

The interaction between co-morbid substance use and psychosis: An exploratory study of service users' beliefs and attitudes.

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The interaction between co-morbid substance use and psychosis: An exploratory study of service users' beliefs and attitudes.

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Thesis Abstract:

Literature review. A systematic review of the literature on the interaction between substance use and psychosis was conducted focusing on the areas of: symptoms and course of illness; engagement with services; violence, suicide and criminal behaviour; and treatment approaches.

Research report. A qualitative study was carried out to explore the beliefs and attitudes of clients regarding their use of illicit substance and/or alcohol and how they felt this interacted with their psychotic experiences. Eight participants were recruited for interview and Grounded Theory techniques of data collection and analysis were employed. A core category concerning participants' 'Emotionally Charged Relationship with Substances' emerged from analysis that is suggested to have characteristics similar to interpersonal relationships. Constituent categories of: Escaping; Limiting Factors; Making sense of psychosis and Substance Use; and Identity and Substance Use, were identified and explored. A theoretical model was constructed to represent how these constituent categories interplayed to determine the nature of participants' dynamic emotional relationship with substances. Implications for clinical practice with this client group and future research in this area are discussed.

Critical appraisal. An in-depth account of the Principal Investigators reflections on the whole research experience. Aspects of personal and professional development arising from the process of planning, conducting and writing up the study are explored

Part 1 Literature Review.

The Interaction between Substance use and Schizophrenia

Target Journal: British Journal of Clinical Psychology.

(Please see Appendix 1 for copy of ‘notes for contributors’).

The interaction between substance use and schizophrenia: A systematic review

Abstract:

Purpose. To review the current literature on how the interaction between substance use and psychosis influences the clinical presentation of clients. The areas of: symptoms and course of illness; engagement with services; violence, suicide and criminal behaviour; and treatment approaches are examined in detail.

Methods. A search of the PsycINFO and PsycARTICLES databases was conducted using the search terms 'schizophrenia' and 'psychosis' paired with 'alcohol', 'cannabis', 'cocaine', 'amphetamine' and 'substance' individually. The search term 'dual diagnosis' was also entered independently.

Results. 36 studies met the inclusion criteria. The literature suggests that individuals with schizophrenia who use substances experience more severe symptoms. It is also suggested that this client group are more likely to disengage from services. Stimulant use by this clinical population has been found to be associated with a higher incidence of violent and criminal behaviour and substance use of any kind with increased risk of suicidal ideation. The weight of evidence suggests that integrated treatment packages are more able to meet the needs of this clinical group than traditional, non-integrated interventions.

Conclusions. The clinical outcome for this group is significantly worse than for people with schizophrenia who do not use substances. Further evaluation of integrated, and other service innovations needs to be conducted to guide future service developments. The literature reviewed supports a multiple risk factor model whereby schizophrenia and substance use interact and maintain each other.

1 Introduction

The current review is a systematic account of the great deal of research that has examined the interaction between the use of illicit substances and alcohol and schizophrenia. The term schizophrenia is used in the current review as the majority of the research in the current review referred to this diagnostic syndrome. However, it is recognised that the utility of the label has been challenged in recent years (Boyle, 2002; Chadwick et al., 1996) and that exploring individual client's psychotic experiences seems to make more clinical sense than attempting to reduce these experiences into a single syndrome. The current review excludes research that has tried to establish a causal link between substance use (SU) and the development of schizophrenia and focuses instead on what the effects of protracted SU (illicit substances and alcohol) may have on individuals with an independent diagnosis of schizophrenia, and the associated clinical implications.

1.1 Epidemiology

Reports of the prevalence of SU by individuals with schizophrenia vary widely from as low as 10% to as high as 70% (Mueser et al., 1990). This huge range could be the result of factors such as differing ways of defining SU, the demographic properties of different samples (inpatient vs outpatient, inner city vs rural) and the variety of methods of measuring SU employed (i.e. questionnaire, interview, clinical notes or urine/hair analysis). However, Meuser et al., (1990) did find evidence for the claim

that substance use was more prevalent in a population with schizophrenia than in a non-clinical population.

McPhillips et al. (1997) measured the prevalence of SU in a small random sample (N=39) of outpatients diagnosed with schizophrenia by administering questionnaires and analysing hair and urine samples. SU was reported or detected in 63% of the sample. They also found that asking participants about their use of substances such as cocaine and amphetamine was not as reliable as hair analysis, which revealed higher rates of use. This may be due to the more serious legal classification and levels of social unacceptability associated with these drugs when compared to alcohol and cannabis, which were more reliably reported by participants.

The Epidemiological Catchment Area study (Regier et al, 1990) involved over 20,000 participants and reported that 47% of people with a lifetime diagnosis of schizophrenia or schizophreniform disorder also met the criteria for a substance use disorder/dependence. In contrast only 10% without a diagnosis of schizophrenia had a SU disorder.

Due to Berkson's fallacy (Berkson, 1949) the prevalence of SU by people with severe mental disorders may be overestimated when research is limited to inpatient samples. This is because individuals with more complex needs are more likely to come to the attention of services and subsequently be admitted to hospital for treatment.

Researchers have used different criteria for defining substance use. Duke et al., (2001) required participants to have used an illicit substance at least once in the month prior to assessment to satisfy their inclusion criteria for their Current Substance Use group. Whilst Lambert et al., (2005) used the DSM-IV criteria for SU disorder/dependence for inclusion in their equivalent group. Both these studies grouped together people who used a variety of substances to form a single SU sample. This practice is common in the articles currently reviewed and suggests that many researchers have an underlying assumption that there is some homogeneity between substance users, irrespective of the substances they use.

Despite these methodological problems and inconsistencies, the overwhelming weight of evidence indicates that substance use is more prevalent in a population with schizophrenia than in the general population. Weaver et al., (2003) found a similarly high rate of substance use amongst those with other mental health problems: 44% of their sample of Community Mental Health Team service users reported problems with substance use in the preceding year. The literature also shows that the individuals who are responsible for this over representation are typically young males (Cantwell, et al. 1999, Duke et al., 2001, Kamali et al., 2000, Swofford et al., 2000).

