff that you had the opportunity to do was quite tight" IP7 [Interview]

6.4.4.5   As efficient as the equipment and user

However, some learners found their experience to be not wholly a good one and although they found the MOOC to be a good learning experience and the subject matter very interesting, it was issues with the technology where they felt let down slightly:

"Disliked the IT issues at work" [Survey Free Text]

"I did not find it easy to read replies to my comments as my laptop seemed to freeze and tell me FutureLearn was not responding, disappointing really" [Survey Free Text]

With any kind of learning where the internet or technology are a prerequisite comes challenges with content and access on this level. When asked about this area within the interviews there seemed to be an overwhelming consensus on problematic areas. Predominantly there seemed to be an issue with one of the learning activities called the Padlet Board. This was an area that allowed and requested learners to share and upload pictures and information. Interviewees were unable to define the reason for the challenges in this area and some were not sure if it was their lack of experience or expertise or whether it was a technical issue at the FutureLearn end:

"Occasionally I found technical difficulties – there was a thing padlet, I struggled with that, just trying to kind of cut and paste the images and get them to stay where I wanted" IP15 [Interview]

"The little bits where you were to attach a photograph maybe or an image – you had to go in and put an image and say what that image meant for you – I was struggling with getting that to work" IP12 [Interview]

There was occasional issue with access to the internet although this was common amongst healthcare workers working within the NHS, who have restrictions on access from site based computers. There was also mention of the variety in people's internet experience and access ability due to background, age etc.:

"Someone who wasn't 100% on how to use the internet or setting up an account – some people don't have an email address and some people don't use the internet and some aren't really clued up on it" IP9 [Interview]

These qualitative data results demonstrate a wealth and breadth of considerations and areas of learning captured directly through the voices of participants. This highlights, the ways in which the MOOC worked differently for learners within their own contexts. In accordance with the realistic evaluation theory, these results do not merely validate whether a programme works or not but rather looks more intrinsically into what worked for whom and within what contexts.

This chapter aimed to present the qualitative analysis and findings using data taken from the MOOC surveys, MOOC discussion boards and participant interviews. The researcher presented these findings using the key themes identified through analysis and provided illustrative quotes to correspond with each theme.

Now that all areas of analysis have been undertaken and separate findings presented, the researcher will use the following chapter to integrate this data and present a realistic evaluation and discussion relating to the educational intervention.

7 CHAPTER SEVEN: Realistic Evaluation and Discussion

This chapter presents the key findings from the mixed method analysis acknowledging realistic evaluation theory which underpinned this research. Consideration will be given to the original CMO configuration developed from the research hypothesis and will link this to the key findings identified from the study. This discussion will strengthen the individual quantitative and qualitative data results and support their findings.

A new educational intervention, such as a MOOC, needs to be evaluated appropriately in order for its impact to be understood and for future development. The researcher, for the purpose of this study, wanted to provide a comprehensive evaluation in which investigation identified who it worked for best and how rather than just if it worked or not. The researcher was able to understand the MOOC better through understanding the mechanisms within it, how these mechanisms influence outcome with consideration of the context within which the learning is taken (Pawson and Tilley, 1997).

Prior to undertaking the research, the researcher developed a hypothesis and presented this in the form of an initial CMO configuration. However, using the findings from the research, this has now been amended to illustrate the development of new and unexpected mechanisms. See below:

Figure 23: CMO Configuration

HYPOTHESIS

An online, adult learning course can facilitate change in the attitude, behaviours, and practice of healthcare professionals.

CONTEXT

A free and accessible MOOC open to healthcare professionals as well as the general public which aims to help learners understand what compassion and compassionate care is so that this can be improved. Including course demographics, individual interpretation, learning activities and course details (length and format of course).

MECHANISM

Mechanism 1	Mechanism 2	Mechanism 3	Mechanism 4	Mechanism 5
Participants who want/need to understand compassion/compassionate care	The impact of individual belief, values and meaning on the outcome of the learning.	Participant motivation to learn	Approaches to learning within the MOOC	Learner activities

OUTCOME

Outcome 1	Outcome 2	Outcome 3	Outcome 4	Outcome 5
Increased understanding of compassion post MOOC	Positive change in healthcare practices post MOOC	Improved awareness of self-compassion and link to compassion	Appreciation of the value of online learning and it's flexible and accessible way of providing education	Best results observed in those learners who have the most motivation/reason for joining MOOC

In keeping with the true nature of realistic evaluation, the original CMO configuration can be amended following the findings from the initial analysis being applied (Wand *et al*, 2010; Dalkin *et al*, 2015). This can reflect mechanisms that were not previously identified, a

number of mechanisms can come to light as well as initial thoughts not being discovered through the analysis of findings. It is also important to understand that all the areas of the initial CMO may not be acknowledged at the end of this research and that, just like unintended mechanisms developing, there may be some that do not emerge clearly from the data.

What is presented below is a set of CMO configurations both from the original hypothesis and those that have become evident during the research process and analysis. These will be linked to qualitative quotes from the interview transcripts, discussion board input and free text data which will exemplify the relationship between intervention contexts, the mechanisms that were triggered and the outcomes that were produced as a result. This further demonstrates the theory that an intervention may not directly change participant's thoughts and attitudes but rather it is their own personal responses to the learning within the intervention that can trigger change (Wong *et al,* 2012). This information will be presented within illustrative tables, each followed by an in depth discussion, relating to the identified CMO theme and its link to the overall research. The themes identified are as follows: Motivation to Learn, Gender Disparities, Online Flexibility, Use of Discussion Boards in Online Learning, Educating at Scale, Wellbeing and Emotional Burnout, Thought Provocation, Work Culture and Lack of Time V It's the Small Things.

7.1   Motivation to Learn

Motivation to learn was a mechanism that was hypothesised in the early stages of this research. The researcher felt that this would have been a heavily weighted factor in the thought process of those participating in the MOOC. Motivation can often be strongly linked to online learning retention rates and this motivation in turn can be associated with both the content of the course as well as the learners aptitude and attitude towards learning (Hone and Said, 2016; Bawa, 2016).

The qualitative and quantitative data combined demonstrated that the majority of learners chose to stay registered on the course until the end, with only 8% of the overall learners enrolled actively cancelling their registration prior to finishing the course. Participants were able to provide rationale for staying on the course including the motivating factors within the course itself. It became evident that the personal drive and motivation of each learner was an

indicator of successful completion, with emphasis on those who worked in healthcare and could use this as part of their personal development.

Table13:   CMO configuration including illustrative quote – motivation to learn

Context	Mechanism	Outcome	Quote
Participant in healthcare employment	Motivated to learn through work or personal gain	Increased appreciation of compassion and compassionate care	*"I found it powerful, so I wanted to see it through to the end – I actually thought it would help me with my job, so I was determined to get to the end"* [IP2 Interview] *"I was looking to improve my practice and increase my knowledge both of which I feel I have achieved"* [IP9 Interview] *"I thought it would be good for my appraisal and revalidation"* [DP5 Discussion]

Before discussing motivation to learn further, it is important to gain an understanding of retention, attrition, and completion rates as these have been well debated throughout the literature (Jordan, 2015). To add complexity to these debates these terms are frequently defined and interpreted differently (Gutl *et al*, 2014). Completion rates, often understood as the number of learners who obtained a certificate of completion (Jordan 2015), can also be understood as the number of learners who have met their own personal aims (Huin *et al,* 2016). Hone and Said (2016) implied in their research that retention rates showed the number of learners who have stayed until the end of the course. To consider further, it can also be described as the number of learners on the course who simply had the intention to complete (Gutl *et al*, 2014). In some literature attrition is outlined as the reduction in the number of learners from enrolment to the end (Gutl *et al*, 2014). However, drop out can also be interpreted as the number of learners who have physically unregistered from the course. It is this multiplicity of definitions that creates challenges and complexity with the evaluation and understanding of MOOCs. Nonetheless, it is important to consider these elements and

definitions in order to understand learner actions and practices and to evaluate learning experiences within the MOOC (Huin *et al,* 2016).

For the purpose of this element of the discussion, it is important to revisit the pre-defined words identified during the literature review on MOOCs. Completion has not been included because within this particular MOOC, the only way to measure exact completion is by the number of learners who have taken the option to pay for a certificate of completion. In the case of this MOOC according to FutureLearn, there were no learners who had made payment in order to obtain this certification. Therefore, the terms utilised for the purpose of this study and defined by the researcher based on the literature were:

Retention – the number of enrolled students who are involved in an online learning course

Attrition – the decline in the number of enrolled students from enrolment to end

Active Learners – learners who have actively participated in the learning to some degree throughout the course

The findings from the Care and Compassion MOOC showed that 8% of enrolled learners chose to leave the course. Although unable to examine specifically why those 8% left this MOOC, as they did not complete the post-course survey, some literature suggests that reasons for leaving can be; no real intention to complete, lack of time or skills, course difficulty and bad experiences (Gutl *et al*, 2014; Jordan, 2015; Onah *et al*, 2014). What would be beneficial in future research of this nature, would be the ability to collect data from those learners who did not complete the course. This would enable a fundamental data set to be explored and the viewpoint from non-completers to be considered. Hone and Said (2016) agreed with the lack of evidence in this area and also suggested that there is an insufficiency of understanding from participants who fail to complete their course.

As only 8% chose to no longer be part of the course, some literature suggests this could be interpreted as a retention rate of 92% (Gutl *et al*, 2014; Hone and Said 2016). This statement would be in keeping with the operational definition above, that a retention rate incorporates the number of enrolled students who are involved within the course. Other research literature on MOOCs has demonstrated drop-out rates of between 10% and 20% (Gutl *et al*, 2014; Onah, *et al*, 2014). However, it could be argued that although only 8% left it does not mean

that 92% of learners remained engaged throughout the MOOC. Previously, within the results, findings demonstrated that 67% of the retention figure were defined as active learners (49% Active and 18% Social according to FutureLearn definitions). One observation that can be made when considering retention rate is the learner's intention to complete or in fact their lack of intention to complete. Some literature discusses retention as including those learners that only have the intention to complete when they enrol (Gutl *et al*, 2014). However, other literature conversely suggests that high enrolment numbers can often include those with no real intention to complete which is also possible because MOOCs are free with no commitment and often attract those with an inquisitive nature rather than those wishing to genuinely enhance their knowledge. Nevertheless, as with those that left, it is impossible to measure whether the 92% of retained learners actually had the intention to complete or not but perhaps it should be considered that because learners are able to delve in and out of the course in order to satisfy their own aims and needs, they can gain from the content of a MOOC without actually completing it. This was a notion that Skiba (2012) include within their published opinion based article in Nursing Education Perspectives. They suggested that an agreeable factor with MOOCs is the ability for leaners to be able to be either an active participant or a "lurker" but either way still take essential learning from the course.

Drop out, attrition or non-completion rates need not always be looked upon as negative but rather that the learner has the flexibility to stop learning once they have satisfied their own personal goals and achieved their aims (Huin *et al,* 2016). The low number of "leavers" in the Care and Compassion MOOC shows that something within or about the MOOC, be it the course content, subject matter, learner interaction or engagement, caught the attention of the learners and although 92% of learners may not have physically completed it, they may have taken from it what they needed and therefore, have been retained (Huin *et al,* 2016). This feels like it is in keeping with the adult learning theory of andragogy, previously discussed in the literature review. Knowles (1989) andragogy theorises that all adult learners are autonomous and participate in learning in a self-directed manner. Elliot (2014) concurred with the consideration of andragogy in courses involving adult learning and also believed that adult learners were goal orientated and highly motivated and engaged. Looking at individual reasons for enrolling on a MOOC and personal aims for "completion" it can be appreciated that learners enrol on MOOCs for many different reasons (Gaebel, 2013). Some register because they are interested in the main subject matter, some to improve their skills in a particular area and some may even be undertaking the learning in order to gain employment

in a specific area and are looking to obtain a certificate of completion (Huin *et al*, 2016; Jordan 2015; Onah *et al*, 2014). The results of this research showed that the most popular reason for signing up was for social networking purposes which is defined by FutureLearn (the online learning platform that ran the compassion MOOC) as, sharing expertise and support with others, socialising with other learners, networking with professionals and experts, getting feedback and support from others and learning from others' perspectives and experiences.

When thinking about the context in which learning is undertaken and the motivations for learning, we can pull on relevant theory based around adult learning. Transformational learning developed by Mezirow (1997) is based upon the assumption that adults undertake learning that provides them with opportunities to have an "AHA" moment of clarity. This theory of adult learning was chosen for further discussion because it became evident as fitting for this research during the literature review. It focuses on changes to adults' views and beliefs following learning experiences, which links well to this research. Within this adult learning theory there are 3 stages detailed with one of these being "the establishment of personal relevance" which can be linked to the motivations and driving forces behind adults taking on learning. Mezirow (1997) discusses these motivations as being either personal, professional, or social, or perhaps as in the case of this present study, a mixture of these contexts. He suggests in his theory that adult learners tend to be more driven to undertake and complete additional learning if they have clearly identified what they will gain in terms of the results of the learning.

In summary, through the exploration of definitions it can be argued that the MOOC had a positive retention rate of learners, and the most popular reason for signing up for the MOOC was for social networking purposes as defined by FutureLearn. Consideration of the context in which the learner signed up for the learning and also whether they completed the MOOC or not was provided. As a result, analysis of the quantitative and qualitative data revealed interesting differences between participants of the study which will be discussed below.

7.2   Gender Disparities

When the researcher hypothesised at the beginning of this research and developed the initial CMO configuration, it was not known what additional mechanisms of action would become evident from data collected. In realistic evaluation, unintended mechanism can become

apparent through data analysis. In this research, one area of consideration that was not previously identified was the impact of gender on learner responses and overall findings.

Study participants were able to select their gender as male, female or other as part of the pre MOOC survey. 88% of learners from the MOOC identified as female in their responses and 12% as male. Interviews were conducted with 9 females and 4 males, again the identification of female gender being the majority. This becomes particularly poignant when considering the overall results and any score differences between the female and male participants. When looking at the registered healthcare professionals data set, the female participants displayed a higher self-compassion median score post MOOC than before their learning journey, compared to the male respondents.

Table 14: CMO configuration including illustrative quotes - Gender

Context	Mechanism	Outcome	Quote
Significant variety of individuals within one educational intervention	Participants are able to identify as male, female or other as part of the pre-course survey	Majority of learners identified themselves as female.	*"…..more aware of looking after my own emotional and physical wellbeing as this course has highlighted that our own well-being is important too if we want to be able to give a good standard of care to others"* [Survey free text]

Gender disparities relating to compassion and self-compassion have been researched in recent literature (Neff and Mcgehee, 2010; Neff and Beretvas, 2013; Tatum, 2012; Neff and Pommier, 2013; Yarnell *et al*, 2015; and Bluth and Blanton, 2015). The majority of the findings presented results which indicated men to be more self-compassionate than women. Neff and Mcgehee (2010), Neff and Beretvas (2013) and Reilly *et al,* (2014) all stated that males have higher levels of self-compassion than females. However, there is also literature available which have led to more inconsistent findings. For instance, Bluth and Blanton (2015), Tatum (2012), Neff and Pommier (2013) and Yarnell *et al*, (2015) all found that gender differences and levels of self-compassion were unremarkable.

The present study displays some difference between genders in both the compassion and self-compassion surveys. In this study, one set of results between the pre and post MOOC scores

identified, a decrease in self-compassion (i.e., SCS median score) amongst the female and male non-registered and the male registered participants. The female registered participants, however, showed an increase in self-compassion (i.e., SCS median score).

There is theory and suggestion in older literature that gender roles may have historically been influenced by society and might have, in the past, created differences between men and women such as the way they talk, act and their relationship position (Haslanger, 2017). However, caution must be taken when deliberating subjects such as gender particularly when this is not contemporary evidence and therefore, not perhaps up to date in contemporary gender discussion. Nonetheless, it is worth reflecting upon this area of thinking and consider, therefore, whether the social practices of males and females cause their gender norms to be of social construction and what effect, if any this may have on their compassion and self-compassion. Tatum (2012), considered gender norm differences in self-compassion alongside their associated traits and behaviours. For example, a previous study by O'Neil (2015) connected male gender norms with violence, sexism, and substance abuse and relationship issues. In comparison to this Tatum (2012) considered the stereotypical female role in society and its association with self-criticism and reflection. Their suggestion was that women can prioritise relationships over their own needs with men being pressured to act in the opposite manner. However, again, what we need to consider is the complexity of such a subject as gender and the age of the evidence being discussed here. The question posed here is "might this socialisation divergence, alluded to in the literature, impact on an individual's ability to be compassionate and self-compassionate". However, what we also must consider is in this contemporary world in which we live is there more inclusion and fluidity of gender norms. Although differences in gender roles still exist, not everyone conforms to what society historically saw as a norm of behaviour (Hay *et al*, 2019).

Within their research Tatum (2012) described women who have a powerful pull towards the female norms as being more compassionate than men who conform to male norms. However, in terms of self-compassion, they found that within both gender groups, those that complied with their gender norms were more likely to display lower levels of self-compassion. If considering that those that observe gender norms are likely to be less self-compassionate, it could be suggested that within this study, undertaking this MOOC empowered participants to think beyond social gender norms and consider self-compassion as a more integral element of

their own and others' self-care. However, it is important to acknowledge the tentativeness of these findings due to the evident low numbers of male participants.

However, there is also value in discussing the results around self-compassion in the male learner population. Unlike other research that shows that men tend to be more self-compassionate than women (Neff and Mcgehee, 2010; Neff and Beretvas, 2013; and Reilly et al, 2014), the present research findings intimated that females have higher levels of self-compassion than males. One trajectory of these findings may be that men may hold back to continue to try to fit into masculine social norms like those suggested by Tatum (2012) in which men are considered to be less reflective and unable to prioritise relationships with others. This could give reason to why they display less feelings of self-compassion whilst at the same time being able to remain compassionate towards others. Yarnell *et al*, (2015) suggest in their research that men strive to meet the gender norms associated with males so much that it often does not then afford them the ability to be self-compassionate. In agreement O'Neil (2015) suggested that men conforming to their expected gender norms and the conflict associated with this can often cause restrictions in their own well-being and limit their ability to be affectionate. Reilly *et al*, (2014) suggested that men with higher levels of self-compassion often do not comply with masculine norm adherence. They also considered that men, being constrained by masculine norms, might find it difficult to incorporate feelings of care, love, and vulnerability and therefore, maybe less prone to being self-compassionate.

However, again it must be stressed how general and historical these considerations are in our modern world which views people as individual's less constricted on gender stereotyping and social norms (Hay *et al, 2019*). We must also give consideration, to research findings that discuss gender roles, acknowledging assumptions that there are only two sexes with no alternative choice, we are either male or female. Contemporary debate suggests that individuals will differ greatly within this restrictive construct and not all men and women will comply with what was historically knows as their gender norms (Haslanger, 2017).

Therefore, giving consideration to the findings of this research between genders and in respect of the topics of compassion and self-compassion, the evidence presented and discussed highlight the importance of personal context (e.g., gender norms) that the learner comes with prior to undertaking the MOOC. This could be significant in terms of engagement with the online materials specifically related to self-compassion.

7.3 Online Flexibility

The researcher was aware of the open nature of the MOOC prior to undertaking this research and acknowledged its flexibility. This was accredited as a potential mechanism of action when the initial CMO configurations was developed.

