Investigating how the subjective experience of worry is constructed by qualitative research methods

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Introductory Chapter

Worry is a psychological phenomenon that is experienced by most people at some point in their lives (Davey, Hampton, Farrell & Davidson, 1992). Studies that have attempted to quantify worry have indicated that it occurs on a continuum ranging from occasional to frequent, fleeting to intense, and uncomplicated to challenging, with a wide selection of participants providing the full range of scores and possible responses using different measures of worry (Meyer, Miller, Metzger & Borkovec, 1990; Molina & Borkovec, 1994; Tallis, Eysenck & Mathews, 1992; Tallis, Davey & Capuzzo, 1994). As the frequency and intensity of worry increases, it appears that worry can become more and more problematic, impacting on individuals' lives in different areas, such as impairments in concentration, disturbed sleep and for example loss of social confidence. Similarly, increasing levels of worry are associated with a wide range of mental health conditions, with some suggesting that "worry may be one of the most prominent symptoms of those experiencing psychological disturbance in the general population" (MacLeod, Williams & Bekerian, 1991, p478). Individuals who primarily report levels of worry that are frequent, intense and problematic will tend to attract a diagnosis of Generalized Anxiety Disorder (GAD). This has led to a significant amount of research being conducted into the relationship between worry and GAD.

In spite of worry appearing to occur along frequency, intensity and impact continua (any further use within the thesis of the term continuum is intended to refer to these three dimensions), the close association between GAD and worry seems to have led to an "implicit assumption" (Ruscio, 2002, p378) in much of the worry literature that there exists only two forms of worry: 'normal worry', which is understandable, reasonable, relatively

unproblematic and experienced by the majority of people; and 'pathological worry', which is persistent, catastrophic, highly distressing and typically experienced by those with a diagnosis of GAD. It is felt that this assumption has led to research which has tended to focus on either one or the other form of worry, and has failed to explore and understand worry as a phenomenon that exists on a continuum (Ruscio, 2002; Ruscio & Borkovec, 2004).

In addition, there is also an apparent dominance of quantitative studies which have explored worry. These studies are largely questionnaire-based or experimental in design. These studies are also based upon a positivist standpoint, with worry positioned as a discrete and measurable 'symptom'. In contrast, there is a noticeable lack of qualitative research in the field of worry. Qualitative research allows rich and detailed narratives to be obtained and analysed, leading to findings that have depth, subtlety and complexity that quantitative research is often unable to provide. Furthermore, studies that utilise qualitative methodologies strive to minimise the influence of prior assumptions about the research area, or at least make transparent any bias that may exist.

The overall aim of the current thesis is to explore the experience of worry as it is revealed by qualitative research methodologies, in order to develop an enhanced or alternative understanding as to why worry can become problematic. Since worry appears to exist on a continuum, as described above, it was felt that findings from studies investigating worry at any point on the continuum could provide an insight into the problematic potential of worry. In order to remain open to a broad range of meaning, worry is loosely defined as a focus on potential future threat and on the resources available to cope with that threat (Barlow, 2002).

Chapter one consists of a systematic literature review. The rationale for conducting this review is that qualitative research may provide a rich perspective on the phenomenological characteristics of worry, which may further elucidate why worry can develop to problematic levels. The aims of this review are: a) to identify and describe the qualitative research which has focused upon the subjective experience of worry, b) to synthesise the phenomenological characteristics of worry as revealed by these qualitative studies. In order to set the context for the review, a summary is first provided of the prominent theories of worry that have been advanced and the quantitative research that underpins them. The findings of the studies selected for the review are presented and synthesised, followed by a discussion of the overall findings (including the theoretical and clinical implications). The conclusion from the review indicates that the quality and transparency of the selected qualitative studies was low, which appeared to be the result of a comprehensive qualitative methodology not being utilised in each case. If this issue was addressed, such studies might provide an enhanced insight into why worry can become problematic.

Chapter two consists of an empirical paper. The empirical paper builds on the findings of the systematic review, in which a lack of comprehensive qualitative studies exploring the subjective experience of worry was identified. The aims of the empirical paper are as follows: a) to explore how worry is perceived, characterised and understood using a robust qualitative methodology, and b) to develop a model of worry that might explain how or why worry can become a problematic experience. A grounded theory methodology was chosen for this study due to its emphasis on exploring human behaviour and processes (Charmaz, 2006a) and because it is the only qualitative methodology that specifically enables a model to be developed of the domain under investigation. In an attempt to counter and minimise the positivist bias that already appears to exist in the worry literature, the social constructivist

variant of grounded theory was utilised, as developed by Kathy Charmaz (2000; 2006a). Within this methodology, any resulting theory is intended to offer and emphasize an *understanding* of processes, rather than provide an *explanation* (Charmaz, 2006a), as might be seen in quantitative research or in positivist variants of grounded theory, such as espoused by Glaser (1998) or Strauss and Corbin (1998). The approach is underpinned by an assumption that "any theoretical rendering offers an *interpretative* portrayal of the studied world, not an exact picture of it" (Charmaz, 2006a, p10). On this basis, it is clear that constructivist grounded theory "lies squarely within the interpretative tradition" (Charmaz, 2006a, p130). A transdiagnostic clinical sample was chosen for the study from primary and secondary care adult mental health services. Since worry is often reported by individuals with a variety of mental health diagnoses, recruitment was not limited to those diagnosed with GAD. Instead, participants were selected according to whether they reported frequent and intense worry that impacted on their lives. It was hoped that these people would be able to provide the richest narratives about worry (Bryant & Charmaz, 2007), particularly how or why it appeared to have become problematic for them. The findings from the empirical study are presented and discussed in relation to previous research and any novel aspects are highlighted. Clinical implications of the study are described, along with limitations that were identified after a period of reflection.

Chapter I

Literature Review

A review of the qualitative research conducted into the subjective experience of worry

Abstract

The purpose of this review is to identify and summarise qualitative research focusing on the subjective experience of worry. The majority of research to date has focussed on quantitative measures of worry which limit participants' responses to ratings on pre-defined questionnaire items. In summarising open ended subjective studies about the experience of worry, this review aims to identify phenomenological aspects of the experience of worry that may further advance theory development. Findings are summarised. The following key qualitative themes were identified, a) control over worry, b) value assessments of worry, c) perceived causes of worry and d) cognitive features of worry. However, all qualitative studies identified by the review were lacking in quality, transparency and/or richness. It is recommended that further research be conducted which utilise qualitative methodologies involving rigorous and transparent processes.

Introduction

The term worry has been part of the English language for at least the last four hundred years. However, the concept of worry did not initially attract much research in the field of psychology, mainly because it was viewed to be epiphenomena and therefore not relevant for investigation (Davey & Tallis, 1994; O'Neill, 1985; Purdon & Harrington, 2006). Worry became a focus of psychological research during the 1970's with the publication of a number of studies (Breznitz, 1971; Deffenbacher & Deitz, 1978; Girodo & Stein, 1978; Janis, 1971; Morris & Liebert, 1970). A research group led by Tom Borkevec began to explore the experience of worry, resulting in a landmark paper (Borkovec, Robinson, Pruzinsky & DePree, 1983) that provided one of the first working definitions of worry, as a "chain of thoughts and images, negatively affect-laden and relatively uncontrollable" (Borkovec et al, 1983, p10). Not long after, 'excessive worry' was included as one of the necessary criteria for

a diagnosis of Generalised Anxiety Disorder (GAD) in DSM-III-R (American Psychiatric Association, 1987). GAD refers to individuals experiencing anxiety about a broad range of events or activities. In addition to GAD, worry is also a prominent feature of many other anxiety disorders (Brown, Antony & Barlow, 1992; Davey, Tallis & Capuzzo, 1996). One estimate has suggested that worry occurs in approximately 40% to 60% of anxiety presentations (Dugas, Freeston & Ladouceur, 1997). The relatively high association of worry with a range of mental disorders highlights the significance of this phenomenon for understanding mental health difficulties.

There are a number of studies that provide some insight into the prevalence of non-clinical worry. Among 'non-pathological' worriers, 38% stated that they worried at least once per day (Tallis, Davey & Capuzzo, 1994), while a group of non-anxious individuals reported that they worried on average for 18.2% of each day over the course of a particular month (Craske, Rapee, Jackel & Barlow, 1989). A study of worry in older adults indicated that "15% of any elderly sample might reliably be considered worriers" (Wisocki, 1994, p257). Among children, 68.9% of participants reported worrying occasionally (Muris, Meesters, Merckelbach, Sermon & Zwakhalen, 1998), while in a different study, 15% appeared to suffer from excessive worry (Bell-Dolan, Last & Strauss, 1990). Excessive worry is a necessary feature of the diagnosis of GAD; therefore prevalence rates will provide some indication about the extent of clinical levels of worry in the general population. Studies investigating the lifetime prevalence for GAD in a number of different countries suggest that it ranges from 1.4% to 8.9% among working age adults (Brown, 1997; Holaway, Rodebaugh & Heimberg, 2006), while the prevalence appears to be lower among children (Cartwright-Hatton, 2006) and those over the age of 65 (Wetherell, 2006). Among women, the lifetime

prevalence has been reported as being as high as 5.8%, compared to 2.8% in men (Newman, Llera, Erickson, Przeworski & Castonguay, 2013).

The ubiquity of worry and its apparent link with common mental health difficulties indicates that conducting a review of what is understood about the experience of worry would be an important and valuable exercise. However, the majority of research published to date has been quantitative in nature, with few studies appearing to utilise a qualitative methodology. The predominance of quantitative research in the field of worry requires that the 'defining characteristics' of worry be operationalised so they can be quantified and assessed. From this, a number of theories of worry have been developed and tested, the most prominent of which are summarised below. The following summary also aims to highlight the quantitative research that appears to underpin each theory.

Theories of Worry

Cognitive Avoidance Theory. The cognitive avoidance theory (Borkovec, 1994; Borkovec, Alcaine & Behar, 2004; Borkovec & Roemer, 1995) was one of the first attempts to explain how problematic levels of worry thinking developed and was maintained. The theory posits that when individuals worry, they are not actually fully engaged with the perceived threat that acts as the trigger for worry. It is hypothesised that chronic worriers cognitively 'dance' around the imagined threat, thereby not exposing themselves to the full imagery or depth of processing that would be involved in 'normal thinking' about a threating trigger. In the short-term, exposure to a threatening experience is avoided and thus worry thinking is negatively reinforced as a coping strategy. However, in the long-term, without full engagement, emotional processing fails to take place and the association of vulnerability and distress with the target of the worry persists. The empirical support for this theory

predominantly involves quantitative studies which indicated less emotional imagery (Borkovec & Inz, 1990) and reduced cardiovascular response (Borkovec, 1994; Borkovec, Lyonfields, Wiser & Deihl, 1993) during and after the 'induction' of worry states. A subsequent study explored individuals understanding of the purpose of worry (Borkovec & Roemer, 1995). Individuals who worried excessively strongly endorsed the idea that it distracted them from more emotionally distressing topics. Although this study could potentially have utilised a qualitative design, participants were asked to provide numerical ratings for reasons that were "suggested by theory and by reports of our former GAD clients" (Borkovec & Roemer, 1995, p26). It is the analysis of the rich and complex data contained in these client reports that would be extremely informative from a qualitative perspective, but unfortunately this was not published.

Intolerance of Uncertainty Theory. Another significant theory argues that worry is motivated and maintained by an individual's dispositional intolerance of uncertainty (Koerner & Dugas, 2006), which is believed to stem from specific beliefs about uncertainty, for example that it is unpleasant or stressful. This intolerance is believed to cause and interact with a particular style of problem orientation, which involves heightened emotional, cognitive and behavioural vigilance towards the identification of potential threats. Due to specific beliefs about its ability to resolve uncertainty, worry is then utilised as a way of coping with anticipated threats. This is further reinforced, positively and negatively, by worry's perceived role either a) in the intermittent successful negotiation of an actual threat, or b) the failure of threats to actually arise. The research linked to this theory analysed scores provided to items that measured individuals' tolerance for uncertainty and their beliefs about how much worry was able to reduce uncertainty (Dugas et al, 1997; Freeston, Rheaume, Letarte, Dugas & Ladouceur, 1994). The questionnaire items were generated from sources

such as “the author’s clinical experience with worriers and GAD patients” (Freeston et al, 1994, p793). There was no opportunity to understand and audit how the items constructed were specifically developed. Again, there is no reason why the areas investigated would not be revealed by a qualitative exploration of worry if they were significant for chronic worriers. Furthermore, such research might allow a deeper appreciation and elaboration of the key factors associated with the onset, development, progression, maintenance and meaning of worry.

Metacognitive Model of Worry. The metacognitive model (Wells, 2006) understands the development and maintenance of worry within a framework of self-regulation, that is, that there are cognitive structures and processes whose function is to guide and regulate cognitive behaviour. Two specific types of belief are identified that are felt to explain problematic worry development and maintenance, namely positive and negative metacognitive beliefs of worry. Positive metacognitive beliefs of worry are those associated with protocols and strategies to engage with worry, such as that it will protect, warn or motivate them. However, the theory also emphasises the central role of negative metacognitive beliefs about worry, i.e. that worry is uncontrollable and/or dangerous, which is believed to escalate worry to pathological levels. These negative metacognitive beliefs, or ‘meta-worry’, are believed to cause not only increased anxiety, but perhaps more importantly, attempts to limit and suppress worry through a variety of maladaptive and ultimately unsuccessful strategies, thus reinforcing the metacognitive belief that worry is uncontrollable. The metacognitive model of worry is mainly based upon questionnaire studies that have focussed on the extent to which positive and negative beliefs about worry are supported by those who worry excessively (Cartwright-Hatton & Wells, 1997; Wells, 1995; 2005). The development of the questionnaires used in the studies was, at least in part, influenced by first-

hand accounts of worriers, such as transcripts from therapy sessions with GAD patients (Cartwright-Hatton & Wells, 1997; Wells, 2005). Although a thorough description is provided of the questionnaire validation process, as with the previous theories, there is no indication as to how the patient transcripts were analysed to arrive at the individual questionnaire items.

The Mood-As-Input Hypothesis. The mood-as-input hypothesis (Davey, 2006; Davey, Startup, MacDonald, Jenkins & Paterson, 2004; Startup & Davey, 2001; 2003) attempts to map the mechanisms at work during worry episodes, in order to explain its potentially perseverative nature. The mood-as-input hypothesis proposes that worrying is essentially a problem-solving process that is stuck in a loop. Problem-solving is purported to involve the generation of solutions over a period of time determined by, among other things, the 'stop-rules' utilised and whether the individual is in a positive or negative mood. Two types of 'stop-rules' that the model concentrates on are 'feel-like-continuing' and 'as-many-as-possible'. It is when an individual is in a negative mood and adopts the 'as-many-as-possible' stop rule that it is hypothesised problematic worrying ensues. This is because the individual uses their mood as a guide to whether they have identified a satisfactory outcome, with a negative mood indicating that this has not occurred. With an accompanying 'as-many-as-possible' stop rule, the individual will then continue catastrophising, in a perseverative manner. Support for this theory generally involves experimental studies which observed how much worry occurs following mood induction experiments and the use of different 'stop-rules' (Startup & Davey, 2001, 2003). Furthermore, the theory looks to research exploring endorsement ratings for positive beliefs about worry (Borkovec & Roemer, 1995; Davey et al, 1996; Wells, 1995) to provide support for the hypothesis that chronic worriers use 'as-many-as-possible' rules due to the stronger endorsement of beliefs in the efficacy of worry.

Although one of these studies appeared to make an attempt at utilising a qualitative approach (Davey et al, 1996), the design meant that there was a high chance that the responses to the open-ended questionnaire items were strongly influenced by the quantitative component of the same study. Responses were analysed using content analysis, which produced results that only grazed the surface of participants' narratives.

Contrast Avoidance Model of Worry. This relatively recent model has been described as the 'contrast avoidance model of worry' (Newman and Llera, 2011; Llera & Newman, 2014). Here it is suggested that individuals who worry to a significant level are by nature more sensitive to contrasts in emotion. The theory states that since worry can cause negative emotions, these individuals then engage in excessive worry in order to generate significant levels of negative affect and in turn avoid the 'shock' of a future negative event (whether it actually occurs or not). Worry is then positively and negatively reinforced by the actual or perceived avoidance of a feared negative contrast in emotions. The authors of the model drew upon studies which showed greater emotional reactivity during and after episodes of worry, compared to prior levels, by measuring heart-rate (Brosschot, Van Dijk & Thayer, 2007), cortisol levels (Schlotz, Hellhammer, Schulz & Stone, 2004), skin conductance level (Stapinski, Abbott & Rapee, 2010) and vagal tone (Llera & Newman, 2010). Studies also compared subjective levels of emotions (Davey, Hampton, Farrell & Davidson, 1992; Llera & Newman, 2014; Llera & Newman, 2010; Meyer et al, 1990). However these involved participants providing quantitative ratings rather than descriptive accounts of how their moods changed from one condition to another. A qualitative approach, or at least a qualitative component could potentially have enabled a deeper appreciation of the impact of worry for individuals in these studies.

Summary

All of the above theories recognise the existence of similar factors that may be involved in the maintenance of worry. For example, the idea that individuals hold specific beliefs about worry is referenced not only in the metacognitive model, but also in the cognitive avoidance, contrast avoidance and intolerance of uncertainty theories. Here beliefs that worry facilitates either the avoidance of distressing triggers, contrasts in emotion or uncertainty are considered to be present. Also, in the mood-as-input hypothesis, positive beliefs about worry are considered to underlie the use of the 'as-many-as-possible' stop-rule. However each theory places greater emphasis on particular features that are felt to be the *sine qua non* of worry, certainly when it reaches problematic levels. For the contrast avoidance model, the critical feature is a lack of emotional processing; for the intolerance of uncertainty model, it is an aversion to uncertainty and its perceived consequences; for the mood-as-input hypothesis, the interaction of negative mood and the 'as-many-as-possible' stop rule is deemed crucial; for the metacognitive model, meta-beliefs about worry take prominence; and finally, the contrast avoidance theory hypothesises that a fear of emotional contrast is central to the development and maintenance of worry.

Of late, there has been a move to position worry within the general domain of negative repetitive thought, alongside rumination (Ehring & Watkins, 2008; Ehring, Zetsche, Weidacker, Wahl, Schonfeld & Ehlers, 2011; Segerstrom, Tsao, Alden & Craske, 2000; Watkins, 2008). In this context, the focus has shifted in an attempt to discover the common factor (or factors) that unifies this type of thought and explain how it is maintained. Nonetheless, even when worry is conceptualised in this way, it appears that a quantitative approach dominates, with little attention given to qualitative methodologies (Watkins, 2008).

There are distinct advantages to qualitative research, particularly in relation to the openness of the research process through a variety of data collection methods, such as semi-structured interviews. In this way, participants are able to reflect and expand upon their experiences fully and the richness and depth of meaning and phenomenology contained within their stories is made accessible. Qualitative methodologies also pay particular attention to researcher bias, reducing, or at least taking into consideration, the potential impact of pre-existing assumptions about the domain under investigation. The value in identifying qualitative research which has been conducted into the field of worry is that a synthesis of the findings from these studies may enhance or potentially challenge the current understanding of the experience of worry and how it can develop to problematic levels.

A number of the aforementioned quantitative studies indicate that worry may occur on a continuum, in terms of the frequency, intensity and impact it can have on individuals' lives. Qualitative research conducted with individuals who report worry at the upper end of the continuum is likely to be the most informative as to how worry can develop to levels that are described as problematic. This is because those individuals are likely to have first-hand experience of the problems worry can cause. However, it is still possible that qualitative research that focuses on the experience of worry at any point across the continuum may provide valuable information. As such, the current review includes studies that adopt a qualitative approach to understanding the experience of worry at any level. For the purposes of this review, worry is defined as a focus upon potential future threat and the resources available to cope with that threat (Barlow, 2002).

Research Question

What are the key phenomenological characteristics of worry identified in qualitative studies exploring worry at any point on the continuum

Aims

This review aims to: a) identify and describe the qualitative research that has been conducted into the subjective experience of worry at any point on the continuum b) to synthesise the phenomenological characteristics of worry as revealed by these qualitative studies

Methodology

Search strategy

An initial scoping search was conducted to identify terms that would be most likely to retrieve relevant studies. This led to the following search algorithm being utilised: worry* IN Title AND (attitude* OR comprehen* OR aware* OR think* OR thought* OR explor* OR view* OR characteri* OR underst* OR perceiv* OR perception* OR experien* OR feel* OR belie* OR qualit* OR descri* OR nature OR propert* OR account*) IN Title OR (qualitative IN (Abstract OR Keywords OR Major Subject Heading)) OR qualitative research IN MeSH. This algorithm was run in a number of electronic databases (MedLine, PsychInfo, PsychArticles, Scopus, Web of Knowledge, CINAHL Plus, The Cochrane Library and the National Research Register) which were chosen due to their relevance to the research question. In addition, reference lists from prominent books, reviews and articles in the field of worry, as well as reference lists from papers selected for this review, were hand-searched. Studies were included that incorporated a qualitative approach to exploring and analysing the

experience of worry. Only papers that were published in English language were screened for selection. Unpublished research was excluded from the literature search.

Titles and abstracts from all studies generated from the above search strategy were screened by the author. Any studies that met the inclusion criteria, or where there was uncertainty, were selected to be reviewed in full. Full-text copies of these papers were sourced and examined in detail to determine their relevance to the research question, and any that did not meet the inclusion criteria were removed prior to the data extraction stage.

Data Extraction

Studies that were confirmed as being appropriate for inclusion were read a number of times and a standardised data extraction form was used to pull out the key features for easier comparison and integration. Findings were extracted based on their relevance to the research question and where possible, participants' words were used to substantiate identified themes.

Search Results

The search of electronic databases produced 1296 results, and after duplicates were removed, this was reduced to 547 results. The hand-search of key books, articles and reviews generated a further 50 new studies, giving a total of 597 references. The screening process resulted in the identification of 24 potentially relevant studies. The majority of references that were excluded fell into a number categories: quantitative studies related to health and risk, studies exploring correlations between measures of worrying and other variables, quantitative studies exploring questionnaire measures linked to worrying, experimental studies which artificially manipulated aspects of worrying and finally studies that focussed purely on topics of worry content. The 24 studies were reviewed in full. A further 12 were excluded as they either did

not actually contain a qualitative component (despite being indicated by the abstract). Figure 1.1 provides a visual representation of the search process and outcomes.

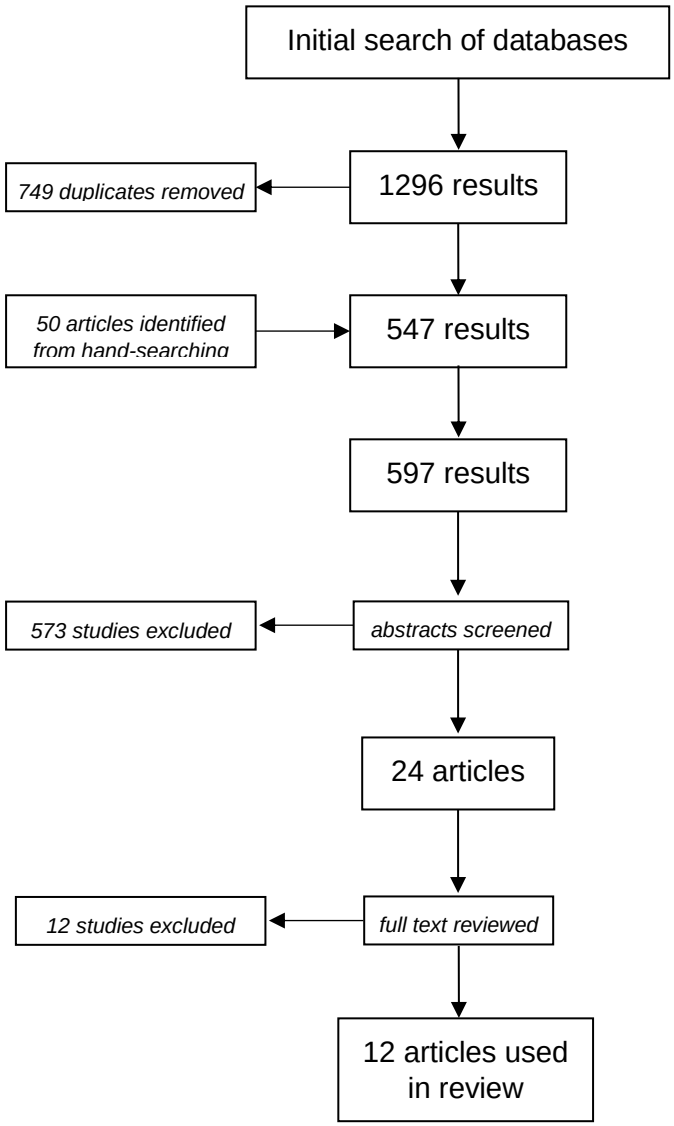

Figure 1.1 *Process involved in identifying and screening studies*

Results

Study Characteristics

Six of the studies used a mixed methods approach. The other six studies were purely qualitative. The quantitative components of the six mixed methods studies comprised one experimental study, one structured interview with closed questions, two questionnaire administration studies and two questionnaire development studies. The qualitative designs of the mixed methods studies and qualitative studies involved structured and semi-structured interviews, focus groups, questionnaires using open questions, the completion of diaries and the generation of a stream of consciousness in a laboratory setting. Table 1.1 summarises the main characteristics of the twelve studies included in the review.

