THE UNIVERSITY OF HULL

The Relationship Between Self-Blame, Self-Compassion and Psychological Well-Being for Individuals Living with Chronic Physical Health Conditions

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Overview

This portfolio thesis is comprised of three parts: a systematic literature review, an empirical paper and a set of supporting appendices.

Part one is a systematic literature review that summarises and critically appraises eleven studies exploring the relationship between self-blame for the onset of a chronic physical health condition and emotional distress. As inconsistent perspectives have been noted regarding the relationship between self-blame and psychological adjustment to illness, with some suggesting self-blame to be beneficial and others suggesting a detrimental impact, the aim of this review was to clarify the nature of this relationship when self-blame for illness onset is measured appropriately. It is important for professionals to recognise the factors that may be associated with increased distress for people with chronic physical health conditions so that appropriate support can be offered to maintain and improve their quality of life and long-term physical health.

Part two presents an empirical study that explores the relationship between feelings of personal responsibility for illness onset, self-compassion and symptoms of anxiety and depression, as self-reported by people with a diagnosis of cancer. A wealth of research supports the association between self-compassion and psychological well-being, particularly when people are self-critical or self-blaming. However, few studies have explored these benefits for people with chronic physical health conditions who can feel personally responsible for causing their condition and may therefore be more vulnerable to experiencing self-blame and emotional distress. This study was the first to investigate the potential for self-compassion to buffer against the negative emotions associated with feeling responsible for cancer onset. This investigation therefore aimed to support the potential for self-compassion enhancing psychological interventions to benefit people with cancer who may feel responsible for their diagnosis and who may be experiencing symptoms of anxiety and depression. Recognising appropriate psychological interventions for this population of people is essential for promoting well-being, quality of life and long-term physical health.

Part three contains appendices that support both sections one and two.

Overall word count (excluding Appendices): 27 533

Table of Contents

List of Tables

List of Figures

PART ONE

Systematic Literature Review:

The Relationship Between Self-Blame for the Onset of a Chronic Physical Health Condition and Emotional Distress: A Systematic Literature Review

This paper is written in preparation for submission to Clinical Psychology Review. See Appendix 3 for author guidelines.

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The Relationship Between Self-Blame for the Onset of a Chronic Physical Health Condition and Emotional Distress: A Systematic Literature Review

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Abstract

Objective: Past literature presents contrasting perspectives regarding the potential influence of self-blame on adjustment to illness. This systematic literature review aimed to summarise findings from all investigations to date that have explored the relationship between self-blame for the onset of a chronic physical health condition and emotional distress. **Method**: Between November 2014 and February 2015 several electronic databases were searched for relevant literature. Only those studies which assessed self-blame directly and related specifically to illness onset were included within the review. The methodological and reporting quality of all eligible articles was assessed and themes within the findings were discussed using a narrative synthesis approach. **Results:** Eleven studies were reviewed involving participants with cancer, HIV/AIDS and cardiovascular disease. The majority of studies found self-blame to be associated with increased distress. However, several concerns with the quality of the reviewed articles may undermine the validity of their conclusions. **Conclusions:** It is important for professionals supporting people with chronic physical health conditions to have an understanding of how of self-critical causal attributions might relate to emotional distress. Further research is required to understand the concept of self-blame, the factors that may encourage this belief and to develop reliable and valid measures of this experience.

Keywords: Self-Blame; Chronic Health Condition; Adjustment; Causal Attribution; Emotional Distress; Depression

Introduction

Chronic physical health conditions affect around 15 million people in England alone (Department of Health [DOH], 2012), with the most common being cancer, cardiovascular disease, chronic obstructive pulmonary disease (COPD) and diabetes (World Health Organisation [WHO], 2014). Although less frequent, large numbers of people are also living with conditions such as kidney disease, hypertension, stroke, epilepsy and HIV/AIDS. These conditions almost always require lifelong lifestyle and medical management and often create a variety of physical, social and emotional challenges for the person with the condition and their family (DOH, 2012; Sidell, 1997).

When faced with the diagnosis of a chronic health condition, as with any unexpected and undesirable life event, people naturally attempt to explain why the diagnosis may have occurred and what it means for their lifestyle, relationships, identity and future (Adams, Hayes & Hopson, 1976; Moos & Schaefer, 1984; Taylor, 1983). These cognitive appraisals are said to generate beliefs about the identity (characteristics and symptoms) of the health condition, its causes, consequences, longevity and controllability (Leventhal, Nerenz, & Steele, 1984; Leventhal, Brissette, & Leventhal, 2003). The content of these illness representations is heavily influenced by an individual’s prior beliefs about the condition, themselves and their ability to cope with adversity and can significantly affect how they adjust to life with the condition (Folkman, Lazarus, Dunkel-Schetter, DeLongis, & Gruen, 1986; Lazarus & Folkman, 1984; Sensky, 1997).

People can hold a variety of beliefs about the causes of their condition, perhaps due to the uncertain origins of many chronic physical health conditions and the diversity of risk factors often associated with them (Dumalaon-Canaria, Hutchinson, Prichard, & Wilson, 2014). Consistent with evidence supporting the association between ill health and biological and lifestyle-based risk factors (WHO, 2002), people often report internal factors such as genetics and their own behaviour (e.g. smoking or unhealthy diet) to be the cause of their illness. However, other commonly reported causal attributions are not as clearly supported by medical evidence, for example stress, personality traits and external factors such as environmental pollution or God’s will (Faller, Schilling, & Lang, 1995; Ferrucci et al., 2011; Giannousi, Manaras, Georgoulias, & Samonis, 2010; Linn, Linn & Stein, 1982; Scharloo et al., 2005; Thompson et al., 2014; Travado & Reis, 2013; Wold, Byers, Crane, & Ahnen, 2005).

Historically, research has been interested in the potential differential influences of forming internal and external causal attributions on adjustment to life events and ill health (Roesch & Weiner, 2001; Rotter, 1966; Weiner, 1985). Abramson, Seligman and Teasdale’s (1978) Model of Learned Helplessness suggests that internal attributions can be detrimental for psychological well-being and helpful coping behaviour if they threaten self-esteem. In agreement, Janoff-Bulman (1979) suggests internal attributions involving a person’s character or personality traits can promote feelings of hopelessness and an inability to cope because these factors are viewed as unchangeable. Alternatively, internal attributions involving behaviour may allow a person to feel in control of what happened and therefore promote hope, self-efficacy and helpful coping behaviour (Weiner, 1985). This highlights the important distinction between locus of causality and locus of control involved when forming causal attributions: an event may be attributed to an internal factor but this factor may be seen as within or outside one’s control (Berckman & Austin, 1993; Howard, 1987, White 1991). It has been suggested that degree of perceived control is more influential for how people adjust to events than whether a perceived causal factor is simply internal or external to the person (Weiner, 1985). Greater perceived control over illness onset and progression has typically been associated with psychological well-being and engagement in medical interventions and health promoting behaviour (Bauml et al., 2014; Newsom, Knapp, & Schulz; 1996;

Park & Gaffey, 2007; Taylor, Lichtman & Wood, 1984; Taylor, Helgeson, Reed, & Skokan, 1991).

Self-blame is one type of causal attribution that involves perceptions of personal control over the cause of an event and is often reported by people with chronic health conditions with reference to them becoming unwell (Arman, Rehnsfeldt, Carlsson, & Hamrin, 2001; Bennett, Laidlaw, Dwivedi, Naito, & Gruzelier, 2006; Block, Dafter, & Greenwald, 2006; Lehto, 2014; Refsgaard & Frederiksen, 2013; Salmon et al., 2006). Self-blame involves an individual feeling that an unwanted event is in some way their own fault and that they are personally responsible for its occurrence (Mantler, Schellenberg, & Page, 2003; Tennen & Affleck, 1990). Research exploring how people assign blame to others suggests that the blamed individual is perceived to have had control over the causal factor and its outcome, and also to have been aware of, and therefore responsible for, the potential consequences of their relationship with this causal factor (Mantler et al., 2003; Shaver, 1985; Shaver & Drown, 1986). Following these necessary prerequisites of perceived control and responsibility, judging another to be blameworthy for an event also involves a rejection of any possible justifications or excuses for the person’s relationship with the causal factor. Therefore, perceptions of control may not necessarily lead to judgements of responsibility and blame which are increasingly more subjective and influenced heavily by the prior values and beliefs of the person assigning blame (Alicke, 2000; McGraw, 1987; Shaver, 1985; Weiner, 1995). Demonstrating this, Bell, Feraios and Bryan (1990) found their participants judged both a person with HIV and a person with drug-overdose symptoms to be equally responsible for their condition but were more likely to blame the latter person.

Although the above research relates to judgments of others, the same sequential decision making process involving perceived control and responsibility may also apply when forming self-blame perceptions following the diagnosis of a health condition.

Taylor (1995) describes how people search for a causal explanation (the ‘how’) following a cancer diagnosis but also for the personal significance of this cause which involves questioning ‘why has this happened to me?’ and ‘who or what is responsible?’ (the ‘why’). Again, both judgments of personal responsibility and the belief that the cause of illness could have been controlled and therefore prevented are suggested to be implied if self-blame is felt (Rich, Smith, & Christensen, 1999; Taylor, 1995). Dirksen (1995) found support for the idea that an individual must feel responsible for a health event, and therefore have an awareness of the consequences of their actions, before they self-blame. Thirty-eight per cent of participants did not feel to blame for their melanoma, despite acknowledging their purposeful frequent sun exposure, as they reported not being aware of the dangerous effects of the sun at the time.

Whether judgements of personal control and responsibility – formed in reaction to generating causal attributions – actually lead to self-blame or not is most likely influenced by a variety of factors. Some of these could be a person’s prior knowledge of the risk factors for their particular health condition, a tendency to see oneself as in control of general and health-related events (Wong & Weiner, 1981) and cultural perspectives encouraging people to feel at fault for their actions or characteristics (e.g. belief in a just world; Lerner & Miller, 1978) and responsible for their own health promotion (DOH, 1999; Mumma & McCorkle, 1982; National Health Service [NHS], 2013). People may also feel to blame for their condition because they feel or know that this is the belief that others hold about them (Bresnahan, Silk & Zhuang, 2013; Carmack Taylor et al., 2008; Chapple, Ziebland, & McPherson, 2004; Else-Quest, LoConte, Schiller, & Hyde, 2009; Gulyn & Youssef, 2010; Lobchuk, Murdoch, McClement, & McPherson, 2008; Plaufcan, Wamboldt, & Holm, 2012; Siminoff, Wilson-Genederson, & Baker, 2010).

Important for understanding how self-blame attributions might influence adjustment to illness are findings that other-blame has been associated with the opinion that the blamed individual deserves punishment, more so than if they were judged only to have been in control of the cause of an event (Graham, Weiner, & Zucker, 1997; Shultz, Schleifer, & Altman, 1981). Similarly, judging a person with AIDS and lung cancer to be to blame for their condition has predicted less willingness to help that person and stronger feelings of anger and resentment compared to when only judgments of control and responsibility were made (Mantler et al., 2003). This negative emotion felt by the person assigning blame and directed towards the blamed individual is likely to increase the distress felt by the blamed individual if they are aware of the ‘blamer’s’ feelings (Siminoff et al., 2010). Therefore, self-blame could similarly affect how a person feels and reacts towards themselves following diagnosis and therefore how they cope with changes to their health and lifestyle.

Researchers interested in the relationship between self-blame and adjustment to illness have highlighted the existence of contrasting evidence, supporting that self-blame may be associated with both psychological well-being and distress (Bennett, Compas, Beckjord, & Glinder, 2005; Glinder & Compas, 1999). This ambiguity may result from the varied methods used to measure self-blame, possibly arising from the lack of clarity about this concept within the literature and its relationship to causal attributions and feelings of control and responsibility. In contrast to other-blame which has received substantially more research attention, there is currently no consistent or agreed definition of what constitutes self-blame and also self-blame specifically for illness onset. Several studies have employed measures of causal attributions to assess self-blame which may not be accompanied by feelings of control, responsibility or blame itself (Christensen et al., 1999; Friedman et al., 2007; 2010; Lebel et al., 2013; Newsom et al., 1996; Plaufcan et al., 2012; Scharloo et al., 2005; Timko & Janoff-

Bulman, 1985). Others have assumed self-blame from measures that do not separate self-blame for illness onset from other related but potentially distinct constructs, such as self-criticism or feelings of guilt or shame (Bombardier, D'Amico, & Jordan, 1990; Condello, Piano, Dadam, Pinessi, & Lanteri-Minet, 2015; Else-Quest et al., 2009; Hommel et al., 2000; Karlsen & Bru, 2002). Some have also assessed self-blame for other aspects of illness experience rather than its cause or onset (e.g. treatment ineffectiveness) (Aguado Loi et al., 2013; Bussell & Naus, 2010; DePalma, Rollison, & Camporese, 2011; Ibrahim, Chiew-Thong, Desa, & Razali, 2013; Klein, Turvey, & Pies, 2007; McSorley et al., 2014) or have measured a general tendency to experience self-blame outside the context of illness (Ali et al., 2000; Rich et al., 1999).

Given the current definitional and measurement inconsistencies surrounding self-blame for illness, the current literature review aimed to collate evidence describing the relationship between self-blame and indicators of emotional distress when this experience is measured directly and related specifically to the cause or onset of the person's health condition. Therefore, the phrase 'self-blame' was used exclusively as a search term and each study's measure of self-blame was carefully examined to ensure it was related explicitly to illness cause or onset and that it questioned beliefs about being personally to blame or at fault. It is important to note that Janoff-Bulman's (1979) differentiation between behavioural and characterological attributions has been discussed with reference to self-blame and is referred to throughout the review. They suggest an individual may feel to blame for the aspects of their behaviour (behavioural self-blame; BSB) or character (characterological self-blame; CSB) that they believe caused their situation. The concept of CSB, with its theorised relationship to a lack of perceived control (Janoff-Bulman, 1979), is inconsistent with theory suggesting perceived control is inherent in feelings of other-blame and self-blame. It is possible for individuals to perceive themselves to have control over aspects of their personality, character or internal experiences (Fontaine, Manstead, & Wagner, 1993; Levy & Bayne, 2004; Williams & Penman, 2011) and therefore to have had control over them in the past. In an attempt to clarify the concept of self-blame for the current literature review it has been conceptualised as involving feelings of past control over and personal responsibility for the perceived cause of illness and its impacts on health, alongside a rejection of any justifications for self-involvement with the perceived cause. In this way self-blame can be likened to self-criticism, the opposite of self-forgiveness or self-compassion whereby responsibility for an event can be assumed alongside acceptance and without self-resentment (Romero et al., 2006). For professionals supporting people living with long-term health conditions it is important to have an understanding of the experience of self-blame and whether it can be associated with helpful coping strategies and psychological adjustment or with adjustment difficulties and psychological distress. With this understanding professionals can have greater confidence in how they react to and support people experiencing these beliefs. Creating clarity around the concept of self-blame for illness onset and its appropriate measurement also informs clinical discussions and the design of future research in this area.

Method

Search Strategy

Between November 2014 and February 2015 the following electronic databases were searched for relevant literature via the EBSCOhost (*https://www.ebscohost.com/)* service: Cumulative Index to Nursing and Allied Health Literature (CINAHL Complete), MEDLINE, PsycINFO and PsycARTICLES. These databases were chosen to identify psychological, medical and nursing, and allied health professional literature given the potential for the topic area to have been explored by multiple disciplines. An initial scoping search of the literature within these databases identified relevant search terms to identify articles discussing people's beliefs related to the cause of their health condition. The search terms for several chronic physical health conditions were based on conditions defined as 'noncommunicable' by the World Health Organisation (2014) and the most prevalent long-term physical health conditions outlined by the Department of Health (2012). Conditions were also researched on an individual basis to ensure that they 1) involve mainly physical, rather than cognitive symptoms, 2) are not caused exclusively by genetic abnormalities or injury from a discrete accident and 3) potentially require long-term medical/physiological and psychosocial management. Therefore conditions such as Dementia, long-term mental health conditions, traumatic brain injury and acquired physical disability were not included within the current review.

The following terms were searched for within an article's title, abstract and keywords: chronic OR long-term OR disease* OR ill* OR stroke OR heart OR cardiovascular OR kidney OR cancer OR diabet* OR epilep* OR pain OR fatigue OR arthriti* OR COPD OR pulmonary OR hypertension OR Parkinson* OR bowel OR hearing OR lupus OR psoriasis OR endometriosis OR "multiple sclerosis" OR MS OR HIV OR AIDS OR hepatitis OR herpes AND "Self-blame"[1]. The chosen search terms were deemed sufficiently thorough after trial database searches using possible alternative descriptors of "self-blame"[2] and the names of additional health conditions[3] did not yield any additional relevant articles. Thorough reference list searches of all obtained articles was the method used to identify any additional relevant articles discussing additional specific health conditions not explicitly identified within the search terms.

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[1] " " indicates a phrase search; * indicates truncation

[2] Attribution, belief, responsibility, accountable, fault, self-criticism, guilt and stigma

[3] Hypothyroidism, atrial fibrillation, angina, osteoporosis, asthma, crohns, colitis and glaucoma

Selection Strategy

Inclusion and exclusion criteria. Inclusion and exclusion criteria applied for both phases of article selection can be found in Appendix 4. In the initial phase (A) titles and abstracts were reviewed for topic and source relevance following removal of duplicate literature. Inclusion criteria were broad at this stage to capture all relevant literature. Literature was included if it was written in English, involved participants over 18, employed a quantitative methodology and measured the causal attributions participants made about their own chronic physical health condition. Literature was excluded if it fell into any of the following source categories: a research article which was not peer reviewed; a review article; unpublished research; a dissertation/thesis; a discussion article or book chapter not describing a piece of research; a case study; conference proceedings; a book review or a news article. In the second phase (B) of selection the full text articles were scrutinised by reviewing information about their participant sample and methodology. Articles were eligible for inclusion if they directly measured self-blame related explicitly to the cause or onset of the participant’s condition and explored its relationship to at least one measure of emotional/psychological distress or well-being.

Data Extraction and Quality Assessment

Relevant information was obtained from eligible articles using a data extraction form designed for this purpose (Appendix 5). Information was extracted about each study’s design, sampling methods, participants, analysis methods, tools used to measure self-blame and additional variables and the main findings, limitations and conclusions regarding the relationship between self-blame and distress.

A quality assessment was applied by the researcher to all included articles to assess their reporting and methodological quality. In the absence of a single reliable and valid checklist suitable for assessing the specific characteristics of the included studies (Sanderson, Tatt, & Higgins, 2007), the employed checklist was designed by the researcher (Appendix 6) and drew influence from three currently available checklists (Downs & Black, 1998; National Institute for Health and Care Excellence [NICE], 2012; STROBE Statement, 2007). When a study fulfilled any of the 38 criteria on the checklist a score of ‘1’ was assigned. A total score was calculated for each article ranging from zero (lowest quality) to 38 (highest quality) (Appendix 7). Regardless of quality score all eligible studies were included in the review given that they met selection inclusion and exclusion criteria. The checklist was employed thereafter to detect any potential sources of bias which might influence the interpretation of the studies’ findings. An independent rater also assessed the quality of four randomly selected articles (30% of the reviewed articles) using the designed checklist. The researcher and independent rater agreed on 98% of the quality indicators, ranging from 90% to 97% across the four articles. Disagreement was present for 10 items across the four studies with no notable pattern in the indicators exhibiting disagreement.

Data Synthesis

A narrative synthesis was employed to summarise the studies’ findings and discuss patterns and themes within the reviewed literature. A meta-analysis was inappropriate due to the heterogeneity in study design, assessment tools used and participant characteristics (Mays, Pope, & Popay, 2005; Popay et al., 2006; Snilstveit, Oliver, & Vojtkova, 2012). The current review was written in accordance with the PRISMA statement (Moher, Liberati, Tetzlaff, Altman, & The PRISMA Group, 2009) to ensure certain reporting standards were met.

Study Selection Procedure

The application of inclusion and exclusion criteria to articles obtained from database searches is outlined in Figure 1. A total of 1015 articles were identified from the four database searches. After applying search limiters to exclude those articles either not written in English or peer reviewed, 875 articles remained. Following the removal of duplicate literature and application of initial inclusion and exclusion criteria A, 114 full text articles were accessed. Eleven studies, published between 1987 and 2013, met inclusion criteria B and were reviewed. Within the reference lists of these eligible articles a further 28 potentially relevant articles were identified. None met the review's inclusion criteria following full text exploration.

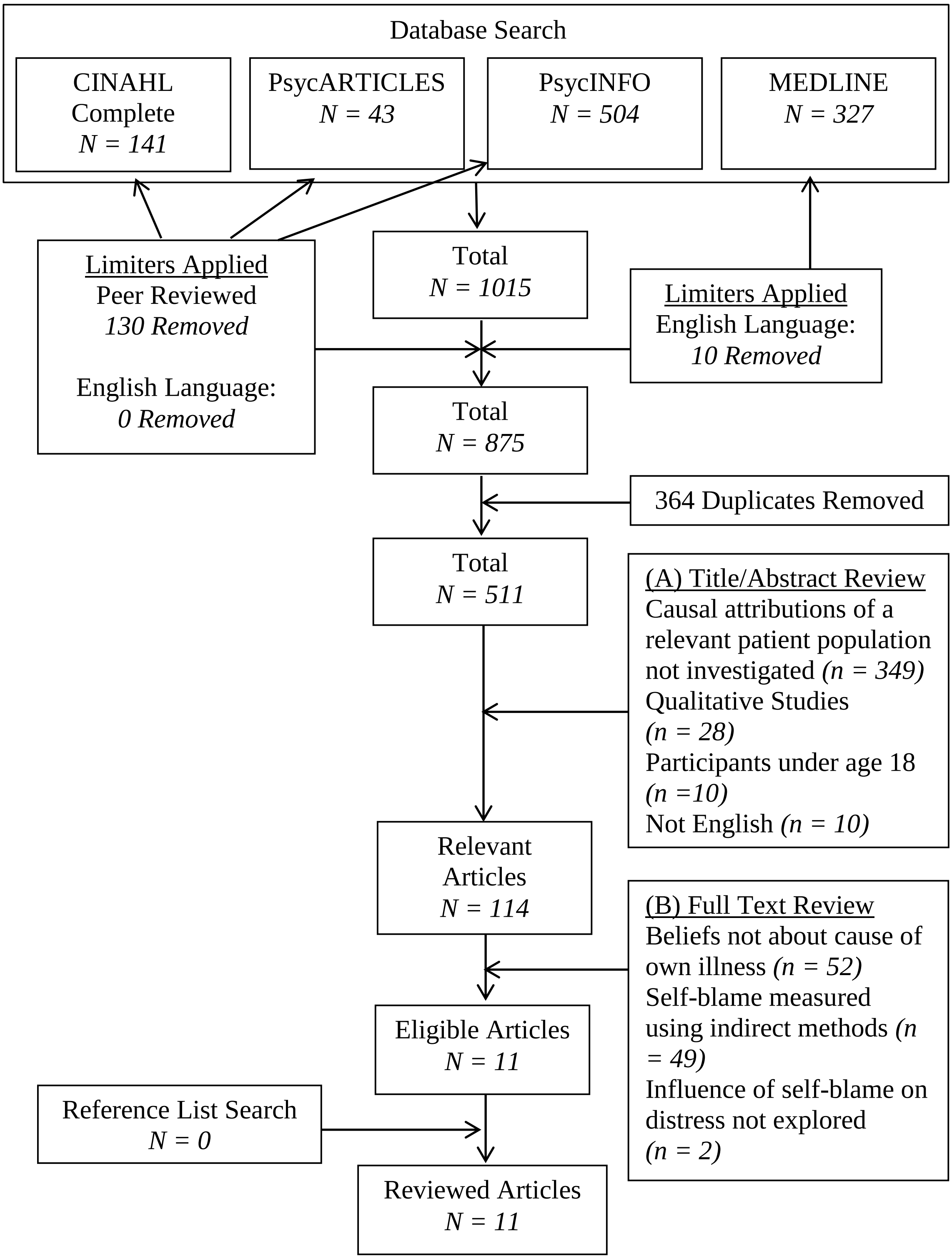

Figure 1. A flow diagram demonstrating the procedure followed to obtain articles eligible for inclusion in the review.

Results

Methodological Quality Overview

Researcher rated quality assessment scores ranged from 19 to 32 with no studies obtaining the maximum score of 38 (Appendix 6). A single study scored below 20, eight studies scored between 20 and 30 and one obtained a score greater than 30. Therefore the reporting and methodological quality of all reviewed articles could have been improved. There were several quality indicators absent within the reviewed studies which potentially influences the reliability and validity of their reported findings. The majority of studies did not report using reliable and valid measures of self-blame and emotional distress/ well-being and employed sampling methods which did not allow participants to be considered representative of the population from which they were drawn. Some failed to clearly report their participant inclusion and exclusion criteria which conceals the population of people the studies' findings might reliably be applied to. It was questionable whether several studies were adequately powered to detect significant results given the lack of information provided regarding the reason for the studies' sample size. Additionally, it was unclear in several studies whether sources of bias had been accounted for within data analysis procedures (e.g. abnormally distributed data). Finally, several studies did not acknowledge study limitations and discuss their potential influence on how findings should be interpreted, potentially encouraging misleading conclusions.

Overview of Included Studies

Sample characteristics. Table 1 provides brief information about all reviewed studies. Most participants within the studies were white/Caucasian and living in the Western hemisphere, although the generalisability of findings cross-culturally is enhanced by the research spanning several continents. Forty-six percent of studies included both male and female participants and taking into account the study sample sizes of those recruiting males or females only, both genders are relatively equally represented within the review. Working age and older adults formed the study samples with mean ages ranging from 35 to 68 years. This is consistent with the increased risk of having a chronic physical health condition with age (WHO, 2011). The majority of participants had undertaken at least high school or college level education and between 40% and 96% were married or partnered, although some studies did not measure these factors (Hill et al., 2011; Malcarne, Compas, Epping-Jordan, & Howell, 1995; Milbury, Badr, & Carmack, 2012; Moulton, Sweet, & Temoshok, 1987).

The majority of studies included participants with cancer, although two recruited participants with HIV and/or AIDS and one involved people with cardiovascular disease. Mean time since diagnosis at baseline assessment varied widely between two weeks and nine years, although two studies did not report this information (Bennett, Howarter, & Clark, 2013; Hill et al., 2011). Six of the studies involving people with cancer reported the majority (between 62% and 96%) to have been diagnosed with stage I or II cancer (Bennett et al., 2005; Glinder & Compas, 1999; Houldin, Jacobsen, & Lowery, 1996; Milbury et al., 2012; Moulton et al., 1987; Phelan et al., 2013). This is to be expected given the dominance of people with breast cancer within these studies (Lyratzopoulos et al., 2012). Within the single study involving people with lung cancer prognosis was poorer, with the majority (69%) being diagnosed with stage III or IV cancer, again typical of this diagnosis (Cancer Research UK, 2011). The majority of participants with HIV/AIDS were experiencing symptoms of AIDS (between 65% and 100%). Fifty-eight per cent of the sample of participants with cardiovascular disease were reported to have a ‘low’ risk of disease progression based on their specific diagnosis and health status.

Recruitment methods. Only three articles explicitly described their sampling method (Dirksen, 1995; Houldin et al., 1996; Mouton et al., 1987). Several studies used convenience sampling procedures (Bennett et al., 2005; Dirksen, 1995; Glinder & Compas, 1999; Houldin et al., 1996; Malcarne et al., 1995; Milbury et al., 2012). Five studies attempted to obtain samples representative of their target populations by providing study information to all people eligible for inclusion (Bennett et al., 2013; Hill et al., 2011; Mak et al., 2007; Moulton et al., 1987; Phelan et al., 2013). All studies were reliant upon participants choosing to volunteer, with response rates of those approached varying between 43% and 95%, although two studies did not report this information (Bennett et al., 2005; 2013). Participants who volunteer for research do not often represent the full range of people within the studies' target population, with people who are older, male, from a non-white race and with low educational attainment and socioeconomic status being less likely to volunteer (Olsen, 2008; Patel, Doku, & Tennakoon, 2003). People who volunteer for research exploring emotional well-being are also more likely to have experienced significant emotional distress in the past or be currently experiencing distress (Donkin et al., 2012). Given these issues with low response rates and participant self-selection bias, as well as the use of convenience sampling procedures, the samples involved in the reviewed studies are unlikely to be representative of the studies' entire target populations and therefore the generalisability of findings to these populations may be limited (Teddlie & Yu, 2007). This is an unavoidable source of bias within health psychology research which relies on easily accessible volunteers to obtain adequate amounts of data in an ethical way (Barker, Pistrang, & Elliott, 2007; The British Psychological Society [BPS], 2010).

Within most studies either healthcare professionals (Bennett et al., 2005; 2013; Glinder & Compas, 1999; Hill et al., 2011; Houldin et al., 1996; Malcarne et al., 1995; Mouton et al., 1987) or the researcher (Mak et al., 2007; Milbury et al., 2012) initially approached eligible participants with information about the study within the hospital or clinic settings that participants normally attended. Participants who were posted study information were also identified from their regular healthcare clinics (Dirksen, 1995; Phelan et al., 2013). The population of people with chronic health conditions not regularly affiliated with a healthcare provider were therefore not necessarily represented within the reviewed studies.

Design and analysis. Most studies were cross-sectional in design and seven also utilised prospective methods. Five prospective studies conducted just one follow-up assessment, one conducted two and one completed three. The time period between baseline and final follow-up assessments ranged from 12 weeks to one year. In four of these studies the mean time since diagnosis at baseline was relatively short (between 11 days and 14 weeks) (Bennett et al., 2005; Glinder & Compas, 1999; Malcarne et al., 1995; Milbury et al., 2012) and for one it was five years (Mak et al., 2007). Two prospective studies did not provide this information (Bennett et al., 2013; Hill et al., 2011). In one study involving people with cancer an additional group of spouses were involved (Milbury et al., 2012) but for this review findings were only extracted when they related solely to the group of people with cancer. Moulton et al. (1987) analysed two groups of participants separately, those with AIDS and those with AIDS Related Complex (ARC). All other studies analysed only one group of participants even when mixed diagnoses were present (Bennett et al., 2013; Malcarne et al., 1995). Most studies utilised correlational methodology to analyse the relationship between self-blame and distress, although three explored between-groups differences based on the level of self-blame reported by participants.

Measurement of emotional distress and well-being. A range of self-report measures of distress were used. Four studies used a measure that assessed symptoms of anxiety and/or depression specifically (Bennett et al., 2005; 2013; Glinder & Compas, 1999; Phelan et al., 2013). The majority of studies employed measures which assessed multiple cognitive, affective and physical indicators of overall psychological distress or well-being. Two studies employed a semi-structured interview administered by the researcher (Hill et al., 2011; Houldin et al., 1996) and one study assessed observable indicators of participant distress using a researcher-rated instrument (Houldin et al., 1996). Although several studies did not explicitly report using measures that were reliable and valid, all but one (Moulton et al., 1987) employed well-known tools with acceptable psychometric properties or reported evidence of measure reliability for their sample when using modified tools or scoring procedures.

Measurement of self-blame. As there is no widely agreed definition of what measurable experiences self-blame for illness onset may entail, all reviewed studies relied on single-item tools. Several studies employed bespoke measures and five drew influence from a measure originally created by Malcarne et al. (1995). Self-blame items were categorised by researchers into BSB and CSB measures when they assessed feelings of blame related to the role of a person's behaviour or personal characteristics in illness cause/onset respectively. When a person's behaviour or character was not implicated these measures are referred to within the review as assessments of 'general' self-blame. One study measured BSB only and six studies measured general self-blame. Five studies included two single-item measures to assess BSB and CSB, although in one study scores from both items were summed to create a general self-blame measure (Hill et al., 2011).

Most studies required participants to respond using a Likert scale to indicate the presence and strength of self-blame beliefs. One study asked participants to simply respond ‘yes’ or ‘no’ to indicate the presence or absence of self-blame (Moulton et al., 1987) and another required participants to indicate if they believed that they, amongst other factors, were to blame for their cancer, and to assign a percentage representing how much they felt to blame (Houldin et al., 1996). Participants were grouped into ‘no blame’, ‘mild-moderate blame’ and ‘high blame’ groups based on percentage ratings. Six studies using Likert response scales analysed the strength of self-blame beliefs on a continuous scale including reports indicating the absence of self-blame. Other studies grouped participants based on scale responses into those who did not blame themselves at all and those who blamed themselves to any degree (Dirksen, 1995; Hill et al., 2011; Phelan et al., 2013). Although single-item measures are beneficial for directly assessing a specific experience (Bowling, 2005), the reliability and validity of these measures is questionable. The suitability of single-items for distinguishing between different types of self-blame is a concern within the reviewed literature given the moderate significant correlations between BSB and CSB items found by all studies performing this analysis ($r = 0.25$ to 0.52, $p < 0.05$) (Bennett et al., 2005; 2013; Glinder & Compas, 1999; Malcarne et al., 1995).

Table 1

Characteristics of reviewed studies.