Data collected within this research showed that 60% of learners undertook the course within their home environment, with the next most popular place being work at 21%. Research participants qualified this data with remarks about the flexibility of the course and the ability to undertake it within a variety of environments made it a popular choice.

Table 15: CMO configuration including illustrative quotes – online flexibility.

Context	Mechanism	Outcome	Quote
Flexible/accessible course open to healthcare professionals and the general public	Range of learning activities to be completed in own time and at own pace	The value of online flexibility encouraging learning in a variety of environments/contexts	*"I can grab ten minutes, half an hour, here, there, anywhere so I can do it when I am work, when I am sitting at home, when I am out. I can do it through a phone, a tablet, a laptop whatever"* **[IP2 Interview]** *"I love how it has been so flexible, that I can do it when it suits me"* **[DP21 Discussion]x** *"It fitted in with my job and home life well and I felt I have achieved something valuable"* **[Survey free text]**

Ilgaz and Gulbahar (2017) conducted qualitative research in Turkey that examined the use of online learning (but not exclusively MOOCs) in a state university. They described online learning as being a popular choice of teaching method in Turkey due to the increasing fondness of it from their learners. The learners felt that the online or e-learning methods of education allowed them to gain new skills and knowledge whilst managing a full-time job, personal commitments, financial constraints and possibly disability. They even acknowledged the increase in the popularity of MOOCs which they agree, provide higher education levels of learning at scale. They also acknowledged that online learning allowed

learners to be aware of themselves, their motivation, time management, technological skills, and their strength of mind. Their findings revealed that the most common attractive feature to online learning was its flexibility in terms of having the responsibility of a full-time job alongside gaining an educational qualification. They substantiate the present study's findings and agree that the flexibility of online learning allows learners to successfully manage their work life balance at the same time as undertaking university level education.

In order to further discuss the findings from the present study a qualitative study by Raymond *et al,* (2016) was acknowledged which explored the opinions of undergraduate nursing students of working on an online learning course. They discuss in their research the importance of educational methods being available that acknowledge busy lifestyles. Thus, online learning provides a valuable educational environment which is user friendly, accessible to anyone, anywhere, at any time. The online nature allows all types of learners to become involved as well as encouraging those slightly more reluctant to participate to add their thoughts and feelings to discussions. However, they also discussed within their research the many limitations than can be presented with online or e-learning such as educator input or lack thereof, the need to be computer literate and the inability to observe facial expressions and non-verbal signals. Although acknowledging online learning as a successful modern way of educating healthcare professionals, the study also recognised that with the hugely diverse background, age range and educational level that comes with healthcare professionals, there also comes a wide preference in learning style. In some contrast to the current study's findings, what their research findings told them was that ultimately students actually preferred an educational environment that successfully combined face to face teaching with an element of e-learning, although consideration of the fact that this related to Undergraduate students and the e-learning was not directly linked to learning in form of MOOCs.

When relating the present study's connection with healthcare professionals and the online learning environment the researcher explored a scoping review by Reeves *et al,* (2017) which aimed to explore online learning in relation to primary healthcare. In terms of their results relating to time pressures associated with healthcare professionals, 5 of their 23 included studies acknowledged this as significant. These 5 studies agreed that the flexibility of online learning helped lessen the time constraints and workload pressures for healthcare professionals undertaking additional learning. In order to further evidence this, the researcher also considered research by Chuo *et al,* (2015) who discussed the effectiveness of e-learning

in their research. They considered the working patterns of many different healthcare professionals and related this to the flexibility that comes with various methods of e-learning. In support of the online nature of the compassion MOOC, they noted that e-learning systems were a successful means of educating healthcare professionals who are normally constrained by shift patterns and environments conducive to learning

A systematic review of MOOC literature, undertaken by Zhu *et al,* (2018), aimed at exploring the phenomenon of this latest online learning environment. They studied 146 empirical papers written between 2014 – 2016. Their results showed that the main topics of interest pertaining to MOOCS were student focus, design focus, context and impact and instructor focus. However, there did not appear to be any emphasis on the online nature, and the flexibility that comes with this, amongst the results. The content of the studies weighed heavily on elements such as learner behaviours, motivation to learn and retention rates but did not discuss with learners the convenience of the online platform. Zhu, Sari and Lee (2018) also shared in their results, the fact that the majority of the studies had collected quantitative date through surveys and online statistics and did not study the qualitative considerations of the MOOC learners.

In summary the findings of this research identify a connection between the value participants attributed to the Care and Compassion MOOC and the flexibility of online learning, this is in keeping with the evidential literature.

7.4   Use of discussion boards in online teaching

One of the acknowledgments of the original CMO configurations was the unique ability for a massive number of learners to come together and share their thoughts, experiences, and stories.

The research data demonstrated that the need for discussion and interaction amongst learners was a common reflection. Both quantitative and qualitative data showed this to be a beneficial feature of the course with the discussion forum, in particular, providing an opportunity to network and debate with so many other learners from a variety of backgrounds and circumstances. Many participants chose to strongly like the ability to interact with others within the quantitative data as well as several describing the discussion board as allowing learners to chat to one another as well as with educators. A number of learners felt that

having the opportunity to share and hear different stories, perspectives and opinions was a unique and hugely advantageous activity tool.

Table 16: CMO configuration including illustrative quotes – online discussion

Context	Mechanism	Outcome	Quote
Large open educational intervention with thousands of participants	Unique and valuable availability to share stories and experience	Improved understanding of compassion and compassionate care from a multitude of perspectives	*"A lot more to learn from all the participants who have their own views of compassionate care to share"* [DP108 Discussion] *"Psychologically therapeutic as it allows individuals to express their perspectives without judgement"* [DP87 Discussion] *"Forums (Discussions) were a way of expressing how you were feeling about what had been asked and getting some feedback without being overwhelmed"* [IP5 Interview]

Overall, there was a positive reaction to the availability and management of the discussion boards amongst MOOC learners. They felt that the discussion boards provided an opportunity for learners and educators to interact, discuss and share with one another. The quantitative and qualitative findings both evidenced this with participants describing the opportunity to be able to discuss their thoughts and feelings with such a wide and diverse variety of people (e.g., healthcare professionals, lay people, family, and carers).

Ferrante *et al,* (2016) designed and used an asynchronous online discussion board in order to collect data from healthcare professionals in America. They note in their study that online discussions are definitely becoming a more common way in which researchers are choosing to collect qualitative data particularly with patients within healthcare research. However, they also state that there is little evidence of this method of data collection being elicited from healthcare professionals. In keeping with the findings from the present study, in their research Ferrante *et al,* (2016) suggest that an online discussion provides the opportunity to obtain a variety of viewpoints and reactions from participants as well create a social

environment in which to encourage discussion. They also suggest that the online discussion forums, for collecting data from healthcare professionals, is useful as the flexibility allows each person to participate at a time and place convenient to them. This is a vital point to recognise as the current studies discussion board data was based heavily on healthcare professionals. The discussion board and the online nature related to this allowed them to participate in useful discussions with a wide variety of learners at a time and place convenient to them and their working schedule. Ferrante *et al*, (2016) concluded that this method of research is advantageous when requiring to collect data from a largely geographically spread group of participants (which is often the case in online learning). They described one limitation as being the inability to view non-verbal reactions and body language which can often be noted and used as part of qualitative data collection in face to face communications.

Samplaski (2017) examined online patient discussion posts in relation to vasectomy. Discussion boards are also being utilised by a higher number of patients looking for answers, advice, and the chance to talk to others going through a similar time in life. Although based on patient interaction, what their findings demonstrated, was that as participants of online discussions, they like two main areas: the ability to share their own experiences with other men in similar circumstances and the opportunity it provided for them to gain information and advice on the procedure. One of the details they found was that online discussion allowed men in a particular set of circumstances to be able to communicate with other men who were going or had been through something similar. Although not a discussion board that included online learners or healthcare professionals, this research nonetheless, was still able to provide support for the present study in that they confirmed that a discussion board provides a vitally important line of communication between a widely spread and varied group of people that have a common interest or mutual subject appreciation.

Further support for the present study's findings was found in Johnson's (2016) research examining discourse in an online classroom and participation in online discussion boards. This demonstrated that learners within this e-learning environment were found to experience a deeper more meaningful thought process with the use of sharing personal experiences and thoughts. This acknowledged that modern learning is very much embracing the online learning culture and with this needs to come a change in how developers and educators make the connections in a non- face to face environment. Educators have to take on a slightly altered role to the usual in classroom teacher and instead learn to be more of a facilitator that

encourages participation and mutual communication. Online learning has the ability to take a massive group of learners from a wide geographical area and create a collaborative working group. They discussed three main forms of discussion a learner can contribute to: Indexical utterances (discussion that will make reference to previous comments or content), Elliptical contributions (do not cover any previous comment or content but are still relevant within the conversation) and Projective contributions (which often steer the conversation in a particular direction). They found that their discussion board afforded learners and educators the ability to contribute personal experiences and stories, thus building an arena of trust and providing a deeper richness to the content and context of the discussion. They also discussed the educator's role within the discussion board with their findings demonstrating how they can use their capacity as facilitator in order to inspire and encourage learner participation.

Rossiter and Garcia (2010) discuss the theory of digital storytelling in more detail and its use within adult education. They describe this form of educational reflection as "a dynamic and beautiful marriage of narrative and technology". Within adult learning, they suggest that digital storytelling helps enable learning through narrative which can be generated by learners as well as educators. Further to this Waugh and Donaldson (2016) undertook a study exploring the perceptions of students of digital narratives in compassionate care. They discussed in their research that digital stories provide an optimum forum for self-reflection and these stories shared amongst learners often proved to be poignant and impassioned with emotion. However, Rossiter and Garcia (2010) discuss these digital stories requiring some form of multimedia (image, video, or audio) to be successful however, the care and compassion discussion board used only text which in itself proved to be powerful and emotive. They further go onto describe the sharing of personal experience "out loud" as an emotional encounter and although the care and compassion discussion board was text based this still allowed learners to share their stories outwardly. Rossiter and Garcia (2010) also explain that self-reflection and storytelling allows learners to consider their own feelings and often inspires them to direct feelings of compassion and empathy that they may quite naturally feel towards others, inwardly towards themselves. Smith and Willis (2018) added to the argument of successful storytelling within their book chapter and confirmed that within the context of student nurses, this proved to be a constructive and beneficial learning tool. Although they agreed that this form of learning that is based on reflection can bring to the fore feelings of emotion it can also prove to be able to sustain interest. They also considered the fact that these moments of narrative generated thoughts of personal behaviours and

nursing practices, which is in keeping with the present study's findings. However, they also identified that these moments of storytelling can often be difficult and awkward at times and must be delivered in a supported learning environment.

When contemplating the efficacy of discussion boards within online learning, particularly in connection to this study, one beneficial consideration would be the ability and freedom for both healthcare professionals and the general public to contribute stories, experiences, help and advice. This diverse arena that enables dynamic sharing to take place has never been considered for use in compassion training previously. However, two research studies undertaken by Sinclair *et al*, (2016b, 2018) acknowledge the importance of perspectives from both the healthcare professional and the patient in the improvement of the provision of compassionate care. In their grounded theory study, Sinclair *et al*, (2016b) examine patient's experiences and understanding of compassion within practice. This is relevant to the care and compassion MOOC because the lay people/general public may include patients, carers, family members who may have a different understanding and experience of compassion to that of healthcare professionals. The study's qualitative analysis yielded a total of seven categories within which could be found additional themes and subthemes. Sinclair *et al*, (2016b) then utilised these themes and categories in order to create The Compassion Model (see below).

Figure 24: The Compassion Model
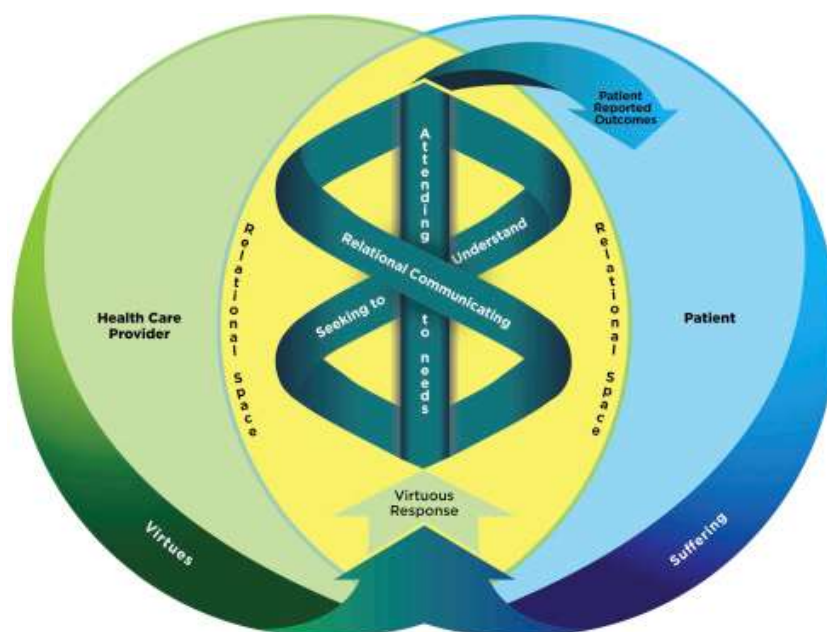
Further to the above study, Sinclair *et al,* (2018) undertook additional research which examined compassion from a healthcare provider perspective. This study was required in order to compliment the previous research which considered compassion from the patient perspective (Sinclair *et al,* 2016b). Very like the pre course survey within this study's care and compassion MOOC, Sinclair *et al,* (2018) commenced by first of all ascertaining what healthcare professionals' initial understanding of compassion. Some of the actions of compassion described within this study were: individualised patient care, being there for the patient, kindness, empathy, encouraging independence in decision making and doing what is right for the patient. Like the patient study (Sinclair *et al,* 2016b) the results of this latest study (Sinclair *et al,* 2018) were used to develop a compassion model, this time a Healthcare Provider model of Compassion (see below):

Figure 25: Healthcare Provider Model of Compassion
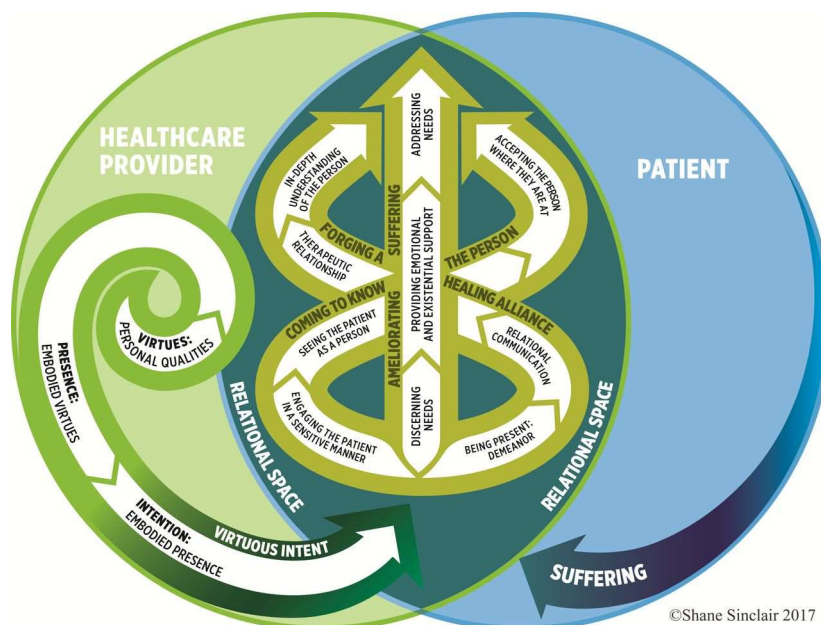
The researcher noted from reading both studies above, undertaken by Sinclair *et al,* (2016b, 2018) that the link to this present study is clear. Sinclair *et al,* (2016b, 2018) value both the patient and healthcare professional perspective in the understanding of compassion and its fit in today's modern healthcare. Further to this, combining these two diverse viewpoints may actually provide vigour in the successful provision of compassionate care.

Relating Mezirow's (1997) adult learning theory of Transformational Learning to the use of discussion boards in online learning we can relate his stages of Identification of a Dilemma and Critical Thinking. Having discussed the success of these discussion boards and the positive reception from learners what this research can further identify is that the discussion boards created an opportunity for learners to question their original beliefs and/or identify learning that they perhaps felt they should have known but in fact did not. This leads onto their ability to critically reflect within the discussion environment with fellow learners who were having similar experiences.

In summary, the research findings suggested that the discussion boards were received positively amongst MOOC learners supporting their learning and understanding, and this finding was further supported with evidence from a range of other relevant studies in this area.

7.5 Educating at scale

Moving on from the previous discussion regarding motivation to learn and further considering the meaning on retention/attrition in MOOCs. During the literature review process, it became evident that MOOCs generally had a lower retention rate than other forms of learning (Meinert *et al,* 2018b; Pickering and Swinnerton, 2017; Stokes *et al*, 2015) and that dropout rate during a course could be quite high. The researcher wanted to consider this from a different perspective and instead attempt understand the learning process and retention/attrition versus learning obtained from an adult learning theory perspective.

Table 17: CMO configuration including illustrative quotes – educating at scale

Context	Mechanism	Outcome	Quote
Open online learning course in which learners can join from the start but can stop learning or withdraw from course at any point	Learning activities and topic are engaging. Learners can take what learning they feel they need from the course (adult learning theory).	A positive retention rate demonstrated that the majority of learners did not actively withdraw from the course during learning. Although not active learners throughout the course, engagement provided the motivation to gain some individualised level of learning.	*"I found it powerful, so I wanted to see it through to the end......."* *"I wasn't going to give up, but I will be honest my interest was waning when we were doing all the quality improvement stuff"*

Now examining the course content as a driving force behind retention, it is evident that in some cases the low number of learners choosing to leave the course may be attributable to the course content which, looking at the results, appears to have been reviewed positively. Of the 94 respondents who fully completed the post course survey, answering questions in relation to how they felt about the course content, most were satisfied with video and animation content, written course content as well as video subtitles. Examining this further and looking in more detail at the activities that were liked/disliked by learners, it is clearly evident that all forms of learning (articles, videos, other learner comments, educator comments, discussions, posting own comments, course activities and related links) were all predominantly either strongly liked or liked. Along with this nearly 80% of post course survey respondents found the educators engaging throughout the MOOC which again may contribute to the retention rates. Some literature does suggest that successful completion rates can be facilitated by ensuring that students are well supported by the educational team (Gutl *et al,* 2014). Onah *et al,* (2014) discussed this in their paper which looked at not only at the support offered throughout the course but also its ease or difficulty. The findings from the care and compassion MOOC showed that just over 70% of learners felt that the courses educational level met their expectations. Regardless of these variances it is evident that as a basic framework all MOOCs should have a clear start and finish point as well as containing regular milestones, flagstones or check points that will assess participants learning (Turner, 2015).

