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Clients' Experience of Case Formulation in Cognitive Behaviour Therapy for Psychosis

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General Abstract

Case formulation can be defined as 'a hypothesis about the causes, precipitants and maintaining influences of patient's psychological, interpersonal, and behavioural problems'. The practice of case formulation is central to most schools of psychology. In cognitive-behaviour therapy, case formulation has come to be viewed as a 'first principle' of therapy, and is considered essential when working with complex problems such as psychosis. At the same time, the scientific status of cognitive case formulation, its 'clinical usefulness', and the impact case formulation has on clients is largely unknown.

The review paper firstly outlines and critiques the current cognitive models of positive symptoms of psychosis, which are the models that form the basis for individualised cognitive case formulations of psychosis. Secondly, the scientific status and clinical usefulness of cognitive case formulation are explored, and it is shown that there is a paucity of research examining the validity and reliability of case formulation and the impact case formulation has on clients and therapy.

The empirical study used a qualitative methodology to explore clients' experience of case formulation in cognitive-behavioural therapy for psychosis. In addition, therapists' views of the benefits of case formulation were assessed. It was found that case formulation evoked multiple cognitive, emotional and behavioural reactions in each client; that clients' reactions were complex; and that certain reactions changed with time. Therapists reported that they found the case formulation to be most useful in increasing their understanding of their clients. The clinical and research implications of these findings are discussed.

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Abstract

Case formulation is central to the practice of cognitive therapy, is considered useful to the therapeutic process, and is viewed as crucial when working with complex problems, such as psychosis. In the last 10-15 years, research has focused on individual positive symptoms of psychosis, which has led to the development of models of symptoms of psychosis on which individual case formulations of clients with psychosis can be based. However, at the same time, the reliability and validity of the cognitive case formulation has not yet been established, and there is a paucity of research assessing the clinical usefulness and impact of case formulation on therapy and clients. The present review outlines and critiques current cognitive models of symptoms of psychosis, assesses the scientific status and clinical usefulness of cognitive case formulation, and concludes with ideas for future research.

Key words: Case Formulation, Psychosis, Persecutory delusions, Auditory hallucinations

Introduction

Case formulation can be defined as 'a hypothesis about the causes, precipitants and maintaining influences of patients' psychological, interpersonal, and behavioural problems' (Eells, 1997, p.1). More specifically it refers to 'the summation and integration of the knowledge that is acquired by the assessment process' which 'draws on psychological theory and data to provide a framework for describing a problem, how it is developed, and is being maintained' (DCP, 2001, p.3). The purpose of a case formulation is to provide an explanation of a client's problems that is open to verification; for the client to gain an understanding of their problems that is useful and meaningful to them (the 'treatment utility' of case formulation (Hayes, Nelson, & Jarrett, 1987)); and to use the case formulation to inform subsequent intervention (Tarrier & Calam, 2002).

The practice of case formulation is advocated by most schools of psychotherapy (Eells, 1997). In cognitive therapy, case formulation is considered essential, and has been described as its 'first principle' (Beck, 1995). There are several reasons for the prominence of case formulation in cognitive therapy. Firstly, case formulation has always been a crucial part of cognitive theory and practice (Mackenzie, 2001). This is for example demonstrated in one of the first books about cognitive therapy in which Beck, Rush, Shaw and Emery (1979) suggests that the goal of the initial clinical interview is to establish a diagnostic profile, assess the degree of psychopathology, estimate the client's assets for therapy, *construct a formulation of the client's problems*, and propose a variety of treatment strategies that could address the client's problems. Secondly, one of the reasons for the popularity and wide acceptance of cognitive therapy is its adherence to the scientist-practitioner model (Bieling & Kayken, 2003). Case formulation then becomes

important as one of its main aims is to link theory with practice (Butler, 1998). Thirdly, prominent authors of cognitive therapy have emphasised the importance of case formulation (e.g. Persons, 1993; Beck, 1995), and finally, as pointed out by Mackenzie (2001), with the application of cognitive therapy to more complex and challenging cases, case formulation has come to be viewed as increasingly important (Beck, 1995; Persons & Bertagnolli, 1999; Butler, 1998).

As such, case formulation with clients with psychosis is viewed as essential as their difficulties are generally complex and multiple and spread across a number of domains (Haddock & Tarrier, 1998). During the last ten to fifteen years, extensive psychological research has been conducted to assess the cognitive processes involved in the development and maintenance of positive symptoms of psychosis. Subsequently, cognitive models of positive symptoms of psychosis have been developed. The purpose of such models has been twofold: to pull together the research on symptoms of psychosis, and to provide a basis for individualised case formulations and interventions. However, on the other hand, the scientific status, and the 'treatment utility' of the cognitive case formulation are yet to be fully established (e.g. Bieling & Kuyken, 2003; Mackenzie, 2001). Hence, little is known about the reliability and validity of case formulation or the impact case formulation has on clients and therapy.

The purpose of the present review is first to outline the current cognitive models of positive symptoms of psychosis which form the basis for individualised cognitive case formulations, and second to consider the scientific status and 'treatment utility' of cognitive case formulation. Consequently, the first section of this paper will give a description of symptoms of psychosis, which will then be followed by a review of cognitive models of psychosis. Next, these models will be

compared and critiqued. The paper will end with a discussion of the reliability, validity, and clinical usefulness of case formulation, and suggest areas for future research.

Positive Symptoms of Psychosis

There are many different types of psychotic symptoms, and various attempts have been made to identify different clusters or dimensions of these (Fowler, Garety & Kuipers, 1995). A widely adopted distinction has traditionally been made between positive (e.g. delusions, hallucinations) and negative symptoms (e.g. social withdrawal, loss of motivation). However, more recently three, rather than two, dimensions of psychosis have been distinguished, namely; reality distortion symptoms (such as hallucinations and delusions), psychomotor poverty symptoms (e.g. social withdrawal, lack of motivation), and disorganisation symptoms (including speech disorder and incongruity of affect) (Fowler et al., 1995).

Cognitive models of psychosis have focused on positive symptoms (reality distortion symptoms) of psychosis and proposed cognitive explanations of the formation and maintenance of these. Delusions and hallucinations are common positive symptoms of psychosis, represent core features of psychosis, and appear as two of the characteristic or defining symptoms of schizophrenia (DSM-IV, A.P.A., 1994). A description of delusions and hallucinations will be given below.

Delusions

Delusions have traditionally been regarded as fixed, false beliefs, qualitatively distinct from normal beliefs, and therefore been assumed to be indicative of an organic disease process (Chadwick, Birchwood, & Trower, 1996).

However, recent phenomenological evidence has led to the re-conceptualisation of delusions as multidimensional entities occurring in various forms and strengths, and placed along a continuum of normal beliefs (Jorgensen & Jensen, 1990). As such, they are considered to be sharing characteristics with normal beliefs, a view that has been supported by research showing that delusional beliefs vary across several dimensions such as degree of insight, bizarreness of content, extent of preoccupation, and the level of conviction with which they are held (e.g. Chadwick & Lowe, 1990; Garety & Hemsley, 1994). As with any other beliefs, the content of delusional beliefs varies from person to person. For example, delusions can have persecutory themes where the individual believes that others will cause physical, psychological, or social harm; have grandiose themes where the content involves an exaggerated sense of one's importance, power, knowledge, or identity; or delusions of reference where the person believes that events, objects or other people in the person's immediate environment have a particular and unusual significance referring to the self (Barlow & Durand, 1995). Cognitive models of delusions have tended to focus on persecutory delusions possibly as this type of delusion has been found to be the most common delusion (e.g. Garety, Everitt, & Hemsley, 1988; Jorgensen & Jensen, 1994). Persecutory delusions refer to delusional beliefs in which a person believes a perpetrator clearly intends to cause harm, that the harm is directed at the person, and is ongoing or anticipated in the future (Freeman & Garety, 2000). In addition, this harm is believed to be out of all proportion to any 'sins or offences' the person has committed in the past (Bentall, Corcoran, Howards, Blackwood, & Kinderman, 2001, p.1148).

Hallucinations

Hallucinations are sensory experiences (e.g. visual, auditory, tactile) that occur without any input from the surrounding environment (Barlow & Durand, 1995). Hallucinations are the most common positive symptom of schizophrenia, and occur in approximately 70% of those diagnosed with the illness (Sartorius, Shapiro, & Jablensky, 1974). Hallucinations can occur in all sensory domains, however, auditory hallucinations are most common (Lobban, Haddock, Kinderman, & Wells, 2002). Auditory hallucinations can exist of noises or voices where the person perceives someone talking (Chadwick et al., 1996). Similar to delusions, auditory hallucinations vary considerably from person to person in terms of content, loudness, clarity, tone of voice, and the extent to which they are perceived as distressing or disabling by the individuals who experience them (Fowler et al., 1995; Chadwick & Birchwood, 1994). In addition, hallucinations (like delusions) are considered to lie on a continuum with normal experiences (Chadwick et al., 1996). This view comes from findings that auditory hallucinations are not restricted to clinical groups. For example, studies (e.g. Slade & Bentall, 1988) have found that under laboratory conditions many ordinary people display a propensity to report hearing sounds which are not there, prompting researchers to speculate that proneness to hallucinate may be a disposition spread across the general population (Chadwick et al., 1996).

Cognitive models of positive symptoms of Psychosis

From syndrome to symptoms

Cognitive interventions for both neurotic and psychotic disorders are guided by individual cognitive case formulations which are based on cognitive models. In neurotic disorders there is a long history of research and theoretical developments

leading to detailed models of disorders, such as panic disorder (Clark, 1986). In contrast, cognitive models of psychosis are fairly new, and have only been actively developed over the last ten to fifteen years (Freeman & Garety, 2002). It has been suggested that the reasons for this delay are firstly that psychotic phenomena experienced in schizophrenia have traditionally been presumed to represent a discontinuity from 'normal' experiences, and as such, exploration of psychotic symptoms from a basis of 'normal' psychology theory has been impeded (Chadwick et al., 1996). Secondly, in psychiatry, schizophrenia has been presumed to comprise of a set of defining symptoms, of specific aetiology, and with a definable course (Bentall, 1990). However, as substantial research efforts have not been able to prove these assumptions, the validity of the concept of schizophrenia has been put into question (Bentall, 1990). Consequently, the questionable validity of the concept of schizophrenia has impeded any generation of research and psychological work within schizophrenia (Chadwick et al, 1996). Considering the above described problems with the schizophrenia construct, Bentall (1990) proposed that psychological research should focus on the individual symptoms of schizophrenia, rather than consider the syndrome as a whole. It is this approach that has come to dominate in the past 10-15 years, and with that, psychological research on individual positive symptoms of schizophrenia has flourished (Chadwick et al., 1996), and cognitive models based on this research have started to develop.

Cognitive Models of Positive Symptoms of Psychosis

To sum up, since the move towards a focus on individual symptoms of schizophrenia rather than the syndrome as a whole, psychosis, psychological research on individual symptoms of psychosis has largely increased. In turn, this has led to the development

of models of individual symptoms of schizophrenia such as delusions and hallucinations. These cognitive models of positive symptoms of psychosis then form frameworks for individual cognitive case formulations and subsequent cognitive treatment of psychosis.

In terms of cognitive models of positive symptoms of psychosis, most research has focused on the development and maintenance of persecutory delusions and auditory hallucinations, and consequently cognitive models have been developed for these symptoms. The following sections of this review outlines an overall cognitive model for positive symptoms of psychosis, and specific models of persecutory delusions and auditory hallucinations. Following this, the similarities and limitations of the models will be discussed.

General Model of Positive Symptoms of Psychosis

Garety, Kuipers, Fowler, Freeman and Bebbington (2001) have proposed a cognitive model of positive symptoms of psychosis which covers the development and maintenance of both delusions and hallucinations in one framework. The model is based on the stress-vulnerability framework (Strauss & Carpenter, 1981) that acknowledges the potential interplay between a predisposition to schizophrenia (of biopsychosocial origin), and certain life experiences (stress) (such as major life events), in accounting for an individual's development of schizophrenia (Fowler et al., 1995). The authors also emphasise the significance of adverse early life experiences and the consequent negative schemas of the self, others, and the world as creating vulnerability in a person.

On this basis, it is proposed that a precipitator such as a major life event, which causes significant emotional distress, triggers off the development of

psychotic symptoms. In turn, this event gives rise to a 'disruption of cognitive processes'. It is suggested that what occurs is disturbances in the moment-by-moment integration of stored regularities with current sensory input (Hemsley, 1993), and disruptions in the self-monitoring of intentions and action (Frith, 1992). The consequence of the disruption of cognitive processes is that the person experiences a sense of confusion between internal and external events (Garety et al., 2001). The authors propose that it is this confusion that subsequently brings about 'anomalous conscious experiences' (for example thoughts being experienced as voices, thoughts being experienced to be broadcasted, or unconnected events appearing linked) (Garety et al, 2001, p. 190).

At this stage, delusional thoughts (e.g. persecutory delusions or thoughts associated with hearing voices) are not as yet formed, and it is suggested that certain processes occur following the 'anomalous experience' which eventually results in the psychotic belief. First, it is considered that the triggering life event and the anomalous experience cause emotional changes in the person, and due to these emotions and the puzzling nature of the experience, the person views the event as personally significant. As such, the person initiates a 'cognitive search' for an explanation of the cause of the anomalous experience (Garety et al., 2001). Secondly, it is proposed that the search for an explanation is influenced by a number of processes. It is suggested that pre-existing core beliefs about the self, others, and the world are drawn upon in order to find an explanation, and can make external attributions more likely if, for example, the person has a view of others as dangerous (Garety et al., 2001). In addition, the authors propose that certain cognitive deficits also impact on the search and final explanation of the anomalous experience. One proposed cognitive deficit impacting on this process is a probalistic reasoning bias

(Garety & Hemsley, 1994). This refers to the tendency of people with psychosis to 'jump to conclusions' in that they gather less evidence for beliefs than other people prior to making a judgement. This deficit may in turn facilitate an early acceptance of an incorrect hypothesis about the anomalous experience. The second cognitive deficit is an externalised attributional style which makes the person blame others for negative events (Bentall, 1994), and the final deficit is an inability to understand the intentions of others leading to the person misreading social situations (Frith, 1992). Finally, the model proposes that social isolation contributes to the acceptance of the psychotic appraisal by reducing access to alternative, more normalising explanations (Garety et al., 2001).

Once formed, Garety et al. (2001) propose that several processes maintain the psychotic appraisal of the anomalous experience. Firstly, they suggest that the cognitive deficits described above are not only important in the formation of psychotic appraisals but also in the maintenance of these. In addition, they propose that psychotic appraisals are more likely to be maintained in people who find it difficult to consider alternatives to their delusional beliefs, i.e. those who have a dichotomous thinking style or cannot tolerate ambiguity (Garety et al., 2001). Such thinking style can be related to a 'theory of mind' deficit (Baren-Cohen, Tager-Flusberg, & Cohen, 1993).

Secondly, it is suggested that psychotic appraisals may be maintained if they are consistent with firmly held distorted beliefs about the self, others, and the world. They propose a negative cycle between psychotic appraisals and such beliefs, in that, once formed, the psychotic appraisal is seen as a confirmation of these underlying beliefs, which in turn strengthens the delusional belief (Garety et al. 2001).

Thirdly, it is proposed that psychotic symptoms are maintained by the emotions triggered in the formation of the psychotic symptoms described above. The authors suggest that the triggering of emotional distress (e.g. low mood or anxiety) at that time in turn contributes to the maintenance of psychotic symptoms through associated cognitive processes. For example, low mood may maintain psychotic appraisals through the person having associated thoughts of hopelessness and uncontrollability (e.g. Birchwood & Iqbal, 1998). Further, anxiety may maintain psychotic appraisals by making the person attend selectively to for example threat clues; the person may use safety behaviours which prevents him or her from gathering any disconfirmatory evidence to the psychotic appraisal; and thirdly meta-cognitive beliefs such as uncontrollability of thoughts can increase the stress caused by the psychotic experience (Garety et al., 2001).

Finally, Garety et al. (2001) propose that the secondary appraisals the person make of the experience of psychosis (e.g. their level of insight into what is occurring), and their appraisals of mental illness as stigmatising and humiliating impact on whether the person seeks treatment or engages in adaptive behaviours.

Models of Persecutory Delusions

As described above, models of delusional symptoms of psychosis have tended to focus on persecutory delusions. Two research groups, Freeman, Garety, Kuipers, Fowler, and Bebbington (2002), and Bentall, Corcoran, Howard, Blackwood, Kinderman (2001) have proposed two different cognitive frameworks for the case formulation of persecutory delusions.

Persecutory Delusions as 'Threat Beliefs'

Freeman et al. (2002) have applied the above described general model of symptoms of psychosis to persecutory delusions. In their model, persecutory delusions are viewed as 'threat beliefs' as they have a common theme of 'anticipation of danger' (Freeman et al., 2002, p. 332). As such, they are considered to be maintained by the same processes as those maintaining anxiety disorders (Freeman et al., 2002). As the Garety et al. (2001) model has been described in detail above, shared aspects between the models will not be described. However, there are differences in emphasis between the models, in that the current model emphasises processes associated with anxiety, and those will be described below.

Beginning with the formation of persecutory delusions, the Freeman et al. (2002) model is similar to the Garety et al. (2001) model in that it is based on the stress-vulnerability framework, proposes that a life event triggers off internal-external confusion, which subsequently brings about the anomalous experiences, and as described above this initiates a search for an explanation of the anomalous experience. This search eventually ends with the person arriving at a (for them) plausible explanation of the event. This constitutes the threat belief.

The processes influencing the search for meaning (and therefore determine whether or not the final explanatory construct is a delusional explanation of events), is again similar to the Garety et al. (2001) model. The authors propose that cognitive deficits, pre-existing core beliefs about the self, others, and the world, and emotions all influence this search. However, there is more emphasis on the role of anxiety. For example, it is suggested that a persecutory belief is likely to be formed if the person considers himself or herself to be vulnerable, or deserve to be harmed because of

previous behaviour (Freeman et al. 2002). Moreover, they consider these pre-existing beliefs to be associated with anxiety and depression, and as this emotion is associated with cognitions of impeding danger, such cognitions will influence the final explanation the person arrives at. Once a persecutory delusion is formed, Freeman et al. (2002) propose that the delusion is reinforced by the relief that comes with an explanation (Maher, 1988), the knowledge that the person is not 'losing their mind', and the confirmation of pre-existing ideas and beliefs (Freeman et al., 2002).

The authors propose that the persecutory delusion is consequently maintained by two sets of processes: those that result in the person obtaining confirmatory evidence for the belief, and those that lead to disconfirmatory evidence being discarded.

In terms of the first set of processes, Freeman et al. (2002) propose that the persecutory belief is maintained by a belief confirmation bias, which leads to the person looking for evidence that is consistent with their beliefs (e.g. Maher, 1988). They also propose that attentional biases will operate which leads to threat being preferentially processed. As a consequence of this, the individual makes threatening intentions out of ambiguous events. Finally, they suggest that memory biases make the evidence for the delusion increase frequency of presentation on the mind, and that the continuous anomalous experiences (triggered by anxiety) provides evidence consistent with the delusional belief (Freeman et al., 2002).

In terms of processes that lead to disconfirmatory evidence being discarded, the authors suggests that this occurs as the individual uses safety behaviours which are designed to reduce the threat but which actually prevent disconfirmative evidence to be discarded or fully processed (Freeman et al., 2002). The authors propose that the type of safety behaviours used are avoidance, escape, within-situation

behaviours, compliance, and aggression. Further, the person may also incorporate the failure of harm occurring into the delusional system. As such, disconfirmatory evidence is dismissed because the individual views these occurrences as instances of deviousness of the persecutors (Freeman et al., 2002).

Finally, the authors propose that the persecutory belief and the meaning given to the belief causes strong emotions such as anxiety (e.g. from the belief "They are going to find me and kill me", and further appraisals of own vulnerability), and depression (e.g. about the power of the persecutors, or further appraisal such as thinking that persecution is a sign of badness). In turn, it is suggested that these emotions reinforce the maintenance processes described above. For example, feelings of anxiety may lead to the person being more likely to engage in safety behaviours, trigger further anomalous experiences, as well as making the person interpret ambiguous events as threatening (Freeman et al., 2002).

Persecutory Delusions as Attributional Defence against Low Self-Esteem

From a different perspective, Bentall and colleagues have proposed that in developing an understanding of the formation and maintenance of persecutory delusions, it is important to consider the content of such delusions (Bentall, Kinderman, & Kaney, 1994). Consequently, the authors have focused their research on attributional processes in persecutory delusions (as the content often infers the causes of events to other people), and proposed that persecutory delusions may be a product of abnormal attributional processes (Bentall et al. 1994; Bentall, 1994; Bentall & Kinderman, 1998; 1999). More specifically, they suggested that the attributional style of people with persecutory delusions might reflect an exaggeration of a normal 'self-serving bias', where the person attributes negative events to

external events in order to preserve high self-esteem or defend against depression (Campbell & Sedikes, 1999). This idea is consistent with earlier proposals that delusions exist as an unconscious attempt to 'camouflage' depression (Zigler & Glick, 1988; Neale, 1988). Consequent to their research in this area, Bentall and colleagues developed an attributional model of persecutory delusions, which has more recently been an amended following criticism of aspects of the model.