First Author (Year)	**Sample Size and Location**	**Participant Characteristics**	**Methodology (CS; P)[1] (BG; C)[2]**	**Self-Blame Measure and Type of Blame[3]**	**Distress Measure[4]**	**Main Findings**	**QS[5]**
Bennett (2005)	115 USA	**Diagnosis**: Breast Cancer **Ethnicity:** 99% Caucasian **Gender:** 100% female **Mean Age:** 53	**Design:** CS & P ***Baseline:*** Four months post-diagnosis. ***Follow-up:*** Seven and 12 months post-diagnosis. **Analysis:** C	See Malcarne (1995) **Response:** Likert scale (1 = not at all; 4 = completely). **Measurement:** Degree of BSB & CSB, continuous scale. Assessed at baseline only.	Self-report: BAI; BDI-II Assesses symptoms of anxiety and depression. Higher scores = higher distress Assessed at all time points.	Significant positive cross-sectional and prospective correlations found between BSB and anxiety and depression at four and 12 months post diagnosis (*r* = .22 to .25, *p* < .05). Positive prospective correlations did not reach significance at 7 months (*r* = .12 to .15, *p* < .05). Significant positive cross-sectional and prospective correlations between CSB and depression at all time points (*r* = .32 to .39, *p* < .05). Positive correlations did not reach significance for anxiety at any time point (*r* = .11 to .15, *p* > .05). Cross-sectional multivariable analysis: Greater BSB significantly predicted greater anxiety (β = .27, *p* = .01) but not depression (*p* > .05). Greater CSB significantly predicted greater depression (β = .41, *p* = .001) but not anxiety (*p* > .05). All models controlled for age, cancer stage, education and time since diagnosis. Prospective multivariable analysis: Greater CSB significantly predicted greater anxiety at seven months (β = .16, *p* = .05). Greater BSB significantly predicted anxiety at 12 months (β = .20, *p* = .02). All other relationships were non-significant (*p* > .05). All models controlled for age, cancer stage, education, time since	27

						diagnosis and baseline distress.	
Bennett (2013)	129 USA	**Diagnosis**: Heart Disease **Ethnicity:** 93% European American **Gender:** 67% male **Mean Age:** 64	**Design:** CS & P ***Baseline:*** at the start of a 12 week cardiac rehabilitation intervention. ***Follow-up:*** at the end of the intervention. **Analysis:** C	See Malcarne (1995) ‘Cancer’ changed to ‘cardiac event’. **Response:** Likert scale (1 = not at all; 4 = completely). **Measurement:** Degree of BSB & CSB, continuous scale. Assessed at baseline only.	Self-report: BAI; BDI-II Assesses symptoms of anxiety and depression. Higher scores = higher distress Assessed at both time points.	Significant positive cross-sectional correlations found between BSB and CSB and anxiety and depression at baseline (*r* = .23 to .46, *p* < .05). Significant positive prospective correlations between BSB and anxiety and depression at follow-up (*r* = .32 to .48, *p* < .05) and between CSB and depression (*r* = .29, *p* < .05). Non-significant positive prospective correlations between CSB and anxiety (*r* = .19, *p* > .05). Cross-sectional multivariable analysis: When BSB and CSB entered simultaneously greater BSB significantly predicted greater anxiety (β = .28, sr^2 = .06, *p* < .01) and depression (β = .38, sr^2 = .11, *p* < .001). CSB was not a significant predictor (*p* > .05), but neared significance in predicting depression (*p* < .10). BSBxCSB interaction was not significant in any model (*p* > .05). Prospective multivariable analysis: Greater BSB predicted greater anxiety (β = .23, sr^2 = .04, *p* < .01) and depression (β = .14, sr^2 = .01, *p* < .05) at follow-up. CSB was not a significant predictor of anxiety or depression (*p* > .05). BSBxCSB interaction was not significant in any analysis.	27
Dirksen (1995)	31 USA	**Diagnosis**: Melanoma **Ethnicity:** 100% Caucasian **Gender:** 61% female	**Design:** CS **Analysis:** BG	*‘I am to blame for getting melanoma’* **Response:** Likert scale (1 = strongly disagree; 6 = strongly agree).	Self-report: IWB Assesses affective and cognitive indicators of general well-being. Higher scores = less	No significant difference in well-being found for people reporting self-blame and no self-blame (*t* = 1 5, *p* < .07).	19

		Mean Age: 55		**Measurement:** Presence/absence of general self-blame.	distress.		
Glinder (1999)	76 USA	**Diagnosis**: Breast Cancer **Ethnicity:** 90% Caucasian **Gender:** 100% female **Mean Age:** 55	**Design:** CS & P ***Baseline:*** At diagnosis. ***Follow-up:*** Three, six and 12 months post-diagnosis **Analysis:** C	See Malcarne (1995) **Response:** Likert scale (1 = not at all; 4 = completely). **Measurement:** Degree of BSB & CSB, continuous scale. Assessed at diagnosis, three and six months post-diagnosis.	Self-report: SCL-90-R Anxiety and depression subscales combined to assess overall emotional distress. Higher scores = higher distress Assessed at all time points.	Significant positive cross-sectional correlations present between BSB and CSB and distress at all time points (*rs* = .26 to .53, *p* < .05). Significant prospective positive correlations between BSB and CSB at all time points and distress at 12 months post-diagnosis (*rs* = .27 to .58, *p* < .05). Cross-sectional multivariable analysis: Greater BSB significantly predicted greater distress at diagnosis (β = .32, sr^2 = .09, *p* = .01) and six months (β = .35, sr^2 = .08, *p* = .01) and approached significance at three months (*p* = .07). Greater CSB significantly predicted greater distress at three months post-diagnosis only (β = .25, sr^2 = .04, *p* = .03). All models controlled for age, cancer stage and education. Prospective multivariable analysis: Greater CSB at three months significantly predicted increased distress at six (β = .47, sr^2 = .12, *p* = .01) and 12 months (β = .29, sr^2 = .04, *p* = .03). Greater CSB at diagnosis approached significance for predicting greater distress at three months (*p* = .055). All additional analyses were non-significant (*p* > .05). All models controlled for age, cancer stage, education and baseline distress.	27
Hill (2011)	355 UK	**Diagnosis**: Breast Cancer **Ethnicity:** not reported **Gender:** 100%	**Design:** P ***Baseline:*** After breast surgery.	See Malcarne (1995) **Response:** Likert Scale (1 = not at all; 5 = completely). Two item scores summed.	Semi-structured interview: SADS - Administered by researcher.	Participants reporting self-blame showed significantly greater symptoms of MD (OR = 3.47, *p* = .001) and GAD (OR = 3.50, *p* = .004) compared to those reporting no self-blame in univariate analyses. Within multivariable	29

		female **Most Common Age Range:** 51-64	***Follow-up:*** One year after baseline. **Analysis:** C & BG	**Measurement:** Presence/absence of general self-blame. Assessed at baseline only.	Assessed presence of DSM-IV symptoms of Major Depression (MD) and Generalised Anxiety Disorder (GAD). Participants judged to meet or not meet diagnostic criteria. Assessed at follow-up only.	analyses controlling for social support, shame and history of MD and GAD self-blame was no longer a significant predictor ($p > .05$).	
Houldin (1996)	234 USA	**Diagnosis**: Breast Cancer **Ethnicity:** 82% white **Gender:** 100% female **Mean Age:** 53	**Design:** CS **Analysis:** BG	*'How much do you blame each of the following factors for your cancer?'* **Response:** *myself, someone else, the environment, heredity, chance, fate or God.* Assigned a % to each factor selected. **Measurement:** Degree of general self-blame: 'no blame' (0%); 'mild-moderate blame' (1-49%); 'high blame' (>50%).	Semi-structured interview: PAIS - Administered by researcher. Assesses multiple indicators of adjustment. Findings for psychological distress subscale reported here. Higher scores = more distress. Observer report: GAIS - Completed by researcher. Assesses observable indicators of distress about medical condition. Higher scores = less distress.	PAIS: Greater self-blame was significantly associated with greater distress ($F = 5.03$, $p = .007$). People reporting 'high' self-blame reported significantly higher distress than those reporting 'mild/moderate' or no self-blame ($p = .05$). Non-significant trend for people reporting 'mild/moderate' blame to show higher distress than those reporting no blame. GAIS: Greater self-blame was significantly associated with greater distress ($F = 3.12$, $p = .04$). Post-hoc comparisons did not reach significance ($p > .05$). Trend for people reporting 'no' blame to be less distressed than those reporting 'mild/moderate' blame and for the latter group to be less distressed than participants reporting 'high' blame.	25

Mak (2007)	150 China	**Diagnosis**: HIV/AIDS **Ethnicity:** 100% Chinese **Gender:** 82% male **Mean Age:** 42	**Design:** P ***Baseline:*** mean of five years post-diagnosis. ***Follow-up:*** Seven months after baseline. **Analysis:** C	*'It is my own fault that I am infected with the disease'* **Response:** Likert scale (1 = strongly disagree; 6 = strongly agree). **Measurement:** Degree of general self-blame, continuous scale. Assessed at baseline only.	Self-report: MHI Assesses indicators of general distress and well-being separately. Higher scores = higher distress and higher well-being. Assessed at follow-up only.	Non-significant negative correlation found between self-blame and distress ($r = -.02$, $p > .05$). Non-significant positive correlation found between self-blame and well-being ($r = .26$, $p > .05$).	32
Malcarne (1995)	72 USA	**Diagnosis**: Cancer (Mixed diagnoses, 40% breast cancer). **Ethnicity:** 96% Caucasian **Gender:** 79% female **Mean Age:** 43	**Design:** CS & P ***Baseline:*** Ten weeks post-diagnosis. ***Follow-up:*** Four months post-diagnosis **Analysis:** C	*'How much do you blame yourself for the kind of things you did (that is, for any behaviour that led to your cancer)?'* *'How much do you blame yourself for the kind of person that you are (that is, for being the kind of person who has things like cancer happen to them?'* **Response:** Likert Scale (1 = not at all; 5 = completely). **Measurement:** Degree of BSB & CSB, continuous scale. Assessed at all time points.	Self-report: modified BSI Assesses range of psychological and somatic indicators of distress. Several somatic symptom items removed for study. Higher scores = greater distress. Assessed at all time points.	Both BSB and CSB correlated positively but non-significantly with distress at baseline ($r = .19$; $.17$, $p > .05$) and follow-up ($r = .30$; $.31$, $p > .05$) in cross-sectional analyses. Non-significant prospective correlations for both BSB ($r = .26$, $p > .05$) and CSB ($r = .33$, $p > .05$). Multivariable prospective analysis: When controlling for baseline distress, greater baseline CSB significantly predicted increased distress at follow up ($\beta = .19$, $sr^2 = .03$, $p < .05$). Effect no longer significant ($p > .05$) when a significant BSBxCSB interaction added ($\beta = .18$, $sr^2 = .02$, $p < .05$). Greater baseline BSB significantly predicted increases in distress at follow up only when participants also reported CSB ($sr^2 = .03$, $p < .01$).	25
Milbury (2012)	158 USA	**Diagnosis**: Lung Cancer **Ethnicity:** 89%	**Design:** CS & P	See Malcarne (1995) First item only.	Self-report: BSI Assesses a range of	Non-significant positive cross-sectional correlation found between BSB and distress at two months ($r = .16$, $p > .05$). Non-significant	29

		white **Gender:** 64% male **Mean Age:** 63	***Baseline:*** Two months post-diagnosis. ***Follow-up:*** Eight months post-	**Response:** Likert scale (1 = not at all; 4 = completely). **Measurement:** Degree of BSB, continuous scale. Assessed at both time points.	psychological and somatic indicators of distress. Higher scores = greater distress.	negative cross-sectional correlation found at eight months ($r = -.03$, $p > .05$). Non-significant positive prospective correlation ($r = .19$, $p > .05$) reported.	
Moulton (1987)	103 USA	**Diagnosis:** AIDS/ARC **Ethnicity:** not reported **Gender:** 100% male **Mean Age:** AIDS; 35 ARC; 37	**Design:** CS **Analysis:** BG	*'Do you blame yourself for your current health problems?'* **Response:** *Yes or No* **Measurement:** Presence/absence of general self-blame	Self-report: POMS; TMAS-A; BHS Scores summed to create one measure of 'general dysphoria'. Higher scores = greater distress.	No significant difference in distress found for people reporting self-blame and no self-blame ($p > .05$). No trend data available.	23
Phelan (2013)	1109 USA	**Diagnosis**: Colorectal Cancer **Ethnicity:** 87% white **Gender:** 100% male **Mean Age:** 68	**Design:** CS **Analysis:** C	*'I feel I am to blame for my illness'* **Response:** Likert scale (1 = not at all true; 4 = completely true). **Measurement:** Presence/absence of general self-blame.	Self-report: PROMIS-SF Depression subscale used. Assesses frequency of symptoms of depression. Higher scores = higher distress	Greater self-blame significantly predicted greater depression (B = 2.67, $p < .001$) when controlling for multiple clinical, demographic and psychological variables (e.g. perceived blame from others, age, ethnicity, level of education, pain and fatigue).	29

[1]CS: Cross-sectional; P: Prospective; [2] BG: Between-Groups; C: Correlational; [3] BSB: Behavioural self-blame; CSB: Characterological self-blame;
[4] POMS (Profile or Mood States; McNair, Lorr & Droppleman, 1971); TMAS-A (Taylor Manifest Anxiety Scale – Abbreviated version; Taylor, 1953; Bendig, 1956); BHS (Beck Hopelessness Scale; Beck, Weissman, Lester, & Trexler, 1974); BSI (Brief Symptom Inventory; Derogatis & Spencer, 1982); IWB (Index of Well-being; Campbell, 1976); PAIS (Psychosocial Adjustment to Illness Scale; Derogatis, 1986); GAIS (Global Adjustment to Illness Scale; Derogatis, 1975); SCL-90-R (Symptom Checklist Revised; Derogatis, 1983); BAI (Beck Anxiety Inventory; Beck & Steer, 1990); BDI (Beck Depression Inventory; Beck, Steer, & Brown, 1996); MHI (Mental Health Inventory; Veit & Ware, 1983); SADS (Schedule for Affective Disorders and Schizophrenia; Endicott & Spitzer, 1978); PROMIS-SF (National Cancer Institute's Patient-Reported Outcomes Measurement System, Short form; Reeve et al., 2007). [5]QS: Quality assessment score.

Prevalence and degree of self-blame. Five studies involving people with cancer found that between 18% and 39% of their samples reported feeling some degree of self-blame (Bennett et al., 2005; Dirksen, 1995; Glinder & Compas, 1999; Houldin et al., 1996; Phelan et al., 2013). Variability in the Likert scales used and how this information was summarised make it difficult to ascertain the degree of self-blame most commonly experienced. Participants were reported to have endorsed low levels of self-blame in some studies which involved mainly people with breast cancer, with mean ratings corresponding to ‘very little’ and ‘not at all – somewhat’ (Bennett et al., 2005; 2013; Glinder & Compas, 1999; Malcarne et al., 1995). Houldin et al. (1996) also reported that 76% of those who did feel to blame reported ‘mild-moderate’ self-blame and 24% reported ‘high’ self-blame. In other studies involving people with lung cancer, HIV/AIDS and cardiac disease, moderate levels were reported, with mean ratings corresponding to ‘agree – strongly agree’ (Mak et al., 2007) and ‘somewhat – very much’ (Bennett et al., 2013; Milbury et al., 2012). Milbury et al. (2012) also reported that 47% of their sample blamed themselves ‘very much’ or ‘completely’. The mean self-blame ratings reported may underestimate the degree of self-blame felt by those experiencing these beliefs given that these calculations included participants who felt no self-blame. Still, the subtle trend for greater self-blame to be felt by those with lung cancer, HIV/AIDS and cardiovascular conditions may be because these conditions are more strongly associated with lifestyle-based risk factors than breast cancer, potentially promoting perceptions of self-involvement with condition onset (NHS Choices, 2014).

No clear pattern can be seen across the reviewed studies to suggest that the prevalence or degree of self-blame varied with time since diagnosis, although this was difficult to ascertain given the lack of reporting and the varied time points at which participants were assessed. Three studies explored changes in self-blame within the first year following diagnosis and found little fluctuation in the prevalence or degree of self-blame over time (Glinder & Compas, 1999; Malcarne et al., 1995; Milbury et al., 2012). No clear themes can be seen across studies regarding differences in the prevalence and degree of general, behavioural and characterological types of self-blame. Within studies measuring both BSB and CSB, although no explicit comparisons were made of prevalence and strength, there was a trend for ratings of BSB to be slightly higher than those for CSB (Bennett et al., 2005; 2013; Glinder & Compas, 1999; Malcarne et al., 1995) and for BSB to be the most prevalent of the two types (Bennett et al., 2005; Glinder & Compas, 1999).

Relationships between self-blame and demographic and clinical factors. Greater self-blame was found to be related to demographic and clinical factors within some studies, for example, with undertaking no more than high school level education ($p < .001$) and being unmarried ($p < .001$) (Houldin et al., 1996), although the comparison groups in this study were not stated. Bennett et al. (2005) found BSB significantly decreased with age ($r = -.30$, $p < .01$) and Milbury et al. (2012) found people who smoked were significantly more likely to blame themselves than people who had quit smoking ($p < .05$) or never smoked ($p < .0001$). However, other studies found no significant relationships between degree of self-blame and age, years spent in education, time since diagnosis, disease stage/prognosis, ethnicity or religious affiliation ($p > .05$) (Bennett et al., 2005; Glinder & Compas, 1999; Houldin et al., 1996; Malcarne et al., 1995). Firm conclusions cannot be drawn about the association between clinical and demographic factors and the prevalence and strength of self-blame beliefs from these limited findings, particularly when such varied participant demographics were measured.

The Relationship between Self-Blame and Emotional Distress for People with Cancer

General self-blame. Four studies involving people with cancer diagnoses explored the relationship between general self-blame and emotional distress. One study reports non-significant differences in well-being between participants with and without feelings of self-blame (Dirksen, 1995). However, no data is reported to allow comment on any trend for between-group differences in well-being. There is also a concern regarding how participants were split into ‘blame absent’ and ‘blame present’ groups based on their responses to a six-point Likert scale. On the other hand, three studies did find greater self-blame to be significantly associated with greater distress, with two demonstrating this relationship concurrently (Houldin et al., 1996; Phelan et al., 2013) and one over time (Hill et al., 2011). One of these studies (Phelan et al., 2013) also found this relationship whilst controlling for the effect of several additional variables which can influence the strength of the relationship between self-blame and distress (Bennett et al., 2005). However, the two studies (Hill et al., 2011; Houldin et al., 1996) that employed researcher-led interview and observation-based assessments of distress did not make it explicit that researchers were blind from participant’s self-blame ratings when assessing levels of distress. Although self-report methods can have their own issues with bias (e.g. social desirability) they discourage researcher influence on results which cannot be ruled out for these investigations.

Behavioural self-blame. Four studies explored the relationship between BSB and distress for people with cancer. Two studies using the same measure of distress did not find a significant relationship between greater BSB and greater distress concurrently or over time, although all but one correlational analysis suggested a relationship in this direction (Malcarne et al., 1995; Milbury et al., 2012). BSB was not a significant predictor of distress over time when controlling for baseline distress and for the full participant sample, but it was for the participants who also reported CSB (Malcarne et al., 1995). A further two investigations using different distress measures (Bennett et al., 2005; Glinder & Compas, 1999) found the relationship between greater BSB and greater distress did reach significance more often than not, both concurrently and over time and for both anxiety and depression when measured separately. When controlling for the influence of several additional variables, BSB continued to significantly predict greater concurrent distress at several time points during the first year after diagnosis, although in one study this relationship only reached significance for anxiety and not depression (Bennett et al., 2005). When controlling for baseline distress and exploring the relationship between BSB and distress over time, BSB was found to have non-significant effects within one study (Glinder & Compas, 1999) but was a significant predictor in another (Bennett et al., 2005), although only for anxiety and only at a single follow-up assessment.

Similar to studies assessing general self-blame, these studies suggest that BSB may also be associated with increased distress, although perhaps more strongly when CSB is also present, for concurrent distress rather than long-term increases in distress and for symptoms of anxiety compared to depression. However, these distinctions should be interpreted carefully. Within all four studies non-significant findings could have been encouraged by small baseline sample sizes and participant attrition undermining the power these studies had to detect significant effects, particularly in Glinder & Compas's (1999) study where few participants (*N* = 72) were grouped into those with and without feelings of CSB. These issues were not always discussed by the authors so it is unclear if the effects of attrition and power had been considered before researchers drew their conclusions.

Characterological self-blame. Three of the studies assessing BSB in people with cancer also measured CSB (Bennett et al., 2005; Glinder & Compas, 1999; Malcarne et al., 1995). Greater CSB was associated with greater distress in all investigations, both concurrently and prospectively, although these relationships did not reach significance within one study (Malcarne et al., 1995) and only did so for depression and not anxiety within another (Bennett et al., 2005). When studies controlled for the influence of additional variables CSB continued to significantly predict greater concurrent distress, although this was not consistent across all time points assessed (Glinder & Compas, 1999) and again was found for depression but not anxiety when these experiences were assessed separately (Bennett et al., 2005). When controlling for baseline distress all three studies found CSB to be significantly predictive of increases in distress over time, even if not at all follow-up time points (Glinder & Compas, 1999). Bennett et al.'s (2005) prospective analyses question the possibility of CSB being more strongly related to depression than anxiety as greater CSB significantly predicted increases in anxiety over time but not depression. In summary, CSB is again associated with increased distress across all four studies and stronger evidence is presented for its relationship to increases in distress over time compared to BSB, although the aforementioned issues with adequate reporting in these studies make this a tentative conclusion.

Studies Involving People with Other Conditions

General self-blame. Within two studies exploring the relationship between self-blame and distress in people with HIV/AIDS (Mak et al., 2007; Moulton et al., 1987), neither found a significant relationship. In fact, Mak et al.'s (2007) findings suggested that greater self-blame was associated with less emotional distress and greater psychological well-being. Still, both of these relationships were relatively weak and distress was assessed seven months after reports of self-blame and therefore it is not clear if feelings of self-blame were still present at follow-up. Taken together, these two studies may indicate that feelings of self-blame and psychological distress do not often co-occur for people with HIV/AIDS. However, it may be premature to draw these conclusions as neither study controlled for additional variables in their analyses, such as gender, time since diagnosis and physical health status, previously found to be predictive of emotional distress in people with HIV/AIDS (Kelly et al., 1993; Van, Aguirre, Sarna, & Brecht, 2002) and therefore potentially influential upon the strength of the relationship between self-blame and distress. Also, both contained relatively small samples ($N < 150$), potentially undermining their power to detect significant findings.

Behavioural self-blame. For participants with cardiovascular disease (Bennett et al., 2013), greater BSB was significantly associated with greater concurrent anxiety and depression. Greater BSB also significantly predicted increases in anxiety and depression over time when controlling for baseline levels of distress. These findings do not support suggestions from studies with people with cancer that BSB may be less strongly associated with long-term distress and with depression compared to anxiety. As the interaction between BSB and CSB did not reach significance in this study, the suggestion that BSB might only be influential when CSB is also present (Malcarne et al., 1995) is also not supported for this participant population. The findings discussed in the subsequent paragraph may even indicate that BSB is the stronger predictor of distress, although this could be due, in part, to noticeably higher levels of BSB (M = 2.58, SD = 0.98) being reported in this study compared to CSB (M = 1.72, SD = 0.80) (Bennett et al., 2013).

Characterological self-blame. Again with participants with cardiovascular disease (Bennett et al., 2013), greater CSB was significantly associated with greater concurrent anxiety and depression, although when considered alongside BSB, CSB only neared significance in predicting depression and was no longer a significant predictor of anxiety. Greater CSB also significantly predicted greater depression over time but a relationship in the same direction did not reach significance for anxiety, consistent with some previous evidence with people with cancer suggesting a stronger relationship between CSB and depression compared to anxiety. However, when controlling for baseline levels of distress and when considering BSB at the same time, CSB did not remain a significant predictor of either measure of distress.

Discussion

This review aimed to explore the relationship between self-blame and indicators of emotional distress or well-being for people diagnosed with a chronic physical health condition. As previous researchers highlighted inconsistencies in the nature of this relationship across studies (Bennett et al., 2005; Glinder & Compas, 1999), the current review chose to examine only those studies that measured self-blame directly. The majority of participants within these studies did not feel to blame for causing their condition. However, these feelings were shown to exist for a significant minority. A similar minority have been found to judge their family member to be to blame for their cancer (Siminoff et al., 2010). Low degrees of self-blame were more often reported, although this may have been due to the methods used to calculate mean levels of self-blame and perhaps also to the dominance of people with breast cancer involved within the review which is a condition less commonly associated with lifestyle-based risk factors that potentially encourage self-blame. Some studies explored the relationship between a small number of clinical and demographic factors and the prevalence and strength of self-blame beliefs, although this was not a priority for the investigations and clear relationships were not consistently evidenced. Additional research with this focus would be of benefit to determine who might be most likely to hold these perceptions.

Importantly, the current review suggests that self-blame, whether measured as a general experience or broken down into self-blame related to behavioural or characterological factors, is associated, more often than not, with increased emotional distress. With the exception of participants with HIV/AIDS, for whom the relationship between self-blame and increased distress was not clearly indicated, this relationship generally persisted across different measures of distress, study designs and participant demographics. No clear patterns emerged with respect to differences in the strength of the self-blame and distress relationship between people with cancer and cardiovascular disease, nor between those with different types of cancer. As the majority of participants within the reviewed research were white/Causation adults aged over 30 and assessed within a year of being diagnosed with their health condition, the generalisability of the reviewed evidence to younger adults, different ethnicities and people living with chronic conditions for longer periods of time may be limited.

The relationship between self-blame and emotional distress found here supports evidence that assigning blame to others is associated with increased negative emotion, both for the person assigning blame and the person receiving it (Lobchuck et al., 2008; Mantler et al., 2003; Siminoff et al., 2010). As perceived control over the cause of an event is suggested to precipitate judgments of blame (Mantler et al., 2003), self-blame could be hypothesised to also come with the previously evidenced benefits of feeling in control of improving future health (Janoff-Bulman, 1979; Park & Gaffey, 2007). However, as the current review did not find any substantial evidence suggestive of self-blame being associated with greater emotional well-being, this could suggest that the blame judgement overrides any positive emotional effects of feeling in control. Still, some research does not support the existence of a strong relationship between self-blame and greater perceived control over future health improvement and illness progression (Houldin et al., 1996; Moulton et al., 1987; Malcarne et al., 1995; Bennett et al., 2005; 2013). There remains a lot to learn about the complex interrelationships between self-directed judgements of control, responsibility and blame which have not been as closely researched as have making these judgments about others. Based on the current review and research into other-blame, Appendix 7 presents a theoretical model of the possible cognitive appraisal process which may follow illness diagnosis and lead to self-blame judgements. It is recognised however that this model may certainly not be linear in nature and that further research is needed to explore each stage of this model and the likely multiple additional influences not explicitly considered within in it.

Across the reviewed studies self-blame was associated with emotional distress concurrently and it was often found to be predictive of distress at later points in time and changes in distress over time within the first year following diagnosis. There was some suggestion that CSB was a stronger predictor of increases in distress over time and that BSB was more often associated with concurrent distress and less strongly predictive of increases in distress over time. Janoff-Bulman (1992) suggests that BSB may be associated with psychological well-being because of its association with perceived control over changing the blamed behaviours and preventing future similar events, but also suggests that this benefit may only emerge years after the event. During the process of adjusting to chronic illness, self-efficacy may be most important at the stage where the individual feels ready to begin integrating their health changes into a new way of life (Adams et al., 1976). Therefore, if BSB can have a beneficial influence through its association with percieved control in the long-term, it would make sense for its association with increased distress to diminish with increased time since diagnosis. A second pattern discussed by some of the reviewed studies suggested that CSB was a stronger predictor of symptoms of depression, whereas BSB more strongly predicted anxiety. Feelings of hopelessness are more characteristic of depression than anxiety (Waikar & Craske, 1997) and therefore this pattern in the findings could be explained by Janoff-Bulman's (1979) suggestion that CSB may be associated with increased hopelessness about the future, because of the perceived inability to control or change the blamed character traits. However, for both of these patterns the results are certainly not clear cut. Caution must be exercised when interpreting these differential findings between the two types of self-blame given that the discriminant validity of self-blame measures has not been explored. CSB and BSB were always moderately correlated and therefore possibly created issues of multicollinearity when analysed together. This can substantially alter which predictors of distress reach significance and therefore findings from Glinder & Compas (1999), Malcarne et al. (1995) and Bennett et al. (2005; 2013) need to be interpreted with this potential confound in mind. There exists a clear need to develop reliable and valid measures of self-blame in future research if potential differential influences of different types of self-blame are to be investigated appropriately.

One of the main aims of all of the reviewed research was to explore the association of self-blame with emotional distress. However, the designs employed do not allow conclusions to be drawn about any potential causal relationship between self-blame and increased distress. In fact it is entirely possible that self-blame could be the product of emotional distress as much as the cause. Some studies have found distress to be equally predictive of changes in self-blame over time (Glinder & Compas 1999; Malcarne et al., 1995). Regardless of whether self-blame or distress comes first, their relationship could potentially be cyclical in nature; as one increases so does the other. When people experience feelings of depression, these are often associated with negative or self-critical views of the self and these beliefs can then serve to maintain low mood

(Ehret, Joormann, & Berking, 2014). Therefore it would be interesting to explore how the relationship between self-blame might be different for groups of people with differing levels of distress. Commenting on this using the reviewed studies is difficult given the lack of information provided regarding how participant distress scores may have related to clinically significant levels of distress.

Although the exact nature of the cognitive relationship between self-blame and distress cannot be determined here, what is important is that a relationship appears to exist between these experiences. Therefore, clinically, the presence of self-blame may be indicative of increased distress and may maintain this distress even if was a product rather than a cause of the distress in the first instance. Emotional distress can promote wider difficulties with self-management, engagement in healthcare, family functioning and quality of life (Park & Gaffey, 2007; Pinto-Gouveia, Duarte, Matos, & Fraguas, 2014) and therefore it is important for healthcare professionals to be vigilant of expressions of self-blame as a sign of increased risk of distress. It would also be interesting for future research to explore how self-blame relates to some of these other social and behavioural indicators of adjustment and quality of life. In some instances it may be appropriate to try and reduce feelings of self-blame within psychological interventions to increase emotional resilience. On the other hand, correlations between self-blame and distress are not perfect and for some people feeling to blame may not accompany or be accompanied by distress. Many other factors are likely to be having an influence in this relationship and research exploring these potential mediators/moderators would be useful for determining how to reduce self-blame or protect against its negative emotional effects when it cannot be easily modified or disregarded (Glover, Molyneux, & Alexander, 2015). For instance, although not specifically within the context of physical health conditions, self-compassion as way of relating to oneself has been repeatedly shown to protect against distress when self-critical or self-blaming thoughts arise and even reduce or challenge the validity of these beliefs (Gilbert & Procter, 2006; Gilbert, 2009; Joeng & Turner, 2015).

Limitations of Reviewed Studies

Within the reviewed literature there are several limitations concerning the quality of reporting and methodology. Some of the most common concerns were the lack of reported consideration of adequate sample sizes needed to explore hypotheses with appropriate power and the lack of control over potentially confounding variables when examining the relationship between self-blame and distress. Many other factors have been found to be significant predictors of greater emotional distress for people with chronic health conditions, such as being younger in age, being female and having a shorter time since diagnosis at the time of assessment (Arden-Close, Gidron, & Moss-Morris, 2008; Evers, Kraaimaat, Geenen, & Bijlsma, 1997; Hulbert-Williams, Neal, Morrison, Hood, & Wilkinson, 2012). Therefore, the studies which failed to control for any of these factors could be reporting significantly biased findings regarding the importance of self-blame as a predictor of distress. Most studies also utilised self-report measures of distress which can be subject to social desirability bias and the two studies employing researcher-rated measures were also potentially subject to biased reporting. Future research in this area would benefit from using more holistic measures of emotional distress that consider the views of the participant's family and healthcare professionals.

In addition, the reviewed studies assessed self-blame using a variety of single-item measures and scoring methods and it was therefore difficult to make comparisons across studies in terms of the degree and prevalence of self-blame being reported. Given the lack of clarity around how to define and measure the experience of self-blame, this heterogeneity in measurement may also be a concern for assuming that all studies within the review were in fact measuring the same experience. Although the current review attempted to minimise this confound by selecting only those studies which measured self-blame specifically for illness onset and independently from other related experiences and using a tool exhibiting face validity, subtle differences in how these self-blame questions were worded may have encouraged participants to think about slightly different internal experiences/beliefs when responding. Qualitative research would be of benefit to explore what feeling to blame entails in the context of chronic health conditions in order to measure this experience appropriately and comprehensively. Although findings within this review are generally consistent and suggest self-blame to be associated with increased distress, study limitations do question the reliability and internal and external validity of these findings and therefore the trust in their clinical application.

Conclusion

The current literature review provides a summary of the research conducted to date concerning the relationship between self-blame and emotional distress for people living with chronic physical health conditions. Clarity is still needed around the concept of self-blame, whether it can be conceptualised as behavioural and characterological in nature, and how it can be measured using reliable and valid methods. Future research would also benefit from the consistent use of psychometrically sound and holistic measures of emotional distress, quality of life and adjustment to illness. Nevertheless, the reviewed evidence as a whole does suggest that when a person feels they are to blame for the cause or onset of their health condition then they are more likely to experience greater emotional distress. Supporting people with the emotional impact of chronic health conditions is an integral part of the holistic and biopsychosocial approach effective in enhancing self-management, quality of life and physical health (DOH, 2011; 2014; NHS Confederation, 2012; NICE, 2010; Royal College of Psychiatrists, 2009). Therefore, it is important for the professionals working with people who are adjusting to life with a chronic physical health condition to be aware that expressions of self-blame may, for some, indicate a need for additional emotional support.

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PART TWO

Empirical Study:

The Relationship Between Self-Compassion and Anxiety and Depression Following a Cancer Diagnosis

This paper is written in preparation for submission to Health Psychology. See Appendix 9 for author guidelines.

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The Relationship Between Self-Compassion and Anxiety and Depression Following a Cancer Diagnosis

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Abstract

Objective*:* This study aimed to investigate the relationship between self-compassion and psychological well-being specifically for people who felt personally responsible for the onset of their cancer and who may therefore be more vulnerable to experiencing self-criticism, self-blame and emotional distress following diagnosis. The potential for self-compassion to moderate the relationship between perceptions of responsibility and increased psychological distress was also investigated. **Methods:** Self-compassion, perceived personal responsibility for cancer onset and symptoms of anxiety and depression were assessed cross-sectionally using self-report measures. Participants were recruited online and through healthcare professionals at two hospital sites. **Results:** A total of 204 participants completed the study and 82% reported feeling some degree of personal responsibility. Higher self-compassion was related to significantly fewer symptoms of anxiety and depression. Significantly higher levels of anxiety and depression were reported as the degree of perceived responsibility increased, although when taking account of demographic and clinical variables this relationship no longer reached significance. Findings suggested that self-compassion may moderate the relationship between perceived responsibility and emotional distress. Additional research is required to understand this relationship and the other potential influences involved. **Conclusions:** This investigation supports the potential for self-compassion enhancing psychological interventions to benefit emotional well-being following a cancer diagnosis when feelings of personal responsibility are present. Understanding the factors that are associated with psychological well-being is essential when designing holistic interventions effective at maintaining and improving the quality of life of people living with a cancer diagnosis.