There appeared to be an insignificant difference between the pre and post course Santa Clara Brief Compassion Scale scores of both registered and non-registered healthcare professionals. This may be construed as this online learning in compassionate care having little or no effect on learners. Other research has evidenced a similar argument, considering the effects of e-learning more generally. One particular review undertaken by Sinclair *et al,* (2016c) which looked at the teaching online and its impact on positive patient outcome from a patient perspective, was unable to confirm an effect of this type of learning on healthcare professionals' behaviours and patient outcomes. However, delving deeper into the results of this PhD research and comparing the median scores between groups, in both the pre and post course survey the non-registered respondents had the higher median scores than those registered which could demonstrate that they were more aware of compassion both before undertaking the MOOC and after. This is interesting in healthcare in which professionals are expected to be compassionate. However, the argument continues as to whether compassion can in fact be taught or if it is a characteristic already held by individuals (Durkin *et al,*

2018). Additional findings from the Sinclair *et al,* (2016c) study, which was a systematic review of randomised controlled trials, found that patients felt that the skill and ability to be compassionate differed between the various healthcare roles however, they also believed that compassion could definitely be taught to healthcare professionals. Although the present study was unable to verify a distinct change from pre to post MOOC, in terms of the median compassion scale scores within the registered and non-registered groups, there appeared to be a discernible increase post MOOC. This could demonstrate that the MOOC was able to facilitate learning on some level and was able to demonstrate this through the encouragement of a deeper thought process of compassion and compassionate care.

Hofmeyer *et al,* (2018) conducted a study which explored the perceptions of nursing undergraduates in their final year before and after completing an online module relating to compassion. This study showed similarities to the present study however, their recruitment was based on 362 undergraduates of which they managed to gain 17 responses pre module and 25 responses post module. One of the ideas that they discussed was actually whether compassion could be taught or not. In their discussion they touched upon the need to provide more online learning within higher education in order to teach at scale.

In conclusion, it has been problematic to show definitive evidence that the care and compassion MOOC has been able to provide large scale education particularly due to the nature of the subject matter. However, what has been demonstrated is that the care and compassion MOOC has provided a widely available and potentially valuable online learning opportunity to a huge number of learners worldwide. This learning can be measured when looking more specifically at a particular population such as healthcare professionals. The outcome and success of the MOOC, directly linked to the healthcare professional population, can also be dictated by the learners interpretation and understanding.

7.6   Wellbeing and Emotional Burnout

During initial research development and hypothesising, there was little direct acknowledgment of self-compassion and instead much reference was made to the MOOC being focused on compassion. The literature review undertaken at the start of the study did bring to light the importance of self-compassion and its link to compassion overall however, the value and impact of this was not recognised within the research aims.

After analysis of both the qualitative and quantitative data, it became apparent that the participants had also not considered this as an essential learning element when they commenced the course. Interestingly, the findings from the research were able to demonstrate that those undertaking the learning gained a valuable insight into the link between compassion and self-compassion and the value of looking after oneself has on the ability to look after others.

Table 18: CMO configuration including illustrative quotes – wellbeing and emotional burnout

Context	Mechanism	Outcome	Quote
Learning intervention that brings with it an awareness of compassion and self-compassion	Participants signed up thinking only of the compassion related learning involved (as this was the MOOC title)	An unexpected (from learners point of view) new awareness, understanding and appreciation of the value of self-compassion and it's direct link to compassion	*"……more aware of looking after my own emotional and physical wellbeing as this course has highlighted that our own wellbeing is important too if we want to be able to give a good standard of care to others"* [Survey Free Text]

Self-compassion promotes strength by enhancing a person's ability to cope with negative situations (Yarnell *et al,* 2015). According to Bluth *et al,* (2017) self-compassion is often viewed as a helpful and constructive way in which to cope with situations. They reported that previous cross-sectional studies involving adults have indicated that self-compassion may have a negative relation with psychopathology and can also be supportively connected to wellbeing. They propose that those displaying greater self-compassion also display enhanced signs of life contentment and fulfilment. Higher levels of self-compassion was also negatively linked to feelings of anxiety and depression. Soysa & Wilcomb (2015) state in their research that low self-compassion is a direct implication of psychological pain and suffering. Their research investigated the link between self-compassion and life satisfaction and wellbeing amongst college students. They did not find any significant differences in the self-reporting of self-compassion between genders.

However, this present study was able to show a difference in the self-reporting of self-compassion between the genders. Females displayed higher scores than the males in both the pre and post course self-compassion survey as well as the variance in scores increasing in registered males' and females' pre to post course. Reilly *et al,* (2014) suggest that research

surrounding self-compassion often takes a positive stance and connects the ability to be self-compassionate with the ability to cope in times of challenge. They claim in their findings that people who have higher levels of self-compassion are less likely to have negatively psychological episodes. They also intimate that self-compassion is directly linked to feelings of contentment, optimism and encouraging outcomes. However, they acknowledged that although this is evident within the research, there are data available that show that these benefits and values may not be equal across the genders.

Much of the literature also describes a link between self-compassion and health and wellbeing. A direct link can also be seen between self-compassion and the regular experience of those that provide care of stress and burnout (Yarnell *et al*, 2015). Bluth & Blanton (2015) investigated the links between self-compassion and wellbeing between males and females in the older adolescent category. Their findings showed that females in the older adolescent category had lower self-compassion than that of older male adolescents as well as compared to early adolescents of both genders. In similar research Bluth *et al's* (2017) cross-sectional study aimed to examine whether there was any gender or age differences in self-compassion amongst adolescents. Their overall results showed that older female adolescents had the lowest levels of self-compassion and this was compared to younger females and males of all ages**.** Lennon *et al,* (2018) also agreed in their research that there is a link between self-compassion and wellbeing. Taking this into consideration with the current study's findings, is there a link between healthcare professionals' levels of self-compassion and their ability to cope with challenges experienced at work? It is often reported that healthcare professionals suffer emotional burnout, particularly with regard to the provision of compassionate care (Riley and Weiss, 2016; Salyers *et al,* 2017). It could be hypothesised that health professionals could use tools to be more self-compassionate, for example through a Compassionate Care MOOC, and occurrences of negative psychological episodes could be decreased and contented feelings with their workload could be experienced.

In summary, what can be identified is that the learning from the MOOC proved to be an opportunity for learners to acknowledge in more depth the importance and need for self-compassion enabling the delivery of compassionate care.

7.7   Thought Provocation

When the researcher was initially hypothesising, initial thought was that rather than evaluating whether something worked or not, it would be beneficial to understand what works and why. This is linked to the underpinning theory of realistic evaluation and allowed the research to consider a deeper interpretation of the pre and post course data rather than simply identify improvement to results. However, the impact that this data would have on the results was not considered within the initial CMO configurations and emerged as a contingent measure after analysis.

The quantitative survey findings, although unable to demonstrate an evidential change in pre to post course scores, were able to indicate that a notable change in answer selection did occur from start of the course to the end. This could suggest a cause of deeper thinking on the subject matter with particular emphasis on self-compassion. The qualitative data supported this thought provocation as created by the MOOC learning. Interview participants talked regularly about their change in thought process and extended reflection on compassion, self-compassion and how these can impact on not only their work practices but on their self and their personal lives.

Table 19: CMO configuration including illustrative quotes – thought provocation

Context	Mechanism	Outcome	Quote
A massive learning environment in which a variety of learning activities and participants are involved	Rather than provide simple yes/no or black and white factual learning, the MOOC encouraged a new line of thinking and consideration in learners	Participants thoughts on compassion and compassionate care were deeper and considered following the MOOC	*"I found it to be an eye opening experience. It made me realise just how lacking in knowledge I am, but it makes me want to explore the subject in depth"* **[Survey Free Text]** *"The MOOC provided information in a thought provoking way"* **[DP81 Discussion]**

The MOOC learning appeared to have the ability to instigate a deeper thought process, this could be considered to be a form of self-reflection. Reflection has previously been discussed in the literature as a written exercise, often taking the form of a journal or diary (Pretorius and

Ford, 2016; Verpoorten *et al*, 2012; Chang, 2019; Saperstein *et al,* 2015) but perhaps this form of online learning can actually provide an opportunity for a more thoughtful self-reflection. Chang (2019) undertook a study which aimed at looking into reflective practices within online learning and very like the present study they believed that educational reflection provides a chance for learners to reconsider what they knew before to after their learning in order to show a deeper understanding and thought process.

Verpoorten *et al,* (2012) undertook an experiment examining reflective triggers within an online learning environment. Their results indicated that the provision of activities that triggered moments of reflection were deemed valuable. Within their research they stated that any form of reflective practice can be a powerful and effective tool within learning, and this can be advocated within an online environment. In fact, online environments in which learning is often self-directed and not schooled by educators, can provide an optimum chance for learners to have moments of deeper thought and reflection. Verpoorten *et al,* (2012) further discussed what they called RT's which they defined as "deliberate prompting approaches that offer learners structured opportunities to examine and evaluate their own learning". They suggest that these moments of reflection "induce regular mental tingling". Perhaps the MOOC content within the present study provided some chance for learners to have these moments of thought and reflection and the results of the study demonstrated that there was thought provocation created as a result.

Hofmeyer *et al,* (2018) discovered within their findings that after undertaking the compassion module, undergraduate nurses tended to express a much deeper understanding of compassion and after their learning were able to integrate their understanding into rational meanings including extending their compassion beyond the patient and reach out to their colleagues and family.

Pretorius and Ford (2016) discussed within their study about the importance of reflection in professional healthcare practice and the chance that this provides to explore one's own beliefs and attitudes. They suggested that reflection in learning provides a road to self-discovery and integrates a deeper level of learning. The present study's findings also suggested that the self-reflection embarked upon by some learners perhaps provided a chance to re-discover themselves as learners, as healthcare professionals and as people.

Thought provocation can also be considered alongside the critical reflection stage of transformational learning developed by (Mezirow, 1997). It is based upon the assumption that adults undertake learning that provides them with opportunities to have an "AHA" moment of clarity. These aha moments provide stirrings of emotion and thought and provide an opportunity for learners to critically reflect. This theory suggests that when adults engage in transformative learning, they are given the opportunity to ponder their feelings towards the subject and internally ruminate their beliefs and attitudes.

In conclusion, it is evident that the chance to reflect was provided within the MOOC learning experience and this has been shown to potentially be a valuable learning tool particularly in modern online learning courses. However, like any learning, in order for it to be embraced within healthcare practice, learners must exist within work cultures that encourage learning and reflection.

7.8 Work Culture

The aim of the research was to evaluate the learning and establish whether this had the ability to facilitate change in the individual learner's attitudes, behaviours, and practices. However, what was not included in this was the ability for the learning to prompt recognition for the need to change working environments in order for this to be completely successful.

Table 20: CMO configuration including illustrative quotes – work culture

Context	Mechanism	Outcome	Quote
Healthcare professionals included within the MOOC who are currently employed with a healthcare setting	Consideration given to the value and impact of the working culture/environment on the provision of compassionate care	Improved consideration of the importance of a compassionate working environment in which colleagues are compassionate to one another	*"Before the course I felt it was about how we interact with our patients, but it is as much about how we care and how we convey our services to each other and to other service providers……."* [IP1 Interview] *"It wasn't just about how we dealt with patients, it's how we deal with each other, so other colleagues, professionals, other disciplines"* [IP2 Interview] *"If we don't culturally get the right message across to our teams then we can't really expect them, nor can we criticise them when they are working and behaviour with patients isn't what we want it to be"* [IP2 Interview]

The findings in terms of changes to work practices appear positive. Self-reported data showed that the majority of participants agreed that their work practices had improved as a result of the course (e.g., some learners were now able to recognise that compassion could be extended out beyond patients to colleagues and the multi-disciplinary team etc.). As well as, this more learners agreed that their work had been positively influenced after completing the MOOC (e.g., learners were making more time to be compassionate including small but important tasks that showed compassion). The subject matter of the course meant that their data directly related to the provision of care that is embedded with compassion. Although it is worth noting that this questioning did not allow respondents to specify whether this improvement and positive influence in compassionate care was relevant to them as an individual or if it extended out to their working environment. Nonetheless, we know from previous literature that a compassionate care environment can have a positive impact on patient and staff wellbeing (Steenbergen *et al,* 2013; Youngson, 2012).

According to McPherson *et al,* (2016) the environments in which healthcare professionals work can have a fundamental impact on the availability and provision of compassionate care. Their grounded theory study explored the experiences of work pressures in NHS environments which care for older people with dementia. The results suggested that even spending time to ensure the recruitment of compassionate individuals into healthcare posts or providing education in compassion to those already in post would be unlikely to change current levels and quality of compassionate care. What they do make clear in their research is that compassionate care can be improved through the provision of a compassionate working culture where areas such as self-compassion can be acknowledged. They discuss within their research that the current NHS, particularly within challenging dementia care services, were highly stressful and physically and mentally demanding for staff. This added environmental pressure creating barriers to healthcare professionals being able to be self-compassionate and in turn compassionate towards others. Their results elicited considerations of supportive work environments which provide opportunities to reflect and share amongst colleagues in order to improve self-compassion. They conclude that rather than focusing on employing staff who are "compassionate", emphasis should be placed on eradicating current practices that hinder or obstruct the provision of compassionate care.

Hofmeyer *et al,* (2018) acknowledged during their research that compassionate care can exist and thrive in organisational cultures that embrace compassion and caring in this manner. In terms of affecting the ability to be compassionate toward patients they revealed that barriers to compassion that exist at organisational level have a direct impact on compassion and in turn cause nurses to become weary and dissatisfied. Their participants became more aware of the importance of the cultural support of compassionate care and acknowledged the effect the lack of this may have on patient safety and the provision of evidence-based care.

Singh *et al*, (2018) undertook a study in order to look into healthcare providers' perspectives and experiences of barriers and facilitators of compassion. During this study they acknowledged the importance of a supportive working environment in which employees felt reassured and encouraged by those around them to provide care that is compassionate. However, contrastingly, they further acknowledged that work cultures that were highly stressful, demanding, and negative at times were not conducive to care that was entrenched with compassion.

In conclusion, it is important to consider that for learning to be effective, learners must be allowed to transform it into practice within a supportive and understanding environment. For healthcare professionals this is essential as the work environment and their ability to be compassionate can directly impact the safety of patients. The work culture in which learning can be shared can also be affected by time limitations particularly within the healthcare environment. The findings from this research demonstrates that healthcare professionals wanted to take their learning into practice however, they experienced common challenges including the culture in which they work, and the perceived support available.

7.9 Lack of time versus the small things

One of the findings that came from the data was that, learners gave recognition to the importance of compassion, however, there was an evident challenge when considering availability of time to be "compassionate". Others that had undertaken the learning also thought hard about this however, after the learning they had gained a better understanding of what compassion is and how this can be represented through small tasks and acknowledgements rather than big gestures.

Table 21: CMO configuration including illustrative quote – lack of time versus the small things

Context	Mechanism	Outcome	Quote
Employed healthcare workers undertaking the learning and participating in the research	Participants able to think about the connection between time constraints and the provision of compassionate care	Increased awareness that compassion can happen even in times of high pressure and time constraint.	*"I might know about compassionate care but if I don't have the time and the workload is tight and there are other things needing done – then you don't have the time for it"* **[IP11 Interview}** *"Humanity and mindfulness is there in all of us but when we allow deadlines and work pressure to take over, we forget to practice this important area of care"* **[DP101 Discussion]** *"A kind word and five minutes of caring conversation goes such a long way"* **[DP14 Discussion]**

In this study there was much discussion regarding what compassionate care was and how it could be carried out in life and in practice. At the start of the MOOC there was an overwhelming belief that compassionate care had to encompass big gestures that were above and beyond job expectations and were often time consuming. There was a belief that time constraints placed on healthcare professionals stopped them being able to be compassionate. However, in contrast some learners actually recognised, after having undertaken the learning that compassion can take many forms including tiny gestures that do not take up time.

Within their paper outlining a Leadership in Compassionate Care Programme initiative, Adamson and Dewar (2011) discussed the demonstration of compassion with the use of little but nonetheless, significant acts. In agreement to this Christiansen *et al,* (2015) undertook a study that looked at the hindering and enabling factors to compassionate care according to healthcare professionals and pre-registration students. Their participants, when describing their understanding of compassionate care and how this is reflected in practice, ensured that they addressed "the small actions". However, they also argued that time constraints within healthcare in fact hindered their ability to build a strong caring rapport with patients and therefore, affecting the quality of compassionate care. They found that rather than being encouraged to provide timely care built on strong compassionate relationships, they were actually pressured into undertaking tasks as quickly as possible.

Hofmeyer *et al,* (2018) when asking undergraduate nurses to explain some of the ways in which they can display compassion, found that many of them were able to describe small, simple compassionate acts such as holding a patients' hand, touching their shoulder, or simply talking to them. However, they also acknowledged the time constraints that healthcare professionals have including daily tasks such as medicine administration.

The participants within Singh *et al's* (2018) research also discussed lack of time in terms of being able to provide compassionate care including busy and demanding workloads. Some of the participants believed that encompassing compassion within the care of their patients would take "time" as they needed this time to get to know their patients individually and understand what is important to them. However, alternatively, some of the participants also were able to recognise that there could also be short but meaningful moments of compassion that exist and happen throughout the working day. The key point here, is staff need to have

the necessary tools and experience which allow them to be able to understand and acknowledge this.

Williams *et al,* (2016) undertook a qualitative study in order to explore dignified care from the views and experiences of healthcare professionals. Their findings demonstrated that it is possible to provide care that is rooted in compassion during small tasks. Participants within this study described "little" acts, such as healthcare professional introduction and respecting the individuals' bed space as their own private area, as easy and doable ways in which to display compassion. They further discussed compassionate care practices as undertaking actions that not only matter but matter to the individual patient e.g., continuous consideration of patient preference. Conversely, some participants also discussed the complexities of undertaking tasks even those deemed as "small" were made difficult by the time limitations of the job role.

A study undertaken by White *et al,* (2017) which evaluated the impact of the Quality Improvement (QI) initiative Productive Ward: Releasing Time to Care on direct patient care. Their study further confirmed that healthcare professionals felt that their increasing workloads and time constraints affected their ability to provide care that is compassionate.

Nayak (2018) discussed time management in healthcare in great detail within their paper. They suggested that time management is a challenge for everyone however, done correctly can help with prioritising care, improving nursing goals and enhance quality of care. Interestingly they acknowledge that individuals have to take charge of their own time management efficiently and suggest that effective time management is about "finding the smartest, healthiest and most rewarding way to use the same 86,400 seconds that each of us are given each day". They further suggest that those people who find it difficult to manage their time are often those guilty of complaining about the lack of time to undertake their daily activities.

In conclusion healthcare professionals need to look within themselves and understand their time management, in order to understand what compassion and compassionate care is and how it can be delivered in busy pressured areas. The findings from this research demonstrated that healthcare professionals generally desire to be compassionate and provide

care that is entrenched in compassion. However, as the current literature also supports, many find this a challenging task due to time constraints and work pressures.

This chapter highlighted the most poignant findings from the mixed method analysis incorporating and acknowledging the realistic evaluation theory which underpins this research. The chapter included consideration of the original CMO configuration developed from the research hypothesis. Additionally, it served to strengthen and validate the individual qualitative and quantitative findings. This connection to the overall realistic evaluation theory and it's consideration of the CMO configurations including mechanisms and contingencies leads suitably to the final and concluding chapter of this thesis.