In describing the mechanisms involved in the initial model, Bentall et al. (1994) incorporated the framework of Higgins' (1987) self-discrepancy theory. This proposes that a person's self concept is made up of an 'actual-self' (i.e. what I perceive myself to actually be), 'ideal-self' (what I would ideally like to be), and an 'ought-self' (the way I ought to be, usually according to significant others). Higgins argued that 'low self-esteem' is a discrepancy between the actual self and the ideal self, which consequently gives rise to negative emotions. On this basis, the Bentall et al. (1994) model suggested that people with persecutory delusions (similarly to people with depression) have latent negative beliefs about the self (a discrepancy between the real and ideal self), which are vulnerable to activation by negative life events (Bentall et al., 2001). However, in contrast to people with depression, Bentall et al. (1994) proposed that people with persecutory delusions attempt to avoid the activation of the real-ideal self discrepancy by attributing events that could potentially threaten their self-concept to the action of others (Bentall et al., 2001). Such events may for example be those indicating personal failure. This externalising attributional style would then offer the individual an acceptable way of thinking about experiences that would otherwise threaten their self-esteem and cause personal distress (e.g. Maher, 1988).

However, the above model came under criticism due to several shortcomings. One criticism, highlighted by Garety and Freeman (1999) was that research findings, instead of showing high self-esteem in people with persecutory delusions as would be predicted by the model, showed that low self-esteem is common in people with persecutory delusions. Garety and Freeman (1999) then argued that such research findings are incompatible with the hypothesis that persecutory delusions serve a function of protecting the individual's self-esteem. For example, a study by Freeman, Garety, Fowler, Kuipers, Dunn, Bebbington, and Hadley (1998) showed that people with persecutory delusions tend to have low self-esteem, and that persecutory delusions can recover independently of low self-esteem. Moreover, loss of persecutory delusions as a result of treatment with cognitive therapy has not been shown to lead to worsening of self-esteem or depression (Chadwick & Lowe, 1994; Kuipers, Fowler, Garety, Chisholm, Freeman, Dunn, Bebbington, & Hadley, 1998).

Another problem with the initial model, that has been highlighted by the researchers themselves (Bentall et al., 2001), is that research evidence suggests that attributions of negative and positive events are not stable (i.e. the same attribution will not necessarily be made for the same event at two different points in time). Rather, attributions vary according to time and circumstances (Bentall et al. 2001). This has been shown in studies of people with depression where pessimistic attributional style has been found to be more evident during depressed mood than during periods of euthymia (Miranda & Persons, 1988; Segal & Ingram, 1994).

Following these research findings, Bentall et al., (2001) put forward an amended attributional model of persecutory delusions, namely the 'Attribution-Self-Representation Cycle model'. The central idea in the model is that "attributions and self-representations are cyclically coupled, so that attributions are partially

determined by the availability of self-representations, which in turn influence the availability of self-representations in the future" (Bentall et al., 2001, p. 1167). The model posits that the normal process of generating attributions begins with an event, which is followed by an initiation of a cognitive search to find its explanation. This search starts with the person accessing currently available self-representations to explain the event. If the person holds self-representations that match the event, an internal attribution is made (for example, a negative self-view would lead to an internal attribution for a negative event). However, if the cognitive search process fails to generate an internal attribution, continued searching occurs which may lead to the person either attributing the event to another person or other people, or attributes the event to situational variables (Bentall et al. 2001).

The attribution the person makes in turn affects his or her future self-representations, and beliefs about others. Bentall et al. (2001) suggest that internal attributions affect future self-representations by priming stored knowledge about the self (internalised descriptions of the self learnt in childhood, and autobiographical memories of emotionally salient events) that match the attribution, which in turn produces a self-representation. For example, an internal attribution for a negative event would prime negative stored knowledge about the self, and consequently produce a negative self-representation (Bentall et al., 2001). The authors propose that the triggered self-representation can then lead to low mood if the self-representation is discrepant with the person's self-standards or 'rules for living'. However, if an event is attributed to another person, triggering of knowledge of self and self-representations does not occur, but instead, this kind of attribution influences the person's beliefs about others. Finally, attributing events to situational variables do not affect the person in any of the above ways.

The authors suggest that in people with persecutory delusions, the above described attribution process functions abnormally. This leads to the tendency to attribute negative events to others (blame others) in preference for either attributing the event to oneself or situational variables. Bentall et al. (2001) argue that this occurs as people with persecutory delusions have negative stored knowledge about the self which provides a powerful motive for avoiding self-blame when threatened by failure or humiliation. They suggest that people with persecutory delusions blame others for negative events as internal attributions of such situations would lead to an escalation of discrepancies between the person's real-self and ideal-self, and eventually end in depression (Bentall et al., 2001). Using their model they also explain the results of low self-esteem in people with persecutory delusions, the main criticism of the initial model. They propose that current self-representations are highly unstable in people with persecutory delusions, which 'reflects a variation in the person avoiding priming of stored knowledge about the self during successive iterations of the attribution-self-representation cycle' (Bentall et al., 2001, p. 1170).

However, the authors also consider that avoidance of self-blame is not sufficient to account for why people with persecutory delusions attribute negative events to others. They argue that other factors are also likely to play a part as otherwise a person would attribute negative events to situational variables which would achieve the same objective, (avoiding self-blame), without the cost of assuming a persecutory worldview (Bentall et al., 2001). The authors suggest that people with persecutory delusions also blame others due to having certain cognitive deficits. They suggest that people with persecutory delusions have an attentional bias towards threat-related information which makes them focus more on other people's actions; have a 'jumping to conclusion' bias (Garety & Hemsley, 1994) or an

excessive need for closure which leads to them ending the search for an attribution to an event before they have taken into account any situational variables; and have an inability to understand behaviour from another person's perspective, a possible 'Theory of Mind' deficit which may lead to the person being unable to appreciate contextual determinants of someone else's behaviour (Bentall et al. (2001).

Models of Auditory Hallucinations

Similarly to persecutory delusions, there is no one single cognitive model for the development and maintenance of auditory hallucinations. However, there is agreement that auditory hallucinations occur when internal experiences are misattributed to an external source (Baker & Morrison, 1998). This conclusion has been reached as research has shown that auditory hallucinations are accompanied by sub-vocalisation (Gould, 1950), a process that also occurs in normal thinking or 'inner speech' (Cacioppo & Petty, 1981). It has also been found that verbal tasks that block sub-vocalisation also block the occurrence of hallucinations (Margo, Hemsley, & Slade, 1981).

Some cognitive theories of hallucinations have suggested that the tendency to misattribute internal events to an external source reflect a deficit in the monitoring of internal events (e.g. Maher, 1988; Frith, 1992) while others have suggested that this misattribution of internal events is influenced by top-down biases, i.e. beliefs and expectations about what is likely to occur (Lobban, et al., 2002). This review will consider models suggesting auditory hallucinations are due to a cognitive bias. One of the first proposals of this was put forward by Bentall (1990), who suggested that the misattribution of internal events is influenced by a person's beliefs about self, others, and the world, and that reinforcement processes (particularly anxiety

reduction) may facilitate the misattribution of certain kinds of internally-generated events (for example, negative thoughts about self) to an external source (Baker & Morrison, 1998).

A more comprehensive cognitive bias model of auditory hallucinations has been outlined by Morrison, Haddock, and Tarrier (1995) and Morrsion (1998). They proposed that there are marked similarities in form and content between intrusive thoughts[1] and hallucinations in that both experiences are personally salient, and the content of intrusive thoughts such as 'repugnant thoughts, blasphemous ideas and unacceptable violent and sexual impulses' (Morrison et al., 1995, p. 270) are similar to the content of hallucinations found in research. For example, Chadwick and Birchwood (1994) found that the content of hallucinations included being told to rape, hit or kill people, being told to steal, or told to commit suicide.

Considering this similarity between hallucinations and intrusive thoughts to be significant, Morrison et al. (1995) suggested that hallucinations are intrusive thoughts that the person attributes to external sources when they are inconsistent with his or her metacognitive beliefs[2]. The authors proposed that the external attribution of intrusive thoughts occur as the inconsistency between the intrusive thoughts and the metacognitive beliefs creates a state of cognitive dissonance within the person. Cognitive dissonance is considered to be an aversive state of arousal which occurs when people hold incompatible cognitions (Festinger, 1957). As such, the external attribution of the incompatible intrusive thoughts reduces the state of cognitive

[1] Intrusive thoughts are repetitive thoughts, images or impulses that are perceived as unacceptable and are accompanied by subjective discomfort, as well as interrupting ongoing activity (Rachman, 1978; 1981).

[2]Meta-cognitive beliefs include beliefs about thought processes (e.g. I have a poor memory), the advantages and disadvantages of various types of thinking (e.g. worrying could make me go mad), and beliefs about content of thoughts ('It's bad to think about death') (Wells, 1997).

dissonance. In addition, Morrison et al. (1995) argued that if auditory hallucinations are the result of the person attributing unwanted thoughts to external sources, it is likely that the appraisal of the auditory hallucination (i.e. the person's beliefs about their hallucinatory experience rather than the intrusion) will elicit certain emotional, behavioural and physiological responses. This idea was originally articulated by Chadwick and Birchwood (1994) who demonstrated that people's beliefs about their voices, rather than the voices per se determine the subsequent behavioural and emotional response.

More recently, Morrison (1998) have expanded the original model of the development of auditory hallucinations, and proposed ways of how these may be maintained. In doing so, Morrison (1995) has drawn on the cognitive model of panic (Clark, 1986) and proposed that auditory hallucinations may be maintained by the same processes as those involved in the maintenance of panic attacks. In the cognitive model of panic, panic attacks are considered to result from a tendency to misinterpret certain bodily sensations (usually normal anxiety responses) in a catastrophic manner. These catastrophic misinterpretations are consequently maintained by selective attention to threat cues and avoidance, including safety seeking behaviours, which prevent the person gaining any disconfirmatory evidence of the threat (Salkovskis, 1991). Morrison (1998) proposed that auditory hallucinations may be maintained by processes very similar to those maintaining panic attacks. First, auditory hallucinations can be seen as normal phenomena (Strauss, 1969; Posey & Losch, 1983; Romme, Honig, Noorthhoorn, & Escher 1992); second, interpretations of hallucinations mediates the emotional, physiological, and behavioural responses to hallucinations (Chadwick & Birchwood (1994); and third, the use of safety seeking behaviours (e.g. distracting oneself from

the voice in order to avoid doing what the voice says) may remove the possibility for disconfirmation of the interpretation of the hallucination (e.g. must obey the voice otherwise something will happen) (Morrison, 1998). Understanding the maintenance of hallucinations in terms of Clark's (1986) generic model of panic, Morrison proposed that auditory hallucinations begin with a normal auditory hallucination being triggered by an internal or external trigger (e.g. stress). This is consequently misinterpreted as threatening the physical or psychological integrity of the individual, which in turn produces an increase in negative mood and physiological arousal leading to more auditory hallucinations (Morrison, 1998). As with panic attacks, a vicious circle is hence established. The misinterpretation of the hallucinatory experience also elicits safety behaviours which can both increase the occurrence of auditory hallucinations and prevent the disconfirmation of the misinterpretation (Morrison, 1998).

Differences and Similarities between Models

To sum up, following the call to study single symptoms of schizophrenia rather than focusing on the syndrome as a whole (Bentall, 1990), research on specific symptoms of psychosis has flourished. This has in turn led to the development of cognitive models of symptoms of psychosis, although these have tended to focus on persecutory delusions and hallucinations. The models bring together research evidence on symptoms as well as form the basis for individualised case formulations that can be used to guide treatment.

In outlining these models, it has been shown that they differ in some important aspects. For example, some models (e.g. Bentall et al., 1994; 2001, Morrison et al., 1995) consider attribution processes and self-representations to be

important in the development of symptoms, while others (Garety et al., 2001; Freeman et al., 2002) argue that psychotic symptoms develop as the person tries to make sense of anomalous experiences.

However, there are also several similarities amongst the models. Firstly, all models emphasise the importance of pre-existing core beliefs in the development of symptoms. For example, Freeman et al.'s (2002) and Garety et al.'s (2001) models propose that pre-existing beliefs about the self, others and the world are drawn upon when the person tries to find an explanatory construct for the anomalous experience, as well as strongly influence the final explanation at which the person arrives. Similarly, pre-existing core beliefs (knowledge of self, self-representation, self-standards) are important in Bentall et al.'s models (1994; 2001), where they determine whether or not there is an exaggeration of attributing the causes of negative events to others. Moreover, in the development of auditory hallucinations, Morrison (1995) proposes that intrusive thoughts become externally attributed if they are incongruent with pre-existing beliefs (meta-cognitions), resulting in hallucinatory experiences. Secondly, the models share similarities as regards to the factors involved in the maintenance of symptoms. Being cognitive models, all models emphasise the role of thoughts in maintaining the symptoms. Morrison's (1995; 1999) models of hallucinations, posit that it is the appraisal the person makes about the auditory hallucination (or activating event), that determines the consequent emotional distress and behavioural disturbance. Similarly, Garety et al., (2001) and Freeman et al., (2002) propose that cognitions (e.g. persecutory thoughts) are important in the maintenance of symptoms in that they trigger emotions (e.g. anxiety), which in turn lead to behaviours such as avoidance and other safety behaviours. In addition, these models are similar in that they suggest that the same

processes as those maintaining anxiety disorders (such as misinterpretations of bodily symptoms, attention to threat cues, and safety behaviours) also maintain symptoms of psychosis. Finally, most models emphasise the importance of cognitive deficits in the development and maintenance of symptoms. For example, Garety et al's (2001), Freeman et al's (2002), and Bentall et al's (1994; 2001) all include deficits such as a 'jumping to conclusion bias', 'theory of mind' deficits, and attentional biases.

Clinical Implications of Models

The development of cognitive models of symptoms of psychosis has several implications for clinical practice. They provide clinicians with research-based understanding of the factors leading to the formation and maintenance of symptoms, and provide frameworks for individualised case formulations. The models also highlight issues which the clinician may need to be attentive to or address in therapy, such as high levels of anxiety in clients with persecutory delusions, cognitive deficits, or insight (e.g. Freeman et al. (2002). In addition, the models provide clear avenues for psychological interventions with this client group, and for example in considering the same processes involved in maintaining anxiety disorders to maintain symptoms of psychosis it allows clinicians to transfer established techniques to the treatment of symptoms of psychosis.

Limitations of Models

Nevertheless, the above models also have several limitations. First, specific models of positive symptoms of psychosis can prove difficult when working with clients with psychosis. This is because symptoms of psychosis commonly co-occur.

For example, a client may present both with auditory hallucinations as well as believing that someone is out to harm them in some way. As the models, apart from the Garety et al. (2001) model, only account for specific symptoms and do not indicate any links between symptoms, this creates difficulty in the formulation and treatment of such clients.

Secondly, the focus on deficits and biases in explaining the development of psychotic symptoms in some of the models (most notably Garety et al. 2001; Freeman et al. 2002; and Bentall et al., 2001) has been criticised. Chadwick et al. (1996) have argued that the proposed biases may be a consequence of the symptoms of psychosis, rather than the symptoms being a consequence of the bias. Birchwood (1999) has also questioned whether cognitive biases are state or trait characteristics. They cited research that showed that during an acute episode of psychosis, individuals were found to show theory of mind deficit compared with a control group. However, this difference could not be found when individuals had recovered from the psychotic episode (Drury, Birchwood & Robinson, 1998). As such, it may be premature to propose that cognitive deficits and biases play an equally important part in the development of psychosis as in the maintenance of symptoms. Birchwood (1999) also argued that the cognitive deficit approach to the development of symptoms of psychosis (although informative about biases maintaining psychotic symptoms) excludes the importance of the content and social context of psychosis in understanding the symptoms.

Finally, there is a paucity of research and models of other symptoms of psychosis other than persecutory delusions and auditory hallucinations. Although the Garety et al. (2001) model attempts to encompass all symptoms, this model is based on research that primarily has focussed on persecutory delusions and auditory

hallucinations. As such, this model may only account for these symptoms. This is for example evident in the maintenance factors suggested in Garety et al's (2001) model. The model suggests that psychotic appraisals are likely to be maintained by confirming negative beliefs about the self, leading to further strengthening of the psychotic appraisal. This is probable in persecutory delusions, where the delusions may consist of negative self-views (i.e. where the persecution may be seen as a punishment for something). However, the same process is very unlikely in grandiose delusions, where the delusional beliefs would be inconsistent with underlying negative beliefs about self.

Person Model of Psychosis

In addition to the above limitations, some authors (Chadwick et al., 1996; Chadwick, in press) have argued that symptom models of psychosis are inadequate as they only offer an explanation of the development and maintenance of symptoms, but are less clear about the underlying vulnerability that initially cause the person to develop psychotic symptoms. As such, therapists might treat the symptoms, but what remains is an underlying vulnerability to psychosis, and as a result, symptom substitution or remission may occur. However, the above models of psychosis all provide an account of the underlying vulnerability to the development of symptoms, which are for example the stress-vulnerability framework, dysfunctional schemas about the self, others and the world, Higgin's self-discrepancy theory, and cognitive deficits. Nevertheless, the emphasis for interventions (apart from Bentall et al.'s (1994; 2001) models) tends to be on the maintenance of symptoms rather than treatment of any underlying vulnerabilities.

Chadwick et al. (1996) argued that a new, wider context within which to understand symptoms is needed, and suggested that this unifying concept would be an appreciation of a person's psychological development of the self (i.e. the construction of the self incorporating the person's need for attachment and autonomy) (Chadwick et al., 1996). This was proposed as they considered symptoms of psychosis to be linked to underlying beliefs about the self (as is suggested in Garety et al.'s (2001) model). An understanding of the development and maintenance of symptoms of psychosis could then be gained from this background, and the underlying vulnerability of psychosis could be addressed. The advantages of the cognitive person model approach is that it moves away from the difficulties with models for specific symptoms, and in addition, in addressing the underlying vulnerability to psychosis the likelihood of symptom remission or substitution would be reduced. At the same time such a model does not invalidate other cognitive models, as treatment of maintenance of symptoms would remain important.

Discussion

The purpose of the above cognitive models of psychosis is to bring together and link research findings, indicate paths for future research, and in particular provide a basis for individual case formulations which can subsequently inform treatment. For example, Freeman et al. (2002) propose that their model of persecutory delusions is used to guide clinicians in making individual explanations of how a client's symptoms may have been formed and are maintained, help clients make sense of their experiences, highlight issues in the rapport between client and therapist, and guide intervention.

As described in the introduction of this review, in cognitive therapy for psychosis, case formulations are considered crucial to successful therapy (Chadwick et al., 1996; Fowler, 2000). In addition, in other areas of psychopathology, it has been claimed that case formulation is clinically useful in that it can lower clients' emotional distress and encourage functional behaviour (Beck, 1995; Goldfried, 1995; Horowitz, 1997; Persons & Tompkins, 1997); increase clients' understanding of problems (Horowitz, 1997; Persons, 1989; Butler, 1998; Ryle, 1995); increase clients' motivation to change and instil hopefulness (Ryle, 1995; Horowitz, 1997); and strengthen the therapeutic alliance (Ryle, 1995; Horowitz, 1997). Considering the above, there are several cognitive models of psychosis that provide frameworks for individual case formulations. Case formulations are also considered crucial when working with complex cases such as people with psychosis, and several authors emphasise the clinical usefulness of case formulation. Based on this, it could be considered that case formulation is important and of great value when working with clients with psychosis. However, some authors have pointed out that there are some potential problems with the practice of case formulation (Bieling & Kuyken, 2003; Mackenzie, 2001). Firstly, the scientific status of case formulation is uncertain, and secondly, the claims of its clinical usefulness have not been substantiated by research.

Scientific Status of Case Formulation

Reliability of case formulation refers to clinicians' ability to derive comparable case formulations from common material and validity of case formulation to whether case formulation tap something meaningful in the real world (Mackenzie, 2001). In a study by Persons, Mooney, and Padesky (1995) inter-rater reliability of case

formulations using Person's (1993) approach to cognitive case formulations was examined. Clinicians were asked to listen to audiotapes of part or all of the initial session of cognitive-behaviour therapy for two clients, and then list their overt problems and rate a list of underlying cognitive mechanisms (e.g. core beliefs). The therapists' results were subsequently rated against formulation criteria devised by the researchers, one of whom was the original therapist for each case. The results showed generally good agreement among therapists in identifying overt presenting problems, but poor agreement in identifying the hypothesised underlying cognitive mechanisms (Persons et al., 1995). Similar results were also found in a subsequent study by Persons and Bertagnolli (1999). In this study the authors sought to enhance reliability by supplying clinicians with 'overt problem' domains and a more structured way of assessing underlying mechanisms. However, despite this, results remained the same, with reasonable reliability for the identification of overt problems, but relatively poor reliability for the identification of underlying mechanisms (Persons & Bertagnolli, 1999). Thus, when using cognitive models to make individualised case formulations it seems that clinicians are good at identifying surface problems but are less good at identifying inferential aspects such as underlying core beliefs. However, the research on reliability is very sparse and it is questionable how much can deduced about the reliability of case formulation on the basis of two studies.