Keywords: Self-compassion; Cancer; Personal Responsibility; Anxiety; Depression

Introduction

Following a cancer diagnosis people can experience significant changes within their lifestyle, identity, roles, relationships and expectations for the future (Barraclough, 1995). Symptoms of anxiety and depression are common at all stages of adjustment, be that following the initial shock of diagnosis, during treatment or years after its completion (Moorey & Greer, 2012; National Institute for Health and Care Excellence [NICE], 2004). These experiences can affect how a person copes with the implications of their diagnosis and their cancer treatment, as well as how they self-manage long-term symptoms and promote their future health (Brown, Kroenke, Theobald, Wu, & Tu., 2010; DiMatteo, Lepper, & Croghan, 2000; Galloway et al., 2012; Park & Gaffey, 2007; Smith, Gomn, & Dickens, 2003). The National Cancer Survivorship Initiative launched by Macmillan Cancer Support and The Department of Health (DOH, 2010; 2013; Richards, Corner, & Maher, 2011) emphasises the importance of enabling people to live as healthy and active lives as possible following a cancer diagnosis. An increased understanding of the factors that are associated with increased emotional distress and psychological well-being is essential for developing holistic interventions which can maintain and improve quality of life for people with cancer.

Global health initiatives discuss the need for individuals to be responsible for their own health and they often highlight behavioural risk factors for developing chronic physical health conditions (World Health Organisation [WHO], 2002; 2014; National Health Service [NHS], 2013). Consequently, some people with cancer have reported feeling that others blame them for causing their condition, perhaps because they smoked cigarettes or led an unhealthy lifestyle (Chapple, Ziebland, & McPherson, 2004; Else-Quest, LoConte, Schiller, & Hyde, 2009; LoConte, Else-Quest, Eickhoff, Hyde, & Schiller, 2008; Phelan et al., 2013). Some have also perceived themselves to be to blame and this has been associated with significant increases in symptoms of anxiety and depression (Bennett, Compas, Beckjord, & Glinder, 2005; Bennett, Laidlaw, Dwivedi, Naito, & Gruzelier, 2006; Dirksen, 1995; Glinder & Compas, 1999; Glover, Molyneux, & Alexander, 2015; Hill et al., 2011; Houldin, Jacobsen, & Lowery, 1996; Malcarne, Compas, Epping-Jordan, & Howell, 1995; Milbury, Badr, & Carmack, 2012; Phelan et al., 2013).

Significantly less research has explored the specific influence of feeling personally responsible for illness onset, although on occasions this belief has been associated with greater emotional distress, albeit non-significantly (DePalma, Rollison, & Camporese, 2011; Mak et al., 2007; Taylor, 1984). Subtle differences are suggested to exist between judgements of blame and responsibility for adverse events when applied to another, although with the latter being a prerequisite for the former (Mantler, Schellenberg, & Page, 2003; Shaver & Drown, 1986; Rich, Smith, & Christensen, 1999; Taylor, 1995). Perceiving another to have been responsible for an event involves judging them to have had control over the cause of that event and an awareness of the potential consequences of the causal factor. Assigning blame then involves a rejection of any justifications or excuses for the person’s relationship with the causal agent and has been associated with greater resentment of the person and a desire to punish (Graham, Weiner, & Zucker, 1997; Mantler et al., 2003). When an individual blames themselves for an event, this may therefore come with greater self-directed criticism and negative affect. On the other hand, feeling personally responsible for an event may not automatically illicit self-resentment and negative affect if the individual feels they can accept the justifications for their relationship with the perceived cause of the event.

Self-compassion is one way of relating to oneself that is suggested to promote acceptance and self-kindness in the face of undesirable life events, rather than self-criticism. The originally Buddhist concept of self-compassion refers to an ability to be mindful of and tolerate one’s own difficult experiences and to be non-judgemental about these experiences, seeing them as an acceptable part of being human which can be alleviated with self-directed empathy and kindness (Barnard & Curry, 2011; Dalai Lama, 2001; Gilbert, 2005; 2009; 2010a). Self-compassion therefore involves the same warmth, acceptance, non-judgemental understanding and desire to ease suffering as does being compassionate to others (Allen & Knight, 2005).

Neff (2003b) describes self-compassion as being formed of the three components of self-kindness, mindfulness and recognising the common humanity within difficult experiences. Therefore, Neff (2003b) supports that self-compassion can be enhanced through the learning and practice of these particular skills and has developed Mindful Self-Compassion Training (MSC) to teach these skills (Germer & Neff, 2013). In addition, Gilbert’s (2009; 2010b; Gilbert & Procter, 2006) approach to enhancing self-compassion, namely Compassion Focused Therapy (CFT), is based on an evolutionary perspective which emphasises that humans are motivated to behave in certain ways beneficial for their survival. Gilbert (2009) suggests that these motivations come from three distinct affect systems within the human brain involved in affect regulation and responsible for eliciting a range of positive and aversive emotions. The ‘Contentment/Affiliative’ system generates feelings of being cared for, safe, calm and connected to others which enables rest and enhances social relationships. The ‘Threat’ and ‘Drive’ systems are responsible for aversive emotions which promote motivation to obtain resources and escape from threat such as self-judgement, anxiety, anger and disgust (Depue & Morrone-Strupinsky, 2005; Gilbert, 2009). Gilbert (2009) suggests that maintaining balance across these three systems is helpful for maintaining well-being and can be achieved by enhancing the ‘Contentment’ system and its associated positive emotions when ‘Threat’ and ‘Drive’ based emotions emerge following a perceived threat to safety and well-being. CFT interventions are suggested to help increase the influence of the ‘Contentment’ system and achieve this balance by enhancing self-compassion, compassion for others and the capacity to receive compassion from others.

A wealth of research supports the benefits of self-compassion for reducing self-criticism, self-blame and improving psychological well-being in a variety of contexts (Gilbert & Procter, 2006; Joeng & Turner, 2015). It has also been associated with less psychological distress for people with cancer (Forti, 2011; Pinto-Gouveia, Duarte, Matos, & Fraguas, 2014; Przezdziecki et al., 2012) and for people with other chronic physical health conditions (Ashworth, Gracey, & Gilbert, 2011; Brion, Leary, & Drabkin, 2013; Eller, et al., 2014; Wren et al., 2012). Research has not yet explored the relationship between self-compassion and psychological well-being specifically for people who feel personally responsible for causing their cancer, and who may therefore be more vulnerable to experiencing self-blame and emotional distress. Therefore this was the first aim for the current investigation and similarly to past research a positive relationship between self-compassion and well-being was predicted. Evidencing the beneficial association between self-compassion and reduced distress for people with cancer, and specifically for those who may be vulnerable to experiencing greater emotional distress following diagnosis, will support the use of self-compassion enhancing interventions such as CFT and MSC for improving psychological well-being and quality of life for this population.

A second aim of the current study was to investigate how feelings of personal responsibility rather than self-blame relate to psychological distress for people with cancer. To the authors’ knowledge this has previously been investigated only once for people with cancer (Talyor, 1984) and these beliefs were not found to be associated positively or negatively with indicators of adjustment. However, as these beliefs have been associated with increased emotional distress for people with other chronic physical health conditions (DePalma, Rollison, & Camporese, 2011; Mak et al., 2007) and because of the close theoretical relationship between responsibility and blame, it was hypothesised that responsibility taking in the current study would be associated with increased distress. Still, theory and research do support that a person can feel responsible for causing an event, such as illness, but also feel accepting of this. There has also been speculation within the literature that feeling personally responsible for past negative events helps people to feel in control of, and hopeful about, the future (Taylor, 1984). Therefore there may be the capacity for people to feel highly responsible for an event but not suffer self-criticism, self-blame and the negative emotional reactions that are associated with these ways of relating to oneself. The third and final aim of the current investigation was therefore to explore the potential for self-compassion to create these conditions under which it is possible to feeling responsible without self-blame and distress. With its components of acceptance and self-kindness, self-compassion was hypothesised to prevent self-blame following perceptions of personal responsibility or reduce these self-critical beliefs and the emotional distress found to be associated with them. This prediction was tested by exploring self-compassion as moderator of the relationship between responsibility and distress, represented by Figure 1. This moderation effect might allow an individual to feel highly responsible for their cancer, but with high levels of self-compassion, this feeling would not be as strongly related to symptoms of anxiety and depression compared to when low self-compassion was reported. It is beneficial for professionals to understand both how self-compassion might promote well-being for people with cancer and also if there are conditions under which responsibility taking may or may not be associated with increased emotional distress so that these beliefs can be responded to appropriately.

It is important to note that self-blame beliefs were not directly assessed within the current investigation following the opinion from service user consultation that asking people directly about these beliefs could instigate difficult emotional reactions for participants and lead them to question whether they should feel to blame for their cancer. The current research hoped to portray entirely the opposite view, providing evidence of the ways in which people can be supported to feel less self-blame and the emotional distress associated. Directly asking about feelings of responsibility was thought to be less threatening which is consistent with theory suggesting subtle differences between how distressing self-blame and feeling responsible for undesirable events might feel (Pickard, 2011; Shaver & Drown, 1986). As a result of not asking participants about feeling of self-blame, the prediction that self-compassion may benefit well-being by protecting against feelings of responsibility leading to self-blame or by reducing feelings of self-blame could not be explicitly tested. Consequently, figure 1 represents a revision of the original mediational model to be investigated which predicted that self-compassion would be associated with reduced emotional distress through its association with a reduction in self-blame beliefs.

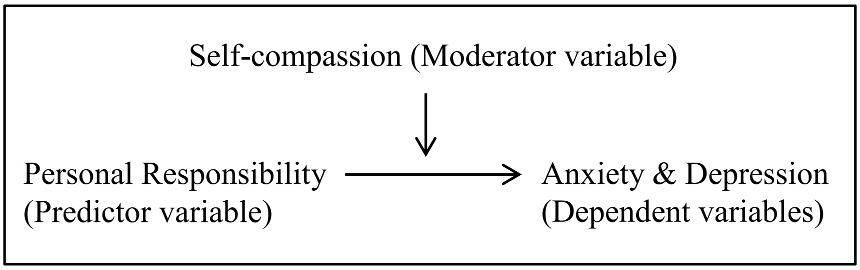

Figure 1. Hypothesised moderation model.

Method

Study Design and Participants

In this cross-sectional study participants were asked to complete four self-report questionnaires which measured demographic and clinical information, feelings of perceived personal responsibility for cancer onset, self-compassion and symptoms of anxiety and depression. Anxiety and depression formed the study’s dependent variables and all additional variables were analysed as independent/predictor variables. Participants were recruited between June and November 2014 via convenience sampling from two UK hospital based providers of oncological healthcare services in North and East Yorkshire. To maximise recruitment and make the study available to a larger and more representative sample of people with a cancer diagnosis not necessarily receiving hospital based support, participants were also recruited through advertisements within several online cancer charity/community Facebook webpages and Macmillan and Cancer Research UK’s online discussion groups (see Appendix 23 for a full list of webpages). Online participation was available between June and December 2014. Prior to data collection this study was approved by a local Research Ethics Committee (Appendix 10) and recruitment permission was obtained from the hospital trusts and webpages involved (Appendices 10 – 13).

At the hospital sites potential participants could request study information from healthcare professionals working in medical oncology, radiology and psychology services after seeing advertisements within hospital waiting areas or after being informed about the study by these professionals. Participants with any type of cancer, diagnosed at any time during their lives, could participate. Participants were asked within the study information (Appendices 15 & 16) to participate only if they were aged 18 or over, had a confirmed diagnosis of cancer, felt they could speak, read and write in English and were able to complete the 15-to-30 minute reading and writing task involved. Healthcare professionals only approached potential participants with study information if they were known to have a cancer diagnosis and be over the age of 18. Online participants self-selected to access study information and complete the study’s questionnaires by following a link from either the online or hospital based advertisements (Appendix 15). All potential participants accessing the study information were free to complete the questionnaires at a time and place convenient for themselves and responses were returned to the researcher via post or online electronic submission through SurveyMonkey software (https://www.surveymonkey.com/). All participants were provided with information about sources of information and support they may wish to access following participation (Appendix 22). See Table 1 for information on participant demographics.

Statistical Power

A power analysis was conducted prior to participant recruitment using G*Power 3.1 (Faul, Erdfelder, Buchner, & Lang, 2009) to estimate the minimum sample size required to detect a small-to-medium effect size (F^2 = .08 to .10) of the influence of seven independent variables on the dependent variables (Cohen & Cohen, 1983). This anticipated effect size was estimated from the r and R^2 statistics reported in past research exploring the relationship between self-compassion, self-blame and multiple clinical and demographic factors, and anxiety and depression in people with cancer (Bennett et al., 2005; Bennett et al., 2010; Glinder & Compas, 1999; Pinto-Gouveia et al., 2014; Przezdziecki et al., 2012; Tessier, Lelorain, & Bonnaud-Antignac, 2012). Given the absence of previous published research measuring the effect on anxiety and depression of adding an interaction between self-compassion and perceived responsibility to explore a potential moderation effect, it was assumed that the R^2 statistic change from adding this interaction would be .05 for both dependent variables. Based on this assumption and past research the R^2 values of .35 and .50 were predicted for anxiety and depression respectively for a regression model containing all independent variables and an interaction effect, leading to effect sizes of .08 and .11 respectively for the interaction effects. To achieve power of .80, using an alpha level of $p < .05$, a sample of 97 participants was needed for the smaller of these two effect sizes.

Measures

Demographic and clinical information. Participants were asked to provide information about their age, gender, ethnicity, primary cancer site, the month and year when first diagnosed and whether they had experienced recurrent or secondary metastasised cancer (Appendix 18).

Personal responsibility for cancer onset. A single item measure of perceived personal responsibility was designed for the purposes of this study given the lack of a previously validated tool to measure this experience (Appendix 19). To ensure clarity and accessibility for participants the wording of this measure and the response format was designed in consultation with a group of service users who had a diagnosis of cancer and who were aware of the experience of feeling personally responsible for cancer onset. Past research exploring cancer-related self-blame beliefs has employed single-item measures in the absence of suitable alternatives (Dirksen, 1995; Glinder & Compas, 1999; Hill et al., 2011; Houldin et al., 1996; Milbury et al., 2012; Phelan et al., 2013; Plaufcan, Wamboldt, & Holm, 2012) and single item measures of health attitudes have been found to be as reliable and valid as multiple item measures in some instances (Dijker, Kok, & Koomen, 1996; Jaccard, Weber, & Lundmark, 1975).

The question was presented as follows:

> *'People can think all sorts of things when they get cancer. This may or may not apply to you but sometimes people report thinking 'why me?' or 'why has this happened?' It is a normal human reaction to illness to ask these kinds of questions and to want to understand why illness could have happened.*

> *We have found that people can have moments when they think that they are personally responsible in some way for getting cancer. We are interested in the extent to which people have these kinds of thoughts.*
>
> *Please think about the time since being diagnosed and whether you have had moments when you have felt in any way responsible for getting cancer. Please circle the number that best describes how responsible you feel.'*

Participants responded on a 10-point Likert scale, with '0' representing *'not at all responsible'* and '10' representing *'completely responsible',* similar to the responsibility scale used by DePalma et al. (2011). Service user consultation deemed this response format to be preferable to one involving discrete tick box options describing differing levels of responsibility as it allowed for a wider range of responses. It was also felt that a 10-point Likert scale would be familiar to people accessing hospital based oncology services which routinely employ a similar 'distress thermometer' scale.

Self-compassion. Self-compassion was measured using Neff's (2003a) Self-Compassion Scale (SCS). Participants responded on a five-point Likert scale (1 = 'almost never'; 5 = 'almost always') to 26 questions which asked how often they feel they behave in certain ways towards themselves during difficult times (Appendix 20). A single mean score of all 26 items was calculated for each participant with a higher score representing higher levels of self-compassion. Neff (n.d) suggests that particular score ranges on the SCS represent low (1.0 to 2.5), moderate (2.5 to 3.5) and high (3.5 to 5.0) levels of self-compassion. The SCS is currently the only recognised assessment of self-compassion within clinical and research practice and it has demonstrated acceptable internal consistency (α = .92) and test-retest reliability (α = .93) and construct validity with non-clinical samples (Neff, 2003a) and high internal consistency (α = .85 to .92) when used previously with people with breast cancer (Forti, 2011; Pinto-Gouveia et al., 2014; Przezdziecki et al., 2012). In the current sample (*N* = 193) the SCS achieved good internal consistency reliability (α = .92).

Symptoms of anxiety and depression. The presence and frequency of symptoms of anxiety and depression was measured using the Hospital Anxiety and Depression Scale (HADS; Snaith & Zigmund, 1986). On this 14-item measure participants responded to each question by selecting one of four options to describe how much certain emotions and behaviours applied to them (Appendix 21). Seven items assess symptoms of anxiety and seven assess symptoms of depression. Two total subscale scores were therefore calculated for each participant with higher scores representing more frequent symptoms of anxiety and depression. It has been suggested that a total score on each subscale of eight or above indicates that clinically significant levels of distress may be present (Bjelland, Dahl, Haug, & Neckelmann, 2002).

The HADS is recommended as the optimal measure for assessing anxiety and depression in people with cancer as it does not overestimate psychological distress from physical symptoms often caused by chronic health conditions (Luckett et al., 2010; Vodermaier, Linden & Siu, 2009; Ziegler et al., 2011). The HADS has demonstrated acceptable internal consistency reliability (α = .71 to .97) and construct validity when used previously with people with cancer (Cai, Zhou, Yu, & Wan, 2011; Vodermairer et al., 2009). Within this study participants were not instructed to think about their experiences within the previous week, as is usually requested when completing the HADS (Snaith & Zigmund, 1986). This was to allow consistency across measures in the time period assessed which was suggested within the personal responsibility item to be the time period since being diagnosed with cancer. With this modification the HADS achieved good internal consistency reliability for both anxiety ($\alpha = .87$) and depression ($\alpha = .84$) subscales within the current sample ($N = 202$).

Data Analysis

All analyses were carried out using the statistical software programme IBM SPSS statistics 22 (IBM Corp, 2013). The data were initially explored using descriptive statistics. T-tests were used to explore differences in anxiety and depression scores between participants with and without missing data. Chi squared analyses and t-tests were used to test for differences within all categorical and interval-level independent variables, respectively, between participants completing the study online and via post. Chi squared analyses and t-tests were also used to test for differences within all categorical and interval-level independent variables, respectively, between participants reporting no responsibility and any degree of responsibility.

Pearson's *r* correlations and four between-groups Analyses of Covariance (ANCOVA) models examined the relationships between the clinical, demographic and psychological predictor variables and the dependent variables for the full participant sample (Appendix 25). However, the main analysis reported within this paper explored these relationships specifically for the subsample of participants who perceived themselves to be responsible to some degree for their cancer diagnosis and the influence of the strength of perceived responsibility was tested. Within the four ANCOVA models for this subsample of participants the categorical variables (gender, cancer site, cancer recurrence and recruitment source) were entered as between-groups factors, while the interval-level variables (age, time since diagnosis, perceived responsibility and self-compassion) were entered as covariates. An additional two ANCOVA models for this participant sample included an interaction between self-compassion and perceived responsibility to test the potential moderating effect of self-compassion on the relationship between responsibility and anxiety and depression, while controlling for the influence of demographic and clinical variables. When testing this moderation effect perceived responsibility and self-compassion were centred to avoid violating multicollinearity rules when adding the interaction between these variables.

For all ANCOVA models the standardised residuals of the dependant variables were explored using histograms and the Kolmogorov-Smirnov test to check that these residuals were normally distributed. Levene's test was also conducted for each model to check homogeneity of variances. Within correlational analyses and t-tests the raw data was judged to meet or violate assumptions of normality using histograms and the Kolmogorov-Smirnov test. When either or both of these assumptions were violated bootstrapped parameter estimates and *p* values were calculated (Efron & Tibshirani, 1993) but only reported when they altered the interpretation of the analysis. Listwise deletion was used within all between-groups analyses containing missing data. Pairwise deletion was used within correlational analyses to maximise the data available for each bivariate test.

Results

Participant Characteristics

A total of 204 participants completed the study. Of the 330 potential participants who accessed online study information a total of 134 submitted measures that were fully complete and two additional participants completed all measures but did not report when they were diagnosed (*N* = 136) (41% response rate). Of the 242 paper-based study information packs given out by healthcare professionals, 68 were returned (28% response rate). Forty-three participants provided fully completed postal measures. Information about gender, cancer site and recurrence was missing for four participants and nine participants did not report when they were diagnosed. Eleven participants provided incomplete answers on one or more SCS items and seven did not rate how responsible they felt for their cancer. Of the five participants with one or more incomplete HADS items, two were excluded from analyses involving the HADS (*n* = 66). Three participants provided no more than one missing item within each subscale and therefore, in line with the scale developers' guidance, missing responses were estimated from an average of the six complete subscale items (Snaith & Zigmund, 1986). Participants with missing data on any independent variable (*n* = 24) did not differ significantly from those with complete data (*n* = 178) on measures of anxiety and depression (*p* > .05 in both cases) (Appendix 24).

The majority of participants were women who described their ethnicity as white, Caucasian or from the United Kingdom (Table 1). Breast cancer was the most frequently reported diagnosis, closely followed by genitourinary cancers (e.g. prostate, kidney and bladder cancer) and gynaecological cancers (e.g. ovarian and cervical cancer). A small proportion of participants reported being diagnosed with lung (5%), haematological/blood (4%) and skin cancer (2%), which comprised the majority of the 'other' category. Months between primary cancer diagnosis and the end of the data collection period ranged from one month to 42 years, but with the majority of participants (81%) being diagnosed within the last five years and 54% being diagnosed within the last 2 years. Only 26% of the current sample had experienced recurrent or secondary cancer. Participants completing the study online and by post were compared on all clinical, demographic and psychological predictor variables (Appendix 24). These samples did not differ significantly on the main variables of self-compassion and ratings of responsibility when present (*p* > .05 in both cases) and were therefore analysed as a single group to achieve adequate power. The potential influence of recruitment source on the dependent variables was also controlled for within all multivariable analyses.

Table 1

Demographic, clinical and psychological characteristics of the full participant sample.

Variable	***N***	**Mean**	***SD***	**Range**	**%**
Gender	200				
Female					69.5
Male					30.5
Age (Years)	200	57.18	11.41	23.0-84.0	
Ethnicity	195				
British/English/Scottish					71.3
White/Caucasian					21.0
European					2.6
American					1.0
Asian					1.0
Other/Not Disclosed					3.1
Cancer Site	200				
Breast					24.5
Genitourinary					23.5
Gynaecological					18.0
Digestive					12.5
Other					11.5
Head, Neck & Brain					10.0
Time Since Diagnosis (Months)	193	37.67	50.26	1.0-511.0	
≤ 1 Year					29.5
1-2 Years					24.4
2-5 Years					26.9
> 5 Years					19.2
Recurrent/Secondary Cancer	200				
No					74.0
Yes					26.0
Recruitment Source	204				
Online					66.7
Post					33.3
Responsibility	197				81.7
Present					18.3
Absent					
Self-Compassion	193	3.09	0.69	1.5-4.9	
Anxiety	202	9.03	4.40	0.0-18.0	
Depression	202	5.82	3.84	0.0-19.0	

N = The total number of participants who reported this information.
SD = Standard Deviation.
% = The percentage of participants within each group.

Personal Responsibility Ratings

Eighty-two percent of the sample (*n* = 161) reported feeling some degree of personal responsibility for the cause or onset of their cancer while 18% did not feel at all responsible (*n* = 36) (Table 1). The descriptive information presented in Table 1 and discussed below with reference to the samples levels of self-compassion and anxiety and depression represents the full participant sample, both those with and without feelings of responsibly. The 161 participants reporting feelings of responsibly are subsequently analysed separately to those 36 participants without feelings of responsibly in all correlational and ANCOVA analyses and therefore descriptive information presented in table 2 refer to this group only.

Only 6% of those feeling responsible in the current study reported feeling completely responsible and this group most often included women with non-recurrent gynaecological cancers. For those who did feel responsible the full range of Likert scale responses were present with 57% reporting ratings between one and five and 43% reporting ratings between six and 10, corresponding to lower and higher perceived responsibility respectively. The mean score for those participants who felt any degree of responsibility falls at the scale's midpoint (*M* = 4.92, *SD* = 2.58) (Table 2). This is slightly higher than the average degree of responsibility experienced by participants with diabetes in previous research (DePalma et al., 2011), but lower than that rated by people with HIV/AIDS (Mak et al., 2007). However, rather than reflecting a difference between people with cancer, diabetes and HIV/AIDS these subtle differences might be due the use of different measures of perceived responsibility across these investigations and the current study.

Self-Compassion

A range of scores were obtained on the SCS representing low (21%), moderate (48%) and high (31%) levels of self-compassion. The mean self-compassion score indicates that the majority of participants experienced moderate levels of self-compassion (*M* = 3.09, *SD* = 0.69) (Table 1). The mean level of self-compassion reported in this sample was similar to that found in previous research with women with breast cancer (Przezdziecki et al., 2012), although slightly higher than that reported by Pinto-Gouveia et al.'s (2014) sample of participants who had mixed cancer diagnoses.

Anxiety and Depression Symptoms

Participants experienced moderate levels of anxiety with the mean score extending above the scale's recommended cut-off of eight for potentially clinically significant symptoms (*M* = 9.03, *SD* = 4.40) (Table 1). Thirty-nine per cent of participants scored below eight and 61% obtained scores of eight or above. Lower levels of depression were reported with the mean falling below the scales clinically significant score range (*M* = 5.82, *SD* = 3.84) (Table 1). Sixty-seven per cent of participants scored below eight and 33% obtained scores of eight or above. The mean levels of anxiety and depression reported within the current study tended to be slightly higher than those reported on the HADS in previous samples of people with cancer (Balderson & Towell, 2003; Gil, Costa, Hilker, & Benito, 2012; Hinz et al., 2010; Hulbert-Williams, Neal, Morrison, Hood, & Wilkinson, 2012; Kornblith et al., 2007; Sarenmalm, Ohlen, Jonsson, & Gaston-Johansson, 2007).

The Relationship between Self-Compassion, Perceived Responsibility and Distress

The main analysis presented here explores the relationships between self-compassion, perceived responsibility and anxiety and depression purely for the sample of participants who felt personally responsible for the onset of their cancer[4]. This was to allow for the exploration of the predicted moderation effect of self-compassion on the relationship between perceived responsibility and anxiety and depression. Participants who did feel responsible did not differ significantly from those who did not on any clinical, demographic or psychological variable ($p > .05$ in all cases), except for self-compassion which was significantly lower for those who felt responsible (t (186) = -3.90, $p < .001$) (Appendix 24).

To explore the first two study aims correlational analyses (Table 2) were completed alongside four ANCOVA models (Tables 3 & 4 and Appendix 24). A further two ANCOVA models were then completed which included an interaction effect between self-compassion and perceived responsibility (Tables 3 & 4 and Appendix 24) in order to explore the third study aim relating to the predicted moderation effect. Consistent with prediction one, higher self-compassion strongly predicted lower levels of anxiety and depression within correlational analyses (Anxiety: $r(152) = -.61$, $p < .01$; Depression: r (152) = -.52, $p < .01$) and this relationship remained significant when controlling for additional variables (Anxiety: $F(1, 135) = 64.61$, $p < .001$; Depression: $F(1, 135) = 41.56$, $p < .001$). When added simultaneously, personal responsibility and self-compassion increased the variance explained in anxiety and depression scores by 30% and 23% respectively, compared to that explained by demographic and clinical variables alone (12% and 9% respectively). Consistent with prediction two, higher ratings of personal responsibility were associated with higher anxiety and depression scores, although this relationship only reached significance for anxiety within correlational analyses ($r(158) = .26$, $p < .01$) and not when demographic and clinical variables were controlled for in multivariable analyses ($p > .05$ in both cases).

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[4] The relationships between self-compassion, perceived responsibility and anxiety and depression for the full participant sample and are presented in Appendix 25.

Table 2

Descriptive statistics and bivariate correlations between demographic, clinical and psychological variables for participants reporting feelings of personal responsibility for cancer onset.

Variable	**1**	**2**	**3**	**4**	**5**	**6**
1. Age						
2. Time	.11					
3. Responsibility	-.11	-.09				
4. Self-Compassion	.37**	-.09	-.27**			
5. Anxiety	-.23**	-.01	.26**	-.61**		
6. Depression	-.19*	.00	.11	-.52**	.66**	–
n	158	155	161	155	160	160
Mean	56.12	38.90	4.92	3.00	9.53	6.24
SD	10.94	53.01	2.58	0.67	4.18	3.80

**p < .05; **p < .01 (two-tailed)*

n = The total number of participants who reported this information within the subsample of participants who reported feelings of responsibility.

SD = Standard Deviation

Table 3

Multivariable univariate models predicting anxiety from demographic, clinical and psychological variables for participants reporting feelings of personal responsibility for cancer onset.

Variable	***n***	**B**	***df***	***F***	***p***	***R²***
Anxiety Block 1	**154**		**10**	**2.01**	**.036**	**.12**
Gender*		-.99	1	1.21	.274	
Age		-.11	1	10.90	.001	
Site		–	5	1.96	.088	
Time		.00	1	.23	.634	
Recurrence*		.07	1	.01	.934	
Recruitment Source*		-1.10	1	1.54	.217	
Anxiety Block 2	**148**		**12**	**8.32**	**<.001**	**.43**
Gender*		.07	1	.01	.926	
Age		-.01	1	.11	.738	
Site		–	5	1.76	.125	
Time		-.00	1	.26	.613	
Recurrence*		-.30	1	.19	.666	
Recruitment Source*		-.43	1	.30	.584	
Responsibility		.09	1	.57	.453	
Self-Compassion		-3.89	1	64.61	<.001	
Anxiety Block 3	**148**		**13**	**8.01**	**<.001**	**.44**
Gender*		-.02	1	.00	.985	
Age		-.01	1	.26	.614	
Site		–	5	2.05	.076	
Time		-.00	1	.28	.598	
Recurrence*		-2.4	1	.12	.728	
Recruitment Source*		-5.2	1	.46	.500	
Responsibility		.06	1	.25	.619	
Self-Compassion		-3.92	1	66.56	<.001	
Responsibility x Self-Compassion		-.31	1	2.90	.091	

Two-tailed

**Reference groups for interpretation of B: Female; No recurrence; Post*

– Between-groups variable contains more than two levels (Appendix 24).

n = The total number of participants included within each ANCOVA analysis after list wise deletion has taken place to remove participants with missing data.

B = *Unstandardized Beta Coefficient; df = Degrees of Freedom; F = F Ratio; p = Probability value; R-squared Coefficient/Coefficient of Multiple Determination.*

Table 4

Multivariable univariate models predicting depression from demographic, clinical and psychological variables for participants reporting feelings of personal responsibility for cancer onset.

Variable	*n*	B	*df*	*F*	*p*	*R*^{2}
Depression Block 1	**154**		**10**	**1.33**	**.219**	**.09**
Gender*		.22	1	.07	.792	
Age		-.06	1	5.00	.027	
Site		–	5	1.25	.290	
Time		.00	1	.17	.681	
Recurrence*		.77	1	1.03	.311	
Recruitment Source*		-.76	1	.88	.349	
Depression Block 2	**148**		**12**	**5.07**	**<.001**	**.31**
Gender*		.84	1	1.25	.266	
Age		.00	1	.03	.874	
Site		–	5	1.91	.096	
Time		-.00	1	.02	.888	
Recurrence*		.46	1	.48	.490	
Recruitment Source*		-.10	1	.02	.894	
Responsibility		-.08	1	.46	.498	
Self-Compassion		-3.02	1	41.56	<.001	
Depression Block 3	**148**		**13**	**5.02**	**<.001**	**.33**
Gender*		.75	1	1.01	.317	
Age		-.00	1	.00	.981	
Site		–	5	1.71	.137	
Time		-.00	1	.03	.872	
Recurrence*		.53	1	.62	.431	
Recruitment Source*		-.20	1	.07	.789	
Responsibility		-.11	1	.90	.345	
Self-Compassion		-3.06	1	43.22	<.001	
Responsibility x Self-Compassion[a]		-.32	1	3.37	.069	

Two-tailed
**Reference groups for interpretation of B: Female; No recurrence; Post*
– Between-groups variable contains more than two levels (Appendix 24).
[a] *Bootstrapped p value = .045*
n = The total number of participants included within each ANCOVA analysis after list wise deletion has taken place to remove participants with missing data.
B = *Unstandardized Beta Coefficient; df = Degrees of Freedom; F = F-Ratio; p = Probability value;* R^2 *= R-squared Coefficient/Coefficient of Multiple Determination.*

Contrary to prediction three, the interaction between personal responsibility and self-compassion did not reach significance in predicting anxiety or depression ($p > .05$ in both bases). Adding this interaction increased the explained variance by only 1% and 2% for anxiety and depression respectively. This suggests self-compassion may not have a strong moderating influence on the relationship between feeling responsible for cancer onset and psychological distress. However, this interaction neared significance for depression (*p* = .069) and was of borderline significance when bootstrapping was employed (*p* = .045) suggesting the need for this relationship to be explored further, perhaps with a larger participant sample.

Discussion

The first aim of the current investigation was to explore the relationship between self-compassion and emotional distress for people with a cancer diagnosis who take some degree of personal responsibility for causing their condition and who are therefore potentially at risk of experiencing the distress associated with self-blame. As predicted and consistent with past research (Forti, 2011; Pinto-Gouveia et al., 2014; Przezdziecki et al., 2012), the current investigation provides support for the association between greater self-compassion and fewer symptoms of anxiety and depression for this population. This relationship was also evidenced when controlling for several demographic, clinical and other psychological variables. Although only a handful of studies have now evidenced this relationship between psychological well-being and self-compassion for people with cancer, this provides promising support for the use of self-compassion enhancing interventions such as CFT (Gilbert, 2005; 2009; Boden, 2013) and MSC (Germer & Neff, 2013) with this population when psychological distress is evident and when feelings of responsibility for diagnosis are expressed. Enhancing self-compassion is also a component of mindfulness based cognitive therapy (MBCT; Bartley, 2011) interventions which have already established their effectiveness for this population (Piet, Wurtzen, & Zachariae, 2012). Therein lays the rationale for randomised controlled trials to explore how CFT might compare to MBCT and other recommended psychological interventions for people with cancer, such as CBT and

Meaning Centred Psychotherapy (Moorey & Greer, 2012; Breitbart & Poppito, 2014). As well as improved mood being important in itself for quality of life, emotional well-being also promotes effective self-management and social and occupational functioning when adjusting to life with cancer (Macmillan Cancer Support, 2011; NICE, 2004). Some research also associates emotional well-being with improved prognosis (Kuchler, BestmanN, & Rappat, 2007). Offering effective psychological interventions to support emotional well-being is therefore essential within a holistic approach to maintaining and enhancing the quality of life for people with cancer and other chronic physical health conditions.