1.2 Review Aims

Co-morbid substance use disorders have been shown to be a major obstacle to the effective treatment of individuals with schizophrenia (Dixon, 1999). Separate service provision from specialist mental health and addiction teams have been

criticised as being part of the reason for the unsatisfactory clinical outcomes for this client group and integrated services championed as more appropriate alternatives (Lowe & Abou-Sale, 2004). The current review aims to collate what the literature suggests are the main clinical implications for people with schizophrenia who also use substances and what style of service provision is most effective by focusing on the following questions:

•
What is the impact of co-morbid substance use on the symptoms and course of schizophrenia?

What is the impact of co-morbid substance use on levels of engagement with mental health services by clients with schizophrenia?

What is the impact of co-morbid substance use on rates of violence, suicide and criminal behaviour' by clients with schizophrenia?

What style of service delivery is appropriate for people with co-morbid substance use problems and schizophrenia?

After this, clinical and theoretical implications of the reviewed literature will be considered, followed by issues for future research.

2 Method

A literature search was conducted of the PsycINFO and PsycARTICLES databases. The search terms 'schizophrenia' and 'psychosis' were paired with the terms 'alcohol', 'cannabis', 'cocaine', 'amphetamine' and 'substance' individually. The term 'substance' was included so as to return articles that made reference to the

variety of common phrases such as substance use/abuse/misuse/dependence. The search term 'dual diagnosis' was also entered independently. A limitation of the search procedure was that terms such as 'drug(s)', 'severe mental illness' and 'severe mental health problems' were not used. This was based on the assumption that the search terms detailed above were broad enough to return the vast majority of articles relevant to this review. This may have resulted in some pertinent literature being excluded. All articles that focused on the distinct condition of substance-induced psychosis were excluded on the grounds that the current review was concerned with the effects of SU on individuals who have an independent diagnosis of schizophrenia or schizophreniform disorder. All research articles that were primarily concerned with investigating whether substance use can lead to schizophrenia were also excluded. This is a separate topic and the wealth of material on this subject would cloud and dilute the essence of the current review on the impact of SU on individuals with schizophrenia. Any studies relating to affective psychosis were excluded as the current review was concerned with the substance use and psychotic experiences traditionally described as schizophrenia. With particular reference to the search term 'dual diagnosis', articles concerned with the multiple diagnoses of disorders other than schizophrenia and SU were excluded. In recent years there has been increased interest, understanding and more informed research around the complex relationship between schizophrenia and SU and for this reason only contemporary literature has been included in this review. Searches were limited to articles published from 1990 to the end of March 2007.

Table 1 details the 36 articles that matched the inclusion criteria including reference, sample size, setting, substance(s) used and the main areas of focus.

Table 1. Details of articles matching literature search inclusion criteria.

Reference	N	Substance(s)	I, O or M ¹	Main areas of focus
Baigent et al., 1995	53	Any ²	I	Clients views
Cantor-Graae et al., 2001	87	Alcohol	M	Prevalence, admissions, criminality
Cantwell, 2003	316	Any	M	Prevalence, symptoms, criminality
Cantwell et al., 1999	168	Any	M	Prevalence
Dixon, 1999	-	Any	-	Literature review
Donald et al., 2005	-	Any	-	Literature review
Drake et al., 2006	130	Any	O	Treatment
Drake et al., 1998	-	Any	M	Literature review
Duke et al., 2001	265	Non-alcohol	M	Prevalence
Etheridge et al., 2004	30	Any	M	Engagement
Goswami et al, 2003	22	Any	O	Symptoms
Goswami et al., 2004	44	Any	O	Clients views
Green et al., 2004	262	Alcohol, cannabis	M	Prevalence, symptoms, engagement
Gregg et al., 2007	-	Any	-	Literature review
Hoptman et al., 1999	183	Any	I	Violence
Kamali et al., 2000	102	Any	O	Prevalence, symptoms, suicide

¹ I-inpatient sample, O-outpatient sample, M-mixed sample.

² ‘Any’ refers to illicit substances and alcohol.

Reference	N	Substance(s)	I, O or M	Main areas of focus
Lambert et al., 2005	643	Any	I	Prevalence, symptoms, intervention
Laugharne et al., 2002	708	Alcohol	M	Engagement
Lowe et al., 2004	-	Any	-	Literature review
McPhillips et al., 1997	39	Any	O	Prevalence
Miles et al., 2003	233	Any	O	Violence
Mueser et al., 1990	-	Any	-	Literature review
Mueser et al., 2001	391	Alcohol, cocaine	O	Crime
Pencer and Addington, 2003	266	Any	M	Symptoms
Primm et al., 2000	44	Any	O	Engagement
Reiger et al., 1990	20 291	Any	M	Prevalence
Ries et al., 2000	608	Any	I	Symptoms
Rosenthal et al., 1994	29	Any	I	Symptoms
Sipos et al., 2001	166	Any	M	Symptoms
Sorbara et al., 2003	35	Any	M	Symptoms
Soyka 2000	-	Any	-	Literature review
Strakowski et al., 1994	412	Alcohol, cannabis	M	Symptoms
Swofford et al., 2000	262	Any	I	Prevalence, symptoms, Intervention
Tsuang et al., 2006	-	Any	-	Treatment
van Nimwegen et al., 2005	-	Any	-	Literature review
Wright et al., 2002	40	Any	O	Violence

3 Results

The results are presented in the order of the research questions relating to the impact of SU on: ‘Symptoms and course’; ‘Engagement with Mental Health services’; ‘Violence, suicide and criminal behaviour’; and ‘Treatment’. Clearly these themes are closely related and heavily influence each other, but looking at these areas individually facilitates disentanglement of the information in an attempt to illuminate what the potential consequences of SU are for people with schizophrenia, service providers and wider society.

3.1 Symptoms and course

The symptoms of schizophrenia are commonly categorised in the literature as positive or negative. For the purpose of the current review, delusions, hallucinations, disorganised speech/thinking/behaviour and catatonic behaviours were classified as positive symptoms. Affective flattening, alogia (poverty of speech) and avolition (difficulty in initiating and persisting with goal directed behaviour) were categorised as negative symptoms of schizophrenia.