In terms of the validity of case formulation, there is a similar paucity of research as for the reliability of case formulation. In a review of the scientific status of case formulation, Bieling & Kuyken (in press) reviewed the construct validity (i.e. that linked components of the case formulation are linked in the real world) of Judith

Beck's (1995) case formulation for depression and found little evidence to link underlying core beliefs either to early life events or to presumed consequences such as thoughts and behaviour. Further, Wilson (1996) has suggested that factors such as complexity of information, subjectivity of judgements, prior clinical experience, and actuarial verses clinical predictions are all reasons to why the construct validity of an individual case formulation should be doubted (Mackenzie, 2001). Moreover, no research studies have assessed the predictive validity of case formulations (i.e. how good they are in predicting outcome of treatment), or the concurrent validity of case formulations (i.e. consistency with an independent measure of one or more of the core attributes) (Mackenzie, 2001). The lack of research on the scientific status of case formulation forces the conclusion that as yet, we cannot claim that this clinical tool is a reliable or indeed valid practice. For that reason, it becomes important that when formulating certain clinical practices, which might increase its reliability and validity, are in place. Such practices may be supervision of case formulations, and collaborative preparing and sharing of the case formulation with the client.

'Clinical Usefulness' of Case Formulation

To overcome some of the difficulties with the reliability and validity of case formulation, some authors have argued that it may be less important to obtain a 'correct' case formulation, than to obtain a case formulation that is meaningful to the client. Hence, it has been argued that a case formulation needs to be 'useful' rather than correct (Persons et al., 1995). However, other authors have argued that although case formulations must first and foremost be clinically useful, they also need to be reliable and valid (Bieling & Kayken, 2003; Mackenzie, 2001). Indeed, if therapists would utilise practices only on the basis of what they considered to be 'useful' this

may result in a variety of practices which could be potentially damaging. Moreover, as has been suggested by Mackenzie (2001), if validity is lacking from case formulations, clinical effectiveness might be compromised as clinical practice assumes the predictive validity (e.g. outcome of treatment) of case formulations.

In terms of the 'clinical usefulness' of case formulation, as described above, there have been numerous claims of the benefits of case formulation. However, these claims are unsubstantiated in that only very few studies have investigated the clinical usefulness of case formulation, and further, these studies have not found case formulation to be a universally positive experience. One study, (Chadwick, Williams & Mackenzie, 2003) examined the impact case formulation had on clients' and therapists' perception of the therapeutic relationship, and assessed the claim that case formulation eases distress For clients, the study found that, in contrast to previous claims, case formulation did not have a significant impact on either of the two variables. Moreover, in semi-structured interviews with clients there were mixed views as to the impact of case formulation. Most clients (9/15), reported that case formulation had enhanced their understanding of their problems, and six clients reported positive emotions in relation to case formulation. However, on the other hand, six clients reported negative responses to the case formulation. In addition, some clients found the case formulation complicated, and one client was surprised by the formulation.

In contrast to the findings for clients, case formulation was found to have a number of positive effects for therapists. Firstly, it had a significant impact on the therapeutic alliance for therapists. Secondly, therapists reported that they found clients endorsing the case formulation a powerful and validating experience, and made therapists feel more hopeful about therapy. Moreover, case formulation

increased therapists' sense of alliance and collaboration, aided them in understanding their clients' problems better, and helped them link practice to theory (Chadwick, et al., 2003).

In another study of the impact of case formulation on clients, Evans & Parry, (1996) assessed the claims that formulation in cognitive-analytic therapy enhances the therapeutic alliance, provides an explicit focus for subsequent therapeutic work, and gives an understanding that stimulates change in the client. The study used a multiple baseline design to evaluate the short-term impact of reformulation on four clients. Interview data showed that clients found reformulation to have a considerable impact on them and the process of therapy. For example, they reported reformulation to be an emotional experience, and that it played an important part in enhancing the therapeutic alliance by increasing their trust in the therapist, and believing that the therapist understood them. However, in contrast to the interview data, questionnaire data showed no support for any short-term impact of reformulation on perceived helpfulness of sessions, helping alliance, or decrease of specific problems (Evans & Parry, 1996). Although these findings point to a positive impact of case formulations on clients, only four people participated in the study. Hence, it is doubtful as to how much can be concluded from this study.

Implications for Future Research

Considering the paucity of research on the scientific status and clinical usefulness of case formulation, it is clear that there is a need for further research in this area in order to empirically establish the reliability and validity and the impact of case formulation on therapy and clients. At present, case formulation is considered crucial to cognitive therapy and assumed to be beneficial to clients, however this may not be

the case, and initial data suggests that case formulation may even be a negative experience for clients. Further, case formulation is viewed as the 'lynchpin' that holds theory and practice together (Butler, 1998), and as such ensures adherence to the scientist-practitioner model. It would therefore seem important that case formulation is itself based on empirical evidence of its scientific status and clinical usefulness.

In terms of research addressing the scientific status of case formulation, comprehensive programs of further research and improvement of previous studies have been suggested by several authors (see e.g. Bieling & Kuyken (2003); Mackenzie, 2001).

Systematic research is required to assess the claims made about the usefulness of case formulation. Firstly, future research needs to extend initial findings of the impact of case formulation on clients. The qualitative data in the initial studies described above indicated that clients had mixed experiences of case formulation. However, these studies did not use a rigorous research methodology to analyse this data. Therefore, future studies need to use a more valid approach to explore client's experiences of case formulation further. Such exploration may be best served by a qualitative approach. Secondly, the present studies of the impact of case formulation on clients only addressed the short-term impact of case formulation. Future research may determine whether case formulation also has a long-term impact on clients. Thirdly, therapists' experience of case formulation has been found to differ from their clients (Chadwick et al., 2003). It would therefore be important to assess therapists' experience of case formulation, and the usefulness of case formulation from the therapists' perspective. Finally, a further avenue for future research is to assess the relationship between the impact of case formulation on

clients and the extent to which this impacts on subsequent therapy and eventual treatment outcome.

Conclusion

In conclusion, this literature review has addressed the issue of cognitive case formulation of psychosis. Over the last ten to fifteen years several cognitive models of psychosis have been developed which provide research-based frameworks for individualised case formulations and interventions. Case formulation is viewed as crucial to cognitive therapy, particularly in the work with complex cases such as psychosis. Moreover, it is generally assumed that case formulation has several clinical benefits. However, the practice of case formulation has not yet been established to be a reliable and valid practice, and there is a paucity of research of its value to clients and therapy. It is argued that further research is needed in order to establish the usefulness of case formulation. Such research would have practical implications for therapists working with people with psychosis as well as other disorders.

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EMPIRICAL PAPER*

Clients' Experience of Case Formulation in Cognitive Behavioural Therapy for Psychosis

Running Head: Clients' Experience of Case Formulation

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Abstract

Case formulation is considered essential to the practice of cognitive behaviour therapy, and crucial when working with 'complex cases' such as clients with psychosis. Several claims are made for the beneficial impact of case formulation on clients, although little research has been conducted to empirically assess these claims. The current study used a qualitative methodology to assess clients' experience of the case formulation process in cognitive behaviour therapy for psychosis. In addition, therapists' views of the aspects of case formulation they considered to be most applicable to therapy were assessed. Overall, clients' reactions to the case formulation were found to be cognitively, behaviourally, and emotionally complex, and subject to change over time. Therapists reported that they found the case formulation to be most useful in increasing their understanding of their clients.

Keywords: Cognitive Therapy, Psychosis, Case Formulation

Introduction

Case formulation can defined as 'the elicitation of appropriate information and the application and integration of a body of theoretical psychological knowledge to a specific clinical problem, in order to understand the origins, development and maintenance of that problem' (Tarrier & Calam, 2002, p.311). For clinical psychologists, case formulation is considered to be a 'core skill' (DCP, 2001), and the centrality of case formulation to therapy is emphasised by most schools of therapy (Eells, 1997). In cognitive behaviour therapy (CBT), case formulation is viewed as the 'first principle' in therapy (Beck, 1995). In psychodynamic therapy, case formulation has been described as the 'supreme agent in the hierarchy of therapeutic principles' (Bibring, 1954, p. 763), and a number of case formulation construction methods have been developed (Eells, Kendjelic, Lucas, 1998). Finally, in cognitive-analytic therapy (CAT), the explicit sharing of the case formulation constitutes a central component (e.g. Ryle, 1995).

In CBT, case formulation has also come to be viewed as essential when working with complex and challenging cases (e.g. Beck, 1995; Persons & Bertagnolli, 1999; Butler, 1998). As such, case formulation in CBT for Psychosis is considered to be crucial due to the complexity and multiplicity of the presenting difficulties (Haddock & Tarrier, 1998), and in order to achieve a successful outcome (Chadwick, Birchwood & Trower, 1996; Fowler, 2000).

In part the centrality of case formulation to most schools of therapy comes from claims that case formulation is useful to clients and therapy, i.e. that it has 'treatment utility' (Hayes, Nelson, & Jarrett, 1987). It has been suggested that case formulation can lower clients' emotional distress and encourage functional behaviour

(Goldfried, 1995; Horowitz, 1997; Persons & Tompkins, 1997); increase clients' understanding of problems (Padesky & Mooney, 1991; Horowitz, 1997; Persons, 1989; Butler, 1998; Ryle, 1995); help clients assimilate the cognitive model (Beck, 1995); increase motivation to change and instil hopefulness (Ryle, 1995; Horowitz, 1997); and strengthen the therapeutic alliance (Ryle, 1995; Horowitz, 1997). It has also been proposed that the case formulation can increase therapists' understanding of the client (Tompkins, 1996); guide intervention (Ryle, 1995); improve the management of treatment non-response by securing and maintaining client-therapist collaboration (Persons, 1989); and help predict and understand treatment failure (Tompkins, 1996). It is also possible that case formulation has a number of negative effects. For example, Butler (1998) has proposed that clients receiving a case formulation can feel 'weighed up, evaluated or judged'. It should be noted however, that these claims are only assumed and are not based on research findings.

To date only two studies have empirically assessed the impact of the case formulation on clients. In light of the importance of case formulation to clinical psychology, schools of psychotherapy, and the frequency of claims about the benefits of case formulation, it is surprising that little research has been dedicated to empirically assess these claims.

The first study (Evans & Perry, 1996), assessed the claims that case formulation in CAT enhances the therapeutic alliance, provides an explicit focus for subsequent therapeutic work, and increases clients' understanding that consequently stimulates change (e.g. Ryle, 1995). Interview data indicated that clients found case formulation to be an emotional experience, and that it played an important part in enhancing the therapeutic alliance by increasing their trust in the therapist, and believing that the therapist understood them. However, in contrast to the interview

data, questionnaire data showed no support for any short-term impact of formulation on perceived helpfulness of sessions, helping alliance, or decrease of specific problems (Evans & Parry, 1996).

Following the same approach, Chadwick, Williams, and Mackenzie (2003), assessed the hypotheses that case formulation within CBT for psychosis improves the therapeutic alliance (N=13), reduces conviction in core beliefs (N=4) and eases distress (N=17). For clients, it was found that case formulation had no significant impact on any of the variables. Further, in semi-structured interviews clients reported mixed reactions to the case formulation. Nine clients reported that case formulation had enhanced their understanding of their problems, and six clients reported positive emotions in relation to case formulation. However, six clients also reported negative emotional responses to the case formulation. Also, some clients found the case formulation complicated, and one client was surprised by the formulation. In contrast, for therapists case formulation was found to have a statistically significant impact on the therapeutic alliance, and to increase optimism about therapy, understanding of clients' problems, and enhance theory-practice links (Chadwick et al., 2003).

These two studies raise a question mark over the claims for the clinical impact of case formulation within both CBT and CAT. The data from the above studies suggest that case formulation evokes a range of emotional and cognitive reactions, only some of which are positive and support claims made for the efficacy of case formulation. The reactions to case formulation found in the previous studies can be formulated within a cognitive ABC framework (Ellis, 1962). ABC analysis would suggest that the person's emotional and behavioural reaction to CF will be shaped by the meaning given to the CF. If a client perceives the CF negatively,

perhaps as being either judgmental, then negative emotional reactions become both expected and understandable. Conversely, if the meaning is positive (e.g. 'thank goodness someone understands me') then positive emotional reactions are likely (and of course, in practice both can co-exist in one person, e.g. Chadwick et al., 2003).

Insert Table 1 about here

In the present study, the previous research of clients' experiences of case formulation is extended. A limit of the Chadwick et al. (2003) study was the lack of a robust methodology for obtaining and analysing the qualitative data about client reactions. Therefore, in the present study, clients' reactions to case formulation based on the ABC framework were assessed, and analysed using thematic analysis. Also, in recognition of case formulation being a process, clients were interviewed 2-3 weeks after case formulation occurred, in order to explore whether their reactions changed with time. Lastly, therapists' views of the helpfulness of case formulation for each of the 13 clients were explored.

Method

Participants

Two groups of participants; clients undertaking CBT for Psychosis, and their therapists, were recruited from a Clinical Psychology Cognitive Therapy for Psychosis Service, at a psychiatric out-patient department.

Participating clients had been referred for CBT for Psychosis because of drug-resistant distressing positive symptoms. 13 clients were approached to take part in the study, and all gave their consent. The group comprised of five female (Age: M=32.2, Range=21-52) and eight male clients (Age: M=36.75, Range=24-64). Seven clients met DSM-IV criteria (American Psychiatric Association, 1994) for diagnosis of paranoid schizophrenia, five for schizophrenia, and one for schizoaffective disorder. At the time of the study, all but one client were living in the community and were under the care of a multi-disciplinary mental health team.

The therapist group comprised two clinical psychologists with four and sixteen years experience of CBT for Psychosis work, and practitioners working under their supervision (two specialist trainee clinical psychologists, and a CBT Nurse Specialist). All therapists worked to a shared CBT model and received regular supervision. The clinical psychologists were in weekly peer supervision, and provided their supervisees with weekly supervision.

Materials

Semi-structured Interview

Qualitative data regarding clients' experience of the case formulation process was collected using a semi-structured interview schedule (Appendix B). The interview schedule was based on the ABC framework described above. Interview questions explored at two points in time (at the time the case formulation was shared and 2-3 weeks later) the meaning clients ascribed to case formulation, and the emotions and behavioural urges and actions it evoked. The final interview schedule had undergone six revisions during a pilot phase.

Therapist Measures

Therapists completed a ranking scale for each client with which they had completed a case formulation (Appendix C). The ranking scale consisted of seven statements about the cognitive case formulation that had been given by therapists to interview questions in a previous study about the impact of case formulation (Chadwick et al., 2003). The purpose of the ranking scale was to further findings of this previous study by gaining an understanding of which of the aspects of case formulation therapists found most applicable to formulating with clients. Consequently, therapists ranked each statement as to how applicable it had been to the case formulation process for each of their clients.

Procedure

University and NHS ethical approval was gained (see Appendix D). The study was also registered with the Research & Development Department for West Hampshire Trust, and the National Research Register (see Appendix E).

As part of routine therapy, clients had two sessions in which the case formulation was shared. The timing of these sessions was naturalistic; therapists formulated with their clients when they normally would do so, so as to create clinically valid conditions. The mean number of therapy sessions prior to the case formulation for the whole group was 10, with a range of 5-18. The case formulation was based on the cognitive model and consisted of a developmental diagram and accompanying letter. The diagram was shared in the first session and the letter in the following session. In the sessions, the case formulation was presented as a possible explanation of the client's symptoms. In the sessions, both the diagram and letter were discussed with the clients, and at the end of the sessions, clients were

encouraged to take the diagram and letter home and make any needed changes. All except two participants were given both the diagram and the letter. Due to individual circumstances, one client was only given the case formulation letter. One other client did not want to have a session in which the letter was shared.

The case formulation diagram contained: relevant formative experiences; core beliefs (about the self, others, world, and the future); rules for living (dysfunctional assumptions and consequent behaviours); onset of the problem; triggers to the current problem (either internal or external); and maintenance of current problem (links between thoughts, feelings, behaviour and physical signs) (Greenberger & Padesky, 1995) (Appendix F). The accompanying letter described the case formulation diagram without jargon and wherever possible used the client's own words. In addition, it proposed that the client's beliefs were not facts but reactions to and ways of making sense of their experiences, identified targets for therapy, emphasised the client's abilities in addressing their difficulties, and highlighted possible risks to the therapeutic alliance based on the case formulation. All case formulations were checked for consistency and accuracy by another therapist who knew the case through supervision.

Subsequent to the case formulation having been shared in therapy, therapists asked the clients if they would be willing to participate in a research study about their experiences of the case formula process. Following their agreement, clients were contacted by the researcher to arrange the interview which took place 2-3 weeks after clients' receipt of the case formulation letter. At the time of the client's interview, the therapist completed the ranking scale.

Prior to the interview, clients were given an information form about the study (Appendix G) and were asked to complete a consent form (see Appendix H). All

except one client agreed to the interview being recorded on audiotape. Consequently, this interview was recorded verbatim by the researcher. Ten clients were interviewed about both the diagram and the letter. Due to reasons described above, two clients were only interviewed about either the letter or the diagram. For other reasons, one other client was also only interviewed about the letter. During the interview, summaries of clients' responses to the interview questions were used to draw out more detail about clients' experiences. This ensured that clients' responses were not misunderstood or misinterpreted, and prevented the questions appearing repetitive. All interviews took place in a quiet interview room and interview times ranged from 10 to 45 minutes (M: 27 minutes). Upon completion of the interview, the clients were given the opportunity to ask further questions or clarify any issues.

Qualitative Data Analysis

The interviews were analysed using thematic analysis which is a qualitative data analysis method that involves 'systematically identifying and describing themes or patterns in a qualitative data set' (Joffe & Yardley, in press). In addition, the method allows explicit qualitative analysis of the meaning of the data in context, by drawing on both manifest and latent codes, i.e. not only codes that can be directly observed in the data, but also codes that can be implicitly inferred from the data (Joffe & Yardley, in press).

Coding of Qualitative Data

Prior to coding the qualitative data, the audiotapes of the interviews were transcribed verbatim and were each allocated a number (see Appendix I for examples of transcribed text). At this stage, two decisions were made regarding the coding of the

data. First, it was decided to use inductive coding, i.e. themes would be drawn from the raw information (Boyatzis, 1998). The rationale for this decision was that the aim of the study was to explore clients' experiences of case formulation. As such, the codes needed to come from clients' descriptions rather than pre-existing ideas of the impact of case formulation. Further, inductive coding is indicated in new areas of research (Joffe & Yardley, in press), and there are also several advantages for a data-driven approach. Importantly, the closeness of the codes to the raw information increases the likelihood of high inter-rater reliability, and as it is highly sensitive to the context of the raw information, it is more likely to have criterion and construct validity (Boyatzis, 1998). Nevertheless, although codes were drawn from the data, they were generated from the research questions that underpinned the study. Thus, codes were developed to answer what impact case formulation had on clients in CBT for Psychosis in terms of the meanings they assigned to the event, and subsequent feelings and behaviours. The second decision concerned the exclusive coding of the coding units (see below). It was decided that each coding unit would only be coded into one category, as this would aid the development of clearly defined themes and therefore make clear distinctions between aspects of the content (Joffe & Yardley, in press).

Having made those decisions, coding of the data was begun. A detailed description of the coding process can be found in Appendix J. The first step in the coding process was to reduce the raw data. Consequently, the transcribed text that concerned the case formulation[1] was divided into 'coding units' (as described by e.g. Corbin and Strauss, 1990; Miles and Huberman, 1994). A 'coding unit' can be

[1] Although most of the interview data concerned the case formulation, minor parts of some interviews covered other subjects, e.g. the person's symptoms of psychosis. This interview data was not coded as the information did not relate to the research questions being asked.

defined as "the most basic segment of the raw data that can be assessed in a meaningful way regarding the phenomenon" (Boyatziz, 1998, p.63), and this was the definition used for the coding of the present data. Each coding unit was given a number, i.e. 01, 02, etc., to aid referencing of the data. 540 coding units were identified in the transcripts.

Having identified the coding units, a coding sheet was devised for each transcript (Appendix K). This was used to record brief descriptions of all coding units. It was also recorded whether the coding unit related to the diagram (D) or letter (L), and whether it concerned the time this was shared in therapy (1) or the time of the interview (2). Using the coding sheets, the descriptions of the coding units for each aspect of the interview (D1; D2; L1; L2) were analysed for conceptual similarities. If similarities were identified, coding units were grouped together and formed a low-level theme. From the analysis of the coding units, four preliminary coding manuals containing low-level themes were developed (Appendix L). These related to: D1 (53 themes); D2 (28 themes); L1 (57 themes); and L2 (35 themes).

On analysing the coding manuals, several conceptual similarities amongst the low-level themes were evident. Consequently, similar low-level themes were amalgamated into higher-order themes that were specific enough to be discrete (non-repetitive), and broad enough to encapsulate a set of ideas contained in numerous low-level themes. This reduced the data into a more manageable set of significant themes that more succinctly summarised the text. Subsequent to this, the themes were assembled into named categories that represented the group of themes. During the development of higher-order themes, all coding units were re-evaluated. It was decided that some coding units were 'uncodable' due to either containing a factual statement about the case formulation, factual statement about the client, or related to

the therapy rather than the case formulation (Appendix M). The analysis of the low-level themes into higher-order themes resulted in a single coding manual incorporating all coding units from the four preliminary manuals. This initial coding manual consisted of 8 categories containing 48 themes (Appendix N). However, on further analyses of this manual and assessment of inter-rater reliability of the themes (see below), it was decided that some themes should be spliced in order to create more powerful themes and make the data more manageable by reducing the number of themes in each category. In addition, some categories were given different names that more clearly described its group of themes. Following this process of refinement, 7 categories containing 26 themes formed the Final Coding Manual (Appendix O).