The second aim of the current investigation was to explore the relationship between feelings of personal responsibility for cancer onset and emotional distress. The majority of participants within the current investigation reported feeling some degree of personal responsibility for causing their cancer. This indicates that these beliefs may be common for people with a variety of cancer diagnoses which are not always clearly associated with self-controllable lifestyle-based risk factors (e.g. smoking). Although prevalence rates for feelings of personal responsibility within people with cancer have not previously been reported, the present findings contrast with studies reporting feelings of self-blame exist for the minority of people with cancer (Bennett et al., 2005; Dirksen, 1995; Glinder & Compas, 1999; Glover, Molyneux, & Alexander, 2015; Houldin et al., 1996; Phelan et al., 2013). This contrast may be indicative of the potential subtle difference between judgements of responsibility and blame and others have also found the former to be much more common when people make judgements about others (Mantler et al., 2003). It may also represent a shift in culture in recent years towards one placing greater emphasis on personal responsibility for health promotion (Hill & Manning, 2010).

Participants who felt responsible for causing their cancer did not report significantly greater symptoms of anxiety and depression compared to those who did not feel responsible, although in line with predictions, there was a trend in this direction. There was also a non-significant trend for distress to increase with higher ratings of responsibility. This supports another study (Mak et al., 2007) which demonstrated small non-significant but positive correlations between perceived personal responsibility for HIV contraction and psychological distress, although a slightly different assessment of responsibility was used to that employed here. Within the current study degree of personal responsibility appeared more strongly related to anxiety than depression. However, the participant sample reported higher mean levels of anxiety compared to depression, with the mean anxiety scores falling within the clinically relevant score range. It would therefore be worth investigating the relationship between perceived responsibility and depression when these feelings are more prominent.

The third aim of the current investigation was to explore whether high levels of self-compassion might protect against the self-blame and emotional distress potentially associated with feeling personally responsible for cancer onset. The predicted moderation effect of self-compassion on the relationship between responsibility and distress was only tentatively supported by the current study. A close-to-significant interaction between self-compassion and perceived responsibility for depression, which became significant when performing bootstrapping to account for concerns with non-normally distributed data, suggests a need for further exploration of this potential moderation effect with a larger sample. Several factors potentially complicate this moderation effect in the current study. Participants reporting no feelings of personal responsibility were found to report significantly higher levels of self-compassion compared to those who felt some degree of responsibility and as self-compassion increased there was a significant reduction in the degree of responsibility reported. The fact that perceived responsibility reduced with increases in self-compassion may have limited the potential for high self-compassion to moderate the influence of high levels of perceived responsibility. This relationship may allude to self-compassion perhaps being better conceptualised as mediator of the relationship between responsibility and distress rather than a moderator (Aiken & West, 1991; Baron & Kenny, 1986) (Appendix 27). Previous research has described self-compassion as a mediator of the effects of mindfulness, spirituality and body image distress on well-being (Forti. 2011; Przezdziecki et al., 2012; Romero et al., 2006) and it would be worthwhile to explore whether perceived responsibility increases distress through its association with low self-compassion. Still, unlike the predicted moderation relationship, this conceptualisation would perhaps contradict previous findings that self-compassion can actually be associated with greater acknowledgment of personal responsibility in reaction to negative events (Leary, Tate, Adams, Allen & Hancock, 2007) and the idea that feeling responsible for an event can co-exist with self-acceptance and may not decisively illicit self-criticism (Mantler et al., 2003; Shaver & Drown, 1986).

A second potential confound for the predicted moderation effect relates to the measurement of perceived responsibility. There is currently no recognised reliable and valid tool that measures perceptions of personal responsibility for illness onset and it is unclear whether the measure used would have been measuring this concept alone or also experiences of self-blame given their close theoretical relationship (Mantler et al., 2003; Shaver & Drown, 1986). Self-forgiveness, a similar concept to self-compassion, has been found to reduce self-blame in people with cancer (Friedman et al., 2007) and self-compassion has been found to reduce self-blame in other populations (Gilbert, 2005; Tesh, Learman, & Pulliam, 2015). Therefore, if the scale used within the current study was measuring aspects of self-blame this may account for the negative relationship between self-compassion and responsibility. In future research it would be beneficial to measure self-blame and responsibility simultaneously to explore if they are differentially associated with distress for this population. It may be that it is self-blame, rather than perceived responsibility that has a mediational relationship with self-compassion and distress whereby it increases distress through its association with low self-compassion (Appendix 27). This was the relationship that the current investigation originally set out to investigate prior to service user consultation revealing a discomfort with asking participants directly about feelings of self-blame. Including an assessment of self-blame beliefs in future research would help to clarify how best to explain the relationships between these complex experiences. For instance, self-blame may also be another moderating influence on the relationship between perceived responsibility and distress or it may mediate this relationship so that only in the presence of self-blame does responsibility result in distress (Mantler et al., 2003) (Appendix 27). Whether self-compassion could moderate this possible mediation relationship between responsibility and self-blame and influence emotional distress via this route would be another interesting avenue for future study (Appendix 27). Still, as a first priority, qualitative exploration of self-blame and perceived personal responsibility for illness onset would be beneficial to reveal how best to conceptualise, define and measure these experiences. This clarification would allow reliable and valid measurement tools to be developed and a greater understanding of whether responsibility and self-blame can be understood as different experiences. It would also assist with developing methods for assessing self-blame, in conjunction with service users, that felt comfortable to answer and less emotionally threatening. Only following these considerations would it be sensible to further explore how these experiences might relate to one another, to emotional distress and to self-compassion using theoretical moderation/mediation modals and quantitative analyses.

Study Limitations

The generalisability of the current findings cross-culturally may be limited given the dominance of white/Caucasian participants from the UK. However, participants were from a wide range of age groups, had a variety of cancer diagnoses and due to online recruitment, included people who may not be accessing hospital based healthcare services. This does aid the generalisability of the current findings to a wide demographic of people with a cancer diagnosis but several issues question whether participants fully represented the study's target population. Although this potential confound was minimised by advertising the research within websites intended for people with cancer, there was no guarantee that the participants self-selecting to complete the study online were adults with a confirmed cancer diagnosis. Also, as study advertisements did not necessarily reach all members of the study's target population, as response rates were relatively low and as the majority of participants completed the study online, the bias associated with participant self-selection may be even more prominent (Olsen, 2008). Research volunteers are less likely to be male, be older in age, be form a minority ethnicity and have low educational attainment and socioeconomic status (Patel, Doku, & Tennakoon, 2003) and these groups of people may be underrepresented to an even greater extent in online research (Nosek, Banaji, & Greenwald, 2002). In addition, people volunteering to participate in psychology research are more likely to have been effected by the issues raised by the research (Donkin et al., 2012; Eysenbach & Wyatt, 2002). This questions whether the levels of self-compassion, perceived responsibility and anxiety and depression reported within this study accurately reflect the degree to which these experiences are typically felt by people with a cancer diagnosis.

Another limitation is that only a limited experience of emotional distress was explored within the current study by assessing symptoms of anxiety and depression.

Future research into the influence of self-compassion and perceived responsibility on well-being following a cancer diagnosis may wish to explore other psychological, social and behavioural indicators of adjustment and quality of life such as family functioning and self-efficacy for self-management of health. In addition, only self-report measures of psychological variables were used which can be prone to social desirability bias (Barker, Pistrang, & Elliott, 2007), particularly as participants were given full information about the aims of the study in advance of their participation. It would be useful to determine if the strong relationship between self-compassion and distress persists when alternative measures are used, such as reports from family members or healthcare professionals of the observable indicators of participant distress.

A third potential limitation is that anxiety and depression were measured using a modified version of the HADS that did not include instruction regarding the time period in which to consider symptom presence. This may have undermined the reliability and validity of the HADS and so the use of score cut-offs to describe levels of anxiety and depression within the current sample may be inappropriate. However, the internal consistency of this scale for the current participant sample was adequate even with this modification, suggesting that this scale remained a reliable assessment of anxiety and depression. Finally, the original power analysis was carried out with the prediction that seven independent variables would be analysed with respect to their influence on anxiety and depression. Following data collection it was deemed appropriate to include an eighth variable to account for the potential influence of recruitment source and therefore the current study may not have had adequate power to reliably detect significant findings. However, this risk was minimised by the size of the obtained participant sample which substantially exceeded that required to gain adequate power when analysing seven independent variables, even when the subsample of participants with feelings of responsibly were analysed separately.

Conclusion

The current investigation provides convincing support for the positive relationship between self-compassion and psychological well-being for a small population of mainly UK based adults with mixed cancer diagnoses. This study furthers previous research by evidencing this relationship specifically for people who feel personally responsible for the onset of their cancer and who may therefore be more vulnerable to experiencing psychological distress than those who don’t hold these beliefs. Interventions aimed at increasing self-compassion such as CFT and MSC should receive attention in future research exploring the effectiveness of psychological interventions for people experiencing emotional distress following a cancer diagnosis. This study was also the first to investigate how self-compassion might be having its beneficial influence when feelings of personal responsibility are present and potentially increase vulnerability to emotional distress. Tentative support was provided for the moderating role of self-compassion, although further research is needed to determine whether this is the most appropriate way to conceptualise the influence of self-compassion on the relationship between responsibility and distress. Finally, the current study is also one of the very few that have explored the relationship between feelings of personal responsibility for illness onset and emotional distress and the first to directly measure this experience with people with cancer. Trend findings suggest that feeling responsible for the onset of cancer increases symptoms of anxiety and depression, although more consideration is needed about how best to conceptualise and measure this experience. Research should continue to explore the complex interplay between factors that might promote and hinder psychological well-being, wider adjustment and quality of life following the diagnosis of cancer, enabling professionals to have a better understanding of how they can effectively support this population of people.

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PART THREE

Appendices

Appendix 1.	Reflective Statement
Appendix 2.	Epistemological Statement
Appendix 3.	Author Guidelines for Clinical Psychology Review
Appendix 4.	Full Inclusion and Exclusion Criteria
Appendix 5.	Data Extraction Form
Appendix 6.	Quality Checklist
Appendix 7.	Quality Assessment Ratings
Appendix 8.	Self-Blame Attribution Model
Appendix 9.	Author Guidelines for Health Psychology
Appendix 10.	NHS Ethical Approval
Appendix 11.	Research Governance Approval for Humber NHS Foundation Trust
Appendix 12.	Research Governance Approval for Hull & East Yorkshire Hospitals NHS Foundation Trust
Appendix 13.	Research Governance Approval for York Teaching Hospital NHS Foundation Trust
Appendix 14.	Evidence of Permission to Advertise Research Online
Appendix 15.	Study Advertisement
Appendix 16.	Cover Letter
Appendix 17.	Participant Information Sheet
Appendix 18.	Demographic Questionnaire
Appendix 19.	Perceived Personal Responsibility Rating Scale
Appendix 20.	Self-Compassion Scale (SCS)

Appendix 1. Reflective Statement

Forming the Research Idea

"It's not the perfect but the imperfect that is most in need of our love"

(Oscar Wilde, 2001[1893])

For me, this quote symbolises what it is to show ourselves and others real compassion. When I began planning this research I was driven to explore the benefits that self-compassion may have for others in the same way that it has had for myself. Having always been the kind of person who found it easier to criticise and judge my efforts and abilities, and feel guilt rather than pride, the relief that came when I learnt that, instead, I could actually be kind to myself, was enormous. It is with no exaggeration that I say this, but learning how to be self-compassionate has dramatically changed who I am and how I live. With this personal revelation, exploring self-compassion seemed a good route to go down with my research, one which would maintain my enthusiasm throughout the three years. I felt excited by the prospect of supporting the benefits of psychological interventions that promoted this way of relating to oneself, such as CFT, and still feel this was a very worthwhile use of my participants' and my own time.

So why look at self-compassion in people with a cancer diagnosis? From my work prior to clinical training I was passionate about supporting people with the psychological impacts of physical health conditions and found it very important but under-resourced work. It is perhaps only through reflecting on this research and my clinical work during training that I have had the resilience to acknowledge some deeper meaning in my empathy for people with chronic physical health conditions and my desire to support them as a psychologist. My interest in exploring how families cope emotionally with long-term ill health stems from my own family’s experiences. Several years before starting clinical training my dad was diagnosed with Crohns disease and for many years since has been in and out of hospital, in and out of work and having an incredibly tough time. A short while prior to that my younger sister coped with two years of chronic fatigue and more recently my mum has been dealing with the difficult symptoms of Fibromyalgia. There is my reason. I have been a part of the daily struggles that a family have to cope with when physical health declines. I have witnessed the emotional torment that follows and how much more difficult living with ill health can be when criticism for being unwell comes from oneself and from others. This is where the motivation to investigate self-blame came in and the benefits that self-compassion might have for people who feel somehow responsible for causing their own illness. Being unwell is hard enough without beating yourself up about it! Although I attempted to explore the issues of self-blame for people with all chronic physical conditions within my SLR, I choosing to focus specifically on people with cancer for my empirical study mainly because of my supervisor’s experience of and enthusiasm for working clinically with this population. Although this was a practical driver, I also feel that going too close to home with this research may have been a touch too emotionally demanding for the stage of training I was at when I began the study.

I found it quite interesting that up until perhaps six months ago I was genuinely happily oblivious to the deeper personal meanings within my chosen area of research. Perhaps I had neglected to reflect in enough depth or perhaps it was just not the right time to explore my own experiences. Because with exploring them came the awareness of my own guilt in not having been there enough for my family during their difficult time and my own work trying to be understanding of my imperfections when it came to supporting the people that mean the most to me. It has made me think about my clinical work and how there is often a time when people feel ready to touch painful memories and a time when this is too soon, even for conscious awareness.

Reflections on Clinical Implications

As I hoped, carrying out this project has definitely stimulated many thoughts about clinical practice, aside from the considering the clinical applications of the research directly. I choose to carry out quantitative research with the primary reason being my comfort with quantitative methods which were heavily taught during my undergraduate psychology degree at York University. Qualitative research fell right outside my comfort zone and in the spirit of being compassionate to myself I choose the option that I anticipated would give me fewer headaches over the next three years. However, this process has taught me a lot of new things about statistics and quantitative research using questionnaire assessments which I have, at times, struggled to align with what is clinically relevant and useful. A sense of disappointment arose during my data analysis when I sat back and thought about what all my numbers and statistical analyses can actually mean for real people and how they are experiencing life. How useful can they be for clinical psychologists? How clinically useful is my research after all this work? What does a clinically significant correlation actually mean for the person with cancer who is experiencing distress? On one hand I feel that these mathematical calculations don’t give us much that is useful for direct clinical work, for sitting in a room with someone and hearing their distress and perhaps this is not their intended purpose anyway. On the other hand, quantitative findings have historically provided the foundations for NHS and NICE commissioning decisions. So the numbers do definitely have their benefits while our healthcare system values them.

Still, from time to time I have regretted not doing qualitative research which seems to have much more face value for understanding the people we meet in clinical practice. Purely working with quantitative methods within this project has left me with lots of unanswered questions, although whether I would have been able to explore these questions any more clearly with qualitative methods I'm not sure. I have felt uncomfortable reducing the complexity of human experience down into a set of questionnaires. This feeling was particularly strong when I received a letter from a participant who wished to express what he had been through as part of having cancer – he felt his experience could not be reflected adequately within the questionnaires he answered and I agreed with him. At this point in time, during the start of my data collection period, I felt almost insincere – I felt passionately about the worth of my research but I also felt that I knew nothing about the experience of cancer and what people go through. Using quantitative questionnaires felt quite removed from the reality of cancer and I got incredibly concerned about the reliability and validity of my questionnaires when planning the study, because without this my findings would somehow not be as trusted? But is it the face validity of these assessments that matters most for clinical practice? Starting placement in an oncology service really helped me to gain this insight and reinforced that what I was researching was really experienced by people following their diagnosis. I also started to become okay with the fact that I don't know all the ins and outs of cancer but what I do feel I have is valuable knowledge about emotional experience.

My research threw up a lot more conceptual dilemmas than I had anticipated, especially when trying to understand the theoretical differences and similarities between self-blame, self-criticism, perceived responsibility, perceived control, self- forgiveness and self-compassion! Do these concepts have different meanings for people? Do they encompass a different set of internal experiences? In all likelihood, although we try to have our definitions, these concepts do mean different things for different people, which makes me wonder how cross-culturally relevant research like this can be when even for

English speakers, the terms I have used are likely to stimulate different feelings for different people. Throughout my reading I have been trying to speculate about what set of thoughts and feelings may lead to the formation of another set of thoughts and feelings (e.g. do feelings of control and responsibility have to precede self-blame and is self-blame a qualitatively different experience to that of perceived responsibility?). How can we formulate within research how this kind cognitive experience enacts itself generally for all people? Especially when these concepts and their meanings are so tied up in language and words which hit different nerves for different people. I did find it incredibly difficult to both think and write about these ideas in a logical way. Trying to objectify and measure with questionnaires and questionnaire scores what is essentially a subjective experience…is this sensible? What are we learning? We use screening tools in clinical work but don't take them on face value, we add context to the ticked boxes…I didn't have this privilege with how I had designed my research. Perhaps we get too tied up in explaining 'how' and 'why' within research exploring cognitive experiences when this might not be clinically useful for the individuals we sit in a room with?

When I was gathering feedback from service users at York Hospital Oncology department during the design of my 'personal responsibility' questionnaire, these issues were really apparent. Some people liked referring to the experience I wanted to measure as self-blame, some felt it was too 'negative' and uncomfortable to read, which is ultimately why the question ended up using the words 'personally responsible' rather than 'to blame'. Perhaps this demonstrated that these experiences are different, but then would they be different if we didn't have different words for them? It's interesting to think about just how many emotions are conjured up in each one of us every day that are just triggered by language alone. Asking people directly how they have come to experience certain thoughts, such as self-blame, and how they would describe their emotional experience connected to these thoughts is perhaps where the value of qualitative research lies. Speculating about how one inner experience might protect against negative emotion hypothetically elicited by another inner experience via a ‘moderation effect’ tested using maths? I’m not sure if this really works for me. And do we just get the ‘right’ answers by asking the ‘right’ questions? Both in quantitative and qualitative research? I do hope to carry out research in the future but I now have even more of a desire to make it clinically worthwhile and have direct benefit for the population of people who participate. Service based research entices me, where outcomes have relevance for the people accessing that service and these outcomes can be put into action. Saying that, I bet it’s not all that easy to make it count and I have realise how much skill it must take to bridge the gap between research and clinical practice when the ‘numbers’ in quantitative research are so far removed from human experience.

I have often been in conflict throughout this process. This research has felt really important but sometimes not as important as clinical work and I have resented my research when I felt it has undermined my clinical competence through zapping all my energy. Trying not to lose sight of the clinical benefits of doing research of this kind has helped me to continue working hard even when parts felt purely like an academic exercise. This has also given me the motivation to try and make this research as clinically useful as it can be by disseminating it well and emphasising its clinical application when disseminating.

Service User and Staff Input

Having input from service users in the planning stages of the study really helped bring the importance of research into focus. It was clear that the issues I wanted to look into were real for people and everyone’s enthusiasm for the project was so encouraging.

They supported me to think about how it would feel for my participants to read and answer questions about feeling to blame for their cancer. On one hand it was praised for allowing people to talk about a feeling that was certainly felt by many. On the other hand it was important to discuss how to phrase this question so as not to endorse that the ‘scientific community’ (all of a sudden that was me!) feels people should be to blame for their health conditions – this was absolutely not the message I wanted to portray – entirely the opposite. I hoped to highlight how feeling to blame could be unhelpful for how people adjust to life with ill health and at times I have felt quite angry with the media for criticising peoples’ lifestyle choices with respect to their health. In contrast, I still hold the other view that accepting responsibility or blame for your actions may not be an entirely a bad thing and I agree that we do have a responsibility to look after our own health. Perhaps that’s the loyalty I feel to the NHS talking? Or the Western cultural discourse around health?

I have reflected a lot on how I dealt with discouragement form others about my research idea when it was at its planning and recruitment stages. I had people tell me it was too negative and that service users would not want to take part. That it was too distressing for vulnerable people to be involved with. I fort my corner with several hospital staff to suggest that we should be letting service users make this choice for themselves – who are we to decide that people are too vulnerable to be exposed to this kind of research? Early on I did worry somewhat about whether my research was ‘too negative’ – was it hopeful enough? It was the fear that lead me to agree with service users about not using the word ‘blame’ within my questionnaires, even though it has been asked by other researchers and I feel it should be further explored. Is it okay to ask people about possibly upsetting experiences within research? As I have gone through training I have reconciled this uncertainty in my mind. Not all human experience is pleasant. We see distress on a daily basis. I experience ‘negative’ emotions very often.

What is the fear about going near these experiences? – why is ‘positive psychology’ respected more than when we want to ask about ‘sensitive’ issues? Not everything is positive and it can be extremely invalidating to investigate only this in our research. If psychologists can’t address the ‘negative’ who will? The feeling other staff and I had about these issues being ‘unspeakable’ – is this how people with these experiences actually feel as well, like they are feeling the unspeakable? – do we need to make these things ‘speakable? I think we definitely have a huge role in this. I know other trainees have come up against similar issues when trying to gain ethical approval and it is easy to get drawn into the mind set of others that we shouldn’t be exposing people to potentially uncomfortable questions. I suppose this is understandable given we are all in this profession because want to help people feel better, not worse. Fighting this seemingly natural human instinct to protect and avoid uncomfortable questions – being comfortable with the uncomfortable! – has been a large part of clinical training for me. Even in my research I feel this desire to get rid of distress and promote positivity comes across quite strongly – I talk a lot about distress being the opposite of psychological well-being. Why? Does it have to be? I am very fond of mindfulness and Acceptance and Commitment Therapy ideas which promote that we ‘feel our feelings’ no matter what they are, and we do not need to judge them as positive or negative, desired and undesired. Do we either accept all our emotional experiences or do we try and get rid of some and make more room for others that give us a greater sense of well-being? Can we do both depending on the mood we are that day? My stance on this is still being formed but I suppose it comes down to what is most helpful for one person can be different from what is helpful for another and what is helpful might change week by week even within individuals. I think the culture regarding how we think about distress is shifting rapidly – edging away from it being the undesirable / the negative / the stigmatised / the unspeakable. Hopefully this will be reflected within what is valued within research into mental health, and looking back at my write up I feel I could have done a better job of promoting this perspective.

‘Getting it Right’ and Bias in Research

When I was writing my research proposals and submitting to ethics I was quite hung up on ‘getting things right’ and there being a ‘right and wrong’ way to design research and cope with ethical issues. This feeling re-emerged when it came to conducting my SLR and I felt was going round and round in circles trying to achieve this ‘perfect’ way of doing things. This process has now taught me that there are no ‘correct’ ways to do things with research of this kind and, whatever decisions are made, they just need to be considered and thought through carefully, just like with designing clinical interventions with clients. Research and clinical work is not perfect and this is a good thing. It’s the creatively and the process of finding faults and better ways of doing things that stimulates new ideas and progresses our understandings.

This brings my thoughts to how research can be incredibly biased, no matter how much we genuinely attempt to avoid this to ensure our research is of good quality, there is no objectively ‘right’ way to carry out research that removes all possible bias. Obviously, my stance on wanting to make self-blame out to be ‘the bad guy’ was driven by my own family experiences. How much of the research I reviewed within my SLR also held this opinion and interpreted their results holding this expectation? Also, as part of so many training courses research is a requirement and therefore people create new ideas to research because it is necessary for their career progression. Are these research questions the ones that are the most valuable to ask? Or are they the most practical given what the research is intended for? Does anyone ever carry out research just solely for the benefit of the research itself?

The Emotional Ride

I wanted to write something about my personal emotional ups and downs associated with this research and writing this thesis. About the insecurities and uncertainties I had and the hope I held onto all the way through that, come the end, I would know so much about the topic area I was researching! Now, come the end of write up, I have realised that I have only just scratched the surface with this topic and that’s okay, and almost exciting in a way to be left with lots more questions. And actually I am able to say now that I could not have expected more from myself given the practicalities of time limits and other responsibilities in my life. Although I am not poetically gifted, this seems to sum up better than sentences the highs and lows of this research process throughout the last 3 years.

Thesis

Rush rush rush, where is all the knowledge?
Excitement, pride, energy in buckets
What will come of this work?
Aiming for the stars!
Rush rush, where is all the knowledge?
It’s making progress
It’s on its way
But still so many questions!
Rush rush rush, where is all the knowledge?
Elation, we got there!
People were interested!
It’s worth all the effort!
Rush rush rush, where is all the knowledge?

Tired now
Final hurdle, enthusiasm gone
I hope it’s going to be useful to someone, somewhere
Rush rush rush, where is all the knowledge?
It’s still being formed...and that’s the whole point.

There have definitely been times when I have loved doing this research and it has given me a real buzz. One such time was when I started to receive completed questionnaires from participants and emails expressing how valuable participants felt the research was and how interested they would be to hear about the outcomes. Another was when I presented the study at the International Conference on Compassion Focused Therapy in November last year and I found it really fulfilling to speak with others who had similar research and clinical interests and excited by where future research and clinical advances in this area might take our practice as psychologists.

Still, not surprisingly, there have also been times when I have felt exhausted by this process. It has been interesting to notice how, towards the end of this project, I have struggled to remain compassionate to myself. Although I talk about self-compassion influencing well-being in my empirical paper, it is likely that well-being also comes first in allowing self-compassion to come more easily – the process being reciprocal. The pressure I have put on myself is understandable, although has not always been that helpful! This has felt like the last leg of a journey that has been so important to me for so many years. A process that I just need to somehow find the energy to complete. To find the energy to carry on coping…does this parallel how people feel who have chronic health conditions? However, to feel so exhausted and challenged has in some way had its benefits…this is my search for a positive meaning. It has really taught me a lot about how I can build my own resilience and has demonstrated how my mind and body can only take so much pressure and pace before burn-out sets in. I now have a far greater awareness of my own limits, emotionally and practically, which will no doubt be helpful for my future clinical role and in my life in general. Through the support of this training I have also been able to understand my own anxieties and difficult internal experiences and appreciate more than ever how anyone can so easily spiral into a bad place when circumstances feel unmanageable and just how difficult it can be to step back from this place and regain perspective. The main aim of my research was to support ways to help others build resilience but perhaps it is my own resilience that has been built the most.

And now to finish how I started, with a quote…

> *"People miss so much because they want money and comfort and pride, a house and a job to pay for the house. And they have to get a car. You can't see anything from a car. It's moving too fast. People take vacations. That's their reward* – the vacation. *Why not the life?"*
>
> (Jack Gilbert, The Art of Poetry No.91, 2005)

This is what the last three years has stimulated me to realise. I will always be grateful for the rich and wonderful life experience clinical training has given me and I am looking forward to the rest my career in such a thought provoking and rewarding profession.

Appendix 2. Epistemological Statement

Broadly, epistemology is an area of philosophy that studies knowledge. This area of study and reflection concerns itself with questions such as ‘What is knowledge?’; ‘How can we come to have knowledge?’; ‘What are the limits of this knowledge and how it relates to what is true?’; ‘Can we consider knowledge to be truth?’ ‘What is necessary to make knowledge viable and useful even if its absolute truth cannot be determined?’; ‘what is the relationship between the knower and what is known?’ (Tuli, 2010). A variety of views that can be held about knowledge and in answers to the above questions. An epistemological stance refers to the set of assumptions held about knowledge (Tuli, 2010).

Research is concerned with the acquisition of knowledge in a variety of forms. The types of questions asked by research, the way that research is carried out and how its results are discussed are influenced by the researcher’s epistemological stance. The current research project set out to answer several questions stimulated by reading past literature and to do so it aimed to obtain evidence to support these answers. Having this aim demonstrates a belief in Evidentialism, where by one can make an idea or belief more viable and useful and closer to being deemed true knowledge and accepted as ‘correct’ if evidence can be found to back it up (Shah, 2006).

The type of questions asked by the current research study lent themselves to be being investigated most appropriately within a quantitative methodological framework for several reasons. Firstly the research aimed to verify the existence of a relationship between aspects of human experience that was already predicted to be present. The research wanted to determine the strength of relationships between aspects of human experience, mainly self-compassion, perceived responsibility for illness and emotional distress. Finally the research also wished to uncover an explanation for how these experiences might interact and affect people's lives as a general rule across time and situations and across individual differences so, for instance, to advocate for the use of self-compassion enhancing psychological interventions for the wider population of people with a cancer diagnosis outside of those included within the study.

It is only reasonable to ask these kinds of questions and seek prior predicted explanations of human phenomenon and explore them using quantitative methods if the positivist philosophical stance to knowledge, research and human experience is taken (Tuli, 2010), as was the case within the current research study. The positivist position maintains that there exists an objective truth generalizable across people and situations and that there are rules which effect universally influence human experience. It also states that these rules and truths can be measured or observed independent from the researcher and evidenced to exist in ways that reliably reflect reality. The more objective and precise that these measurements are the closer we can get to obtaining evidence which is reflective of the objective generalizable 'truth'. With this assumption it was important within the current study to use measures deemed reliable and valid to obtain answers to the research questions that were deemed trustworthy. The positivist assumption also allows results to be interpreted using objective statistical procedures that do not require any subjective interpretation form the researcher.

It is important to have an awareness of the assumptions that are made throughout the process of designing, conducting and interpreting research so that we can be aware of the influences on the 'knowledge' it creates and so we can reflect on whether it can be interpreted as reasonable and acceptable knowledge that can reflect some aspect of reality and can be useful in our clinical practice. Trusting that it can has to come with an appreciation of all the assumptions that allow this trust to be possible. A difficulty with applying the positivist stance to research design and the interpretation of resulting knowledge is that trying to measure human experience in a rigid, precise and objective fashion may limit our understanding of the complexity of these experiences and the uniqueness of these experiences for different individuals. On the other hand, this structured approach does allow research to be replicated practically with large numbers of participants and patterns within findings to be supported or refuted over time and across several populations, which contributes to how generalizable knowledge might be and how much trust we would therefore have in applying it to clinical practice.

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  Immediately after the abstract, provide a maximum of 6 keywords, using American spelling and avoiding general and plural terms and multiple concepts (avoid, for example, 'and', 'of'). Be sparing with abbreviations: only abbreviations firmly established in the field may be eligible. These keywords will be used for indexing purposes.

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  Define abbreviations that are not standard in this field in a footnote to be placed on the first page of the article. Such abbreviations that are unavoidable in the abstract must be defined at their first mention there, as well as in the footnote. Ensure consistency of abbreviations throughout the article.

- **Acknowledgements**

  Collate acknowledgements in a separate section at the end of the article before the references and do not, therefore, include them on the title page, as a footnote to the title or otherwise. List here those individuals who provided help during the research (e.g., providing language help, writing assistance or proof reading the article, etc.).

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- ***References***
- Citations in the text should follow the referencing style used by the American Psychological Association. You are referred to the Publication Manual of the American Psychological Association, Sixth Edition, ISBN 1-4338-0559-6, copies of which may be ordered from http://books.apa.org/books.cfm?id=4200067 or APA Order Dept., P.O.B. 2710, Hyattsville, MD 20784, USA or APA, 3 Henrietta Street, London, WC3E 8LU, UK. Details concerning this referencing style can also be found at http://humanities.byu.edu/linguistics/Henrichsen/APA/APA01.html

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- ***Web references***

  As a minimum, the full URL should be given and the date when the reference was last accessed. Any further information, if known (DOI, author names, dates, reference to a source publication, etc.), should also be given. Web references can be listed separately (e.g., after the reference list) under a different heading if desired, or can be included in the reference list.

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- **Reference style**

- References should be arranged first alphabetically and then further sorted chronologically if necessary. More than one reference from the same author(s) in the same year must be identified by the letters "a", "b", "c", etc., placed after the year of publication. **References**

should be formatted with a hanging indent (i.e., the first line of each reference is flush left while the subsequent lines are indented).

- *Examples:* Reference to a journal publication: Van der Geer, J., Hanraads, J. A. J., & Lupton R. A. (2000). The art of writing a scientific article. *Journal of Scientific Communications,* 163, 51-59.
- Reference to a book: Strunk, W., Jr., &White, E. B. (1979). *The elements of style.* (3rd ed.). New York: Macmillan, (Chapter 4).
- Reference to a chapter in an edited book: Mettam, G. R., & Adams, L. B. (1994). How to prepare an electronic version of your article. In B.S. Jones, & R. Z. Smith (Eds.), *Introduction to the electronic age* (pp. 281-304). New York: E-Publishing Inc.
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One author has been designated as the corresponding author with contact details:

- E-mail address
- Full postal address

All necessary files have been uploaded, and contain:

- Keywords
- All figure captions
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- All references mentioned in the Reference list are cited in the text, and vice versa
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Printed version of figures (if applicable) in color or black-and-white

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Appendix 4. Full Inclusion and Exclusion Criteria

Table 1

Full inclusion and exclusion criteria applied to obtain the reviewed articles.

Inclusion Criteria A

1. The article explored causal attributions from the perspective of individuals with a diagnosis of any chronic physical health condition that:
   a) involves mainly physical rather than cognitive symptoms (e.g. Dementia);
   b) is considered incurable and potentially requires life-long medical/physiological management or intervention;
   c) is not caused exclusively by genetic abnormalities or injury from a discrete accident (e.g. Cystic Fibrosis, traumatic brain injury or acquired physical disability);
2. The study involved participants over the age of 18.
3. The study used quantitative methodology to allow for specificity in the measurement of self-blame and to examine the direction and strength of the relationship between self-blame and indicators of emotional/psychological distress.
4. The article was written in English.

Exclusion Criteria A

1. Literature was excluded if it fell into any of the following source categories: a research article which was not peer reviewed; a review article, unpublished research, a dissertation/thesis, a discussion article or book chapter not describing a piece of research, a case study, conference proceedings, a book review or a news article.