8   CHAPTER EIGHT: Conclusion

For this research, the researcher developed a study which aimed to (1) evaluate a new educational intervention, delivered by a MOOC, focused on compassion and (2) consider how and why it could help facilitate change in the attitudes, behaviours, and practices of healthcare professionals. In order to meet these aims a programme of learning was developed (MOOC) to help encourage healthcare professionals to better understand compassion and also aid in changing their healthcare practices going forward. A realistic evaluation was used to allow the researcher to evaluate what aspects of the intervention worked for whom in what circumstances (Koralesky *et al*, 2021). The researcher wanted to stick with the real nature of this evaluation and therefore, recognising that the results, be them positive or negative, are also real and true to life.

In concluding this research, it is vital to acknowledge that realistic evaluation does not aim to merely prove or disprove theories and hypothesis but rather it is there to unearth observable patterns which can explain what elements work and why. In terms of interventions creating change in learners, the theory adopted knowledge that it is not the programme that works instead it is the learners within it who make it work. The learning is there to provide the activities, resources and opportunities that can encourage change in individuals (Abhyankar *et al*, 2013).

The overall results of the study yielded nine key areas, for consideration, that related to the care and compassion MOOC: Motivation to learn, Gender disparities, Online Flexibility, Online Discussion, Educating at scale, Wellbeing and emotional burnout, Thought provocation, Work culture and Lack of time v the small things. Each of the areas of analysis; learning analytics, quantitative, qualitative, and mixed methods, demonstrated a degree of change from pre to post course. In particular the learning analytics were able to exhibit that the Care and Compassion MOOC had been predominantly received positively amongst learners with many elements of the course described as enjoyable to undertake and valuable as a means of learning. The qualitative findings acknowledged the importance and influence of the care and compassion MOOC with participating healthcare practitioners. This MOOC was acknowledged as a potentially valuable educational tool due to its flexibility, content and most importantly the availability of discussion forums in which learners could share differing narratives and stories in order to enhance their learning. This consequently encouraged a form of self-reflection enabling in-depth critical thinking.

Having considered all the data, analysis, findings and discussion, the researcher has identified two valuable conclusions:

The first relates to the subject of self-compassion, the feedback both quantitative and qualitative, demonstrated that many participants had not considered this prior to taking this course. However, as a result of the learning, this became something they were not only aware of in terms of self-care but also the importance of its connection to the successful provision of compassionate care. Through the MOOC learning, participants were able to link the way in which they care for themselves with the way they can care for others including colleagues and patients.

The second key message, identified by the researcher, was the value attributed to discussion boards within online learning. Many learners felt that the discussion boards provided a chance for interaction and discussion to exist between diverse ranges of people. The researcher concludes that the discussion boards provided a valued opportunity for both healthcare professionals, lay people and the general public to share thoughts, experiences, opinions and anecdotes. This rich learning environment was particularly poignant in a world in which healthcare education is restricted to learning "within healthcare". In conclusion, there may be evidential benefit to healthcare professionals learning amongst the general public, those that they may have cared for in the past or may care for in the future.

Both of these key messages are in keeping with realistic evaluation explanations of learning mechanisms, that a mechanisms is the link between the resources with the educational intervention and the learner's responses to it (Dalkin *et al, 2015*).

Pulling all of this information together, the researcher was able to develop a middle range theory based on the CMO configurations and data findings. A middle range theory is a set of generaliseable mechanisms which demonstrate why learners may respond in a suggested way to an educational intervention (Blamey and Mackenzie, 2007). Based on the findings from this study the researcher can predict that intervention success may be increased through:

- Learners actively participating in online discussions with a diverse range of participants,
- The promotion of reflection and deep learning
- Increasing motivation to learn through the promotion of vicarious learning experiences

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So, this research may not have drawn direct conclusion relating to whether the MOOC was successful or not, but this was not the intention. In fact, the researcher wanted to delve deeper into investigating what worked for whom and why. The overarching hypothesis from the researcher was that an online, adult learning course can facilitate change in the attitudes, behaviours, and practices of healthcare professionals. The theory behind this was that providing learning which enabled participants to understand compassion and to recognise what this looks like consequently has the ability to change their actions. Realistic evaluation researchers believe that the meanings people attach to subjects can impact on their related actions e.g., if we can change people's understanding of important worldwide matters such as global warming then perhaps, we can change their actions relating to it and in turn improve the negative effects associated with it (Maxwell, 2015).

However, acknowledgment of negative findings must also be given. It is evident that there was no remarkable differences in learners survey results from pre to post course. Where this may have provided quantitatively measurable results and unarguable evidence of change following learning, it does not signify that the MOOC research was a failure, or the findings are not valuable. As an alternative, the researcher acknowledges that these less defined findings may have resulted from the measurement tools used or some elements of the methods of study. Particularly when looking into the data collected and provided by FutureLearn. Due to the online nature and the anonymity of learners, a close connection was not able to be made for each participant of the research, therefore, the link between quantitative and qualitative data was not possible.

8.1 Strengths and Limitations

As with all research activity, this study has both strengths and limitations.

One limitation can be seen in terms of the quantitative analysis results. Although initial participant numbers were available in the thousands, this number was reduced during the pre-course survey and even further reduced in the post course survey, therefore, we are unable to see a true reflection of all MOOC learners. Consideration of the low number of male participants measured against the larger set of female data must also be given at this point and the recruitment of male participants should be addressed in future research. Also, participant

and self-selection bias, must be noted. Those that undertook the MOOC chose to do so on their own initiative and those that participated in the various elements of the research also volunteered to do so. However, this work is the first of its kind within this specialist area, and the outcome of the analysis will serve as a valuable base on which to build to further this research, especially in groups of mixed enthusiasm for the topic area of compassion.

A further limitation with this research is in the challenge of working with an external MOOC hosting platform, in this case FutureLearn. There were difficulties faced with the linking of learner and participant information. Some of these challenges were addressed from conduct of phase one (pilot) and then phase two (main study). However, refinement of linking of data could have been stronger in order to demonstrate more clearly the differences in pre to post as well as this linked to qualitative data contained within the discussion boards. Research undertaken in the future, would benefit from the improvement in data collected within the FutureLearn programme. This is a central and critical point in which rich valuable data could be collected which could link each individual learner from the start of their MOOC journey right until the end of their journey. This would provide an opportunity to evaluate the programme in more depth, to understand the individual learner journey and experience.

The researcher must also acknowledge that there are limitations which involve sample bias. This variety of bias reflects the possibility that some participants within a population are more likely to be selected than others. In the case of this study, there is a risk of self-selection bias, a form of sample bias. Self-selection becomes a possibility within research whenever the population have overall control over whether to participate or not. This research had several points within the MOOC learning in which participants could choose to opt in or out of the study i.e., pre course survey, post-course survey and invitation to interview. However, completion of the pre-course survey (either partially or fully) was a pre-requisite of being able to commence the course. This sample bias caused limitation in the generalisability of findings which in turn may compromise external validity. In this case, the findings may be restricted and unable to be generalised beyond those with similar physiognomies to the sample. Therefore, in future research, it would be beneficial to avoid sample bias. One way in which to support this, is the use of oversampling and alternative means of data collection. This can help in populations where some groups are not efficiently represented for the purpose of research.

When thinking about bias, the researcher is then led to an additional limitation known as social desirability bias (SDB). This is a common occurrence when data collection involves survey, such as this research. SDB emerges when participants tend to reply to survey questions in a way in which they feel to be the most approving, positive, or correct rather than honest, open answers. This is particularly relevant in research such as this when much of the data relies on the self-reporting of understandings and behaviours. Many people will avoid answering "challenging" questions or will over report good behaviours and under report disagreeable or adverse behaviours. This research involved a complex and emotive subject with some questioning based around current compassionate behaviours and understandings. Participants may have been inclined to answer with what they thought the researchers wanted to hear rather than admit to a lack of knowledge, understanding or ability to be compassionate. There is potential that rather than admit to a low level of compassionate care provision at the beginning of the MOOC, participants felt it necessary to say that this was at high level because that is what was expected. This SDB can interfere with data interpretation and mean reporting can be distorted and not characteristic of the actual truth.

Alternatively, this research also has strength in its originality and innovative contribution to current research in this field of study. This is demonstrated in the unique use of a combination of both lay person and healthcare professional data in evaluating a care and compassion MOOC. In considering both perspectives in combination and allowing for these two diverse groups to learn alongside one another, there was a deeper understanding gained of how learning like this can affect individuals from different contexts, how different mechanisms (both intended and unintended) can be developed and the dynamic outcomes that can be reached. In an educational world where healthcare professionals usually learn amongst groups of healthcare professionals, this opportunity for them to learn about an important subject that effects patients, carers, and healthcare professionals, with a variety of lay people, provides depth and new perspectives.

A further strength can be seen through this study's use of a mixed method of data collection. The sequential collection of quantitative and then qualitative data and subsequent mixed analysis, supported the independent findings, thus providing triangulation and a validity to the research.

8.2 Future Research

The findings from this research study will be utilised to suggest and inform prospective future research in the areas of e-learning, care, and compassion.

More in depth research needs to be undertaken in order to better understand the connection between online learning in complex subject areas such as compassion and possible improvement in healthcare practices. Within this study specifically, this could have involved data linkages made between pre/post survey scores and the qualitative data gathered. This would have strengthened the triangulation of findings and the confirmation of research conclusions. Further evaluation is also required in order to strengthen the empirical element of this research. Research benefit could be gained from an empirical examination of the following areas: motivation to complete, retention rate and individual learning experiences, which could benefit future healthcare related MOOCs and online learning.

The connection between healthcare professionals understanding of compassion and compassionate care and how this can be successfully integrated into their work practices also requires further acknowledgment and study. An observational study to strengthen this may also prove to be advantageous and would provide an additional measurement of the change in compassion related working. Timescale must also be acknowledged in this field as longer-term participant observation can produce more robust and comprehensive data. Therefore, research that includes an observation of potential outcomes across a prolonged period of time following completion of MOOC learning may prove to be valuable.

As like much research undertaken that involves healthcare, particularly quality of care, it is essential to gain an understanding from a patient perspective. Therefore, there is a need for patient reported measures to be implemented which will strengthen this original research. It is one thing to gain a self-reported comparison from pre to post MOOC, from healthcare professionals in terms of their provision of compassionate care. However, in order to reinforce findings and draw accurate conclusions, the viewpoint of the patient from pre to post course must also be considered. This could further be strengthened through the use of a patient reported measure of being in receipt of care that is compassionate such as the Sinclair Compassion Questionnaire (Sinclair *et al*, 2021). It is essential to understand if the provision of compassionate care has changed from all angles and should be inclusive of both healthcare

professional and service user. Therefore, future research on the evaluation of MOOCS should consider the measurement of successful learning outcomes from a patient perspective.

8.3   Implications for Practice

The overall findings from the research project will be used to inform educators, healthcare leaders and practitioners of the usefulness of a MOOC to learn about compassionate care.

Findings will be disseminated amongst these key healthcare groups which will include specific reference to the use of the MOOC and the link to learning about compassion. There is a clear message to be highlighted here which the value is gained from the diversity of MOOC participants and their ability to share experience, stories and expertise through online discussion boards thus providing a richer, deeper level of learning.   The MOOC allowed facilitation of international learning and the exchange of ideas amongst a hugely diverse group of learners; this was gained from the "massive" aspect of the MOOC.

Additionally, the importance of learning around self-compassion and its direct link to compassionate care should be highlighted amongst the wider healthcare structures. This was identified through the research findings above and something that should be shared throughout healthcare.

The researcher further acknowledges the importance of this research and although it has limitations, there is value in the work that has been done and the resulting findings. One of the most important considerations when thinking about the impact of this research on practice, is the need for healthcare staff to have an understanding of what compassion is and looks like in practice.   There was much variation and confusion about the way in which HCPs can be compassionate with some thinking it took big actions that they didn't have time for and others recognising that it is the small things that don't take any time at all. Literature that considers the patient's viewpoint demonstrates their understanding that compassionate care need not be a long and time consuming interaction but rather it can be a small action which only takes a few moments (Bramley and Matiti, 2014). The LCCP, Strand 3 research, also concluded that compassion could be observed throughout modicum and unintended actions and that this message can be shared first through an understanding of what compassion is. This is a simple concept that, if shared effectively amongst healthcare professionals, then there could be a positive impact in practice.

The researcher identified a gap in practice with this and developed an idea which would allow this vital message of the simplicity of incorporating compassion into practice including self-compassion and compassion towards colleagues. What if we could utilise the MOOC learning and use this opportunity to create a new champion role within healthcare. We already have a wealth of champions including tissue viability, dementia health and safety. These are individuals who are identified and trained to share their knowledge and expertise on their chosen subject. They can act as role models by spreading the message of compassion and helping to develop an overall environment and culture grounded on compassion. It is without doubt that there is worth in creating a "Compassion Champion" in every healthcare area. This individual can undertake the MOOC learning as part of their additional training and development then use that to share the message and promote and encourage compassion amongst the healthcare population. This would also help to solve the question relating to the identification of people who need to be "taught" about compassion.

As a concluding thought, given the obvious value in this endeavour, the researcher would like to further develop this idea into reality and is keen to see this in practice in the future.

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Appendix I: Compassion Scales

MEASUREMENT TOOL	CONSIDERS COMPASSION	CONSIDERS EMPATHY	HCPS	GENERAL PUBLIC	CONSIDERS SELF	CONSIDERS OTHERS	SUITABLE LANGUAGE USED	VALID	RELIABLE	EASY TO SCORE	USER FRIENDLY	WELL DOCUMENTED IN THE LITERATURE
COMPASSIONATE LOVE FOR CLOSE OTHERS AND HUMANITY SCALE	√			√	√		√			√		√
INTERPERSONAL REACTIVITY INDEX		√		√	√		√	√	√	√	√	√
EMPATHY QUOTIENT		√		√	√		√	√	√	√		
SCWARTZ CENTER COMPASSIONATE CARE SCALE	√			√		√	√		√		√	
THE TORONTO EMPATHY QUESTIONAIRE		√		√	√			√	√	√	√	√
BASIC EMPATHY SCALE		√		√	√		√	√				
THE SELF-COMPASSION SCALE	√			√	√		√	√	√	√	√	√
THE SELF – COMPASSION SCALE (SHORT FORM)	√			√	√		√	√	√	√	√	√
SANTA CLARA BRIEF COMPASSION SCALE	√			√	√			√		√	√	√
THE COMPASSION SCALE	√			√	√						√	
THE JEFFERSON SCALE OF PHYSICIAN EMPATHY	√		√	√				√	√			√
CONSULTATION AND RELATIONAL EMPATHY MEASURE		√		√		√	√	√	√	√	√	√

■ Unable to use
■ Could be utilised for this project
■ Suitable measurement

Appendix II: About the MOOC

Massive Open Online Course (MOOC)

Care and Compassion

Development

The development of the care and compassion MOOC was undertaken by University of Dundee in conjunction with FutureLearn.

The planning and development process for this was managed through regular meetings with the development team, educators and key stakeholders.

A different educator was identified to cover the teaching for each week, with this teaching focusing on their area of expertise or speciality.

About

Compassionate care – this free online course will explore the impact of compassionate care, for both practitioners and users of health and social care. It looked at the impact of compassionate care from both a healthcare professional and a service user point of view and included themes such as; what is compassionate care and why is it important?; humanising compassionate care; caring conversations; leading compassionate care; and using improvement science to advance compassionate care.

Structure

5 weeks of learning in June/July 2017

Week One – What is compassionate care and why is it important?

Introducing the course
- Intro to the course – Brendan McCormack (Video)
- How to use FutureLearn (Article)
- Intro to week 1 (Video)

Why compassion matters
- Compassion – Dr Elaine Lee (Video)
- Compassionate care in the media (Exercise)
- Reflecting on compassionate care in the media (Discussion)
- Debating questions of compassion in care (Video)
- What makes carers fail to care? (Discussion)

What compassion looks like?
- Improving health outcomes through salutogenesis (Article)
- What do we mean by compassionate care? (Discussion)
- What does compassion mean to you? (Video)

Defining compassion
- Commenting on compassion (Article)
- Our definition of compassion (Article)

Can compassion be learned?
- Can compassion be learned? (Video)
- Patient thank you letter (Video)

<u>**Week Two – Humanising healthcare**</u>

Welcome to week two

- Patient letter part two (Video)
- Intro to week 2 - Brendan McCormack (Video)
- A surprise visit (Article)
- What is humanised care? (Article)

Challenges

- Fast vs Slow Healthcare (Article)

Effective approaches, big and small

- Good life good death (Video)
- Hard to reach communities (Video)
- Before I die…..(Article)
- Compassionate communities (Article)
- NUKA (Article)
- Humanity above bureaucracy (Article)
- Oliver sack, music and playlist for life (Video)

Self-care for practitioners

- Healthy organisations (Article)
- What's in your toolbox (Article)
- Check your understanding (Discussion)

<u>**Week Three – Caring Conversations**</u>

Welcome to week three

- Patient letter part three (Video)
- Intro to week three – Brendan McCormack (Video)

Relationship-centred practice

- Relationships in care practice (Article)
- The senses framework (Discussion)

Caring conversations

- The 7Cs (Article)
- The 7Cs in practice (Video)

Practical conversation tools

- Photo elicitation (Article)
- Positive Inquiry (Article)
- Emotional touchpoints (Video)
- Reflecting on conversational tools 9Discussion)

Incorporating self-reflection

- Personal reflection (Article)
- Sharing what you've learned (Discussion)
- Collecting feedback (Article)
- Check your understanding (Article)

Week Four – Leading compassionate care

Welcome to week four

- Patient letter part four 9Video
- Intro to week four – Brendan McCormack (Video)

Leadership approaches

- Your leadership role (Discussion)
- What does leadership look like? (Article)
- Defining leadership (Article)
- The link between leadership and care (Article)

What leadership looks like?