Nine of the selected studies focused explicitly upon the experience of worry, and recruited participants on the basis of reported anxiety and worry levels, using measures such as the GAD Questionnaire (Roemer, Borkovec, Posa & Borkovec, 1995), the Worry Domains Questionnaire (Tallis, Davey & Bond, 1994) and the Penn State Worry Questionnaire (Meyer et al, 1990). Of these, three involved a child population, with ages ranging from 8 to 13 and sample sizes ranging from 89 to 193; five recruited participants from a university population, with sample sizes ranging from 40 to 128; one study recruited adult participants from a clinical and non-clinical population, with a sample size of 88. The remaining three studies that were selected for the review did not specifically aim to investigate the experience of worry, although this topic emerged through the analysis process. These studies recruited populations, such as Swedish ambulance drivers and community members from a district in Papua New Guinea, with sample sizes ranging from 25 to 84.

Table 1.1 Characteristics and key findings of studies selected for the review

Study	Aims	Method	Qualitative Methodology	Sample Characteristics	Key Findings
Turner & Wilson (2010)	To replicate studies conducted with adults, testing the mood-as-input hypothesis, using child participants.	Mixed: Quant – Experimental; Qual – Semi-structured interviews	Thematic Analysis	*n*=68; School children; 48 girls, 20 boys; Age range 11-13; Mean age – 11.87	Study provided evidence for the mood-as-input hypothesis and indicated that child worry is similar to adult worry. Children provided a number of reasons for why they stopped or continued a bout of worrying
Muris et al (1998)	To study the content, characteristics and origins of children's main worries.	Mixed: Quant – Questionnaire; Qual – Structured interview	Content Analysis	*n*=193; School children; 89 girls, 104 boys; Age range 8-13; Mean age – 10.8	Provided some evidence for the idea that worrying was motivated by prior aversive or threatening experience. Identified that worry is common in children. Worry control strategies were identified along with perceived positive aspects of worry
Szabo & Lovibond (2004)	To investigate whether children's worry is similar in cognitive content to worry in an adult population.	Qual – Structured interview	Content Analysis	*n*=89; 38 clinic referred anxious children, 51 non-referred school children; 50 girls, 39 boys; Age range 8-13	Problem-solving and Negative Anticipation most common forms of worry, indicating that child and adult worrying is similar in presentation; no significant differences found between the two groups
Szabo & Lovibond (2002)	To document the extent of negative outcome anticipation, problem-solving and other types of cognition involved in self-reported worry	Qual – Diary completion	Content Analysis	*n*=57; 1st year psychology students, 67% female, 33% male; Mean age 20.65; Divided into analogue GAD, moderate worriers and low worriers, based on GAD questionnaire scores	No difference between chronic and low worriers in the number of worries coded as Negative Anticipation and Problem-solving
Roth & Eng (2002)	To investigate the etiological beliefs self-defined worriers report about worry	Mixed: Quant – Questionnaire; Qual - Questionnaire	Content Analysis	*n*=117; University students; 82.1% female, 17.9% male; Mean age 20.62	Provides some indication of the types of reasons worriers have for worrying: Personality Factors (65.67%), Family Influences (35.82%), Life Events (14.93%), Genetics (4.48%),

					Social/Interpersonal (1.49%)
Molina et al (1998)	To determine the temporal, affective and cognitive features of worry amongst participants meeting diagnostic criteria for GAD and dysphoria, or neither	Qual – Laboratory stream of consciousness	Content Analysis	*n*=40; Female university students; 3 groups based on GAD & depression questionnaires – 'chronic worry without excessive depression', 'high depression without worry', 'absence of worry and depression'; No age data given	A number of characteristics of worry episodes provided, relating to Temporal Orientation, Affect, Reference to Environment and Topic Shifts
Hoyer et al (2001)	To examine the clinical phenomenology of worry in participants diagnosed with GAD, Social Phobia, or neither.	Mixed: Quant – Structured interview, closed questions; Qual – Structured Interview, open questions	Content Analysis	*n*=88; 44.4% GAD patients, 40.9% Social phobia patients, 43.8% non-clinical controls; Mean ages 43.4, 47.8 & 44.8 respectively; All female	No specificity of content found between the groups. Control strategies used more by GAD participants. Open questions identified different strategies for controlling worry: Alcohol/Drugs, Exaggerating, Problem-solving and Relaxing
Davey et al (1996)	To explore the range of consequences that individuals perceive worry to have and how these consequences relate to measures of psychopathology.	Mixed: Qual – Questionnaire, open question; Quant – Factor analysis of questionnaire results	Content Analysis	*n*=128; University students; 52 male, 76 female; Age range 18-59	Identified a range of perceived consequences of worry. Ratings of positive beliefs showed a positive correlation with depression, catastrophic worrying and negative thoughts
Cartwright -Hatton & Wells (1997)	To develop a measure of dimensions of meta-cognition and to explore the relationship between meta-cognition, worry and intrusions	Mixed: Qual – Questionnaire, open questions; Quant – Factor analysis of questionnaire results	Thematic Analysis	*n*=25; University students; 14 male, 11 female; No age data given	Identified different dimensions of meta-cognitions, which enabled the development of a meta-cognition questionnaire
Hinton & Earnest (2010)	To examine health as it is situated within the socio-cultural context of Papa New	Qual – Focus groups and interviews	Qualitative Interpretative	*n*=84; Papa New Guinean community sample; 70 female, 14 male; Age range: Female – 18-24 (33), 25-44	Identified a number of aspects that participants felt contributed to worry, such as lack of control and parental worry. Participants also expressed

	Guinean women's lives			(27), >44 (10); Male – "young men and adult men"	belief that worry impacted on physical health.
Svensson & Fridlund (2008)	To describe incidents in which ambulance nurses experience worry in their professional life and the actions they take to prevent and cope with it	Qual – Semi-structured interviews	Critical Incident Technique	*n*=25; Swedish ambulance nurses; 12 female, 13 male; No age data given	Identified a number of themes related to worry, including perceptions about the value of worry and factors that seem to influence the extent of worry, such as experience, knowledge and support from others
Boutain (2001)	To explore how a sample of rural Louisiana residents constructed accounts about worry and stress in relationship to their high blood pressure	Qual – Semi-structured interviews	Discourse Analysis	*n*=30; African-American community sample; 15 female, 15 male; Mean age: Male – 54.7; Female – 54.6	Provided an insight into the relation between physical health and worrying. Participants described significant worries about their health, their family and their community

Critique of Selected Studies

Key Strengths

Most of the selected studies had sample sizes that were much larger than might typically be found in qualitative studies, such as the studies conducted by Davey, Tallis and Capuzzo (1996) and Roth and Eng (2002) which recruited 128 and 117 participants respectively. Davey et al (1996) administered a questionnaire asking about the perceived consequences of worry, the results of which were then analysed, indicating an apparent link between beliefs about worry and levels of psychological functioning. Roth and Eng (2002), as part of a larger questionnaire study, asked participants what they believed the cause of their worry to be. A particular strength of the latter study was the use of participants' own words to substantiate the codes that were reported.

Three studies identified and sought to address the lack of research into childhood experiences of worry. Turner and Wilson (2010) recruited adolescents aged between 11 and 13 from secondary schools. Turner and Wilson (2010) attempted to replicate previous studies conducted with adults, testing the mood-as-input hypothesis of worry using an experimental design. In addition, Turner and Wilson (2010) also extended the study by obtaining qualitative descriptions of key aspects of the experiment conditions. Muris et al (1998) administered worry and mood questionnaires to a large sample of 193 children, aged between 8 and 13. This study was also strengthened by participants being interviewed about the content, characteristics and origins of their main worries. The final study targeting the lack of research into children's worry was conducted by Szabo and Lovibond (2004). This study aimed to investigate whether worry reported by children would exhibit the same problem-solving characteristics as evidenced in adult worry. Eighty-nine children were involved in the study. The children were aged 8 to 13. Thirty-eight were recruited from mental health clinics

who had been referred with symptoms of anxiety. The remaining fifty-one children were recruited from local schools, with no reported mental health difficulties. Rather than relying on the use of questionnaires, the researchers opted to interview participants, which had the potential to produce more detailed responses.

Two other studies chose to utilise interviews instead of limiting their findings to statistical analyses of questionnaire-based data. Hoyer, Becker and Roth (2001) identified that research into worry had typically tended to involve undergraduate students, with clinical samples rarely used. Hoyer, Becker and Roth (2001) recruited participants from a mental health service in order to investigate the experience of worry. An additional strength of this study was that they recruited participants with a diagnosis of GAD and participants diagnosed with social phobia who acted as clinical controls. Cartwright-Hatton and Wells (1997) aimed to develop a measure of dimensions of meta-cognition. While questionnaires may have been sufficient for this purpose, they elected to use data obtained through semi-structured interviews with 25 undergraduate students, along with transcripts of therapy with anxious patients.

Two of the selected studies employed procedures that enabled 'active' worry data to be captured, which had the potential to identify characteristics of worry that might have been missing from studies using historic accounts of worry episodes. Szabo and Lovibond (2002) recruited 57 undergraduate students and asked them to keep a daily diary of naturally occurring worry episodes in order to identify the cognitive content present in the worries recorded. Molina, Borkovec, Peasley and Person (1998) aimed to investigate the phenomenology of worry using 'live' worries. Forty undergraduate students were instructed to verbalise their 'streams of consciousness' during neutral and worry periods.

Three studies stood apart from the others in terms of their use of more comprehensive qualitative methodologies. Hinton and Earnest (2010) recruited 84 participants from a Papua New Guinean community, aiming to explore the links between physical and psychosocial health. The study used a range of data collection methods, including interviews and focus groups, the results of which were analysed leading to the identification of a number of worry and health related themes. Svensson and Fridlund (2008) focused upon the experience of worry for ambulance nurses during emergency situations. Semi-structured interviews with 25 ambulance nurses were conducted and analysed, from which emerged a range of worry-related themes. Boutain (2001) sought to explore, with a sample of 30 rural Louisana community members, the relationships that were perceived to exist between their experiences of worry, stress and high blood pressure. Participants engaged in in-depth semi-structured interviews, the transcripts of which were subject to discourse analysis techniques.

In summary, the key strengths from the selected studies related to the size of the samples, the populations that were investigated, the data collection methods or the types of methodologies utilised.

Key Limitations

Eight of the studies employed an analysis procedure which involved coding the qualitative data according to categories that were either pre-defined (Molina et al, 1998; Roth & Eng, 2002; Szabo & Lovibond, 2002; Szabo & Lovibond, 2004) or limited to the specific questions that were asked in the data collection process (Davey et al, 1996; Hoyer et al, 2001; Muris et al, 1998; Turner & Wilson, 2010). As a result, this restricted the range of findings that was generated, especially in the case of Turner and Wilson (2010), where the interview

questions and responses were closely connected to the instructions (‘worry as much as possible or as long as you feel like it’) and the conditions that were manipulated (induction of negative and positive mood) in the experimental section of the study. There was a lack of detail provided about how the pre-defined categories were developed, and how the researchers’ standpoints may have influenced this development along with the subsequent coding of data.

Three of the selected studies were directly linked to specific models of worry: the mood as input hypothesis (Davey et al, 1996; Turner & Wilson, 2010) and the meta-cognitive model (Cartwright-Hatton & Wells, 1997). None of these studies made reference to how the findings could have been biased by the authors’ positions and preconceptions about what they might discover. Furthermore, the study by Cartwright-Hatton and Wells (1997) provided no information about how participants were recruited, how interview questions were devised or what the analysis of participant responses actually involved.

Although three studies (Boutain, 2001; Hinton & Earnest, 2010; Svensson & Fridlund, 2008) utilised more comprehensive qualitative methodologies, there was a lack of transparency and clarity around how participants were recruited and how interview questions were developed. Furthermore, there was limited discussion in the reports concerning ethical considerations, bias and researcher standpoints.

Synthesis of Findings

The results from all of the studies were examined in detail and the key findings related to the experience of worry were extracted. These were reviewed and compared across studies in an attempt to find commonalities and structure amongst the findings. This resulted in the identification of the following themes:

1. Control over worry. This theme consisted of a range of strategies and circumstances which affected whether and how much individuals had control over worrying. Of the seven studies that identified this theme, four (Hoyer et al, 2001; Muris et al, 1998; Szabo & Lovibond, 2004; Turner & Wilson, 2010) specifically asked participants how they controlled worry. In one study (Cartwright-Hatton & Wells, 1997), "the need to control thoughts" and "controllability of thoughts" were two key domains that appeared to emerge during analysis. However, the researchers did not detail any of the participant responses that contributed to these domains. In another study (Svensson & Fridlund, 2008), the theme of controllability also emerged from the analysis. Participants' own words were used to substantiate and clarify the theme of controllability.

A common dimension associated with the theme of control involved the focus of worry being framed as a 'problem', with control arising from some change in the nature of the problem or how it was addressed. This included the problem being minimised ("reality check" (Turner & Wilson, 2010)), solved ("I decided to play with Joshua" (Szabo & Lovibond, 2004)) or the problem going away ("I worried until we got there and it was alright" (Szabo & Lovibond, 2004)). In a similar vein, another strategy involved the salience of the worry focus being reduced through mental distraction("I thought about nice things, like the presents I got for Christmas" (Szabo & Lovibond, 2004); "think about pleasant things"

(Muris et al, 1998)) or physical distraction ("Engage in activity" (Muris et al, 1998); "relaxing" and "alcohol/drugs" (Hoyer et al, 2001)).

There was considerable focus in one study (Turner & Wilson, 2010) on the role of emotions in guiding the worrying process. This either consisted of taking control of worry because of how it made the person feel:

> "In the end I just thought it would be better to stop as it would stop me going further up the scale because my sadness had nearly reached the half-way mark, and my anxiety was nearly (points to the high end of the scale" (Turner & Wilson, 2010)

Or, it related to a change in the person's mood which seemed to allow them to stop the worrying process:

> "When I started to get to the bottom of it I started to feel happy. And feeling, I've solved this problem" (Turner & Wilson, 2010)

Finally, the existence of support and reassurance from others was frequently identified as a factor associated with whether individuals were able to gain control over their worry. This involved talking to significant others generally, or specifically about their worry (Muris et al, 1998), with comments made such as "I talked to my mum about it and she said it will be alright" (Szabo & Lovibond, 2004) and "you talk about it with a colleague you have confidence in and feel secure with" (Svensson & Fridlund, 2008).

2. Value assessment of worry. This theme related to how worry was perceived, in terms of its features or consequences. This theme appeared to consist of a positive and negative dimension, generated from questions which emphasised this dichotomy ("Children were asked whether their worry had any positive features" (Muris et al, 1998); "Respondents were then asked to list separately and in their own words as many ways as they could think of that worry either made things worse or better" (Davey et al, 1996); "Subjects were questioned about...in particular their reasons for engaging in this type of cognitive activity and the problems associated with it" (Cartwright-Hatton & Wells, 1997)) and also from the analyses of responses in interviews that did not appear to involve questions structured in this manner (Boutain, 2001; Hinton & Earnest, 2010; Svensson & Fridlund, 2008).

Positive assessments predominantly involved worry helping individuals to cope with potential problems ("Worry as a coping mechanism" (Cartwright-Hatton & Wells, 1997); "[Worry] allowed them to cope with a difficult, future event…in a more effective way" (Muris et al, 1998)). Specific ways in which worry appeared to facilitate coping included being able to identify problems ("Worry as a mechanism for detecting future catastrophe" (Cartwright-Hatton & Wells, 1997); "You kind of have to prepare yourself… think about different scenarios, the kind of equipment you have, the kind of measures you might have to take" (Svensson & Fridlund, 2008)) and solve them ("Worry as a method of problem-solving" (Cartwright-Hatton & Wells, 1997); "Worrying gives me the opportunity to analyze situations and work out the pros and cons" (Davey et al, 1996); "I thought I should carry on because I might be able to think about what I can do to solve it" (Turner & Wilson, 2010)) and also create the conditions under which the problem-solving process could function effectively ("A certain amount of stress and worry is good so to speak, because it makes you

more alert" (Svensson & Fridlund, 2008); "Worrying acts as a stimulant"; "Worrying clarifies thoughts and concentration" (Davey et al, 1996).

The principal reasons for worrying being viewed negatively related to the impact that it was perceived to have on mental and physical health. Mentally, worry was felt to lead to negative emotions and to undermine individuals' ability to function effectively ("I cannot say that I go around worrying, because if I did, I don't think I could cope with this job" (Svensson & Fridlund, 2008); "Worrying increases my anxiety and so decreases my performance"; "Worrying makes me depressed and therefore makes it harder to concentrate and get on with things" (Davey et al, 1996). With regard to physical health, participants described a number of ways in which worrying might be unpleasant ("Worrying weakens me by affecting my energy levels" (Davey et al, 1996), harmful ("So he found out it wasn't the medicine [not working] that was keeping my blood pressure high. It was me worrying about myself having high blood pressure" (Boutain, 2001)) or even fatal ("If you worry too much, it will kill you" (Hinton & Earnest, 2010)).

Additional negative consequences that were felt to exist included the idea that worrying, with the associated problems this produced, led to further worrying: "Mr George said that his worry about high blood pressure, and his inability to work because of it, made him worry about his family's stability" (Boutain, 2001). It was also suggested that worrying could be transferred directly from one generation to another ("If the mother is worried, the child will also have this worry…the child will be born with worry" (Hinton & Earnest, 2010)). Both scenarios would seem to represent something of a vicious cycle of worry contamination, wherein the already negatively-appraised worry leads to more worry in the self or others,

with potentially similar negative attributes, leading to more worry in the self or others, and so on.

3. Perceived causes of worry. In the study conducted by Roth and Eng (2002), participants were asked to describe their beliefs about why they were worriers. The responses included genetics ("Genetics - my mum is a worrier"), family influences ("Factors pretty much include my mom. She was always a worrier when I was growing up and still is"), personality ("I have always been high-strung and anxious for as long as I can remember") and life events ("I was really not a worrier until this semester of school"). In both Hinton and Earnest (2010) and Svensson and Fridlund (2008), control over events emerged as a factor which helped individuals explain why they worried:

> "When the young women in this study struggled to think through or cope with their frustration and lack of control over life circumstances, they expressed a vulnerability to worry" (Hinton & Earnest, 2010)

> "[Worrying] that you cannot control the situation…you want to be in control when you are at the scene of an accident or in someone's home" (Svensson & Fridlund, 2008)

Additional causes of worry suggested by participants in the study conducted by Svensson and Fridlund (2008) also enabled a deeper understanding of what may affect control over events. These related to feelings of inadequacy ("The worry comes from not being able to help the patient in a satisfactory way"), lack of trust in others ("If I lack trust in my colleague I worry about both him/her and myself, that we will not manage it") and having experience or

knowledge, which seemed to have an effect in both directions ("The longer you have worked and the more you have experienced, the calmer you are, because you know you can manage"; "The more you have learned through the years, the more you can do, and the more responsibility you take in the ambulance, the more reason you have to worry").

4. Cognitive features of worry. The final theme involved the elucidation of specific features that appeared to constitute the cognitive nature of worry. In the three studies that reported these specific findings (Szabo & Lovibond, 2002; Szabo & Lovibond, 2004; Molina et al, 1998), the approach taken was to analyse and code the content of participants' worry, using predefined cognitive categories. In studies by Szabo and Lovibond (2002 & 2004), the categories used were: 'Negative Outcome Anticipation' – a focus upon negative events that may occur ("A tornado may come and get my house and we will just go round and round in the air" (Szabo & Lovibond, 2004), "This party will be so awful" (Szabo & Lovibond, 2002)); Problem-Solving – cognitive processing of how negative events could be managed ("If I ran away he would probably chase me, and then my friends would laugh at me" (Szabo & Lovibond, 2004), "I should call him up to explain" (Szabo & Lovibond, 2002)); Solution Selection – making a decision how to proceed after weighing up the options ("I'll start with writing a letter today" (Szabo & Lovibond, 2002), "I'll just tell my parents the truth" (Szabo & Lovibond, 2004)); Palliative – thoughts aimed to make the self feel better ("Don't worry, just go to sleep" (Szabo & Lovibond, 2004), "It'll be ok. Stop worrying. Imagining nice things" (Szabo & Lovibond, 2002)); Self-blame – thinking of oneself in a self-critical way ("I wish I had some pride" (Szabo & Lovibond, 2002)); Rumination – unproductive processing of negative thoughts or images ("Life is just not fair" (Szabo & Lovibond, 2002)); Fantasizing Solutions – thinking about unrealistic options to deal with problems ("Imagined punching him" (Szabo & Lovibond, 2002)).

In the other study (Molina et al, 1998), the categories used seemed to involve lower level descriptions of the structure of worry. These included whether the worry content was orientated towards the past, present or future; the level of positive or negative affect that was present; how much reference was made to the person's environment; and how much the worry content shifted around from one topic to another. This analysis indicated that worry involved less present-orientation, lower positive affect (and higher negative affect), less reference to the environment and less shifting of topics. Unfortunately, no participant responses were given to substantiate these findings.

Discussion

The aim of this literature review was to review qualitative research that has been conducted into the topic of worry, an experience that has a significant impact on mental health and quality of life. The twelve studies identified by the literature search and filtering process provide a limited amount of qualitative information, related to a number of key recurring themes. These can be summarised as follows: a) a need for control over worry, b) a value assessment of worry, c) the perceived causes of worry, and d) the cognitive features of worry.

The theme of control has appeared in the worry literature for a significant period of time and is central to the meta-cognitive theory of worry (Wells, 1995). Here beliefs about the uncontrollability of worry are felt to generate further distress, resulting in problematic levels of worry developing. Similarly, the idea of holding positive and negative attitudes in general about worry has long been discussed in articles related to worry and is again strongly linked to the meta-cognitive theory. 'The perceived causes of worry' incorporated a number of themes and processes, such as a need for knowledge, experience and control, which has

similarities with the intolerance of uncertainty theory (Koerner & Dugas, 2006). As described earlier, this theory hypothesises that individuals are driven to worry to excessive levels due to beliefs that worry is able to provide high levels of control and certainty. Finally, the cognitive features of worry involved descriptions about the cognitive structure of worry. Such descriptions have frequently been investigated and reported in past studies, and have often served as a way to identify and operationalise the apparent components of the worry process.

However, it is important to note that a number of the reviewed studies specifically asked participants about control, value judgements, causes and cognitive elements of worry (Davey et al, 1996; Hoyer et al, 2001; Molina et al, 1998; Muris et al, 1998; Roth & Eng, 2002; Szabo & Lovibond, 2002; Szabo & Lovibond, 2004; Turner & Wilson, 2010). This highlights a specific concern with a number of the identified studies that undermined the overall value of the combined qualitative findings. While many of the studies used open questions during interviews, these questions were often linked directly to theories that the researchers wished to validate or experiments and questionnaires that had been administered with participants as part of the same study (Cartwright-Hatton & Wells, 1997; Davey et al, 1996; Molina et al, 1998; Turner & Wilson, 2010). This would potentially allow participants' responses to be influenced by the theories, assumptions, experiments or questionnaires in question, and might also bias the consequent analysis of the data. No reference was made by the researchers in these studies as to how their standpoints and assumptions might have potentially affected the research process (or how this was or could have been minimised). Furthermore, most of these studies used content analysis to summarise the type and number of responses that participants gave, with many using predefined categories to collate the results (Molina et al, 1998; Roth & Eng, 2002; Szabo & Lovibond, 2002; Szabo & Lovibond, 2004). This again may have significantly biased the analysis, with no explanation given for the choice of the categories. It

is unlikely that such an approach would produce qualitative results of any particular depth or richness which would extend much beyond the researchers' assumptions about possible findings. This is in spite of the relevant studies suggesting in their aims and discussions that qualitative data was sought and obtained.