A study by Swofford et al., (2000) conducted in the US indicated that individuals with schizophrenia whose use of illicit substances was a ‘treatment problem’, presented at outpatient appointments with higher rates of positive symptoms than those who did not use substances. No further details of the substances used were given. An ‘alcohol only’ group did not differ in their symptoms from the ‘schizophrenia only’ group except for when alcohol use was severe enough to require specific treatment when it

was correlated with an increase in negative symptoms of schizophrenia. These findings suggest that certain substances may have different influences on symptom expression. This could have clinical implications for the treatment of people with schizophrenia who use substances, particularly with regards to providing psycho-education about the potential consequences of abusing different substances. This study was retrospective and involved the gathering of information from medical records with all the inherent difficulties. A potential methodological weakness of this study was the reliance on accurate and thorough recording of information by a number of clinicians without the opportunity to interview clients or those who made entries. This renders the findings tentative as it remains unclear how reliably the information that was to be relevant to this study was recorded at the time.

Rosenthal et al., (1994) also examined the type of substance used and how it interacted with symptoms. They looked at inpatient samples of individuals in the US with schizophrenia who also had substance use disorders and found that in those patients who regularly used psychoactive drugs such as cocaine and cannabis there was a positive correlation between duration of illness and positive symptom expression. The normal trajectory of dominance between positive and negative symptoms in schizophrenia is a move from more positive symptoms to more negative symptoms over time (Andreasen, 1990). The contradictory pattern found by Rosenthal et al., (1994) could be interpreted as indicating that use of psychoactive substances can exacerbate and maintain the positive symptoms of schizophrenia. The sample in this study was just 29 inpatients and there was also a lack of information about the length of time between active SU and assessment. As it was an inpatient sample it could be expected that access to illicit drugs after admission would have been

reduced, or at least changed, from that out in the community so claims for a direct link between drug use and symptom type were weakened.

The work of Green et al., (2004) is also relevant to SU and symptom expression in that they found a higher rate of positive symptoms and a lower rate of negative symptoms in their sample of people with schizophrenia who also had a substance use disorder compared to their 'schizophrenia only' group. However, as their schizophrenia and SU group was comprised mainly of individuals with a lifetime diagnosis of a SU disorder but who were not currently using substances the symptomatic differences cannot be attributed directly to substance using behaviour. The samples in this study were comprised of a mix of North American inpatient and outpatients.

The inclusion criteria of Strakowski et al., (1994) did provide a sample of 'schizophrenia and SU' individuals with current 'significant' cannabis use and found that this group scored higher than a 'schizophrenia only' sample for grandiosity on a symptoms rating scale. These samples were drawn from both inpatient and outpatient populations in the US. They also noted trends towards increased delusions and reports of thought broadcasting but these did not meet statistical significance. Strakowski et al., (1994) also indicated that 'significant' alcohol use positively correlated with the incidence of co-morbid depression. A limitation of this study, however, was that individuals with the highest rates of SU were excluded to eliminate, as far as possible, cases of substance-induced psychosis. This meant the remaining sample had relatively low rates of SU compared to other studies (Cantwell et al, 1999) and deprived the study of participants who potentially would have provided the most pronounced

symptom differences if SU did indeed impact on symptom expression. Nevertheless the authors concluded that cannabis use did correlate with an increase in certain symptoms.

In a longitudinal study conducted in Canada Pencer and Addington (2003) also found that levels of cannabis use (measured using the Case Manager Rating Scale) positively correlated with an increase in positive symptoms of schizophrenia at 1-year follow up. Alcohol use however, was shown to have no impact. This again suggests that the interplay between schizophrenia and SU differs depending on the substance used.

Other studies have provided support for the hypothesis that SU can make symptoms more extreme and prolonged by looking at the progress made when SU was prevented and treatment for schizophrenia was given. A study conducted in the US by Ries et al., (2000) found that patients admitted to hospital with schizophrenia who also had substance use disorders improved more quickly than those admitted with 'schizophrenia only'. At time of admission, the severity of psychosis was judged to be the same for the two groups but the schizophrenia and SU group tended to be discharged earlier and with less psychotic symptoms. The authors hypothesised that SU had led to a temporary amplification of symptoms and when this agitator was removed due to hospitalisation, improvement was relatively rapid. This study had large sample sizes comprising both single (n=368) and dual diagnosis patients (n=240). The assessment measures used for determining SU and schizophrenia had proven reliability and validity and rigorous statistical analysis was applied to the data. The Medical Centre where the participants were being treated had established

‘treatment tracks’ designed for people with schizophrenia who used substances. These involved multi-disciplinary assessment, and inpatient and follow up community interventions with drug and alcohol specificity. It was noted that this level of service did cost more to provide than standard psychiatric care but that it was cost-effective in the long term due to reduced length and frequency of admissions. The clinical implications for working with clients with schizophrenia who use substances are considered further in the treatment and discussion sections of the current review.

Other studies conducted in areas where specialised integrated treatment services did not exist showed different outcomes. In France Sorbara et al., (2003) found that co-morbid substance abuse/dependence meeting DSM-IV criteria after first admission (for schizophrenia) and discharge from hospital increased an individual’s chances of relapse and readmission by three times. In this study, adjustment was made for compounding factors including medication non-compliance and so indicated a more direct link between SU and relapse rather than an indirect link via disengagement. Notably, the entire SU sample used cannabis either solely (66%) or with other drugs (33%). This study again found no link between alcohol use and relapse. Although the details of the inpatient and aftercare interventions that the participants in this study received were not given, it seemed they were not specifically tailored for people with schizophrenia who use substances as this was a recommendation the authors made for future research and investment.

Further support for the hypothesis that SU compounds problems associated with schizophrenia was provided by a study conducted in the UK by Sipos et al., (2001). They investigated the patterns and predictors of hospitalisation of individuals with

schizophrenia after initial contact with mental health services. SU was correlated to increased risk of 'rapid' admissions (within 7 days of first contact). In this study SU was defined as daily use over at least a two-week period in the preceding year. Working on the premise that admission to hospital was closely linked to symptom severity and risk, it could be concluded that people with schizophrenia who also use substances presented as more severely ill and/or, as posing more risk to themselves or others.

The literature indicates fairly consistently that SU exacerbates symptoms, particularly positive symptoms, which have been identified as strong predictors of hospital admissions (Strakowski et al., 1994). It has also been claimed that once in hospital and presumably with reduced access to substances, those psychotic patients who used substances prior to admission tend to see greater symptom reduction than non-users (Ries et al., 2000). The work of Cantor-Graae et al., (2001) in Sweden seems to fit well with both these hypotheses. They found that individuals who persistently used illicit substances in the community had a greater number of admissions but that on average, these were of a shorter duration than their single diagnosis counterparts. However in this study, alcohol users were included in the SU group and alcohol was the predominantly used drug. This contradicts the findings of several other studies that indicate no correlation between alcohol use and admissions.