Inclusion Criteria B

1. The study explored feelings of self-blame related explicitly to the cause of the participants’ own illness rather than a) other aspects of their illness experience or b) the cause of illness in general;
2. The study explored self-blame feelings directly rather than through measures of specific causal attributions, perceived control or responsibility over illness onset or guilt and shame experiences or through measures assessing self-blame within a measure of a broader experience (e.g. self-criticism or coping strategies) from which the impact of specific self-blame related items was not explored.
3. The study provided evidence for the influence of self-blame on at least one indicator of emotional or psychological distress.

Appendix 5. Data Extraction Form

Author(s) and year of publication	
Country where study conducted	
Journal	
Main aims	
Main hypotheses	
Methods of recruitment	
Participant selection procedure / inclusion and/or exclusion criteria applied	
Location of recruitment	
Time period of recruitment/study completion	
Number of participants approached	
Number of participants eligible	
Number of participants who completed study	
Drop-out and explanation	
Participant characteristics	
- N	
- Age	

- Gender	
- Ethnicity	
- Diagnosis	
- Clinical information	
- Other	
Design	
Main procedure	
Self-blame measure	
Reliability/validity of self-blame measure?	
Additional variables measured	
- Measurement tools and data obtained	
- Reliability/validity of measures/modifications	
Main analysis methods	
Findings involving impacts of self-blame	
- Descriptive analysis	
- Statistical analysis	

- Variables controlled for?	
Findings involving the self-blame and distress relationship	
- Descriptive analysis	
- Statistical analysis	
- Variables controlled for?	
Main conclusions	
Limitations reported	
Additional limitations identified	
Implications of findings related to self-blame and distress	
Quality rating	

Appendix 6. Quality Checklist

Author (Date):		**Yes (1) No (0)**
Introduction		
Background/Rational	Was the scientific background and rational for the investigation reported?	
Aims	Were the specific aims/objectives/ hypotheses reported?	
Method		
Design	Was the study design reported?	
Participants	Were any inclusion/exclusion criteria used in participant recruitment reported?	
Sampling	(a) Were the methods used to recruit and select participants clearly reported?	(a)
	(b) Were the participants asked to participate representative of the entire population from which they were recruited? (e.g. unselected sample of consecutive participants or a random sample). *If unable to determine mark as '0'.*	(b)
Setting	(a) Was the location of participant recruitment clearly reported (e.g. country, area & setting)?	(a)
	(b) Was the time period of participant recruitment/data collection clearly reported?	(b)
Variables	(a) Were all the variables used in analyses with self-blame clearly described? (Including outcomes, predictors and potential effect modifiers/confounders).	(a)
	(b) Were the theoretical reasons for measuring each variable used in analyses with self-blame clearly reported? (e.g. based on past research or gaps in literature) *(in introduction or method sections).*	(b)
	(c) Was there a clear description given of how all variables used in analyses with self-blame were measured? (e.g. the tool or method used).	(c)
	(d) Was there a clear description given of how self-blame was measured within the article?	(d)
	(e) Were the main outcome variables used in analyses with self-blame reported to be measured using reliable and valid tools? If reliability/validity compromised (e.g. by modification/using unstandardized scoring methods) but provide data on acceptable reliability/validity despite this then still score as '1'.	(e)
	(f) Was any reliability/validity data provided for the self-blame measure within the article?	(f)
Data Handling	Was there a description given of the data obtained from outcome measures for self-blame and all variables used in analyses with self-blame? (e.g. The nature of the raw data and its interpretation and if raw data was manipulated/grouped prior to statistical analysis?)	
Sample Size	(a) Was a reason for the study's sample size reported or was the use of a sample size calculation reported?	(a)
	(b) If a sample size calculation was reported was the final sample size adequate to ensure the study has sufficient power (0.8) to detect a clinically significant effect when the probability value for a different being due to chance is less than 5%? *Score as '0' if '0' given in the above item.*	(b)
Analysis/Statistical Methods	Were all employed statistical methods used in analyses involving self-blame clearly described within the method section?	
Missing Data (in method or results sections)	Was a description given of any missing data / participant drop-out? (e.g. amount of missing data, explanation and characteristics of participants with/without missing data). *If clear that there was no missing data to be addressed mark as '1'.*	
Procedure	Was the procedure clearly reported? (e.g. enough to be	

	replicable).	
Results		
Participants	Were the numbers of participants at each stage of the study clearly reported (e.g. those initially approached, confirmed eligible/consented and who completed the study and were involved in each analysis).	
Descriptive Data	(a) Were the characteristics of participants clearly reported? (e.g. demographic and clinical information) *(in method or results sections).*	(a)
	(b) Were descriptive statistics used to summarise data obtained for self-blame and all variables used in analyses with self-blame?	(b)
Main Findings	(a) Are the main findings related to self-blame clearly described in the body of the text?	(a)
	(b) Were the statistical tests used to assess the main outcomes appropriate?	(b)
	(c) Does the study provide estimates of the random variability in the data for the main outcome variables used in analyses with self-blame (e.g. standard deviation / inter-quartile range / standard error / confidence intervals)?	(c)
	(d) Is there evidence that sources of bias within the data were considered and taken account of where necessary? (e.g. lack of normally distributed data, multicollinearity violations and use of appropriate statistical methods to compensate).	(d)
	(e) Were potential confounding factors in the relationship between self-blame and outcomes identified and controlled for in any analyses?	(e)
	(f) Have the actual probability values been reported for any analyses carried out involving self-blame except where the probability value is less than 0.05?	(f)
	(g) Were the actual values resulting from statistical tests involving relationships between self-blame and other variables reported both when significant and non-significant? (e.g. Pearsons correlations).	(g)
Discussion		
Key Findings	(a) Were the key findings summarised?	(a)
	(b) Were the key findings summarised with reference to the study's objectives/hypotheses?	(b)
Limitations	(a) Were any limitations described?	(a)
	(b) Were any suggestions offered about how the limitations may have impacted upon the interpretation of the study's findings?	(b)
Interpretation	Were the results interpreted in the context of other relevant evidence? (e.g. from similar studies / theory).	
Generalisability	Was the generalisability of findings discussed?	
Other Information		
Ethical Approval	States that ethical approval for the study was obtained from a research ethics committee?	
Funding	Mentions source of funding?	
TOTAL SCORE: **(Sum all ratings)**		**/ 38**

Appendix 7. Quality Assessment Ratings

Table 2

Quality assessment ratings for all reviewed studies.

Checklist Question (Yes = 1; No = 0) *When two values present = researcher rating / independent rater*		**Moulton et al. (1987)**	**Malcarne et al. (1995)**	**Dirksen (1995)**	**Houldin et al. (1996)**	**Glinder & Compas (1999)**	**Bennett et al. (2005)**	**Mak et al. (2007)**	**Hill et al. (2011)**	**Milbury et al. (2012)**	**Bennett et al. (2013)**	**Phelan et al. (2013)**	**Total Present** *(Researcher rating)*
Introduction	Background	1	1	1	1	1/1	1	1/1	1/1	1	1	1/1	11
	Aims	1	1	1	1	1/1	1	1/1	1/1	1	1	1/1	11
Method	Design	0	0	0	0	1/1	0	1/1	1/1	1	0	0/0	4
	Participants	1	0	0	1	1/1	1	1/0	1/1	1	0	1/1	8
	Sampling (a)	1	1	1	1	1/1	1	1/1	1/1	1	1	1/1	11
	Sampling (b)	1	0	0	0	0/0	0	1/1	1/1	0	1	1/1	5
	Setting (a)	1	1	1	0	1/1	1	1/1	0/0	0	0	1/1	7
	Setting (b)	1	0	0	0	0/0	0	1/1	0/0	0	0	0/0	2
	Variables (a)	1	1	1	1	1/1	1	1/1	1/1	1	1	1/1	11
	Variables (b)	1	1	1	1	1/1	1	1/1	1/1	1	1	0/0	10
	Variables (c)	1	1	1	1	1/1	1	1/1	1/1	1	1	1/1	11
	Variables (d)	1	1	1	1	1/1	1	1/1	0/0	1	1	1/1	10
	Variables (e)	0	1	1	1	1/1	0	1/1	0/0	0	0	1/1	6
	Variables (f)	0	0	0	1	1/1	0	0/0	0/0	0	0	0/0	2
	Data Handling	0	0	1	0	0/1	1	1/1	1/1	1	1	1/1	7
	Sample Size (a)	0	0	0	0	0/0	1	0/0	0/0	0	1	0/0	2

	Sample Size (b)	0	0	0	0	0/0	1	0/0	0/0	0	1	0/0	2
	Analysis Methods	0	0	0	0	0/0	0	1/1	0/1	1	0	1/1	3
	Missing Data	0	1	0	0	1/1	1	1/1	1/0	1	0	1/1	7
	Procedure	1	1	1	1	1/1	1	1/1	1/1	1	1	1/1	11
Results	Participants	1	1	0	1	0/0	0	1/1	1/1	1	0	1/1	7
	Descriptive (a)	1	1	1	1	1/1	1	1/1	1/0	1	1	1/1	11
	Descriptive (b)	0	1	0	1	1/1	1	1/1	1/1	1	1	1/1	9
	Main Findings (a)	1	1	1	1	1/1	1	1/1	1/1	1	1	1/1	11
	Main Findings (b)	1	1	1	1	1/1	1	1/1	1/1	1	1	1/1	11
	Main Findings (c)	0	1	0	1	1/1	1	1/1	1/1	1	1	1/1	9
	Main Findings (d)	0	1	0	1	1/1	0	0/0	1/1	1	0	1/1	6
	Main Findings (e)	0	1	0	1	1/1	1	1/0	1/0	1	1	1/1	9
	Main Findings (f)	1	1	0	1	0/0	0	1/1	1/1	1	0	1/1	7
	Main Findings (g)	1	1	1	1	1/1	1	1/1	1/1	1	1	1/1	11
Discussion	Key Findings (a)	1	1	1	1	1/1	1	1/1	1/1	1	1	1/1	11
	Key Findings (b)	1	1	1	1	0/0	1	1/1	1/1	1	1	0/0	9
	Limitations (a)	0	0	0	0	1/1	1	1/1	1/1	1	1	1/1	7
	Limitations (b)	0	0	0	0	0/1	1	0/0	1/1	1	1	1/0	5
	Interpretation	1	1	1	1	1/1	1	1/1	1/1	1	1	1/1	11
	Generalisability	1	0	1	0	1/0	0	1/1	1/1	0	1	0/0	6
Other	Ethical Approval	0	0	0	0	0/0	0	0/0	0/0	1	1	1/1	3
	Funding	1	1	0	1	1/1	1	1/1	1/1	0	1	0/0	8
TOTAL (out of 38)		**23**	**25**	**19**	**25**	**27/28**	**27**	**32/30**	**29/27**	**29**	**27**	**29/28**	
Inter-rater Agreement (%)						92.12		94.74	89.47			97.37	

Appendix 8. Self-Blame Attribution Model

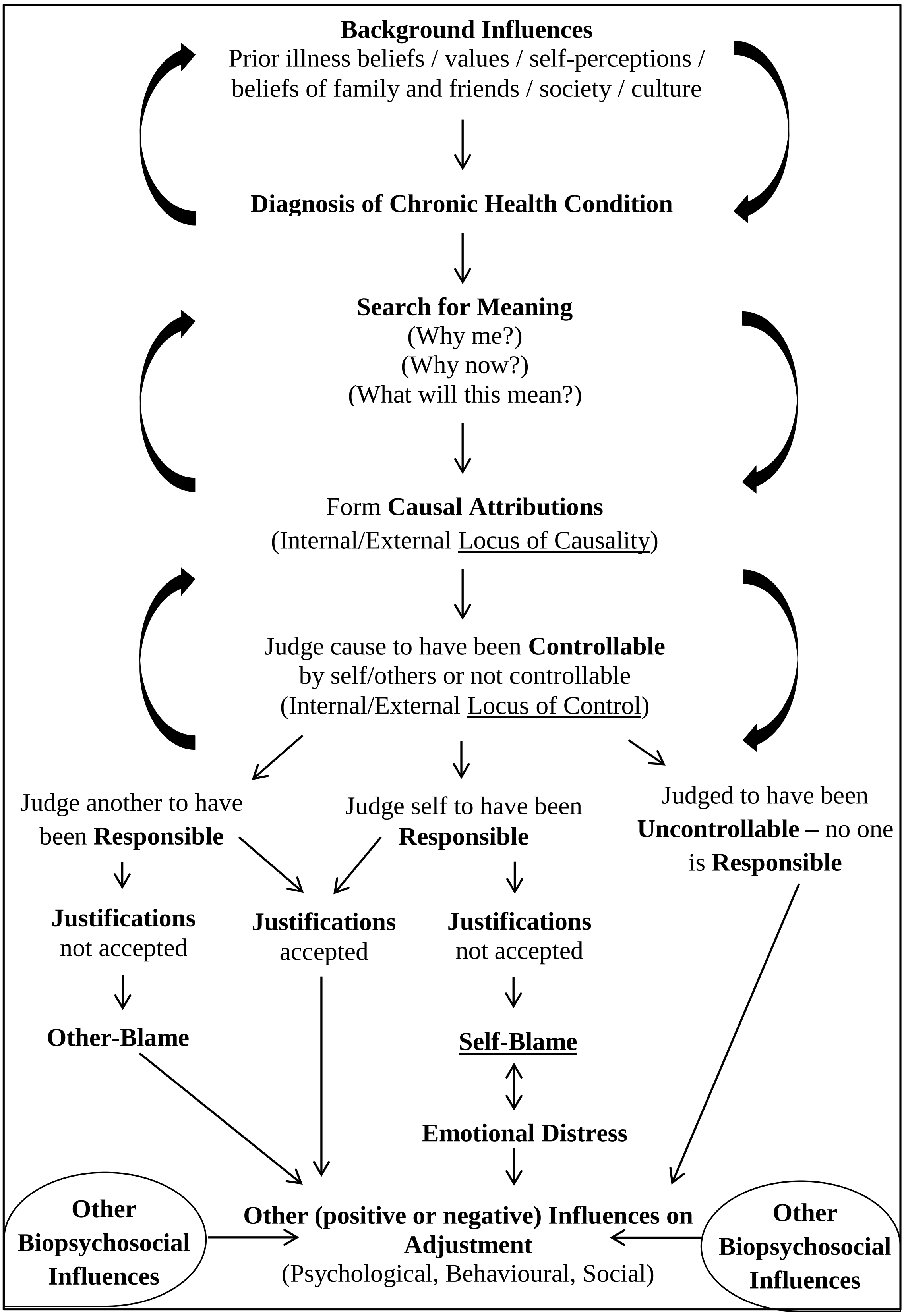

Figure 1: A hypothetical model depicting the potential process involved in forming self-blame attributions and their influences following the diagnosis of a chronic physical health condition.

Written Explanation of the Self-Blame Attribution Model

When an individual is diagnosed with a chronic physical health condition they typically search for meaning in their experience. This search for meaning is heavily influenced by a person’s prior beliefs about themselves, about the world, and about illness and it is also influenced by the beliefs of other people and the cultural narratives around illness at the time. An individual may try to make sense of why their condition has developed, why it has developed at that point in time and what it will mean for their lifestyle, their family, their abilities and their future plans. During this search for meaning people often come up with an explanation of what they believe could have caused the change to their health. These causal attributions can include factors that are internal or external to the person, for example, genetics or environmental pollution, respectively. Although this process is presented in the model as a descending flow diagram it recognises that the process is not necessarily linear in nature. For instance, causal explanations may influence what meaning is formed around other aspects of the situation (e.g. what this illness will mean for my future) and the act of searching for meaning may alter a person’s prior beliefs and perceptions about the world.

During the formation of causal attributions an individual may think about whether the cause was controllable or not. For example, if a person believes that their genetics caused their condition they are likely to view this as an uncontrollable cause. If a person believes exposure to chemical pollutants at their workplace was the cause then this might be perceived as more controllable, perhaps by their employer (external locus of control) or by themselves as they may feel they could have taken extra precautions against exposure to the pollutants or changed their job (internal locus of control). If the individual feels that the perceived cause of their illness was controllable by themselves or another they may feel that either themselves or this other was responsible for controlling the perceived cause, because the potential consequences of this causal factor for the individual’s health were known. On the other hand, they may feel that these potential consequences were unknown or unforeseen and therefore neither themselves or the other were responsible for controlling the potential impact of the perceived causal factor, even though they might have been able to control it.

Suppose then that an individual feels they were responsible for the onset of their health condition because they felt they were fully aware of the impact that the perceived causal factor could have had for their health and they felt they could have controlled their exposure to this causal factor (e.g. smoking). In this situation the individual may feel they can accept that they smoked because it was something they enjoyed, that enhanced their social life and that helped them to deal with other life stresses. If an individual is accepting of themselves for not having controlled the perceived causal factor (in this case smoking), feeling that they had some reasonable justifications for not minimising the potential impacts of the causal factor, then although they feel responsible, they may not feel that they are to blame for their illness and may not criticise themselves for having smoked. On the other hand, the individual may be aware of the reasons for which they smoked but may not perceive these to be reasonable justifications for their failure to control its perceived impacts on their health. In this case the individual may feel that they are ultimately to blame for causing their condition because they were in control of, and responsible for, their smoking behaviour and there were no justifications for not having controlled their smoking behaviour. This individual may therefore feel very critical of themselves, judge their past behaviour or characteristics negatively and have self-attacking thoughts which are associated with increased emotional distress.

How an individual appraises the onset of their health condition, whether they even form causal attributions, whether they judge these causes to have been controllable and whether they blame themselves or others, will potentially have an influence on how they adjust to the challenges of illness and possible lifestyle changes that follow their diagnosis. However, each person's adjustment process is unique and influenced by many current and prior cognitive, emotional, sociocultural and biological factors. Generalised rules cannot be applied to all individuals and how someone adjusts to the challenges they may face with ill health cannot be predicted from the small number of specific cognitive factors that are outlined within this model. This would certainly oversimplify the complexity of what influences human behaviour, emotion and cognition. Nevertheless, it might be possible to broadly associate different outcomes of the causal attribution search with different desirable or undesirable influences on the adjustment process. From the current literature review it is possible to associate self-blame with increased emotional distress which will likely influence other biopsychosocial aspects of how a person copes with their illness. From past literature it is also reasonable to suggest that this process could be reciprocal in that increased emotional distress may also increase the strength of self-critical or self-blaming thoughts, which then serve to further increase distress. Whether other aspects of the causal attribution appraisal process outlined in this model (e.g. other-blame, judgements of controllability and responsibility with or without acceptance) have desirable or undesirable influences on how a person copes with and adjusts to their illness certainly needs further exploration, whilst recognising the variety of additional and unique biopsychosocial factors that will tailor how these cognitive processes affect each individual.

Appendix 9. Author Guidelines for Health Psychology

Health Psychology®

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Read Sample Articles

Advertising Information

This journal is a publication of APA Division 38 (Health Psychology)

- **Instructions to Authors**
- **Special Issues**

Prior to submission, please carefully read and follow the submission guidelines detailed below. Manuscripts that do not conform to the submission guidelines may be returned without review.

Submission

The main emphasis of *Health Psychology*® is on original research in health psychology. Analytical reviews of research and brief scientific reports are also considered for publication. Submissions are welcomed from authors in psychology and other health-related disciplines.

Submit manuscripts electronically (.rtf, PDF, or .doc) to

Anne E. Kazak
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Keep a copy of the manuscript to guard against loss. Do not submit manuscripts via mail or email.

In recognition of the reality that institutional spam filters may capture files from the APA and the Journals Back Office, please take the following steps to facilitate communication with our editorial office:

- Provide an alternative email address which we can use to contact you in the event of technical difficulties with email communication using your primary address;
- Add "apa.org" to your list of "safe" addresses and consider asking your IT administrators to add it to their "white list;" and
- Contact Lindsay MacMurray if you do not receive confirmation of your submission within three business days or an editorial decision letter within three months.

General correspondence may be directed to the Editor's Office.

Information About Submissions

The page limit for research manuscripts is 25–30 pages. The page limit is inclusive of **all** parts of the manuscript, including the cover page, abstract, text, references, tables and figures.

Authors may request consideration of longer papers, in advance of submission, when there is clear justification for additional length (e.g., the paper reports on two or more studies or has an unusual or complex methodology).

Scholarly reviews and meta-analyses should not exceed 25 pages, but tables and references may be outside this page limit.

Brief reports are encouraged for innovative work that may be premature for publication as a full research report because of small sample size, novel methodologies, etc. Brief reports should be designated as such and should not exceed a total of 12 pages, inclusive of **all** parts of the manuscript, including the cover page, abstract, text, references, tables and figures.

All manuscripts should be double-spaced, with margins of at least 1 inch on all sides and a standard font (e.g., Times New Roman) of 12 points (no smaller).

On the submission portal you will be asked to provide contact information for three individuals who are qualified to serve as unbiased reviewers for your paper. These people must have published peer reviewed work in a relevant field. They must be without any real or perceived conflict of interest with you and your co-authors. They cannot be at the same institution as any author, cannot be a co-author on any publications, and must not be a former or current trainee, advisor or mentor, etc.

Health Psychology considers letters concerning previously published articles. Letters should be no more than 500 words and have a maximum of five references.

Authors also have the option of placing supplemental materials online.

Submissions that exceed the page limits will be returned to the author for shortening prior to the initiation of peer review.

Submission Letter

The cover letter should indicate that the authors have read and followed the *Health Psychology* Instructions for Authors. It should also include a statement indicating that the paper has been seen and approved by all authors. The cover letter should describe how the paper advances research in health psychology, referring to the journal mission to assure that the submission fits with the types of papers published in *Health Psychology*.

The full mailing address, telephone, fax, and email address for the corresponding author should be included in the cover letter and title page, along with the names and affiliations of all co-authors.

The cover letter must confirm that the manuscript has not been published, is not currently submitted elsewhere, and that it does not contain data that is currently submitted or published elsewhere.

When a manuscript contains data that is part of a larger study, authors should describe the larger study and provide references for other study papers. Authors must be prepared to provide copies of related manuscripts when requested as part of the editorial review process. Authors should clarify the relationship between their paper, including detailed specification of the overlap in participants, measures, and analysis, and others from the study. The value-added scientific contribution of their study must be clearly stated in the cover letter.

Authors of brief reports should indicate in the cover letter that the full report is not under consideration for publication elsewhere and similarly address potential overlap with other papers.

Manuscripts

The manuscript title should be accurate, fully explanatory, and no longer than 12 words. The title should reflect the content and population studied. If the paper reports a randomized clinical trial, this should be indicated in the title. The title of brief reports should start with the words "Brief Report".

The title page should include the names of all authors and their affiliations at the time the research was done. This information will be masked to ensure a blind peer review process by the editorial office. Authors should make sure that all other identifying information in the text of the paper is masked/removed prior to submission.

All manuscripts must include a structured abstract containing a maximum of 250 words with the following sections:

- Objective (brief statement of the purpose of the study);

- Methods (summary of the participants, design, measures, procedure);
- Results (primary findings); and
- Conclusions (specific statement of the implications of the data).

Please supply up to five keywords or brief phrases after the abstract. The Introduction should not exceed 3–4 pages in length. The paper should be referenced appropriately but excessive citations should be avoided.

All research involving human participants must describe oversight of the research process by the relevant Institutional Review Boards and should describe consent and assent procedures briefly in the Methods section.

All statistical tests should include effect size whenever possible.

First person language ("I", "we") should be avoided. Terminology should be sensitive to the individual who has a disease or disability. The journal endorses the concept of "people first, not their disability." Terminology should reflect the "person with a disability" (e.g., children with diabetes, persons with HIV infection, families of people with cancer) rather than the condition as an adjective (e.g., diabetic children, HIV patients, cancer families). Nonsexist language should be used.

It is important to highlight the significance and novel contribution of the work. The translation of research into practice must be evidenced in all manuscripts. Authors should incorporate a meaningful discussion of the clinical and/or policy implications of their work throughout the manuscript, rather than simply providing a separate section for this material.

Health Psychology publishes a broad array of types of papers. Authors of qualitative and measure development papers should read the guidelines for these types of papers, noted below.

Qualitative Research

Research papers that utilize qualitative methods should follow the general instructions to authors for style and format. We ask that authors of qualitative papers review the additional guidance below to assure that papers meet the following criteria utilized by *Health Psychology*.

The introduction should make a compelling case for the significance of the study and clearly identify if the study is a stand-alone study or if it fits into a larger study. For example, qualitative manuscripts may inform the development of a survey, use small-incident samples, or establish feasibility. The specific qualitative paradigm should be specified (e.g., grounded theory, qualitative descriptive approach, interpretive phenomenology) with a rationale as to why it was selected to address the research question.

At the same time, authors are encouraged to avoid methodological tutorials and cite appropriate references for the methodology. Describe your sampling frame clearly and how the sample was selected, justifying the type and size of your sample using appropriate language for qualitative studies.

While many qualitative studies may not use a conceptual model, if you have done so, explain how the model may have shaped the design, data collection, analysis and interpretation. Explain carefully how you strengthened and insured rigor in your study e.g., data analysis protocols (including how coders were trained), audit procedures, and demonstration of data saturation. Describe the data analysis and how it relates to your overall approach or paradigm. Present rich and compelling results with data that have been analyzed and interpreted appropriately for your method (e.g., discourse analytic results would be presented differently than those of a grounded theory).

The paper should convey how this research fills an important gap in the science and promises to change the way we approach future studies.

Scale Development

Empirical papers related to the development of new instruments related to health psychology should follow the general guidelines for style and format of this journal. Authors should make a convincing case for the need and rationale for the new instrument, particularly with respect to new and innovative constructs. Included in this rationale should be the theoretical foundation on which their new instrument rests along with presentation of other, related scales currently in use.

It is important that the research have a degree of generalizability across populations and settings. Instruments that are more narrow in scope or of limited clinical utility may be better suited for subspeciality journals.

Authors should clearly articulate the specifics of the study design and of the analytical techniques used. There should be strong consistency among the purpose statements, methods, and the manner in which findings are presented.

An increasing number of studies are incorporating mixed-methods designs in their research. The specifics of these designs should be equally well-detailed without being excessive. Attention should be given to the nature of the items, the basis for their creation, and the rationale for the response options.

The underlying theoretical structure of the approach should be evident, for example, whether one is premising their study on classical or modern theory (IRT, Rasch) techniques. The characteristics of the research will be in part dictated by the nature of the scale. For instance, large, nationally-normed tests may have a much different make-up than that of small, more narrowly-defined measures. Research involving both types of instruments will be considered.

Finally, all instrument development papers should convey how the literature base will be strengthened with the addition of the particular instrument along with a clear and convincing case for the clinical relevance of the information that it provides.

Letters to the Editor

Health Psychology will, at the discretion of the Editor-in-Chief, publish Letters to the Editor on the journal website.

Letters should be prepared in direct response to articles published in the journal, should include reference to the published paper in the letter, and should be sent to the Editorial Manuscript Coordinator, Lindsay MacMurray within 60 days of the date when the relevant article is published in hard copy.

The text of the letter, excluding the title, references and author(s) name, title, affiliation and email, may not exceed 400 words.

In a separate cover letter, the author should indicate that the submission is a Letter to the Editor for consideration of posting on the *Health Psychology* website and provide the full citation of the original article to which the letter refers. The cover letter should also indicate if the letter writer(s) have any conflicts of interest related to the article or correspondence.

Note: Letters will not be a forum for ongoing dialogue.

Masked Review Policy

Masked review is used. **Do not** include author information (addresses, phone numbers, electronic mail addresses, and fax numbers) in the manuscript.

Please ensure that the final version for production includes a byline and full author note for typesetting.

Use of CONSORT Reporting Standards

All randomized controlled trials must include a diagram indicating participant flow into the study and a completed CONSORT checklist. CONSORT diagrams (and adaptations) should be included whenever possible to clarify the flow of participants through a study.

Manuscript Preparation

Prepare manuscripts according to the *Publication Manual of the American Psychological Association* (6th edition). Manuscripts may be copyedited for bias-free language (see Chapter 3 of the *Publication Manual*).

Review APA's Checklist for Manuscript Submission before submitting your article.

Double-space all copy. Other formatting instructions, as well as instructions on preparing tables, figures, references, metrics, and abstracts, appear in the *Manual*.

Below are additional instructions regarding the preparation of display equations, computer code, and tables.

Display Equations

We strongly encourage you to use MathType (third-party software) or Equation Editor 3.0 (built into pre-2007 versions of Word) to construct your equations, rather than the equation support that is built into Word 2007 and Word 2010. Equations composed with the built-in Word 2007/Word 2010 equation support are converted to low-resolution graphics when they enter the production process and must be rekeyed by the typesetter, which may introduce errors.

To construct your equations with MathType or Equation Editor 3.0:

- Go to the Text section of the Insert tab and select Object.
- Select MathType or Equation Editor 3.0 in the drop-down menu.

If you have an equation that has already been produced using Microsoft Word 2007 or 2010 and you have access to the full version of MathType 6.5 or later, you can convert this equation to MathType by clicking on MathType Insert Equation. Copy the equation from Microsoft Word and paste it into the MathType box. Verify that your equation is correct, click File, and then click Update. Your equation has now been inserted into your Word file as a MathType Equation.

Use Equation Editor 3.0 or MathType only for equations or for formulas that cannot be produced as Word text using the Times or Symbol font.

Computer Code

Because altering computer code in any way (e.g., indents, line spacing, line breaks, page breaks) during the typesetting process could alter its meaning, we treat computer code differently from the rest of your article in our production process. To that end, we request separate files for computer code.

In Online Supplemental Material

We request that runnable source code be included as supplemental material to the article. For more information, visitSupplementing Your Article With Online Material.

In the Text of the Article

If you would like to include code in the text of your published manuscript, please submit a separate file with your code exactly as you want it to appear, using Courier New font with a type size of 8 points. We will make an image of each segment of code in your article that exceeds 40 characters in length. (Shorter snippets of code that appear in text will be typeset in Courier New and run in with the rest of the text.) If an appendix contains a mix of code and explanatory text, please submit a file that contains the entire appendix, with the code keyed in 8-point Courier New.

Tables

Use Word's Insert Table function when you create tables. Using spaces or tabs in your table will create problems when the table is typeset and may result in errors.

Submitting Supplemental Materials

APA can place supplemental materials online, available via the published article in the PsycARTICLES® database. Please see Supplementing Your Article With Online Material for more details.

References

List references in alphabetical order. Each listed reference should be cited in text, and each text citation should be listed in the References section.

Examples of basic reference formats:

- **Journal Article:**

Hughes, G., Desantis, A., & Waszak, F. (2013). Mechanisms of intentional binding and sensory attenuation: The role of temporal prediction, temporal control, identity prediction, and motor prediction. *Psychological Bulletin, 139,* 133–151. http://dx.doi.org/10.1037/a0028566

- **Authored Book:**

Rogers, T. T., & McClelland, J. L. (2004). *Semantic cognition: A parallel distributed processing approach.* Cambridge, MA: MIT Press.

- **Chapter in an Edited Book:**

Gill, M. J., & Sypher, B. D. (2009). Workplace incivility and organizational trust. In P. Lutgen-Sandvik & B. D. Sypher (Eds.), *Destructive organizational communication: Processes, consequences, and constructive ways of organizing*(pp. 53–73). New York, NY: Taylor & Francis.

Figures

Graphics files are welcome if supplied as Tiff or EPS files. Multipanel figures (i.e., figures with parts labeled a, b, c, d, etc.) should be assembled into one file.

The minimum line weight for line art is 0.5 point for optimal printing.

For more information about acceptable resolutions, fonts, sizing, and other figure issues, please see the general guidelines.

When possible, please place symbol legends below the figure instead of to the side.

APA offers authors the option to publish their figures online in color without the costs associated with print publication of color figures.

The same caption will appear on both the online (color) and print (black and white) versions. To ensure that the figure can be understood in both formats, authors should add alternative wording (e.g., "the red (dark gray) bars represent") as needed.

For authors who prefer their figures to be published in color both in print and online, original color figures can be printed in color at the editor's and publisher's discretion provided the author agrees to pay:

- $900 for one figure
- An additional $600 for the second figure
- An additional $450 for each subsequent figure

Permissions

Authors of accepted papers must obtain and provide to the editor on final acceptance all necessary permissions to reproduce in print and electronic form any copyrighted work, including test materials (or portions thereof), photographs, and other graphic images (including those used as stimuli in experiments). On advice of counsel, APA may decline to publish any image whose copyright status is unknown.

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Publication Policies

APA policy prohibits an author from submitting the same manuscript for concurrent consideration by two or more publications.

See also APA Journals® Internet Posting Guidelines.

APA requires authors to reveal any possible conflict of interest in the conduct and reporting of research (e.g., financial interests in a test or procedure, funding by pharmaceutical companies for drug research).

- Download Disclosure of Interests Form (PDF, 38KB)

Authors of accepted manuscripts are required to transfer the copyright to APA.

- For manuscripts **not** funded by the Wellcome Trust or the Research Councils UK

Publication Rights (Copyright Transfer) Form (PDF, 83KB)

- For manuscripts funded by the Wellcome Trust or the Research Councils UK

Wellcome Trust or Research Councils UK Publication Rights Form (PDF, 34KB)

Ethical Principles

It is a violation of APA Ethical Principles to publish "as original data, data that have been previously published" (Standard 8.13).

In addition, APA Ethical Principles specify that "after research results are published, psychologists do not withhold the data on which their conclusions are based from other competent professionals who seek to verify the substantive claims through reanalysis and who intend to use such data only for that purpose, provided that the confidentiality of the participants can be protected and unless legal rights concerning proprietary data preclude their release" (Standard 8.14).

APA expects authors to adhere to these standards. Specifically, APA expects authors to have their data available throughout the editorial review process and for at least 5 years after the date of publication. Authors are required to state in writing that they have complied with APA ethical standards in the treatment of their sample, human or animal, or to describe the details of treatment.

- Download Certification of Compliance With APA Ethical Principles Form (PDF, 26KB)

The APA Ethics Office provides the full Ethical Principles of Psychologists and Code of Conduct electronically on its website in HTML, PDF, and Word format. You may also request a copy by emailing or calling the APA Ethics Office (202-336-5930). You may also read "Ethical Principles," December 1992, *American Psychologist*, Vol. 47, pp. 1597–1611.