Three of the selected studies (Boutain, 2001; Hinton & Earnest, 2010; Svensson & Fridlund, 2008) utilised a more rigorous qualitative methodology. These studies did not appear to have been conducted in order to develop or validate a particular theory or approach. In these studies, the aims and methodologies suggested that the research was explorative, with interviews conducted to understand participants' perspectives. Again, only one of the studies made tentative reference to the possibility of researcher bias (Hinton & Earnest, 2010), while the others did not discuss this issue at all (Boutain, 2001; Svensson & Fridlund, 2008). The analysis techniques used by the researchers seemed to involve a considerable level of immersion in the data, resulting in themes that were more meaningful and insightful than those seen in the studies that utilised a content analysis approach. However, in spite of a moderate increase in the quality of these studies, the areas of investigation in these studies were not as specifically focused on the experience of worry. Instead, their primary targets were challenges faced by particular groups, from which the presence of worry was identified and explored (in terms of how worry related to the original challenges faced by these groups).

Based upon the current review, there has not been a single qualitative study specifically investigating the experience of worry that meets even the most relaxed standards of qualitative research. Given the significant interest in the area over the last three decades along with the level of distress and clinical challenges that worry can generate, this is a surprising outcome. One possible explanation is that worry has been strongly linked with the field of

cognitive behavioural therapy, which tends to posit discrete and measurable variables, in the form of accessible thoughts and beliefs, emotions and physical states (Clark & Beck, 2010; Leahy, Holland & McGuinn, 2012; Wells, 1997). Conceptualised in this way, it is perhaps more likely that the topic would attract more quantitative than qualitative research.

Despite this, it is not necessarily the case that qualitative data has been seen as unimportant or irrelevant. As discussed in this review, a number of studies have sought to obtain such data. It is possibly more that the route to obtaining qualitative data has been lacking in quality and transparency. A number of quantitative studies have suggested that they were based upon subjective experiences, while on further reading, these tended to take the form of unpublished clinical (i.e. Brown, O'Leary & Barlow, 1993; Borkovec & Roemer, 1995; Koerner & Dugas, 2006; Wells, 2005) or research interviews (i.e. Borkovec, 1994). Had these interviews been conducted as part of a qualitative study, with the design, methodology, analysis and findings available for scrutiny and replication, the body of qualitative research around worry would have been significantly richer.

In terms of potential limitations associated with this qualitative literature review of worry, the first aspect to highlight relates to the different types of studies identified. A large number of the identified studies were questionable in terms of being qualitative in design. The majority of reviewed studies included a key quantitative component, while the minority were more explicitly qualitative (Boutain, 2001; Hinton & Earnest, 2010; Svensson & Fridlund, 2008). Integrating the findings from these disparate approaches proved a challenge. This may have led to the overall synthesis of results being negatively diluted, especially given the apparently poor quality of many of the studies. It may have been an option to separate out the findings between the different types and levels of quality. However there did appear to be a substantial

degree of crossover in the findings, so any separation may have diluted the resulting synthesis.

Another limitation of the current review was the age range of participants used within the selected studies. Three of the studies involved children. One concern is that the children may have been more susceptible to being influenced by the researchers' standpoints, especially if the children were uncertain about or unskilled at thinking reflectively about a relatively complex psychological phenomenon. In none of the studies that utilised children was there any reference to such problems or how they might have been mitigated. Nonetheless, it is reassuring that in two of the studies (Szabo & Lovibond, 2004; Turner & Wilson, 2010), the findings were similar to those reported in the adult studies which were being replicated.

Finally, there is potentially a general issue with investigating the phenomenon of worry. In all of the studies, participants reported on their level or experience of worry. Alternatively, worry was induced by a variety of means, such as reading emotionally-relevant statements (York, Borkovec, Vasey & Stern, 1987; Andrews & Borkovec, 1988) or asking participants to worry "in their usual fashion" (Borkovec & Inz, 1990, p155). Yet it is not clear that what the different participants were reporting or the phenomenon that was being induced was necessarily the same thing. This then has serious consequences for the conclusions that are drawn about the nature of worry, its mechanism and its relationship with mental health.

Key Implications for Future Research

This review indicates that there is a need for future research into the experience of worry using a comprehensive qualitative methodology. Such research, conducted in a clear and transparent manner, would enable rich and detailed narratives to be obtained and analysed.

This would hopefully lead to a deeper appreciation of the phenomenon of worry and allow an enhanced and nuanced understanding of why worry can develop to problematic levels. This could provide valuable guidance and inform interventions for treating individuals who present in clinical settings with these levels of worry.

Conclusion

This review indicates that although there have been a limited number of qualitative studies conducted into the experience of worry, there are significant limitations to these studies. These concern the methodologies used, the quality of the analyses and the lack of discussion around researcher bias. It appears there is a need for further qualitative research into the topic of worry, in order to gain subjective accounts from individuals around what they understand by the term worry and how this is experienced. Qualitative studies utilising rigorous and transparent methodologies enable rich data to be collected and the maximum amount of meaning to be extracted from this data. This would hopefully permit the identification of dominant themes that have been allowed to emerge through a process where quality, ethical standards and the minimisation of bias are key priorities. Such information could enhance or challenge existing theories of worry, which may provide a valuable insight into why worry can become problematic for individuals and how they could be supported clinically.

References

American Psychiatric Association. (1987). *Diagnostic and statistical manual of mental disorders - Revised (3rd ed).* Washington DC: Author

Andrews, V. H. & Borkovec, T. D. (1988). The differential effects of inductions of worry, somatic anxiety and depression on emotional experience. *Journal of Behavior Therapy and Experimental Psychiatry, 19*, 21-26

Barlow, D. H. (2002). Anxiety and its disorders: The nature and treatment of anxiety and panic. New York: The Guildford Press

Bell-Dolan, D. J., Last, C. G. & Strauss, C. C. (1990). Symptoms of anxiety disorders in normal children. *Journal of the American academy of child and adolescent psychiatry, 29 (5)*, 759-765

Borkovec, T. D. (1994). The nature, functions and origins of worry. In G. C. L. Davey, & F. Tallis (Eds). *Worrying: Perspectives on theory, assessment and treatment*. Chichester: Wiley

Borkovec, T.D., Alcaine, O. & Behar, E. (2004). Avoidance theory of worry and generalized anxiety disorder. In R.G. Heimberg, C.L. Turk & D.S. Mennin (Eds). *Generalized anxiety disorder: Advances in research and practice.* New York: Guilford Press

Borkovec, T. D. & Inz, J. (1990). The nature of worry in generalized anxiety disorder: a predominance of thought activity. *Behaviour, Research & Therapy, 28*, 153-158

Borkovec, T.D, Lyonfields, J. D., Wiser, S. L. & Deihl, L. (1993). The role of worrisome thinking in the suppression of cardiovascular response to phobic imagery. *Behaviour, Research and Therapy, 31 (3)*, 321-324

Borkovec, T. D., Robinson, E., Pruzinsky, T. & DePree, J. A. (1983). Preliminary exploration of worry: Some characteristics and processes. *Behaviour, Research and Therapy, 21*, 9-16

Borkovec, T. D. & Roemer, L. (1995). Perceived functions of worry among generalized anxiety disorder subjects: Distraction from more emotionally distressing topics? *Journal of Behaviour Therapy and Experimental Psychiatry, 26 (1)*, 25-30

Boutain, D. M. (2001). Discourses of worry, stress, and high blood pressure in rural South Louisiana. *Journal of Nursing Scholarship, 33 (3)*, 225-230

Breznitz, S. (1971). A study of worrying. *British Journal of Social and Clinical Psychology, 10 (3)*, 271-279

Brosschot, J. F., Van Dijk, E. & Thayer, J. F. (2007). Daily worry is related to low heart rate variability during waking. *International Journal of Psychophysiology, 63 (1)*, 39-47

Brown, T. A. (1997). The nature of generalized anxiety disorder and pathological worry: Current evidence and conceptual models. *Canadian Journal of Psychiatry, 42*, 817-825

Brown, T. A., Antony, M. M. & Barlow, D. H. (1992). Psychometric properties of the Penn State Worry Questionnaire in a clinical anxiety disorders sample. *Behaviour Research and Therapy, 30 (1),* 33-37

Brown, T. A., O'Leary, T. A. & Barlow, D. H. (1993). Generalized Anxiety Disorder. In Barlow, D. H. (Ed.), *Clinical handbook of psychological disorders*. New York: Guilford Press.

Cartwright-Hatton, S. (2006). Worry in childhood and adolescence. In G. C. L. Davey & A. Wells (Eds). *Worry and its psychological disorders: Theory, assessment and treatment*. Chichester: Wiley

Cartwright-Hatton, S. & Wells, A. (1997). Beliefs about worry and intrusions - The metacognitions questionnaire and its correlates. *Journal of Anxiety Disorders, 11 (3),* 279-296

Clark, D. A. & Beck, A. T. (2010). *Cognitive therapy of anxiety disorders: Science and practice*. New York: The Guildford Press

Craske, M. G., Rapee, R. M., Jackel, L. & Barlow, D. H. (1989). Qualitative dimensions of worry in DSM-III-R generalized anxiety disorder subjects and non-anxious controls. *Behaviour, Research and Therapy, 27 (4),* 397-402

Davey, G. C. L. (2006). A mood-as-input account of perseverative worrying. In G. C. L. Davey & A. Wells (Eds). *Worry and its psychological disorders: Theory, assessment and treatment*. Chichester: Wiley

Davey, G. C. L., Hampton, J., Farrell, J. & Davidson, S. (1992). Some characteristics of worrying: Evidence for worrying and anxiety as separate constructs. *Personality and Individual Differences, 13 (2),* 133-147

Davey, G. C. L., Startup, H. M., MacDonald, C. B., Jenkins, D. & Paterson, K. (2004). The use of 'as many as can' versus 'feel like continuing' stop rules during worrying. *Cognitive Therapy and Research, 29,* 155-169

Davey, G. C. L. & Tallis, F. (1994). *Worrying: Perspectives on theory, assessment and treatment*. Chichester: Wiley

Davey, G. C. L., Tallis, F. & Capuzzo, N. (1996). Beliefs about the consequences of worrying. *Cognitive Therapy and Research, 20 (5),* 499-520

Deffenbacher, J. L. & Deitz, S. R. (1978). Effects of test anxiety on performance, worry and emotionality in naturally occurring exams. *Psychology in the Schools, 15(3),* 446-450

Dugas, M. J., Freeston, M. H. & Ladouceur, R. (1997). Intolerance of uncertainty and problem orientation in worry. *Cognitive Therapy and Research, 21 (6),* 593-606

Ehring, T. & Watkins, E. R. (2008). Repetitive negative thinking as a transdiagnostic process. *International Journal of Cognitive Therapy, 1 (3),* 192-205

Ehring, T., Zetsche, U., Weidacker, K., Wahl, K., Schonfeld, S. & Ehlers, A. (2011). The perseverative thinking questionnaire (PTQ): Validation of a content-independent measure of repetitive negative thinking. *Journal of Behavior Therapy and Experimental Psychiatry, 42,* 225-232

Freeston, M. H., Rheaume, J., Letarte, H., Dugas, M. J., & Ladouceur, R. (1994). Why do people worry? *Personality and Individual Differences, 17,* 791-802

Girodo, M. & Stein, S. J. (1978). Self-talk and the work of worrying in confronting a stressor. *Cognitive Therapy and Research, 2 (3),* 305-307

Hinton, R. & Earnest, J. (2010). 'I worry so much I think it will kill me': Psychosocial health and the links to the conditions of women's lives in Papua New Guinea. *Health Sociology Review, 19 (1),* 5-19

Holaway, R. M., Rodebaugh, T. L. & Heimberg, R. G. (2006). The epidemiology of worry and generalized anxiety disorder. In G. C. L. Davey & A. Wells (Eds). *Worry and its psychological disorders: Theory, assessment and treatment*. Chichester: Wiley

Hoyer, J., Becker, E. S. & Roth, W. T. (2001). Characteristics of worry in GAD patients, social phobics and controls. *Depression and Anxiety, 13,* 89-96

Janis, I. L. (1971). *Stress and frustration*. New York: Harcourt Brace Jovanovich

Koerner, N. & Dugas, M. J. (2006). A cognitive model of generalized anxiety disorder: The role of intolerance of uncertainty. In G. C. L. Davey & A. Wells (Eds). *Worry and its psychological disorders: Theory, assessment and treatment*. Chichester: Wiley

Leahy, R. L., Holland, S. J. F. & McGuinn, L. K. (2012). *Treatment plans and interventions for depression and anxiety disorders (2nd Ed)*. New York: The Guildford Press

Llera, S. J. & Newman, M. G. (2010). Effects of worry on physiological and subjective reactivity to emotional stimuli in generalized anxiety disorder and nonanxious control participants. *Emotion, 10 (5)*, 640-650

Llera, S. J. & Newman, M. G. (2014). Rethinking the role of worry in generalized anxiety disorder: Evidence supporting a model of emotional contrast avoidance. *Behavior Therapy, 45*, 283-299

Meyer, T. J., Miller, M. L., Metzger, R. L. & Borkovec, T. D. (1990). Development and validation of the Penn State Worry Questionnaire. *Behaviour, Research & Therapy, 28 (6)*, 487-495

Molina, S., Borkovec, T. D., Peasley, C. & Person, D. (1998). Content analysis of worrisome streams of consciousness among anxious and dysphoric participants. *Cognitive Therapy and Research, 22 (2)*, 109-123

Morris, L. W. & Liebert, R. M. (1970). Relationship of cognitive and emotional components of test anxiety to physiological arousal and academic performance. *Journal of Consulting and Clinical Psychology, 35 (3),* 332-337

Muris, P., Meesters, C., Merckelbach, H., Sermon, A. & Zwakhalen, S. (1998). Worry in normal children. *Journal of the American academy of child and adolescent psychiatry, 37 (7),* 703-710

Newman, M. G., Llera, S. J., Erickson, T. M., Przeworski, A. & Castonguay, L. G. (2013). Worry and Generalized Anxiety Disorder: A Review and Theoretical Synthesis of Evidence on Nature, Etiology, Mechanisms, and Treatment. *Annual Review of Clinical Psychology, 9,* 275-297

O'Neill, G. W. (1985). Is worry a valuable concept? *Behaviour, Research and Therapy, 23 (4),* 479-480

Purdon, C. & Harrington, J. (2006). Worry in psychopathology. In G. C. L. Davey & A. Wells (Eds). *Worry and its psychological disorders: Theory, assessment and treatment*. Chichester: Wiley

Roemer, L., Borkovec, M., Posa, S. & Borkovec, T. D. (1995). A self-report measure of generalized anxiety disorder. *Journal of Behavior Therapy and Experimental Psychiatry, 26,* 345-350

Roth, D. A. & Eng, W. (2002). Etiological beliefs about chronic worry. *Depression and Anxiety, 16*, 182-184

Schlotz, W., Hellhammer, J. Schulz, P. & Stone, A. A. (2004). Perceived work overload and chronic worrying predict weekend-weekday differences in cortisol awakening response. *Psychosomatic Medicine, 66*, 207-214

Segerstrom, S. C., Tsao, J. C. I., Alden, L. E. & Craske, M. G. (2000). Worry and rumination: Repetitive thought as a concomitant and predictor of negative mood. *Cognitive Therapy and Research, 24*, 671-688

Stapinski, L. A., Abbott, M. J. & Rapee, R. M. (2010). Evaluating the cognitive avoidance model of generalised anxiety. *Behaviour, Research & Therapy, 48*, 1032-1040

Startup, H. M. & Davey, G. C. L. (2001). Mood as input and catastrophic worrying. *Journal of Abnormal Psychology, 110 (1)*, 83-96

Startup, H. M. & Davey, G. C. L. (2003). Inflated responsibility and the use of stop rules for catastrophic worrying. *Behaviour, Research and Therapy, 41*, 495-503

Svensson, A. & Fridlund, B. (2008). Experiences of and actions towards worries among ambulance nurses in their professional life: A critical incident study. *International Emergency Nursing, 16*, 35-42

Szabo, M. & Lovibond, P. F. (2002). The cognitive content of naturally occurring worry episodes. *Cognitive Therapy and Research, 26 (2),* 167-177

Szabo, M. & Lovibond, P. F. (2004). The cognitive content of thought-listed worry episodes in clinic-referred anxious and nonreferred children. *Journal of Clinical Child and Adolescent Psychology, 33 (3),* 613-622

Tallis, F., Davey, G. C. L. & Bond, A. (1994). The worry domains questionnaire. In G. C. L. Davey, & F. Tallis (Eds). *Worrying: Perspectives on theory, assessment and treatment*. Chichester: Wiley

Tallis, F., Davey, G. C. L. & Capuzzo, N. (1994). The phenomenology of non-pathological worry: a preliminary investigation. In G. C. L. Davey, & F. Tallis (Eds). *Worrying: Perspectives on theory, assessment and treatment*. Chichester: Wiley

Tallis, F., Eysenck, M. & Mathews, A. (1991). Elevated evidence requirements and worry. *Personality and Individual Differences, 12,* 21-27

Turner, L. & Wilson, C. (2010). Worry, mood and stop rules in young adolescents: Does the mood-as-input theory apply. *Journal of Experimental Psychopathology, 1*, 34-51

Watkins, E. (2008). Constructive and unconstructive repetitive thought. *Psychological Bulletin, 134 (2),* 163-206

Wells, A. (1994). Attention and the control of worry. In G. C. L. Davey, & F. Tallis (Eds). *Worrying: Perspectives on theory, assessment and treatment*. Chichester: Wiley

Wells, A. (1995). Meta-Cognition and worry: A cognitive model of generalised anxiety disorder. *Behavioural and Cognitive Psychotherapy, 23*, 265-273

Wells, A. (1997). *Cognitive therapy of anxiety disorders*. West Sussex, England: Wiley

Wells, A. (2005). The meta-cognitive model of GAD: Assessment of meta-worry and relationship with DSM-IV Generalized Anxiety Disorder. *Cognitive Therapy and Research, 29 (1)*, 107-121

Wells, A. (2006). The meta-cognitive model of worry and generalized anxiety disorder. In G. C. L. Davey & A. Wells (Eds). *Worry and its psychological disorders: Theory, assessment and treatment*. Chichester: Wiley

Wells, A. & Morrison, A. P. (1994). Qualitative dimensions of worry and normal obsessions: A comparative study. *Behaviour, Research & Therapy, 32 (8)*, 867-870

Wetherell, J. L. (2006). Worry in older adults. In G. C. L. Davey & A. Wells (Eds). *Worry and its psychological disorders: Theory, assessment and treatment*. Chichester: Wiley

Wisocki, P. A. (1994). The experience of worry among the elderly. In G. C. L. Davey, & F. Tallis (Eds). *Worrying: Perspectives on theory, assessment and treatment*. Chichester: Wiley

York, D., Borkovec, T. D., Vasey, M. & Stern, R. (1987). Effects of worry and somatic anxiety induction on thoughts, emotion, and physiological activity. *Behaviour, Research and Therapy, 25*, 523-526

Chapter II

Empirical Paper

A qualitative study into how worry is subjectively perceived, characterised and understood in a clinical sample using the main principles of grounded theory

This paper will be submitted to *Journal of Anxiety Disorders*

(See Appendix A for author guidelines)

Abstract

Worry is associated with a range of common mental health difficulties and has become a prominent focus of psychological research over the last three decades. Most of this research has been quantitative and has led to the development of a number of theories of how worry is maintained. The present study uses a qualitative design, following the main principles of Constructivist Grounded Theory. Twelve individuals who reported excessive levels of worry were recruited from two mental health services (a primary care, student health centre and a secondary care recovery team). Interviews were conducted with the participants, in which they described various aspects of their experience of worry. Interview transcripts were coded and analysed, leading to the development of a theory of worry which acted as an interpretation of the participants' subjective experience of worry. Key theoretical categories in relation to the development and maintenance of participants' worry, included: the role of distressing life events; the sense that the difficulties faced were not fully understood or acknowledged; and the dilemma over whether worry is a beneficial or malign presence in their lives. Findings of the study are discussed, along with the clinical implications, methodological limitations and suggestions for future areas of research.

Keywords

Worry

Qualitative

Grounded theory

Clinical sample

Introduction

In the last thirty years, worry has become a prominent area of interest in terms of both psychological research and clinical practice. One of first concerted attempts at understanding the phenomenon of worry was led by Tom Borkovec, leading to a seminal paper on the subject (Borkovec, Robinson, Pruzinsky & DePree, 1983). Prior to this point, it appears that worry was considered to be an inevitable but inconsequential corollary of anxiety (Davey & Tallis, 1994; Purdon & Harrington, 2006). However, with the inclusion of worry as a primary diagnostic criteria for Generalised Anxiety Disorder in DSM III-R (American Psychiatric Association, 1987), worry seems to have become cemented as a cognitive 'symptom' of mental disorder, connected to anxiety but quantifiable and observable in its own right. Research which has explored worry has been predominantly quantitative. Studies have tended to operationalise worry using questionnaires and experiments (Borkovec et al, 1983; York, Borkovec, Vasey & Stern, 1987; Davey & Levy, 1998; Dugas, Letarte, Rheame, Freeston &Ladouceur, 1995; Meyer, Miller, Metzger & Borkovec, 1990; Molina & Borkovec, 1994; Tallis, Davey & Capuzzo, 1994; Tallis, Eysenck & Mathews, 1991; Tallis, Eysenck & Mathews, 1992; Wells, 1994) to measure and observe the characteristics and consequences of a discrete behaviour or experience (i.e. worry) that exists in reality, which individuals report to a greater or lesser degree. Many of these studies have indicated that worry exists on a continuum, in terms of frequency, intensity and the impact it can have on individuals' lives. A range of models and theories have been produced which attempt to explain how and why worry develops and can become problematic. They include the cognitive avoidance model (Borkovec, 1994), the metacognitive model (Wells, 1995), the intolerance of uncertainty theory (Dugas, Freeston & Ladouceur, 1997), the mood-as-input hypothesis (Startup & Davey, 2001) and the contrast avoidance model (Newman & Llera, 2011).

Despite an abundance of quantitative research into worry, qualitative research into the topic appears to be lacking. There are a limited number of studies which have purported to undertake qualitative research (Boutain, 2001; Cartwright-Hatton & Wells, 1997; Davey, Tallis & Capuzzo, 1996; Hinton & Earnest, 2010; Hoyer, Becker & Roth, 2001; Molina, Borkovec, Peasley & Person, 1998; Muris, Meesters, Merckelbach, Sermon & Zwakhalen, 1998; Roth & Eng, 2002; Svensson & Fridlund, 2008; Szabo & Lovibond, 2002; Szabo & Lovibond, 2004; Turner & Wilson, 2010). However, reviewing these studies reveals significant weaknesses in the methodology and analysis of participant responses. The majority of the studies (Davey et al, 1996; Hoyer et al, 2001; Molina et al, 1998; Muris et al, 1998; Roth & Eng, 2002; Szabo & Lovibond, 2002; Szabo & Lovibond, 2004; Turner & Wilson, 2010) were linked to pre-existing theories of worry. As a result, the influence of the researchers' positions on the interview questions which were utilised in the studies and the themes that were identified represented an unresolved concern. This kind of approach would undermine the reliability of a study. In addition, the breadth and richness of the results would potentially be compromised due to a restricted extraction of meaning from participant narratives.

A number of quantitative studies have argued that their research is partially based upon qualitative information linked to "anecdotal accounts from patients" (p202, Koerner & Dugas, 2006), "reports of our former GAD clients" (Borkovec & Roemer, 1995, p26), "the author's clinical experience with worriers and GAD patients" (Freeston, Rheaume, Letarte, Dugas & Ladouceur, 1994, p793). However, this potentially valuable information is not described in any detail. The process involved in relation to the procurement and analysis of the data is not expanded upon. It is not clear why the findings were not presented or replicated as part of a published qualitative study. This kind of study would have enabled

some level of scrutiny to take place. It may be that the apparent predominance in the field of worry of a positivist standpoint and quantitative research has resulted in rigorous and transparent qualitative research being considered surplus to requirements. Such an approach may be linked to a view of qualitative research as being useful only in so far as it enables the development of quantitative instruments, effectively positioning qualitative research in the role of a "junior partner" (Murphy, Dingwall, Greatbatch, Parker & Watson, 1998, p59).