Reliability of Final Coding Manual

To assess the reliability of the *initial* coding manual, a percentage agreement between two coders of the assignment of coding units to the themes was calculated (a commonly reported measure of inter-reliability of qualitative data, e.g. Boyatzis (1998)). As coding of all 540 coding units would be a too laborious and lengthy process, 70 randomly selected coding units (Appendix P) were each assigned to the themes in the initial coding manual by the researcher and one other coder (research supervisor). The second coder was provided with the initial coding manual (excluding the coding units), and asked to assign the 70 coding units into the themes according to the coding descriptions given in the coding manual. The percentage of agreement between the two coders was found to be 0.79 (79%), which is in the acceptable range (Bauer, 2000). The results were discussed between the coders and, as described above, the coding manual was subsequently refined resulting in a *final*

coding manual. In order to assess the reliability of the *final* coding manual through percentage agreement between two coders, a third coder was included at this stage. Following the same process as for the assessment of the inter-rater reliability of the initial coding manual, the 70 coding units were assigned to the final themes by a third coder. The third coder's ratings were then compared with the agreed ratings of the two previous coders. The percentage agreement between the third coder and the agreed ratings of the two previous coders was 0.89 (89%), representing a high inter-rater reliability (Bauer, 2000).

Results

Final Coding Manual

The final coding manual consisted of 7 categories containing 26 themes, which are listed in Table 2.

Insert Table 2 about here

The frequency of the categories and themes are shown in Figure 1-7. The frequency was calculated in terms of the number of transcripts containing each theme.

Insert Figure 1-7 here

Category 1. Reflects Experience/Understanding

The majority of the participants (10/13) gave responses that related to the extent to which the case formulation reflected their experience or understanding of their problems. The category contained the following three themes:

1. Accurate

7/10 participants reported that they found the case formulation to accurately reflect their experiences or understanding of their problems.

Examples: *"He's been quite accurate actually what he's put on it"*

"When it was all mapped out for me on that piece of paper I thought, this is me to a t"

2. Inaccurate/Incomplete

4/10 participants reported that the case formulation was in some way inaccurate or incomplete.

Examples: *"I thought there were a couple of things that were in the letter that were missed out"*

"I still feel it doesn't look real, doesn't' look true, doesn't reflect my experiences"

3. Accuracy Uncertain

1/10 participant described being uncertain as to the accuracy of the case formulation in reflecting the person's experiences or understanding of problems.

Example: *"It's gone back to problems in my childhood and stuff like that and it's just such longwinded stuff..I have no idea whether it's right or wrong to be honest"*

Category 2. Reaction to Case Formulation

All participants described some kind of reaction to the case formulation process which could either be emotional, cognitive, or behavioural. This category contained seven themes, reflecting a large variety of reactions.

1. Positive

9/13 participants described a positive reaction to the case formulation process. This theme contained several kinds of positive reactions, for example relief, happiness, and positive thoughts about self.

Examples: *"It was nice because it made me out to be not such a bad sort of person"*

"Gave me some sense of relief"

2. Negative

9/13 participants described a negative reaction to the case formulation process. This theme included a variety of negative reactions such as sadness, upset, anger, disappointment, embarrassment, and negative thoughts about self.

Examples: *"I just wondered if I was a total failure"*

"I read the letter and it made me sad"

3. Difficult to process

6/13 participants reported that on receiving the case formulation they felt surprised, daunted, shocked, numbed or overwhelmed, which in turn could lead to difficulty in processing the information contained in the case formulation.

Examples: *"Weeks and weeks of talking just condensed down to, know what I mean, to sort of key points..it was sort of a bit daunting to start off with"*

"Too much to take in..too much to take in all at once"

4. Anticipatory Worry

One participant described a sense of worry *prior* to receiving the diagram and/or letter.

Example: *"I was a bit apprehensive about not putting myself over too negatively"*

5. Worry about others reading the Case Formulation

2/13 participants described feeling worried about others reading the case formulation or were concerned about what others would think of them after reading the case formulation.

Examples: *"I don't want people thinking I'm like sort of too mad or whatever after reading it"*

"I wanted to burn it so nobody could see it"

6. Neutral

6/13 participants described a neutral reaction when receiving the case formulation.

Examples: *"Just a bit sort of nothingy really"*

"Just carried on"

7. Relative impact of Diagram and Letter

4/13 participants described the letter to have equal or more of an impact than the diagram.

Examples: *"I took more notice of the letter than the diagram"*

"I was more upset over the letter than I was over the diagram"

Category 3. Behaviour in relation to Case Formulation

11/13 participants reported some kind of behavioural reaction in terms of either what they did, or intended to do with the case formulation. The category contained four themes:

1. Intention to re-read or actual re-reading of the case formulation

9/11 participants described having kept the case formulation in order to re-read it or had re-read the case formulation since they received it.

Examples: *"I read it through every now and then"*

"I have sat down and read it a couple of times"

2. Contemplating sharing or has already shared with others

5/11 participants reported that they were contemplating sharing the case formulation with others or had already shared this with others.

Examples: *"I will send it to my father..the letter as well so he can see exactly what's going on"*

"I read it again with my wife"

3. Coping strategy

6/11 participants described using the case formulation in some way as a coping strategy. This could for example include using the case formulation to gauge progress or re-read it in times of difficulty.

Examples: *"I get a lot of these social stigmas when I go and stuff that keep cropping up and it helps me sort of to cope with that you know, how people sort of treat you on the bus and that you know what I mean"*

"I look at them to see what progress I have made"

4. Not looked at/ thoughts about/ done anything with the diagram/letter

3/11 participants reported that they had not looked at, thought about, or done anything with the diagram or letter since receiving it.

Examples: *"I haven't really thought about it to be honest"*

"I haven't really had time to have a look at it"

Category 4. Therapeutic Relationship

7/13 participants gave responses that were relational- and either concerned the therapeutic relationship or the therapist. All responses described were positive about the therapist or therapeutic relationship in relation to the case formulation. This category contained two themes:

1. Positive reaction in relation to the therapist or therapeutic relationship

7/7 participants gave positive comments either about the therapist or the therapeutic relationship in relation to the case formulation.

Examples: *"It showed that he'd been listening to what I had actually been saying to him"*

"Sort of the paranoid feeling, he really did relate to what I went through like"

2. Increased understanding of the therapist's view

1/7 participant reported that the case formulation had increased understanding of the therapist's point of view.

Example: *"It feels kind of helpful pointing out what must be what he thinks you know is this trouble I've been having"*

Category 5. Optimism/Pessimism

8/13 participants gave responses which either concerned a sense of optimism or pessimism for the future in terms of themselves and/or their difficulties. This category contained two themes:

1. Hopefulness

6/8 participants reported the case formulation to evoke, or was associated with, a sense of hopefulness or optimism.

Examples: *"When you see it down on paper for the first time then you begin to think maybe there's a light at the end of the tunnel"*

"It's given me a lot of hope for the future which I never had before"

2. Hopelessness

4/8 participants described a sense of hopelessness or pessimism in relation to the content or perceived implication of the case formulation.

Examples: *"I suppose a bit of hopelessness..like I'm never gonna sort myself out"*

"It meant I'm seriously ill"

Category 6. Therapeutic Value

All participants gave responses that were related to the area of therapeutic value of receiving the case formulation. This category contained five themes:

1. General Helpfulness

8/13 participants described in a non-specific, general sense that the case formulation had been helpful. This could for example relate to the style of the diagram/letter, the process of receiving the case formulation, or just a general sense of it being helpful.

Examples: *"Having it sort of written down you know in a different form was very helpful I think"*

"I thought it was a good way of putting a point across"

2. Clinical Improvement

8/13 participants reported that case formulation either led to clinical change or increased understanding of themselves, their problems, and/or what to do in order to improve.

Examples: *"A better understanding I think of what was actually occurring and how I can pull myself away from feeling bad when certain events do occur"*

"It's sort of changed my outlook in life"

3. Understanding of Alternative View

3/13 participants described the case formulation to have given them an alternative view of their difficulties.

Examples: *"It's one possible explanation"*

"Just a possible theory as to why I do the stuff I do"

4. Understanding of Purpose and/or Process of Case Formulation

6/13 participants described the case formulation to have given an increased understanding of the case formulation process.

Examples: *"He's quite often done diagrams on the board while I've been speaking to him and that's sort of an accumulation of the diagrams"*

"That's what it was there for to give me an understanding of my personal illness"

5. No benefit

4/13 participants reported that the case formulation had neither led to new understanding or clinical change.

Examples: *"I don't actually understand why I do a lot of things I do, I still don't know"*

"I'm still having to struggle though so that's sort of outcome"

Category 7. Change in reaction to Case Formulation over time

6/13 participants explicitly stated some kind of change over time in their reaction to the case formulation. This was indicated by them reporting a change in their reaction from the time the case formulation was shared in therapy to the time of the interview. This category contained three themes:

1. Better

5/6 participants described a change for the better in their reaction to the diagram and/or letter over time.

Examples: *"I feel less angry about it now"*

"Certainly, it's not so painful now when I look at it, cause I've looked at it so many times"

2. Worse

2/6 participants described a change for the worse in their reaction to the diagram/letter over time.

Examples: *"I was even more surprised that you know that one or two things hadn't been included, it sort of stood out a bit more that they weren't"*

"I shouldn't have read it a second time it just made me worse"

3. No change

2/6 participants reported that there had been no change in their reaction to the diagram and/or letter over time.

Examples: *"It was same kind of thoughts"*

"I still think it's a bit pointless"

Therapist Measures

The results of the therapist ranking scale were analysed using SPSS (2001), and are presented in Table 3. It was found that the aspects therapists considered to be most applicable to case formulation with their clients were: (1) 'The Case Formulation process increased my understanding of the client' (M=1.67, S.D=1.23); (2) 'The Case Formulation process gave me a clearer sense of direction' (M=2.58, S.D=1.16); (3) 'The Case Formulation process enhanced the therapeutic relationship' (M=3.75, S.D=2.01); (4) 'The client's reaction to the Case Formulation was a powerful and validating experience' (M=4.83, S.D=1.11); (4) 'The Case Formulation process maintained adherence to the CBT model' (M=4.83, S.D=2.08); (5) 'The Case Formulation process increased my confidence that CBT theory is applicable and useful' (M=4.92, S.D=1.68); (6) 'The Case Formulation process left me feeling more hopeful about therapy' (M=5.42, S.D=1.56). (Lower numbers indicate statements were rated as more applicable).

Insert Table 3 about here

Discussion

In the present study, case formulation evoked multiple cognitive, emotional and behavioural reactions in each individual interviewed. Importantly, as in the Chadwick et al. (2003) study, clients' reactions were complex, and even involved opposing reactions – for example, both negative and positive emotional reactions to

the case formulation process. Also, between clients, reactions were varied. The picture is more complex still, as the present research suggests that certain reactions will change with time for certain individuals. These data support both a multi-dimensional approach to understanding the impact of case formulation, and emphasise how both the case formulation and clients' reaction are developing processes. As such, it questions the value of generalised claims about the impact of case formulation.

One or more aspect of the case formulation process had emotional impact for all participants. The most common were positive reactions (e.g. feelings of happiness, relief), negative reactions (e.g. feelings of sadness, anger, disappointment), and a sense of feeling daunted, shocked, numbed or overwhelmed by the case formulation. In addition, some clients felt worried prior to receiving the case formulation, or worried about others' reaction to it. Thus the present participants like those in the Chadwick et al. (2003) study, experiences positive and negative emotional reactions to the case formulation. This was also true for 'optimism' and 'pessimism', where the data was again mixed. The case formulation process evoked optimism in six participants, and pessimism in five. Whilst these results therefore do support the claim that case formulation can instil hopefulness in clients (Horowitz, 1997), this is only telling half the story, and research and practice need to be alert to possible negative reactions to the case formulation.

Many clients reported that they used the case formulation (most commonly the letter) in some way after receiving it. For example, clients reported re-reading or sharing it with others. Some clients also used it as a tool to cope better, in that they used it to gauge their progress, or manage their difficulties by implementing the

suggestions made in the case formulation. Thus, this data supports the practice of giving clients written materials to keep.

The case formulation was also found to impact on clinical variables such as clinical change, clients' understanding of their problems, their understanding of the function and process of case formulation, and the therapeutic relationship. Just over half of the clients commented on the general helpfulness of the case formulation and some also considered the case formulation to have increased their understanding of themselves, their difficulties, or how they could improve. Some also reported that they had changed as a result of the case formulation, and others reported an increased understanding of the function and process of the case formulation. However, at the same time, a third of the clients reported that the case formulation had no benefit in terms of increased understanding or change. Thus, the therapeutic value of case formulation was varied, and the generalised claims that case formulation helps clients understand their problems, see convincing rationales for interventions (Padesky & Mooney, 1990; Horowitz, 1997; Persons, 1989; Butler, 1998; Ryle, 1995), and helps clients assimilate the cognitive model (Beck, 1995) only seem to apply to some clients. Again, this emphasises the importance of understanding individual differences rather than relying on generalised claims of the benefits of case formulation.

Approximately half of the clients commented on the therapeutic relationship in relation to the case formulation. Interestingly, all these responses related to a positive aspect of either the therapist or the therapeutic relationship. For example, clients thought the case formulation showed that the therapist had listened to and understood them. Thus, these findings support claims that the case formulation process helps some clients see that the therapist understands them (Horowitz, 1997),

and that it increases the therapeutic alliance (Persons & Tompkins, 1997). The findings are particularly interesting in view of the mixed emotional reaction to the case formulation. It could be assumed that in cases where there was a negative reaction to the case formulation, this would have a secondary effect on the therapeutic relationship. However, there may be a couple of reasons to why this did not occur. First, the case formulation was presented after several sessions had been spent on assessment and development of a good therapeutic relationship, a common practice in CBT for psychosis (Morrison, 1999; Chadwick et al., 1996). Secondly, the case formulation process was open and collaborative and the information was offered as a possible explanation, all these steps might have limited the psychological reactance.

The study also furthered the Chadwick et al. (2003) findings of the positive effects of case formulation for therapists by assessing which aspects of the case formulation therapists considered to be most applicable to therapy. It was found that the most applicable aspects were increased understanding of clients, a clear sense of direction, and enhancement of the therapeutic relationship. These findings may not be surprising considering the potentially complex problems presented by the client group in this study. The least applicable aspects were found to be an increased confidence that CBT theory is applicable and useful, and increased hopefulness about therapy subsequent to the case formulation. It is of interest that increased understanding of the client was not more closely rated to increased hopefulness of therapy, possibly indicating that therapists do not necessarily associate the case formulation with therapy outcome. However, the relationship between therapists'

understanding and optimism about therapy is clearly complex and needs further research.

The present study has implications for the clinical practice of case formulation with clients. Therapists might use 'Socratic dialogue' to explore over time clients' experience of case formulation, which is likely to be emotionally varied, complex, multi-dimensional and may change over time. This supports the emphasis on open and collaborative practice adopted in the present study and intrinsic to CBT.

The present study also has some limitations. The reason for choosing a qualitative method was to enable the exploration of clients' subjective experience of case formulation, which was achieved. However, as such, the results cannot be generalised. Further, there were a relatively small number of participants, and a larger number would have allowed statistical analysis of the data. A potential criticism of the study is that it relied to a large degree on retrospective accounts of the impact of case formulation. Although clients' recollections were anchored at a specific point in time, the study relied on clients' ability to correctly remember their thoughts, feelings, and behaviours a few weeks prior. This may have affected the results in a couple of ways. First, clients' current experience of the case formulation may have impacted on their account of the impact of case formulation at the time it was shared in therapy. Second, information may have been lost, or their accounts less detailed due to clients forgetting about their experiences. In future research clients might be interviewed twice, once when the case formulation is shared, and again 2-3 weeks later.

The study could also have been improved by gaining more information about the aspects of case formulation therapists found to be most applicable to therapy. In

its present format, the ranking scale did not expand on the information gained in the Chadwick et al. (2003) study, and only asked therapists to consider positive aspects of the case formulation. The study could have been improved by providing some means to gain more information about therapists' views of positive and negative aspects of case formulation, and their experiences of case formulation. As such, this information could then have been compared with that given by clients.

The present study is another small step in assessing the impact of case formulation. Future research is needed in order to explore the impact of case formulation in larger samples and among other client groups. The development and wide usage of a quantitative questionnaire derived from the themes in the present research is one such study. Further, the use of a qualitative methodology to assess therapists' experience of case formulation and compare this with clients' experience of case formulation would also be of interest. Lastly, research might explore the link between reactions to case formulation and clinical outcome. Again, this emphasises the need for a sophisticated analysis of case formulation, because it is quite possible that a negative reaction to the case formulation need not to be a bad thing. For example, sadness, regret and loss might all be appropriate and therapeutic responses to a case formulation – what helps the therapist and client determine this is the range of meanings associated with these emotions.

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Figure 1-7. Frequency of Categories and Themes

Figure 1. Reflects experience and understanding

(N=10/13)

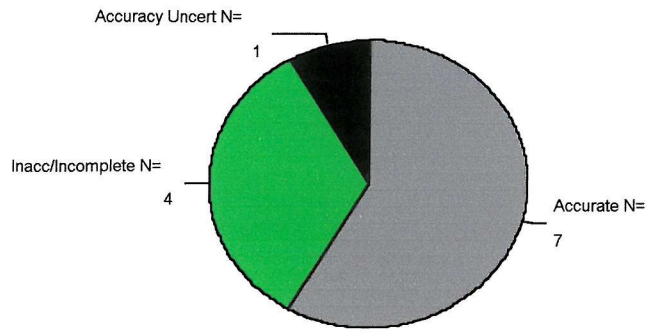


Figure 2. Reaction to Case Formulation

(N=13/13)

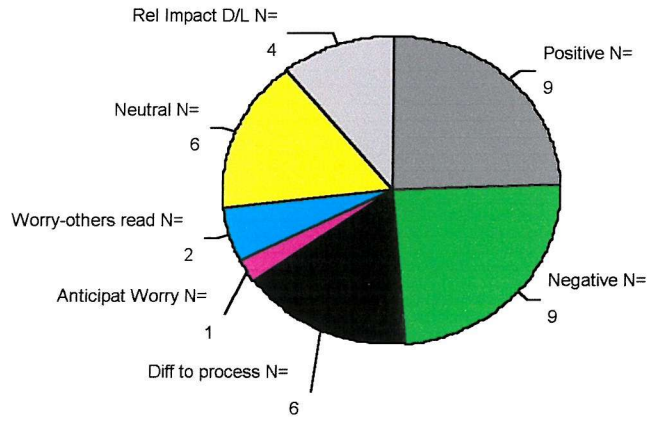


Figure 3. Behaviour in relation to Case Formulation

(N= 11/13)

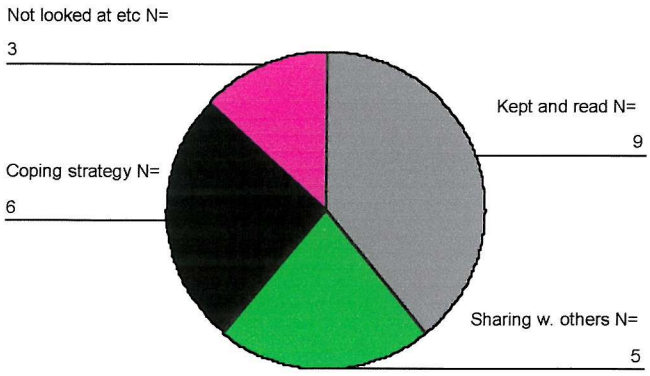


Figure 1-7. Frequency of Categories and Themes (continued)

Figure 4. Therapeutic Relationship

(N=7/13)

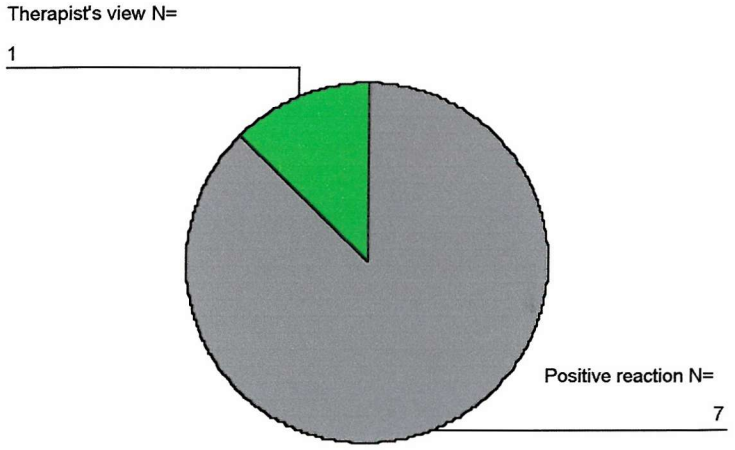


Figure 5. Optimism/Pessimism

(N=8/13)

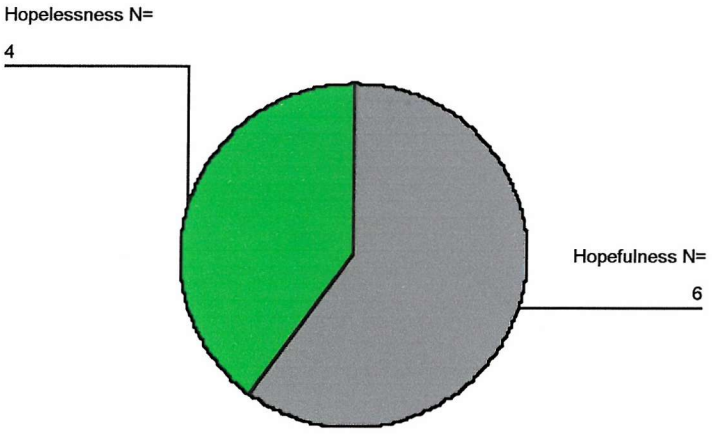


Figure 1-7. Frequency of Categories and Themes (continued)

Figure 6. Therapeutic Value

(N=13/13)

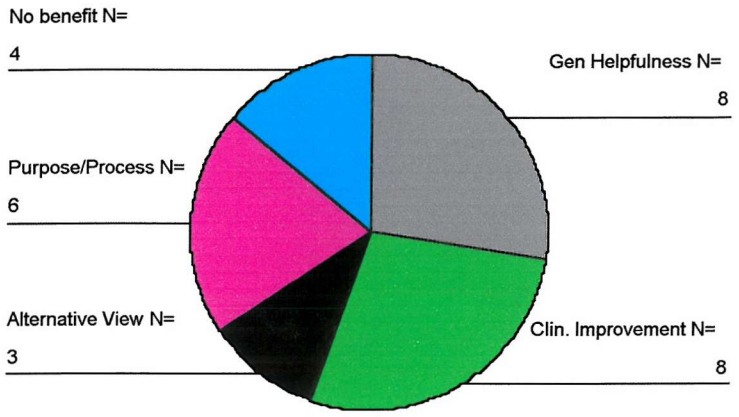
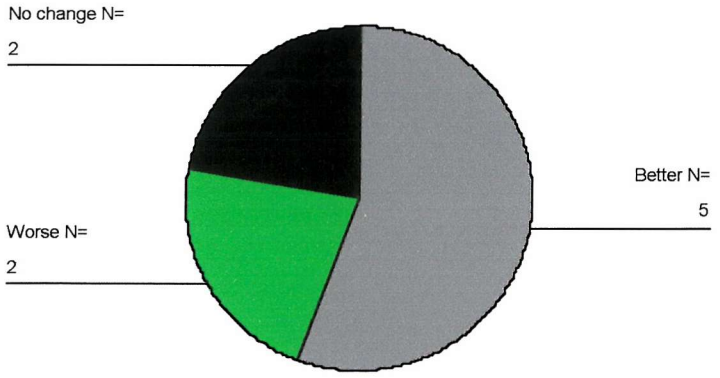


Figure 7. Change in reaction to Case Formulation

(N=6/13)



List of Tables

Page

Table 1. ABC framework for Case Formulation in CBT for Psychosis.