Further inconsistencies in the literature exist as a study in India (Goswami et al., 2003) found that the psychotic symptoms of a 'schizophrenia and SU disorder' outpatient sample were not affected by the cessation of SU. The profile of substances used however was markedly different in this study from most others, with 50% of the

SU sample abusing opiates. Alcohol was also frequently used whilst cannabis was used by just 23%. This represented a much lower proportion than commonly reported in Western studies and may explain why this study found no link between SU and psychotic symptoms. It does not however necessarily refute the claim that cannabis has a negative impact on the course of the illness. It is also important to note that there were a number of methodological problems with the Goswami et al., (2003) study. The sample size was limited (N=22) and so when analysing the impact of individual substances, the group sizes became very small (cannabis use group, n=5). This renders any findings unreliable and certainly not generalizable. In addition, the data on SU and illness course was collected retrospectively by questionnaire and interview with the participants. This reliance on recall from one source about the relationship between illness and SU, which on average spanned over the preceding 5 years, was another major weakness.

A more robust study conducted by Kamali et al., (2000) in Southern Ireland found no difference between a sample of outpatients with schizophrenia who also met DSM-IV criteria for substance misuse and a 'schizophrenia only' sample in terms of the severity of positive and negative symptoms as measured on admission. Unfortunately no data was available about the rates of improvements made by the two groups whilst in hospital which would have given a clearer indication of whether SU in the 'schizophrenia and SU' group had impacted on symptoms.

There can be no doubt that there are contradictions in the literature about SU and the impact it has on the symptoms of schizophrenia. The weight of evidence, both in terms of quantity and quality however, supports the theoretical perspective that SU

can exacerbate symptoms. Cannabis use in particular has been linked to an increase in positive symptoms, whilst high levels of alcohol use correlates to co-morbid depression. These two substances were most closely scrutinised in the literature, whilst other psychoactive drugs were commonly grouped together and not subjected to independent analysis. This may have been because the reported rates of use of these substances in psychiatric populations were generally much lower than cannabis or alcohol. It is worth considering however that many researchers have relied on participants self-reporting their substance use habits. The use of drugs such as cocaine and amphetamine were less socially acceptable and associated with harsher penal repercussions in comparison to alcohol and cannabis. These factors were likely to deter individuals from divulging use of them. More reliable measures of the rates of use for different substances, and how they individually interact with the symptomatic expression of schizophrenia, could be a productive area for future research.

3.2 Engagement with Mental Health services

Following research they conducted in the US Owen et al., (1996) theorised that people with schizophrenia who abuse substances were a 'high risk' group because of their increased tendency to avoid outpatient appointments and to be 'non-compliant' with medication advice. Swofford et al., (1996) support this contention and hypothesised that this resulted in people with schizophrenia who used substances, to the extent that it was a 'treatment problem', having more frequent admissions as they only came into contact with services when they were so ill as to require hospitalisation. This highlights the complex interaction between SU and

schizophrenia. It is difficult to separate out to what extent the deterioration of an individual's mental health is due directly to the use of psychoactive substances, and how much it is because of increased disengagement with services. This has not really been clarified by studies that have focused on what happens **after** admission, as both variables are simultaneously manipulated with access to substances prevented and medication compliance managed.

Margolese et al., (2004) discussed the confounding variables of SU and disengagement further. From work conducted in Canada they found that a sample of people in the community with schizophrenia who had a current substance or alcohol abuse/dependence disorder had less insight into their illness and lower rates of medication compliance than those diagnosed with schizophrenia only. They hypothesised that this explained the increased psychopathology of this group compared to the 'schizophrenia only' group. However, the data from a sample of people with schizophrenia who met the criteria for a lifetime diagnosis of substance or alcohol abuse/dependence, but who were not currently using substances, cast doubt over this hypothesis. This latter group had a similar non-compliance pattern to the sample with current substance abuse/dependence but presented with **no** increase in psychopathology. This indicated that only current substance use directly exacerbated symptoms.

Swofford et al., (2000) found that a sample of outpatients with schizophrenia and SU that posed a 'treatment problem' was more likely to miss appointments than a 'schizophrenia only' group and found support for the hypothesis that less outpatient contact correlated with an increase in future hospitalisations. This study had a large

sample (N=262), however data were collected retrospectively from medical records that can be prone to omissions and conjecture. To ensure that a sufficient amount of evidence was available in the records, only patients who had kept at least 10 outpatient appointments over a two-year period were included in the study. Significantly, this meant that the most disengaged people were omitted from the sample and so data about their levels of SU were not available for analysis.

Barrowclough et al., (2005) conducted research in the UK and found that people in the community with psychosis who also met DSM-IV criteria for substance misuse or dependence were more likely to be blamed for their illness by their families than were non-users. They also found high levels of Expressed Emotion (EE) amongst carers of individuals with psychosis who also used substances, particularly with regards to hostility and rejection. High levels of EE in families of individuals with psychosis has been linked to isolation from carers (Barrowclough & Tarrier, 2004), which in turn has been shown to predict disengagement from services (Schimmelmann et al., 2006).

With regards to first episode of schizophrenia, it has been suggested that those who also had a substance use disorder typically had a longer duration of untreated illness (Green et al., 2004). A possible theoretical explanation of this is that SU correlates with lack of insight and so assistance was not sought until later into the course of the illness. An alternative hypothesis is that SU can lead to discord in family and other supportive relationships and thus isolate vulnerable individuals from the people that maybe most likely to help them engage with appropriate services. This theory requires formal research so as to investigate if this is a significant contributor to the extension of the untreated phase. Another possibility is that co-occurring SU may obscure the

diagnosis of schizophrenia by masking symptoms and so delay appropriate treatment. This latter hypothesis is supported by a qualitative study conducted by Etheridge et al., (2004) in the UK that canvassed the opinions of both inpatient and outpatient service users and their relatives. A theme that emerged was that it was a common experience to have been told that SU was the sole reason for the individual's problems prior to an eventual diagnosis of schizophrenia. Methodologically, this study has both strengths and weaknesses. The sample size of 18 clients and 12 carers was small by quantitative research standards and participants' opinions were preferred over psychometric measures with proven reliability and validity. However this does provide an interesting insight into the personal experience and beliefs of service users and their relatives and should inform future research.