However, the relative paucity of qualitative research into worry may mean that crucial information has been missed or overlooked. It has been argued that "it is only in the context of non-positivistic interviewing…that 'intersubjective depth' and 'deep-mutual understanding' can be achieved" (Miller & Glassner, 1997, p100). It is this depth and richness of data that quantitative research is unlikely to be able to obtain. This is not simply in terms of how questions are asked and what specific questions are asked, although this is certainly a vitally important and skilful part of the process (Holstein & Gubrium, (1997), but how the resulting responses are analysed. Unless the researcher(s) become immersed in the data and allow the participants' voices to be heard; unless they enable 'authentic insights' (Silverman, 1993) to emerge organically with potential bias identified, minimised and taken into consideration, then the resulting findings are likely to be compromised.

The fact that worry is considered to be a common feature not just of GAD, but also of many clinical presentations of anxiety (Brown, Antony & Barlow, 1992; Davey et al, 1996; Dugas et al, 1997) suggests that it is important to understand the experience of worry as comprehensively as possible. Current theories of worry have directly and indirectly informed the production of intervention guidelines for treating worry in clinical and non-clinical

contexts (i.e. Wells, 1997; Leahy, 2006; Saulsman, Nathan, Lim & Correia, 2005). It is a concern that these theories of worry and intervention guidelines for the treatment of worry are based upon a research base that has overlooked qualitative methods (and privileged quantitative methods). The current study represents an initial attempt to use a qualitative methodology to explore the experience of worry.

Although many studies indicate that the phenomenon of worry may exist on a continuum, it has been suggested that an "implicit assumption" (Ruscio, 2002, p378) is present in much of the worry literature that there are only two discrete forms of worry: 'normal' and 'problematic' worry. Furthermore, it is felt that 'problematic' worry is seen as an exclusive experience of those diagnosed with GAD, with the majority of studies then focused on that particular population (Ruscio, 2002; Ruscio & Borkovec, 2004). With these factors in mind, this study is based upon the premise that worry occurs on a continuum. In order to understand how and why worry can escalate to levels that are experienced as problematic, it was necessary to identify the "best examples" (Bryant & Charmaz, 2007, p234); people who could provide the richest narratives, who were felt to be those for whom worry is frequent, intense and causes considerable difficulties. It was anticipated that such individuals were most likely to be found in a clinical sample, and due to the transdiagnostic nature of worry, would not be limited to those with a diagnosis of GAD. As such, participants were recruited from primary and secondary care mental health services who reported significant levels of worry (rather than based upon the diagnosis they might have received).

In order to remain open to the range of meanings that the term worry may have for individuals, for the purposes of the current study, worry is loosely defined as a focus on potential future threat and on the resources available to cope with that threat (Barlow, 2002).

The aims of the study are:

- To explore how worry is perceived, characterised and understood in a group of individuals who report worry as being a significant aspect of their lives
- To develop a theory of worry based on this exploration which may provide an insight into why worry can become problematic

Methodology

Rationale for Choice of Methodology

The aim of the current study was to develop a theory of worry, directly and explicitly shaped by the accounts of individuals who experience worry excessively. Grounded theory involves analysis techniques that stay close to the data and a theory generation process that is grounded in the experiences being explored (Charmaz, 2006a). As such this approach was considered to be the most appropriate qualitative methodology to use. Grounded theory was also chosen over other qualitative methodologies such as Interpretative Phenomenological Analysis (IPA), due to its emphasis on explaining processes and behaviour (Starks & Trinidad, 2007), both of which appear to represent key aspects of worry. Although grounded theory has its roots in sociology, it is argued that the approach can be used to study the development and maintenance of individual processes. A grounded theory approach also seeks to understand the "multiple layers of meanings of their actions" (p90, Charmaz, 2006b), which is a specific objective of this study. Social constructivist grounded theory, as developed by Charmaz (2000; 2006a), was favoured over other forms of grounded theory in

order to avoid any positivist assumptions being made about the nature of worry (see Appendix B for further discussion regarding epistemology).

By using a constructivist grounded theory methodology, the intention is that the resulting theory would provide an *understanding*, rather than an *explanation* (Charmaz, 2006a), of the phenomenon of worry and the ways in which it can come to be experienced by individuals as problematic. The focus is upon the meanings that participants generate out of their experiences. The theory then acts as an interpretation of those meanings, in which "causality is suggestive, incomplete and indeterminate" rather than claiming to represent a "window on reality" (Charmaz, 2000, p523-4), such as might be found within a more objectivist form of grounded theory (Charmaz, 2000).

Reflexive Statement

I am a trainee clinical psychologist, conducting research in part fulfilment of my doctorate qualification in clinical psychology. I have worked within the mental health field for the last 5 years. During that time I have worked with a range of patients, a large proportion of whom have reported worry as a frequent experience. I am aware of a number of treatment approaches related to worry and have utilised these at different times with varying success. This professional exposure along with personal experiences of worry has led to a significant interest in this area, and a desire to explore in depth the subjective experience of worry.

Based upon my awareness of interventions aimed at reducing worry, specifically involving CBT approaches, it is inevitable that these would have some impact upon my perception of the topic. Through reflection, I was able to identify potential expectations that may have influenced the research process. These included the assumptions that worry is a cognitive

process, that participants would perceive worry in a negative light and that they would seek to reduce the amount of worry they experienced. In order to limit the activation of these assumptions, I was careful in my construction of the interview schedules to avoid asking any questions which may have led the participant to responding in a certain way. Questions were as open as possible in order to allow participants to express themselves freely. In order to provide a deeper level of scrutiny, the interview schedules were also reviewed by the research supervisors who were aware of the possible bias caused by my professional and personal experiences. During the actual interviews, I was mindful of the prior assumptions I may have brought to the process. I critically explored the reasoning behind any areas concerning the experience of worry which I explored further with participants. The use of line-by-line coding in the initial stage of analysis ensured that the development of codes stayed close to the participants' words and meanings, which again was triangulated by the research supervisors at various stages of the coding process.

Participants

Twelve participants took part in the study (6 male, 6 female), with ages ranging from 20 to 64. Table 2.1 (pg.45) details the key demographics for each participant. It was initially predicted that between ten and fifteen participants would be sufficient to reach theoretical saturation. No new meaningful codes were identified after the tenth interview had been coded. At this stage, it was felt that theoretical saturation had been reached. Two further participants were then interviewed in an attempt to validate the resultant theory. All participants were under the care of a mental health service, and although many were diagnosed with a mental health condition, e.g. Emotionally Unstable Personality Disorder, this was not true in all cases. The main study inclusion criterion was participants recording a score of two or more (on at least half the days over the previous two weeks) against the

following questions: a) I am not able to stop or control worrying, b) I worry too much about different things. These questions were taken from the GAD-7 questionnaire (Spitzer, Kroenke, Williams & Lowe, 2006), which is described below. The questions were intended to identify participants who were experiencing worry at the upper end of the intensity and impact continua. If participants scored two or more against these questions, they were considered to be experiencing worry at the upper end of the frequency continuum. It was hoped that such participants would be "experts in the phenomena under investigation" (Bryant & Charmaz, 2007, p231) and would be able to provide richer narratives about the "optimal rather than the average experience" (Bryant & Charmaz, 2007, p234) rather than individuals who report mild, occasional worry that does not cause any difficulties.

Table 2.1

Demographic information of participants

No	Gender	Age	Service recruited from	Diagnosis/ Main difficulty
1	Female	41	Secondary Care	Emotionally Unstable Personality Disorder
2	Female	46	Secondary Care	Emotionally Unstable Personality Disorder
3	Male	37	Secondary Care	Emotionally Unstable Personality Disorder
4	Male	29	Primary Care	Health Anxiety
5	Female	23	Primary Care	Obsessive Compulsive Disorder
6	Female	64	Secondary Care	Bipolar Disorder
7	Male	25	Primary Care	Worry
8	Male	20	Primary Care	Generalised Anxiety Disorder
9	Female	22	Primary Care	Generalised Anxiety Disorder
10	Female	20	Primary Care	Low Self-Esteem
11	Male	28	Primary Care	Generalised Anxiety Disorder
12	Male	20	Primary Care	Adjustment

Sample

Four participants were recruited from a Community Mental Health service and eight participants from a primary care Student Mental Health service, both in the north-west of England. The Community Mental Health service provided secondary care support to individuals whose mental health needs required care co-ordination and a multi-disciplinary approach. The Student Mental Health service supported students from the local university at the primary care level. A clinical sample was chosen for the reasons detailed above. The choice of both services was made in order to allow for a broad mix of socio-demographic and mental health presentations, to increase the variability in the sample.

Materials

The GAD-7 questionnaire (Spitzer et al, 2006) was developed as a brief self-report measure that could be used as a screening tool for GAD. The GAD-7 is used routinely in many mental health settings to ascertain the presence and level of worrying and anxiety and to inform a potential diagnosis of GAD.

Items 2 (Not being able to stop or control worrying) and 3 (Worrying too much about different things) from the GAD-7 questionnaire were used as inclusion criteria for the study. These were the only items that related specifically to worry. It was felt that individuals who scored 2 or more (i.e. a frequency of half the days or more over the last 2 weeks) on either of these GAD-7 questionnaire items, that this indicated that they were experiencing a level of worry that was frequent, intense and impacting on their lives. These individuals were considered suitable for the study.

A participant information sheet (See Appendix C) was developed which described the purpose of the study, the procedure involved, the potential risks and benefits of taking part and assurances regarding confidentiality and governance. A consent form (See Appendix D) was also created which highlighted the most important aspects of the study that the participant needed to be aware of and explicitly consent to.

Procedure

Ethical Approval. Permission for the study to take place was granted by the University of Liverpool DClinPsy Research Review Committee (Appendix E), by the NHS Research Ethics Committee (Appendix F) and finally by the local research and development departments in both of the trusts that participants were recruited from (Appendix G)

Recruitment. Participants were identified by a Clinical Psychologist working in the mental health service in each trust, who both acted as supervisors for the study. Participants who had indicated during assessment that they experienced worry (and whose risk profile was felt not to preclude them from taking part in the study) were asked to rate themselves on the two questions from the GAD-7, as described above. If participants scored more than 2 on either item, they were asked if they would like to take part in the study and they were then given a Participant Information Sheet. After a week's consideration period, they were contacted by the researcher to ask if they had any questions about the study and if they would still like to be involved. Participants who indicated that they wanted to take part in the study were provided with an appointment for a one-hour interview, to take place within the relevant mental health service building. Prior to the commencement of the interview, participants were given a further opportunity to ask any questions about the study. Participants who indicated that they still wanted to take part were then asked to sign a consent form.

It was hoped that a sampling frame could be built from clients in the recruitment sites who expressed a willingness to take part in the study and met the inclusion criteria. This would have allowed for future participants to be selected on the basis of any significant emerging themes (theoretical sampling). Unfortunately, the volume of available clients was significantly less than anticipated, and convenience sampling was the only option available, with no participants excluded. However, this did not represent as much of a limitation as might have been the case, since the process of analysis did not indicate any characteristics for which theoretical sampling would have been necessary (see Results section for further information).

Data Collection. An initial interview schedule was devised which was used to guide the interviews. Interview questions were devised on the basis of the study objectives (Berg, 2001) and the researcher's preliminary reading around the topic (Strauss & Corbin, 1998). Open questions were used as much as possible in order to allow participants to tell their story with as little leading as possible, e.g "Tell me about your experience of worry", "How does worrying make you feel?", "Is there anything that changes how/whether you worry?" Before the first interview took place, interview questions were discussed with both research supervisors. Any questions that were too closed or appeared to contain a bias towards particular conceptualisations of worry were modified or removed, e.g. "Is worrying a problem for you?" In line with the grounded theory approach, the interview schedule was reviewed after the first five interviews had been coded and analysed. The interview process was reviewed again after the next five interviews, in order to explore the emerging themes and to test hypotheses (See Appendix H for the initial interview schedule and Appendix I for its subsequent development).

Interviews were recorded on a digital audio recorder. The first two interview recordings were transcribed by the researcher in order that he was able to immerse himself in the data as early as possible. Subsequent interviews were then transcribed by a University of Liverpool approved transcriber. The researcher listened to all audio recordings to ensure the transcriptions were accurate. All recordings and transcripts were anonymised and stored on a secure password-protected computer.

Data Analysis. Analysis of the interview data was guided by the framework proposed by Charmaz (2006a). This primarily comprised initial, focused and theoretical coding using active and in-vivo codes wherever possible. Summaries, diagramming and memo-writing, were also utilised to engage with the data and develop the emerging coding, structure and theory.

Initial coding involved a process of line-by-line coding, which was utilised for the first three interviews. From the first three interviews, a review of the most commonly used and meaningful codes led to the production of the preliminary focused codes. These were then used to code subsequent interview transcripts, with additions and refinements made to the list of focused codes as the analysis progressed. Theoretical categories were drawn from the focussed codes to explain the emerging theory. An illustration of initial codes, focused codes and theoretical categories is provided in Table 2.2 (pg.49). The researcher's supervisors provided corroboration of codes, categories and overall theory at regular points during the analysis. NVIVO software was used for the focussed coding stage, which provided the ability to manage, store and interrogate the expanding coding structure and database of coded data.

Table 2.2

Example of the coding process

Transcript	Initial Code	Focussed Code	Theoretical Category
P: it's just going over stuff in your head and getting panicky about it, erm anything really like I was worrying about coming here this morning, it was going through my head "should I do it shouldn't I do it" start questioning yourself then the anxiety starts and you get all the effects of the anxiety just like shaking, sweating, tearful, yeah	In your head Getting panicky Pervasive Future-focussed Going through my head; Talking to self; Dilemma; Questioning self Linked to anxiety Physical effects	Seriously dwell Doubting self/ others/future Identifying the negative consequences	 Grappling mentally Trying to make sense of worry
R: So is that how you would define worry then if you were trying to explain it someone who'd never heard the word?			
P: Yeah the thing with me is I've got a problem, I was never allowed to show emotions or anything growing up so I'm still learning what feelings are and things like that so it's hard for me to actually explain in words, what an emotion is and like worry I suppose is an emotion, so yeah, but the way I do see it is like you over think things, erm its like if you're going to the dentist this afternoon you'll like just panic "oh I'm at the dentist I'm at the dentist" it's on your mind and it's like "what could happen, what's gonna happen" you come up with assumptions, judgements and just get yourself in a stupid state	Having a problem Linked to upbringing Not allowed to show emotions Learning about emotions Difficulty expressing emotions Worry is an emotion Overthinking Worrying about everyday events; Future-focussed On your mind Trying to predict the future Creating assumptions and judgements Blaming self; Stupid state	Link to personal factors Having to hide/suppress emotions Worry is an emotion Seriously dwell Catastrophising Identifying the negative consequences	Link to personal factors Emphasizing the emotional component Grappling mentally Trying to make sense of worry

Throughout the entire analysis process, constant comparison took place between participants, narratives, codes and data, and memos were regularly written to record apparent themes, relationships and hypotheses (See Appendix J for example memos).

Since many of the techniques adopted in the data analysis process were dependent on the findings that emerged at each stage, full details are provided in the results section.

Results

Analysis

When the initial coding of the first three interviews had been completed, it became apparent that the amount and complexity of information contained in each narrative was substantial. In order to manage this, a decision was taken by the researcher to analyse each interview not only at a micro level, through coding, but also concurrently at a macro level, by producing a one page summary, along with a diagrammatic illustration of each participant's description of their experience of worry (Appendix K). This enabled the dominant themes, relationships and structure within the narratives to become more apparent, which then aided the ongoing coding process.

After the first five interviews had been conducted, coded and analysed, a period of in-depth review and reflection took place. This resulted in the generation of a composite summary and diagram (Appendix L) of the key themes and processes that had emerged from the participants' accounts up to this point. A range of hypotheses were drawn from this working model. A number of modifications were made to the interview schedule to enable these hypotheses to be tested. Although the first five participants represented a reasonable diversity in terms of age, gender, mental health presentation and recruitment site, it was hoped that

theoretical sampling would be possible for the next tranche of participants. However, at this point in the analysis, there did not appear to be any divergent paths in the working model linked to specific participant features that could guide the selection process. However in some ways this was a fortunate outcome, since the lack of available participants meant that theoretical sampling would not actually have been possible.

After the tenth interview had been coded and summarised, a further period of intense analysis was commenced. Again, no obvious participant 'types' were identified, but in order to be certain these had not been missed, a further analytical approach was adopted. Distinguishing characteristics of each narrative were distilled into a paragraph summary, participant and narrative characteristics were tabulated and a repertory grid technique (Winter, 1992) was utilised in order to reveal any prominent similarities and patterns (Appendix M). This confirmed that no 'types' existed and that the working model was unidirectional in form, rather than differential.

For narrative characteristics that were shared by seven or more participants, a composite summary and diagram was again produced. This represented the draft theory, incorporating the elements that would be considered the theoretical codes. Finally, an interview schedule was developed on the basis of the draft theory. This interview schedule aimed to understand the extent that the theory could be supported. Two additional participants were recruited for this purpose, with their narratives transcribed, coded and summarised. The analysis of these transcripts supported a large proportion of the theory and the underlying categories.

Storyline Memo

In grounded theory, Strauss and Corbin (1998) suggest using a storyline memo to outline the model before introducing the theoretical categories from which the model has been developed. Therefore, before exploring in detail the main categories and sub-categories that were identified in the analysis process, the storyline memo is presented, comprising the common narrative, shared by the majority of participants. This ultimately represents the finalised narrative version of the theory of worry suggested by this study, which is depicted visually by the composite diagram, in Figure 2 (pg.53).

Distressing life experiences were consistently put forward by participants as a causal factor in their past and current worrying. These life experiences generally entailed an actual or anticipated social or physical threat, where the person felt alone, different or abandoned, leading to an enduring fear and vulnerability towards the specific threat(s). Possibly in response to this feared threat(s), participants spoke of a need to protect and prove themselves. In addition to over-achieving and perfectionism, this need also appears to have been met through imagining possible outcomes that may occur in the near or distant future. This appears to be depicted as a rational and intentional form of worrying. The justification for this process seems to be derived from a number of positive beliefs about worry which were held by most participants, in conjunction with other general beliefs, for example: “worrying is normal/everyone worries” and the fact that worrying has been a lifelong experience for the person.

However, an escalating worry process also seemed to exist, which participants described as being out of control, irrational or even pathological. This process appeared to develop in the presence of a trigger/s linked to their underlying fear and vulnerability, and/or a “worried

feeling", often identified as anxiety. In this context, participants spoke about imagined catastrophic outcomes and "what-if" questions that felt real and which they struggled to ignore or resist.

The "worried feeling" appears to intensify. The worry process was then experienced as being out of their control. The consequences of this 'out-of-control' worry are various but uniformly negative. The recognition and/or recollection of when this worry process was activated in the past seemed to undermine the individual's confidence in their ability to cope, both at the time and into the future. Most participants spoke of 'in-control' worry and 'out-of-control' worry as being inevitable, as if it is pre-programmed into their brain, ostensibly linked to their early negative experiences and the fact that worrying had been lifelong.

In spite of the negative consequences of 'out-of-control' worry, typically described as stupid or pointless, many participants continued to emphasise the positive value of worry and its ubiquity. It is possible that this is a manifestation of their need to prove or defend themselves to others (and themselves) against imagined accusations of acting irrationally. By rationalising and justifying worry as worthwhile and necessary, they may then feel those imagined accusations have been challenged and their fragile self-confidence has been temporarily bolstered.

A strong theme running through most participants' narratives was the emphasis placed on how emotionally distressing worry could be, especially in reference to worry being an emotion or inextricably linked to anxiety. There also seemed to be a sense for many of the participants that the distress or 'seriousness' associated with their worry was not recognised

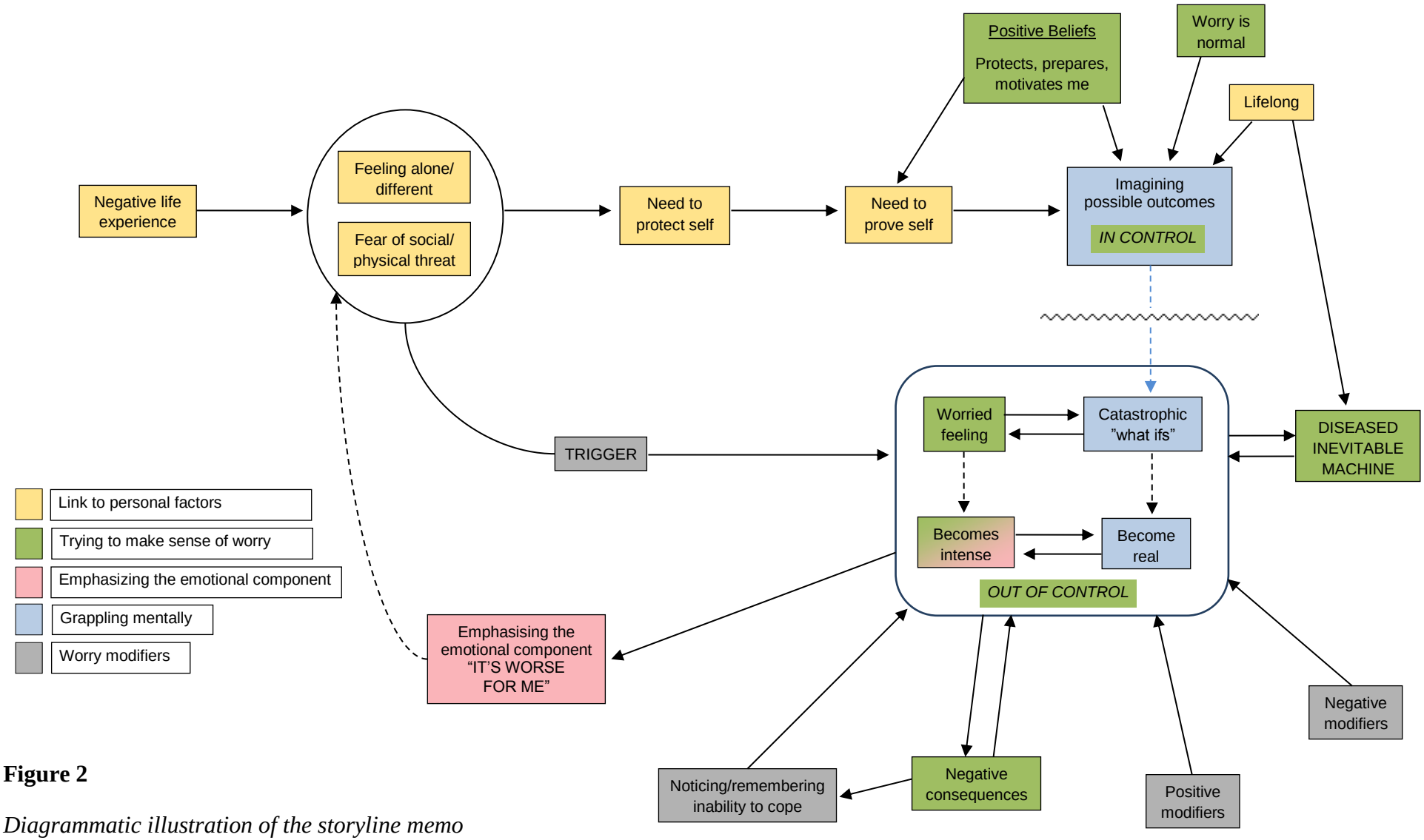

Figure 2

Diagrammatic illustration of the storyline memo

or validated by others, such as parents or professionals, hence the need for it to be stressed during their interviews.

In addition to a focus on the negative consequences of worry increasing the intensity of the problematic worry process, all participants spoke of other factors that affected how much worried thinking and emotion they experienced. Negative modifiers, that raised worry levels and distress, included isolating themselves, relying on sleep, food, reassurance seeking and frantic activity. Positive modifiers, which seemed to reduce their worrying generally related to talking and sharing their experiences with trusted others, such as friends or professionals, and engaging in self-help techniques, such as mindfulness.

Overview of Theoretical Categories

The analysis of the data resulted in five theoretical categories: 1) Link to personal factors, 2) Emphasising the emotional component, 3) Grappling mentally, 4) Trying to make sense of worry, and 5) Worry modifiers. A number of sub-categories underlie each of the theoretical categories, although these do not map perfectly onto the composite diagram shown in Figure 2 (pg.53). This is due to the concurrent analytical processes of coding and diagramming/summarising, as described above, which generated slight variations in the lower level elements. The subcategories married to the focussed codes from the coding process were chosen to structure the write-up. These sub-categories are directly linked to the participants' quotes, which are used to illustrate and support the results. Table 2.3 (pg.56) shows the hierarchy of theoretical categories and sub-categories.