A (Activating Event)	**B** (Meaning; e.g. Thoughts, Inferences, Evaluations)	**C** (Emotional and Behavioural Consequences)
Case Formulation Process in CBT for Psychosis	Client's thoughts, inferences, and evaluations triggered by the Case Formulation Process	Client's emotional and behavioural responses that follows from their thoughts, inferences, and evaluations about the Case Formulation Process

Table 2. Final Categories and Themes

1. **Reflects Experience/Understanding**
- Accurate
- Inaccurate/Incomplete
- Accuracy Uncertain

2. **Reaction to Case Formulation**
- Positive
- Negative
- Daunted/Shocked/Numbed/Overwhelmed
- Anticipatory worry
- Fear of others reading it
- Neutral
- Relative impact of diagram and letter

3. **Behaviour in relation to Case Formulation**

- Kept and read it for myself
- Contemplating sharing or has already shared with others
- Coping strategy
- Not looked at/thought about/done anything with the Case Formulation

4. **Therapeutic Relationship**

- Positive reaction in relation to the therapist or therapeutic relationship
- Increased understanding of therapist's view

5. **Optimism/Pessimism**

- Hopefulness
- Hopelessness

6. **Therapeutic Value**

- General helpfulness
- Clinical Improvement
- Understanding of alternative view
- Understanding of purpose/process of Case Formulation
- No benefit

7. **Change in Reaction to Case Formulation over time**

- Better
- Worse
- No change

Table 3. Therapist ranking scale - Mean, standard deviation, and range.

Statements	**M (SD), range**
'The Case Formulation process increased my understanding of the client'	1.67 (1.23), 1-4
'The Case Formulation process gave me a clearer sense of direction'	2.58 (1.16), 1-5
'The Case Formulation process enhanced the therapeutic relationship'	3.75 (2.01), 1-7
'The client's reaction to the Case Formulation was a powerful and validating experience'	4.83 (1.11), 1-7
The Case Formulation process maintained adherence to the CBT model'	4.83 (2.08), 3-7
'The Case Formulation process increased my confidence that CBT theory is applicable and useful'	4.92 (1.68), 3-7
'The Case Formulation process left me feeling more hopeful about therapy'	5.42 (1.56), 3-7

List of Appendices

Appendix A: Guide for Authors (Review Paper and Empirical Paper)

Clinical Psychology Review

Guide for Authors

SUBMISSION REQUIREMENTS: All manuscripts should be submitted to Alan S. Bellack, Department of Psychiatry, The University of Maryland at Baltimore, 737 W. Lombard St., Suite 551, Baltimore, MD 21201, USA. Submit three (3) high-quality copies of the entire manuscript; the original is not required. Allow ample margins and type double-space throughout. Papers should not exceed 50 pages (including references). One of the paper's authors should enclose a letter to the Editor, requesting review and possible publication; the letter must also state that the manuscript has not been previously published and has not been submitted elsewhere. One author's address (as well as any upcoming address change), telephone and FAX numbers, and E-mail address (if available) should be included; this individual will receive all correspondence from the Editor and Publisher.

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Behaviour Research and Therapy

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Appendix B: Semi-structured Interview Schedule

CASE FORMULATION SEMI STRUCTURED INTERVIEW SCHEDULE

All questions should be explored fully through open prompts (e.g. Tell me more? What else? What did that mean? How else did you react? In what way?). Questions are phrased so as to prompt the interviewer to reflect back and orient the participant.

Part 1. Case Formulation Diagram

As part of therapy, your therapist has given you a diagram (show blank copy). Do you remember this? Okay, I'd like us to talk about this. Is that okay? I don't need to know anything about what was in the diagram.

At the time...

1. How did you feel? (prompts: did you have any emotions?)
2. When you were feeling X, what did you do?
3. When you were feeling X, was there anything you wanted to do but didn't?
4. At the time, your therapist gave you the diagram and you were feeling X, what did you think? (Further prompts: what did that mean for you?)
5. At the time, what did you think about being given the diagram?
6. At the time, what did you think of the content of the diagram?)
7. Were there any other feelings or thoughts you had in the session?

Now...

1. What about now? When you think about the diagram now, how do you feel?
2. Is there anything you would like to do?
3. What do you think about the diagram right now? (Further prompts: what does that mean for you?)
4. Right now what do you think about being given the diagram?

5. Right now what do you think of the content of the diagram?)
6. Are there any other feelings or thoughts?

Part 2. Case Formulation Letter

As part of therapy, your therapist has given you a letter, addressed to you. Do you remember this?

At the time...

1. How did you feel? (prompts: did you have any emotions?)
2. When you were feeling X, what did you do?
3. When you were feeling X, was there anything you wanted to do but didn't?
4. At the time your therapist gave you the letter and you were feeling X, what did you think? (Further prompts: what did that mean for you?)
5. At the time, what did you think about being given the letter?
6. At the time, what did you think of the content of the letter?)
7. Were there any other feelings or thoughts you had in the session?

Now...

1. What about now? When you think about the letter now, how do you feel?
2. Is there anything you would like to do?
3. What do you think about the letter right now? (Further prompts: what does that mean for you?)
4. Right now, what do you think about being given the letter?
5. Right now, what do you think of the content of the letter?)
6. Are there any other feelings or thoughts?

Do you have any questions?

Appendix C: Therapist Ranking Scale

Please rank order the 7 statements below as to which you consider to be most applicable (1) to least applicable (7) for Case Formulation with this client

1. The client's reaction to the Case Formulation was a powerful and validating experience	
2. The Case Formulation process left me feeling more hopeful about therapy	
3. The Case Formulation process increased my confidence that CBT theory is applicable and useful	
4. The Case Formulation process maintained adherence to the CBT model	
5. The Case Formulation process increased my understanding of the client	
6. The Case Formulation process gave me a clearer sense of direction	
7. The Case Formulation process enhanced the therapeutic relationship	

Appendix D: Ethics Committee Approval

University of Southampton

Department of Psychology

University of Southampton
Highfield
Southampton
SO17 1BJ
United Kingdom

Telephone +44 (0)23 8059 5000
Fax +44 (0)23 8059 4597
Email

28 May 2002

Christina Morberg Pain
Department of Clinical Psychology
University of Southampton
Highfield, Southampton
SO17 1BJ

Dear Christina,

Re: Submission No. PSY/13/02

Following the conditional approval and in response to your recent correspondence, I am pleased to confirm **full approval** having received the required amendments.

This committee is fully compliant with the International Committee on Harmonisation/Good Clinical Practice (ICH) Guidelines for the Conduct of Trials involving the participation of human subjects as they relate to the responsibilities, composition, function, operations and records of an Independent Ethics Committee/Independent Review Board. To this end it undertakes to adhere as far as is consistent with its Constitution, to the relevant clauses of the ICH Harmonised Tripartite Guideline for Good Clinical Practice, adopted by the Commission of the European Union on 17 January 1997.

Yours sincerely,

pp Professor Peter Coleman
Chairman
Psychology Sub-Committee, Southampton & S.W. Hants, Joint Ethics Committee

Appendix E: Registration on National Research Register

West Hampshire NHS
NHS Trust

Research and Development
1st Floor Department of Psychiatry
University of Southampton
Royal South Hants Hospital
Brintons Terrace
Southampton
SO14 0YG

Tel: 023 8082 5189
Fax: 023 8023 4243

19 December 2002

Mrs Christina Morberg Pain
Doctoral Programme in Clinical Psychology
University of Southampton
Shackleton Building 44
Highfield
SOUTHAMPTON
S017 1BJ

Dear Mrs Morberg Pain

Research Project – Impact of case formulation on clients receiving CT for psychosis

Your research project has now been registered on the National Research Register and I enclose a copy of the project entry.

I would be grateful if you would check it and advise any necessary amendments, in particular start/finish dates.

Yours sincerely

Penny Bartlett

pp **R&D Manager**

Appendix F: Case Formulation Diagram

Cognitive Therapy Understanding of Current Problems

Formative Experiences (pertinent childhood & early adulthood experiences)

Core Beliefs (re: self, others, the world, future)

Rules for Living (statements and behaviours arising from core beliefs)

Onset (event, experience or situation that marked the start of the problem)

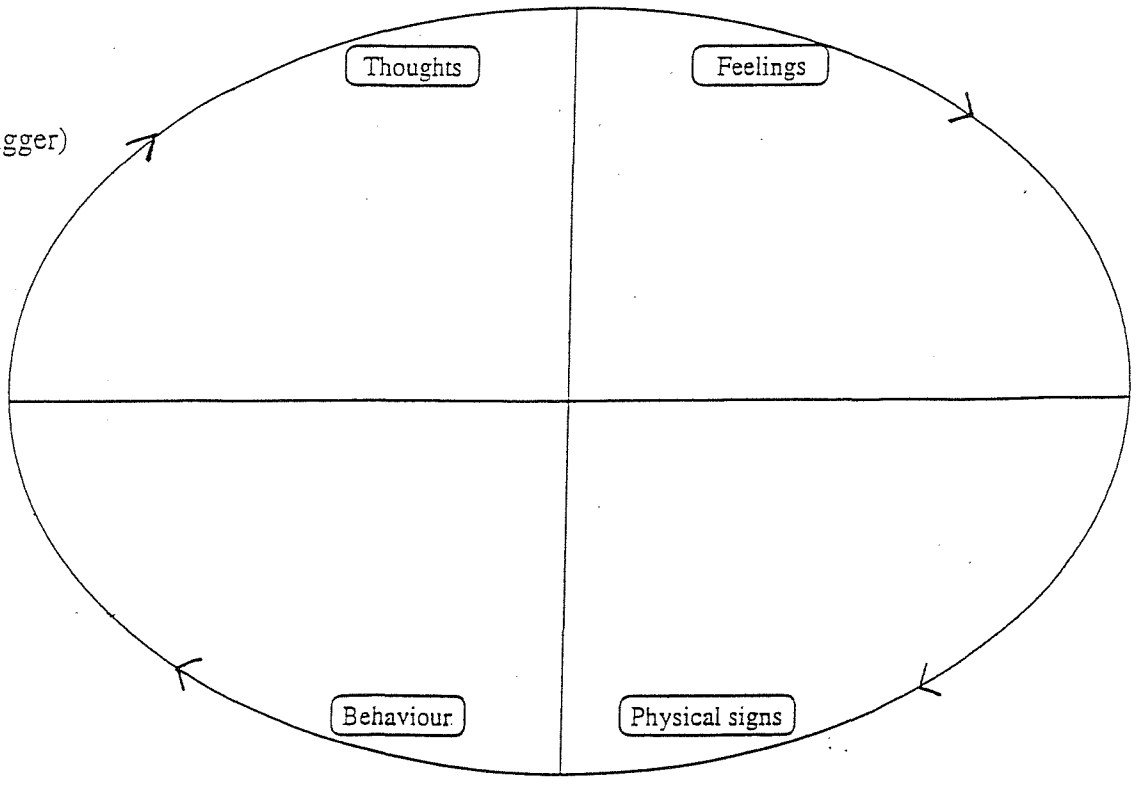
Situation (external or internal trigger)

_____

_____

_____

Maintaining Cycle



Appendix G: Information Form

West Hampshire NHS
NHS Trust
Department of Clinical Psychology
Department of Psychiatry
Royal South Hants Hospital
Brinton's Terrace
Southampton SO14 0YG
United Kingdom

Telephone No: 02380 825531
Fax No: 02380 825693

Participant Information Sheet

You are being asked 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 will involve. Please take time to read the following information carefully and ask me if there is anything that is not clear or if you would like more information.

Thank you for reading this.

What is the purpose of the study?
I am a third-year clinical psychology trainee at the University of Southampton. As part of my training I am carrying out a study which aims to explore how people experience the Case Formulation part of therapy.

Why have I been chosen?
A number of people who are receiving Cognitive Therapy for experiences they find distressing (e.g. hearing voices) will be asked to participate in the study.

Do I have to take part?
It is up to you to decide whether or not to take part. If you decide to take part you will be given this information sheet to keep and be asked to sign a consent form. If you decide to take part you are still free to withdraw at any time and without giving any reason.

What will happen if I take part?
If you decide to take part, I will be asking you some questions about how you experienced the Case Formulation part of therapy. I will be recording this on audiotape, which will later be transcribed.

Will I benefit from taking part?
You may or may not receive any direct benefit from taking part in the study. However, the information from this study will further the understanding of the impact Case Formulation has on people in therapy.

Will my taking part in the study be kept confidential?
All information that is collected about you during the course of the research will be kept strictly confidential. The results of this study will have your name and address and any other identifying information removed.

As a Trainee Clinical Psychologist, my research is supervised by an NHS Clinical Psychologist (Prof. Paul Chadwick). My supervisor will not be informed of the names of the participants in the study, and will keep any other information I need to discuss with him entirely confidential.

What will happen to the results of the research study?
A report of the study will be written. A summary of the results will be made available on request.

Who is organising and funding the research?
The research is conducted as part of the Doctoral Programme in Clinical Psychology at the University of Southampton.

Who has reviewed the study?
The study has been reviewed by the Psychology Sub-Committee, Southampton & SW Hants, Joint Ethics Committee.

Contact for Further Information
Please feel free to contact me if you would like any further information about the study, or wish to request a summary of the results.

Address: Doctoral Programme in Clinical Psychology
Department of Psychology, University of Southampton
Highfield
Southampton
SO17 1BJ

Thank you very much for your help with this study.

Christina Morberg Pain
Trainee Clinical Psychologist

Appendix H: Consent Form

West Hampshire NHS
NHS Trust
Department of Clinical Psychology
Department of Psychiatry
Royal South Hants Hospital
Brinton's Terrace
Southampton SO14 0YG
United Kingdom

Telephone No: 02380 825531
Fax No: 02380 825693

CONSENT FORM

Title of Project:
Name of Researcher:

		Please tick box
1.	I confirm that I have read and understand the information sheet for the above study and have had the opportunity to ask questions.	☐
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 the interview being recorded on audiotape.	☐
4.	I am willing to allow the researcher access to my Psychology file but understand that strict confidentiality will be maintained. The purpose of this is to check that the study is carried out correctly.	☐
5.	I agree to take part in the above study.	☐

Signed:..... Date:.....

Name (in block capitals):.....

Researcher:..... Date:.....

Name (in block capitals):.....

Appendix I: Examples of Transcribed Text

Transcript 01

I: I don't need to know what was in the diagram, I just want to ask you some questions about what it was like at the time and now. So at the time..ehmm..how did you feel when you went throught the diagram with her?

C: When I first saw them I couldn't take it all in at first. It was too much to take in..too much information and stuff..but on re-reading it and on consequent re-readings I realised it was very you know absolutely accurate, absolutely accurate. There were one or two things that weren't quite correct but most of it was very, very accurate.

I: Right, and can you remember how you actually felt at the time?

C: Uhmm..bit low I think, low, maybe depressed..yes low. Because what wasn't very positive things you know very negative aspects of me.

I: Ok so it left you feeling quite low

C: Yes, but it was also very accurate

I: I see.

C: I felt I needed to look at these tings about myself

I: Uhmm.ok so it sounds like you are saying it was important to do that,

C: Yes

C: But the feeling at the time was being quite low

I: Ok..and whan you were feeling low..what did you do?

C: Uhmm..I rang the Samaritans..I quite often rang the Samaritans for support. Certainly I talked over aspects of (therapist's) form with them.

I: Oh,right.

C: And they in fact said to me that they are very negative aspects of yourself, can't you think of something more positive about yourself

I: Is that what they said?

C: That's what they said.

I: Right..right. I see , and so when you were feeling low what you did was to contact the Samaritans.

C: Yes.

I: Anything else that you wanted to do but didn't when you were feeling quite low going through the diagram?

C: Uhmm I felt as though something positive might come out of it eventually if I worked hard on it.

I: And anything..

C: Oh I wanted to commit it to memory and couldn't, I keep on having to re-read it

Transcript 02

I: So again if you can cast your mind back to when you..at the time when you were actually given the diagram

C: Right

I: Uhmm.. how did you feel?

C: Uhmm…..yes it was basically stuff that we'd talked about just like broken down to the different sort of sections and that yeah

I: Yeah and can you remember how you felt when you received it?

C: Uhmm…….uhm..I remember looking at it and thinking, yeah I thought maybe the stuff in there was right and maybe it was..but it still didn't give me a direct you know "that's my problem, that's my problem it's all sorted now", I think it's just different theories, it was one theory basically written down there

I: Yeah

C: And I thought it might be the reason to why I do certain things I do and causes problems in my life but I wasn't completely sure so

I: Right, so you kind of thought when you were given that "yep, that's one explanation"

C: Yeah one possible explanation

I: It's possible, it's a theory

C: Yeah

I: Uhmm..you weren't completely sure?

C: No

I: You weren't sure

C: No

I: I mean it sounds I suppose I'm wondering did you have any emotions that went with that

C: Ehmm……..no not really, I don't know, maybe a bit disappointed, I was probably hoping, like I said I was initially hoping for everything to just fall into place within a couple of weeks and it still hasn't and it's been a few months now

I: Yeah

C: I mean (therapist's name) is good, I don't think it has anything to do with her but I don't know yeah just….

I: So a bit..if anything a bit disappointed

C: Yeah possibly, yeah

I: And it sounds like one of the reasons for that was that you were hoping for a big change

C: Yeah I was just hoping for the answers but it probably doesn't work like that I suppose

I: Yeah….So a bit disappointed

C: Yeah possibly yeah

I: Yeah, ok. Any other emotions? Cause often we don't just have one do we, we have a number coming at the same time

C: Yeah..uhmm..I'm trying to think now..ehmm…

Appendix J: Detailed Description of Coding Process

Coding Guidelines

Reduction of raw data

1. Transcripts were re-read several times in order to become familiar with their content and the interviewees' style of responses to interview questions.

2. In each transcript, the participant's responses to interview questions were divided into coding units.

- It was decided that a *coding unit* was a 'chunk' of text that described something about the person's experience of the case formulation process (i.e. a person's thoughts, feelings, or behaviours in relation to the case formulation).

- The *length of the coding unit* did not matter; it could either be a whole response to a question, or part of a response. It was important that the *coding unit only included one piece of information.* For example, a response such as: "It was too much to take in, but on re-reading it I found it was accurate", would be considered to consist of two coding units. The first coding unit would contain the response that the case formulation was too much to take in, and the second coding unit that the person found the case formulation to be accurate.

- *Only information relating to the research questions*- i.e. the person's experience (thoughts, feelings, behaviours) of the case formulation process was coded.

- *Repeated information* in the transcripts was coded as separate coding units in order to not lose any information. For example, if a person repeatedly stated that the "case formulation was accurate", each occurrence would be considered to be a separate coding unit.