Whatever the combination of factors that results in an extension of the period of untreated illness for people experiencing their first episode of schizophrenia who also use substances, the clinical implications are regarded by some researchers as significant. It is well established that the longer the period of untreated illness, the poorer the patient outcome characterised by problems such as limited treatment response and more severe and persistent positive and negative symptoms (Haas et al., 1998).

Some contradictory evidence exists however, suggesting that people with mental health problems who also have substance use disorders actually remained more engaged with community services than those with a mental health problem who did not use substances (Primm et al., 2000). A weakness of the Primm study was that there was no consistency of diagnostic severity between the two groups. One group

comprised people with schizophrenia who also had a diagnosis of a substance use disorder while the comparison group included people who suffered more typically with affective disorders, which arguably are more episodic and disposed to quicker improvements thus leading to subsequent disengagement from services.

The relationship between SU and engagement in people with schizophrenia seems to involve a number of factors: lack of illness insight; social drift away from people who may help; and delays in diagnosis. All these variables may contribute to higher rates of disengagement, but it remains an empirical question.

3.3 Violence, suicide and criminal behaviour

Mental illness, violence and crime attract a lot of attention from the media and, judging by the draft Mental Health Bill (DoH, 2004), politicians as well. In the Bill, there is an emphasis on protecting the public from individuals with mental disorders who pose a high risk of committing violent acts. This has led to research into identifying 'risk factors' that can lead to this kind of behaviour and some theorise that illicit substance use is one such factor.

A study by Miles et al., (2003) in the US looked at subgroups of people diagnosed with schizophrenia, who were rated by their Community Case Managers as having a substance abuse or dependence disorder, based on their primary substance of use. The starkest difference they found was the increased rates in lifetime history of violence committed by those who used stimulants compared to other SU groups and a non-substance use group. This association remained statistically significant after

adjustment was made for other confounding variables. There was no significant association found between violence and the other subgroups: alcohol only; alcohol and cannabis; and cannabis only. It is unclear whether the acts of violence were generally stimulant related and the authors acknowledged that they had identified only an association rather than a causal pathway.

A study by Hoptman et al., (1999) conducted in the US aimed to identify any consistent characteristics of schizophrenic inpatients that demonstrated violent behaviour. They found a lifetime history of SU disorder to be more common in those who perpetrated assaults whilst in hospital. However this is not as straightforward as it might seem. The authors claimed that the participants did not have access to substances whilst in hospital and suggested that a better explanation incorporated a theory of personality that included a trait, such as impulsivity that predisposed individuals to both use substances and act violently. There are alternative theoretical explanations however, and it could be that admission to hospital resulted in a sudden removal of access to substances, which led to hostility and frustration expressed as violence. It could also be that unknown to the researchers, illicit substances were available in hospital and SU continued unabated after admission. The Hoptman et al., (1999) study did not provide a breakdown of what substances were being used prior to admission, so it offers no assistance in attempting to discover whether the use of particular substances (e.g. stimulants) are more strongly associated with violence than others. They also relied on information about SU from medical records alone and this probably represented an underestimate of actual use rates and severity as it is unlikely that all substance abusing behaviour would be disclosed to health professionals (McPhillips et al., 1997).

In the US Mueser et al., (2001) compared a rural and an urban sample of outpatients with schizophrenia and substance use disorders. They identified a higher rate of cocaine use amongst the urban sample as well as higher levels of involvement with the criminal justice system. They investigated these two variables more closely and found a significant relationship between current cocaine use and criminal activity. In both samples, alcohol use was common and was not found to be associated with crime. Mueser et al., (2001) hypothesised that the most likely explanation for these findings are the illegal status of cocaine, whereby possession is an offence and also the higher financial cost of use that commonly leads to crime. This again suggests significant differences between subgroups often classified together clinically as 'dual diagnosis' cases or within research as a homogenous SU sample. It may well be that by ignoring these important and clinically relevant distinctions, opportunities to improve interventions are missed.

The diagnosis of schizophrenia is known to be associated with a higher risk of committing suicide and a co-morbid substance use disorder has been found to increase this risk still further (Kamali et al., 2000). By comparing a 'current SU disorder' sample a 'past SU disorder' sample and a 'non SU' sample, Kamali and colleagues (2000) found the 'current SU disorder' sample reported significantly more suicidal ideation. However, whether SU leads to suicidal ideation or the other way round is unclear from this study. Ries et al., (2000) investigated the progress made by patients whilst in hospital and this indicated that people with schizophrenia who used illicit substances were more suicidal on admission than those with just a diagnosis of schizophrenia, but at discharge the rates of suicidality for both samples had dropped

to the same residual level. This suggests that SU, at least in part, plays a role in increased levels of suicidality.

4 Treatment

It is evident that effective service provision for people with schizophrenia and substance use problems will need to meet numerous challenges. Services that provided integrated treatment for co-occurring severe mental health and substance use problems have been championed as having better theoretical underpinnings to treat this group. By reviewing the literature with regards to treatment, it is hoped that further insights into the interaction between schizophrenia and substance use will be gained.

Traditionally clients with psychosis and substance use problems who come into contact with services are engaged by both specialist mental health teams and drug and alcohol services separately. The interventions offered by these two services either occur in parallel, or in sequence. In some cases, due to resource limitations, clients with complex needs may be seen by just one or other service. It has been argued that there are a number of inherent problems with this mode of service delivery (Graham, 2004, Tsuang et al., 2006). With separate services awareness of what the other service is doing, and what stage they are at, is reliant on frequent and detailed communication that places an extra demand on clinicians' and administrators' time. Another difficulty is possible disagreement about which problems are considered 'primary' or which should be treated first. Further conflict may arise between the difference in theoretical perspectives that generally inform the work of drug and alcohol services compared to

mental health teams. Offering appointments at different locations and with different clinicians can exacerbate apathy towards engagement. Theoretically, integrated treatment should avoid many of these difficulties and provide a more consistent, individually tailored intervention package (Mueser, Drake & Noordsy, 1998).

In a review of psychosocial treatment modalities for people with schizophrenia and substance use disorders, Tsuang et al. (2006) concluded that integrated treatments were best matched to the needs of this client group. This was partly based on the theoretical perspective that people with schizophrenia often have associated cognitive impairments and social skills difficulties that can be further exacerbated by substance use. Whereas traditional substance use treatment packages often incorporate training in social, cognitive and interpersonal skills, integrated interventions were better equipped to modify treatment to the needs of the individual (Tsuang et al., 2006).