Appendix 10. NHS Ethical Approval

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Appendix 11. Research Governance Approval for Humber NHS Foundation Trust

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Appendix 12. Research Governance Approval for Hull & East Yorkshire Hospitals NHS Foundation Trust

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Appendix 13. Research Governance Approval for York Teaching Hospital NHS Foundation Trust

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Appendix 14. Evidence of Permission to Advertise Research Online

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Appendix 15. Study Advertisement

UNIVERSITY OF Hull

Humber NHS
NHS Foundation Trust

The Influence of Self-Compassion on Psychological Health after a Cancer Diagnosis

Participants Needed!

We are carrying out some research into how self-compassion might promote psychological health and well-being in people living with and beyond cancer.

We are looking for volunteers who would like to take part in this research (Jul 2014 – Feb 2015)

Who is eligible?

You are eligible to take part if you:

1. Are aged 18 years and over
2. Can speak and read and write/type in English
3. Are able to take part in a reading and writing/typing task for 15-to-30 minutes
4. Have been diagnosed with cancer

What is involved If I volunteer?

Volunteers will be asked to read a page of information about the research, informing them about the benefits and potential risks of taking part. Volunteers who decide to take part after reading the information sheet will fill out 3 short multiple-choice questionnaires as well as a short demographic questionnaire. This could take 15 -to-30 minutes. Volunteers are free to read the study information and complete the questionnaires at a time and place that is convenient for them.

How do I volunteer?

You can read the information and complete the questionnaires online via: https://www.surveymonkey.com/s/selfcompassionandcancerresearch. Alternatively, paper-based information and questionnaires are available at the Macmillan Information Stand at Castle Hill Hospital in Hull and in the Cancer Care Centre at York Hospital in York.

For more information please contact Leah Glover, Researcher and Trainee Clinical Psychologist, on 07951 048 138 between 9am and 5pm Monday to Friday or at L.Glover@2012.hull.ac.uk. You can also contact Dr Philip Molyneux, Researcher Supervisor and Clinical Psychologist, on 01482 464 170 between 9am and 5pm on Fridays or at p.molyneux@hull.ac.uk.

Thank you for your interest!

Hull and East Yorkshire Hospitals NHS
NHS Trust

York Teaching Hospital NHS
NHS Foundation Trust

Appendix 16. Cover Letter

University of Hull

Humber NHS
NHS Foundation Trust

Leah Glover
Trainee Clinical Psychologist & Researcher
The University of Hull
Department of Psychological Health
and Wellbeing
Hertford Building
Cottingham Road
Hull
HU6 7RX

Tel: 07951 048 138
Email: L.Glover@2012.hull.ac.uk

Dear potential participant,

Thank you for taking the time to read this information. I am currently conducting a research study as part of my Doctorate Degree in Clinical Psychology at The University of Hull. My research study looks into how self-compassion might influence psychological health and well-being in people diagnosed with cancer. I feel this research is really important for helping us to understand more about how to best support people after they have been diagnosed with cancer. Participating in this study involves completing four short questionnaires which takes approximately 15-to-30 minutes in total.

Participation in the research is entirely voluntary. However, the more people that participate the clearer our understanding will be about the role of self-compassion in psychological health and well-being after being diagnosed with cancer. Therefore your participation would be greatly valued.

If you are interested in taking part please read the 'Participant Information Sheet' enclosed. This explains the purpose and procedure of the study in more detail. Also enclosed should you choose to take part are the four questionnaires, some information about agencies that provide advice and support regarding cancer and a freepost return envelope. Please complete the questionnaires in the order they are given (demographic questionnaire, followed by questionnaire 1, 2 and 3). After you have completed the four questionnaires please return them all to the researcher in the stamped addressed envelope.

Thank you for your time and interest!

Yours sincerely,

Leah Glover
Trainee Clinical Psychologist and Researcher

Please note: You can keep this letter. If you are reading this letter online and you wish to keep a copy please copy and paste the letter into a document that you can save on your computer or print. If this is not possible please contact the researcher who can provide you with a copy.

Hull and East Yorkshire Hospitals NHS
NHS Trust

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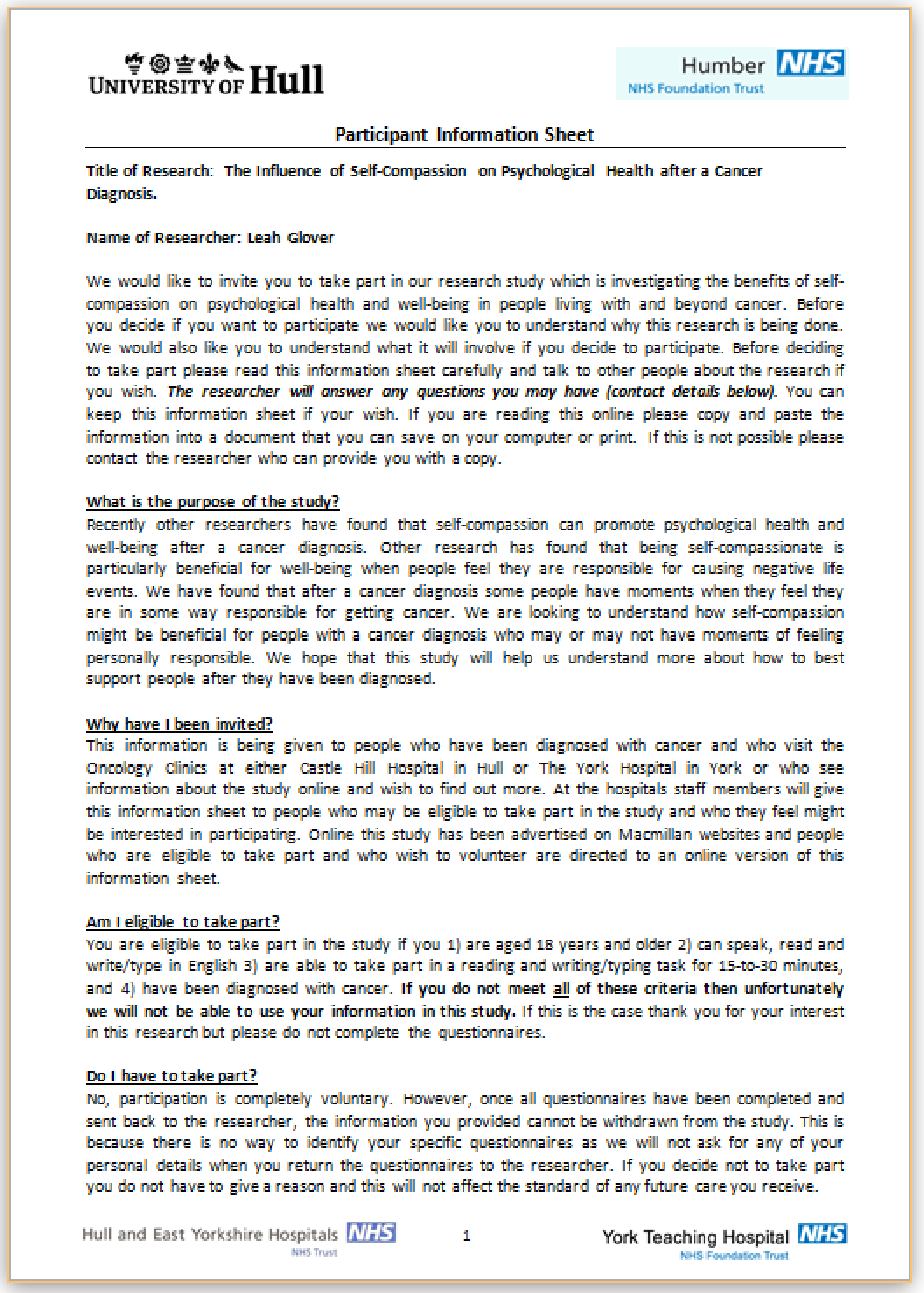
York Teaching Hospital NHS
NHS Foundation Trust

Appendix 17. Participant Information Sheet



UNIVERSITY OF Hull

Humber NHS
NHS Foundation Trust

Participant Information Sheet

Title of Research: The Influence of Self-Compassion on Psychological Health after a Cancer Diagnosis.

Name of Researcher: Leah Glover

We would like to invite you to take part in our research study which is investigating the benefits of self-compassion on psychological health and well-being in people living with and beyond cancer. Before you decide if you want to participate we would like you to understand why this research is being done. We would also like you to understand what it will involve if you decide to participate. Before deciding to take part please read this information sheet carefully and talk to other people about the research if you wish. ***The researcher will answer any questions you may have (contact details below).*** You can keep this information sheet if your wish. If you are reading this online please copy and paste the information into a document that you can save on your computer or print. If this is not possible please contact the researcher who can provide you with a copy.

What is the purpose of the study?

Recently other researchers have found that self-compassion can promote psychological health and well-being after a cancer diagnosis. Other research has found that being self-compassionate is particularly beneficial for well-being when people feel they are responsible for causing negative life events. We have found that after a cancer diagnosis some people have moments when they feel they are in some way responsible for getting cancer. We are looking to understand how self-compassion might be beneficial for people with a cancer diagnosis who may or may not have moments of feeling personally responsible. We hope that this study will help us understand more about how to best support people after they have been diagnosed.

Why have I been invited?

This information is being given to people who have been diagnosed with cancer and who visit the Oncology Clinics at either Castle Hill Hospital in Hull or The York Hospital in York or who see information about the study online and wish to find out more. At the hospitals staff members will give this information sheet to people who may be eligible to take part in the study and who they feel might be interested in participating. Online this study has been advertised on Macmillan websites and people who are eligible to take part and who wish to volunteer are directed to an online version of this information sheet.

Am I eligible to take part?

You are eligible to take part in the study if you 1) are aged 18 years and older 2) can speak, read and write/type in English 3) are able to take part in a reading and writing/typing task for 15-to-30 minutes, and 4) have been diagnosed with cancer. **If you do not meet all of these criteria then unfortunately we will not be able to use your information in this study.** If this is the case thank you for your interest in this research but please do not complete the questionnaires.

Do I have to take part?

No, participation is completely voluntary. However, once all questionnaires have been completed and sent back to the researcher, the information you provided cannot be withdrawn from the study. This is because there is no way to identify your specific questionnaires as we will not ask for any of your personal details when you return the questionnaires to the researcher. If you decide not to take part you do not have to give a reason and this will not affect the standard of any future care you receive.

Hull and East Yorkshire Hospitals NHS
NHS Trust

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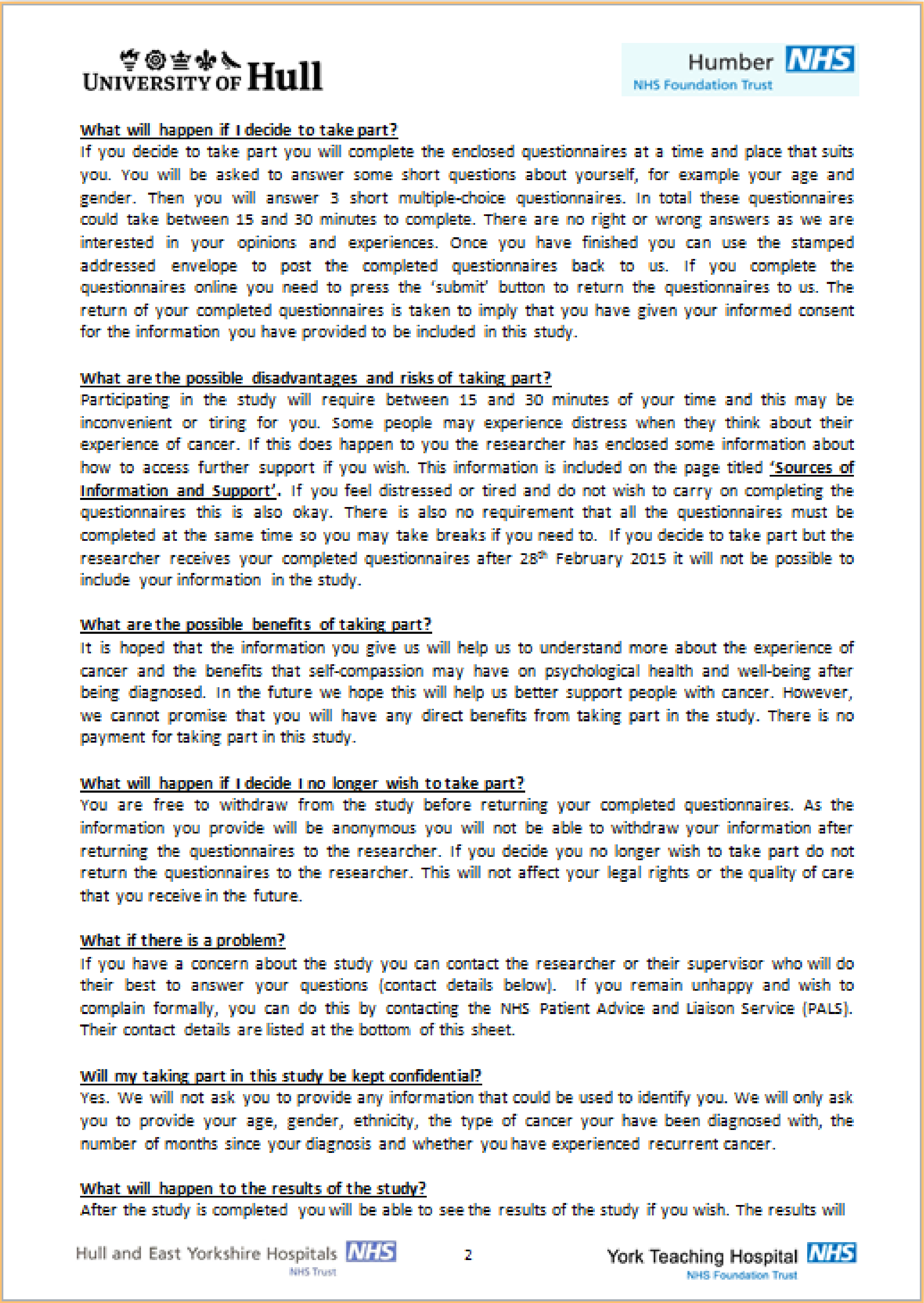
York Teaching Hospital NHS
NHS Foundation Trust



University of Hull

Humber NHS
NHS Foundation Trust

What will happen if I decide to take part?

If you decide to take part you will complete the enclosed questionnaires at a time and place that suits you. You will be asked to answer some short questions about yourself, for example your age and gender. Then you will answer 3 short multiple-choice questionnaires. In total these questionnaires could take between 15 and 30 minutes to complete. There are no right or wrong answers as we are interested in your opinions and experiences. Once you have finished you can use the stamped addressed envelope to post the completed questionnaires back to us. If you complete the questionnaires online you need to press the 'submit' button to return the questionnaires to us. The return of your completed questionnaires is taken to imply that you have given your informed consent for the information you have provided to be included in this study.

What are the possible disadvantages and risks of taking part?

Participating in the study will require between 15 and 30 minutes of your time and this may be inconvenient or tiring for you. Some people may experience distress when they think about their experience of cancer. If this does happen to you the researcher has enclosed some information about how to access further support if you wish. This information is included on the page titled **'Sources of Information and Support'.** If you feel distressed or tired and do not wish to carry on completing the questionnaires this is also okay. There is also no requirement that all the questionnaires must be completed at the same time so you may take breaks if you need to. If you decide to take part but the researcher receives your completed questionnaires after 28th February 2015 it will not be possible to include your information in the study.

What are the possible benefits of taking part?

It is hoped that the information you give us will help us to understand more about the experience of cancer and the benefits that self-compassion may have on psychological health and well-being after being diagnosed. In the future we hope this will help us better support people with cancer. However, we cannot promise that you will have any direct benefits from taking part in the study. There is no payment for taking part in this study.

What will happen if I decide I no longer wish to take part?

You are free to withdraw from the study before returning your completed questionnaires. As the information you provide will be anonymous you will not be able to withdraw your information after returning the questionnaires to the researcher. If you decide you no longer wish to take part do not return the questionnaires to the researcher. This will not affect your legal rights or the quality of care that you receive in the future.

What if there is a problem?

If you have a concern about the study you can contact the researcher or their supervisor who will do their best to answer your questions (contact details below). If you remain unhappy and wish to complain formally, you can do this by contacting the NHS Patient Advice and Liaison Service (PALS). Their contact details are listed at the bottom of this sheet.

Will my taking part in this study be kept confidential?

Yes. We will not ask you to provide any information that could be used to identify you. We will only ask you to provide your age, gender, ethnicity, the type of cancer your have been diagnosed with, the number of months since your diagnosis and whether you have experienced recurrent cancer.

What will happen to the results of the study?

After the study is completed you will be able to see the results of the study if you wish. The results will

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be presented on a poster in both Castle Hill and York Hospital Oncology Clinics between 1st July 2015 and 1st September 2015. At Castle Hill Hospital the poster will be located near to the main reception desk at The Queens Centre for Oncology and Haematology. At York Teaching Hospital the poster will be located within the Cancer Care Centre. You may ask a member of staff to direct you to the poster at either hospital. You will also be able to email the researcher at L.Glover@2012.hull.ac.uk to request a copy of this poster. If you wish you are welcome to make comments or ask questions about the results by contacting the researcher or the research supervisor. Then the results will be written-up and submitted for publication in an academic journal.

Who is organising and funding the research?

This research is being undertaken as part of a Doctoral Degree in Clinical Psychology. The research is funded and regulated through the University of Hull and sponsored by the Humber NHS Foundation Trust. Some sections of the data collected during the study which are relevant to taking part in this research may be looked at by responsible individuals from the University of Hull or from regulatory authorities to ensure that appropriate guidance was followed by the researcher.

Who has reviewed the study?

The study is reviewed by an independent organisation which is called a Research Ethics Committee. The Research Ethics Committee protects the interest of people who participate in research. This study has been reviewed by the Newcastle and North Tyneside 1 Research Ethics Committee and has received a favourable opinion.

If you have any further questions, comments or queries, please don't hesitate to contact Leah Glover between 9am and 5pm Monday to Friday. The research supervisor, Phillip Molyneux, will also be available between 9am and 5pm on Fridays. Thank you for taking the time to read this information.

Yours Sincerely,

Leah Glover
Trainee Clinical Psychologist
The Department of Clinical Psychology
Hertford Building
The University of Hull
Cottingham Road
Hull, HU6 7RX
Tel: 07951 048 138
Email: L.Glover@2012.hull.ac.uk

Supervised by,

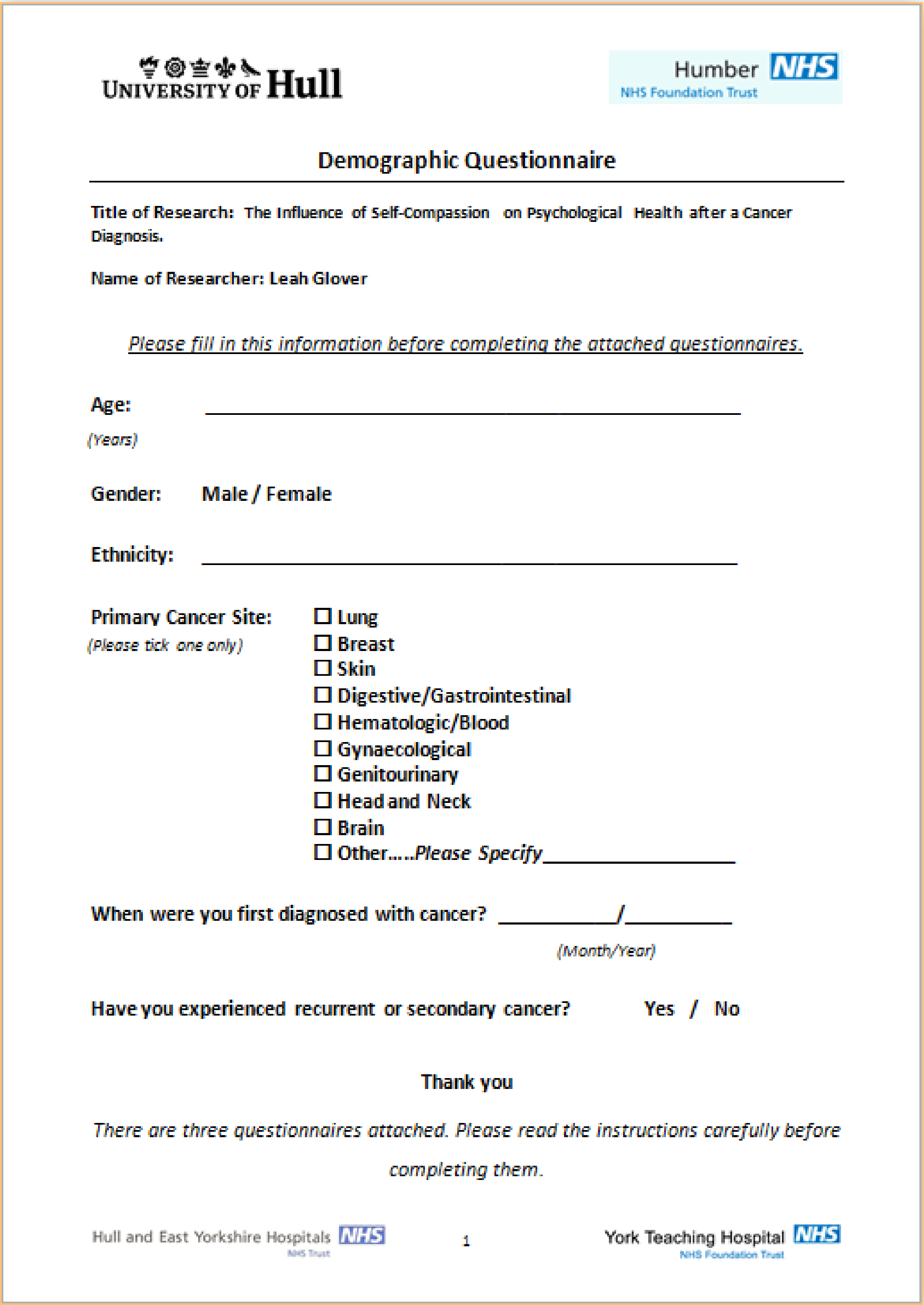
Dr Philip Molyneux
Clinical Psychologist
The Department of Clinical Psychology
Hertford Building
The University of Hull
Cottingham Road
Hull, HU6 7RX
Tel: 01482 464 170
Email: p.molyneux@hull.ac.uk

If you wish to make a complaint regarding the research you may contact:
The Complaints Manager, Hull & East Yorkshire Hospitals NHS Trust, Castle Road, Cottingham, HU16 5JQ. Tel: 01482 623065 Email: pals.hey@hey.nhs.uk

The Complaints Manager, York Teaching Hospital NHS Foundation Trust, The York Hospital, Wigginton Road, York, YO31 8HE. Tel: 01904 726262. Email: pals@york.nhs.uk

Thank you very much for taking the time to read this information. *If you wish to take part please now complete the following 4 questionnaires and return them in the enclosed freepost envelope or click 'submit' if completing the online version of the questionnaires.*

Appendix 18. Demographic Questionnaire



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Demographic Questionnaire

Title of Research: The Influence of Self-Compassion on Psychological Health after a Cancer Diagnosis.

Name of Researcher: Leah Glover

Please fill in this information before completing the attached questionnaires.

Age: ____
(Years)

Gender: Male / Female

Ethnicity: ____

Primary Cancer Site:
(Please tick one only)

- ☐ Lung
- ☐ Breast
- ☐ Skin
- ☐ Digestive/Gastrointestinal
- ☐ Hematologic/Blood
- ☐ Gynaecological
- ☐ Genitourinary
- ☐ Head and Neck
- ☐ Brain
- ☐ Other.....*Please Specify*________________

When were you first diagnosed with cancer? __________/__________
(Month/Year)

Have you experienced recurrent or secondary cancer? Yes / No

Thank you

There are three questionnaires attached. Please read the instructions carefully before completing them.

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1

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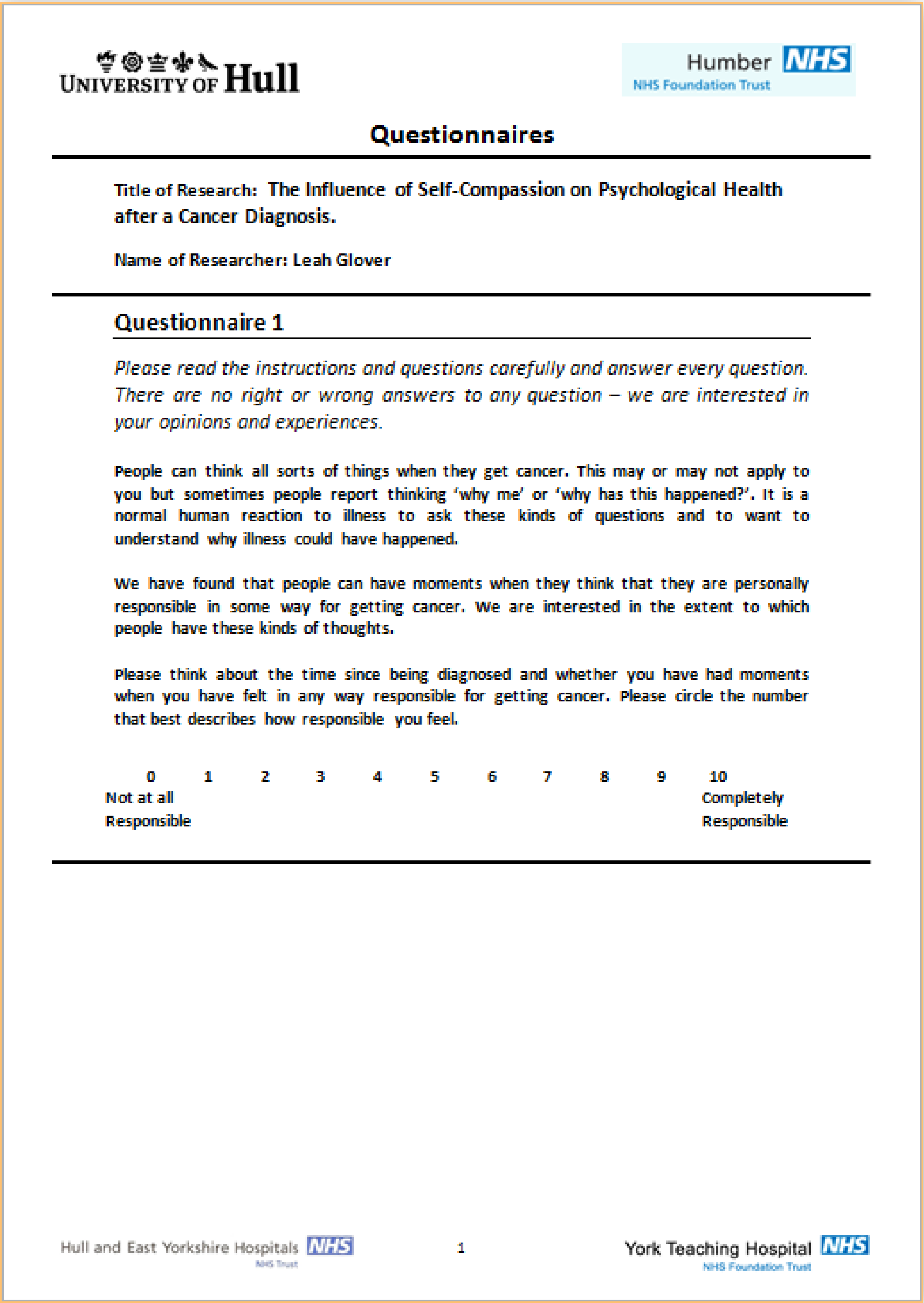
Appendix 19. Perceived Personal Responsibility Rating Scale



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Questionnaires

Title of Research: The Influence of Self-Compassion on Psychological Health after a Cancer Diagnosis.

Name of Researcher: Leah Glover

Questionnaire 1

Please read the instructions and questions carefully and answer every question. There are no right or wrong answers to any question – we are interested in your opinions and experiences.

People can think all sorts of things when they get cancer. This may or may not apply to you but sometimes people report thinking ‘why me’ or ‘why has this happened?’. It is a normal human reaction to illness to ask these kinds of questions and to want to understand why illness could have happened.

We have found that people can have moments when they think that they are personally responsible in some way for getting cancer. We are interested in the extent to which people have these kinds of thoughts.

Please think about the time since being diagnosed and whether you have had moments when you have felt in any way responsible for getting cancer. Please circle the number that best describes how responsible you feel.

0	1	2	3	4	5	6	7	8	9	10
Not at all Responsible										Completely Responsible

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Appendix 20. Self-Compassion Scale (SCS)

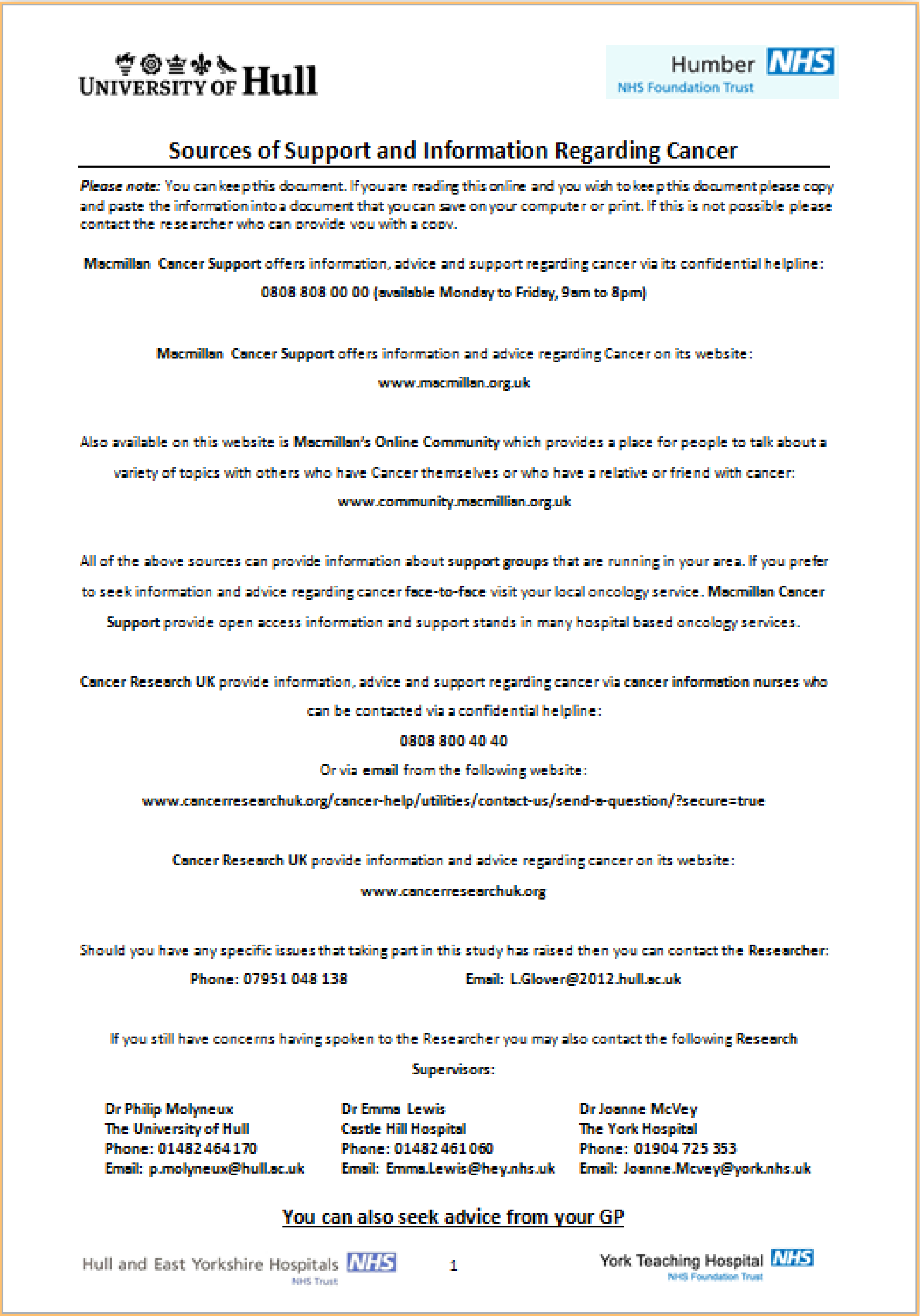
REMOVED FOR BINDING

REMOVED FOR BINDING

Appendix 21. Hospital Anxiety and Depression Scale (HADS)

REMOVED FOR BINDING

Appendix 22. Sources of Support and Information



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Sources of Support and Information Regarding Cancer

Please note: You can keep this document. If you are reading this online and you wish to keep this document please copy and paste the information into a document that you can save on your computer or print. If this is not possible please contact the researcher who can provide you with a copy.

Macmillan Cancer Support offers information, advice and support regarding cancer via its confidential helpline:

0808 808 00 00 (available Monday to Friday, 9am to 8pm)

Macmillan Cancer Support offers information and advice regarding Cancer on its website:

www.macmillan.org.uk

Also available on this website is **Macmillan's Online Community** which provides a place for people to talk about a variety of topics with others who have Cancer themselves or who have a relative or friend with cancer:

www.community.macmillian.org.uk

All of the above sources can provide information about **support groups** that are running in your area. If you prefer to seek information and advice regarding cancer **face-to-face** visit your local oncology service. **Macmillan Cancer Support** provide open access information and support stands in many hospital based oncology services.

Cancer Research UK provide information, advice and support regarding cancer via **cancer information nurses** who can be contacted via a confidential helpline:

0808 800 40 40

Or via **email** from the following website:

www.cancerresearchuk.org/cancer-help/utilities/contact-us/send-a-question/?secure=true

Cancer Research UK provide information and advice regarding cancer on its website:

www.cancerresearchuk.org

Should you have any specific issues that taking part in this study has raised then you can contact the **Researcher:**

Phone: 07951 048 138 **Email: L.Glover@2012.hull.ac.uk**

If you still have concerns having spoken to the Researcher you may also contact the following **Research Supervisors:**

Dr Philip Molyneux
The University of Hull
Phone: 01482 464 170
Email: p.molyneux@hull.ac.uk

Dr Emma Lewis
Castle Hill Hospital
Phone: 01482 461 060
Email: Emma.Lewis@hey.nhs.uk

Dr Joanne McVey
The York Hospital
Phone: 01904 725 353
Email: Joanne.Mcvey@york.nhs.uk

You can also seek advice from your GP

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Appendix 23. List of Online Recruitment Sources

Table 3

Details of the webpages that advertised the study.