- A student nurses perspective (Audio)
- What's needed to lead or manage compassionate care? (Video)
- Role modelling (Article)

In the maternity ward

- Dynamics in the maternity ward (Video)
- Challenging situations between staff and patients (Video)
- Responding to the video (Article)

From the managers perspective

- A leaders perspective (Video)
- Delivering better care (Article)

Closing discussion on leadership

- Let's have a debate (Article)
- Research participants discussion area (Discussion)
- Lessons from the patient thank you letter (Article)
- Check your understanding (Discussion)
- What is improvement science and how does it relate to compassionate care (Video)

Week Five – Using improvement science to advance compassionate care

Welcome to week five

- Intro to week five – Brendan McCormack (Video)

Your context of care

- Improvement tools (Article)
- Barriers and Positive Effects (Discussion)

Your quality improvement plan

- Introducing quality improvement (Video)
- Developing an aim (Article)
- Outlining the issue and scoping the project (Article)
- Measuring your progress (Video)
- Ideas for change (Video)

Ideas for change

- Formulating your ideas for change (Article)
- Turning your ideas for change into tests for reality (Article)

Challenges in quality improvement

- Challenges of undertaking QI (Video)

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- Your experiences of implementing change (Discussion)
- Well done! (Video)
- Credits (Article)

Appendix III: Ethics Application – Phase One (Pilot Study)

General University Ethics Panel (GUEP)

Ethical Approval Form

UNIVERSITY of
STIRLING

SECTION A: Applicant details

A1. Name of applicant (principal researcher): Julie McLaren
A2. Email address: julie.mclaren@stir.ac.uk
A3. Faculty affiliation: Health Sciences and Sport   **Division/Research group: Health Sciences**
A4. Designation: Research postgraduate ☒   Staff ☐
A5. RESEARCH POSTGRADUATES ONLY   **Programme of study:** PhD   **Supervisor name:** Professor Jayne Donaldson (Stirling University) and Dr Stephen Smith (Edinburgh Napier University)
A6. STAFF ONLY   **Job title:** Click here to enter job title
A7. Details of additional internal applicant(s):   **Not applicable ☒**   **Name: Division:** Click here to enter text   **Post held:** Click here to enter text   Hrs/w
A8. Details of additional external applicant(s):   **Not applicable ☐**   **Name:** Click here to enter name   **Post held:** Click here to enter text
A9. Is ethical review by an external body required?   Yes ☐   No ☒   **If YES, at what stage is this at?** Choose an item
A10. Type of review required   Light touch ☐   Full review ☐   Expedited ☒   *Although the GUEP will determine what kind of review is required, you may request a light touch review if you think it is justified. Please refer to the ESRC Framework for Research Ethics for examples of research that would normally require full review. Expedited review will only be undertaken for exceptional and clearly justified cases.*
A11. Supporting documentation   No ☐   Yes ☒   If YES, please list below: **Consent form for participants and Participant Information Sheets (strands 1b and 3)**

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SECTION B: Project details

B1. Project title: The dissemination of a global understanding of compassion amongst care workers and its role in improving the quality of compassionate care provided within their practice: a realistic evaluation of a Compassionate Care MOOC (Massive Open Online Course)

B2. Project funder: The Health Foundation, Scottish Improvement Science Collaborating Centre, University of Dundee

B3. Project start date: 01/01/2016	**Project end date:** 01/12/2019

B4. Short project description:

This project will use a Realistic Evaluation approach which aims to understand what works for whom and in what circumstances rather than just if something works or not. This theoretical model will allow a mixed method of research to be utilised as well as supporting data analysis via the structure of understanding the context, mechanism of action and outcome. The theory of realist evaluation provides a comprehensive framework for the research which allows for investigation of how context and mechanism can influence intervention outcomes. Realist evaluation will provide an understanding of the MOOC development process, a user perspective of undertaking the MOOC and assessment of the course on increased awareness and understanding of compassion and the possible improvement to participant's practice.

The researcher will carry out a realistic evaluation of the MOOC following the process below:
1. Collecting data from development team and course week leads on how the course is intended to address learning outcomes with the inclusive mechanisms.
2. Collecting data from MOOC participants to identify additional mechanisms unplanned by the development team which may uphold or inhibit intended outcomes
3. Analysing data as the course unfolds and tailoring further data collection to help corroborate or enhance theories that develop
4. Repeat the process with a second cohort of participants which will enable comparisons to be made across contexts thus cementing the theory of realism (a second ethics application will be submitted to reflect changes made for the second MOOC cohort)

The three strands of the project will reflect the above process in the following manner:
Strand 1 MOOC Development
a – Initial document analysis of the process of MOOC development will be conducted in order to gain an understanding of the methods used in the development of the MOOC. Examples of documents to be analysed are notes of development meetings, weekly content discussions, preparation of learning outcomes and individual week content plans. This will then determine the questioning for strand 1b

b – The collection of data, via semi-structured interview, from course leader (x1), online learning expert (x1) and week leads (weeks 1-5) on how the course is intended to achieve learning outcomes for the learner. This will include learning activity content, decision making and rationale for the development of the MOOC.

Strand 2 MOOC Participation
The collection of data from the MOOC's online statistical platform will be collected, including data such as total numbers starting the MOOC, engagement through weeks 1-5, drop-out rates, and contributions per week/posts per week and completion rates as well as basic demographical information. Along with this, MOOC participants who meet the inclusion criteria and who volunteer to take part in the research will be asked to complete a quantitative survey in week one and week five of the course (this will consist of a combination of two validated and reliable surveys. This is aimed at measuring their own personal understanding of their level of compassion and self-compassion, and to see if any change occurs in this understanding as a result of undertaking the MOOC. These methods of data collection have been added to the

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MOOC via SISCC, as part of the wider research project that they are managing. Ethical approval for this strand and it's data collection has therefore been sought by them via Dundee University.

Strand 3 – MOOC Impact
The collection of data from MOOC participants (whom are identified practitioners) via semi-structured interviews regarding how completing the course has impacted on their practice.

B5. Provide a brief justification for the proposed study:
Although the subjects of compassionate care and MOOCs have been the focus of individual study it is evident that little research and investigation has been undertaken with regard to a combination of these up to date subjects. There is also very little evidence available currently that evaluates the impact of online learning on current practice within healthcare. The study detailed below therefore aims to analyse the MOOC development process, the effect the course has on participants understanding of compassion and (for providers of care) its impact on their practice.

B6. What are the study's main objectives and expected outcomes?
To analyse the MOOC development process, the effect the course has on participants understanding of their compassion and (for providers of care) its impact on their practice. The research will meet these aims by attempting to answer the following research questions using three unique strands of research:

1. What is the development team's rationale and understanding behind the provision of the MOOC, the content of the course and the intended/expected outcome of undertaking the course? – **Strand 1a**
2. What are the views and experiences of the development team of the MOOC development process? – **Strand 1b**
3. What is participant's initial understanding of their levels of compassion and self-compassion and can this change after undertaking the online course? – **Strand 2**
4. What are the views and experiences of participant's taking their online learning back into practice. Can undertaking the MOOC make a change to the way in which they practice? – **Strand 3**
5. What are the varying contexts in which the MOOC can be undertaken? What differing care backgrounds can potential participants come from? – **Strand 2**
6. Is compassionate care a trait that can be taught or is it something that must exit already in order to enhance its effectiveness? – **Strand 2 & 3**
7. What is the optimum context to undertake the course in order to provide the best outcome? - **Strand 1, 2 & 3**

This intended outcome of this research is to raise awareness of care and compassion as well as produce new knowledge in this area. It will also serve to evaluate change in practice on the back of an online learning programme.

B7. Does this project involve fieldwork?	Yes ☐ No ☒

B8. Please summarise the potential ethical issues and how they will be addressed:
The main ethical issues identified with the proposed study are the following:

Data Collection – all questionnaires and interview questions should be appropriate to the population and treated with confidentiality and where appropriate anonymity
Informed consent – this will be obtained from all potential participants using language and where appropriate documentation that is easily understandable. All participants will be clearly notified that their involvement is purely voluntary and they can withdraw from the study at any point without consequence.
Sensitive topic – the subject of compassion is that of a very sensitive nature and often evokes emotive feelings when being discussed. In order to overcome this challenge, at any point

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during discussion if a person becomes emotional, anxious or is struggling to participate then they will be invited to cease the interview. If the participant wishes to go on with the discussion then this will be acknowledged and facilitated however if they cannot manage to go any further then the discussion will be concluded and either rearranged or participation retracted from the study.

As part of the sensitive nature of the MOOC, SISCC intend to include guidance at the beginning of the course detailing individual responsibility and consideration of participation. However for the purpose of this research it is vital that the researcher considers their response should a participant become emotional or distressed. They must be clear in their position as researcher and not counsellor and where able to listen to what a participant would like to share, they must in no way attempt to provide guidance or advice and should ensure that these boundaries are upheld throughout the interview process. It is important to bear in my mind the length of time allocated for interview as well and that focus should remain on the topic for data collection.

B9. Is further scrutiny required at a later date (e.g. where the research design is emergent)?	Yes ☒ No ☐

If YES please provide details
The initial study will be undertaken on a pilot basis with the first run of the MOOC in October however the results of this will be used to refine the research questions and allow a further study to be undertaken with the second run of the MOOC in June 2017. For this reason, a further ethics application or amendments to this application may need to be submitted prior to the second run.

B10. Will external contractor be involved (e.g. transcription services, interpreters, fieldworkers)?	Yes ☐ No ☒

If YES comment on their compliance with ethical requirements:

B11. Has this proposal been subject to any external ethical review process?	Yes ☒ No ☐

If YES please provide details:
Ethical approval that involves the recruitment and collection of data via the MOOC platform (Strand 2) has been sought directly from University of Dundee as part of their process for developing the MOOC as well as for the purpose of the wider research.

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SECTION C: Research involving human participants

C1. Does your research involve human participants? If YES please answer the following questions. If NO proceed to SECTION D.	Yes ☒ No ☐

C2. Please provide details of the intended participants:

Sampling will be purposive due to the nature of this study and its involvement within the wider ongoing SISCC project. Potential participants will either have already chosen to undertake the MOOC or will be part of the development team which has been previously established

Strand 1b – participants will be made up of volunteers from the SISCC MOOC development group (n=6)

Strand 2 – participants will be care professionals who have consented to undertake the initial piece of research regarding the understanding and impact of the MOOC on them as individuals. There will be a limit to the number of volunteers under this strand as the MOOC can generate registered numbers in the thousands. The minimum number of participants will be estimated using a power calculation advised by a university statistician. The size will rely on the degree of expected changes following completion of the MOOC.

Strand 3 – participants will be individuals who are willing to volunteer for the final part of the research. A limit of 12 participants will be placed on this strand of the research. This number will be made up of participants from a variety of backgrounds who have fully completed the MOOC questionnaires and who been the most active MOOC participants.

Inclusion criteria for the study:
- All participants need to be capable of giving informed consent to participate in the study
- Strand 1a and 3 participants need to be capable of taking part in an interview lasting no longer than one hour
- All participants need to be able to talk and understand the English language at a proficient level
- All participants in Strand 3 must be involved in formal care related work e.g. doctor, nurse, allied health professional, care support worker, nursing assistant

Exclusion Criteria
- Participants with cognitive impairment, prisoners, vulnerable individuals
- Those that do not speak or understand the English language
- Healthcare professionals whom are retired or currently not in a formal caring role
- Anyone under the age of 18

C3. Does the proposed research involve vulnerable groups? e.g. children under 18, people with learning or communication difficulties, patients, people in custody, people engaged in illegal activities such as drug taking	Yes ☐ No ☒

If YES please provide details:

C4. Please detail the methods of data collection:

Strand 1a – data will be collected via a shared document loading system (BOX) or by email. All necessary and appropriate documents that have been used by the development team will be made available including meeting notes, content plans and learning outcomes. All documents will be stored securely and where necessary using encryption.

Strand 1b - data will be collected in the form of a semi-structured interview. All interviews will be tape recorded and will be held in a private space in which the researcher will aim to minimise distractions or interruptions. Those participating will be notified that the process will take no longer than one hour. The interview schedule will be formed once a comprehensive document analysis (strand 1a) has been undertaken with regard to the process of the MOOC

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development and will use Realistic Evaluation as a structure.

2nd strand – data will be collected using a combination of two validated and reliable measurement tools and will total no more than 17 questions. The tools to be used will be; The Self-Compassion Scale (Neff, 2015) and The Santa Clara Brief Compassion Scale (Hwang, Plante and Lackey, 2008). For the purpose of this study the researcher has considered each tool's reliability and validity as well as its development, design and intended population. It is very rare that any instrument in research is 100% validated however both tools are the optimum choice for their intended purpose through content validity being evidenced with both tools measuring the elements that are required for this research. As are they both reliable in that both tools consistently measure that which they are required to measure. Statistical data will also be collected directly from the course provider FutureLearn which will consider information such as entry and completion rates.

- Number of individuals who start the MOOC
- Engagement through weeks 1-5
- Drop out rates (in total and each week)
- Contributions per week in discussions/posts
- Completion rates

3rd strand – data will be collected in the form of semi-structured interviews. All interviews will be tape recorded and the researcher will ensure that they are held in a private space in which there will be no distractions or interruptions however if undertaking a phone/skype interview the environment in which it is held at the participants end is out of the control of the researcher. Those participating will be notified that the process will take no longer than one hour. Due to the international nature of the MOOC it may be that these interviews will need to be conducted via telephone, skype or video conferencing. The interview schedule for collection of this data will be built around the findings from the quantitative study under strand 2 but will follow a Realistic Evaluation.

C5. Please give details of procedures for informed consent (including information provided and methods of documenting initial and continuing consent):

For the purpose of this research consent will be obtained via signed paper copies prior to interview. Participants will be informed of the nature and purpose of this study using language appropriate to the target audience. Explanation will be given regarding the voluntary nature of the study including the fact that eligible participants are free to take part but are equally free to decline or even withdraw at any point if they change their minds. The researcher will ensure that they understand that declining or withdrawing will have no consequence and those participants who are part of the MOOC will be assured that the research is entirely independent to their studies and refusal to participate will have no bearing on them being provided with their certificate of completion at the end of the course. An explanation will be provided within the participant information sheet regarding the sensitive nature of the subject matter which will highlight the individual responsibilities of the participants and their need to engage thoughtfully and with great consideration. As part of the expansive project that this research forms part of, data may be shared within the wider team. As part of the informed consent process the researcher will request permission from participants to share their anonymised data in this manner. For the same reason we will also give them an option to agree or disagree to be contacted in the future about related research. All information provided to participants will be easy to understand and appropriately aimed at the target population.

Strand 1b - Following discussion and arrangement for an interview made via the SISCC Lead, the informed consent process will be undertaken prior to commencement of the interview. In order for consent to be informed a comprehensive information sheet will be provided and an opportunity to ask questions will be given.

Strand 3 – Individuals who volunteered to participate in this part of the research will be provided with a comprehensive information sheet and will be asked to provide informed consent prior to commencement of the interview.

C6. Please detail the methods of data analysis:
Strand 1a – Initial document analysis of the process of MOOC development will be conducted in order to gain an understanding of this practice and the methods used. Examples of documents to be analysed are notes of meetings, project plans and weekly tracking documents. These documents will be reviewed and interpreted by the researcher and content will be coded into appropriate themes. This analysis will then determine the questioning for strand 1b interviews of the study.

Strand 1b and 3 – Interviews will be transcribed verbatim and thematic analysis undertaken. In keeping with the realistic evaluation, qualitative data will be coded based on "description of the intervention", "observed outcomes" and "context conditions" also considering underlying mechanisms that exist.

Strand 2 – Due to the online nature and anonymity of participants undertaking the MOOC consent will be obtained once they have made contact with the researcher. This will be an option given to them during completion of the MOOC.

For this purpose all data will be analysed whilst taking into consideration the context in which it was collected, the nature of the data as well as its implications.

C7. Please detail the measures that will be taken to ensure confidentiality, privacy and data protection:
All data will be handled and held in a protective and confidential manner using the Caldecott Principles as an ethical framework and in compliance with the Data Protection Act 1998 and The Freedom of Information (Scotland) act 2002.

Strand 1 and 3 – Due to the face to face nature of interviews, anonymity cannot be ensured however all steps will be taken in order to maintain confidentiality and ensure identities are protected and no personal or identifiable information will form part of the study data. Evidence from interview will be shared anonymously with no personal information or identifying details being provided. This is particularly poignant with the MOOC development team whose details are all provided within FutureLearn and whom may be identified due to the content of the interview. This will be flagged up within the information sheet for this group so that they are aware before agreeing to participate.

For Strand 2 – due to the online nature of the MOOC this will naturally remain anonymous and all data collected via this route will be of an unidentifiable context.

All data handling and destruction will consider confidentiality at the forefront and will be carried out lawfully and in compliance with the Data Protection Act 1998 and the Freedom of Information (Scotland) Act 2002.

Data collected will be categorised as restricted – meaning this data may contain sensitive personal data which will be accessible to a small group of restricted individuals on a need to know basis and whom may require access in order to carry out their roles successfully.

Electronic information will be held on a University network within locations that have restricted access and appropriate security. Information will only be transferred to a mobile device if essential and this will be done securely using suitable encryption methods. This encryption will also be used if there is a need to share information via email or any other electronic means. Any paper records will be stored securely in folders with restricted access and will never be left unattended. Any information to be shared via internal or external mail will be done using

sealed envelopes.

The University guidelines state that any data collected as a result of research should only be kept for a length of time appropriate to its need and not kept any longer that is necessary for the research project. This is in keeping with the Data Protection Act 1998. Therefore once the research has been completed data will only be stored until publication activities are complete.

C8: How will the results from this study (including feedback to participants) be disseminated?
Results from this study will be fed back to participants individually via email, this will also act as a method of substantiating results as it will enable the researcher to check what has been written is a true and honest account. The results will also be published as part of the PhD being undertaken by the researcher and the wider project being undertaken by SISCC. The findings, or part thereof, may also be published in any peer-reviewed journal in the future.

SECTION D: Research involving or impacting on animals

D1. Does your research involve animals?	Yes ☐ No ☒
If YES please provide details	

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SECTION E: Data protection, copyright and other considerations

E1. Does the proposed research involve accessing records of personal or confidential information?	Yes ☐ No ☒
If YES please give details: Click here to enter text	
E2. Does the proposed research involve the recording or use of audio-visual material?	Yes ☐ No ☒
If YES please give details: Click here to enter text	
E3. Does the proposed research involve the remote acquisition of data from or about human participants using the internet and its associated technologies	Yes ☐ No ☒
If YES please give details: Click here to enter text	
E4. Does the proposed research involve accessing potentially sensitive data through third parties?	Yes ☐ No ☒
If YES please give details: Click here to enter text	
E5. Does the proposed research involve reproducing copyrighted work in published form (other than brief citation)?	Yes ☐ No ☒
If YES please give details: Click here to enter text	
E6. Does the proposed work involve activities which could temporarily or permanently damage or disturb the environment, or archaeological remains and artefacts?	Yes ☐ No ☒
If YES please give details: Click here to enter text	
E7. Does the proposed work involve a potential conflict of interest or raise ethical issues regarding the source of funding or where publication of research data may be restricted?	Yes ☒ No ☐
If YES please give details: Funding – This PhD and research is being funded by The Health Foundation which at the same time funds the development of the MOOC. It may be that there exists a conflict of interest from the funding partners e.g. working processes and outcomes, rigour in questionnaire development and consistency. However in order to overcome this the differences between these two pieces of work must be made clear and clarification and communication provided regularly as the ongoing research work being undertaken	

By signing below (digital signatures accepted), you certify that the information provided is true and correct to the best of your knowledge

RESEARCH POSTGRADUATES

Applicant's signature: *Julie McLaren*   **Date:** 01/09/2016

Supervisor's signature: *Jayne Donaldson*   **Date:** 15/09/2016

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Appendix IV: Ethics Approval – Phase One (Pilot Study)

UNIVERSITY of STIRLING

Julie McLaren
Research Postgraduate
Faculty of Health Sciences and Sport
Pathfoot Building
University of Stirling
Stirling FK9 4LA

Professor Karen Windle
Chair in Ageing

Faculty of Social Sciences
University of Stirling
Room 3S7 Colin Bell Building
Stirling
FK9 4LA
Scotland UK

3 October 2016

T: +44 (0) 1786 467700
E: k.l.windle@stir.ac.uk

Dear Julie

Re: Ethics Application: **Dissemination of a global understanding of care and compassion amongst care works and its role in improving the quality of compassionate care provided within their practice: a realistic evaluation of a Compassionate Care MOOC.**

Thank you for carrying out the relevant changes to the above ethics submission. I can confirm that final ethical approval has been given and you can now go ahead with your study using the documentation (e.g., Information Sheets (v2) and Consent Forms (v2)) received from you on 28 September 2016. Please note, that should any of your proposed workstreams change, a further submission (substantial amendment) to the GUEP will be necessary. Finally, you may just wish to finally reformat some of your documents, I note that you have a few 'orphan' headers at the end of pages without any text (but this may be because margins are set up differently on different machines!).