A longitudinal study into the impact of an integrated treatment package for clients with co-occurring schizophrenia and substance use problems suggested positive outcomes (Drake et al., 2006). Integrated treatment was offered based on the theory that this client group presented with complex and interwoven difficulties and clinical needs, which would be better met by treatment with a holistic focus rather than multiple services targeting different individual 'disorders' or diagnoses. Clients received three years integrated treatment, initially in hospital and then in the community, and were intermittently followed up for ten years after commencement of this treatment. During the three-year treatment phase, and in the subsequent seven years, a pattern of decreasing psychotic symptoms and substance use was recorded. Clients also reported improvements in areas that they themselves selected prior to

treatment as being signifiers of 'recovery'. The longitudinal design gives this study the quality of being able to track long-term progression, it also had a relatively large sample (N=130) improving the robustness of its findings. A weakness of the study was that there was no comparison with a group given alternative treatment or no formal treatment at all and so it is difficult to conclude with certainty that improvements were due to the integrated treatment provided. Another weakness is that for inclusion in the study clients had to stay engaged with the integrated service for three years. This process inevitably resulted in a selection bias towards clients likely to have good outcome irrespective of the treatment offered.

Another challenge faced by those who provide services to people with schizophrenia and substance use problems is that negative psychotic symptoms such as avolition and apathy may be exacerbated by substance use (Graham, 2004; Tsuang et al., 2006). This can manifest as fluctuating, or persistent low levels of motivation to engage with treatment, which then has negative consequences for illness course (Owen et al., 1996, Margoless et al., 2004; Swofford et al., 2000). Integrated treatment packages that incorporate an assertive outreach element emphasise the responsibility of service providers to actively encourage and promote engagement. Drake et al., (1998) reviewed integrated treatment programmes and concluded that assertive outreach was a key feature associated with treatment effectiveness.

The majority of evidence in support of integrated treatment has, to date, come from the US. A number of service development initiatives in the UK have followed an integrated treatment model (e.g. Birmingham Combined Psychosis and Substance Use Programme; Mid Cheshire Dual Diagnosis Team; Haringey Dual Diagnosis Team).

Although the impact on clinical outcome is yet to be rigorously evaluated, the training of staff in these new integrated ways of working has shown some positive results (Graham, 2004, Graham et al., 2006).

There has been some evidence questioning the superiority of integrated treatment over non-integrated intervention. Donald et al., (2005) reviewed randomised controlled trials that compared integrated and non-integrated management of clients with severe mental health and substance use problems. They reported equivocal findings with regards to the efficacy of integrated treatment. They did acknowledge, however, that most of the studies that met their inclusion criteria had measured outcomes such as psychotic symptomatology and substance use rates at short-term follow up only. The complex nature of the problems experienced by this client group suggests that often longer-term input maybe required and that clinical improvements may take longer to reach statistically significant levels. Interestingly Donald et al., (2005) did find that participants in integrated community treatment programmes showed significantly higher rates of engagement, than those in separate services, the benefits of which may have been more evident at longer-term follow up.

5 Discussion

The use of substances by people with schizophrenia has been linked to an increased risk of violence and suicide (Lowe & Abou-Saleh, 2004), difficulties with engagement with services (Owen et al., 1996) and an exacerbation of psychotic symptoms (Strakowski et al., 1994). A complex interaction of these factors is claimed to result in more frequent relapse and hospital admissions (Swofford et al., 2000).

This has led to various innovations to treatment programmes designed for this client group

5.1 Clinical implications

The high prevalence of SU in people with schizophrenia and the evidence that it is typically young males who are involved in these patterns of behaviour has a number of clinical implications. In recent years, services in the UK for people with severe mental health disorders have changed markedly and there has been an expansion of Early Intervention and Early Detection teams (Department of Health, 1999). These services aim to engage people as early as possible in their illness with the theoretical under-pinning that earlier treatment leads to better outcomes. This means that these teams, in particular, will frequently be working with a younger client group who are at a higher risk of abusing substances. It is therefore vital that mental health professionals are aware of this risk, and have the skills to work effectively not only with psychosis but also SU. The literature suggests that integrated treatment packages improve engagement and are better equipped to meet the needs of this client group in the long-term.

Substance use has been shown to hinder early detection of schizophrenia as professionals may mistakenly identify SU as the sole disorder (Etheridge et al., 2004). This suggests that better specialist training to enable workers in primary care and specialist SU teams to recognise co-morbid psychosis could lead to earlier appropriate mental health treatment and hence improve outcomes for this client group.

Although far from conclusive, there is evidence from the literature that cannabis use can exacerbate positive symptoms of schizophrenia and that stimulant use can increase violent and criminal behaviour. Incorporating these findings into psycho-education programmes for professionals, clients and their relatives and carers alike could facilitate understanding of their symptoms and behaviour patterns and thereby help to tailor treatment to meet individuals' needs.

A fundamental goal of Assertive Outreach teams (DoH, 1999) is to keep contact with difficult-to-engage clients. This aim is based on the principle that disengagement often leads to relapse and subsequent re-engagement occurs only at crisis points when hospitalisation may be the only option. The current review has shown that SU can reduce engagement with services and so often the caseloads of Assertive Outreach Teams have a significant number of clients with severe mental health problems who use substances. It is essential that appropriate psychosocial interventions be used with this population to target SU rather than just focusing on medication compliance.

There is evidence that suggests specialist integrated services for people with severe mental health problems and co-morbid substance use are the most effective treatment option. Although these are likely to be more expensive to set up, they could well be cost effective in the long term as there is reason to believe that they reduce the frequency and duration of inpatient care. The Department of Health has recognised the efficacy of integrated treatment in its 'good practice' guide (DoH, 2002). However, some reservations remain and parallel treatment by mental health and drug and alcohol teams was recommended as a viable alternative until further UK based research has been conducted. A major reservation regarding integrated services was

that these specialist services could quickly become overwhelmed with long term input for clients with enduring and complex needs and so soon, become unable to offer services for new referrals. The literature does suggest that treatment for this clinical group should be viewed as a long-term endeavour.

5.2 Theoretical implications

Gregg, Barrowclough and Haddock, (2007) identified four theories as to why people with psychosis may also use substances: a) substance use causes psychosis; b) psychosis causes people to use substances; c) common factor theories; and d) bi-directional theories which suggest that psychosis and substance use interact and maintain each other. Much of the theoretical work in this area was developed to explain the repeatedly observed higher levels of substance use in people with psychosis than in the general population (Regier et al, 1990).