Webpage	Web Address
Online Communities	
Macmillan Cancer Support Online Community - Noticeboard	http://community.macmillan.org.uk/
Cancer Research UK – Off Topic	https://www.cancerresearchuk.org/about-cancer/cancer-chat/
Facebook Pages*	
Marie Curie UK	https://www.facebook.com/MarieCurieUK?fref=ts
Marie Curie Yorkshire and Humber	https://www.facebook.com/MarieCurieYorksandHumber?fref=ts
Macmillan Cancer Support	https://www.facebook.com/macmillancancer?fref=ts
Cancer Research UK	https://www.facebook.com/cancerresearchuk?fref=ts
Yorkshire Cancer Research	https://www.facebook.com/yorkshirecancerresearch?fref=ts
Worldwide Cancer Research	https://www.facebook.com/worldwidecancerresearch?fref=ts
Pancreatic Cancer Action Network	https://www.facebook.com/JointheFight?fref=ts
Delete Blood Cancer	https://www.facebook.com/DeleteBloodCancer?fref=ts
Cervical Cancer Awareness	https://www.facebook.com/CervicalCancerAwareness.CCA?fref=ts
Lung Cancer Alliance	https://www.facebook.com/lungcanceralliance?fref=ts
Ovarian Cancer Awareness	https://www.facebook.com/pages/Ovarian-Cancer-Awareness/298785686433?fref=ts
Brain Cancer Awareness	https://www.facebook.com/pages/Brain-Cancer-Awareness/142745059156883?fref=ts
Testicular Cancer Awareness Foundation	https://www.facebook.com/tca.org?fref=ts
Womb Cancer Support UK	https://www.facebook.com/WombCancerSupportUK?ref=ts&fref=ts
Bone Cancer Research Trust	https://www.facebook.com/Bone.Cancer.Research.Trust?fref=ts
York Against Cancer	https://www.facebook.com/pages/York-Against-Cancer-official-page/135561403142169?fref=ts
Bowel Cancer UK	https://www.facebook.com/charitybcuk?fref=ts
Beating Bowel Cancer	https://www.facebook.com/pages/Beating-Bowel-Cancer/168643557928?fref=ts
Head and Neck Cancer Support International	https://www.facebook.com/HNCSupport?fref=ts
Breast Cancer Care	https://www.facebook.com/breastcancercare?fr

	ef=ts
Colon Cancer Alliance	https://www.facebook.com/ColonCancerAlliance?fref=ts
Kidney Cancer Awareness	https://www.facebook.com/pages/Kidney-Cancer-Awareness/649036828521901?fref=ts
Bladder Cancer Awareness	https://www.facebook.com/pages/Bladder-Cancer-Awareness/114704118611594?fref=ts
Skin Cancer Awareness	https://www.facebook.com/SkinCancerAwareness?fref=ts
FACT Cancer Support	https://www.facebook.com/FACTCancerSupport?fref=ts
Together Against Cancer	https://www.facebook.com/TogetherAgainstCancer.UK?fref=ts
Melanoma Awareness	https://www.facebook.com/pages/Melanoma-Awareness/160754923988338?fref=ts
Lymphoma Association	https://www.facebook.com/lymphomas?fref=ts
The Breast Cancer Site	https://www.facebook.com/TheBreastCancerSite?fref=ts
Stand up to Cancer UK	https://www.facebook.com/standuptocancerUK?fref=ts
Skin Cancer Foundation	https://www.facebook.com/skincancerfoundation?fref=ts
Fight Bladder Cancer	https://www.facebook.com/FightBladderCancer?fref=ts

***Criteria for suitable Facebook Pages:** Community page or not for profit/charity organisation; More than 100 visits / page ‘likes’; Activity within the last month**;** Affiliated with an English speaking country**;** Not aimed at children/teenagers; Allows posts to page without gaining permission from the organisation**.** Searched for pages supporting the 20 most common UK cancers (Cancer Research UK, 2011 - *http://www.cancerresearchuk.org/cancer-info/cancerstats/incidence/commoncancers/uk-cancer-incidence-statistics-for-common-cancers#Twenty*).

Appendix 24. Supplemental Results Tables

Comparisons of Participants With and Without Missing Data

Table 4

T-test comparisons of anxiety and depression scores between participants with missing data for any variable and complete data for all variables.

Variable	**Missing Data**			**Complete Data**			***t***	**df**	***p (two-tailed)***
	n	**Mean**	**SD**	***n***	**Mean**	**SD**			
Anxiety	24	9.25	5.02	178	9.00	4.32	-.26	200	.794
Depression[b]	24	7.13	4.95	178	5.64	3.64	-1.42	26.47	.167

[b] *Equal variances not assumed.*

Comparisons of Online and Postal Participants

Table 5

T-test comparisons of demographic and clinical variables for participants completing the study online and by post.

Variable	**Online**			**Post**			***t***	**df**	***p (two-tailed)***
	n	**Mean**	**SD**	***n***	**Mean**	**SD**			
Age (Years)^b	136	54.46	11.48	64	62.95	8.88	-5.73	156.02	<.001
Time Since Diagnosis (Months)^b	134	42.82	57.62	59	25.98	23.43	2.88	190.15	.004
Responsibility									
Mean when present	120	4.99	2.58	41	4.71	2.62	.61	159	.544
Self-Compassion	136	3.05	0.65	57	3.18	0.77	-1.22	191	.225

^{b}*Equal variances not assumed.*

Table 6

Chi-squared comparisons of demographic and clinical variables for participants completing the study online and by post.

Variable	**Online**		**Post**		χ^2	**df**	***p***
	n	**%**	***n***	**%**			
Gender							
Female	109	80.15	34	53.13	22.73	1	<.001
Male	27	19.85	30	46.88			
Cancer Site							
Breast	34	25.00	15	23.44	22.75	5	<.001
Digestive	13	9.56	12	18.75			
Gynaecological	33	24.27	3	4.69			
Genitourinary	34	25.00	13	20.31			
Head, Neck & Brain	7	5.15	13	20.31			
Other	15	11.03	8	4.69			
Recurrent/Secondary Cancer							
Yes	33	24.27	19	29.69	.67	1	.415
No	103	75.74	45	70.31			
Perceived Responsibility							
Present	120	88.24	41	67.21	12.46	1	<.001
Absent	16	11.77	20	32.79			

Comparisons of Participants With and Without Feelings of Personal Responsibility

Table 7

T-test comparisons of clinical and demographic variables for participants with and without feelings of personal responsibility for cancer onset.

Variable	**Responsible**			**Not Responsible**			***t***	**df**	***p (two-tailed)***
	n	**Mean**	**SD**	***n***	**Mean**	**SD**			
Age (Years)	158	56.12	10.94	35	59.94	11.91	-1.85	191	.066
Time Since Diagnosis (Months)	155	38.90	53.01	32	34.66	39.10	.43	185	.669
Self-Compassion	155	3.00	0.66	33	3.50	0.67	-3.90	186	<.001

Table 8

Chi-squared comparisons of clinical and demographic variables for participants with and without feelings of personal responsibility for cancer onset.

Variable	**Responsible**		**Not Responsible**		χ^2	**df**	***p***
	n	**%**	***n***	**%**			
Gender							
Female	114	72.15	22	62.86	1.19	1	.275
Male	44	27.85	13	37.14			
Cancer Site							
Breast	40	25.32	8	22.86	1.11	5	.953
Digestive	19	12.03	4	11.43			
Gynaecological	31	19.62	5	14.29			
Genitourinary	37	23.42	9	25.71			
Head, Neck & Brain	13	8.23	4	11.43			
Other	18	11.39	5	14.29			
Recurrent/Secondary Cancer							
Yes	40	25.32	9	25.71	.00	1	.961
No	118	74.68	26	74.29			

Subsample Multivariable Analyses

Table 9

A multivariable univariate analysis predicting anxiety from demographic and clinical variables for participants reporting feelings of personal responsibility for cancer onset – Supplemental results.

Variable	***n***	**Mean (E)**[1]	**SD**	**B**	**95% CI B (Lower/Upper)**	**SE B**	***t***	***df***	**R^2**	***F***	***p***
Anxiety Block 1	**154**	**9.43**	**4.14**					**10**	**.12**	**2.01**	**0.036**
Gender								1		1.21	.274
Male	42	8.79 (8.69)	4.67	-.99	-2.78 / .79	.90	-1.10				
Female	112	9.67 (9.68)	3.91	–	–	–	–				
Age	154	9.43	4.14	-.11	-.17 / -.04	.03	-3.30	1		10.90	.001
Site								5		1.96	.088
Breast	39	10.33 (10.10)	4.49	1.95	-.40 / 4.29	1.19	1.64				.104
Digestive	18	8.89 (9.26)	3.43	1.11	-1.62 / 3.83	1.38	.80				.423
Gynaecological	31	9.03 (8.59)	3.42	.44	-2.02 / 2.90	1.24	.35				.725
Genitourinary	37	10.23 (10.87)	3.99	2.72	.38 / 5.06	1.19	2.30				.023
Head, Neck & Brain	11	8.00 (8.11)	5.02	-.04	-3.23 / 3.14	1.61	-.03				.979
Other	18	7.94 (8.15)	4.53	–	–	–	–				–
Time	154	9.43	4.14	.00	-.01 / .02	.01	.48	1		.23	.634
Recurrence								1		.01	.934
Yes	39	9.39 (9.22)	3.82	.07	-1.58 / 1.72	.84	.08				
No	115	9.44 (9.15)	4.25	–	–	–	–				
Recruitment Source								1		1.54	.217
Online	118	9.48 (8.63)	4.12	-1.10	-2.86 / .66	.89	-1.24				
Post	36	9.28 (9.73)	4.25	–	–	–	–				

Two-tailed

[1] *Estimated marginal means for between-groups variables*

– Reference group for between-groups B comparisons.

Table 10

A multivariable univariate analysis predicting anxiety from demographic, clinical and psychological variables for participants reporting feelings of personal responsibility for cancer onset – Supplemental results.

Variable	***n***	**Mean (E)**[1]	**SD**	**B**	**95% CI B (Lower/Upper)**	**SE B**	***t***	***df***	***R^2***	***F***	***p***
Anxiety Block 2	**148**	**9.49**	**4.12**					**12**	**.43**	**8.32**	**<.001**
Gender								1		.01	.926
Male	39	9.13 (9.25)	4.64	.07	-1.46 / 1.60	.77	.09				
Female	109	9.62 (9.17)	3.93	–	–	–	–				
Age	148	9.49	4.12	-.01	-.07 / .05	.03	-.34	1		.11	.738
Site								5		1.76	.125
Breast	37	10.24 (10.17)	4.54	1.10	-.88 / 3.08	1.00	1.10				.274
Digestive	18	8.89 (9.28)	3.43	.21	-2.10 / 2.52	1.17	.18				.858
Gynaecological	31	9.03 (9.01)	3.42	-.06	-2.11 / 1.99	1.04	-.06				.954
Genitourinary	36	10.19 (10.37)	4.04	1.30	-.72 / 3.33	1.02	1.27				.206
Head, Neck & Brain	10	8.40 (7.38)	5.10	-1.69	-4.47 / 1.08	1.40	-1.21				.230
Other	16	8.38 (9.07)	4.54	–	–	–	–				–
Time	148	9.49	4.12	-.00	-.01 / .01	.01	-.51	1		.26	.613
Recurrence								1		.19	.666
Yes	38	9.45 (9.06)	3.85	-.30	-1.67 / 1.07	.69	-4.33				
No	110	9.50 (9.36)	4.22	–	–	–	–				
Recruitment Source								1		.30	.584
Online	118	9.48 (9.00)	4.12	-.43	-1.96 / 1.11	.77	-.55				
Post	30	9.53 (9.42)	4.19	–	–	–	–				
Responsibility	148	9.49	4.12	.09	-.14 / .31	.12	.75	1		.57	.453
Self-Compassion	148	9.49	4.12	-3.89	-4.84 / -2.93	.48	-8.04	1		64.61	<.001

Two-tailed

[1] *Estimated marginal means for between-groups variables*

– Reference group for between-groups B comparisons.

Table 11

A multivariable univariate analysis predicting anxiety from an interaction between responsibility and self-compassion for participants reporting feelings of personal responsibility for cancer onset – Supplemental results.

Variable	***n***	**Mean (E)^1**	**SD**	**B**	**95% CI B (Lower/Upper)**	**SE B**	***t***	***df***	***R*^{2}**	***F***	***p***
Anxiety Block 3	**148**	**9.49**	**4.12**					**13**	**.44**	**8.01**	**<.001**
Gender								1		.00	.985
Male	39	9.13 (9.23)	4.64	-.02	-1.54 / 1.51	.77	-.02				
Female	109	9.62 (9.24)	3.93	–	–	–	–				
Age	148	9.49	4.12	-.01	-.07 / .04	.03	-.51	1		.26	.614
Site								5		2.05	.076
Breast	37	10.24 (10.25)	4.54	1.13	-.84 / 3.10	1.00	1.14				.257
Digestive	18	8.89 (9.20)	3.43	.09	-2.21 / 2.38	1.16	.07				.941
Gynaecological	31	9.03 (8.82)	3.42	-.29	-2.34 / 1.76	1.04	-.28				.778
Genitourinary	36	10.19 (10.52)	4.04	1.40	-.61 / 3.42	1.02	1.38				.171
Head, Neck & Brain	10	8.40 (7.49)	5.10	-1.62	-4.38 / 1.13	1.39	-1.17				.246
Other	16	8.38 (9.12)	4.54	–	–	–	–				–
Time	148	9.49	4.12	-.00	-.01 / .01	.01	-.53	1		.28	.598
Recurrence								1		.12	.728
Yes	38	9.45 (9.11)	3.85	-.24	-1.60 / 1.12	.69	-.35				
No	110	9.50 (9.35)	4.22	–	–	–	–				
Recruitment Source								1		.46	.500
Online	118	9.48 (8.97)	4.12	-.52	-2.04 / 1.00	.77	-.68				
Post	30	9.53 (9.49)	4.19	–	–	–	–				
Responsibility	148	9.49	4.12	.06	-.17 / .29	.12	.50	1		.25	.619
Self-Compassion	148	9.49	4.12	-3.92	-4.87 / -2.97	.48	-8.16	1		66.56	<.001
Responsibility x Self-Compassion	148	9.49	4.12	-3.08	-.67 / .05	.18	-1.70	1		2.90	.091

Two-tailed; ^{1}Estimated marginal means for between-groups variable; – Reference group for between-groups B comparisons.

Table 12

A multivariable univariate analysis predicting depression from demographic and clinical variables for participants reporting feelings of personal responsibility for cancer onset – Supplemental results.

Variable	***n***	**Mean (E)**[1]	**SD**	**B**	**95% CI B (Lower/Upper)**	**SE B**	***t***	***df***	***R^2***	***F***	***p***
Depression Block 1	**154**	**6.09**	**3.67**					**10**	**.09**	**1.33**	**.219**
Gender								1		.07	.792
Male	42	6.00 (6.391)	4.55	.22	-1.40 / 1.84	.82	.27				
Female	112	6.13 (6.18)	3.31	–	–	–	–				
Age	154	6.09	3.67	-.06	-.12 / -.01	.03	-2.24	1		5.00	.027
Site								5		1.25	.290
Breast	39	6.46 (7.04)	3.28	2.31	.18 / 4.44	1.08	2.14				.034
Digestive	18	6.06 (6.26)	3.39	1.53	-.94 / 4.00	1.25	1.22				.223
Gynaecological	31	6.09 (7.30)	3.15	2.57	.34 / 4.80	1.13	2.28				.024
Genitourinary	37	6.05 (6.58)	4.44	1.85	-.28 / 3.97	1.08	1.72				.088
Head, Neck & Brain	11	5.55 (5.78)	4.46	1.04	-1.85 / 3.93	1.44	.71				.478
Other	18	4.33 (4.73)	3.16	–	–	–	–				–
Time	154	6.09	3.67	.00	0.01 / .01	.01		1		.17	.681
Recurrence								1		1.03	.311
Yes	39	6.46 (6.67)	3.71	.77	-.73 / 2.27	.76					
No	115	5.97 (5.90)	3.67	–	–	–	–				
Recruitment Source								1		.88	.349
Online	118	6.09 (5.90)	3.63	-.76	-2.35 / .84	.81					
Post	36	6.11 (6.66)	3.88	–	–	–	–				

Two-tailed

[1] *Estimated marginal means for between-groups variables*

– Reference group for between-groups B comparisons.

Table 13

A multivariable univariate analysis predicting depression from demographic, clinical and psychological variables for participants reporting feelings of personal responsibility for cancer onset – Supplemental results.

Variable	***n***	**Mean (E)**[1]	**SD**	**B**	**95% CI B (Lower/Upper)**	**SE B**	***t***	***df***	***R^2***	***F***	***p***
Depression Block 2	**148**	**6.06**	**3.64**					**12**	**.31**	**5.07**	**<.001**
Gender								1		1.25	.266
Male	39	5.92 (6.45)	4.43	.84	-.64 / 2.32	.75	1.12				
Female	109	6.11 (5.61)	3.34	–	–	–	–				
Age	148	6.06	3.64	.00	-.05 / .06	.03	.16	1		.03	.874
Site								5		1.91	.096
Breast	37	6.38 (6.89)	3.35	1.68	-.24 / 3.60	.97	1.73				
Digestive	18	6.06 (6.35)	3.39	1.15	-1.09 / 3.38	1.13	1.01				
Gynaecological	31	6.90 (7.38)	3.15	2.17	.19 / 4.15	1.00	2.17				
Genitourinary	36	6.11 (6.26)	4.49	1.05	-.91 / 3.01	.99	1.06				
Head, Neck & Brain	10	4.60 (4.06)	3.34	-1.15	-3.84 / 1.54	1.36	-.85				
Other	16	4.50 (5.21)	3.31	–	–	–	–				–
Time	148	6.06	3.64	-.00	-.01 / .01	.01	-.14	1		.02	.888
Recurrence								1		.48	.490
Yes	38	6.53 (6.26)	3.74	.46	-8.6 / 1.79	.67	.69				
No	110	5.90 (5.79)	3.61	–	–	–	–				
Recruitment Source								1		.02	.894
Online	118	6.09 (5.98)	3.63	-.10	-1.58 / 1.38	.75	-.13				
Post	30	5.97 (6.08)	3.77	–	–	–	–				
Responsibility	148	6.06	3.64	-.08	-.30 / .15	.11	-.68	1		.46	.498
Self-Compassion	148	6.06	3.64	-3.02	-3.95 / -2.09	.47	-6.45	1		41.56	<.001

Two-tailed

[1] *Estimated marginal means for between-groups variables*

– Reference group for between-groups B comparisons.

Table 14

A multivariable univariate analysis predicting depression from an interaction between responsibility and self-compassion for participants reporting feelings of personal responsibility for cancer onset – Supplemental results.

Variable	***n***	**Mean (E)[1]**	**SD**	**B**	**95% CI B (Lower/Upper)**	**SE B**	***t***	***df***	**R^2**	***F***	***p***
Depression Block 3	**148**	**9.49**	**4.12**					**13**	**.33**	**5.02**	**<.001**
Gender								1		1.01	.317
Male	39	5.92 (6.42)	4.64	.75	-.73 / 2.22	.75	1.00				
Female	109	6.11 (5.68)	3.93	–	–	–	–				
Age	148	6.06	4.12	-.00	-.06 / .05	.03	-.02	1		.00	.981
Site								5		1.71	.137
Breast	37	6.38 (6.98)	4.54	1.71	-.19 / 3.62	.96	1.78				
Digestive	18	6.06 (6.28)	3.43	1.02	-1.21 / 3.24	1.12	.91				
Gynaecological	31	6.90 (7.19)	3.42	1.93	-.06 / 3.91	1.00	1.92				
Genitourinary	36	6.11 (6.42)	4.04	1.16	-.79 / 3.10	.99	1.17				
Head, Neck & Brain	10	4.60 (4.18)	5.10	-1.08	-3.74 / 1.59	1.35	-.80				
Other	16	4.50 (5.26)	4.54	–	–	–	–				–
Time	148	6.06	4.12	-.00	-.01 / .01	.01	-.16	1		.03	.872
Recurrence								1		.62	.431
Yes	38	6.53 (6.31)	3.85	.53	-.79 / 1.84	.67	.79				
No	110	5.90 (5.79)	4.22	–	–	–	–				
Recruitment Source								1		.07	.789
Online	118	6.09 (5.95)	4.12	-.20	-1.67 / 1.27	.75	-.27				
Post	30	5.97 (6.15)	4.19	–	–	–	–				
Responsibility	148	6.06	4.12	-.11	-.33 / .12	.11	-.95	1		.90	.345
Self-Compassion	148	6.06	4.12	-3.06	-3.97 / -2.14	.47	-6.57	1		43.22	<.001
Responsibility x Self-Compassion[a]	148	6.06	4.12	-.32	-.67 / .03	.18	-1.86	1		3.37	.069

Two-tailed; [1]Estimated marginal means for between-groups variables; – Reference group for B comparisons; [a]Bootstrapped p value = .045

Appendix 25. Additional Analyses

Full Sample Correlations

Table 15

Bivariate correlations between demographic, clinical and psychological variables for the full participant sample.

Variable	**1**	**2**	**3**	**4**	**5**
1. Age					
2. Time	.10				
3. Self-Compassion	.35**	-.10			
4. Anxiety	-.27**	.03	-.67**		
5. Depression	-.25**	.03	-.56**	.68**	–

**p < 0.05; **p 0.01 (two-tailed)*

Full Sample Multivariable Analyses

Table 16

A multivariable univariate analysis predicting anxiety from demographic and clinical variables for the full participant sample.

Variable	***n***	**Mean (E)**[1]	**SD**	**B**	**95% CI B (Lower/Upper)**	**SE B**	***t***	***df***	***R*²**	***F***	***p***
Anxiety Block 1	**192**	**8.99**	**4.38**					**10**	**.13**	**2.58**	**.006**
Gender[a]								1			
Male	56	7.89 (7.94)	4.59	-1.73	-3.40 / -.06	.85	-2.05			4.20	.042
Female	136	9.44 (9.67)	4.23	–	–	–	–				
Age	192	8.99	4.38	-.12	-.18 / -.06	.03	-3.83	1		14.69	<.001
Site								5			
Breast	48	9.52 (9.05)	4.81	.66	-1.55 / 2.88	1.12	.59			1.31	.261
Digestive	23	8.17 (8.80)	3.71	.41	-2.16 / 2.97	1.30	.31				
Gynaecological	36	8.94 (8.17)	3.56	-.22	-2.55 / 2.11	1.18	-.18				
Genitourinary	46	9.52 (10.37)	4.44	1.95	-.27 / 4.17	1.13	1.73				
Head, Neck & Brain	17	7.88 (8.08)	5.29	-.31	-3.06 / 2.44	1.40	-.22				
Other	22	8.50 (8.39)	4.52	–	–	–	–				–
Time	192	8.99	4.38	.00	-.01 / 0.17	.01	.55	1		.31	.580
Recurrence								1			
Yes	49	9.55 (9.21)	4.15	.82	-.66 / 2.30	.75	1.09			1.18	.278
No	143	9.22 (8.40)	4.26	–	–	–	–				
Recruitment Source								1			
Online	134	9.22 (8.37)	4.28	-.88	-2.44 / .69	.79	-1.11			1.22	.271
Post	58	8.47 (9.24)	4.60	–	–	–	–				

Two-tailed, Univariate

[1] *Estimated marginal means for between-groups variables*

– Reference group for between-groups B comparisons.

[a] *Bootstrapped p value = .068*

Table 17

A multivariable univariate analysis predicting anxiety from demographic, clinical and psychological variables for the full participant sample.

Variable	***n***	**Mean (E)[1]**	**SD**	**B**	**95% CI B (Lower/Upper)**	**SE B**	***t***	***df***	**R^2**	***F***	***p***
Anxiety Block 2	**178**	**9.00**	**4.32**					**12**	**.49**	**12.94**	**<.001**
Gender								1		.12	.729
Male	50	8.22 (8.31)	4.67	-.24	-1.62 / 1.14	.70	-.35				
Female	128	9.31 (8.56)	4.16	–	–	–	–				
Age	178	9.00	4.32	-.02	-.07 / .04	.03	-.61	1		.37	.542
Site								5		2.40	.039
Breast	45	9.33 (9.10)	4.87	.63	-1.12 / 2.38	.89	.71				
Digestive	21	8.48 (8.76)	3.63	.29	-1.79 / 2.38	1.06	.28				
Gynaecological	35	8.80 (8.04)	3.51	-.43	-2.26 / 1.40	.93	-.47				
Genitourinary	44	9.52 (9.73)	4.53	1.26	-.53 / 3.04	.91	1.39				
Head, Neck & Brain	13	7.62 (6.51)	4.72	-1.97	-4.31 / .38	1.19	-1.66				
Other	20	8.90	4.48	–	–	–	–				–
Time	178	9.00	4.32	-.00	-.01 / .01	.01	-.34	1		.12	.733
Recurrence								1		.04	.843
Yes	45	9.31 (8.38)	4.03	-.12	-1.31 / 1.07	.61	-.20				
No	133	8.89 (8.50)	4.42	–	–	–	–				
Recruitment Source										.48	.491
								1			
Online	134	9.22 (8.21)	4.28	-.46	-1.78 / .86	.67	-.69				
Post	44	8.34 (8.67)	4.43	–	–	–	–				
Responsibility								1			
Present	148	9.49 (8.87)	4.12	.86	-.50 / 2.22	.69	1.25			1.57	.212
Absent	30	6.60 (8.01)	4.56	–	–	–	–				
Self-Compassion	178	9.00	4.32	-4.18	-4.99 / -3.38	.41	-10.25	1		105.07	<.001

Two-tailed; [1]Estimated marginal means for between-groups variables; – Reference group for between-groups B comparisons.

Table 18

A multivariable univariate analysis predicting depression from demographic and clinical variables for the full participant sample.

Variable	***n***	**Mean (E)**[1]	**SD**	**B**	**95% CI B (Lower/Upper)**	**SE B**	***t***	***df***	R^2	***F***	***p***
Depression Block 1	**192**	**5.71**	**3.74**					**10**	**.12**	**2.42**	**.100**
Gender								1			
Male	56	5.16 (5.91)	4.47	-.26	-1.69 / 1.17	.73	-.35			.13	.723
Female	136	5.94 (6.17)	3.38	–	–	–	–				
Age	192	5.71	3.74	-.07	-.13 / -.02	.03	-2.85	1		8.12	.005
Site								5			
Breast	48	6.04 (6.54)	3.39	1.94	.04 / 3.84	.96	2.02			1.22	.301
Digestive	23	5.52 (5.88)	3.63	1.28	-.92 / 3.48	1.11	1.15				
Gynaecological	36	6.72 (6.91)	3.18	2.30	.31 / 4.30	1.01	2.28				
Genitourinary	46	5.17 (5.80)	4.42	1.20	-.71 / 3.10	.97	1.24				
Head, Neck & Brain	17	6.12 (6.50)	4.36	1.89	-.47 / 4.25	1.20	1.59				
Other	22	4.36 (4.60)	3.12	–	–	–	–				–
Time	192	5.71	3.74	.00	-.01 / 0.13	.01	.34	1		.12	.735
Recurrence								1			
Yes	49	6.69 (6.85)	3.83	1.63	.36 / 2.90	.64	2.54			6.44	.012
No	143	5.38 (5.22)	3.66	–	–	–	–				
Recruitment Source								1			
Online	134	5.84 (5.87)	3.57	-.33	-1.67 / 1.01	.68	-.49			.24	.625
Post	58	5.41 (6.20)	4.12	–	–	–	–				

Two-tailed

[1] *Estimated marginal means for between-groups variables*

– Reference group for between-groups B comparisons.

Table 19

A multivariable univariate analysis predicting depression from demographic, clinical and psychological variables for the full participant sample.

Variable	***n***	**Mean (E)^1**	**SD**	**B**	**95% CI B (Lower/Upper)**	**SE B**	***t***	***df***	***R^2***	***F***	***p***
Depression Block 2	**178**	**5.64**	**3.64**					**12**	**.36**	**7.88**	**<.001**
Gender								1		.94	.333
Male	50	5.22	4.43	.64	-.66 / 1.93	.65	.97				
Female	128	5.81	3.29	–	–	–	–				
Age	178	5.64	3.64	.00	-.05 / .05	.02	.07	1		.00	.948
Site								1		2.18	.059
Breast	45	5.82	3.35	1.87	.23 / 3.50	.83	2.25				
Digestive	21	5.95	3.50	1.52	-.43 / 3.47	.99	1.54				
Gynaecological	35	6.66	3.20	2.23	.52 / 3.94	.87	2.57				
Genitourinary	44	5.27	4.50	.90	-.78 / 2.57	.85	1.06				
Head, Neck & Brain	13	4.77	3.09	-.27	-2.46 / 1.92	1.11	-.24				
Other	20	4.50	3.22	–	–	–	–				–
Time	178	5.64	3.64	.00	-.01 / .01	.01	-.08	1		.01	.938
Recurrence								1		2.30	.132
Yes	45	6.42	3.67	.86	-.26 / 1.98	.57	1.52				
No	133	5.37	3.61	–	–	–	–				
Recruitment Source								1		.00	.985
Online	134	5.84	3.57	-.01	-1.25 / 1.22	.63	-.02				
Post	44	5.02	3.83	–	–	–	–				
Responsibility								1			
Present	148	6.06	3.64	.95	-.32 / 2.23	.64	1.48			2.19	.141
Absent	30	3.57	2.89	–	–	–	–				
Self-Compassion	178	5.64	3.64	-2.87	-3.63 / -2.12	.38	-7.52	1		56.48	<.001

Two-tailed; ^{1}Estimated marginal means for between-groups variables; – Reference group for between-groups B comparisons.

Appendix 26. SPSS Output

T-Tests Comparing Participants With and Without Missing Data

Independent Samples Test

		Levene's Test for Equality of Variances		t-test for Equality of Means						
									95% Confidence Interval of the Difference	
		F	Sig.	t	df	Sig. (2-tailed)	Mean Difference	Std. Error Difference	Lower	Upper
Anxiety	Equal variances assumed	.830	.363	-.261	200	.794	-.25000	.95832	-2.13972	1.63972
	Equal variances not assumed			-.232	27.780	.818	-.25000	1.07541	-2.45366	1.95366
Depression	Equal variances assumed	6.017	.015	-1.790	200	.075	-1.48455	.82940	-3.12004	.15094
	Equal variances not assumed			-1.420	26.466	.167	-1.48455	1.04582	-3.63242	.66332

T-Tests Comparing Online and Postal Participants

Independent Samples Test

		Levene's Test for Equality of Variances		t-test for Equality of Means						
									95% Confidence Interval of the Difference	
		F	Sig.	t	df	Sig. (2-tailed)	Mean Difference	Std. Error Difference	Lower	Upper
Age	Equal variances assumed	6.833	.010	-5.229	198	.000	-8.49724	1.62494	-11.70166	-5.29282
	Equal variances not assumed			-5.728	156.019	.000	-8.49724	1.48344	-11.42745	-5.56703

Independent Samples Test

		Levene's Test for Equality of Variances		t-test for Equality of Means						
									95% Confidence Interval of the Difference	
		F	Sig.	t	df	Sig. (2-tailed)	Mean Difference	Std. Error Difference	Lower	Upper
Time	Equal variances assumed	7.688	.006	2.165	191	.032	16.83784	7.77824	1.49556	32.18013
	Equal variances not assumed			2.884	190.152	.004	16.83784	5.83747	5.32333	28.35236

Independent Samples Test

		Levene's Test for Equality of Variances		t-test for Equality of Means						
									95% Confidence Interval of the Difference	
		F	Sig.	t	df	Sig. (2-tailed)	Mean Difference	Std. Error Difference	Lower	Upper
Responsibility	Equal variances assumed	.367	.545	.608	159	.544	.28435	.46784	-.63963	1.20833
	Equal variances not assumed			.603	68.268	.549	.28435	.47183	-.65710	1.22580

Independent Samples Test

		Levene's Test for Equality of Variances		t-test for Equality of Means						
									95% Confidence Interval of the Difference	
		F	Sig.	t	df	Sig. (2-tailed)	Mean Difference	Std. Error Difference	Lower	Upper
Self-compassion	Equal variances assumed	2.990	.085	-1.217	191	.225	-.13168	.10825	-.34520	.08183
	Equal variances not assumed			-1.131	90.365	.261	-.13168	.11647	-.36307	.09970

Chi-Squared Tests Comparing Online and Postal Participants

Gender * online_vs_post Crosstabulation

Count

		online_vs_post		
		online	post	Total
Gender	male	27	34	61
	female	109	30	139
Total		136	64	200

Chi-Square Tests

	Value	df	Asymp. Sig. (2-sided)	Exact Sig. (2-sided)	Exact Sig. (1-sided)
Pearson Chi-Square	22.728[a]	1	.000		
Continuity Correction[b]	21.186	1	.000		
Likelihood Ratio	21.991	1	.000		
Fisher's Exact Test				.000	.000
Linear-by-Linear Association	22.614	1	.000		
N of Valid Cases	200				

a. 0 cells (.0%) have expected count less than 5. The minimum expected count is 19.52.

b. Computed only for a 2x2 table

Site * online_vs_post Crosstabulation

Count

		online_vs_post		
		online	post	Total
Site	breast	34	15	49
	digestive	13	12	25
	gyne	33	3	36
	genito	34	13	47
	head	7	13	20
	other	15	8	23
Total		136	64	200

Chi-Square Tests

	Value	df	Asymp. Sig. (2-sided)
Pearson Chi-Square	22.749[a]	5	.000
Likelihood Ratio	24.063	5	.000
Linear-by-Linear Association	.907	1	.341
N of Valid Cases	200		

a. 0 cells (.0%) have expected count less than 5. The minimum expected count is 6.40.