Table 2.3

Hierarchy of theoretical categories and sub-categories

Theoretical Category	**1st Tier Sub-Category**	**2nd Tier Sub-Category**
1. Link to personal factors	**1.1.** Experience of trauma, abandonment, isolation or loss	
	1.2. Striving for perfection, control or certainty	
	1.3. Worry role models	
	1.4. Lifelong, part of my identity	
	1.5. Feeling my worry isn't really appreciated	
2. Emphasising the emotional component		
3. Grappling mentally	**3.1.** "Seriously dwell"	
	3.2. Catastrophising	
	3.3. Doubting self, others or future	
	3.4. Searching for a solution, striving for perfection or control	
4. Trying to make sense of worry	**4.1.** Focusing on the negative	**4.1.1.** Having a life of its own
		4.1.2. Diseased inevitable machine
		4.1.3. Identifying the negative consequences
	4.2. Staying aware of the bright side	**4.2.1.** Defending the instinctive value of worry
		4.2.2. Rationally identifying the positives
	4.3. Sensing the dilemma	
5. Worry modifiers	**5.1.** Worry triggers	
	5.2. Escalating the worry	
	5.3. Minimising and ameliorating the worry	

1. Link to personal factors. This category refers to the connections that appeared to exist between participants' worry and aspects of themselves and their lives. This comprised links to their personal and family histories, personality traits, recurrent needs and fears, and enduring beliefs about themselves and other people. It is not necessarily the case that these factors actually played a causal role in terms of the onset and development of their worry. However, it is nonetheless significant that participants felt it important to focus on these parts of their lives during the interview process.

1.1. Experience of trauma, abandonment, isolation or loss. Virtually all participants constructed a pathway from the difficult experiences that occurred either in their childhood or adolescence to their on-going experience of worry. These experiences included traumatic exposure to health risks, physical dangers and mortality:

> "I began worrying after I had pancreatitis…it was horrible it's very painful and I could have died because of that" (P4, line 263-266)

or actual or imagined abandonment, loss or isolation:

> "I didn't know if she was going to come out [of hospital] or whatever and then being dumped on somebody I hardly knew and it just seemed to start from there" (P6, line 112-113)

For some participants, it was the amalgam of a number negative events that they attributed to their worry:

> "there is so much that's gone on and I think it's just coz a lots happened in the past I think the worries are just, I don't know how to explain it really I think it's just a symptom of through everything that's happened that I've got all these worries" (P3, p5)

Although tentative, many participants expanded further on why these experiences might have contributed to their worrying, through a shift in how they perceived and thought about themselves, others and the future:

> "at school, I was always compared to my sister, so I always had the worry there that I had to behave like she behaved, erm, but yeah it came from childhood definitely" (P1, p51)

1.2. Striving for perfection, control or certainty. Most participants characterised themselves as perfectionists or at least prone to placing excessive pressure on themselves to achieve high standards of performance and control:

> "I've always been a perfectionist…like 98% in a Physics exam wasn't good enough, so I've always had to push push push" (P1, 18)

Some also indicated that, instead of pushing themselves to extreme levels, the control and perfection they sought may have led them to avoid activities altogether, through a fear of failure and its dreaded consequences:

> "definitely a fear of failure, to the point where I'll not try anything cos of that worry about failing it, so I don't try doing it" (P11, 209-211)

These behaviours appear to stem from a need to prove and protect themselves, linked to the difficult experiences described in the previous category.

> "you are not enough in a way and maybe that's the basic thing now that makes me worrying about becoming the person who is enough and when I say enough I mean in terms of abilities and skills and degrees and all this stuff in a way" (P4, 347-350)

As well as being a response to life events, two participants suggested that their perfectionist traits were a result of success/achievement initially being attained with relative ease, which then became their own and others' expectation. Nonetheless, these participants still indicated that this characteristic was essentially a way to protect themselves against potential threats and avoid their vulnerabilities becoming exposed.

> "I knew that I'd became a perfectionist from somewhere…I set the bar early on so like I'd just get 100% in everything so then I would push myself to get that every time but it didn't become an issue until later on I guess" (P8, 404-409)

1.3. Worry role models. It is unsurprising (given the general ubiquity of worry) that over half of the participants talked about having individuals in their lives who they considered to worry much like themselves. For some, this appeared to be just an observation of the similarity in their personalities:

> "I know that my Mum, she's quite a like a nervous disposition/worrier kind of person" (P8, 251-252)

Other participants identified a causal connection between having someone close to them who worried noticeably and their own worrying:

> "I think like that's obviously rubbed off on me her kind of worrying 'cause I obviously hear her saying things" (P10, 156-158)

It is unknown whether a person (or persons) close to such participants was instrumental in the development of their worry. The fact that participants believed these individuals to be 'worriers' may at least have led these participants to feel as if they had a kindred spirit or a 'worry role model'.

1.4. Lifelong, part of my identity. For most of the participants, worrying was described as being a lifelong behaviour, which had occurred for as long as they could remember:

> "I can remember being in cot even, worrying that nobody were going to come to me." (P2, p3)

This appeared to have led to an acceptance about worrying being part of their life. Lifelong worry appeared to negatively justify the continuation of worry, based upon the assumption that they knew no other way of coping:

> "if worry was gone I'd feel awful because I don't know how I would react…because I've gotten used to it" (P8, 650-651)

In a positive sense, worry was defined as a key aspect of participants' identity: "it's who I am" (P1, p63). This also hinted at the idea that worry is inevitable and that it is futile trying to stop, which is explored more directly in the category "*Diseased inevitable machine*".

1.5. Feeling my struggle isn't really appreciated. Throughout the descriptions participants gave about the difficulties they had experienced in their lives, including their challenging periods of worry, there was the suggestion that they did not feel their struggle had truly been appreciated: "I didn't get a sense of the feeling that people understood" (P8, 391-392). This appears to have been inferred from what others said or did:

> "as soon as that imaginary bell had gone at 9 o'clock [I was] perfectly alright...reading, doing all sorts then my mum used to get, not angry with me but she used to get cross with me 'cause she used to say I knew there was nothing wrong with you" (P6, 215-218)

or expectations about how others might react:

> "I didn't go to the doctors about that because I was having the panic attacks so everything I told them would have just been oh well it's like your anxiety" (P10, 30-32)

This reactivated and reinforced the isolation and abandonment that many participants described. However, it is also possible that others' lack of understanding may have arisen from a tendency to conceal or suppress their struggle:

> "I think I'm very good at hiding it, like my friends would have absolutely no idea that I'm sitting here today. I only told my mum and dad about a year ago and they were really surprised and I've lived with them for 23 years" (P11, 89-92)

2. Emphasizing the emotional component. The emotional aspects of worry was highlighted in other contexts, such as being a negative consequence of worrying or acting as a worry trigger. In addition, there was an arguably more important sense that appeared to be conveyed in participants' narratives. This involved a noticeable emphasis being placed on how intrinsic the emotional component was to the experience of worry, with the potential implication that they felt this had been underrepresented or suppressed thus far:

> "all these are worries and they are not something separate from my feelings because let's put it like we had one of the lectures saying that how to separate cognition and emotions and I don't believe that's possible at least for me because I cannot worry about something i.e thinking about something and not experiencing emotional distress that's impossible I feel it both together when I'm worrying about something I feel like shit" (P4, 66-72)

In a similar vein, it often seemed like they were attempting to emphasise just how intolerable worry felt for them:

> "having all this worry that goes up and down as I try and you know avoid the initial problem. Its progressively more draining and I just rather give up and go to sleep or take some diazepam or whatever and run away from it" (P7, 488-491)

especially when it was compared to the experiences of others:

> "I find it really sometimes really difficult to cope with the worry in a what I'd say is probably someone else might cope with it better and it might not be as distressing to them where to me the worry's very distressing and very negative and it can really alter my mood" (P3, p45)

This theme has parallels with the category "*Feeling my struggle isn't really appreciated*", in that an enduring sense of not being understood or acknowledged complicates the experience of worry, implying to a need for this too to be properly recognised.

3. Grappling mentally. All participant descriptions suggested that a significant amount of cognitive strain was involved during episodes of worry. The indication was that participants were desperately trying to anticipate how bad situations might become and how much their capacity to face those situations might be impaired. This was followed by attempts to work out how they could deal with such scenarios. The natural course of this cognitive processing often seemed to evolve into more and more mental turmoil and self-doubt.

3.1. "Seriously dwell" (P3, p11). Participants spoke of "obsessing" (P10, line 11) on thoughts or images, like a hunter with its prey: "I will fixate on the worry and I won't let go

of it" (P2, p7). For some, this process lasted "for days on end" (P11, line 50-51), with the topic examined over and over:

> "one thing will come into my mind and I'll start thinking about it and then, erm, I'll just look into it more and more" (P2, 78-79)

As this process persisted, this would become increasingly repetitive and frustrating:

> "I will try and relate that to me in why why I don't understand this, what haven't I learnt before, what do I need to learn alongside this and I'll just and that goes round in circles" (P7, 338-340)

3.2. Catastrophising. For all participants, at some stage their worry episode would involve catastrophizing about the consequences of a past, current or future event, "what if that happens or what if that…what if what if all these what ifs" (P4, 466-468). This appeared to take place in a number of ways, including a sudden escalation of catastrophic thinking and imagining:

> "I'd get a pain in my leg and I'd there was just no doubt about it like I'd just think that it was a blood clot or I'd have a headache and it was going to be a brain tumour" (P10, 37-39)

For other participants, the catastrophising appeared to be a more systematic process, going through all possible scenarios, or else involved a descriptive and graphic elaboration:

> "then just start to picture me like collapsing and then like ambulances coming and like de de de and I like make the story quickly it might only last like 10 seconds in my head all the way to me like being in hospital and then dying" (P10, 331-336)

At other times, participants talked of becoming so immersed in the catastrophizing process that fantasy effectively became an awful reality:

> "it's almost like I'm making it happen in my head, it's almost like I am living it, yes I am almost living it" (P2, p7)

3.3. Doubting self, others or future. As well as anticipating the most extreme dangers or risks present in situations, worry episodes also seemed to involve significant doubt about their actions and the impact upon their self-esteem:

> "if I've assembled a table or put something together I'll kind of doubt it's like self-doubt" (P3, p16)

> "that's worrying and it's not I don't think, it's not being perfect, its worrying that what I do won't be good enough" (P6, 707-708)

3.4. Searching for a solution, striving for perfection or control. Although predictions of a dreadful future with hopeless prospects might be perceived as a somewhat self-defeating exercise, this process may actually be a means to an end, with the actual goal being to identify a solution, reach perfection or achieve some form of control:

> "All my attention was I mean I was always trying to figure out how to how to resolve that problem" (P5, 473-474)

This has an obvious relationship with the category "*Striving for perfection, control or certainty**"***, where the worry takes place, to a certain degree, in order to compensate for specific underlying needs. Unfortunately, in spite of the intense effort to meet these needs, the process continues to result in dissatisfaction and confusion:

> "why I don't understand this, what haven't I learnt before, what do I need to learn alongside this and I'll just and that goes round in circles because there is no answer to that question there is no real solution that I can find going round and round" (P7, 338-342)

4. Trying to make sense of worry. This theoretical category relates to occasions where participants described worry as a prominent feature of their lives, in terms of its impact and how challenging it was to understand. The most significant aspect of this was in relation to the conflict that seemed to arise between the difficulties worry was felt to cause and the advantages it seemed to provide.

4.1. Focusing on the negative. There were a number of distinct strands to this sub-category which were felt to be significant enough to detail separately

4.1.1. Having a life of its own. A commonly occurring element, which all participants gave examples of, related to how worry was often experienced as occurring outside of their awareness or control:

> "I've always felt that they were involuntary for want of a better word and that I'd no control over them" (P6, 471-473)

Where the person was not aware of the worry process, a physical feeling would highlight to them that the worrying is or was taking place:

> **"**my body felt worried I just sat out there and I could feel it I was just worrying" (P2, p61)

The suggestion seems to have been that worry could sometimes be experienced as emanating from something separate to the individual that functioned independently:

> "when I'm trying to think about the material whether its chemistry or whatever these thoughts do creep in and once they creep in, they occupy a space along with the part of me that's trying to think about the material" (P7, 362-365)

Where the locus of control for the worry was positioned externally to the self, the worry was often described as manifesting itself and exerting its influence in unpredictable ways:

> "It just it can just go up, down, up, down whenever it feels like it. I can be doing something I enjoy, I'll worry more, I can be doing something I really don't like and not worry at all" (P8, 41-44)

In these instances, the content of worry was described as being forced on the individual in such a way that it was felt to be undeniably and irresistibly real and true, and had to be dealt with:

> "it's almost like someone's giving me a load of worries on a plate and saying there you go ****, there's your worry for this month and then when it's gone they will come back and say there's another one for you" (P3, p7)

There was a clear sense that the experience of worry was felt to occur on a continuum of intensity. Where worry was less intense, it appears to have been viewed as being normal, voluntary and under control:

> "I was prone to worry but I didn't worry like I am worrying now about something not obsessively not like every day or not in so much tense it were just like normal worries" (P4, 338-340)

However, the transition to worry being seen as less intentional or even a separate entity appeared to be linked to it reaching intense levels:

> "once its escalated then it's hard to kind of ignore because it's become a thing" (P10, 448-449)

4.1.2. Diseased inevitable machine. When participants spoke of worry being intense and "off-the-scale" (P1, p17), they often conveyed the idea that its emergence was a constant and inescapable fact:

> "one worry will be with me for months or several months and then that worry kind of goes it disappears and I get a new one to replace it so it's like that vicious circle it's like a never ending path of worries that one will come and then that will go I don't know why it goes and then I'll get another one" (P3, p36)

In line with the "*Link to Personal Factors*", this inevitability was frequently attributed to the personality style of the participant:

> "I can't help it that's just the way I am, it would make it harder for me to just like harder for me to control worrying because I just kind of thought I can't help it that's what I do" (P9, 242-244)

to events that had occurred in the past:

> "the fact is there were problems you know undiagnosed, un-dealt with which meant when they did manifest themselves things were derailed and I didn't know what to do about that and therefore it spiralled" (P7, 143-146)

or simply due to the fact that once worrying has occurred for enough time, then like a habit, it will always take place and it is better to just let it happen rather than trying to resist:

> "I'm so used to worrying that it's like second nature, it's just like breathing" (P1, p10)

For some, the impression gained is that worry was unavoidable due to its inherent mechanism, which when triggered, would crank into life and could not be stopped:

> "it's like I suppose a robot goes into overdrive and you know my heads just absolutely it feels like it's going to explode and that is when I can't, I can't bring any of these tools into, into play because I've got beyond that because there's too many, I've got too many worries" (P6, 765-768)

This apparent machine-like persistence and rigidity of worry was sometimes linked by the participant to their diagnosis of a mental illness. Worry was also characterised as a disease in its own right, such was its apparent biomechanical nature:

> "what do I think about worry, its takes over your life, it's awful, a disease… it's like a disease I can't it's like I can't control it" (P2, p16)

4.1.3. Identifying the negative consequences. Throughout participants' narratives, they regularly described what they saw as the negative effects of worry. All spoke of worry being mentally distracting, leading to a lack of concentration or irrational thinking:

> "just not being able to concentrate on things if I was worried a lot, these worries would be spinning around in my mind" (P12, 35-36)

All of the participants referred to negative emotions that they associated with their worry:

> "usually you'll feel worried and then an anxiety attack will come within a short period of time afterwards, or you'll have a panic attack which comes out of nowhere then a period of worry, usually follows it" (P11, 113-115)

Participants also talked about the unpleasant physical consequences of worry (which were often the physical symptoms of anxiety experienced during an episode of worry that they were describing):

> "I was experiencing physical symptoms, I was sweating a bit, racing of the heart and really, really bad headache" (P5, 37-39)

A final consequence of worry that participants reported was that it prevented them for living a full life and enjoying the moment:

> "it makes me dysfunctional I mean I cannot function, I cannot do my everyday life's things that I programme to do in a calm and pleasurable way" (P4, 193-194)

4.2. Staying aware of the bright side. Despite identifying a range of negative aspects to worry, participants seemed to be equally keen to emphasise what they felt were the benefits of worry. This emerged in two ways, which will be discussed separately.

4.2.1. Defending the instinctive value of worry. At times, participants referred to the advantages that worry afforded, with what seemed to be a defensive, knee-jerk response, when they thought about the prospect of worry not being part of their lives. These included the belief that worry protected them, through an advance warning of potential dangers:

> "sometimes worry is good, you know, even if there's a car coming at you at sixty miles an hour, you're right to worry, get yourself out of the way" (P11, 282-283)

Worry was believed to motivate participants and give them time to prepare, both practically and emotionally, for what might happen:

> "it can be a good thing because erm I'm sort of prepared for things happening, if they work out ok that is fantastic if they don't its bad but at least I was expecting it" (P6, 681-683)

There was also the view that without worry, one would be a careless and thoughtless person:

> "obviously people that don't worry are just going to go through life not caring…So I think there's benefits in the way that it makes you more like thoughtful and more insightful like of other people" (P10, 650-657)

4.2.2. Rationally identifying the positives. A number of participants also offered what appeared to be more considered perspectives on how worrying may benefit them, such as by

giving them a sense of control or distracting them from more distressing things, even if this benefit was recognised as being short-term or illusory:

> "also I see it sometimes as a distraction from how I am really feeling as well underneath all that worry is a very sad person so that worry almost masks it all, so if I were to strip it off but I would be scared of what I saw" (P2, p65)

4.3. *Sensing the dilemma.* Potentially as a result of contemplating the positive and negative aspects of worry, many participants expressed the dilemma that existed between whether they should or should not worry, and the inherent stress and confusion this caused them:

> "I think I've definitely got problems with it, erm, well I know I have, erm, but if someone said, "we can kill your worry nerve", I'd say absolutely not, leave it there" (P11, 288-290)

This dilemma seemed to encapsulate the ongoing struggle participants had over trying to make sense of worry and to find certainty and direction whilst in the midst in this uncertain experience. This struggle at times appeared to descend into a resigned admission that ultimately the worrying was pointless, despite what their gut instinct told them about the need to worry:

> "there's no point of worrying it doesn't lead to anything it's completely useless…all the worry I've done so far has not amounted to anything just to more problems" (P5, 600-606)

It is interesting to compare this latter quote with the comment above made by the same participant, highlighting the conflicting attitudes that the same individual might hold towards worry, reinforcing their dilemma.

The resignation expressed by participants seemed to feed the frustration, anger and blame towards themselves over their role in allowing the worry to continue:

> "you're not just worried about the event, you're frustrated with yourself for allowing yourself to erm become worried about it…when it's over and the worry's gone, it's frustration again, like why did you let that ruin 2 or 3 days or why did you let that ruin a holiday or a couple of pints with your mates" (P11, 80-87)

5. Worry modifiers. A specific dimension to participants' descriptions of worry involved issues that affected the extent to which worry dominated their lives. These were both external in nature, such as environmental and social influences, and internal, such as participants' specific thoughts or behaviours.

5.1. Worry triggers. These were specific incidents or experiences, often related to negative life events recounted earlier in their narratives, which seemed to provoke an episode of worrying. These included domains such as health and mortality, loss of certainty and perfection, or even random thoughts and chance encounters:

> "I would worry about a lot like people dying and stuff and I if I saw anything on TV or like in a film or something it would like really bother me and it would take like a few days for me to stop kind of thinking about it" (P9, 141-144)

> "I tend to get intrusive thoughts quite a lot of the time, so that will sometimes set it off, or it might just be something that's happened during the day it doesn't necessarily have to be something inside my head" (P8, 32-35)

5.2. Escalating the worry. There was a wide range of factors which appeared to amplify the worry for participants, in terms of both the frequency and intensity. A number related to how safe and at ease the person felt in their environment and the people within it.

This included participants thinking that others were aware of their worrying and judging them in some way for it:

> "I think it's just been made worse now because of the way I am acting physically that I'm so sort of got this nervousness about me that I'm just thinking oh it's so obvious to people and I hate that which makes it worse" (P10, 87-89)

Alternatively, participants described feeling alone, or intentionally isolating themselves as a way of coping, which then led to further worrying:

> "when you live on your own constantly you haven't got anybody you know and that that's one of the things I think where erm mine could get out of control" (P6, 819-820)

In the face of particular stressors or increasing pressure, it seemed that worry would tend to escalate and intensify:

> "the worry increased dramatically and I think that was because of the pressure of the job, so I worried more about everything and as I went on over the years and I moved up the ladder and became a Manager the worrying went through the roof really" (P2, p11)

It also appeared that when participants experienced certain negative emotions, their worry would increase. Although they were sometimes unsure why this might be the case, it did seem that a feeling of anxiety or a sense of unease could lead to worry in an attempt to identify and resolve the underlying cause:

> "what am I worried about there is nothing to be worried about but yes I were getting anxiety…there is a search for a reason but I couldn't find one" (P2, p63)

Finally, there was a clear sense in which recollections of episodes of intense worry and the debilitating effects, led to further worry centred on participants' ability to cope now and into the future:

> "I am worrying all the time about my health and usually that gets stronger when I am stressed about something…maybe future events like how would it be to be a psychologist with all this worries how would it be to be a father with all this worries" (P4, 275-279)

5.3. Minimising and ameliorating the worry. Just as there were factors which increased participants' worry, there were also those which helped to reduce worry or lessen its impact. Examples given for these tended to relate to the opposite or absence of those outlined above, but a number are nonetheless included to enable a deeper appreciation of the elements involved.

Many participants stated that their worry lessened when they were around certain people, whom they trusted or simply felt comfortable with:

> "I have noticed that if I am with a particular person who I see, he's a very laid back and I actually feel quite at ease with that person so I can still be worrying but I don't feel, I feel quite comfortable" (P3, p26)

Often, being able to talk to others about how they were feeling or specifically about their worry was described as having a positive impact on their worry, due to a release of tension, sharing of responsibility or reassurance about how to cope with the worry:

> "I do kind of let it out in a really emotional way you know, I get very upset and I think a lot of people think "what's up with L***" and "it's a shame" and you know I do but when I've let it out it I feel a bit better for doing that" (P3, p20)

All participants were accessing some form of therapeutic and professional support, and it appeared that this was considered to be a positive factor in helping to reduce worry. Again, this seems to have been linked to the opportunity to share their experiences and feel they were understood and validated.

Therapy also appears to have enabled participants to become aware of particular strategies to control their worry and general distress, which they used to varying extents:

> "I tend to be better now being aware that when I am worrying and stuff because I've been through the therapy process so I am much more aware of when I am worrying and I go 'ok I'm worrying now' and then I can take steps to prevent it" (P8, 193-196)

Whereas the preceding items were framed as being constructive and positive influences, there were other ways by which participants could limit their worry, which were described more negatively, almost with a sense of guilt or shame. These included avoidance, excessive planning or reassurance seeking:

> "sometimes I get an extension for my essays and all the stuff that I need to do just to avoid worrying although I don't need it I don't need the extension usually I get my essays done 5 days earlier" (P4, 200-202)

or frantically keeping busy, over-sleeping and over-eating as a form of distraction:

> "you see the way I coped with worry was I would use food to push down, I've used food since I were about 18 to push worry down… when I were worrying, I could eat something and it would feel like it would push it down it would literally like just get rid of it in a way, ease it, ease it were like taking a tablet really" (P2, p18)

Discussion

The current study sought to develop a model of worry based upon the first-hand accounts of individuals who reported significant levels of worrying, using a robust qualitative methodology. The analysis and synthesis processes were guided by grounded theory. The social constructivist variant (Charmaz, 2006) of grounded theory was utilised in order to minimise any positivistic bias that may have been present. The research generated a number of theoretical categories and sub-categories and in line with the social constructivist paradigm, these categories and the final model are intended as an interpretation of participants' accounts of their experiences rather than as a representation of an objective reality.

Summary of findings

The aims of the study were:

- To explore how worry is perceived, characterised and understood in a group of individuals who report worry as being a significant aspect of their lives
- To develop a theory of worry based on this exploration which may provide an insight into why worry can become problematic

The final model, which is described in detail in the storyline memo in the results section above, can be summarised as follows: distressing past experiences lead to a persistent and enduring focus upon anticipated future events, as a means of self-protection. At times, this focus, or worry, can feel under control and 'normal'; at other times, especially in the presence of a trigger connected to those past experiences, worry can feel intense and out of control. The consequences when worry starts to feel this way are uniformly negative and then intensify the perceived need to worry. Factors that also act as worry accelerants are that

individuals feel their worry is inevitable and not under their control; that the emotional impact of their worry is not appreciated or acknowledged; and that they are disturbed about whether they should actually be worrying or not.