Most of the studies reviewed here were unable to support or contradict any of these theories as they were not designed with this end in mind. Indeed any studies exploring a direct causal link between substance use and the onset of psychosis were specifically excluded. However, much of the literature that was reviewed was congruent with a bi-directional type theory. This variant suggests that SU has an adverse effect on the course and outcome of psychosis even if it did not cause the onset of the illness.

Convincing evidence has been found in this review that substance use by people with psychosis is associated directly with variables, which maybe considered components

of a poorer course and outcome. For example SU is linked with exacerbation of psychotic symptoms, suicidal ideation and, in the case of stimulants, to increased risk of violent behaviour. These factors and others reviewed here may also have indirect links with poorer course and outcome.

In Figure 1 the solid lines indicate links between variables that are supported by the evidence reviewed here, the dashed lines by evidence from studies referenced but not reviewed here, and the dotted lines are hypotheses as to links between variables.

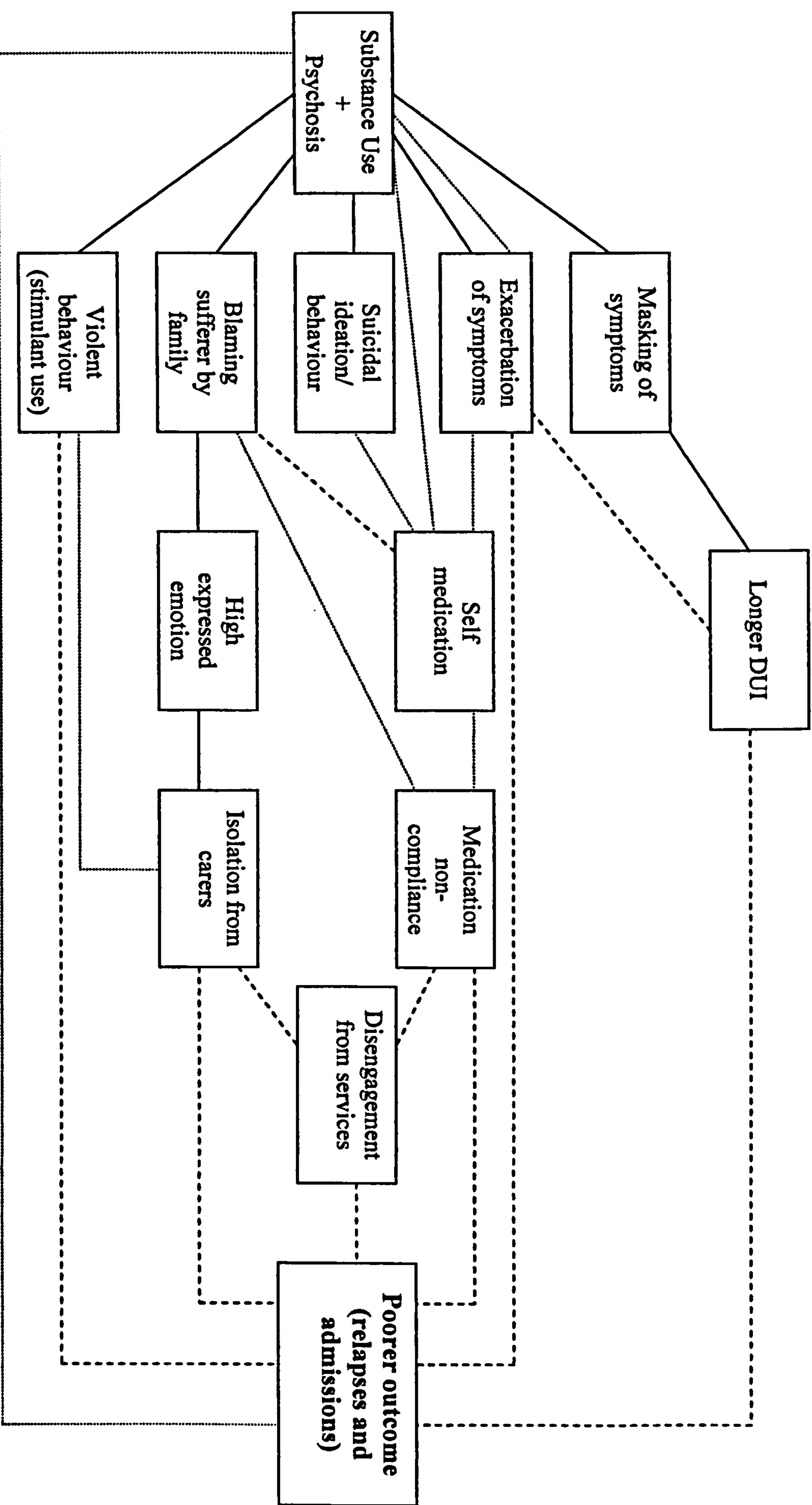


Figure 1. Summary of the clinical implications resulting from the interactions between substance use and psychosis

———— Evidence provided by literature in the current review

- - - - - Evidence provided by literature not in the current review

..... Hypotheses

The box at the far left of figure 1 represents concurrent psychosis and substance use problems. Some research has suggested that using substances, particularly cannabis, in adolescence can lead to an increased risk of developing psychosis (Silva & Stanton, 1996; van Os et al., 2002). Figure 1 however, is not an attempt at an aetiological model, rather it details suggested links between co-morbid substance use and psychosis and clinical presentation.

Consistent with Figure 1, Etheridge et al., (2004) suggested that SU could mask the symptoms of psychosis, delay accurate diagnosis and prolong the duration of untreated illness (DUI). There is ample evidence to show that a longer DUI produces more entrenched psychotic symptoms and a poorer outcome than in cases where the illness is diagnosed quickly and early intervention occurs (Haas et al., 1998).

Several studies reviewed here indicate SU is correlated with more severe psychotic symptoms (Pencer & Addington, 2003; Rosenthal et al., 1994; Strakowski et al., 1994; Swofford et al., 2000). Such symptoms are quite likely to lead directly to a psychotic episode and may increase the likelihood that the individual will self-medicate with alcohol or illicit substances as indicated by the second pathway in Figure 1. This may also provide an explanation for the link shown by Owen et al., (1996); Swofford et al., (2000); and Margolese et al., (2004) between substance use and increased medication non-compliance in patients with psychosis. Medication non-compliance has been identified as a major factor in disengagement from services and for increased rates of relapse and admission to hospital (Swofford et al., 2000).