- *Conflicting data* was coded as separate coding units, and no interpretative decisions were taken about a person's thoughts, feelings, or behaviour if the person gave conflicting information about their experiences. For example, if a participant described feeling both 'happy' and 'sad' about the case formulation, or considered it to be both 'accurate' and 'have parts missing', all this information was coded as separate coding units. This decision was taken as it was considered that participants may feel differently about different aspects of the case formulation, and that they may even have conflicting reactions to different aspects of the case formulation.

- In each transcript, the *coding units were numbered*, e.g. 01, 02, 03 etc.

3. After all transcripts had been divided into coding units, they were re-read to ascertain that the *coding units were not too small*, i.e. it was uncertain what the information meant, or referred to, *or too large*, i.e. they included more than one piece of information.

Development of preliminary coding manuals

1. Using a separate coding sheet for each transcript, a description of the content of each coding unit was recorded. At this stage, the descriptions kept very close to the data, and were very specific. For example, the coding unit "it was very negative and the worst parts of myself" was described as 'contained worst aspects of self'. However, some coding units had latent themes, and descriptions were therefore more interpretative. For example, the coding unit "meant I can survive this fear that I've hurt everybody..(therapist's) diagram helped with that" was described as 'hope for the future'. The context of the coding units was also considered when determining its description.

2. It was recorded on the coding sheets whether coding units related to the Case Formulation Diagram (D) or Letter (L), and whether they concerned the time

the case formulation was shared in therapy (1), or the time of the interview (2). This was done in case this would be needed in later analysis of the material.

3. Coding units that described similar themes were clustered together. This was done separately for coding units relating to D1, D2, L1, and L2. Each cluster of coding units was given a description or operationalisation of what the theme (cluster of coding units) concerned, and was given a label. As such, four preliminary coding manuals were developed (D1, D2, L1, L2). The coding manuals included a (theme) name, a description of the theme, and all coding units relating to that theme.

4. All coding manuals were re-read to ensure descriptions and theme names accurately described the cluster of coding units. All coding units were re-analysed to see if they accurately fitted into the theme. During this process, some were moved to other more appropriate themes, and some were removed from themes to form a new, more appropriate theme.

Development of higher-order themes and final coding manual

1. Having several low-level themes, with some themes only including one or two coding units, it was decided that low-level themes that had similar conceptual properties should be aggregated into higher-order, more general themes. This was done in order for the information to be more coherent, and more clearly show what the patterns of the data.

2. In order to do this, the low-level codes from all four manuals were grouped together into more general themes. As such the division between D1, D2, L1, and L2 was removed. In order to create higher-order themes the following questions were asked; 'what low-level themes are like each other?', and 'what are these low-level themes about?'. For example, the low-level codes: negative thoughts about self; contained worst aspect of self; content triggered negative emotions; disappointment; dislike; felt like taking an overdose; and

anger were all thought to contain negative aspects of case formulation and were grouped together into the higher-order theme 'negative reaction'.

3. At this stage, all coding units were again re-evaluated and some were considered to concern factual statements about the case formulation, self, or about therapy rather than the case formulation. These coding units were then excluded from the analysis.

4. Similarly to the development of the preliminary coding manuals, each cluster of low-level themes was given a description or operationalisation of what the theme (cluster of low-level themes) concerned, and was given a label. The coding manual included a name of the higher-order theme, a description of the theme, and all coding units relating to that higher-order theme.

5. All higher-order themes were organised into a set of categories in order to draw distinctions between the different higher-order themes. For example, themes that concerned what the participants reported they had done with the case formulation were grouped under the category: 'Behaviour in relation to Case Formulation'. The higher-order themes were organised this way in the coding manual.

6. Finally, some changes were made to the coding manual which resulted in the development of the final coding manual:

Category: 'Reaction to Case Formulation'

- Theme 'shocking/surprising/daunting was expanded to give a better description of the coding units in the theme.
- Theme 'mixed' was incorporated into the theme 'negative' as when the coding units in the 'mixed' theme were considered in their context, they were thought to be represent a more 'negative' than 'mixed' reaction. Also, the 'mixed' theme was very small in that it only contained two coding units from a single individual.

Category: 'Behaviour in Relation to Case Formulation'

- The coding units in the theme 'put suggestions into practice' were considered to relate to a way of coping with difficulties and were hence incorporated into the 'coping strategy' theme.
- The theme 'gauge progress' was also incorporated into the theme 'coping strategy' as it was considered that to use the case formulation as a way of gauging progress could be considered to be a coping strategy.
- The theme 'fear of others reading it' was moved to the category 'Reaction to Case Formulation' as it was a theme about feelings rather than behaviours.

Category: 'Therapeutic Relationship'

- The themes 'listened to and understood' and 'therapist helping' were fused together to make a broader theme 'positive reaction in relation to the therapist or the therapeutic relationship'

Categories: 'Clinical Benefit' and 'Increased Understanding'

- The categories 'clinical benefit' and 'increased understanding' were fused together as it was considered that 'increased understanding' could be viewed as a clinical benefit of case formulation. Instead, one category 'Therapeutic Value' was created incorporating the two previous categories. In this category, the themes 'progress already made' (from the 'optimism' category), 'increased understanding of self', and 'benefit to others' were grouped into the theme 'clinical improvement' as it was considered that all those themes had in common some kind of clinical improvement from the case formulation process.
- The themes 'neutral' and 'no increased understanding of self' were grouped into the theme 'no benefit'.
- The theme 'style/process/timing was renamed to the less specific name 'general helpfulness'.

Appendix K: Coding Sheet

CODING SHEET

Transcript Number:.....

Coding Unit	Code Description	Comments
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Appendix L: Example of a Preliminary Coding Manual

Preliminary Coding Manual – D1

Thoughts

Code Name	*Description*	*Examples*
Diagram 1- accurate	When receiving the diagram the person thought the content of the diagram was accurate	"Most of it was very, very accurate" 01CU05 "It was also very accurate" 01CU07 "True" 01CU24 "The base beliefs and things I have which were absolutely accurate too" 01CU26 "I mean it all sort of adds up quite well together" 03CU02 "He's been quite accurate actually what he's put on it" 03CU27 "I was surprised as how accurate it was when I first read it" 03CU28 "It was actually very accurate " 03CU23 "I remember saying to him that it was pretty much how I see it" 04CU01 "It was sort of accurate the way it was written out yeah" 06CU12 "It was very accurate" 07CU13 "I had a read of the diagram and the content was pretty good" 10CU33 "I thought the content of the diagram was pretty good..very informative" 10CU37 "Good (content)" 11CU22 "Everything that I see on there does seem pretty fundamental" 03CU25 "He had put down all the sort of key points of what I've like expressed to him or whatever" 03CU03

		"It was basically stuff that we'd talked about" 02CU01
Diagram 1- negative thoughts about self	Receiving the diagram triggered negative thoughts about self/aspects of self	"I didn't want to take it that that was me, I thought it was someone else" 11CU06 "I was very angry at myself for what was down on paper" 11CU15 "I can't believe I'm thinking this way" 11CU16 "I just wondered if I was a total failure" 10CU21 "Because I find it really difficult to talk about stuff in therapy it made me think that I can't do this (the diagram) and that made me feel bad"05CU23
Diagram 1-"this is me"	When receiving the diagram person thought it closely described how they viewed themselves and their life	"When reading that diagram I thought "this is me, and what I stand for" 10CU20 "I sometimes punish myself for what I've done to people in the past and when it was all mapped out for me on that piece of paper I thought "this is me to a t" 10CU22 "When I was first diagnosed I thought this was going to be a long road and it's going to hurt me badly so having the letter written out the way it was and the diagram I thought "this is me" 10CU32 "I can relate to all of it" 03CU26 "It's my whole life" 06CU02 "It's just the story of my life" 06CU10 "It's a breakdown of everything that's happened

		in my life sort of thing you know..and why I'm like I am today sort of thing" 06CU11 "The diagram was of events that happened in my life" 04CU05 "I thought a lot of it was true to myself you know" 06CU07
Diagram 1-inaccuracies	When receiving the diagram the person thought it contained inaccuracies	"There were one or two things that weren't quite correct"01CU04 "When re-reading it afterwards there were one or two little things that weren't quite correct" 01CU28
Diagram 1-meaningless	When receiving the diagram the person considered it to be meaningless	I thought it was just a piece of paper" 05CU01 "It was a waste of time" 05CU02 "Fairly stroppy about it, people telling me rubbish"
Diagram 1-trusted with the information	When receiving the diagram the person thought it meant that the therapist thought the person would be able to take on the information contained in the diagram	"He thought I was responsible enough to take it" 12CU09 "He trusted me" 12CU10
Diagram 1-contained worst aspects of self	When receiving the diagram the person considered it to contain the worst aspects of themselves	"Quite hard hitting" 01CU23 "It was very negative and the worst parts of myself" 01CU25
Diagram 1-personal	When receiving the diagram the person thought it was personal to them	"I guess it's confidential" 03CU06 "It's purely for my benefit" 03CU07 "I don't have to share this with anybody" 03CU08 "I don't have to be that paranoid about it cause I don't have to show it to people do I?" 03CU09
Diagram 1-knew it already	When receiving the diagram the person considered the content to be what they already knew	"And like I say I just knew anyway, you know from my own head" 06CU16

Diagram 1-not given answers	When receiving the diagram the person did not consider it to give the expected answers to his/her problems	"I was hoping for the answers but it probably doesn't work like that I suppose" 02CU08 "It didn't give me the answers that I was expecting" 02CU11 "I thought maybe the stuff in there was right and maybe it was..but it still didn't give me a direct you know "that's my problem, that's my problem it's all sorted now" 02CU03 "I thought it might be the reason to why I do certain things I do and causes problems in my life but I wasn't completely sure" 02CU05
Diagram 1-good idea	When receiving the diagram the person considered it to be a good idea to given the diagram	"It's quite a good idea really at the end of the day I think" 03CU20 "It was a good idea I suppose" 06CU08 "It was just a good idea" 06CU14 "Good idea (to be given diagram)" 11CU22 "I think it was great (to be given diagram)" 07CU09
Diagram 1-therapist worked hard	When receiving the diagram the person thought the therapist had worked hard	"I thought (therapist) had worked hard to do it all, that was the other thing that struck me" 01CU21
Diagram 1-end of therapy	When receiving the diagram the person thought it represented the end of therapy	"This is the end of the therapy, this is supposed to be the final conclusion" 02CU19
Diagram 1-not instant cure	When receiving the diagram the person did not expect this would instantly cure him/her	"I didn't expect for me to be suddenly cured of everything" 07CU05
Diagram 1-hope for future	When receiving the diagram the person thought it gave hope for the future	"Meant I can survive this..fear that I've hurt anybody..(therapist's) diagram helped with that" 12CU06 "Might help in the future" 01CU20

		"I thought that it would help me" 10CU34
Diagram 1-tool for future difficulties	When receiving the diagram the person thought it was a useful tool to handle future difficulties	"I felt as though something positive might come out of it eventually if I worked hard on it" 01CU10 "(Diagram explained) how I could also help myself using the mindfulness sessions and do mindful activity therapy if I ever got into a stressful situation" 07CU02 "I've got to reflect on the past to be better in the future" 10CU16 "I can learn quite a lot from the past" 10CU18
Diagram 1-thought-helpful	When receiving the diagram the person thought being given the diagram was helpful to them	"Very helpful" 01CU17 "Very helpful, yes" 01CU18 "I can quite relate to the idea of a diagram" 03CU18 "The diagram was very helpful" 10CU40 "I thought it was helpful" 11CU13
Diagram 1-increased understanding	When receiving the diagram the person thought it increased their understanding of their difficulties	"I felt I was learning something very important about myself" 01CU19 "It explained everything to me, the main reasons, and understand exactly where I was and what was occurring and that sort of thing" 07CU01 "That's what it was there for to give me an understanding of my personal illness" 10CU35 "I understood..I recognised it when it was happening" 11CU12
Diagram 1-discouraged about progress	When receiving the diagram the person felt discouraged about progress/getting better	"I suppose a bit of hopelessness., like I'm never gonna sort myself out" 02CU18 "I thought, well, I've got

		to live with it for another few years or so, maybe forever" 10CU36 "I'm never going to get better" 11CU17 "There's no progress" 11CU18
Diagram 1-helpful style	When receiving the diagram the person thought the style of the diagram was helpful in simplifying and helping the person to understand the formulation	"It simplified things" 04CU07 "He put them in an order that was helpful" 04CU06 "Did put things in a bit of an order" 05CU11 "The circle bit helped a lot, the thoughts and feelings, the hot cross bun or something?" 11CU03 "I thought it was quite good how he broke it down" 04CU11 "You read all the points and then you realise how they sort of all interact with each other" 03CU05
Diagram 1-difficult memories	When receiving the diagram it brought up difficult memories from the past	"Difficult memories of stuff in the past came up" 05CU06 "I'm not supposed to think it (the past) because it just brings up bad thoughts" 10CU19
Diagram 1-one possible explanation	When receiving diagram the person thought the content of the diagram to only be one possible explanation of the development and maintenance of his/her problems	"One possible explanation" 02CU06 "An interesting way of seeing things" 05CU12 "One way of seeing things" 05CU13 "I could see how it could all be interpreted that way" 12CU18 "I think it's just different theories, it was one theory basically written down there" 02CU04
Diagram 1-content	The person describes the content of the diagram	"Broken down in different sort of sections and that" 02CU02 "It was an arrow here, a word, or another arrow, it was quite simplified"

		04CU12 "From past to present" 06CU03 "He's quite often done diagrams on the board while I've been speaking to him and that's sort of an accumulation of the diagrams" 03CU13
Diagram 1-I'm better than I thought	When receiving the diagram the person thought it made he/she out to be better then they considered themselves to be	"It was nice because it made me out to be not such a bad sort of person" 12CU01 "Better than I thought I was" 12CU03 "Felt a bit more worthwhile than I actually should be, or thought I was" 12CU05
Diagram 1-improvement since starting therapy	When receiving the diagram the person thought there had been some improvement since starting therapy	"That there had been improvement" 13CU02 "Looking back at all the things (person) used to do, felt there had been improvement in that way" 13CU03 "I thought that progress had been made" 13CU08
Diagram 1-therapist helping	When receiving the diagram the person thought the therapist was trying to help him/her	"(Therapist) trying to push me to the other side it you know what I mean" 10CU38 "(Therapist) saw I was in need" 12CU11 "He did sort of break it down and concentrated on each individual point individually sort of like overcome the bit that was bothering me" 03CU16 "He's sharing something with me that was important" 12CU08 "I didn't mind (therapist) doing that cause it's important" 10CU08
Diagram 1-listened to	When receiving the diagram the person thought the therapist had listened and understood	"It shows that he's sort of relating to what I've been talking to him about over the last few months or

	what he/she had spoken about in the sessions	whatever" 03CU29

Feelings

Code Name	***Description***	***Examples***
Diagram 1-content triggered negative emotions	When receiving the diagram the content of the diagram triggered negative emotions	"Bit low I think, maybe depressed..yes low" 01CU06 "I was fairly upset" 10CU01 "I wasn't elated put it that way" 10CU05 "Sad..I was sad" 10CU09 "I was sad" 10CU10 "Sad" 10CU11 "I felt upset" 10CU12 "When I was looking at the diagram it made me sad" 10CU15 "When seeing it..it made me sad" 10CU27 "It did make me sad, as I said it did make me sad" 10CU39 "It also made me feel all the emotions of the past" 05CU05 "And looking at things that happened to me in the past..it sometimes it can be..having it all written down on paper..when I came to read it I was a bit upset" 10CU07 "When I think about the past I get a little upset" 10CU17
Diagram 1-surprised	When receiving the diagram the person felt surprised by it	"To start off with I was quite surprised and you know I thought basically it would be more verbal than anything" 03CU17
Diagram 1-disappointment	When receiving the diagram the person felt disappointed by it	"Basically disappointment" 02CU10 "Maybe a bit disappointed I was probably hoping , like I said I was initially hoping for everything to

		just fall into place within a couple of weeks and it still hasn't and it's been few months now" 02CU07
Diagram 1-anger	When receiving the diagram the person felt angry	"I felt 'pissed off' by it saying ...." 05CU07 "I felt angry about the diagram" 05CU16
Diagram 1-relief	Person describes feeling relieved when receiving the diagram	"Relief" 12CU02 "Gave me some sense of relief" 12CU07
Diagram 1-mixed emotions	When receiving the diagram the person experienced mixed emotions	"Mixed emotions" 12CU12 "Mixed bag" 12CU16
Diagram 1 -happy	When receiving the diagram the person felt happy	"I felt happy" 13CU04
Diagram 1- shocking/daunting	When receiving the diagram the person thought this was a daunting or shocking experience	"When you look at it all together it was a bit daunting"03CU01 "When it started off I thought "oh, God that does sound a bit paranoid or whatever, but it's not that bad"03CU04 "I was shocked to see it down in writing" 11CU01 "I was a bit shocked, shocked about the thoughts and feelings I do have" 11CU05
Diagram 1- dislike	When receiving the diagram the person disliked being given this	"I didn't like being given the diagram cause I'm a private person and I found it difficult to have all private stuff about me presented in a diagram on a piece of paper" 05CU04 "I didn't like being given it" 05CU03

Behaviour

Code Name	*Description*	*Examples*
Diagram 1- unable to take it all in	When receiving the diagram the person could not take it all in	"When I first saw them I couldn't take it all in at first" 01CU01 "It was too much to take in..to much information

		and stuff" 01CU02 "When I first saw it I couldn't take it all in it was too much" 01CU16 "It was too much to take in"01CU27
Diagram 1 - kept	When receiving the diagram the person kept it	"I put it by me, I put it in a drawer somewhere" 06CU05 "Kept it safe" 12CU21 "I put it in my drawer" 06CU18
Diagram 1- memorise it	When receiving the diagram the person wanted to memorise it	"I wanted to commit it to memory and couldn't" 01CU11 "I wanted to memorise it and couldn't" 01CU13
Diagram 1-felt like taking an overdose	When receiving the diagram the person felt like taking an overdose	"(Anything felt like doing? I tried to avoid, well I avoided taking an overdose" 10CU28 "I felt like doing it (taking overdose) but avoided it" 10CU29 "I avoided it (taking overdose), luckily I didn't buy any paracetamols" 10CU30
Diagram 1-talked it through with others	When receiving the diagram the person contacted other people to talk it through	"I rang the Samaritans (I quite often ring them for support) I talked over aspects of (therapist's) form with them" 01CU09
Diagram 1-no particular behaviour	When receiving the diagram the person did not do anything in particular	"I didn't go out and celebrate or anything" 12CU04 "I didn't do a lot" 02CU16
Diagram 1-quiet	When receiving the diagram the person was quiet in the session	"I was all quiet (when given diagram)" 05CU15
Diagram 1-understanding delayed	The person describes understanding the diagram more fully a while after receiving the diagram	"When I was doing the session thing I recognised it more" 11CU07 "What was on the paper I understood in the session" 11CU09 "I understood it more (when got home)" 11CU10 "I felt better when it had

		time to sink in" 11CU19 "It was the truth, I took it in afterwards" 10CU04 "I had to look over it a couple of times to get my head round it" 11CU02
Diagram 1-urge to dispose of diagram	When receiving the diagram the person felt an urge to dispose of it	"Put it in rubbish" 12CU14
Diagram 1-wanting to thank therapist	When receiving the diagram the person wanted to thank the therapist for it	"The alternative reaction is to thank him for it" 12CU15
Diagram 1-spoke to therapist	When receiving the diagram the person talked about this with the therapist in the session	"I just talked it over with (therapist) basically" 02CU12 "I just talked it over with her" 02CU13 "I discussed it with (therapist)" 02CU17 "I read it with (therapist)" 04CU09 "(Therapist) explained it as well and made sure I understood it fully" 11CU14
Diagram 1-shared with others	When receiving the diagram the person shared this with other people	"The wife and I read it together again" 04CU10
Diagram 1-implementation after understanding it	The person describes being able to put the suggestions of change arising from the diagrammatic formulation in practice only after this had been gone through more in the sessions	"I was able to implement it that way (by going through it in sessions)" 11CU08 "I could put it into practice (when I understood it more)" 11CU11
Diagram 1-address problems	When receiving the diagram the person wanted to address the problems highlighted in the diagram	"I felt I needed to look at these things about myself" 01CU08
Diagram 1-awaiting it	Prior to receiving the diagram the person had been waiting to see what I would be like	"I wasn't exactly sure what would be on there" 03CU24 "I was waiting to see what it would actually look like" 03CU31
Diagram 1-unexpected	The person describes not expecting the diagram	"I wasn't really expecting it that much" 03CU30
Diagram 1-shout for joy	When receiving the diagram the person wanted	"(I wanted to) shout alleluia, shout for joy"

	to shout for joy	13CU07

Appendix M: Uncodable Coding Units

Code Name	**Description**	**Examples**
Not coded-Factual	Individual gives a factual statement about the diagram/letter or the sharing of the case formulation in therapy	"And like I say I just knew anyway, you know from my own head" D106CU16 "I read it with (therapist)" D104CU09 "Broken down in different sort of sections and that" D102CU02 "It was an arrow here, a word, or another arrow, it was quite simplified" D104CU12 "From past to present" D106CU03 "This is the end of the therapy, this is supposed to be the final conclusion" D102CU19 "I guess it's confidential" D103CU06 "I read the letter" L112CU22 "I read the letter" L112CU23 "I would've thought it was a fairly good idea" L103CU64 "He gave me a copy to read through basically, I read through it" L103CU46 "Once I read it through no problem" L103CU50 "I understood it all" L107CU39 "I've read through this" D203CU12 "Just that this is the final thing really" D202CU28 "The conclusion sort of thing" D202CU29 "There's a lot of information in the letter, it did cover quite a lot" L209CU26 "My voices have said it's more intimate, I'm not sure if that's true or not"