The theoretical categories that underpin this model are introduced individually, including a discussion about where each category appears to support existing research and where it may provide a new or enhanced contribution to the literature. The model as a whole is then compared with the main theories of worry described in the introduction to the paper. Finally, the clinical implications and methodological considerations of the study along with suggestions for future research are discussed. Some of the research described is focused not solely on worry, but more widely on GAD, and involves participants that have been either diagnosed with or who scored highly on measures of this disorder. Although the findings from these studies might be considered to relate to more than the phenomenon of worry alone, they are still included as they offer some interesting points of comparison with the current study.

Comparison between Present Findings and Past Research

Grappling mentally

This theoretical category relates to the cognitive struggle that worry seemed to involve for participants. This struggle is characterised by an intense pursuit of perfection, certainty or control, which often leads to catastrophic predictions about the future and a surfeit of self-doubt. The sense given seems to be of a process that is repetitive, circular and ultimately unproductive.

Findings within this theoretical category support existing literature regarding the cognitive characteristics of worry. Many studies have indicated that worry incorporates a cognitive component (Borkovec et al, 1983; Borkovec & Inz, 1990; Hoyer et al, 2001; York et al, 1987). This may begin as a problem-solving activity (Davey, Hampton, Farrell & Davidson, 1992), as an attempt to achieve perfection (Stober & Joorman, 2001), certainty and control (Freeston et al, 1994). The current study supports the idea that as worry escalates, this goal can become obstructed due to the presence of negative intrusions (Borkovec & Inz, 1990; Hoyer et al, 2001; Pruzinsky & Borkovec, 1990; York et al, 1987) and pessimistic or catastrophic assessments of future events (Metzger, Miller, Cohen, Sofka & Borkovec, 1990; Vasey & Borkovec, 1992). The worry process then becomes intensely focussed on the problem, perceiving it as a threat rather than a challenge, resulting in a failure to identify potential solutions (Dugas et al, 1995; Dugas et al, 1997). Alternatively, individuals persevere in generating solutions, without feeling able to decide which solution to select (Davey & Levy, 1998; Startup & Davey, 2001).

The current study enhances the findings from previous studies, in terms of participants' descriptions of problems being forced upon them, which they then felt a responsibility to resolve, or else worry over. This appeared to be experienced as a significant burden, which added to their already growing sense of stress and anxiety, suggesting an initial route to worry feeling problematic.

Trying to make sense of worry

Participants offered reflections upon their worrying, which seemed to involve a form of sense-making of the phenomenon. They referred to the undesirable and unpleasant aspects of worrying: that it was distracting, distressing and a drain on their ability to focus on other parts

of their lives. They also described how it often felt that it was not under their control or at times even within their sphere of influence, emerging and escalating unpredictably. Equally, participants talked of the perceived value of worry, for example that it helped to motivate, prepare and protect themselves for future threats. These contrasting perspectives on worry appeared to result in a dilemma for participants regarding their decision over whether they should be worrying or not.

Previous studies into the experience of worry have produced results which are supported by these findings. There is evidence that worry does indeed have noxious effects, in terms of fatigue (Andrea, Beurskens, Kant, Davey, Field & van Schayck, 2004), negative emotions (Borkovec et al, 1998) and reduced concentration (Borkovec et al, 1983). It has also been reported numerous times (Borkovec et al, 1983; Davey, Tallis & Capuzzo, 1996; Francis & Dugas, 1994; Freeston et al, 1994; Hebert, Dugas, Tulloch & Holowka, 2014; Llera & Newman, 2014; Tallis et al, 1994) that those who experience high levels of worry hold negative beliefs about the consequences of worry. Similarly, a large number of studies have reported that high worriers endorse positive beliefs about worry (Borkovec & Roemer, 1995; Cartwright-Hatton & Wells, 1997; Craske, Rapee, Jackel & Barlow, 1989; Davey, Tallis & Capuzzo, 1996; Wells, 1994; 2005).

Although a substantial proportion of the worry literature has explored the presence of beliefs about the uncontrollability of worry (Cartwright-Hatton & Wells, 1997; Wells, 1994; 2005), the current study contributes an additional layer of meaning to this. Participants spoke of worry being experienced almost as an external entity, functioning separately from the person, distanced from themselves in terms of initiation, ownership and responsibility. It appears that this can extend from an initial thought or image "popping up" unbidden, to the graphic

visualisation of worst case scenarios being re-enacted over and over, all out of the person's awareness and control. There is a subtle but important degree of difference between this interpretation of excessive worry episodes and one in which individuals feel that they cannot stop *themselves* from worrying.

Another aspect from the current study that appears not to have been previously delineated is the dilemma generated by holding conflicting beliefs about worry. It could be said that the existence of this dilemma is implicitly known from the fact that individuals have previously reported holding negative and positive beliefs about worry (Borkovec et al, 1983; Borkovec & Roemer, 1995; Cartwright-Hatton & Wells, 1997; Craske, Rapee, Jackel & Barlow, 1989; Davey, Tallis & Capuzzo, 1996; Francis & Dugas, 1994; Freeston et al, 1994; Hebert et al, 2014; Llera & Newman, 2014; Tallis et al, 1994; Wells, 1994; 2005). However, past research has not explicitly reported on the conscious awareness of this dilemma, and as such the relevance of this quandary in understanding the phenomenon of worry has not been explored. Based on the participants' accounts in the current study, the uncertainty and doubt that this dilemma appears to create is likely to feed back into the worry process and intensify the experience.

Emphasizing the emotional component

This category refers to the emphasis upon the emotional experience of worry that was detected in the participants' narratives. This category incorporates not only descriptions of the distress and turmoil that worry involves but also the impression that this has not been acknowledged or has even been invalidated by others.

Similarly to previous research, this category highlights how negative emotions are associated with worry, in particular with anxiety (Andrews & Borkovec, 1988; Borkovec et al, 1983; York et al, 1987; Borkovec et al, 1998; Brown, Antony & Barlow, 1992; Cartwright-Hatton & Wells, 1997; Eysenck & van Berkum, 1992; Meyer et al, 1990; Mennin, Heimberg, Turk & Fresco, 2005) and low mood (Andrews & Borkovec, 1988; Borkovec et al, 1998; Brown et al, 1992; Mennin et al, 2005; York et al, 1987).

The current study adds further value to the existing literature through the identification of the felt distress associated with worry, in which it is described as intense, unbearable and overwhelming. Furthermore, the present findings highlight the participants' impression that their distress and struggle to cope is not recognised by others. It is possible that this causes or heightens a sense of isolation from those around them. This may result in an increased focus on anticipated threats, and on the nature and impact of worry, leading to further distress and negativity.

Worry modifiers

Participant's descriptions of their experience of worry indicated that there were a number of factors influencing the extent and impact of their worrying. Those acting as escalators included isolation, being in an unsafe environment or remembering the debilitating effect of worry in the past; worry diffusers involved talking to trusted others, accessing therapy or utilising self-help strategies. There were also a number of short-term factors that participants indicated helped to reduce their worry, but which were portrayed as unhelpful in the long-run, such as over-eating, over-sleeping or seeking excessive reassurance.

There has been a great deal of research into worry in an attempt to understand and explain why worry can become problematic. However, this has tended to focus on psychological factors, such as meta-cognitions (Wells, 1995), intolerance of uncertainty (Dugas et al, 1997) or cognitive avoidance of emotion (Borkovec, 1994; Newman & Llera, 2011), and the benefits of therapeutic interventions linked to those factors (Borkovec, 2006; Robichaud & Dugas, 2006; Wells, 2006). It does not appear that there have been any other findings published regarding the role of proximal external factors in the escalation or amelioration of worry, of the sort identified by the current study. Such findings have obvious implications for how and why worry can escalate to problematic levels, and how such mechanisms could be reduced or harnessed through psychosocial interventions.

Link to personal factors

The final theoretical category was based upon participants' references to personal factors that they felt were linked in some way to their experience of worry. Key among these were: recollections of distressing and sometimes traumatic events in their past; the presence of significant individuals in their lives who were described as worriers, or anxious and over-protective; a perceived need for certainty, perfection and control; and that their worry was considered to be lifelong and almost part of their identity.

Although the majority of research into worry has not tended to explore the personal histories of participants, there have been a limited number of studies that have focused on this area. Borkovec (1994) has briefly described investigations conducted by his research group, which indicated a significantly higher frequency of traumatic events among high worriers. In a later study, Roemer, Molina, Litz & Borkovec (1997) asked participants who worried excessively whether they had experienced any extremely distressing, life-threatening or traumatic events.

Participants reported a greater incidence of these types of events than controls. More recently, studies have found significant associations between individuals diagnosed with GAD and a range of distressing life experiences, such as sexual abuse, maltreatment and loss (Cougle, Timpano, Sachs-Ericsson, Keough & Riccardi, 2010; Moffitt et al, 2007; Nordahl, Wells, Olsson & Bjerkeset, 2010). The current study supports these findings and is the first attempt to identify a possible relationship between worry and distressing early-life experiences where open questions were utilised and participants themselves highlighted the potential link.

In relation to the awareness of significant others who worry excessively, there do not appear to have been any studies that have specifically explored this. However, there has been research (Muris et al, 2000; Wijsbroek, Hale, Raaijmakers & Meeus, 2011) which has found associations between worry severity and avoidant, psychologically controlling or demanding parenting styles, which may indicate a tendency to worry among those parents. Previous studies (Tallis et al, 1991; Dugas et al, 1997) have also explored a possible connection between personality characteristics related to perfection, certainty and control, and excessive worry. Findings from these studies have found positive correlations, which the current study appears to support, based upon participants' descriptions of a lifelong determination to attain perfection and control in many areas of their lives.

Within this category, it seems that an original contribution relates to the participants' descriptions of their worry being lifelong and feeling like it is part of their personality. The value of this finding is in its links with other theoretical categories, introduced above. It seems that the chronicity of participants' worry contributed to the positive attitudes they expressed towards worry, in terms of it being instinctive and 'normal'. However, it also

resulted in worry being viewed as inevitable and was therefore another reason why it did not feel under their control.

A number of the elements from this theoretical category are potentially inter-related, and also have connections with other findings from the current study, specifically in relation to the extremes of emotion described by participants. It is possible that the prior experience of distressing events combined with the presence of anxious care-givers would contribute to a prevailing anxious atmosphere and world-view that life and/or others are threatening with the result that they need to prepare and protect themselves. It would be understandable if such precursors led individuals to "learn the utility of anticipating threat as a means of coping" (Nordahl et al, 2010, p856), with a particular focus on certainty, perfection and control to maximise the capacity to cope.

Comparison between models

The overall model of worry presented in the current study can be compared to the main theories and models that have previously been developed. The meta-cognitive model (Wells, 1995) states that worry can become problematic due to the positive and negative beliefs that individuals might hold about worry. More specifically, the contention is that negative beliefs especially, such as that worry is uncontrollable and dangerous, lead to maladaptive strategies to control, suppress and reduce worry. These strategies are self-defeating and result in worry escalating. This has similarities with the current model. Participants expressed negative beliefs about worry, particularly that it is uncontrollable. As described above, the nature of this uncontrollability also involved the sense that worry at times functioned as a separate entity, entirely out of the participant's zone of awareness and control. On those occasions, participants did not describe worry suppression. Here participants reported trying to escape

from the experience itself, through a number of avoidance strategies. The other aspect that differs from the meta-cognitive model is that the existence of positive and negative beliefs about worry seemed to lead to a dilemma, as outlined above, which created anxiety and frustration for participants, ultimately feeding back into the worry process. Finally, the metacognitive model of worry (2006) suggests that it is not necessary or helpful to explore the background or personal history of individuals who report significant levels of worry. This contrasts with the findings from the current study which revealed that participants' histories contained highly relevant information about distressing past experiences. These experiences may be particularly important for understanding why worry has become problematic.

The intolerance of uncertainty theory (Dugas et al, 1997) suggests that a dispositional aversion to uncertainty leads to worry developing to problematic levels. With such an aversion, individuals are considered to utilise worry to increase certainty and avoid the perceived consequences of uncertainty. However, the strived for certainty is rarely achieved due to the excessive focus upon the problem rather than on the solution, or that because a solution simply does not exist. The current model also indicates that participants view worrying, in part, as a way of increasing certainty which seems forever out of reach due to overwhelming intensity of the escalating worry experience. This model also suggests that the search for certainty is not necessarily driven by an intolerance of uncertainty per se, but rather by the belief that certainty will prepare and protect them from vulnerabilities associated with distressing early life experiences.

The mood-as-input hypothesis (Startup & Davey, 2001) understands worry as a problem-solving activity, which escalates due to an interaction between mood and specific rules regarding the amount of worrying that should take place. Effectively, worry is felt to become

problematic when an individual experiences a negative mood at the same time as believing they should worry as much as possible. If they use their mood as a guide to whether they have found a satisfactory solution, a concurrent negative mood would predict the individual would continue worrying to exhaustion. In a similar way, the current model identifies worry as a strategy for solving problems, in terms of identifying and preparing for anticipated threat. Furthermore, the presence of positive beliefs about worry would suggest that informal rules exist around needing to worry as much as possible. However, rather than the negative emotion influencing the selection of a solution, the current model appears to suggest that the negative emotion instead affects the assessment of the threat, which seems to become more real and overwhelming as their emotion escalates.

Finally, both the cognitive avoidance model (Borkovec, 1994) and the contrast avoidance model (Newman & Llera, 2011) focus upon the role of emotion in the maintenance of worry. The former states that worry is used by individuals to avoid the experience of emotion in relation to a perceived threat, which prevents emotional processing and threat desensitisation from taking placing; the latter contends that worry does actually generate emotion, but that this occurs in order to avoid a feared contrast of emotion, in the face of an anticipated threat. Emotionality is also a key feature of the model from the current study, and it appears to hold more similarities with the contrast avoidance model, in the identification of significant emotion generated throughout the worry process. However, the current model does not specifically indicate that this emotion is deliberately created in order to avoid a contrast, although this may be an additional factor in the process. Instead, the current model suggests that the emotion is generated as a consequence of triggers associated with earlier distressing events, along with the worry process feeling out of control and the uncertainty of the dilemma over whether to worry or not.

It may also be possible that the emotion becomes intense due to difficulties with individuals' emotion regulation abilities. Research has been conducted into attachment styles and worry, which has indicated increased reports of insecure attachments with care-givers among high worriers (Borkovec, Ray & Stober, 1998; Brown & Whiteside, 2008; Cassidy, Lichtenstein-Phelps, Sibrava, Thomas & Borkovec, 2009; Hale, Engels & Meeus, 2006; Mickelson, Kessler & Shaver,1997; Muris, Meesters, Merckelbach & Paulette, 2000; Warren, Huston, Egeland & Sroufe, 1997). The descriptions from participants about their early-life experiences and interactions with care-givers would suggest the possibility of insecure attachments. A particular advantage conferred by the formation of secure attachments is considered to be the ability to self-regulate emotions (Mikulincer, Shaver & Pereg, 2003; Schore & Schore, 2008; Sroufe, 2000). According to the current model, the worry process appears to involve an initial activation of emotion due to the presence of a distressing trigger. If there was then a reduced capacity to regulate emotions, this may explain why the emotion escalates to distressing and overwhelming levels.

Clinical implications

The main clinical implication of this research relates to the apparent influence of distressing life events and attachment difficulties on the development and maintenance of excessive worry. This indicates that conducting a detailed psychological formulation with individuals who experience significant worry would be recommended. At the very least, this would enable the person to understand the potential links between the past events and relationships in terms of their experience of excessive worry. They would then be able to explore these in an attempt to express any suppressed emotions and resolve any underlying conflicts. Such an approach would appear to run contrary to current therapeutic interventions recommended for

individuals experiencing excessive worry (Wells, 2009) in which the focus is more around attention training techniques to facilitate greater control over worry rather than exploring any historical factors that may be implicated. A detailed psychological formulation would also potentially reveal specific worry modifiers, which the current study suggests are relevant in the escalation or amelioration of worry and the problems it can create. Identifying these worry modifiers may enable idiosyncratic treatment plans to be developed for individuals to support them to reduce the impact that worry has on their lives.

A further clinical implication of the current study concerns the possible connection between the maintenance of excessive worry and emotion regulation difficulties. Based upon this finding, it would appear that interventions aimed at helping individuals to either tolerate or reduce emotions may reduce the reliance upon worry as a coping strategy. In addition to therapeutic programmes directed specifically at enabling individuals to develop emotional regulation skills (i.e. Leahy, Tirch & Napolitano, 2011), there are also techniques found within approaches such as Mindfulness (Williams & Penman, 2011), Acceptance and Commitment Therapy (Hayes, Strosahl & Wilson, 1999) and Dialectical Behaviour Therapy (McKay, Wood & Brantley, 2007) which can help individuals to decentre, tolerate, regulate and experientially embrace doubt, uncertainty and uncomfortable affect. It is also possible that through the psychological formulation of their difficulties, individuals would be able to make sense of and resolve any feelings of invalidation that may be implicated in their emotion dysregulation and worry episodes. Furthermore, disclosing and discussing their feelings with trusted others may provide a more functional strategy for coping with overwhelming emotions, which a number of the participants reported as being beneficial when they felt able to do it. It is likely that supporting people to recognise the control they can reclaim over their worry would be helpful (Wells, 2009), however this may be less

important if they are able to regulate their emotions before the worry process escalates to levels that feel out of their control or awareness.

Methodological critique

The use of a robust qualitative methodology enabled a deeper level of understanding to be obtained regarding the experience of worry. This is most clearly evident in participants' account of the overwhelming emotionality of worry and how they felt that this was not recognised or appreciated by others, but can also be seen in the identification of the dilemma of worry, as well as the experience of worry as an inevitable, external entity.

However, there are limitations to the current study, the first of which relates to the extent of the participants' worries. In order to recruit a sample that were experiencing worry at the upper end of the continuum, in terms of frequency, intensity and impact, the inclusion criteria required participants to indicate that they were unable to stop or control their worrying, and that they worried too much about different things, for more than half the days over the previous two weeks. However, there is the possibility that participants did not attend fully to the latter question, and that their responses were related more to the *'worrying too much'* component rather than *'different things'*. For a number of the participants, there were repeated references to worries that appeared to be linked to their diagnoses, such as OCD or health anxiety. Although these participants did also express more generalised worries, it may have been advisable to have incorporated a more detailed screening interview into the recruitment process to ensure that all participants worried generally, rather than about a focussed area of concern.

Another potential problem relates to the fact that all participants had received some form of therapy prior to taking part in the study. It is possible that in the course of this therapy, they would have been exposed to interventions linked to particular models of worry, such as the meta-cognitive model (Wells, 2005). As such, participants' understanding of their worry may have been influenced by these models, and therefore could have influenced the findings.

A further limitation that may be raised involves the use of grounded theory as the chosen methodology for the study. It could be argued that an approach such as IPA would have been more appropriate, given its subjectivist standpoint and emphasis on interpretation, meaning and understanding of individual lived experiences (Smith & Osborn, 2008). However, it was felt that the constructivist variant of grounded theory was more suitable, since not only is it positioned "squarely within the interpretative tradition" (Charmaz, 2006a, p130), but also because grounded theory is the only qualitative methodology which enables the development of a theoretical model of the experiences being explored, which was an explicit aim of the current study.

Finally, there is possible issue over the selection of the term worry as the focus for the study, since it is far from clear that 'worry' actually relates to a unified and universal concept that refers to the same thing for all people. Positivist research over the last thirty years has resulted in worry being treated as if it exists in reality, in such a way that it can be experimentally induced, manipulated and measured. This has led to 'worry' being posited as a discrete symptom of a number of diagnoses, most notably GAD. By using a social constructivist qualitative methodology, it was hoped that assumptions related to the positivist paradigm would be resisted. But in using the term worry to name the study, recruit participants and frame questions, a potential unintended consequence is that worry being a

'real' entity or symptom has been reinforced, thus inadvertently biasing the nature of the investigation. Hopefully, even if this is the case, highlighting this fact will enable any interpretations of the findings to be balanced accordingly.

Future Research

As the current study recruited participants from a clinical sample, it would be recommended that further qualitative research be conducted with an analogue population, with individuals who report significant levels of worry but who have not been referred to mental health services. Such research may offer further support for the current study and enhance the theory that has thus far been developed. It would also be helpful if future studies specifically excluded participants who have received psychological support in relation to their worrying, which as discussed above, may have influenced the findings of the current study.

In recent years, worry has begun to be viewed as part of the transdiagnostic process of negative repetitive thinking, within the same domain as rumination and mind-wandering (Ehring & Watkins, 2008; Ehring, Zetsche, Weidacker, Wahl, Schonfeld & Ehlers, 2011; Segerstrom, Tsao, Alden & Craske, 2000; Watkins, 2008). In this context, it would be interesting and potentially revealing to discover if any of the themes identified in the current study would be found in a qualitative study focused more broadly around the experience of negative repetitive thought.

Conclusion

Ultimately, the reflections provided by participants indicate that a number of different factors may be involved in worry developing into an activity which is perceived as increasingly distressing, persistent and confusing. There appear to be many historic and personal features that are shared by participants. The role of distressing life experiences and attachment difficulties is arguably the most significant finding of this study. This has important clinical implications in relation to supporting individuals who indicate that worrying is a significant difficulty for them. This relates to an increased focus on psychological formulation and enhancing emotion regulation skills. Finally, it is important to emphasise that the theory resulting from the current study is only an interpretation of the participants' experience of worry, rather than a positivist construction of the mechanisms involved in an objective, directly observable process.