Recurrance * online_vs_post Crosstabulation

Count

		online_vs_post		Total
		online	post	
Recurrence	yes	33	19	52
	no	103	45	148
Total		136	64	200

Chi-Square Tests

	Value	df	Asymp. Sig. (2-sided)	Exact Sig. (2-sided)	Exact Sig. (1-sided)
Pearson Chi-Square	.665[a]	1	.415		
Continuity Correction[b]	.413	1	.520		
Likelihood Ratio	.656	1	.418		
Fisher's Exact Test				.490	.258
Linear-by-Linear Association	.662	1	.416		
N of Valid Cases	200				

a. 0 cells (.0%) have expected count less than 5. The minimum expected count is 16.64.

b. Computed only for a 2x2 table

Responsibility * online_vs_post Crosstabulation

Count

		online_vs_post		Total
		online	post	
0	responsibility present	120	41	161
	no responsibility	16	20	36
Total		136	61	197

Chi-Square Tests

	Value	df	Asymp. Sig. (2-sided)	Exact Sig. (2-sided)	Exact Sig. (1-sided)
Pearson Chi-Square	12.461[a]	1	.000		
Continuity Correction[b]	11.093	1	.001		
Likelihood Ratio	11.651	1	.001		
Fisher's Exact Test				.001	.001
Linear-by-Linear Association	12.398	1	.000		
N of Valid Cases	197				

a. 0 cells (.0%) have expected count less than 5. The minimum expected count is 11.15.

b. Computed only for a 2x2 table

Full Sample Correlations

Correlations

		Age	Time	Self-Compassion	Anxiety	Depression
Age	Pearson Correlation	1	.103	.354**	-.273**	-.248**
	Sig. (2-tailed)		.156	.000	.000	.000
	N	200	193	189	198	198
Time	Pearson Correlation	.103	1	-.104	.027	.028
	Sig. (2-tailed)	.156		.161	.713	.698
	N	193	193	184	192	192
Self-Compassion	Pearson Correlation	.354**	-.104	1	-.670**	-.560**
	Sig. (2-tailed)	.000	.161		.000	.000
	N	189	184	193	191	191
Anxiety	Pearson Correlation	-.273**	.027	-.670**	1	.680**
	Sig. (2-tailed)	.000	.713	.000		.000
	N	198	192	191	202	202
Depression	Pearson Correlation	-.248**	.028	-.560**	.680**	1
	Sig. (2-tailed)	.000	.698	.000	.000	
	N	198	192	191	202	202

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

Full Sample Anxiety ANCOVA Block 1

Tests of Between-Subjects Effects

Dependent Variable: Anxiety

Source	Type III Sum of Squares	df	Mean Square	F	Sig.
Corrected Model	457.174[a]	10	45.717	2.580	.006
Intercept	1301.893	1	1301.893	73.482	.000
Gender	74.397	1	74.397	4.199	.042
Site	116.085	5	23.217	1.310	.261
Recurrence	20.977	1	20.977	1.184	.278
online_vs_post	21.624	1	21.624	1.221	.271
Age	260.182	1	260.182	14.685	.000
Time	5.440	1	5.440	.307	.580
Error	3206.805	181	17.717		
Total	19180.000	192			
Corrected Total	3663.979	191			

a. R Squared = .125 (Adjusted R Squared = .076)

Parameter Estimates

Dependent Variable: Anxiety

Parameter	B	Std. Error	t	Sig.	95% Confidence Interval	
					Lower Bound	Upper Bound
Intercept	15.750	2.177	7.234	.000	11.454	20.046
[Gender=1.00]	-1.734	.846	-2.049	.042	-3.404	-.064
[Gender=2.00]	0[a]	.	.	.	.	.
[Site=1.00]	.664	1.122	.592	.555	-1.550	2.878
[Site=2.00]	.406	1.299	.313	.755	-2.157	2.970
[Site=3.00]	-.216	1.181	-.183	.855	-2.546	2.114
[Site=4.00]	1.948	1.126	1.731	.085	-.273	4.169
[Site=5.00]	-.311	1.395	-.223	.824	-3.063	2.441
[Site=6.00]	0[a]	.	.	.	.	.
[Recurrence=1.00]	.817	.751	1.088	.278	-.664	2.298
[Recurrence=2.00]	0[a]	.	.	.	.	.
[online_vs_post=1.00]	-.876	.793	-1.105	.271	-2.440	.689
[online_vs_post=2.00]	0[a]	.	.	.	.	.
Age	-.117	.030	-3.832	.000	-.177	-.057
Time	.004	.007	.554	.580	-.009	.017

a. This parameter is set to zero because it is redundant.

Full Sample Anxiety ANCOVA Block 2

Tests of Between-Subjects Effects

Dependent Variable: Anxiety

Source	Type III Sum of Squares	df	Mean Square	F	Sig.
Corrected Model	1601.926[a]	12	133.494	12.941	.000
Intercept	1909.665	1	1909.665	185.124	.000
Gender	1.247	1	1.247	.121	.729
Site	124.003	5	24.801	2.404	.039
Recurrence	.406	1	.406	.039	.843
online_vs_post	4.909	1	4.909	.476	.491
Age	3.855	1	3.855	.374	.542
Time	1.208	1	1.208	.117	.733
Responsibility_Group	16.165	1	16.165	1.567	.212
SCS	1083.895	1	1083.895	105.073	.000
Error	1702.074	165	10.316		
Total	17722.000	178			
Corrected Total	3304.000	177			

a. R Squared = .485 (Adjusted R Squared = .447)

Parameter Estimates

Dependent Variable: Anxiety

Parameter	B	Std. Error	t	Sig.	95% Confidence Interval	
					Lower Bound	Upper Bound
Intercept	22.326	1.960	11.389	.000	18.455	26.197
[Gender=1.00]	-.243	.699	-.348	.729	-1.623	1.137
[Gender=2.00]	0[a]	.	.	.	.	.
[Site=1.00]	.632	.887	.713	.477	-1.119	2.383
[Site=2.00]	.293	1.056	.277	.782	-1.792	2.377
[Site=3.00]	-.430	.925	-.465	.643	-2.257	1.397
[Site=4.00]	1.257	.905	1.388	.167	-.531	3.044
[Site=5.00]	-1.965	1.186	-1.657	.099	-4.306	.376
[Site=6.00]	0[a]	.	.	.	.	.
[Recurrence=1.00]	-.120	.605	-.198	.843	-1.314	1.074
[Recurrence=2.00]	0[a]	.	.	.	.	.
[online_vs_post=1.00]	-.460	.667	-.690	.491	-1.778	.857
[online_vs_post=2.00]	0[a]	.	.	.	.	.
Age	-.016	.026	-.611	.542	-.066	.035
Time	-.002	.005	-.342	.733	-.012	.008
[Responsibility_Group=.00]	.862	.688	1.252	.212	-.497	2.221
[Responsibility_Group=1.00]	0[a]	.	.	.	.	.
SCS	-4.183	.408	-10.251	.000	-4.988	-3.377

a. This parameter is set to zero because it is redundant.

Full Sample Depression ANCOVA Block 1

Tests of Between-Subjects Effects

Dependent Variable: Depression

Source	Type III Sum of Squares	df	Mean Square	F	Sig.
Corrected Model	314.284[a]	10	31.428	2.416	.010
Intercept	577.607	1	577.607	44.394	.000
Gender	1.634	1	1.634	.126	.723
Site	79.501	5	15.900	1.222	.301
Recurrence	83.729	1	83.729	6.435	.012
online_vs_post	3.111	1	3.111	.239	.625
Age	105.594	1	105.594	8.116	.005
Time	1.499	1	1.499	.115	.735
Error	2354.961	181	13.011		
Total	8937.000	192			
Corrected Total	2669.245	191			

a. R Squared = .118 (Adjusted R Squared = .069)

Parameter Estimates

Dependent Variable: Depression

Parameter	B	Std. Error	t	Sig.	95% Confidence Interval	
					Lower Bound	Upper Bound
Intercept	8.214	1.866	4.402	.000	4.532	11.896
[Gender=1.00]	-.257	.725	-.354	.723	-1.688	1.174
[Gender=2.00]	0[a]	.	.	.	.	.
[Site=1.00]	1.940	.961	2.018	.045	.043	3.837
[Site=2.00]	1.276	1.113	1.146	.253	-.921	3.473
[Site=3.00]	2.303	1.012	2.276	.024	.306	4.300
[Site=4.00]	1.196	.965	1.239	.217	-.708	3.099
[Site=5.00]	1.894	1.195	1.585	.115	-.465	4.253
[Site=6.00]	0[a]	.	.	.	.	.
[Recurrence=1.00]	1.632	.643	2.537	.012	.363	2.901
[Recurrence=2.00]	0[a]	.	.	.	.	.
[online_vs_post=1.00]	-.332	.679	-.489	.625	-1.673	1.008
[online_vs_post=2.00]	0[a]	.	.	.	.	.
Age	-.074	.026	-2.849	.005	-.126	-.023
Time	.002	.006	.339	.735	-.009	.013

a. This parameter is set to zero because it is redundant.

Full Sample Depression ANCOVA Block 2

Tests of Between-Subjects Effects

Dependent Variable: Depression

Source	Type III Sum of Squares	df	Mean Square	F	Sig.
Corrected Model	855.311[a]	12	71.276	7.884	.000
Intercept	776.579	1	776.579	85.900	.000
Gender	8.525	1	8.525	.943	.333
Site	98.586	5	19.717	2.181	.059
Recurrence	20.750	1	20.750	2.295	.132
online_vs_post	.003	1	.003	.000	.985
Age	.039	1	.039	.004	.948
Time	.054	1	.054	.006	.938
Responsibility_Group	19.813	1	19.813	2.192	.141
SCS	510.616	1	510.616	56.481	.000
Error	1491.678	165	9.040		
Total	8010.000	178			
Corrected Total	2346.989	177			

a. R Squared = .364 (Adjusted R Squared = .318)

Parameter Estimates

Dependent Variable: Depression

Parameter	B	Std. Error	t	Sig.	95% Confidence Interval Lower Bound	95% Confidence Interval Upper Bound
Intercept	11.969	1.835	6.522	.000	8.346	15.593
[Gender=1.00]	.635	.654	.971	.333	-.656	1.927
[Gender=2.00]	0[a]	.	.	.	.	.
[Site=1.00]	1.865	.830	2.246	.026	.226	3.504
[Site=2.00]	1.520	.988	1.538	.126	-.431	3.471
[Site=3.00]	2.225	.866	2.569	.011	.515	3.935
[Site=4.00]	.897	.848	1.058	.292	-.777	2.570
[Site=5.00]	-.268	1.110	-.241	.810	-2.459	1.923
[Site=6.00]	0[a]	.	.	.	.	.
[Recurrence=1.00]	.858	.566	1.515	.132	-.260	1.975
[Recurrence=2.00]	0[a]	.	.	.	.	.
[online_vs_post=1.00]	-.012	.625	-.019	.985	-1.245	1.222
[online_vs_post=2.00]	0[a]	.	.	.	.	.
Age	.002	.024	.066	.948	-.046	.049
Time	.000	.005	-.077	.938	-.010	.009
[Responsibility_Group=.00]	.954	.644	1.480	.141	-.318	2.226
[Responsibility_Group=1.00]	0[a]	.	.	.	.	.
SCS	-2.871	.382	-7.515	.000	-3.625	-2.117

a. This parameter is set to zero because it is redundant.

T-Tests Comparing Participants Feeling No Responsibility and Any Degree of Responsibility

Independent Samples Test

		Levene's Test for Equality of Variances		t-test for Equality of Means						
									95% Confidence Interval of the Difference	
		F	Sig.	t	df	Sig. (2-tailed)	Mean Difference	Std. Error Difference	Lower	Upper
Age	Equal variances assumed	.048	.827	-1.847	191	.066	-3.83526	2.07666	-7.93139	.26087
	Equal variances not assumed			-1.749	47.525	.087	-3.83526	2.19332	-8.24636	.57584

Independent Samples Test

		Levene's Test for Equality of Variances		t-test for Equality of Means						
									95% Confidence Interval of the Difference	
		F	Sig.	t	df	Sig. (2-tailed)	Mean Difference	Std. Error Difference	Lower	Upper
Time	Equal variances assumed	.111	.739	.429	185	.669	4.24052	9.89217	-15.27543	23.75648
	Equal variances not assumed			.522	57.338	.603	4.24052	8.11765	-12.01272	20.49377

Independent Samples Test

		Levene's Test for Equality of Variances		t-test for Equality of Means						
									95% Confidence Interval of the Difference	
		F	Sig.	t	df	Sig. (2-tailed)	Mean Difference	Std. Error Difference	Lower	Upper
Self-compassion	Equal variances assumed	.077	.782	-3.903	186	.000	-.49325	.12639	-.74259	-.24391
	Equal variances not assumed			-3.835	45.832	.000	-.49325	.12861	-.75216	-.23434

Chi-Squared Tests Comparing Participants Feeling No Responsibility and Any Degree of Responsibility

Gender * 0 Crosstabulation

Count

		0		
		res present	no res	Total
Gender	male	44	13	57
	female	114	22	136
Total		158	35	193

Chi-Square Tests

	Value	df	Asymp. Sig. (2-sided)	Exact Sig. (2-sided)	Exact Sig. (1-sided)
Pearson Chi-Square	1.189[a]	1	.275		
Continuity Correction[b]	.785	1	.376		
Likelihood Ratio	1.151	1	.283		
Fisher's Exact Test				.308	.187
Linear-by-Linear Association	1.183	1	.277		
N of Valid Cases	193				

a. 0 cells (.0%) have expected count less than 5. The minimum expected count is 10.34.

b. Computed only for a 2x2 table

Site * 0 Crosstabulation

Count

		0		
		res present	no res	Total
Site	breast	40	8	48
	digestive	19	4	23
	gyne	31	5	36
	genito	37	9	46
	head	13	4	17
	other	18	5	23
Total		158	35	193

Chi-Square Tests

	Value	df	Asymp. Sig. (2-sided)
Pearson Chi-Square	1.113[a]	5	.953
Likelihood Ratio	1.112	5	.953
Linear-by-Linear Association	.543	1	.461
N of Valid Cases	193		

a. 3 cells (25.0%) have expected count less than 5. The minimum expected count is 3.08.

Recurrence * 0 Crosstabulation

Count

		0		Total
		res present	no res	
Recurrence	yes	40	9	49
	no	118	26	144
Total		158	35	193

Chi-Square Tests

	Value	df	Asymp. Sig. (2-sided)	Exact Sig. (2-sided)	Exact Sig. (1-sided)
Pearson Chi-Square	.002[a]	1	.961		
Continuity Correction[b]	.000	1	1.000		
Likelihood Ratio	.002	1	.961		
Fisher's Exact Test				1.000	.557
Linear-by-Linear Association	.002	1	.961		
N of Valid Cases	193				

a. 0 cells (.0%) have expected count less than 5. The minimum expected count is 8.89.

b. Computed only for a 2x2 table

Subsample Correlations

Correlations

		Age	Time	Res	Self-compassion	Anxiety	Depression
Age	Pearson Correlation	1	.109	-.108	.372**	-.232**	-.194*
	Sig. (2-tailed)		.177	.176	.000	.003	.015
	N	158	155	158	152	157	157
Time	Pearson Correlation	.109	1	-.090	-.090	-.009	.003
	Sig. (2-tailed)	.177		.268	.273	.911	.973
	N	155	155	155	149	154	154
Res	Pearson Correlation	-.108	-.090	1	-.269**	.255**	.110
	Sig. (2-tailed)	.176	.268		.001	.001	.166
	N	158	155	161	155	160	160
Self-compassion	Pearson Correlation	.372**	-.090	-.269**	1	-.614**	-.515**
	Sig. (2-tailed)	.000	.273	.001		.000	.000
	N	152	149	155	155	154	154
Anxiety	Pearson Correlation	-.232**	-.009	.255**	-.614**	1	.659**
	Sig. (2-tailed)	.003	.911	.001	.000		.000
	N	157	154	160	154	160	160
Depression	Pearson Correlation	-.194*	.003	.110	-.515**	.659**	1
	Sig. (2-tailed)	.015	.973	.166	.000	.000	
	N	157	154	160	154	160	160

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

*. Correlation is significant at the 0.05 level (2-tailed).

Subsample Anxiety ANCOVA Block 1

Tests of Between-Subjects Effects

Dependent Variable: Anxiety

Source	Type III Sum of Squares	df	Mean Square	F	Sig.
Corrected Model	323.042[a]	10	32.304	2.013	.036
Intercept	1029.982	1	1029.982	64.187	.000
Gender	19.382	1	19.382	1.208	.274
Site	157.260	5	31.452	1.960	.088
Recurrence	.110	1	.110	.007	.934
online_vs_post	24.649	1	24.649	1.536	.217
Age	174.839	1	174.839	10.896	.001
Time	3.653	1	3.653	.228	.634
Error	2294.672	143	16.047		
Total	16308.000	154			
Corrected Total	2617.714	153			

a. R Squared = .123 (Adjusted R Squared = .062)

Parameter Estimates

Dependent Variable: Anxiety

Parameter	B	Std. Error	t	Sig.	95% Confidence Interval	
					Lower Bound	Upper Bound
Intercept	14.911	2.310	6.456	.000	10.345	19.476
[Gender=1.00]	-.992	.903	-1.099	.274	-2.776	.792
[Gender=2.00]	0[a]	.	.	.	.	.
[Site=1.00]	1.945	1.188	1.637	.104	-.403	4.293
[Site=2.00]	1.108	1.378	.804	.423	-1.616	3.832
[Site=3.00]	.439	1.243	.353	.725	-2.018	2.895
[Site=4.00]	2.722	1.185	2.298	.023	.380	5.064
[Site=5.00]	-.043	1.613	-.027	.979	-3.231	3.144
[Site=6.00]	0[a]	.	.	.	.	.
[Recurrence=1.00]	.069	.836	.083	.934	-1.584	1.722
[Recurrence=2.00]	0[a]	.	.	.	.	.
[online_vs_post=1.00]	-1.102	.889	-1.239	.217	-2.860	.656
[online_vs_post=2.00]	0[a]	.	.	.	.	.
Age	-.105	.032	-3.301	.001	-.168	-.042
Time	.003	.007	.477	.634	-.010	.016

a. This parameter is set to zero because it is redundant.

Subsample Anxiety ANCOVA Block 2

Tests of Between-Subjects Effects

Dependent Variable: Anxiety

Source	Type III Sum of Squares	df	Mean Square	F	Sig.
Corrected Model	1059.821[a]	12	88.318	8.319	.000
Intercept	378.735	1	378.735	35.676	.000
Gender	.091	1	.091	.009	.926
Site	93.531	5	18.706	1.762	.125
Recurrence	1.990	1	1.990	.187	.666
online_vs_post	3.200	1	3.200	.301	.584
Age	1.195	1	1.195	.113	.738
Time	2.728	1	2.728	.257	.613
responsibility_centred	6.008	1	6.008	.566	.453
Self-compassion_centred	685.875	1	685.875	64.608	.000
Error	1433.152	135	10.616		
Total	15812.000	148			
Corrected Total	2492.973	147			

a. R Squared = .425 (Adjusted R Squared = .374)

Parameter Estimates

Dependent Variable: Anxiety

Parameter	B	Std. Error	t	Sig.	95% Confidence Interval	
					Lower Bound	Upper Bound
Intercept	10.050	1.997	5.033	.000	6.101	13.999
[Gender=1.00]	.072	.774	.093	.926	-1.458	1.602
[Gender=2.00]	0[a]	.	.	.	.	.
[Site=1.00]	1.101	1.003	1.098	.274	-.882	3.084
[Site=2.00]	.209	1.168	.179	.858	-2.100	2.519
[Site=3.00]	-.060	1.035	-.058	.954	-2.107	1.987
[Site=4.00]	1.302	1.024	1.271	.206	-.724	3.327
[Site=5.00]	-1.691	1.402	-1.206	.230	-4.465	1.083
[Site=6.00]	0[a]	.	.	.	.	.
[Recurrence=1.00]	-.300	.692	-.433	.666	-1.668	1.069
[Recurrence=2.00]	0[a]	.	.	.	.	.
[online_vs_post=1.00]	-.425	.774	-.549	.584	-1.955	1.106
[online_vs_post=2.00]	0[a]	.	.	.	.	.
Age	-.010	.029	-.336	.738	-.066	.047
Time	-.003	.006	-.507	.613	-.014	.008
Self-compassion_centred	-3.887	.484	-8.038	.000	-4.843	-2.930
responsibility_centred	.087	.115	.752	.453	-.141	.314

a. This parameter is set to zero because it is redundant.

Subsample Anxiety ANCOVA Block 3

Tests of Between-Subjects Effects

Dependent Variable: Anxiety

Source	Type III Sum of Squares	df	Mean Square	F	Sig.
Corrected Model	1090.217[a]	13	83.863	8.011	.000
Intercept	389.810	1	389.810	37.237	.000
Gender	.004	1	.004	.000	.985
Site	107.137	5	21.427	2.047	.076
Recurrence	1.275	1	1.275	.122	.728
online_vs_post	4.779	1	4.779	.457	.500
Age	2.681	1	2.681	.256	.614
Time	2.918	1	2.918	.279	.598
responsibility_centred	2.605	1	2.605	.249	.619
Self-compassion_centred	696.817	1	696.817	66.564	.000
scxres_centred	30.396	1	30.396	2.904	.091
Error	1402.756	134	10.468		
Total	15812.000	148			
Corrected Total	2492.973	147			

a. R Squared = .437 (Adjusted R Squared = .383)

Parameter Estimates

Dependent Variable: Anxiety

Parameter	B	Std. Error	t	Sig.	95% Confidence Interval	
					Lower Bound	Upper Bound
Intercept	10.297	1.988	5.179	.000	6.365	14.229
[Gender=1.00]	-.015	.770	-.019	.985	-1.538	1.508
[Gender=2.00]	0[a]	.	.	.	.	.
[Site=1.00]	1.133	.996	1.138	.257	-.837	3.103
[Site=2.00]	.085	1.162	.074	.941	-2.212	2.383
[Site=3.00]	-.293	1.037	-.283	.778	-2.344	1.758
[Site=4.00]	1.401	1.019	1.375	.171	-.614	3.416
[Site=5.00]	-1.624	1.393	-1.166	.246	-4.380	1.131
[Site=6.00]	0[a]	.	.	.	.	.
[Recurrence=1.00]	-.240	.688	-.349	.728	-1.601	1.121
[Recurrence=2.00]	0[a]	.	.	.	.	.
[online_vs_post=1.00]	-.521	.770	-.676	.500	-2.044	1.003
[online_vs_post=2.00]	0[a]	.	.	.	.	.
Age	-.014	.028	-.506	.614	-.071	.042
Time	-.003	.005	-.528	.598	-.014	.008
Self-compassion_centred	-3.921	.481	-8.159	.000	-4.872	-2.971
responsibility_centred	.058	.116	.499	.619	-.171	.286
scxres_centred	-.308	.180	-1.704	.091	-.665	.049

a. This parameter is set to zero because it is redundant.

Subsample Depression ANCOVA Block 1

Tests of Between-Subjects Effects

Dependent Variable: Depression

Source	Type III Sum of Squares	df	Mean Square	F	Sig.
Corrected Model	175.946[a]	10	17.595	1.332	.219
Intercept	443.424	1	443.424	33.572	.000
Gender	.926	1	.926	.070	.792
Site	82.467	5	16.493	1.249	.290
Recurrence	13.628	1	13.628	1.032	.311
online_vs_post	11.681	1	11.681	.884	.349
Age	66.057	1	66.057	5.001	.027
Time	2.241	1	2.241	.170	.681
Error	1888.781	143	13.208		
Total	7778.000	154			
Corrected Total	2064.727	153			

a. R Squared = .085 (Adjusted R Squared = .021)

Parameter Estimates

Dependent Variable: Depression

Parameter	B	Std. Error	t	Sig.	95% Confidence Interval	
					Lower Bound	Upper Bound
Intercept	8.130	2.095	3.880	.000	3.988	12.272
[Gender=1.00]	.217	.819	.265	.792	-1.402	1.836
[Gender=2.00]	0[a]	.	.	.	.	.
[Site=1.00]	2.306	1.078	2.140	.034	.176	4.436
[Site=2.00]	1.530	1.250	1.224	.223	-.941	4.001
[Site=3.00]	2.571	1.128	2.280	.024	.342	4.799
[Site=4.00]	1.849	1.075	1.720	.088	-.276	3.974
[Site=5.00]	1.041	1.463	.712	.478	-1.851	3.933
[Site=6.00]	0[a]	.	.	.	.	.
[Recurrence=1.00]	.771	.759	1.016	.311	-.729	2.271
[Recurrence=2.00]	0[a]	.	.	.	.	.
[online_vs_post=1.00]	-.759	.807	-.940	.349	-2.354	.836
[online_vs_post=2.00]	0[a]	.	.	.	.	.
Age	-.064	.029	-2.236	.027	-.121	-.007
Time	.002	.006	.412	.681	-.009	.014

a. This parameter is set to zero because it is redundant.

Subsample Depression ANCOVA Block 2

Tests of Between-Subjects Effects

Dependent Variable: Depression

Source	Type III Sum of Squares	df	Mean Square	F	Sig.
Corrected Model	606.091[a]	12	50.508	5.072	.000
Intercept	131.654	1	131.654	13.221	.000
Gender	12.441	1	12.441	1.249	.266
Site	95.178	5	19.036	1.912	.096
Recurrence	4.762	1	4.762	.478	.490
online_vs_post	.179	1	.179	.018	.894
Age	.252	1	.252	.025	.874
Time	.200	1	.200	.020	.888
responsibility_centred	4.603	1	4.603	.462	.498
Self-compassion_centred	413.829	1	413.829	41.556	.000
Error	1344.362	135	9.958		
Total	7387.000	148			
Corrected Total	1950.453	147			

a. R Squared = .311 (Adjusted R Squared = .249)

Parameter Estimates

Dependent Variable: Depression

Parameter	B	Std. Error	t	Sig.	95% Confidence Interval	
					Lower Bound	Upper Bound
Intercept	4.400	1.934	2.275	.024	.576	8.225
[Gender=1.00]	.838	.749	1.118	.266	-.644	2.320
[Gender=2.00]	0[a]	.	.	.	.	.
[Site=1.00]	1.680	.971	1.730	.086	-.240	3.601
[Site=2.00]	1.145	1.131	1.013	.313	-1.091	3.382
[Site=3.00]	2.170	1.003	2.165	.032	.188	4.153
[Site=4.00]	1.053	.992	1.061	.290	-.909	3.014
[Site=5.00]	-1.149	1.358	-.846	.399	-3.835	1.537
[Site=6.00]	0[a]	.	.	.	.	.
[Recurrence=1.00]	.463	.670	.691	.490	-.862	1.789
[Recurrence=2.00]	0[a]	.	.	.	.	.
[online_vs_post=1.00]	-.100	.749	-.134	.894	-1.583	1.382
[online_vs_post=2.00]	0[a]	.	.	.	.	.
Age	.004	.028	.159	.874	-.050	.059
Time	-.001	.005	-.142	.888	-.011	.010
Self-compassion_centred	-3.019	.468	-6.446	.000	-3.945	-2.093
responsibility_centred	-.076	.111	-.680	.498	-.296	.145

a. This parameter is set to zero because it is redundant.

Subsample Depression ANCOVA Block 3

Tests of Between-Subjects Effects

Dependent Variable: Depression

Source	Type III Sum of Squares	df	Mean Square	F	Sig.
Corrected Model	639.094[a]	13	49.161	5.023	.000
Intercept	138.832	1	138.832	14.186	.000
Gender	9.869	1	9.869	1.008	.317
Site	83.470	5	16.694	1.706	.137
Recurrence	6.104	1	6.104	.624	.431
online_vs_post	.706	1	.706	.072	.789
Age	.005	1	.005	.001	.981
Time	.256	1	.256	.026	.872
responsibility_centred	8.802	1	8.802	.899	.345
Self-compassion_centred	422.948	1	422.948	43.219	.000
scxres_centred	33.003	1	33.003	3.372	.069
Error	1311.359	134	9.786		
Total	7387.000	148			
Corrected Total	1950.453	147			

a. R Squared = .328 (Adjusted R Squared = .262)

Parameter Estimates

Dependent Variable: Depression

Parameter	B	Std. Error	t	Sig.	95% Confidence Interval	
					Lower Bound	Upper Bound
Intercept	4.658	1.922	2.423	.017	.856	8.460
[Gender=1.00]	.748	.745	1.004	.317	-.725	2.220
[Gender=2.00]	0[a]	.	.	.	.	.
[Site=1.00]	1.714	.963	1.780	.077	-.190	3.619
[Site=2.00]	1.016	1.123	.905	.367	-1.205	3.238
[Site=3.00]	1.927	1.003	1.922	.057	-.056	3.910
[Site=4.00]	1.156	.985	1.174	.243	-.792	3.104
[Site=5.00]	-1.080	1.347	-.802	.424	-3.744	1.585
[Site=6.00]	0[a]	.	.	.	.	.
[Recurrence=1.00]	.525	.665	.790	.431	-.790	1.841
[Recurrence=2.00]	0[a]	.	.	.	.	.
[online_vs_post=1.00]	-.200	.745	-.269	.789	-1.674	1.273
[online_vs_post=2.00]	0[a]	.	.	.	.	.
Age	-.001	.028	-.023	.981	-.055	.054
Time	-.001	.005	-.162	.872	-.011	.010
Self-compassion_centred	-3.055	.465	-6.574	.000	-3.974	-2.136
responsibility_centred	-.106	.112	-.948	.345	-.327	.115
scxres_centred	-.320	.175	-1.836	.069	-.666	.025

a. This parameter is set to zero because it is redundant.

Appendix 27: Additional Relationships for Further Investigation

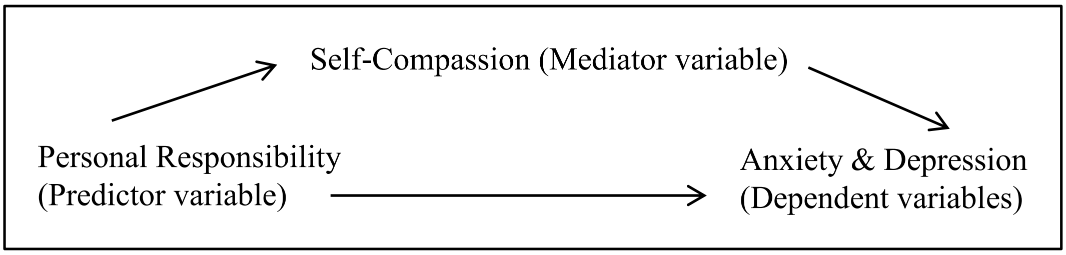

Figure 2. A hypothetical model depicting self-compassion as a mediator of the relationship between perceived personal responsibility for illness onset and emotional distress.

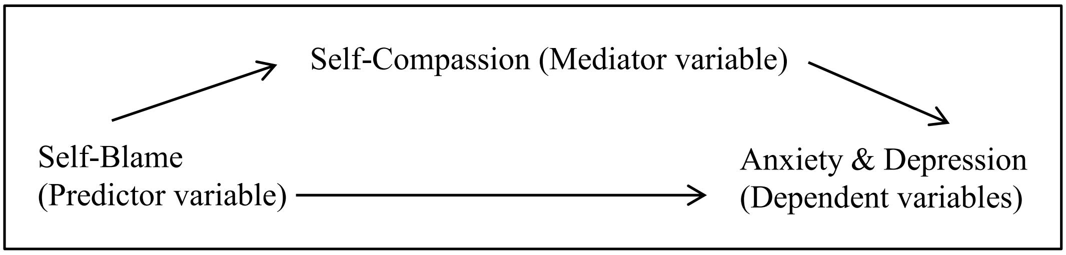

Figure 3. A hypothetical model depicting self-compassion as a mediator of the relationship between self-blame for illness onset and emotional distress.

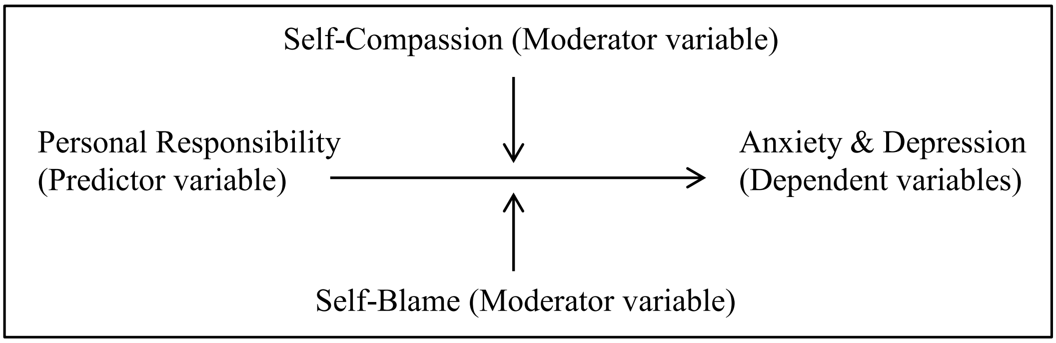

Figure 4. A hypothetical model depicting self-blame as another potential moderator, alongside self-compassion, of the relationship between perceived personal responsibility for illness onset and emotional distress.

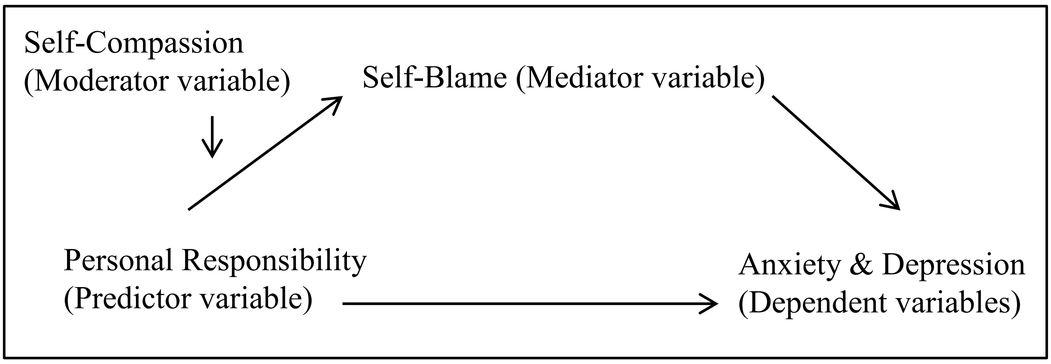

Figure 5. A hypothetical model depicting self-compassion as a moderator of the potential mediation relationship between self-blame, personal responsibility for illness onset and emotional distress.