		L212CU38 "Just said it's more intimate, the letter" L212CU39 "People can look at it and say "oh, right" and see you know rather than just break down in tears and say "bloody hell" L206CU29 "I suppose it is good to talk about a letter" L206CU28 "I just talked it over with (therapist) basically" D102CU12. "I just talked it over with her" D102CU13 "I discussed it with (therapist)" D102CU17 "We talked about it" L107CU38 "Then we sort of had a discussion about it after I'd read through it" L103CU47 "I've been talking everything through with (therapist)" L103CU60 (There's one bit that's not quite right) which I have told (therapist's name) about" D201CU42 "I've told (therapist) about them (inaccuracies)" D201CU29 "(Content of letter accurate apart from just the one or two bits) which I've told (therapist) about" L201CU78

Not coded-About Self	Factual statements about self	"As I say I'm winning one-nil at the moment because I haven't taken an overdose" L210CU74 "I'm trying to take control over the voices" L210CU76 "I'm trying my hardest to think positively, but when I try to do that there always has to be a negative thought somewhere along the line" L210CU77
Not coded- About Therapy	Statements relate to therapy rather than the case formulation	"I'm a lot less anxious and fearful" D207CU15 "I'm not as stressed as I used to be before" D207CU16 "And it's definitely helped me get over a lot of my depression" D203CU34 "It's definitely had a positive effect on me" D203CU37 "It's been good for me to have these sessions" L209CU05

Appendix N: Initial Coding Manual-Categories and Themes

Coding Manual- Categories and Themes

1. **Reflects Experience**
- Accurate
- Inaccurate/Incomplete
- Accuracy Uncertain

2. **Reaction to Case Formulation**
- Positive
- Negative
- Shocking/Surprising/Daunting
- Anticipatory worry
- Mixed
- Neutral
- Relative impact of diagram and letter

3. **Behaviour in relation to Case Formulation**
- Put suggestions into practice
- Kept and read it for myself
- Contemplating sharing or has already shared with others
- Fear of others reading it
- Coping strategy
- Gauge progress
- Not looked at/thought about/done anything with the diagram/letter

4. **Therapeutic Relationship**
- Listened to and understood
- Therapist helping
- Increased understanding of therapist's view

5. **Optimism**
- Hopefulness
- Hopelessness
- Progress already made

6. **Clinical Benefit**
- Style/Process/Timing
- Benefit to others
- Neutral

7. **Increased Understanding**
- Increased understanding of self
- No increased understanding of self
- Understanding of alternative view
- Understanding of case Formulation Process

8. **Change in Reaction to Case Formulation over time**
- Better
- Worse
- No change

Appendix O: Final Coding Manual

Final Coding Manual

Category 1. Case Formulation reflects persons experience /understanding

Code Name	Description	Examples
Accurate	Person reports that the case formulation accurately reflects their experience/ understanding	"Most of it was very, very accurate" D101CU05 "It was all so very accurate" D101CU07 "(What did you think about the content?) True" D101CU24 "The base beliefs and things I have which were absolutely accurate too" D101CU26 "I mean it all sort of adds up quite well together" D103CU02 "He's been quite accurate actually what he's put on it" D103CU27 "I was surprised as how accurate it was when I first read it" D103CU28 "It was actually very accurate " D103CU23 "I remember saying to him that it was pretty much how I see it" D104CU01 "It was sort of accurate the way it was written out yeah" D106CU12 "It was very accurate" D107CU13 "I had a read of the diagram and the content was pretty good" D110CU33 "Good (content)" D111CU22 "Everything that I see on there does seem pretty

		fundamental" D103CU25 "He had put down all the sort of key points of what I've like expressed to him or whatever" D103CU03 "When reading that diagram I thought "this is me, and what I stand for" D110CU20 "I sometimes punish myself for what I've done to people in the past and when it was all mapped out for me on that piece of paper I thought "this is me to a t" D110CU22 "When I was first diagnosed I thought this was going to be a long road and it's going to hurt me badly so having the letter written out the way it was and the diagram I thought "this is me" D110CU32 "I thought the content of the diagram was pretty good..very informative" D110CU37 "I can relate to all of it" D103CU26 "It's my whole life" D106CU02 "It's just the story of my life" D106CU10 "It's a breakdown of everything that's happened in my life sort of thing you know..and why I'm like I am today sort of thing" D106CU11 "The diagram was of events that happened in my life" D104CU05 "I thought a lot of it was true to myself you know" D106CU07 "Good" (content) L111CU32 "I thought it was very

		accurate" L101CU60 "It was pretty accurate" L103CU69 "I feel that it (the content) just made complete sense" L107CU26 "It all (the content) seemed to make sense you know" L106CU20 "It was pretty much true to form" L104CU16 "The accuracy was good as well" L107CU30 "I was quite surprised as how accurate it actually was" L103CU81 "Pretty relevant" D204CU13 "It's just so accurate" D201CU44 "It's pretty good (the diagram)" D203CU45 "(It's so accurate) apart from the little one bit" D201CU45 "Accurate" L201CU76 "Quite accurate, yeah" L204CU34 "I think it's right because the letter does seem quite realistic" L203CU84 "Good" (content) L211CU55 "Accurate apart from one or two bits" L201CU77
Inaccurate/Incomplete	Person reports the case formulation to in some way be inaccurate or incomplete	"There were one or two things that weren't quite correct"D101CU04 "When re-reading it afterwards there were one or two little things that weren't quite correct" D101CU28 It would have made it more sort of complete I suppose if they (things missed out) were included" L109CU15 "It would just have made it sort of more complete (if

		missed out things were included)" L109CU17 "Didn't think it was myself, can't believe this is me" L111CU29 "There was one or two things that I thought were important that were missed out" L109CU03 "I thought there were a couple of things that were in the letter that were missed out" L109CU14 "There's one bit that's not quite right" D201CU41 "I still feel bit's don't fit" D205CU19 "I still feel it doesn't look real, doesn't look true, doesn't reflect my experiences" D205CU22 "Because of that (not telling therapist everything) the diagram doesn't include some important stuff and is all bit wrong" D205CU09 "Just would have made it more complete (if parts included)" L209CU23
Accuracy Uncertain	Person reports being uncertain as to whether the case formulation accurately reflects their experiences	"It's gone back to problems in my childhood and stuff like that and it's just such longwinded stuff..I have no idea whether it's right or wrong to be honest" L102CU37" "It goes back to stuff I've done years ago and I can't really remember" L102CU39 "It's possible that's what's in there is correct, but.." D202CU24

Category 2. Reaction to Case Formulation

Code Name	**Description**	**Examples**
Positive	Person describes a positive	"It was just a good idea

	reaction to the case formulation (NB must be clear emotion/ cognition/ behaviour- general helpfulness of case formulation is coded under another theme)	(as it helps others)" D106CU14 "Good idea (to be given diagram)" D111CU21 "I think it was great (to be given diagram)" D107CU09 "It's quite a good idea really at the end of the day I think (to use a diagram)" D103CU20 "It was a good idea I suppose (as it explained my situation)" D106CU08 "The alternative reaction is to thank him for it" D112CU15 "It's purely for my benefit" D103CU07 "I don't have to share this with anybody" D103CU08 "I don't have to be that paranoid about it cause I don't have to show it to people do I?" D103CU09 "Relief" D112CU02 "Gave me some sense of relief" D112CU07 "I felt happy" D113CU04 "(I wanted to) shout alleluia, shout for joy" D113CU07 "It was nice because it made me out to be not such a bad sort of person" D112CU01 "Better than I thought I was" D112CU03 "Felt a bit more worthwhile than I actually should be, or thought I was" D112CU05 "He says for me, not for my sisters really" L112CU35 "It was great" L107CU31 "Good idea" (being given the letter) L111CU31 "(positive experience)Just to get any sort of

		feedback" L109CU18 "She'd put in the letter that I had worked hard so there's pleasure too in having worked hard" L101CU53a "It was the best news I've ever had" L107CU27 "It was nice to receive the letter" L112CU24 "It was nice" L112CU34 "It was a good feeling" L112CU36 "It was a good little read for me" L106CU19 "It was a decent letter, decently written, it was decently thought.." L112CU37 "Relief" L107CU29 "It was just a feeling of relief" L104CU28 "It made me feel better" L112CU30 "I was quite pleased that I had been open and frank" L101CU57 "The fact that it wasn't myself that was at fault..that I was doing what somebody else would" L107CU35 "Very impressed" L101CU58 "Very pleased she did (give me the diagram)" D201CU39 "Just what I need" D201CU38 "I was always very close to my father and as I was talking about my father and I always held him in very high esteem, he was a very spiritual man and those feelings I recall when I read it" L204CU27 "Good idea" (to be given the letter) L211CU54 "I'm relieved it's

		happened now" L201CU74a "Satisfied" L201CU67 "Should have had it years ago, years ago in the 1970's, late 1960's early 1970'. I just needed this sort of thing then really" L201CU73
Negative	Person describes a negative reaction to the case formulation (includes emotions/ cognitions/ behaviours)	"Difficult memories of stuff in the past came up" D105CU06 "I'm not supposed to think it (the past) because it just brings up bad thoughts" D110CU19 "Bit low I think, maybe depressed..yes low" D101CU06 "I was fairly upset" D110CU01 "(describe feeling when upset) I wasn't elated put it that way" D110CU05 "Sad..I was sad" D110CU09 "I was sad" D110CU10 "Sad" D110CU11 "I felt upset" D110CU12 "When I was looking at the diagram it made me sad" D110CU15 "When seeing it..it made me sad" D110CU27 "It did make me sad, as I said it did make me sad" D110CU39 "Mixed emotions" D112CU12 "Mixed bag" D112CU16 "It also made me feel all the (negative) emotions of the past" D105CU05 "And looking at things that happened to me in the past..it sometimes it can be..having it all written down on paper..when I came to read it I was a bit upset" D110CU07

		"When I think about the past (which was in the diagram) I get a little upset" D110CU17 "I felt 'pissed off' by it saying ...." D105CU07 "I felt angry about the diagram" D105CU16 "I was very angry at myself for what was down on paper" D111CU15 "I didn't like being given the diagram cause I'm a private person and I found it difficult to have all private stuff about me presented in a diagram on a piece of paper" D105CU04 "I didn't like being given it" D105CU03 "I thought it was just a piece of paper .. It was a waste of time" D105CU01 "(Anything felt like doing?) I tried to avoid, well I avoided taking an overdose" D110CU28 "I felt like doing it (taking overdose) but avoided it" D110CU29 "I avoided it (taking overdose), luckily I didn't buy any paracetamols" D110CU30 "Basically disappointment" D102CU10 "I didn't want to take it that that was me, I thought it was someone else" D111CU06 "I can't believe I'm thinking this way" D111CU16 "I just wondered if I was a total failure" D110CU21 "Maybe a bit disappointed"D102CU07a "Because I find it really

		difficult to talk about stuff in therapy it made me think that I can't do this (the diagram) and that made me feel bad" D105CU23 "Quite hard hitting" D101CU23 "Put it in rubbish (as I thought people were telling me rubbish)" D112CU14 "Fairly stroppy about it, people telling me rubbish" D112CU13 "I was hoping for the answers but it probably doesn't work like that I suppose" D102CU08 "It didn't give me the answers that I was expecting" D102CU11 "It was very negative and the worst parts of myself" D101CU25 "The feeling (feeling bad) was very detrimental to my well-being" L110CU51 "Reading that letter it didn't do me too good" L110CU65 "It didn't do me any good (reading the letter)" L110CU66 "Sometimes the thoughts have a tendency to stay with you longer than you really want to and when reading the letter I had the same (negative) thoughts for three or four days" L110CU63 "Horror of being confronted with my base sort of feelings" L101CU51 "I was feeling angry about the thing about hypnotism" L112CU31

		"(I felt) Not good" L110CU47 "The first time (I read it) I felt bad" L110CU49 "The first time (I read the letter) it made me upset" L110CU53 "I'm a very emotional person and anything like that or similar make me very upset" L110CU56 "I read the letter and it nearly brought me to tears" L110CU55 "I read the letter and it made me sad" L110CU58 "All the information in one letter was quite horrible" L111CU43 "Hard to take in" (as horrible) L111CU44 "I felt quite embarrassed" L111CU27 "I was a bit depressed afterwards" L111CU33 "A bit depressed" L111CU36 "I thought that was going to be it, my whole life was going to fall into place" L102CU34 "It didn't work out like that (life falling into place)" L102CU35 "(Didn't) have the effect of what I thought it would" L102CU51 "It was just like a bit of disappointment" L102CU47 "Not like a huge disappointment, I'm not like gonna go out and kill myself now or anything like that" L102CU48 "I suppose very....very slightly disappointed that they weren't included" L109CU16 "(As I felt depressed) I

		didn't want to talk to anyone until it sunk in" L111CU35 "(As I felt depressed) I didn't talk to anyone for a bit" L111CU38 "(As I felt depressed) I locked myself away from everyone" L111CU39 "(As I felt depressed) I went into my room, couple of hours" L111CU40 "I think it was a waste of time" D205CU10 "(There's one bit that's not quite right) which hurts a bit when I read it (cause it's not right)" D201CU43 "The little bit that's not quite right hurts a bit when I read it" D201CU46 "I've recently been crying a bit about my grandmother, she figures in this quite a bit" L201CU80 "I suppose it's sort of understandable that they'd be overlooked or not put to be quite so important as I thought but.." L209CU27 "A little, not a lot (disappointed)" L209CU25 "It does upset me to think that..you know..really it wasn't necessary all these things" L207CU36 "I just remember that point being raised and ..I think that probably she was trying to steer me in direction to talk to the devil but I don't want to talk to the devil because I fear I'm going to die and

		all these other horrible things gonna happen to me" L206CU34 "I can see where (therapist) is coming from, unless you try it, but I'm so scared that if I try it I'll do it and something happens to me I'll never be able to forgive myself" L206CU35
Difficult to process	Person felt surprised, daunted, shocked, numbed or overwhelmed when receiving the case formulation (includes emotions/ cognitions/ behaviours)	"To start off with I was quite surprised and you know I thought basically it would be more verbal than anything" D103CU17 "I wasn't really expecting it that much" D103CU30 "When you look at it all together it was a bit daunting"D103CU01 "When I first saw them I couldn't take it all in at first" D101CU01 "I wanted to commit it to memory and couldn't (as too much to take in)" D101CU11 "I wanted to memorise it and couldn't (as too much to take in)" D101CU13 "It was too much to take in..too much information and stuff" D101CU02 "When I first saw it I couldn't take it all in it was too much" D101CU16 "It was too much to take in"D101CU27 "When it started off I thought "oh, God that does sound a bit paranoid or whatever, but it's not that bad"D103CU04 "I had to look over it a couple of times to get my head round it" D111CU02 "I was shocked to see it down in writing"

		D111CU01 "I was a bit shocked, shocked about the thoughts and feelings I do have" D111CU05 "I haven't sort of had that happen before" L103CU57 "A completely new experience" L103CU58 "I wasn't expecting it at all" L107CU32 "I didn't expect that" L101CU59 "I didn't know what I expected the letter to be like" L104CU23 "Too much to take in, too much to take in all at once" L101CU48 "It was just too much to take in really" L101CU61 "I tried to take it in but I couldn't really" L101CU53 "How am I going to take in all this? (thought at the time)" L101CU63 "To start off with it was a bit..sort of kind of overpowering to see everything like in one letter that we've talked about" L103CU48
		"Weeks and weeks of talking just condensed down to know what I mean to sort of key points..it was sort of a bit daunting to start off with" L103CU 49 "Going back to the months we spent talking and stuff like that and analysed all the different problems and that it's just you know basically the whole thing of that on one page" L102CU49 "It was strange..I was

		seeing it on paper for the first time but had experienced it for many , many years" L104CU17 "I suppose it was a bit of a shock to the system" L104CU18 "I suppose that was a shock when I..when it was seen on paper for the first time" L104CU26 "Shocked to see it in writing" L111CU26 "It was just too much to take in really" L101CU61 "I would like to commit it to memory a lot of the things but I can't seem to (as too much to take in)" L201CU64
Anticipatory Worry	Person describes a sense of worry *prior* to receiving the diagram/ letter (Includes emotions/ cognitions/ behaviours)	"I wasn't exactly sure what would be on there" D103CU24 "I was waiting to see what it would actually look like" D103CU31 "It just kind of made me a bit apprehensive about how I do put myself across" L103CU55 "I was a bit apprehensive about not putting myself over too negatively" L103CU59 "Wondering about what would actually be in it" L103CU65 "I was wondering how I would have come across to be honest" L103CU67 "I probably wouldn't go on about a lot of these sort of points if it wasn't in the context of therapy..I wouldn't say it in public so much..I wouldn't talk about them so I got a bit apprehensive about you know being shown the letter" L103CU85

Worry over others reading the case formulation/ or their reaction to the case formulation	Person describes worry over other people reading the case formulation or what other people will think of them if they read the case formulation	"Wanted to burn it so nobody could see it" L111CU28 "I thought I don't want anyone to see it" L111CU30 "God, what's she gonna think if she reads that lot" L203CU79 "I don't want people thinking I'm like sort of too mad or whatever after reading it" L203CU86
Neutral	Person describes a neutral reaction to the case formulation (Includes emotions/ cognitions/ behaviours)	"I didn't go out and celebrate or anything" D112CU04 "I didn't do a lot" D102CU16 "I was all quiet (when given diagram)" D105CU15 "Not earth shattering or anything like that really" L102CU32 "Wasn't earth shattering, no" L102CU33 "Not a lot" (feeling) L102CU30 "Just a bit sort of nothingy really" L102CU40 "Bit apathetic really" L108CU01 "I didn't do anything" L108CU03 "Probably nothing really" L109CU08 "Just carried on" L102CU46 "Very quiet" L111CU34 "I just went home" L111CU37
Relative Impact of Diagram and Letter	Person reports the letter to have more of an impact or equal impact to the diagram (includes emotions/cognitions/behaviours)	"I prefer reading things" L112CU27 "I was more upset over the letter than I was over the diagram" L110CU61 "It gave me a stronger urge to take an overdose (letter)" L110CU62 "I took more notice of the

		letter than the diagram" L112CU25 "He signed the letter to me so it was good in that respect" L104CU22 "Just the letter, 'Dear (client's name), its nice" L112CU26 "I thought it was just very similar to the diagram" L102CU31 "More personal (letter)" L212CU40 "More personal (letter)" L212CU41

Category 3. Behaviour in relation to Case Formulation

Code Name	**Description**	**Examples**
Intention to re-read or actual re-reading	Person describes having kept the case formulation in order to re-read it or had re-read the case formulation since receiving it	"I put it by me, I put it in a drawer somewhere" D106CU05 "Kept it safe" D112CU21 "I put it in my drawer" D106CU18 "I think I wanted to go away and study it on my own quietly somewhere" L101CU54 "To read it in my own time" L101CU55 "I read it a couple of times and then I understood it" L104CU19 "I read through it about three times" L106CU21 "I read the letter twice actually, just to sort of focus on it" L110CU48 "I read the letter twice" L110CU52 "I read it for myself" L104CU14 "Kept it safe" D212CU21 "I read it through every now and then" D213CU06 "I have sat down and read it a couple of times"