On behalf of the GUEP, we wish you well with your study.

Yours sincerely

On behalf of the GUEP
Professor Karen Windle
k.l.windle@stir.ac.uk
01786 467700.

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Appendix V: Documentary Analysis Information Sheet/Consent Form – Phase One (Pilot Study)

Information and Consent Form for Access to Materials Related to the MOOC Development

Research Study
The dissemination of a global understanding of care and compassion amongst care workers and its role in improving the quality of compassionate care provided within their practice: a realistic evaluation of a Compassionate Care MOOC (Massive Open Online Course)

What is the purpose of the study?
This study aims to explore the use of a MOOC (Massive Open Online Course) in disseminating a global understanding of care and compassion and its role in improving the quality of compassionate care provided within healthcare practice. Compassionate care has been highlighted recently as a priority within healthcare and the need to provide patient-centred individualised care is being promoted in this area. Although there is an increasing awareness of the need for compassionate care, it would appear that the understanding of what encompasses compassion is misinterpreted. Online learning in the form of a MOOC (Massive Open Online Course) provides an opportunity for a global understanding to be disseminated on a large educational scale. The MOOC in this study aims to educate anyone undertaking it on the basic understanding of care and compassion. Therefore this study will explore the effect that undertaking this MOOC may or may not have on individuals understanding of compassion and in turn if it changes the care that is provided within the healthcare setting.

Why is access to development data required?
As part of this research it is essential that we also understand the MOOC development process and gain an insight into the experiences of those involved in this activity. We would like to analyse documentation relating to the development process in order to understand how the development process was undertaken, the rationale behind any decision making as well as what intended outcomes were expected to come from the learning experience. We would also like to use this data to inform the structure and content of semi-structured interviews that will be undertaken as part of the study with members of the development team whom volunteer to participate.

Why have I been asked to give this permission?
You have been chosen because you are the lead for the team involved in the development of the Compassionate Care MOOC and therefore are responsible for any materials/documents produced during this process.

What will happen to the findings of the study?
The findings of the study will provide a greater understanding of how undertaking a MOOC could alter an individual's understanding of compassion and the possible impact of this on their healthcare practice. The findings, or part thereof, may be published in a journal in the future.

Who is organising and funding the research? Who has approved the research?

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This study is being carried out as part of a PhD and is being led by Julie McLaren (Principal Investigator) and Supervised by Professor Jayne Donaldson (University of Stirling) and Dr Stephen Smith (Edinburgh Napier University).

The research is being overseen as part of a wider project by SISCC (Scottish Improvement Science Collaborating Centre) based at the University of Dundee. It is also being funded by The Health Foundation, an independent charity committed to bringing about better health and healthcare for people in the UK.

For further information please contact the researcher as detailed below:
Julie McLaren (Principal Investigator)
Faculty of Health Sciences and Sport
Pathfoot Building, Room E9
University of Stirling
Stirling, FK9 4LA
Email: julie.mclaren@stir.ac.uk

What if something goes wrong?
In the first instance please contact **Professor Jayne Donaldson,** email: jayne.donaldson@stir.ac.uk.

However if you feel that your concerns as to the conduct of this research have not been addressed following such contact, please contact **Professor David Lavallee,** email: david.lavallee@stir.ac.uk

Consent

1. I understand and agree to the request for access to any appropriate materials relating to the development of the Compassionate Care MOOC ☐

2. I understand the purpose of giving access to materials/documents involved in the MOOC development process ☐

3. I understand that access to any materials that are not deemed appropriate for the research can be refused ☐

4. I consent to the analysis of these materials being undertaken for research purposes ☐

5. I consent to the use of the content of any materials/documents being used to inform the content of semi-structured interviews being undertaken with members of the development team ☐

6. I have been given a copy of this consent form and the information for my own records ☐

_____   _____   _____

Name of Development Team Leader   Date   Signature

_____   _____   _____

Name of Researcher   Date   Signature

Version Number 1   Review Date: 27/09/2016

Appendix VI: Educational Staff Information Sheet – Phase One (Pilot Study)

Information Sheet for Educational Staff

The dissemination of a global understanding of care and compassion amongst care workers and its role in improving the quality of compassionate care provided within their practice: a realistic evaluation of a Compassionate Care MOOC (Massive Open Online Course)

You are being invited to take part in a research study. Before deciding, it is important to understand why the study is being done and what it will involve. Please read this information carefully and discuss it with others if you wish. Ask me if anything is not clear or if you would like more information.

What is the purpose of the study?
This study aims to explore the use of a MOOC (Massive Open Online Course) in disseminating a global understanding of care and compassion and its role in improving the quality of compassionate care provided within healthcare practice. Compassionate care has been highlighted recently as a priority within healthcare and the need to provide patient-centred individualised care is being promoted in this area. Although there is an increasing awareness of the need for compassionate care, it would appear that the understanding of what encompasses compassion is misinterpreted. Online learning in the form of a MOOC (Massive Open Online Course) provides an opportunity for a global understanding to be disseminated on a large educational scale. The MOOC in this study aims to educate anyone undertaking it on the basic understanding of care and compassion.

Therefore this study will explore the effect that undertaking this MOOC may or may not have on individuals understanding of compassion and in turn if it changes the care that is provided within the healthcare setting. As part of this research it is essential that we also understand the MOOC development process and gain an insight into the experiences of those involved in this activity.

Why have I been invited to take part?
You have been chosen because you are a member of the team involved in developing the MOOC and/or are a leader for one of the weeks of learning. We would like to find out your perspective and thoughts of how the development process was undertaken, the rationale behind any decision making as well as what intended outcomes were expected to come from the learning experience.

You must meet the following inclusion criteria in order to qualify to take part in this research:
- Able to give informed consent to participate in the study
- Capable of taking part in an interview lasting no longer than one hour
- Able to talk and understand the English language at a proficient level
- Must be part of the MOOC development team in the form of designer or weekly team lead

Anyone who falls into the following criteria is not eligible to participate:
- Participants with cognitive impairment, prisoners or vulnerable individuals
- Anyone under the age of 18

Your decision to take part, do I have to take part?

You should only agree to take part if you are happy and able to do so. If you decide you do not want to participate, you can decline without giving a reason or without further consequence.

What if I change my mind about taking part?

If you decide that you do not wish to take part any longer than you have the right to withdraw without giving a reason and with no repercussion however this withdrawal is date sensitive. However analysis of data collected will commence in April 2017, therefore, if you wish your information to be excluded from the study then withdrawal must occur prior to this. Excluding your data after this date and during the analysis stage may prove to be problematic.

What will taking part in this study involve?

Taking part would mean participating in a one to one interview with the researcher lasting no more than one hour. This can be conducted via telephone, skype or video conferencing. We would like to know your thoughts and understanding of this impact of undertaking this course on your attitude, beliefs and your healthcare practice. With your permission, a recording will be made of the interview in order to produce a verbatim transcription. . You are also free to refuse to answer any questions at any time.

What happens next?

If you wish to participate please email the researcher directly (contact details can be found at the bottom of this sheet). Once initial contact has been made further discussion can take place with regard to obtaining informed consent. A time for interview (either in person or via skype), convenient for yourself, will also be arranged at this point.

Will I benefit from taking part?

There is no intended benefit to participating in this research

Will I be paid to take part?

There will be no payment or expenses available to participants in this study.

Are there any risks involved in taking part?

There are no immediate evident risks involved with taking part in this research.

Will I be able to be identified from the results?

Due to the nature of your involvement within the MOOC development team, whose details are provided within FutureLearn, there may a minimal chance of identification through the interview content. However all steps will be taken in order to maintain anonymity and where possible protect the identities of those involved. Where possible any identifiable information will be excluded from the study unless necessary to the research. You will also be given access to the data collected in order for you to approve it prior to its inclusion within the study. All data will be kept in a secure place at Stirling University within locked premises and password protected on computer. All Data will be stored until the project is complete and published, after which point it will be destroyed

What will happen to the findings of the study?

The findings of the study will provide a greater understanding of how undertaking a MOOC could alter an individual's understanding of compassion and the possible impact of this on their healthcare practice. The findings, or part thereof, may be published in a journal in the future.

Who is organising and funding the research? Who has approved the research?

This study is being carried out as part of a PhD and is being led by Julie McLaren (Principle Investigator) and Supervised by Professor Jayne Donaldson (University of Stirling) and Dr Stephen Smith (Edinburgh Napier University).

The research is being overseen as part of a wider project by SISCC (Scottish Improvement Science Collaborating Centre) based at the University of Dundee. It is also being funded by The Health Foundation, an independent charity committed to bringing about better health and healthcare for people in the UK.

For further information please contact the researcher as detailed below:
Julie McLaren (Principal Investigator)
Faculty of Health Sciences and Sport
Pathfoot Building, Room E9
University of Stirling
Stirling, FK9 4LA
Email: julie.mclaren@stir.ac.uk

What if something goes wrong?
In the first instance please contact **Professor Jayne Donaldson,** email: jayne.donaldson@stir.ac.uk.

However if you feel that your concerns as to the conduct of this research have not been addressed following such contact, please contact **Professor David Lavallee,** email: david.lavallee@stir.ac.uk

Thanks for taking the time to read the information sheet!

Appendix VII: Educational Staff Consent Form – Phase One (Pilot Study)

UNIVERSITY of STIRLING

Consent Form for Educational Staff

Research Study

The dissemination of a global understanding of care and compassion amongst care workers and its role in improving the quality of compassionate care provided within their practice: a realistic evaluation of a Compassionate Care MOOC (Massive Open Online Course)

Researcher

Julie McLaren (Principal Investigator)
Faculty of Health Sciences and Sport
University of Stirling
Pathfoot Building, Room E9, Stirling, FK9 4LA
Email: julie.mclaren@stir.ac.uk

1. I have read and understood the information sheet and this consent form. I have had an opportunity to ask questions about my participation ☐

2. I understand that I am under no obligation to take part in this study ☐

3. I understand that I am free to withdraw at any time, without giving any reason and without any consequence or legal rights being affected ☐

4. I consent for the notes from the interview to be produced for research purposes ☐

5. I agree to take part in a face-to-face interview and I consent to the interview being recorded ☐

6. I have been given a copy of this consent form and the information for my own records ☐

_____   _____   _____

Name of Participant   Date   Signature

Version Number 2   Review Date: 27/09/2016

Appendix VIII: Ethics Application – Phase Two (Main Study)

General University Ethics Panel (GUEP)

Ethical Approval Form

UNIVERSITY of STIRLING

SECTION A: Applicant details

A1. Name of applicant (principal researcher): Julie McLaren
A2. Email address: Julie.mclaren@stir.ac.uk
A3. Faculty affiliation: Health Sciences and Sport   **Division/Research group: Health Sciences**
A4. Designation: Research postgraduate ☒   Staff ☐
A5. RESEARCH POSTGRADUATES ONLY **Programme of study:** PhD **Supervisor name:** Professor Jayne Donaldson (University of Stirling) and Dr Stephen Smith (Edinburgh Napier University)
A6. STAFF ONLY **Job title:** Click here to enter job title
A7. Details of additional internal applicant(s):   **Not applicable ☒** **Name:** Click here to enter name   **Faculty:** Choose Faculty   **Division:** Click here to enter text **Post held:** Click here to enter text   **Hrs/week on project:** Click here to enter text *Copy and paste the above to add further applicants*
A8. Details of additional external applicant(s):   **Not applicable ☒** **Name:** Click here to enter name   **Institution:** Click here to enter text **Post held:** Click here to enter text *Copy and paste the above to add further applicants*
A9. Is ethical review by an external body required?   Yes ☐   No ☒ **If YES, at what stage is this at?** Choose an item
A10. Type of review required: Light touch ☐   Full review ☒ *Although the GUEP will determine what kind of review is required, you may request a light touch review if you think it is justified. Please refer to the* ESRC Framework for Research Ethics *for examples of research that would normally require full review.*
A11. Supporting documentation: Please submit all applicable documents with this form: Participant info sheets ☒   Consent forms ☒   Risk assessments ☐   Data collection instruments ☒ Interview schedules or topic guides ☒   Participant recruitment materials ☒ Participant Debrief information ☐ Other ☐ Please specify: Click here to enter text

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SECTION B: Project details

B1. Project title: How effective is online learning? A realistic evaluation of a compassionate care MOOC (Massive, Open, Online, Course)
B2. Project funder: The Health Foundation, Scottish Improvement Science Collaborating Centre, University of Dundee

B3. Project start date: 01/01/2016	**Project end date:** 01/12/2019

B4. Short project description:

This project is an evaluation of a MOOC entitled "Compassionate Care: Getting it Right".

MOOCs are Massive, Open, Online, Courses that are designed to educate a large number of people in a specialist subject, free of charge and wholly online. Compassionate Care is a heavily discussed and debated subject currently, particularly within the provision of health and social care.

Phase one of this project has previously been approved via the GUEP in October 2016. Approval is now being sought for phase two of research as detailed below:

Phase one has now successfully been undertaken, which involved the evaluation of a first run of the 5 week Compassionate care MOOC. This acted as a pilot to test the evaluation research processes, following this a number of minimal changes have now been made to data collection tools and the research and recruitment process in order to maximise the effectiveness of the study and attempt to obtain the most reliable and beneficial results.

For the purpose of this application a full overview of phase two has been provided. This phase of research aims to further understand the possible impact an online learning course, designed to be delivered at scale, may have on the attitudes and behaviours of health and social care professionals and subsequently if this can then have an effect on their future practice.

In order to do this successfully the project will carry out a Realistic Evaluation (Pawson and Tilley, 2000) which aims to understand not only if an intervention works or not but who it works for and in what contexts it is most effective. This method of research allows for both qualitative (primary data which is subjective, including the thoughts and feelings of participants) and quantitative (secondary data which is objective in the form of statistics) data to be collected. Realistic evaluation provides a comprehensive framework for research which aims to investigate how the context (participant circumstances, demographics and environment) and mechanism (the online learning activities content, facilitation and engagement) can have an influence on the outcome (impact on attitude, behaviours and health and social care practice). This context, mechanism, outcome theory also known as the CMO configuration, will be examined by the researcher by undertaking the full study under three unique strands of research. These strands will collect data distinctly however will collectively aim to provide a comprehensive understanding and ultimately answer the research questions detailed in B6 of this application form.

This Phase Two study utilises two of the three original strands:

Strand 1

A - Quantitative data will be collected from the MOOC's online statistical platform including
- Gender
- Country
- Age Range
- Highest Education Level
- Employment Status
- Area of Employment
- Total number of joiners
- Total number of leavers
- Number of Active Learners (across whole MOOC)
- Number of Active Learners (each week)

This will allow the context of learning to be examined in more detail.

B - MOOC learners are the participants of the study. During the MOOC, participants will be invited to complete two quantitative surveys (as detailed in section C6 of this application) in week one and week five of the course aimed at measuring attitudes and behaviours in relation to compassion, and will rate their self-compassion score. Data analysis will measure any change that occurs as a result of undertaking the MOOC.

Strand 2
A – Qualitative data will be collected via an online discussion board in week five of the MOOC. This will be aimed at those participants who have identified themselves as health and social care practitioners. The discussion board aims to encourage open and honest discussion regarding their experiences of participating in the MOOC as well as the impact that learning has had on them as individuals and the potential impact on their practice.

B - The collection of qualitative data from MOOC learners (whom are identified health and social care practitioners). This will be in the form of interviews with those participants who took part in the final discussion board (Strand 2A) and will provide an opportunity to further discuss their recent learning experiences and how it may have impacted their practice. The maximum number of participants is 12

Pawson, R. and Tilley, N. (2000) Realistic Evaluation. 3 ed. London: SAGE Publications.

B5. Provide a brief justification for the proposed study:
Although the subjects of compassionate care and online learning (specifically MOOCs) have been the focus of study recently, it is evident that little research and investigation has been undertaken with regard to a combination of these contemporary subjects. There is also very little evidence available currently that evaluates the impact of online learning courses on current practice within health and social care. Therefore this study will aim to provide new and unique knowledge and evidence on these two significant subjects.

B6. What are the study's main objectives and expected outcomes?
The main objectives of phase two of this research is to further analyse the effect the course has on participants understanding of compassion and their own self-compassion and (specific to providers of care) following completion of the MOOC evaluate its impact on their practice. The research will meet these objectives by attempting to answer the following research aims:

- Analyse the MOOC development process and MOOC usage
- Explore the affect the course has on participants understanding of compassion and self-compassion
- Explore (HCP) the learning from the MOOC and its impact on his/her attitudes, behaviour and practice.

The overall intended outcome of this research is to produce new knowledge in the areas of online learning and compassionate care. It will also serve to evaluate any changes made to health and social care practice on the back of an online learning programme.

B7. Does this project involve fieldwork? (see definition) If your project involves fieldwork the risk assessment process of your faculty or a GUEP Fieldwork Risk Assessment Form must be completed.	Yes ☐ No ☒

B8. Please summarise the potential ethical issues and how they will be addressed:
Data Collection – all questionnaires and interview questions should be appropriate to the population and treated with confidentiality and anonymity
Informed consent – this will be obtained from all participants using language and documentation that is easy to understand. All participants will be clearly notified that their involvement is voluntary and they can withdraw from the study at any point without consequence.
Sensitive topic – the subject of compassion is potentially sensitive in nature and can evoke emotive feelings and reactions when being discussed. In order to overcome this challenge, at any point during discussion if a person becomes emotional, anxious or is struggling to participate then they will be invited to cease the interview. If the participant wishes to go on with the discussion then this will be acknowledged and facilitated however if they cannot manage to proceed then the discussion will be concluded and either rearranged or participation retracted from the study. The researcher is experienced in handling a situation such as this, as they are currently an active qualified staff nurse dealing every day with sensitive situations. The researcher has also

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previously undertaken research related to compassion and has gained some insight and experience in dealing with it from this.		
B9. Is further scrutiny required at a later date (e.g. where the research design is emergent)?	Yes ☐	No ☒
If YES please provide details Click here to enter text		
B10. Will external contractor be involved (e.g. transcription services, interpreters, fieldworkers)?	Yes ☒	No ☐
If YES comment on their compliance with ethical requirements: A transcription service will be utilised for the purpose of this research and the interviews being undertaken for strand 3B. The individual involved in this process is an official transcriber approved by The University of Stirling and is fully aware of their responsibilities in terms of ethical requirements, data protection and confidentiality.		
B11. Has this proposal been subject to any external ethical review process?	Yes ☐	No ☒
If YES please provide details: Click here to enter text		

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SECTION C: Research involving human participants

C1. Does your research involve human participants? If YES please answer the following questions. If NO proceed to C6.	Yes ☒ No ☐

C2. Please provide details of the intended participants:
Who?
Strand1A/B – participants will be MOOC learners who have consented to undertake the research.

Strand 2A – participants will be a variety of health and social care practitioners who are willing to volunteer to take part in a final discussion board and who meet the inclusion criteria below.

Strand 2B - participants will be a variety of health and social care practitioners who are willing to participate in an interview and who meet the inclusion criteria below.

How many?
Strand 1A/B – there will be a limit to the number of participants as the MOOC can generate learner numbers in the thousands. The optimum number of participants to be used will be calculated at the time of going to analysis using a power calculation advised by a University of Stirling statistician.