References

American Psychiatric Association. (1987). *Diagnostic and statistical manual of mental disorders - Revised (3rd ed).* Washington DC: Author

Andrea, H., Beurskens, A. J. H. M, Kant, I. J., Davey, G. C. L., Field, A. P & van Schayck, C. P. (2004). The relation between pathological worrying and fatigue in a working population. *Journal of Psychosomatic Research, 57*, 399–407

Barlow, D. H. (2002). Anxiety and its disorders: The nature and treatment of anxiety and panic. New York: The Guildford Press

Berg, B. L. (2001). *Qualitative research methods for the social sciences*. Boston: Allyn & Bacon

Borkovec, T. D. (1994). The nature, functions and origins of worry. In Davey, G. C. L. & Tallis, F. (Eds). *Worrying: Perspectives on theory, assessment and treatment.* Chichester: Wiley

Borkovec, T. D. (2006). Applied relaxation and cognitive therapy for pathological worry and generalised anxiety disorder. In Davey, G. C. L. & Wells, A. (Eds), *Worry and its psychological disorders: Theory, assessment and treatment*. Chichester: Wiley

Borkovec, T. D. & Roemer, L. (1995). Perceived functions of worry among generalized anxiety disorder subjects: Distraction from more emotionally distressing topics? *Journal of Behavior Therapy and Experimental Psychiatry, 26*, 25-30

Borkovec, T.D., Ray, W.J. & Stober, J. (1998). Worry: A cognitive phenomenon intimately linked to affective, physiological and interpersonal behavioral processes. *Cognitive Therapy and Research, 22 (6)*, 561-576

Borkovec, T. D., Robinson, E., Pruzinsky, T. & DePree, J. A. (1983). Preliminary exploration of worry: Some characteristics and processes. *Behaviour, Research and Therapy, 21*, 9-16

Boutain, D. M. (2001). Discourses of worry, stress, and high blood pressure in rural South Louisiana. *Journal of Nursing Scholarship, 33 (3)*, 225-230

Brown, A. M. & Whiteside, S. P. (2008). Relations among perceived parental rearing behaviors, attachment style, and worry in anxious children. *Journal of Anxiety Disorders, 22*, 263-272

Bryant, A. & Charmaz, K. (2007). *The Sage handbook of grounded theory*. London: Sage Publications

Cartwright-Hatton, S. & Wells, A. (1997). Beliefs about worry and intrusions - The metacognitions questionnaire and its correlates. *Journal of Anxiety Disorders, 11 (3)*, 279-296

Cassidy, J., Lichtenstein-Phelps, J., Sibrava, N. J., Thomas, C. L. & Borkovec, T. D. (2009). Generalized anxiety disorder: Connections with self-reported attachment. *Behavior Therapy, 40 (1),* 23-38

Charmaz, K. (2000). Grounded theory: Objectivist and constructivist methods. In N. K. Denzin & Y. S. Lincoln (Eds). *Handbook of Qualitative Research (2nd Ed).* California: Sage Publications

Charmaz, K. (2006a). *Constructing grounded theory: A practical guide through qualitative analysis*. London: Sage Publications

Charmaz, K. (2006b). Grounded theory. In Smith J. A., *Qualitative psychology: a practical guide to research methods*. London: Sage Publications

Cougle, J. R., Timpano, K. R., Sachs-Ericsson N., Keough, M. E., Riccardi, C.J. (2010). Examining the unique relationships between anxiety disorders and childhood physical and sexual abuse in the National Comorbidity Survey-Replication. *Psychiatry Research, 177 (1-2),* 150-155

Craske, M. G., Rapee, R. M., Jackel, L. & Barlow, D. H. (1989). Qualitative dimensions of worry in DSM-III-R generalized anxiety disorder subjects and non-anxious controls. *Behaviour, Research and Therapy, 27 (4),* 397-402

Davey, G. C. L. & Levy, S. (1998). Catastrophic worrying: Personal inadequacy and a perseverative iterative style as features of the catastrophizing process. Journal of *Abnormal Psychology, 107 (4),* 576-586

Davey, G. C. L. & Tallis, F. (1994). *Worrying: Perspectives on theory, assessment and treatment*. Chichester: Wiley

Davey, G. C. L., Tallis, F. & Capuzzo, N. (1996). Beliefs about the consequences of worrying. *Cognitive Therapy and Research, 20 (5),* 499-520

Dugas, M. J., Freeston, M. H. & Ladouceur, R. (1997). Intolerance of uncertainty and problem orientation in worry. *Cognitive Therapy and Research, 21 (6),* 593-606

Dugas, M. J., Letarte, H., Rheame, J., Freeston, M. H. & Ladouceur, R. (1995). Worry and problem solving - Evidence of a specific relationship. *Cognitive Therapy & Research, 19 (1),* 109-120

Ehring, T. & Watkins, E. R. (2008). Repetitive negative thinking as a transdiagnostic process. *International Journal of Cognitive Therapy, 1 (3),* 192-205

Ehring, T., Zetsche, U., Weidacker, K., Wahl, K., Schonfeld, S. & Ehlers, A. (2011). The perseverative thinking questionnaire (PTQ): Validation of a content-independent measure of repetitive negative thinking. *Journal of Behavior Therapy and Experimental Psychiatry, 42,* 225-232

Erickson, T. M. & Newman, M. G. (2007). Interpersonal and emotional processes in generalized anxiety disorder analogues during social interaction tasks. *Behavior Therapy, 38,* 364-377

Francis, K. & Dugas, M. J. (2004). Assessing positive beliefs about worry: Validation of a structured interview. *Personality and Individual Differences, 37,* 405-415

Freeston, M. H., Rheaume, J., Letarte, H., Dugas, M. J., & Ladouceur, R. (1994). Why do people worry? *Personality and Individual Differences, 17,* 791-802

Hale, W. W., Engels, R. & Meeus, W. (2006). Adolescents' perceptions of parenting behaviours and its relationship to adolescent generalized anxiety disorder symptoms. *Journal of Adolescence, 29 (3),* 407-417

Hayes, S. C., Strosahl, K. D. & Wilson, K. G. (1999). *Acceptance and commitment therapy: An experiential approach to behavior change*. New York: The Guildford Press

Hebert, E. A, Dugas, M. J., Tulloch, T. G. & Holowka, D. W. (2014). Positive beliefs about worry: A psychometric evaluation of the Why Worry-II. *Personality and Individual Differences, 56,* 3-8

Hinton, R. & Earnest, J. (2010). 'I worry so much I think it will kill me': Psychosocial health and the links to the conditions of women's lives in Papua New Guinea. *Health Sociology Review, 19 (1),* 5-19

Holstein, J. A. & Gubrium, J. F. (1997). Active Interviewing. In Silverman, D. *Qualitative research: Theory, method and practice*. London: Sage

Hoyer, J., Becker, E. S. & Roth, W. T. (2001). Characteristics of worry in GAD patients, social phobics and controls. *Depression and Anxiety, 13*, 89-96

Koerner, N. & Dugas, M. J. (2006). A cognitive model of generalized anxiety disorder: The role of intolerance of uncertainty. In Davey, G. C. L. & Wells, A. (Eds), *Worry and its psychological disorders: Theory, assessment and treatment*. Chichester: Wiley

Leahy, R. (2006). *The worry cure: Stop worrying and start living*. London: Piatkus Books

Leahy, R. L, Tirch, D. & Napolitano, L. A. (2011). *Emotion regulation in psychotherapy*. New York: The Guildford Press

Llera, S. J. & Newman, M. G. (2014). Rethinking the role of worry in generalized anxiety disorder: Evidence supporting a model of emotional contrast avoidance. *Behavior Therapy, 45*, 283-299

McKay, M., Wood, J. C. & Brantley, J. (2007). *The dialectical behavior therapy skills workbook: Practical DBT exercises for learning mindfulness, interpersonal effectiveness, emotion regulation and distress tolerance*. Oakland, CA: New Harbinger Publications

Mennin, D. S., Heimberg, R. G., Turk, C. L. & Fresco, D. M. (2005). Preliminary evidence for an emotion dysregulation model of generalized anxiety disorder. *Behaviour, Research and Therapy, 43*, 1281-1310

Meyer, T. J., Miller, M. L., Metzger, R. L. & Borkovec, T. D. (1990). Development and validation of the Penn State Worry Questionnaire. *Behaviour, Research & Therapy, 28 (6)*, 487-495

Mickelson, K. D., Kessler, R. C. & Shaver, P.R. (1997). Adult attachment in a nationally representative sample. *Journal of Personality and Social Psychology, 73 (5)*,1092-1106

Mikulincer, M., Shaver, P. R. & Pereg, D. (2003). Attachment theory and affect regulation: The dynamics, development and cognitive consequences of attachment-related strategies. *Motivation and Emotion, 27 (2)*, 77-102

Miller, J. & Glassner, B. (1997). The 'inside' and the 'outside': Finding realities in interviews. In Silverman, D. *Qualitative research: Theory, method and practice*. London: Sage

Moffitt, T. E., Caspi, A., Harrington, H., Milne, B. J., Melchior, M., Goldberg, D. & Poulton, R. (2007). Generalized anxiety disorder and depression: childhood risk factors in a birth cohort followed to age 32. *Psychological Medicine, 37*, 441-452

Molina, S. & Borkovec, T. D. (1994). The Penn State Worry Questionnaire: Psychometric properties and associated characteristics. In Davey, G. C. L. & Tallis, F. (Eds). *Worrying: Perspectives on theory, assessment and treatment.* Chichester: Wiley

Molina, S., Borkovec, T. D., Peasley, C. & Person, D. (1998). Content analysis of worrisome streams of consciousness among anxious and dysphoric participants. *Cognitive Therapy and Research, 22 (2),* 109-123

Muris, P., Meesters, C., Merckelbach, H. & Paulette, H. (2000). Worry in children is related to perceived parental rearing and attachment. *Behaviour, Research and Therapy, 38,* 487-497

Muris, P., Meesters, C., Merckelbach, H., Sermon, A. & Zwakhalen, S. (1998). Worry in normal children. *Journal of the American academy of child and adolescent psychiatry, 37 (7),* 703-710

Murphy, E., Dingwall, R., Greatbatch, D., Parker, S. & Watson, P. (1998). Qualitative research methods in health technology assessment: A review of the literature. *Health Technology Assessment*, 2 (16), 1-276

Newman, M. G. & Llera, S. J. (2011). A novel theory of experiential avoidance in generalised anxiety disorder: A review and synthesis of research supporting a contrast avoidance model of worry. *Clinical Psychology Review, 31*, 371-382

Nordahl, H. M., Wells A., Olsson C.A., Bjerkeset O. (2010). Association between abnormal psychosocial situations in childhood, generalized anxiety disorder and oppositional defiant disorder. *Australian and New Zealand Journal of Psychiatry, 44*, 852-858

Pruzinsky, T. & Borkovec, T. D. (1990). Cognitive and personality characteristics of worriers. *Behaviour, Research & Therapy, 28*, 507-512

Purdon, C. & Harrington, J. (2006). Worry in psychopathology. In Davey, G. C. L. & Wells, A. (Eds), *Worry and its psychological disorders: Theory, assessment and treatment*. Chichester: Wiley

Robichaud, M. & Dugas, M. J. (2006). A cognitive-behavioral treatment targeting intolerance of uncertainty. In Davey, G. C. L. & Wells, A. (Eds), *Worry and its psychological disorders: Theory, assessment and treatment*. Chichester: Wiley

Roemer, L., Molina, S., Litz, B. T. & Borkovec, T. D. (1997). Preliminary investigation of the role of previous exposure to potentially traumatizing events in generalized anxiety disorder. *Depression and Anxiety, 4*, 134-138

Roth, D. A. & Eng, W. (2002). Etiological beliefs about chronic worry. *Depression and Anxiety, 16*, 182-184

Ruscio, A. M. (2002). Delimiting the boundaries of Generalized Anxiety Disorder: differentiating high worriers with and without GAD. *Journal of Anxiety Disorders, 16*, 377-400

Ruscio, A. M. & Borkovec, T. D. (2004). Experience and appraisal of worry among high worriers with and without generalized anxiety disorder. *Behaviour, Research & Therapy, 42*, 1469-1482

Saulsman, L., Nathan, P., Lim, L., & Correia, H. (2005). *What? Me Worry!?! Mastering Your Worries*. Perth, Western Australia: Centre for Clinical Interventions

Schore, J. R. & Schore, A. N. (2008). Modern attachment theory: The central role of affect regulation in development and treatment. *Clinical Social Work Journal, 36*, 9-20

Segerstrom, S. C., Tsao, J. C. I., Alden, L. E. & Craske, M. G. (2000). Worry and rumination: Repetitive thought as a concomitant and predictor of negative mood. *Cognitive Therapy and Research, 24*, 671-688

Silverman, D. (1993) *Interpreting qualitative data: Methods for analysing talk, text and interaction*. London: Sage

Smith, J. A. & Osborn, M. (2008). Interpretative phenomenological analysis. In Smith, J. A. (Ed). *Qualitative psychology: A practical guide to research methods*. London: Sage

Spitzer, R. L., Kroenke, K., Williams, J. B. & Lowe, B. (2006). A brief measure for assessing generalized anxiety disorder. *Archives of Internal Medicine, 166 (10)*, 1092-1097

Sroufe, L. A. (2000). Early relationships and the development of children. *Infant Mental Health Journal, 21 (1-2),* 67-74

Starks, H. & Trinidad, S. B. (2007). Choose your method: A comparison of phenomenology, discourse analysis and grounded theory. *Qualitative Health Research, 17* (10), 1372-1380

Startup, H. M. & Davey, G. C. L. (2001). Mood as input and catastrophic worrying. *Journal of Abnormal Psychology, 110 (1),* 83-96

Stober, J. & Joormann, J. (2001). Worry, Procrastination, and Perfectionism: Differentiating Amount of Worry, Pathological Worry, Anxiety, and Depression. *Cognitive Therapy and Research, 25 (1),* 49–60

Strauss, A. & Corbin, J. (1998). *Basics of qualitative research: Techniques and procedures for developing grounded theory (2nd Ed.)* Sage: London

Svensson, A. & Fridlund, B. (2008). Experiences of and actions towards worries among ambulance nurses in their professional life: A critical incident study. *International Emergency Nursing, 16,* 35-42

Szabo, M. & Lovibond, P. F. (2002). The cognitive content of naturally occurring worry episodes. *Cognitive Therapy and Research, 26 (2),* 167-177

Szabo, M. & Lovibond, P. F. (2004). The cognitive content of thought-listed worry episodes in clinic-referred anxious and nonreferred children. *Journal of Clinical Child and Adolescent Psychology, 33 (3),* 613-622

Tallis, F., Davey, G. C. L. & Capuzzo, N. (1994). The phenomenology of non-pathological worry: a preliminary investigation. In G. C. L. Davey, & F. Tallis (Eds). *Worrying: Perspectives on theory, assessment and treatment*. Chichester: Wiley

Tallis, F., Eysenck, M. & Mathews, A. (1991). Elevated evidence requirements and worry. *Personality and Individual Differences, 12,* 21-27

Tallis, F., Eysenck, M. & Mathews, A. (1992). A questionnaire for the measurement of non-pathological worry. *Personality and Individual Differences, 13 (2),* 161-168

Turner, L. & Wilson, C. (2010). Worry, mood and stop rules in young adolescents: Does the mood-as-input theory apply. *Journal of Experimental Psychopathology, 1,* 34-51

Warren, S. L., Huston, L., Egeland, B. & Sroufe, L. A. (1997). Child and adolescent anxiety disorders and early attachment. *Journal of the American Academy of Child & Adolescent Psychiatry, 36,* 637-644

Watkins, E. (2008). Constructive and unconstructive repetitive thought. *Psychological Bulletin, 134 (2),* 163-206

Wells, A. (1994). A multi-dimensional measure of worry: Development and preliminary validation of the anxious thoughts inventory. *Anxiety, Stress, and Coping, 6*, 289-299

Wells, A. (1997). *Cognitive therapy of anxiety disorders*. West Sussex, England: Wiley

Wells, A. (2005). The meta-cognitive model of GAD: Assessment of meta-worry and relationship with DSM-IV Generalized Anxiety Disorder. *Cognitive Therapy and Research, 29 (1)*, 107-121

Wells, A. (2006). Meta-cognitive therapy for worry and generalised anxiety disorder. In Davey, G. C. L. & Wells, A. (Eds), *Worry and its psychological disorders: Theory, assessment and treatment*. Chichester: Wiley

Wells, A. (2009). *Metacognitive therapy for anxiety and depression*. New York: The Guildford Press

Wells, A. & Morrison, A. P. (1994). Qualitative dimensions of worry and normal obsessions: A comparative study. *Behaviour, Research & Therapy, 32 (8)*, 867-870

Wijsbroek, S. A., Hale, W. W., Raaijmakers, Q. A. & Meeus, W. H. (2011). The direction of effects between perceived parental behavioral control and psychological control and adolescents' self-reported GAD and SAD symptoms. *European Child & Adolescent Psychiatry 20*, 361–71

Williams, M. & Penman, D. (2011). *Mindfulness: A practical guide to finding peace in a frantic world.* London: Piatkus

Winter, D. A. (1992). *Personal construct psychology in clinical practice: Theory, research & applications*. Routledge: Hove

York, D., Borkovec, T. D., Vasey, M. & Stern, R. (1987). Effects of worry and somatic anxiety induction on thoughts, emotion, and physiological activity. *Behaviour, Research and Therapy, 25*, 523-526

Appendix A

Author Guidelines for *Journal of Anxiety Disorders* Journal

Appendix B

Epistemology

Constructivist Grounded Theory

Positivism is a form of ontology which considers there to be an objective, singular reality, accessible through sensory and scientific exploration. Research based on this ontological stance would be interested in discrete, measurable variables in order to substantiate or falsify a particular positivist theory, which "seeks causes, favors deterministic explanations, and emphasizes generality and universality" (Charmaz, 2006a, p126). Broadly speaking, research studies utilising a quantitative methodology would involve this type of approach. By the middle of the twentieth century, positivism and quantitative research dominated in the field of social sciences, and it was in this climate that Glaser and Strauss (1967) developed and introduced grounded theory. They sought to create a methodology which would allow for the production of theories that were grounded in the data without the influence of pre-existing theories or assumptions. The methodology provided a number of key strategies which enabled the researcher to stay close to the data and at the same time generate a coherent theory of social processes. These strategies included the concurrent collection and analysis of data, constant comparison of data, codes and categories throughout the analysis process, and the use of memos to elaborate and refine ideas, concepts and relationships.

Since the release of their seminal publication, *The Discovery of Grounded Theory*, Glaser and Strauss took the methodology in different directions. Glaser (1978) espoused a positivist slant and held onto to the traditional tenets of the approach, while Strauss, in collaboration with Juliet Corbin (Strauss & Corbin, 1990; 1994), 'evolved' grounded theory, incorporating a range of new techniques while taking a more relativist stance to the nature of reality being studied (Mills, Bonner & Francis, 2006). However, while it is felt that there is some ambiguity over the truly 'relativist credentials' of Strauss and Corbin as they do not embed it

into the description of their methods, the same cannot be said to be true of Kathy Charmaz. In her writings (2000, 2006a, 2006b), she places her relativist conviction in the forefront and throughout her approach to grounded theory, explicitly using the label "constructivist grounded theory" (Charmaz, 2006a, p130). The title relates to the philosophy of social constructivism, which states that what is taken for 'reality' in the social domain is a construction from the discourses that exist in the different strata of society. A key element, as this relates to grounded theory, is the role of the researcher, that the resulting theory "*depends* on the researcher's view: it does not and cannot stand outside of it" (Charmaz, 2006a, p130). It is the combination of the researchers' and participants' views, with the meaning they construct, that leads to the resulting theory being considered an 'interpretation', which provides an understanding, rather than an explanation, of the area being studied.

References

Charmaz, K. (2000). Grounded theory: Objectivist and constructivist methods. In N. Denzin & Y. Lincoln (Eds). *Handbook of qualitative research*. Thousand Oaks, CA: Sage

Charmaz, K. (2006a). *Constructing grounded theory: A practical guide through qualitative analysis*. London: Sage Publications

Charmaz, K. (2006b). Grounded theory. In J. A., Smith, *Qualitative psychology: a practical guide to research methods*. London: Sage Publications

Glaser, B. G. (1978). Theoretical sensitivity: Advances in the methodology of grounded theory. Mill Valley, CA: Sociology Press

Glaser, B. G. & Strauss, A. L. (1967). *The discovery of grounded theory*. Chicago: Aldine

Mills, J., Bonner, A. & Francis, K. (2006). The development of constructivist grounded theory. International Journal of Qualitative Methods, 5 (1), 1-10

Strauss, A. & Corbin, J. (1990). *Basics of qualitative research: Grounded theory procedures and techniques*. Newbury Park, CA: Sage

Strauss. A. & Corbin, J. (1994). Grounded theory methodology: An overview. In N. Denzin & Y. Lincoln (Eds). *Handbook of qualitative research*. Thousand Oaks, CA: Sage

Appendix C

Participant Information Sheet

Participant Information Sheet

Study title: An exploration into the personal experience of worry

Researcher: Richard Britton (Trainee Clinical Psychologist)

You are being invited to take part in a research study. Before you decide whether to participate, it is important for you to understand why the research is being done and what it would involve for you. One of our team will go through the information sheet with you and answer any questions you have. We'd suggest this should take about 15 minutes.

Talk to others about the study if you wish.

What is the purpose of the study?
Worry has been identified as a problem that many people suffer. It is also thought to be a major factor in a number of mental health conditions. This study aims to develop a theory about the possible function, causes and consequences of worry, based upon interviews conducted with people who have reported it as being a significant problem in their lives. The interviews will focus on their personal experience and understanding of worry.

Why have I been invited to participate?
You have been chosen to take part in this study because you have indicated that you are currently experiencing mental health difficulties and also that you are worrying about lots of things and are finding this hard to control. There will be approximately 14 other people involved in the study who have also reported these types of difficulties.

Do I have to take part?
It is up to you to decide whether or not to join the study. We will describe the study and go through this information sheet. If you agree to take part, we will then ask you to sign a consent form. You are free to withdraw at any time, without giving a reason. This would not affect the standard of care you receive.

What will happen if I decide to take part?
A date and time of your convenience will be arranged for you to meet with a member of the research team in a private room within the health service building. You will be interviewed by the researcher about your personal experience and understanding of worry. The interview will be recorded on an audio recorder and will last no longer than one hour. The audio recording of your interview will then be transcribed into text format by myself or by a University of Liverpool approved transcriber.

Expenses and payments
We will reimburse you for any reasonable travel or parking expenses you incur while travelling to and from the interview. We will also give you a £5 Amazon gift voucher as a 'thank-you' for participating in the study.

What will I have to do?
You will be required to attend the arranged meeting and spend up to one hour discussing, with a researcher, your personal experience and understanding of worry.

What are the possible disadvantages and risks of taking part?
While there are no physical risks involved in this study, it is possible that you may find it uncomfortable or upsetting when discussing your personal experience and understanding of worry. If this happens, you will have the option to suspend or terminate the interview, and the researcher will be available to offer support during or after the interview should you request it.

What are the possible benefits of taking part?
It is possible that by discussing your personal experience and understanding of worry, you will gain a better insight into the nature of the problem. However, we cannot promise the study will help you directly but the information we get from this study will help our understanding of worry, which may improve the treatment received by people suffering from this problem.

What if there is a problem?

If you are unhappy, or if there is a problem, please feel free to let us know by contacting Dr James Reilly at The University of Liverpool on 0151 794 5534 or jreilly@liverpool.ac.uk and we will try to help. If you remain unhappy or have a complaint which you feel you cannot come to us with then you should contact the Research Governance Officer on 0151 794 8290 (ethics@liv.ac.uk). When contacting the Research Governance Officer, please provide details of the name or description of the study (so that it can be identified), the researcher(s) involved, and the details of the complaint you wish to make.

What will happen if I don't want to carry on with the study?
You can withdraw from the study at any point. If you withdraw during or after the interview process, we will still need to use any interview recorded up to that point for analysis purposes.

Will my taking part in this study be kept confidential?
All information that is collected about you will be kept strictly confidential, unless you disclose any information which suggests you or someone you know may be at risk of harm. In this case, we would aim to discuss our concerns with you first before taking any further action.
If you decide to take part in the study, you will be allocated a participant number. Your name and participant number will be recorded in a password protected computer file, which will be stored in a folder on a University of Liverpool computer server. This folder will only be accessible to the research team supervisor, via secure login.

Only your allocated participant number will be recorded on the audio and transcription files of your interview. Your name will not be used in the subsequent analysis or research report. In this way, your anonymity will be ensured. The audio and transcription files of your interview will be stored on a password-protected computer system, which will be stored in a secure environment. Only members of the research team will have access to the audio and transcription files of your interview. All data will be retained until the completion of the research report (approximately September 2014), after which time it will be destroyed.

What will happen to the results of the research study?
The research report will be submitted in partial fulfilment of the Clinical Psychology Doctorate. It is also hoped that the research report will be published in an academic journal. If you would like a copy of the research report or published journal article, please indicate this on the consent form.

Who is organising and funding the research?
This research is being sponsored and funded by the University of Liverpool.

Who has reviewed the study?
All research in the NHS is looked at by an independent group of people, called a Research Ethics Committee, to protect your interests. This study has been reviewed and given favourable opinion by North West NHS Research Ethics Committee.

Further information and contact details
If you would like to contact the researcher to discuss any aspect of the research please leave a message with the secretary at the University of Liverpool on 0151 794 5530 with your name and contact details. Alternatively, you can contact me via e-mail on rbritton@liverpool.ac.uk

Thank you for taking time to read this information sheet and for considering being involved in the study

Appendix D

Participant Consent Form

Patient Identification Number for this trial:

CONSENT FORM

Title of Project: An exploration into the personal experience of worry

Name of Researcher: Dr James Reilly

Please initial all boxes

1. I confirm that I have read and understand the information sheet dated **5th March 2013 (v2.0)** for the above study. I have had the opportunity to consider the information, ask questions and have had these answered satisfactorily. ☐

2. I understand that my participation is voluntary and that I am free to withdraw at any time without giving any reason, without my medical care or legal rights being affected. ☐

3. I agree to my interview being recorded on an audio recorder ☐

4. I agree to take part in the above study. ☐

5. I understand that relevant data collected during the study, may be looked at by individuals from the University of Liverpool, from regulatory bodies or from the NHS Trust, where it is relevant to my taking part in this research. I give permission for these individuals to have access to this data. ☐

6. I would like a copy of the final report of the study ☐

Name of Participant	Date	Signature
Name of Person taking consent.	Date	Signature

Appendix E

University of Liverpool Research Review Committee Approval

D.Clin.Psychology Programme
Division of Clinical Psychology
Whelan Building, Quadrangle
Brownlow Hill
LIVERPOOL
L69 3GB

Tel: 0151 794 5530/5534/5877
Fax: 0151 794 5537
www.liv.ac.uk/dclinpsychol

3rd October, 2012

Richard Britton
Clinical Psychology Trainee
Doctorate of Clinical Psychology Doctorate Programme
University of Liverpool
L69 3GB

RE: A QUALITATIVE STUDY INTO HOW WORRY IS SUBJECTIVELY PERCEIVED, CHARACTERISED AND UNDERSTOOD IN A CLINICAL SAMPLE USING THE MAIN PRINCIPLES OF GROUNDED THEORY

Trainee: Richard Britton
Supervisors: James Reilly, Rachel Wade

Dear Richard,

Thank you for your response to the reviewers' comments of your research proposal submitted to the D.Clin.Psychol. Research Review Committee (letter dated 31/08/12).