		D210CU06 "I have to keep on re-reading it" D201CU14 "I keep on having to re-read it" D201CU12 "I look at it, got it pinned up on my wall" D211CU24 "I've looked at it since I got home" D202CU14 "I looked at it last night actually" D202CU15 "I have to analyse it more" D202CU23 "I'll certainly always keep it" L201CU68 "I'm going to hang on to these things" L212CU42 "Like I say it's in my drawer at the moment" L206CU31 "I have still got them" L213CU09 "They are all in a drawer" L213CU10 "I think I've read it one time" L209CU28 "I have to analyse it more" L202CU54 "Need to probably think about it more" L202CU42 "I still read it now and again" L211CU50 "I have to keep on re-reading it to make sure it's absorbed and understood" L201CU65
Contemplating sharing or has already shared with others	Person describes contemplating sharing or has already shared the case formulation with others (includes send, give, read)	"I rang the Samaritans (I quite often ring them for support) I talked over aspects of (therapist's) form with them" D101CU09 "The wife and I read it together again" D104CU10 "I read it again with my wife" L104CU15 "I even gave it to my girlfriend and she had a

		look at it, I thought she could get an outlook on what's been going on ..more insight into what's been going on in my life" L106CU22 "I will send it to my father" D207CU22 "I was thinking about letting my girlfriend read it but I haven't got round to that yet" L203CU78 "I haven't really mentioned it but I was thinking I was gonna get her (girlfriend) to read it through" L203CU80 "I'm not going to show it to many people, it'll be my girlfriend and that will be it" L203CU87 "I mean it's probably something I could show my parents, my mum or something" L206CU26 "I haven't even mentioned it to anybody (as yet)" L203CU76 "The letter is useful obviously I can show you the letter and I can give it to someone else to read about my troubles through life and what's the matter with me and stuff and people can read that and know about me" L206CU30 "(at the moment) I've only read it myself" L203CU75 "I will send it to my father..the letter as well so he can see exactly what's going on" L207CU23 "It's nice to actually be back in that position again where I can actually talk to him again about things more..I can speak to him about what's going on

		here" L207CU25
Coping strategy	Person describes using case formulation as a coping strategy (e.g. to gauge progress, to put strategies/ideas into practice, to call on at difficult times…)	"I get a lot of these social stigmas when I go and stuff that keep cropping up and it helps me sort of to cope with that you know, how people sort of treat you on the bus and that you know what I mean" D203CU35 "I mean it's nice to look back and..you know what I mean and bag everything up you know, it's nice to see what I've got there" D206CU09 "I'd like to work on them to change them" D201CU33 "Change them all..all these things" D201CU34 "Work on problems that I have" L201CU70 "Try and feel differently about them (problems)" L201CU71 "That's what (therapist) did suggest in her letter that I should work on the rules for living and try to change those, and she's right, I will do" L201CU36 "Lifts my mood if I'm feeling depressed (as have improved)" L211CU52 "It helps me realise that I've actually changed, got better in myself compared to when I first started coming to when he gave me the letter" L211CU51 "(When reading the letter I think) I'm much better than when I was..when I first started to come here" L211CU53 "If I ever run in to any more difficulties in my life in the future, I may need

		to re-read it again to make sure that I'm still not feeling this way" L201CU69 "I've sort of been reading it through sort of thinking "I definitely want to read it again in six months or something and sort of "God!" you know what I mean "I feel a lot better"" L203CU73 "See how much you improved or whatever" L203CU74 "At the moment I'm using it as a reference point" L203CU77 "I look at them to see what progress I have made" L213CU11 "It's just small things like the latter part of the letter which was talking about changes and perspectives on sort of those problems and overcoming them, ways of dealing with these problems and possible reasons, that was kind of useful to sort of go over those every now and again I suppose" L209CU29 "I find it very hard to express my feelings, basically especially people on the ward and other people I know you know..I could break down I could tell them a lot but I don't , I clam up and, but the letter I could show anyone that letter and they can read that and they could say "oh, bloody hell!, he's having a good time or he's having a bad time" L206CU23
Not looked at/ thoughts about/ done anything with	Person describes not having looked at/ thought	"I would've liked to go through it more but I

the case formulation	about/ or done anything with the diagram or letter since receiving it	haven't really had the opportunity" D202CU22 "I've not really had the chance to look over it properly because when I start thinking about my problems and stuff like that I go on to one and I can't switch off and I start to get stressed out really quite severely" D202CU21 "I haven't really thought about it to be honest" D204CU08 "I haven't really had time to have a look at it" L206CU32 "I just sort of know what's in there really" L206CU25

Category 4. Therapeutic Relationship

Positive reaction in relation to the therapist or therapeutic relationship	Person comments positively about the therapist or the therapeutic relationship (NB must be relational-positive reaction to case formulation is coded elsewhere)	"It shows that he's sort of relating to what I've been talking to him about over the last few months or whatever" D103CU29 "(so (therapist) was interested in helping you?)"That's right..trying to push me through to the other side it you know what I mean" D110CU38 "(Therapist) saw I was in need" D112CU11 "I thought (therapist) had worked hard to do it all, that was the other thing that struck me" D101CU21 "He's sharing something with me that was important" D112CU08 "I didn't mind (therapist) doing that cause it's important" D110CU08 "(Therapist) explained it

		as well and made sure I understood it fully" D111CU14 "He thought I was responsible enough to take it" D112CU09 "He trusted me" D112CU10 "It was quite reassuring that my problems and views and beliefs had been listened to and looked into more in various ways" L109CU01 "It showed that he'd been listening to what I had actually been saying to him" L103CU82 "It was, you know I talk to people about sort of you know my beliefs and my problems and you know they don't usually get much response, it's usually disbelief so this was kind of real response" L109CU04 "Having it you know written down someone who actually sort of understand me and know where I was coming from" L109CU02 "He's been relating to the situation" L103CU53 "Sort of the paranoid feeling he really did relate to what I went through like" L103CU62 "Maybe there's someone who's believing in me" L104CU25 "Just the fact that (therapist) had worked hard" L101CU52 "All the hard work, I suppose that was it really..by both (therapist) and me" L101CU56 "He made sure I

		understood each point and that" L103CU51 "He has gone through this with me" D203CU14 "It was a way of communication" L204CU32
Increased understanding of therapists view	Person reports the case formulation increased their understanding of the therapist's point of view	"It feels kind of helpful pointing out must be what he thinks you know is this trouble I've been having" L103CU52 "Kind of point out what he thinks went wrong" L103CU54

Category 5. Optimism/Pessimism

Hopefulness	Person describes the case formulation to evoke, or be associated with, a sense of hopefulness or optimism (NB relates to the future, code elsewhere when change has already occurred)	"I felt as though something positive might come out of it eventually if I worked hard on it" D101CU10 "Might help in the future" D101CU20 "I thought that it would help me" D110CU34 "Meant I can survive this..fear that I've hurt anybody..(therapist's) diagram helped with that" D112CU06 "When you see it down on paper for the first time then you begin to think maybe there's light at the end of the tunnel" L104CU24 "The letter gave me the alternative that might make me survive in the future" L112CU32 "At long last something was being done" L104CU29 "I think that there's room for improvement" L107CU37 "There are people out there that can help me get

		over this" D207CU17 "It's not something that's going to be with me for the rest of my life, I shall be able to resolve everything" D207CU18 "At the moment it's kind of still an uneven balance, it's not quite fixed (But I will be able to resolve everything)" D207CU19 "There are still things about it that I feel I would like to change or that might already be changing" D201CU31 "I think if I remember the key issues then it'll sort of help next time I come across a situation that I felt unsure about before" D203CU42 "I can sort of be alright next time I encounter the same thing" D203CU43 "I think I will get stronger from it" D201CU40 "I might become more positive in my thoughts because at the moment they're all negative and not encouraging" D210CU26 "I think I can move on, you know" D207CU20 "I don't have to keep being neglectful of forgetting my sentences or that sort of thing, I can actually continue in a much better state of mind" D207CU21 "The core beliefs and the rules for living certainly I could change"D201CU35 "Now it's something like "yeah, that's what I felt then" but I won't have to be like that forever" L203CU72

		"I think something like this will help me to live a fuller, happier life in the future" L201CU75 "It's just given me a light at the end of the tunnel you know" L204CU35 "It's given me a lot of hope for the future which I never had before" L204CU36 "So I think you know perhaps we can get over those sort of key issues and get on with it, so I'm not falling back into the same routine and thinking about the same problems" L203CU71 "Hopefully I've related to the problems in the letter enough to like overcome them" L203CU70
Hopelessness	Person describes a sense of hopelessness or pessimism in relation to content or perceived implication of case formulation	"I suppose a bit of hopelessness., like I'm never gonna sort myself out" D102CU18 "I thought, well, I've got to live with it for another few years or so, maybe forever" D110CU36 "I'm never going to get better" D111CU17 "There's no progress" D111CU18 "My goodness I'm going to have to work hard on this" L101CU49 "I don't know if it's going to change my life at all to be honest" L102CU41 "The future as I say may be bleak" L110CU57 "(meant) that I'm seriously ill" L111CU41 "Nothing actually said to me "right, that's your problem, you're fine now, you know, you can get a job and that's sort of stuff"

		L102CU38 "Stuff on there I can't really see how that's gonna affect my life" L202CU53

Category 6. Therapeutic Value

General Helpfulness	Person describes the case formulation to have been generally helpful (includes process, timing, style etc) N.B responses are non-specific	"It simplified things" D104CU07 "He put them in an order that was helpful" D104CU06 "Did put things in a bit of an order" D105CU11 "The circle bit helped a lot, the thoughts and feelings, the hot cross bun or something?" D111CU03 "I thought it was quite good how he broke it down" D104CU11 "You read all the points and then you realise how they sort of all interact with each other" D103CU05 "Very helpful" D101CU17 "Very helpful, yes" D101CU18 "I can quite relate to the idea of a diagram" D103CU18 "The diagram was very helpful" D110CU40 "I thought it was helpful" D111CU13 "That was very helpful" L101CU47 "I think it is helpful, yeah, just to sort of put things in context" L109CU10 "Having it sort of written down, you know in a different form was very helpful I think" L109CU19 "I think it's probably

		quite a good thing..(therapist) who'd written it was obviously going to sort of deliver it in a better way than me just sort of reading it on my own I suppose" L109CU13 "I thought it was a good way of putting a point across" L111CU42 "If he'd given me the letter earlier on I don't think I would have put myself across correctly" L103CU61 "If I'd had it earlier on I don't think it would actually captured everything" L103CU63 "Tremendously helpful" D201CU37 "It's been helpful, it's been very helpful" D203CU32 "It's certainly been helpful" D203CU38 "Still helps" D211CU23 "It does help me" D207CU08 "It helps to put things in perspective" D203CU10 "It does sort of give you time to stop and think about each individual aspect of life rather than trying to think about it all at once I suppose" D203CU15 "It was just bridging a gap you know" L204CU31 "I still think it's been quite helpful" L209CU30 "It simplified matters for me you know" L204CU33
Clinical Improvement	Case formulation is associated with increased understanding and/or clinical change (NB has to explicitly state that case	"(Diagram explained) how I could also help myself using the mindfulness sessions and do mindful activity

	formulation has increased understanding of self, problems, how to improve, or clinical change)	therapy if I ever got into a stressful situation" D107CU02 "A better understanding I think of what was actually occurring and how I can pull myself away from feeling bad when certain events do occur" D107CU07 "I was able to implement it that way (by going through it in sessions)" D111CU08 "I could put it into practice (when I understood it more)" D111CU11 "I felt I needed to look at these things about myself" D101CU08 "(I thought) That there had been improvement (since starting therapy)" D113CU02 "Looking back at all the things (person) used to do, felt there had been improvement in that way" D113CU03 "I thought that progress had been made" D113CU08 "I've got to reflect on the past to be better in the future" D110CU16 "I can learn quite a lot from the past" D110CU18 "I felt I was learning something very important about myself" D101CU19 "It explained everything to me, the main reasons, and understand exactly where I was and what was occurring and that sort of thing" D107CU01 "(by receiving the diagram)I understood..I recognised it (my difficulty) when it was

		happening (to me)" D111CU12 "It really made me think about you know when I read it you know how I do put myself across" L103CU68 "It really sort of tells me how I expressed myself to him" L103CU66 "When they give you a letter of what you've been talking about you know exactly what you must sound like to people" L103CU56 "It sort of helped to relate to how I expressed myself to him" L103CU83 "When I received the letter I just really felt..what I have now was explained really well" L107CU33 "It just made it a lot more clearer (my difficulties)" L107CU34 "It gave me reasons like why I was behaving this way" L112CU29 "It was really working out what to do from there that needs some thought" L107CU28 "It gives me the responsibility of looking after myself" D207CU10 "Thinking about the past would teach me how to avoid things in the future and if that happens, and it seems to happen, I'm on the road to recovery" D210CU24 "It's really deep down it's up to me to discover why these things do occur... who does it in first place" D207CU04 "I got to accept that I can't rely on people for the rest

		of my life organising everything for me" D207CU11 "I have to start to think for myself and actually get the things in perspective" D207CU12 "Well, I've just accepted that all these things are part of me" D201CU32 "When different situations arised you know occurred in the past and stuff I've interpreted things in the past you know what I mean, and I've changed my mind about them now" D203CU11 "It sort of changed my outlook in life" D210CU41 "I need to start looking at possibly why I do things, that's reflected in the letter" L202CU43 "Feels like I'm getting to the root of my problems" L201CU66 "Now come to think about it, I'm not that really a bad person it's just bad thoughts that are making me into a bad person" L210CU73 "If I had gone on feeling the way I was I might have met an early death or something, I might have had more physical illnesses or something like that" L201CU74b
Understanding of alternative view	CF seen as an alternative view of their difficulties	"One possible explanation" D102CU06 "An interesting way of seeing things" D105CU12 "One way of seeing things" D105CU13 "I could see how it could all be interpreted that way" D112CU18

		"I think it's just different theories, it was one theory basically written down there" D102CU04 "A way of looking at things" L112CU33 "Giving an alternative to the reality I was living in" L112CU28 "It's just a theory that's what I think of it" L202CU55 "Just a possible theory as to why I do the stuff I do" L202CU56
Understanding of purpose/process of Case Formulation	Describes understanding of process or purpose of Case Formulation	"He's quite often done diagrams on the board while I've been speaking to him and that's sort of an accumulation of the diagrams" D103CU13 "He did sort of break it down and concentrated on each individual point individually sort of like overcome the bit that was bothering me" D103CU16 "That's what it was there for to give me an understanding of my personal illness" D110CU35 "It was basically stuff that we'd talked about" D102CU01 "The letter sort of summarising it (sessions)" L109CU06 "Just of where we got to and what we sort of worked through" L109CU12 "It covered most points that we had talked about" L111CU45 "That's what I did together with (therapist)..In the session that I've been having with him" L104CU20

		"Then he was making his own notes on it, cause he used to make notes every time he came to my house..then all he did was making lots of those notes and putting them in a letter form" L104CU21
No benefit	Case Formulation did not led to any new understanding or clinical change	"I was initially hoping for everything to just fall into place within a couple of weeks and it still hasn't and it's been few months now" D102CU07b "I thought maybe the stuff in there was right and maybe it was..but it still didn't give me a direct you know "that's my problem, that's my problem it's all sorted now" D102CU03 "I thought it might be the reason to why I do certain things I do and causes problems in my life but I wasn't completely sure" D102CU05 "It didn't sort of tell me "that's you problem and that's your answer" sort of thing L102CU52 "It didn't sort of point me in the right direction" L102CU50 "I didn't you know jump for joy and say "oh, this is the cure" L108CU02 "It doesn't sort of immediately make me feel better or anything like that" D202CU25 "I still do the things I do and stuff like that" D202CU26 "It might be the reason that it doesn't make me feel any different, hasn't changed my life sort of thing" D202CU27 "I look at it and think

		yeah that's it but it doesn't do a lot for me really" D202CU09 "I'm still having to struggle though so that's sort of outcome" D210CU42 "(helped you change?) No, not really no" L206CU27 "It doesn't have an immediate effect on my life to be honest" L202CU60 "It's guided me somewhere obviously, but I just don't really know"L206CU33 "I don't actually understand why I do a lot of things I do, I still don't know" L202CU57 "It doesn't hit me in the face and say "That's it" L202CU58 "I don't think "that's why I do that, that's why I have this problem" L202CU59

Category 7. Change in reaction to case formulation over time

Better	Person describes a change for the better in their reaction to the case formulation over time	"When I was doing the session thing I recognised it more" D111CU07 "What was on the paper I understood in the session" D111CU09 "I understood it more (when got home)" D111CU10 "I felt better when it had time to sink in" D111CU19 "It was the truth, I took it in afterwards" D110CU04 "Certainly, it's not so painful now when I look at it, cause I've looked at it so many times" D201CU30

		"I feel less angry about it now" D205CU17 "I don't find it as difficult" D205CU18 "The thought (of taking overdose) is still there but it's less prominent" D210CU45 "I feel just o.k" D211CU25 "It's receded…I'm not saying it's completely gone" D210CU46 "I've been able to get my head around it so it hasn't been too much of a negative factor" D203CU36 "My thoughts...I'm not saying they're clear but they're starting to become manageable" L210CU75 "I'm o.k." L211CU46 "I'm o.k. about it" L211CU49
Worse	Person describes a change for the worse in their reaction to the case formulation over time	"I shouldn't have read it a second time it just made me worse" L110CU50 "I read it again it made me sad even more" L110CU54 "I was even more surprised that you know that one or two things hadn't been included, it sort of stood out a bit more that they weren't" L209CU21 "Sort of noticed them that much more I think" L209CU22 "I just think I was just more aware of it (of parts being excluded)" L209CU24
No change	Person describes there had been no change in their reaction to the case formulation over time	"It was same kind of thoughts" D110CU59 "There wasn't much difference..my thoughts" D110CU60

		"I tried to get them (negative thoughts from reading the letter) out of my head but I wasn't succeeding" L110CU64 "As I say it's been in my mind for three or four days" L110CU71 "I still think it's a bit pointless" D205CU20

Appendix P: Randomly selected coding units

Coding Units

1. "I don't actually understand why I do a lot of things I do, I still don't know"
2. "Nothing actually said to me "right, that's your problem, you're fine now, you know, you can get a job and that's sort of stuff"
3. "It's guided me somewhere obviously, but I just don't really know"
4. "(Therapist) saw I was in need"
5. "Gave me some sense of relief"
6. "I even gave it to my girlfriend and she had a look at it, I thought she could get an outlook on what's been going on ..more insight into what's been going on in my life"
7. "I felt angry about the diagram"
8. "He had put down all the sort of key points of what I've like expressed to him or whatever"
9. "I think I wanted to go away and study it on my own quietly somewhere"
10. "I felt like doing it (taking overdose) but avoided it"
11. "I was feeling angry about the thing about hypnotism"
12. "When reading that diagram I thought "this is me, and what I stand for"
13. "There are still things about it that I feel I would like to change or that might already be changing"
14. "I was a bit shocked, shocked about the thoughts and feelings I do have"
15. "It's possible that's what's in there is correct, but.."
16. "It just kind of made me a bit apprehensive about how I do put myself across"
17. "There was one or two things that I thought were important that were missed out"
18. "I didn't do a lot"
19. "I was more upset over the letter than I was over the diagram"
20. "I have sat down and read it a couple of times"
21. "I don't want people thinking I'm like sort of too mad or whatever after reading it"
22. "To start off with I was quite surprised and you know I thought basically it would be more verbal than anything"
23. "There were one or two things that weren't quite correct"
24. "Wanted to burn it so nobody could see it"
25. "It helps me realise that I've actually changed, got better in myself compared to when I first started coming to when he gave me the letter"
26. "I probably wouldn't go on about a lot of these sort of points if it wasn't in the context of therapy..I wouldn't say it in public so much..I wouldn't talk about them so I got a bit apprehensive about you know being shown the letter"
27. "I still feel it doesn't look real, doesn't look true, doesn't reflect my experiences"
28. "I've not really had the chance to look over it properly because when I start thinking about my problems and stuff like that I go on to one and I can't switch off and I start to get stressed out really quite severely"
29. "I definitely want to read it again in six months or something and sort of "God!" you know what I mean "I feel a lot better"

30. "There's one bit that's not quite right which hurts a bit when I read it cause it's not right"
31. "It explained everything to me, the main reasons, and understand exactly where I was and what was occurring and that sort of thing"
32. "It was strange..I was seeing it on paper for the first time but had experienced it for many , many years"
33. "I thought (therapist) had worked hard to do it all, that was the other thing that struck me"
34. "Maybe a bit disappointed I was probably hoping , like I said I was initially hoping for everything to just fall into place within a couple of weeks and it still hasn't and it's been few months now"
35. "I haven't really thought about it to be honest"
36. "It shows that he's sort of relating to what I've been talking to him about over the last few months or whatever"
37. "I read it again it made me sad even more"
38. "If I ever run in to any more difficulties in my life in the future, I may need to re-read it again to make sure that I'm still not feeling this way"
39. "I felt as though something positive might come out of it eventually if I worked hard on it"
40. "It feels kind of helpful pointing out must be what he thinks you know is this trouble I've been having"
41. "He's quite often done diagrams on the board while I've been speaking to him and that's sort of an accumulation of the diagrams"
42. "It goes back to stuff I've done years ago and I can't really remember"
43. "Now it's something like "yeah, that's what I felt then" but I won't have to be like that forever"
44. "I just wondered if I was a total failure"
45. "Looking back at all the things (person) used to do, felt there had been improvement in that way"
46. "Having it you know written down someone who actually sort of understand me and know where I was coming from"
47. "I suppose a bit of hopelessness., like I'm never gonna sort myself out"
48. "(meant) that I'm seriously ill"
49. "Too much to take in, too much to take in all at once"
50. "The circle bit helped a lot, the thoughts and feelings, the hot cross bun or something?"
51. "I mean it's probably something I could show my parents, my mum or something"
52. "It's nice to actually be back in that position again where I can actually talk to him again about things more..I can speak to him about what's going on here"
53. "It simplified things"
54. "That's what it was there for to give me an understanding of my personal illness"
55. "It was same kind of thoughts"
56. "Felt a bit more worthwhile than I actually should be, or thought I was"
57. "I think it's just different theories, it was one theory basically written down there"
58. "It might be the reason that it doesn't make me feel any different, hasn't changed my life sort of thing"

59. "Then he was making his own notes on it, cause he used to make notes every time he came to my house..then all he did was making lots of those notes and putting them in a letter form"
60. "I feel less angry about it now"
61. "The thought (of taking overdose) is still there but it's less prominent"
62. "It gave me a stronger urge to take an overdose (letter)"
63. "It just made it a lot more clearer (my difficulties)"
64. "I was even more surprised that you know that one or two things hadn't been included, it sort of stood out a bit more that they weren't"
65. "The letter is useful obviously I can show you the letter and I can give it to someone else to read about my troubles through life and what's the matter with me and stuff and people can read that and know about me"
66. "I don't find it as difficult"
67. "There wasn't much difference..my thoughts"
68. "When I was looking at the diagram it made me sad"
69. "A way of looking at things"
70. "There's no progress"