Strand 2A - Due to the online nature of the discussion board, a limit to the number of participants is not able to be applied.

Strand 2B - A limit of 12 participants will be placed on this strand of the research.

Identification and recruitment:
Inclusion criteria:
All participants need to be capable of giving informed consent to participate in the study
Strand 2B participants need to be capable of taking part in an interview lasting no longer than one hour
All participants in Strand 2 must work in health or social care e.g. doctor, nurse, allied
health professional, care support worker, nursing assistant
All participants need to be able to talk and understand the English language at a proficient level

Exclusion criteria:
Those that do not speak or understand the English language
Anyone under the age of 18

Strand 1A – All registered learners will be asked to complete a pre and post course survey that is provided and managed by FutureLearn.
FutureLearn, founded in 2012, is owned by The Open University and is a digital education platform. This is the online platform that was chosen by the MOOC developers at Dundee, to host the Care and Compassion MOOC along with its hundreds of other successful online courses. The content of the MOOC is developed by Dundee and then given to FutureLearn to share digitally with the masses. They are able to give general advice in particular on the best way to do things that fits into the FutureLearn platform however they do not have any overall say in the content, learning style or research process.
Please see A1 - Recruitment Flyer – this will be used to market and promote the MOOC and this research across Universities and Health Boards across Scotland.

Strand 1B – participants will be recruited from all MOOC learners prior to commencement of the online course, at registration and also at the start of week one. **Please see A2 – Recruitment wording to be inserted in week one of MOOC**

Strand 2A/B – participants will be recruited in week 5 of the online course and will be specifically in a health or social care role at the current time. **Please see A2 – Recruitment wording to be inserted in week one of MOOC**

C3. Does the proposed research involve vulnerable groups?	Yes ☐ No ☒

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| e.g. children under 18, people with learning or communication difficulties, patients, people in custody, people engaged in illegal activities such as drug taking. | |

If YES please provide details:

Click here to enter text

C5. Please give details of procedures for informed consent (including information provided and methods of documenting initial and continuing consent):

All Participants throughout all relevant strands of research will be informed of the nature and purpose of this study using appropriate information and language. Explanation will be given regarding the voluntary nature of the study including the fact that eligible participants are free to take part but are equally free to decline or withdraw at any point if they change their minds. The researcher will highlight that declining or withdrawing will have no consequence, particularly with MOOC learners who will be assured that participation in the research is entirely independent to their studies and refusal to participate will have no bearing on their opportunity to achieve a certificate of completion. A full explanation will be provided at relevant points of entry to the study addressing the sensitive nature of the subject matter and will highlight the individual responsibilities of the participants and their need to engage thoughtfully and with consideration.

Strand 1A – FutureLearn manage this method of data collection and during the registration process ensure that learners are aware that information that they provide can and may be used for research purposes.

Strand 1B – informed consent will be obtained at the start of the online course and will be in the form of an online information sheet and consent form. Detailed information regarding the research will be provided prior to requesting consent. **Please see A3 – Online Information Sheet and Consent**

Strand 2A – Within the online instructions for this discussion board, participants will be informed that by taking part in this particular discussion, the content of their posts will be shared with the researcher involved in this study, and if they do not wish their comments to be used in this research, they should not post onto the discussion board. Consent for this will be obtained in the same manner as that of 2A/B. **Please see A2 – Recruitment wording to be inserted in week one of MOOC**

Strand 2B - Individuals who volunteered to participate in this part of the research will be provided with a comprehensive information sheet and will be asked to provide informed consent prior to commencement of the interview. This will be in the form of a signed consent form. **Please see A4 and A7 – Participant Information Sheet and Consent Form**

C7. Please detail the measures that will be taken to ensure confidentiality, privacy and data protection:

All data will be handled and held in a protective and confidential manner using the Caldecott Principles as an ethical framework and in compliance with the Data Protection Act 1998 and The Freedom of Information (Scotland) act 2002. All data handling and destruction will consider confidentiality at the forefront and will be carried out lawfully and in compliance with the Data Protection Act 1998 and the Freedom of Information (Scotland) Act 2002. Data collected will be categorised as restricted – meaning this data may contain sensitive personal data which will be accessible to a small group of restricted individuals on a need to know basis and whom may require access in order to carry out their roles successfully. Data may be shared with The University of Dundee on request due to the overall larger project that they are undertaking themselves. There are a number of identified individuals within Dundee who can have access to data collected as part of this research project and only information that they require to fulfil their project needs will be provided. Electronic information will be held on a University network within locations that have restricted access and appropriate security in the form of protected passwords and active virus protection software. Information will only be transferred to a mobile device if essential and this will be done securely using suitable encryption methods. This encryption will also be used if there is a need to share information via email or any other electronic means. Any paper records will be stored securely in folders within locked cupboards. Any information to be shared via internal or external mail will be done using sealed envelopes. The University guidelines state that any data collected as a result of research should only be kept for a length of time appropriate to its need and not kept any longer that is necessary for the research project. This is in keeping with the Data Protection Act 1998. Therefore

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once the research has been completed data will only be stored until publication activities are complete.

Due to the nature of online learning containing a personal profile for each learner and also the structure of the interviews, anonymity cannot be ensured however all steps will be taken in order to maintain confidentiality and ensure identities are protected and no personal or identifiable information will form part of the study data. Evidence from all strands of the research will be shared anonymously with no personal information or identifying details being provided.

C6. Please detail the methods of data collection:
Strand 1A - Statistical data will be collected directly from the course provider FutureLearn which will consider the following:
- Gender
- Country
- Age Range
- Highest Education Level
- Employment Status
- Area of Employment
- Total number of joiners
- Total number of leavers
- Number of Active Learners (across whole MOOC)
- Number of Active Learners (each week)
-

Strand 1B – data will be collected using a combination of two validated and reliable measurement tools and will total no more than 17 questions. The tools to be used will be; The Self-Compassion Scale (Neff, 2015) and The Santa Clara Brief Compassion Scale (Hwang, Plante and Lackey, 2008). For the purpose of this study the researcher has considered each tool's reliability and validity as well as its development, design and intended population. **Please see A5 – Compassionate Care MOOC Surveys**

Strand 2A – data will be collected via an online discussion board which will take the function of a focus group. Participants will be directed, through a series of questions to discuss their thoughts, feelings and experiences in terms of their learning from the MOOC and how this has impacted on their practice. **Please see A2 – Recruitment wording to be inserted in week one of MOOC**

Strand 2B – data will be collected in the form of semi-structured interviews. All interviews will be audio tape recorded and will be undertaken via telephone or skype to allow for any international participants to be included. **Please see A6 – Interview Schedule**

Neff, K. D. (2015) The Self-Compassion Scale is a Valid and Theoretically Coherent Measure of Self-Compassion, Mindfulness, 7, pp. 264-274

Hwang, J. Y., Plante, T., and Lackey, K (2008) The Development of the Santa Clara Brief Compassion Scale: An Abbreviation of Sprecher and Fehr's Compassionate Love Scale
. Pastoral Psychology, 56, pp. 421-428

C6. Please detail the methods of data analysis:
Strand 1A/B - Statistical data will be analysed with the assistance of a University statistician. Advice for the optimum method of quantitative analysis will be agreed with the statistician prior to commencing analysis.

Strand 2A/B – The discussion board content and interviews will be will be thematically analysed. In keeping with the realistic evaluation, all qualitative data will be coded based on "context", "mechanism" and "outcomes".

C8: How will the results from this study (including feedback to participants) be disseminated?
On the request of participants, collected data can and will be fed back individually via secure university email. If applicable this may also essentially act as a method of substantiating results as it will enable the researcher to check what has been written is a true and honest account

The results of this research will be published as part of the PhD being undertaken by the researcher and the

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wider project being undertaken by The University of Dundee. The findings, or part thereof, may also be published in an appropriate peer-reviewed journal in the future.

SECTION D: Research involving or impacting on animals

D1. Does your research involve animals?	Yes ☐ No ☒
If YES please also submit an application to the University AWERB (click here) – these applications can run in parallel.	

SECTION E: Data protection, copyright and other considerations

E1. Does the proposed research involve accessing records of personal or confidential information?	Yes ☐ No ☒
If YES please give details: Click here to enter text	
E2. Does the proposed research involve the recording of participants through the use of audio-visual methods?	Yes ☒ No ☐
If YES please give details: Semi-structured interviews will be recorded using a voice recorder however there will be no visual recording attached to this. No identifying information will be made available within this research as a result of this method of data collection.	
E3. Does the proposed research involve the remote acquisition of data from or about human participants using the internet and its associated technologies	Yes ☒ No ☐
If YES please give details: As this research topic is based on online learning much of the data collected will be done via the MOOC itself in the form of demographic participant information, course statistics and also through the use of an online questionnaire and discussion board. All personal information will be protected and all participants will remain unidentifiable.	
E4. Does the proposed research involve accessing potentially sensitive data through third parties?	Yes ☐ No ☒
If YES please give details: Click here to enter text	
E5. Does the proposed research involve reproducing copyrighted work in published form (other than brief citation)?	Yes ☐ No ☒
If YES please give details: Click here to enter text	
E6. Does the proposed work involve activities which could temporarily or permanently damage or disturb the environment, or archaeological remains and artefacts?	Yes ☐ No ☒
If YES please give details: Click here to enter text	
E7. Does the proposed work involve a potential conflict of interest or raise ethical issues regarding the source of funding or where publication of research data may be restricted?	Yes ☐ No ☒
If YES please give details: Click here to enter text	

By signing below (digital signatures accepted), you certify that the information provided is true and correct to the best of your knowledge. Please return your form in **Word** to guep@stir.ac.uk

RESEARCH POSTGRADUATES

Applicant's signature: *Julie McLaren*   **Date:** 12/06/2017

Supervisor's signature: Jayne Donaldson   **Date:** 12/06/2017

STAFF

Applicant's signature: **Date:** Click here to enter a date

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Appendix IX: Ethics Approval – Phase Two (Main Study)

UNIVERSITY of STIRLING

General University Ethics Panel (GUEP)
University of Stirling
Stirling FK9 4LA
Scotland UK
E-mail: GUEP@stir.ac.uk

Julie McLaren
Faculty of Health Science & Sport

Julie.mclaren@stir.ac.uk

07 July 2017

Dear Julie

Re: Ethics Application: How effective is online learning? A realistic evaluation of a compassionate care MOOC (Massive, Open, Online, Course)

Thank you for your submission of the above amendment to the General University Ethics Panel.

I am pleased to confirm that GUEP has approved your application, and you can now proceed with your research.

Please note that should any of your proposal change, a further submission (amendment) to GUEP will be necessary. Please could you amend the form in relation to project dates and correct typos and forward a revised version to GUEP@stir.ac.uk for saving.

If you have any further queries, please do not hesitate to contact the Committee by email to guep@stir.ac.uk.

Yours sincerely,
Pp

On behalf of GUEP
Professor Helen Cheyne

Appendix X: Analysis Report

ANALYSIS REPORT
STRAND 1B AND 3
A REALISTIC EVALUATION OF A COMPASSIONATE CARE
MOOC (MASSIVE, OPEN, ONLINE, COURSE)

Interviews were undertaken with 8 individuals ranging from members of the MOOC development team and also learners who undertook the MOOC.

Comments made were predominately positive however there was some suggestion as to ways in which improvement can be made to subsequent runs of the course. Many of the suggested improvements or negative comments were shared throughout the group with very little being made by one individual.

DEVELOPMENT PROCESS
- A better understanding of the expectations of the development team – with agreement up front regarding commitment and expectations
- Development process felt a little haphazard – a clearer project plan with agreed timescales agreed in the early stages
- A more collegiate form of team working from the onset
- Allowing the development team to come together – to debate and discuss and allow more connections between weeks – would provide a richer experience overall
- Each week lead focused on their own weeks – more time spent bringing the weeks together
- More meetings – even electronically via skype (if easier to bring everyone together)
- More debate and dialogue between weeks leads
- A more shared understanding of the threads, philosophy and what the MOOC is actually about – and interlinking of the weekly content to ensure the MOOC is more cohesive
- A better relationship between the commentator (B McK) and the week leads to ensure a full understanding of that week aims to achieve
- Clearer direction with, and timely selection of appropriate materials to be included within the learning – on a lot of occasions, very important or useful materials were unable to be used especially at the last minute for different reasons which effected the quality of learning
- Acknowledgment and recognition given to all areas/educational establishments involved in the development process

MOOC CONTENT
- Too much negativity at the start of the MOOC – press and media reports overwhelmingly negative and anxiety provoking.
- Start the MOOC on a more positive note
- More focus on the positivity of the Thank You letter as that was not always obvious
- Do not give the message that "we should care for others as we wish to be cared for ourselves", this is misleading. We should care for others as THEY wish to be cared for.
- It felt more like awareness raising rather than encouraging change in practice. More time to be spent on this and discussing changes going forward after the MOOC **(1)**
- Lots of varied information throughout to uphold engagement
- Level and pace of learning was good
- Provide a clear and readily accessible glossary at the end of the page
- More opportunities to be active learners – it is currently moderately active with some discussion boards available **(1)**
- Content was complex and time consuming
- Watch the time expectations for reading etc. as many people are doing this in their own time

SUPPORT
- Dundee have been very supportive and helpful – been very responsive ensuring everyone was kept focused
- The development team in Dundee always responded promptly – they gave real positive feedback
- A good support system and availability was not clear – was there a team available for support throughout the MOOC
- More visibility and interaction from week leads during the course

PRE COURSE
- A better system of advertising and promoting the learning opportunity **(2)**
- A wider acknowledgment of the course throughout healthcare **(2)**

POST COURSE/RESEARCH
- Data collection interviews took place far too long after the MOOC ended – a lot of the detail of learning had been forgotten **(3)**
- No availability for learners to re-access the MOOC once it is complete **(4)**
- Deliver the learning throughout all healthcare facilities **(2)**
- An opportunity to have follow up focus groups to discuss going through the MOOC and impact on practice **(1)**
- Allow week leads (and give plenty of time) to make amendments to their weeks content if necessary

Intended changes to be made to my study to reflect the above suggestions
1. Provide an arena for discussion for to reflect upon participation in the MOOC as well as impact on practice going forward. This will act as a focus group for the purpose of data collection.

2. Dedicate more time and thought on ways in which the MOOC can be advertised and promoted on a wider scale particularly across health and social care thus aiding with recruitment. NHS Highland are already on board with this task and are willing to support in anyway.

3. Bring interviews forward – rather than holding them up to 10 weeks after completion of the course they will be undertaken within 4 weeks of the end date

4. Look into how long the MOOC content and in particular the final discussion board (1) will be "live" and available to learners.

Appendix XI: Pre – Course Survey

Compassionate Care MOOC Surveys
Pre-Course survey

Section 1: About you and your expectations of the course

1. Which country do you live in?

2. What is your age?

3. What is your gender?
- Female
- Male

4. Which of the following categories best describes your employment status?
- In paid employment, working 35 or more hours per week
- In paid employment, working less than 35 hours per week
- Self-employed
- Full time student
- Full time carer
- Unemployed
- Retired

5. What is the highest level of education you've completed?
- No formal qualification
- School level qualification
- College / vocational / apprenticeship education (no degree)
- University degree (undergraduate, BSc, BA, etc.)
- University higher degree (postgraduate, doctorate, MSc, MA, PhD, etc.)
- Other (please specify)

6. Which sentence best describes you?
- I work in the area of health and social care
- I am studying towards a qualification in the area of health and social care
- I have a caring role which is not part of my work or training responsibilities
- I receive care from others
- None of the above

7. If you work or study in health or social care, which category best describes your role?
- Nurse
- Medical doctor / physician / general practitioner
- Midwife
- Psychologist / psychotherapist
- Allied health professional (e.g. occupational therapist, physiotherapist, dietician, speech therapist, arts therapist)
- Dentist
- Pharmacist
- Social worker
- Support worker or care worker
- Other (please specify)

8. If you work or study in health or social care, which category best describes the environment you work in?

- Hospital
- Community centre
- Care home
- Clients' home
- Medical / family / GP practice
- Private practice
- Other (please specify)

Section 2: What is compassion and compassionate care?

9. What does compassion mean to you? How would you describe it? (Free text box up to 2000 characters)

10. What is compassionate care? How would you describe it? (Free text box up to 2000 characters)

Section 3: Exploring the nature of compassion further

Please read each statement carefuly before answering, then answer the statements using the following scale:

Almost never			*Almost always*	
1	*2*	*3*	*4*	*5*

1. *When I fail at something important to me I become consumed by feelings of inadequacy*
2. *I try to be understanding and patient towards those aspects of my personality I don't like*
3. *When something painful happens I try to take a balanced view of the situation*
4. *When Im feeling down, I tend to feel like most other people are probably happier than I am*
5. *I try to see my failings as part of the human condition*
6. *When Im going through a very hard time, I give myself the caring and tenderness I need*
7. *When something upsets me I try to keep my emotions in balance*
8. *When I fail at something that's important to me, I tend to feel alone in my failure*
9. *When Im feeling down I tend to obsess and fixate on everything that's wrong*
10. *When I feel inadequate in some way, I try to remind myself that feelings of inadequacy are shared by most people*
11. *Im disapproving and judgemental about my own flaws and inadequecies*
12. *Im intolerant and impatient towards those aspects of my personality I don't like*

Not at all true of me					*Very true of me*	
1	*2*	*3*	*4*	*5*	*6*	*7*

1. *When I hear about someone (a stranger) going through a difficult time, I feel a great deal of compassion for him or her.*
2. *I tend to feel compassion for people, even though I do not know them*
3. *One of the activities that provide me with the most meaning to my life is helping others in the world when they need help*
4. *I would rather engage in actions that help others, even though they are strangers, than engage in actions that would help me*
5. *I often have tender feelings towards people (strangers) when they seem to be in need*

Please also remember that you can contact the researchers at any time on Julie.mclaren@stir.ac.uk

Thank you again for your contribution!

Appendix XII: Post – Course Survey

Post-course survey

Section 1: About you and your expectations of the course

1. Which country do you live in?

2. What is your age

3. What is your gender?
   - Female
   - Male

4. Which of the following categories best describes your employment status?
   - In paid employment, working 35 or more hours per week
   - In paid employment, working less than 35 hours per week
   - Self-employed
   - Full time student
   - Full time carer
   - Unemployed
   - Retired

5. What is the highest level of education you've completed?
   - No formal qualification
   - School level qualification
   - College / vocational / apprenticeship education (no degree)
   - University degree (undergraduate, BSc, BA, etc.)
   - University higher degree (postgraduate, doctorate, MSc, MA, PhD, etc.)
   - Other (please specify)

6. Which sentence best describes you?
   - I work in the area of health and social care
   - I am studying towards a qualification in the area of health and social care
   - I have a caring role which is not part of my work or training responsibilities
   - I receive care from others
   - None of the above

7. If you work or study in health or social care, which category best describes your role?
   - Nurse
   - Medical doctor / physician / general practitioner
   - Midwife
   - Psychologist / psychotherapist
   - Allied health professional (e.g. occupational therapist, physiotherapist, dietician, speech therapist, arts therapist)
   - Dentist
   - Pharmacist
   - Social worker
   - Support worker or care worker
   - Other (please specify)

8. If you work or study in health or social care, which category best describes the environment you work in?
- Hospital
- Community centre
- Care home
- Clients' home
- Medical / family / GP practice
- Private practice
- Other (please specify)

9. What did you learn in the course? (tick all that apply)
- what compassionate care means
- how to apply knowledge on compassionate care in practice
- how I can be more compassionate
- how I can support others to become more compassionate
- why compassion is important in health and social care
- nothing that I would not have known before
- other (please specify)

10. What did you gain most from taking part in the course? (tick all that apply)
- Confidence in learning online
- Better understanding of the complexities of compassionate care
- Ideas on how to apply compassion to my everyday life
- Ideas on how to apply compassionate approach in my professional practice
- Confidence to actively practice compassionate care
- Opportunity to network with other health and social care practitioners
- Opportunity to share experiences with a diverse group of people
- Inspiration for further learning and progressing my interest in the subject
- Other (please specify)

11. Can you tell us a little bit about how you found the whole experience? (free text box)

12. Was there anything that you particularly liked or disliked about the course? (free text box)

Section 2: What is compassion and compassionate care?