I can now confirm that your amended proposal (no version, not dated, signatures dated 01/09/12 and 25/09/12) and amended budget (no version or re-submission date) meet the requirements of the committee and have been approved by the Year 1 Committee Chair.

Please take this Chairs Action decision as ***final*** approval from the committee.

You may now progress to the next stages of your research.

I wish you well with your research project.

Dr Catrin Eames
Chair Year 1 D.Clin.Psychol. Research Review Committee.

Appendix F

NHS Research Ethics Committee Approval

NHS
Health Research Authority

National Research Ethics Service

NRES Committee North West - Greater Manchester West
HRA NRES Centre Manchester
Barlow House
3rd Floor
4 Minshull Street
Manchester
M1 3DZ

Telephone: 0161 625 7821
Facsimile: 0161 625 7299

04 March 2013

Dr James P Reilly
Senior University Tutor/Consultant Clinical Psychologist
University of Liverpool/Mersey Care NHS Trust
The University of Liverpool
Dept of Clinical Psychology, Whelan Building
Brownlow Hill, Liverpool
L69 3GH

Dear Dr Reilly

Study title:	**A qualitative study into how worry is subjectively perceived, characterised and understood in a clinical sample using the main principles of grounded theory**
REC reference:	**13/NW/0152**
Protocol number:	**UoL000909**
IRAS project ID:	**118246**

The Research Ethics Committee reviewed the above application at the meeting held on 01 March 2013. The Committee thanked Mr Richard Britton for attending the meeting to discuss the application.

We plan to publish your research summary wording for the above study on the NRES website, together with your contact details, unless you expressly withhold permission to do so. Publication will be no earlier than three months from the date of this favourable opinion letter. Should you wish to provide a substitute contact point, require further information, or wish to withhold permission to publish, please contact the Co-ordinator, Miss Shehnaz Ishaq, nrescommittee.northwest-gmwest@nhs.net

Ethical opinion

1. The Committee noted the sample size and felt that it was a large number of participants for a study of this nature. Mr Britton commented that this was the maximum and that he has been advised that after 15 participants he should be close to saturation, if not before.

2. The Committee noted that the Consent Form and Information Sheet have different study titles on them. The Committee pointed out that one study title should be detailed in the supporting documents. Mr Britton explained that it should be the short title on the documents and he will amend the documents accordingly.

3. The Committee pointed out a few minor changes required to the Information Sheet and Consent Form as set out below. Mr Britton agreed to amend the documents accordingly.

4. The Committee queried how long personal identifiable data will be stored for. Mr Britton clarified that the information that would link the name to the code will be destroyed as soon as the study is completed. He commented that the aim is to complete is by 2014. Transcripts and other documents will be stored for 5 years in line with University policy.

Mr Britton was thanked for attending. He was advised that the study must not start until it has received a favourable opinion and that NRES is seeking feedback from applicants on their experience of the research ethics process which might help to improve future service. The final opinion letter will give details on how to go about this.

Mr Britton left the meeting room.

The Committee considered the researchers responses

The members of the Committee present gave a favourable ethical opinion of the above research on the basis described in the application form, protocol and supporting documentation, **subject to the conditions specified below.**

Ethical review of research sites

NHS Sites

The favourable opinion applies to all NHS sites taking part in the study, subject to management permission being obtained from the NHS/HSC R&D office prior to the start of the study (see "Conditions of the favourable opinion" below).

Conditions of the favourable opinion

The favourable opinion is subject to the following conditions being met prior to the start of the study.

Management permission or approval must be obtained from each host organisation prior to the start of the study at the site concerned.

Management permission ("R&D approval") should be sought from all NHS organisations involved in the study in accordance with NHS research governance arrangements.

Guidance on applying for NHS permission for research is available in the Integrated Research Application System or at http://www.rdforum.nhs.uk.

Where a NHS organisation's role in the study is limited to identifying and referring potential participants to research sites ("participant identification centre"), guidance should be sought from the R&D office on the information it requires to give permission for this activity.

For non-NHS sites, site management permission should be obtained in accordance with the procedures of the relevant host organisation.

Sponsors are not required to notify the Committee of approvals from host organisations

Other conditions specified by the REC

1. Please revise the Information Sheet as follows;
    a. Under the heading 'What will happen if I decide to take part?' last sentence, insert the words 'myself or' in between 'by' and 'a' so it reads '…by myself or a University of Liverpool approved transcriber.'
    b. Under the heading 'What will happen if I don't want to carry on with the study?' it currently states '….we may still need to use any interview recorded up to that point….etc' the Committee would like it be more specific e.g. '….we will need to use…etc' or '….we will not use….etc'
2. Please revise the Consent Form as follows;
    a. Insert the short title of the study on the document to go in line with the other supporting documents.
    b. Please insert the following standard mandatory statement on the Consent Form 'I understand that relevant data collected during the study, may be looked at by individuals from [*company name*], from regulatory authorities or from the NHS Trust, where it is relevant to my taking part in this research. I give permission for these individuals to have access to this data.'

It is responsibility of the sponsor to ensure that all the conditions are complied with before the start of the study or its initiation at a particular site (as applicable).

You must notify the REC in writing once all conditions have been met (except for site approvals from host organisations) and provide copies of any revised documentation with updated version numbers. The REC will acknowledge receipt and provide a final list of the approved documentation for the study, which can be made available to host organisations to facilitate their permission for the study. Failure to provide the final versions to the REC may cause delay in obtaining permissions.

Approved documents

The documents reviewed and approved at the meeting were:

Document	*Version*	*Date*
Evidence of Insurance or Indemnity	University of Liverpool - MARSH	02 August 2012
Interview Schedules/Topic Guides	1.0	10 January 2013
Investigator CV	Mr Richard Britton	09 February 2013
Investigator CV	Dr Rachel Wade	09 February 2013
Investigator CV	Dr James Reilly	
Letter from Sponsor	University of Liverpool	13 November 2012
Letter of Invitation to participant	1.0	12 February 2013
Other: Checklist		15 February 2013
Participant Consent Form	1.0	09 September 2012
Participant Information Sheet	1.0	09 September 2012
Protocol	2.0	09 September 2012
REC application	3.4	14 February 2013

Membership of the Committee

The members of the Ethics Committee who were present at the meeting are listed on the attached sheet.

Statement of compliance

The Committee is constituted in accordance with the Governance Arrangements for Research Ethics Committees and complies fully with the Standard Operating Procedures for Research Ethics Committees in the UK.

After ethical review

Reporting requirements

The attached document "After ethical review – guidance for researchers" gives detailed guidance on reporting requirements for studies with a favourable opinion, including:

- Notifying substantial amendments
- Adding new sites and investigators
- Notification of serious breaches of the protocol
- Progress and safety reports
- Notifying the end of the study

The NRES website also provides guidance on these topics, which is updated in the light of changes in reporting requirements or procedures.

Feedback

You are invited to give your view of the service that you have received from the National Research Ethics Service and the application procedure. If you wish to make your views known please use the feedback form available on the website.

Further information is available at National Research Ethics Service website > After Review

13/NW/0152	Please quote this number on all correspondence

We are pleased to welcome researchers and R & D staff at our NRES committee members' training days – see details at http://www.hra.nhs.uk/hra-training/

With the Committee's best wishes for the success of this project.

Yours sincerely

Signed on behalf of:
Dr Lorraine Lighton
Chair
Email: nrescommittee.northwest-gmwest@nhs.net

Enclosures: List of names and professions of members who were present at the meeting and those who submitted written comments

"After ethical review – guidance for researchers"

Copy to: Mr Alex Astor, R&D Dept, University of Liverpool

Dr David Powell, Mersey Care NHS Trust

Mr Richard Britton, University of Liverpool

Appendix G

Study Sites Research and Development Letters of Access

Mersey Care NHS
NHS Trust

R&D Department
Building V7
Mersey Care NHS Trust Offices
Kings Business Park
Prescot
Merseyside L34 1PJ
Tel: 0151 471 2638
Email: Karen.bruce@merseycare.nhs.uk

Mr Richard Britton
Doctorate of Clinical Psychology Trainee
Division of Clinical Psychology
The University of Liverpool
Whelan Building,
Quadrangle
Brownlow Hill
L69 3GB

17th April 2013

Dear Mr Britton

Project: 2013/10
Title: A qualitative study into how worry is subjectively perceived, characterised and understood in a clinical sample using the main principles of grounded theory

Thank you for providing evidence of sponsor approval and ethical approval from the University of Liverpool.

Your research application was reviewed by the Trust's Research Governance Committee on the 21st March 2013. The Committee were willing to provide R&D Trust approval.

Mr David Powell confirmed the study has the support of Liverpool Clinical Business unit.

The Site Specific Information form states a recruitment target of 8 participants.

Ethical approval has been given by NRES Committee North West – Greater Manchester West on the 4th March 2013 under reference 13/NW/0152.

Accordingly, please take this letter as confirmation of Trust R&D approval. Please read the attached 'Information for Researchers – Conditions of Research Governance Approval' leaflet. Please contact the R&D Office should you require any further information. You may need this letter as proof of your approval.

When contacting the R&D office please quote Trust reference number '2013/10 Britton'.

May I wish you every success with your research.

Yours sincerely

Mrs Pauline Parker
R&D Manager

cc. Sponsor contact: Mr Alex Astor
sponsor@liv.ac.uk

Lancashire Care NHS
NHS Foundation Trust

Lancashire Care NHS Foundation Trust
Research and Development
Sceptre Point
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Walton Summit
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14th May 2013

Ref: 13/03

Richard Britton
Trainee Clinical Psychologist
Doctorate in Clinical Psychology
Department of Clinical Psychology
Ground floor, Whelan building
Brownlow Hill
Liverpool
L69 3GB

Dear *Mr Britton*,

Letter of access for research

Project title: *A qualitative study into how worry is subjectively perceived, characterised and understood in a clinical sample using the main principles of grounded theory*

As an existing NHS employee you do not require an additional honorary research contract with this NHS organisation. We are satisfied that the research activities that you will undertake in this NHS organisation are commensurate with the activities you undertake for your employer. Your employer is fully responsible for ensuring such checks as are necessary have been carried out. Your employer has confirmed in writing to this NHS organisation that the necessary pre-engagement check are in place in accordance with the role you plan to carry out in this organisation. This letter confirms your right of access to conduct research through **Lancashire Care NHS Foundation Trust** for the purpose and on the terms and conditions set out below. This right of access commences on **1st June 2013** and ends on **30th June 2014** unless terminated earlier in accordance with the clauses below.

You have a right of access to conduct such research as confirmed in writing in the letter of permission for research from this NHS organisation. Please note that you cannot start the research until the Principal Investigator for the research project has received a letter from us giving permission to conduct the project.

You are considered to be a legal visitor to **Lancashire Care NHS Foundation Trust** premises. You are not entitled to any form of payment or access to other benefits provided by this organisation to employees and this letter does not give rise to any other relationship between you and this NHS organisation, in particular that of an employee.

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While undertaking research through **Lancashire Care NHS Foundation Trust**, you will remain accountable to your employer **[Mersey Care NHS Trust]** but you are required to follow the reasonable instructions of your nominated manager or Head of relevant NHS Department/research supervisor in this NHS organisation or those given on her/his behalf in relation to the terms of this right of access.

Where any third party claim is made, whether or not legal proceedings are issued, arising out of or in connection with your right of access, you are required to co-operate fully with any investigation by this NHS organisation in connection with any such claim and to give all such assistance as may reasonably be required regarding the conduct of any legal proceedings.

You must act in accordance with **Lancashire Care NHS Foundation Trust** policies and procedures, which are available to you upon request, and the Research Governance Framework.

You are required to co-operate with **Lancashire Care NHS Foundation Trust** in discharging its duties under the Health and Safety at Work etc Act 1974 and other health and safety legislation and to take reasonable care for the health and safety of yourself and others while on **Lancashire Care NHS Foundation Trust** premises. Although you are not a contract holder, you must observe the same standards of care and propriety in dealing with patients, staff, visitors, equipment and premises as is expected of a contract holder and you must act appropriately, responsibly and professionally at all times.

If you have a physical or mental health condition or disability which may affect your research role and which might require special adjustments to your role, if you have not already done so, you must notify your employer and the Trust prior to commencing your research role at the Trust.

You are required to ensure that all information regarding patients or staff remains secure and *strictly confidential* at all times. You must ensure that you understand and comply with the requirements of the NHS Confidentiality Code of Practice (http://www.dh.gov.uk/assetRoot/04/06/92/54/04069254.pdf) and the Data Protection Act 1998. Furthermore you should be aware that under the Act, unauthorised disclosure of information is an offence and such disclosures may lead to prosecution.

Lancashire Care NHS Foundation Trust will not indemnify you against any liability incurred as a result of any breach of confidentiality or breach of the Data Protection Act 1998. Any breach of the Data Protection Act 1998 may result in legal action against you and/or your substantive employer.

You should ensure that, where you are issued with an identity or security card, a bleep number, email or library account, keys or protective clothing, these are returned upon termination of this arrangement. Please also ensure that while on the premises you wear your ID badge at all times, or are able to prove your identity if challenged. Please note that this NHS organisation accepts no responsibility for damage to or loss of personal property.

We may terminate your right to attend at any time either by giving seven days' written notice to you or immediately without any notice if you are in breach of any of the terms or conditions described in this letter or if you commit any act that we reasonably consider to amount to serious misconduct or to be disruptive and/or prejudicial to the interests and/or business of this NHS organisation or if you are convicted of any criminal offence.

You must not undertake regulated activity if you are barred from such work. If you are barred from working with adults or children this letter of access is immediately terminated. Your employer will

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Immediately withdraw you from undertaking this or any other regulated activity and you MUST stop undertaking any regulated activity immediately.

Your substantive employer is responsible for your conduct during this research project and may in the circumstances described above instigate disciplinary action against you.

If your circumstances change in relation to your health, criminal record, professional registration or suitability to work with adults or children, or any other aspect that may impact on your suitability to conduct research, or your role in research changes, you must inform the NHS organisation that employs you through its normal procedures. You must also inform your nominated manager in this NHS organisation.

Yours sincerely

Dr Heather Iles-Smith
Research & Innovation Lead

cc: J.r.williams@liverpool.ac.uk

Appendix H

Initial Interview Schedule

1. Tell me about your experience of worrying
2. Can you describe what happens when you worry
3. How long have you experienced it in this way
4. Do you remember a time that you didn't ever worry
5. What does worry mean to you/what do you associate with worrying
6. How does worrying make you feel
7. How do you cope with worrying (if described negatively)
8. How do you know when you are worrying
9. Is there anything that changes how you worry, and/or how you experience worry?

    ⇒ Do you have any ideas about why?

10. Is there anything that affects whether you worry/any periods of your life where you have worried more/less

    ⇒ Do you have any ideas about why?

11. When do you tend to worry
12. Do you have any thoughts on why you worry
13. Does worrying affect your life
14. What do you think other people say about worrying
15. Are there things that make you worry more
16. Are there things that make you worry less
17. What do you like most about worrying
18. What do you like least about worrying
19. Would you like to stop worrying

Appendix I

Revised Interview Schedule

1. Tell me about your experience of worrying

2. Can you describe what happens when you worry (use a recent example). How do you know when you are worrying?
    - ⇒ Does a worry episode sometimes start with you intentionally thinking worry thoughts (what if's, doubts, etc) and then change? Is this motivated by positive beliefs
    - ⇒ Is worry emotional (anxiety) and cognitive (what if's, future-orientated, doubts, etc)?
    - ⇒ When the worrying is intense, does it worry you even more how you will cope with future challenges thinking/feeling like that?
    - ⇒ When the worry thoughts feel not under your control/ownership, does that make it feel more intense/distressing?

3. How long have you experienced it in this way
    - ⇒ Do you associate (your) worrying with your identity? – would you experience a sense of loss/void if it were to disappear/you were to let it go?
    - ⇒ Do you feel your worrying is linked to early-life experiences? Did these create a sense of vulnerability/isolation?
    - ⇒ Is there a sense that your prior/on-going distress is 'unheard' and/or that you can't share it with others for fear of rejection/abandonment?

4. How does worrying make you feel
    - ⇒ Do you feel people underemphasise the emotional impact/source of your worrying?
    - ⇒ When the worrying is intense, does it worry you even more how you will cope with future challenges thinking/feeling like that?
    - ⇒ When the negative emotion builds, does that feel mentally disorientating?
    - ⇒ When the worrying is intense, does it worry you even more how you will cope with future challenges thinking/feeling like that?

5. Would you like to stop worrying?
    - ⇒ Do you experience a sense of responsibility/blame for continuing to worry?
    - ⇒ Do you feel in two minds as to whether you should or shouldn't worry?

6. How do you cope with worrying (if described negatively)
    - ⇒ When you try to control/reduce your worry, does it sometimes make the worry worse?

7. Is there anything that changes how/whether you worry? Any periods of your life where you have worried more/less?
    - ⇒ Do you feel under pressure to suppress/hide your emotions/worry? Does that change with trusted others?
    - ⇒ When the worrying is intense, does it worry you even more how you will cope with future challenges thinking/feeling like that?

8. Do you have any thoughts on why you worry
    - ⇒ Do you feel you (are right to) worry in part, because other people did/do it?
    - ⇒ Are there secondary benefits to worry?
    - ⇒ Does thinking during a worry episode feel like it helps to reduce the anxiety?

9. Does anyone else you know worry
    - ⇒ Do you feel you (are right to) worry in part, because other people did/do it?

Appendix J

Example Memos

Worry being distressing/real because of how the person feels (anxious)

Worry has been described as distressing because of how intense and troubling the initial worry feels when it comes into the persons head, in addition to, or rather than, being distressing because of the process of worrying (feeling out of control, persistent, ubiquitous, etc). Is this linked to the idea that worry can feel like it is due to a 'real threat' rather than an 'illusory' threat? Also connected to the reality-testing that worrying sometimes seems to involve?

Some participants have also spoken about a worry thought seeming real because of the anxiety they are experiencing at the same time, whereas when the anxiety has dissipated, the thought no longer seems relevant. Linked as well maybe to statements about "living it in my head"? Is this because the anxiety reduces the 'evidence threshold' for believing something is true, so that as the person thinks/images more and more catastrophic scenarios and gets more and more anxious, they feel more and more real??

Worry making me a more caring (not bad) person

Some participants have defended the instinctive value of worry due to its perceived ability to make them more caring or thoughtful of others, and that if worry didn't exist/that other people who don't worry become selfish and uncaring of other people. Seems to be linked to the idea of responsibility and the dread of getting it wrong & offending or upsetting others, which I suppose ultimately affects their vulnerability.

Worry providing secondary gain

There is a sense that worry, while distressing in itself, may provide a secondary gain: self-punishment for, distraction from other more painful/distressing aspects of the person's life. Whether this is a primary or secondary gain is unclear. SCRATCHING AN ITCH

In relation to being a distraction, this is yet another example of worry acting on two levels: participants complain about worry being distracting, affecting their concentration, but then also conceding that the distraction is a good thing (and hence they might be doing it intentionally to distract themselves) as it stops them having to deal with other, more distressing things – even though they are not certain that the distress the distraction causes compensates for the distressing thing they are trying to distract themselves from – it seems that the secondary gain is while the worry is relatively tolerable, but when it escalates completely out of control, that's when the secondary gain is overridden by the distress of the worry

Worry almost like an addiction, especially in relation to the intermittent positive reinforcement that some participants have spoken (but it sometimes works…) and the sense of it being bottled up/suppressed, only to burst through anyway, or for the worry to initiated because "the urge was only going to get worse/it was going to build and build and happen anyway".

Appendix K

Individual Participant Diagrams

~~DIAGRAM 1~~

Appendix L

Composite Diagram – Interviews 1-5

Appendix M

Participant Characteristics Repertory Grid

	1	2	3	4	5	6	7	8	9	10
Male			✓	✓			✓	✓		
Female	✓	✓			✓	✓			✓	✓
<30				✓	✓		✓	✓	✓	✓
>30	✓	✓	✓			✓				
Primary care				✓	✓		✓	✓	✓	✓
Secondary care	✓	✓	✓			✓				
Some form of traumatic/distressing experience in past										
• Acute external event		✓								✓
• Health scare				✓				✓		
• Chronic interpersonal event (esp abandonment/rejection)	✓	✓	✓	✓	✓	✓		✓	✓	
• Traumatic lack of coping	✓					✓	✓			✓
Lifelong (anxiety, worry)	✓	✓	✓	✓	✓	✓		✓	✓	✓
Part of personality	✓		✓			✓		✓	✓	✓
Disconcerting without worry	✓		✓					✓		
Everybody worries/worry can be normal/natural/instinct	✓	✓	✓	✓	✓	✓		✓		✓
It's worse for me (now/than others)	✓	✓	✓	✓	✓	✓		✓		✓
Emphasizing the emotional component	✓	✓	✓	✓	✓		✓		✓	✓
The worry (emotion or thought) means something important (hidden/real threat)	✓	✓	✓		✓	✓		✓		✓
Focus of worry becomes real/a 'thing', (partly) due to how it feels		✓	✓	✓	✓		✓	✓	✓	✓
Seriously dwell/obsess	✓		✓		✓					✓
Catastrophising	✓	✓	✓	✓	✓	✓	✓		✓	✓
Feeling like worry can be out of their control/forced on them/unpredictable	✓	✓	✓	✓	✓	✓		✓	✓	✓
Persistent diseased inevitable machine	✓	✓	✓	✓	✓	✓	✓	✓		✓
Worrying about the consequences of worry (esp meltdown) – how will I cope?	✓	✓		✓	✓	✓	✓	✓		✓
Worry done deliberately/self-blame	✓	✓			✓	✓		✓	✓	
Stupid/pointless	✓	✓			✓	✓	✓	✓	✓	✓
Perfectionistic traits	✓			✓		✓	✓	✓		
Need to prove self										
• Meet external expectations	✓			✓			✓	✓		
• Avoid negative evaluation		✓	✓		✓				✓	✓
• Resolving imposed worries			✓	✓						
• Unclear source						✓				
Positive (compulsive) beliefs about worry										
• Protects/warns me	✓	✓	✓	✓	✓	✓		✓	✓	
• Prepares me	✓	✓			✓	✓			✓	
• Motivates me	✓	✓	✓	✓	✓	✓		✓		
• Keeps me caring/responsible	✓			✓		✓				✓
• Makes me insightful		✓				✓				
Positive (reflective) beliefs about worry										
• Provides control		✓		✓		✓			✓	
• Provides distraction		✓			✓		✓			

• Provides self-punishment		✓								
Negative consequences of worry										
• Mentally disorientating/draining			✓	✓	✓	✓	✓			
• Emotional distress	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓
• Physical symptoms/strain		✓	✓	✓	✓	✓	✓	✓	✓	✓
• Existential thinking (& cop strat)		✓			✓			✓		✓
• Avoiding life – isolation, sleeping, overeating, drinking (& cop strat)	✓	✓	✓			✓	✓	✓		
Dilemma/confusing – what should I do?	✓	✓				✓			✓	
Feeling that distress/emotions are unheard/suppressed	✓	✓	✓			✓		✓		✓
Feeling alone/different	✓	✓		✓	✓	✓	✓	✓		✓
Hiding/bottling up worry/anxiety/distress – fear that it may spill out/be judged	✓	✓	✓						✓	✓
Wanting worry to be validated/seen as having a real/genuine/justified source	✓		✓	✓						✓
Experience/fear of social/physical threat		✓	✓	✓	✓		✓	✓		✓
Worry role models		✓	✓			✓		✓	✓	✓
Negative worry modifiers										
• Increased work/pressure		✓	✓	✓						
• Problems out of my control			✓	✓		✓	✓		✓	
• Battling/blocking worry	✓		✓					✓		
• Seek reassurance			✓	✓						
• Unsafe environment						✓				
• Frantically keeping busy						✓		✓		✓
Positive worry modifiers										
• With/talking to trusted others	✓	✓	✓			✓			✓	
• Therapy/Self-help		✓		✓		✓	✓	✓	✓	✓
• Structuring time			✓							
• Safe environment					✓	✓				
• Time/space to think (but can become neg.)			✓							
Intermittent positive reinforcement			✓					✓		
Questioning/searching for a solution/ evidence if the threat is real or not	✓		✓		✓					
The urge to worry will just grow so get it out of the way – like an addiction										✓
Finding worry confusing					✓	✓		✓	✓	✓
Worry (thought or feeling) like intrusions		✓	✓	✓	✓	✓	✓	✓		