13. What does compassion mean to you? How would you describe it? (Free text box)

14. What is compassionate care? How would you describe it? You are welcome to define it in your own words and/or use an example if you prefer. (Free text box)

Section 3: Exploring the nature of compassion further

Please read each statement carefuly before answering, then answer the statements using the following scale:

Almost never   *Almost always*

1	2	3	4	5

1. *When I fail at something important to me I become consumed by feelings of inadequacy*
2. *I try to be understanding and patient towards those aspects of my personality I don't like*
3. *When something painful happens I try to take a balanced view of the situation*
4. *When Im feeling down, I tend to feel like most other people are probably happier than I am*
5. *I try to see my failings as part of the human condition*
6. *When Im going through a very hard time, I give myself the caring and tenderness I need*
7. *When something upsets me I try to keep my emotions in balance*

8. When I fail at something that's important to me, I tend to feel alone in my failure
9. When Im feeling down I tend to obsess and fixate on everything that's wrong
10. When I feel inadequate in some way, I try to remind myself that feelings of inadequacy are shared by most people
11. Im disapproving and judgemental about my own flaws and inadequecies
12. Im intolerant and impatient towards those aspects of my personality I don't like

Not at all true of me					Very true of me	
1	2	3	4	5	6	7

1. When I hear about someone (a stranger) going through a difficult time, I feel a great deal of compassion for him or her.
2. I tend to feel compassion for people, even though I do not know them
3. One of the activities that provide me with the most meaning to my life is helping others in the world when they need help
4. I would rather engage in actions that help others, even though they are strangers, than engage in actions that would help me
5. I often have tender feelings towards people (strangers) when they seem to be in need

Section 4: Help us more!

Thank you for completing this survey. We greatly appreciate your contribution to this research project. We would be grateful if you could help us in the future by providing us with your email address so that we can contact you to arrange a telephone interview in approximately two weeks. You will then be free to decide whether you want to take part and we will not contact you again if you don't respond. We promise to send you one e-mail message, to make intitial contact only and not to use your e-mail for any other purpose and not to share it with anyone else.
If you would like to take part in a telephone interview, please provide your email address below. Please also let us know how you agree for us to use it.

e-mail: [   ] (free text box)

☐ I agree for my data from the surveys to be linked to improve the research project.

☐ I agree to be contacted via email to make arrangements to participate in a telephone interview

Please also remember that you can always get more information with regard to this research project from the researcher at any time on *Julie.mclaren@stir.ac.uk*
Thank you again for your contribution!

Appendix XIII: Online Recruitment

<u>Online Recruitment and Information</u>

<u>Recruitment wording for strand 2B</u>
<u>To be inserted in week one of MOOC</u>

Would you like to take part in a research study relating to this MOOC? Researchers from the University of Stirling (Scotland) would like to understand your experience of undertaking this course as well as your awareness of the topic of compassionate care both before and after completing the modules. We would be very grateful for your contribution.

If you are currently involved in formal health and social care related work and would be happy to complete a short survey then please visit the following website **[link to be inserted once available]** in order to provide consent and undertake the research.

You will then have an opportunity to complete the post course survey at the end of week four.

If you would like to find out more about this research prior to taking part then please contact the lead researcher: Julie McLaren, Faculty of Health Science and Sport, The University of Stirling, julie.mclaren@stir.ac.uk

<u>Recruitment wording for 3A</u>
<u>Discussion wording to be inserted at the end of week 5</u>

Are you a health and social care practitioner?

We would like to invite you to use this discussion board to share your experiences of undertaking the course. We would also like to understand how you feel that the course has impacted on you as a person and also how it may improve your future practice?
Can you tell us a little bit about what motivated you to register for the course?
Which elements of the course did you find particularly interesting or engaging?
How do you see your practice changing now you have completed the course?

Please use the following space to share your views and experiences.

Please note that your comments within this discussion may be used as data within our research project. The findings from which, including anonymous excerpts, may be published but you will not be identifiable.

If you would like to find out more about this research prior to taking part then please contact the lead researcher: Julie McLaren, Faculty of Health Science and Sport, The University of Stirling, julie.mclaren@stir.ac.uk

<u>Recruitment wording for 3B</u>
<u>To be inserted at the very end of the MOOC (following discussion above)</u>

For those health and social care practitioners who have chosen to participate thus far in the research, particularly those who took part in the last discussion, an opportunity to further discuss your thoughts and feelings regarding the subject matter, experiences of undertaking the online learning and the impact to you and your practice will be available in a couple of weeks.

If you would like to participate in this final element of the research and are happy to take part in a short telephone interview lasting no more than 60 minutes then please provide your contact details via the following link **[hyperlink to be inserted once available]** where you will be required to complete the post-course survey and provide relevant details.

If you would like further information regarding this, before volunteering then please contact the lead researcher: Julie McLaren, Faculty of Health Science and Sport, The University of Stirling, julie.mclaren@stir.ac.uk

Version Number 1   Review Date: 05/06/2017

Appendix XIV: Online Information Sheet and Consent

<u>Online Information Sheet and Consent</u>

<u>Survey Consent</u>

You are being invited to take part in a research study which aims to evaluate a Care and Compassionate MOOC developed by the Scottish Improvement Science Collaborating Centre (SISCC) and the University of Dundee.

Before deciding, it is important to understand why the study is being done and what it will involve. Please read all of this information carefully and feel free to ask any questions you need to before deciding whether to participate or not.

What is the purpose of the study?

Compassionate care has been highlighted recently as a priority within healthcare and the need to provide patient-centred individualised care is being promoted in this area. Although there is an increasing awareness of the need for compassionate care, it would appear that the understanding of what encompasses compassion is misinterpreted. Online learning in the form of a MOOC (Massive Open Online Course) provides an opportunity for a global understanding to be disseminated on a large educational scale. The MOOC in this study aims to educate anyone undertaking it on the basic understanding of care and compassion. Therefore this study will explore the effect that undertaking this MOOC may or may not have on individuals understanding of compassion and in turn if it changes the care that is provided within the healthcare setting.

Why have I been invited to take part?

You have been chosen because you are a member of healthcare staff that has completed the Care and Compassion MOOC. We would like to find out more about how undertaking the course has changed your understanding of the subject matter as well as how this may or may not have affected your health practice.

Your decision to take part, do I have to take part?

You should only agree to take part if you are happy and able to do so. If you decide you do not want to participate, you can decline without giving a reason or without further consequence.

What if I change my mind about taking part?

If you decide that you do not wish to take part any longer than you have the right to withdraw without giving a reason and with no repercussion.

What will taking part in this study involve?

Taking part will involve filling in an online survey that will take approximately 5 minutes.

Will I be able to be identified from the results?

Your participation in the study would be completely anonymous and confidential.

What will happen to the findings of the study?

The findings of the study will provide a greater understanding of how undertaking a MOOC could alter an individual's understanding of compassion and the possible impact of this on their healthcare practice. The findings, or part thereof, may be published in a journal in the future.

<u>Electronic Consent</u>

Please select your choice below:

Clicking on the "agree" button below indicates that:

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- You have read the above information
- You voluntarily agree to participate
- You are at least 18 years of age
- You are currently in formal health or social care work (i.e. nurse, doctor, allied health professional)

If you do not wish to participate in the research study, please decline participation by clicking the "disagree" button.

◯ agree

◯ disagree

Appendix XV: Recruitment Poster

Compassionate Care: Getting it Right

This free online course for health and social care practitioners, carers, students and service users explores the impact and delivery of compassionate care.

Starts July 17th! Join in or register your interest for the next run.
FutureLearn.com/courses/compassionate-care

The importance of compassion in health and social care has been brought to the fore in recent years by high-profile public inquiries. Compassion has become a priority for care-providing organisations around the world. This course will give you practical tools and insights that you can use to implement compassionate health and social care, wherever you are. Join learners from around the world to explore the course videos, readings, multimedia and discussions.

You'll look at topics including:

- What is compassionate care, and why is it important?
- Compassionate care in the media
- Individual definitions of compassionate care
- Humanised, person-centred care
- Delivering compassionate care at end-of-life
- Developing tools for self-care
- The Senses framework
- The 7Cs of compassionate care
- Positive inquiry
- Emotional touchpoints
- Feedback & personal reflection
- Leadership in the context of compassionate care
- Management in a compassionate environment
- Staff dynamics and role-modelling
- Using improvement science to advance compassionate care

Take part in our research study!

You qualify if you are:
- currently working or studying in health and social care
- at least 18 years old
- prepared to undertake a short online learning course

For information about the study, please contact lead researcher Julie McLaren (julie.mclaren@stir.ac.uk)

This course is a continued professional development (CPD) opportunity. Enrol in the course yourself, or share the details with staff, colleagues and students, encouraging them to join in as part of their CPD this year.

Appendix XVI: Information Sheet – MOOC Users

Information Sheet for MOOC Users

How effective is online learning? A realistic evaluation of a compassionate care MOOC (Massive, Open, Online, Course)

Welcome
You are being invited to take part in a research study which aims to evaluate a Care and Compassionate MOOC developed by the Scottish Improvement Science Collaborating Centre (SISCC) and the University of Dundee.

Before deciding, it is important to understand why the study is being done and what it will involve. Please read all of this information carefully and discuss it with others if you wish. Please feel free to ask any questions you need to, ask for clarification if anything is not clear or request further information if you need to before deciding whether to participate or not.

Thank you for taking the time to read this information. I hope that you will be able to join us and look forward to your participation.

What is the purpose of the study?
This study aims to explore the use of a MOOC (Massive Open Online Course) in disseminating a global understanding of care and compassion and its role in improving the quality of compassionate care provided within healthcare practice. Compassionate care has been highlighted recently as a priority within healthcare and the need to provide patient-centred individualised care is being promoted in this area. Although there is an increasing awareness of the need for compassionate care, it would appear that the understanding of what encompasses compassion is misinterpreted. Online learning in the form of a MOOC (Massive Open Online Course) provides an opportunity for a global understanding to be disseminated on a large educational scale. The MOOC in this study aims to educate anyone undertaking it on the basic understanding of care and compassion. Therefore this study will explore the effect that undertaking this MOOC may or may not have on individuals understanding of compassion and in turn if it changes the care that is provided within the healthcare setting.

Why have I been invited to take part?
You have been chosen because you are a member of healthcare staff that has completed the Care and Compassion MOOC. We would like to find out more about how undertaking the course has changed your understanding of the subject matter as well as how this may or may not have affected your health practice.

You must meet the following inclusion criteria in order to qualify to take part in this research:
- Able to give informed consent to participate in the study
- Able to talk and understand the English language at a proficient level
- Must be involved in formal health and social care related work e.g. doctor, nurse, allied health professional or nursing assistant/support worker

Anyone who falls into the following criteria is not eligible to participate:

- Anyone under the age of 18

Your decision to take part, do I have to take part?

You should only agree to take part if you are happy and able to do so. If you decide you do not want to participate, you can decline without giving a reason or without further consequence.

What if I change my mind about taking part?

If you decide that you do not wish to take part any longer than you have the right to withdraw without giving a reason and with no repercussion however this withdrawal is date sensitive. However analysis of data collected will commence in October 2017, therefore, if you wish your information to be excluded from the study then withdrawal must occur prior to this. Excluding your data after this date and during the analysis stage may prove to be problematic.

What will taking part in this study involve?

Taking part would mean participating in a one to one interview with the researcher lasting no more than one hour. This can be conducted in person, via telephone, skype or video conferencing. We would like to know your thoughts and understanding of this impact of undertaking this course on your attitude, beliefs and your healthcare practice. With your permission, a recording will be made of the interview in order to produce a verbatim transcription. You are free to refuse to answer any questions at any time

What happens next?

If you wish to participate please email your interest to the researcher on julie.mclaren@stir.ac.uk. Once initial contact has been made further discussion can take place with regard to obtaining informed consent and making arrangements for an interview.

Will I benefit from taking part?

There is no intended individual benefit to participating in this research however by being part of this project you will be adding to the evidence base on the value of online education in healthcare.

Will I be paid to take part?

There will be no payment or expenses available to participants in this study.

Are there any risks involved in taking part?

There may be small risk of an adverse emotional response when undertaking this research due to the subject of compassion being one of great complexity and sensitivity. Participants may find that they will reflect upon new or past events which trigger emotional memories. It is the responsibility of individual participants to consider whether this study is appropriate to them however if you find participating in this study too difficult or emotional then you have the right to withdraw at any time.

Will I be able to be identified from the results?

No. Your participation in the study would be completely anonymous and confidential. All personally identifying information will be removed and it will not be possible for you to be identified in any reporting of the data gathered. All data will be kept in a secure place at Stirling University within locked premises and password protected on computer. All data will be stored until the project is complete and published, after which point it will be destroyed.

What will happen to the findings of the study?
The findings of the study will provide a greater understanding of how undertaking a MOOC could alter an individual's understanding of compassion and the possible impact of this on their healthcare practice. The findings, or part thereof, may be published in a journal in the future.

Who is organising and funding the research? Who has approved the research?
This study is being carried out as part of a PhD and is being led by Julie McLaren (Principle Investigator) and Supervised by Professor Jayne Donaldson (University of Stirling) and Dr Stephen Smith (Edinburgh Napier University). The research is being overseen as part of a wider project by SISCC (Scottish Improvement Science Collaborating Centre) based at the University of Dundee. It is also being funded by The Health Foundation, an independent charity committed to bringing about better health and healthcare for people in the UK.

For further information please contact the researcher as detailed below:
Julie McLaren (Principal Investigator)
Faculty of Health Sciences and Sport, Pathfoot Building, Room E9
University of Stirling, Stirling, FK9 4LA
Email: julie.mclaren@stir.ac.uk

What if something goes wrong?
In the first instance please contact **Professor Jayne Donaldson,** email: jayne.donaldson@stir.ac.uk.

However if you feel that your concerns as to the conduct of this research have not been addressed following such contact, please contact **Professor David Lavallee,** email: david.lavallee@stir.ac.uk

Thanks for taking the time to read the information sheet!

Appendix XVII: Consent Form – MOOC Users

UNIVERSITY OF DUNDEE

Edinburgh Napier UNIVERSITY

UNIVERSITY of STIRLING

Consent Form for MOOC users

Research Study

How effective is online learning? A realistic evaluation of a compassionate care MOOC (Massive, Open, Online, Course)

Researcher

Julie McLaren (Principal Investigator)
Faculty of Health Sciences and Sport
University of Stirling
Pathfoot Building, Room E9, Stirling, FK9 4LA
Email: julie.mclaren@stir.ac.uk

1. I have read and understood the information sheet and this consent form. I have had an opportunity to ask questions about my participation ☐

2. I understand that I am under no obligation to take part in this study ☐

3. I understand that I am free to withdraw at any time, without giving any reason and without any consequence or legal rights being affected ☐

4. I consent for the notes from the interview to be produced for research purposes ☐

5. I agree to take part in a face-to-face interview and I consent to the interview being recorded ☐

6. I have been given a copy of this consent form and the information for my own records ☐

_____   _____   _____
Name of Participant   Date   Signature

_____   _____   _____
Name of Researcher   Date   Signature

Version Number 3   Review Date: 05/06/2017

Appendix XVIII: Interview Schedule

Can I ask firstly what is your current role within health or social care?

<u>CONTEXT</u>

What was your motivation to undertake the MOOC?

- What made you choose online learning?

<u>If third party or organisation suggested MOOC</u>

- Who asked you to participate in the MOOC?
- Were there others from your organisation asked to participate at the same time?

In what circumstances/environment did you undertake the MOOC?

- At home, work, educational establishment?

<u>MECHANISM</u>

How did you find your learning experience?

What were your feelings regarding the information and learning materials provided?

- Can you tell me about a learning tool or piece of information that you found particularly useful or interesting?
- Can you tell me about any learning material that you found particularly poor or unhelpful?

How did you feel about the level of teaching?

- Was the course clear and easy to follow?
- Were there any points in the course that you found particularly engaging or disengaging?

Did you experience any difficulties undertaking the MOOC? Could you please describe these?

- Did you experience any technical difficulties during the course
- Were there any difficulties/complications with the environment in which you were learning

What was the best thing about the MOOC?

- What aspects of the MOOC kept you interested until the end?
- What was successful about the course? What worked well?

Do you have any suggestions to enhance the learning experience?

- What do you think could be done differently to improve the course?

Would you participate in another MOOC?

- Would you recommend MOOCs to friends, relatives and in particular colleagues?
- Would you recommend the care and compassion MOOC to colleagues as a means to improve compassion in healthcare?

<u>OUTCOME</u>

Version 3   Review Date 05/06/2017

Could you please describe your understanding of **compassion** prior to undertaking the MOOC?

Could you describe your understanding of **self-compassion** prior to undertaking the MOOC?

How has your understanding of these changed?

- Did you complete the pre/post course survey that related to compassion and self-compassion? How did you find completing these?
- Has your change in understanding resulted in you doing anything differently?

What were you aiming to achieve by undertaking the MOOC?

- How has the programme influenced you?

Has undertaking / completing the MOOC had an impact on your practice?

- If yes – Could you please describe an impact / change?
- Have you been able to influence/share your learning with others? Can you describe how this happened?
- Has undertaking the MOOC influenced how you consider the experiences of patients/colleagues now? Could you please provide an example of this?

Quantitative Tests

Shapiro-Wilk Test -test of normality

This test provides a way in which to tell if a random sample distribution differs significantly from a normal distribution. This test gives out a W value – a smaller value indicates that the sample is NOT normally distributed (therefore, the null hypothesis, that the sample is normally distributed, can be rejected). However, this test is notoriously affected by sample size, particularly large samples in which small deviations from normality yield significant results.

Paired t-test

This test examines the difference in means and is used to ascertain whether the man difference between two data sets is zero. A t-test is commonly used when the sample follows a normal distribution. This test can be used to determine if the means of two sets of data are significantly different from each other.

Wilcoxon signed-rank test

This is a non-parametric test that assesses the difference between the mean ranks of two samples. A difference in these mean ranks may convey a significant change or disparity in the distribution of normality. This test of often applied when there is a small sample size, or the sample is not normally distributed.

Welch Two Sample t-test

This test was used to test the hypothesis that two groups have equal means. It is a two-sample test and tends to be more reliable when both samples have unequal variances or sample size.

Field (2014)