The same pathway may follow from the link established between SU and suicidal ideation and behaviour in psychotic individuals by Kamali et al., (2000), if suicidal ideation is managed by the use of substances. It is also possible that there is a reciprocal link between these two variables as shown in Figure 1.

Disengagement from services may also be influenced by another set of factors in the model in Figure 1. The study by Barrowclough et al., (2005) which found that people with psychosis who also used substances had families that were more blaming and had high levels of EE, is especially interesting. Logically, continued self-medication and non-compliance with medical treatment regimes could be linked to further blame being attributed to the person with psychosis by their families. High levels of EE in families of individuals with psychosis has been correlated with isolation from carers (Barrowclough & Tarrier, 2004), which in turn has been shown to be related to disengagement from services (Schimmerlmann et al., 2006) and poorer outcome of psychosis directly (Salokangas, 1997).

Miles et al., (2003) showed that stimulant use was associated with higher levels of violent behaviour. Violent behaviour by people with psychosis is likely to lead to an increased likelihood of admission to hospital (Sipos et al., 2001) but may also produce an indirect effect on clinical prognosis by alienating family members and increasing the risk of disengagement from mental health services.

It is impossible to disagree with Gregg, Barrowclough & Haddock, (2007) that there are multiple risk factors involved in substance use in psychosis. Figure 1, although speculative, is an attempt to distil the findings of this review into a coherent model.

5.3 Future research

Some of the confusion and contradictions in the literature currently reviewed could be reduced by a definitive, longitudinal follow-up study of the course, and social and clinical outcomes of psychosis in 'schizophrenia only' compared to 'schizophrenia and SU' cohorts. A study like this would undoubtedly be logistically difficult and expensive, as it would need to extend over a period of many years. Ideally, more robust alternative measures of the type and amount of substances used, such as hair analyses, would be employed together with self-report measures. However, this does raise ethical concerns. The process of obtaining a biological sample for assessment of SU could be interpreted by clients as disrespectful and questioning their integrity. It may also discourage a large and methodologically important section of people with schizophrenia who use substances from participating in research and hence lead to unrepresentative results. Services conducting urine analysis as part of their routine assessment process may reduce some of these problems. However, this kind of analysis is not sensitive to all substances and will only detect those used relatively recently (McPhillips et al., 1997).

Even where fairly firm and consistent correlations between SU and aspects of schizophrenia have been established, it has usually proved difficult to identify a causal link in either direction. For example, it may be worth looking at the incidence of violent behaviour in a single group of people with schizophrenia who use stimulants when they are currently using, compared to when they have not been using for some time. Similarly, a longitudinal qualitative study of the link between SU and suicidal ideation/behaviour maybe able to establish a direction of causation between these variables.

It may well have been predicted that alcohol use would have been associated with acts of violence in people with schizophrenia as it is in the general population, but this was not borne out in a study reviewed here. Theories that recognise that people with schizophrenia may well have different drinking and domestic patterns to the rest of the population might offer further insight into this. Individuals with schizophrenia are more likely to live alone and withdraw from social contact and as alcohol-associated violence often occurs in or outside of pubs and clubs or in the domestic environment, this may explain their lower rates of violence. Further research into the drinking patterns of individuals with schizophrenia would need to be done to investigate this hypothesis.

More generally, it would be useful to examine directly the hypothesis that people with schizophrenia who use substances have weaker support networks than do 'schizophrenia only' clients and it is this that leads them to having poorer treatment outcomes rather than SU per se.

Further studies into integrated treatment programmes are required, particularly with UK based samples. The long-term outcomes for clients engaged with these services would offer evidence as to their efficacy. Further research into which aspects of integrated treatments are most effective would help to inform the development of such services in the future.

Frequently individuals who use one or more substances are treated as a homogenous SU group. This may result in the masking of idiosyncratic risks associated with the use of particular substances. An area for future research would

be to investigate the sub-groups of SU in people with schizophrenia more carefully. There seems to be a gap in the literature about how those with schizophrenia who use substances perceive the interaction between their SU and their mental health. Further research into this area could provide important data that could inform the targeting of intervention.

Ideally, a future study would incorporate the rigorous quantitative measurement of the nature and severity of SU, psychotic symptoms, engagement with services and violent behaviour. Such a quantitative study could be supplemented by a qualitative study of why people with schizophrenia use substances and how they believe this interacts with their psychosis. This mixed methodology may provide valuable insights into an area where there is a gap in the current knowledge base.

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Part 2 Research report.

The interaction between co-morbid substance use and psychosis: An exploratory study of service users' beliefs and attitudes.

The interaction between psychosis and co-morbid substance use: An exploratory study of service users' beliefs and attitudes.

Abstract:

Objectives. To explore participants' beliefs and attitudes about their use of illicit substances and alcohol and any interaction they feel this may have with their psychotic experiences.

Design. A qualitative study using Grounded Theory data collection and analysis techniques.

Methods. Eight clients experiencing their first episode of psychosis who were using one or more illicit substances/alcohol participated in in-depth semi structured interviews. Analysis was conducted in line with grounded theory techniques.

Results. The core category that emerged from the analysis was participants' 'Emotionally Charged Relationship with Substances.' Constituent categories of: 'Escaping'; 'Limiting Factors'; 'Making sense of psychosis and Substance Use'; and 'Identity and Substance Use', were identified. A theoretical model was constructed to represent how these constituent categories interplayed to determine the nature of participants' dynamic emotional relationship with substances. A limitation is that there was variation in the extent of substance using behaviours between participants although all comfortably met the criteria for 'regular user' as defined in this study.

Conclusions. Some participants had very clear beliefs about the interaction between substance use and psychosis while others were more confused and uncertain. Many participants believed they derived benefits from using substances, and this fed into their emotional attachment to them. It is suggested that clinicians working with this client group take account of the intense relationships with substances that many of their clients may have and design interventions accordingly. Implications for future research are considered.

1 Introduction

People with psychosis who use illicit substances have been the subject of much interest from academics, clinicians and politicians due to the significant financial cost to society and personal cost to themselves, that this client group are perceived to pose. However, it is rare for client's own experiences and beliefs to be studied to gain further insight into the phenomenon of psychosis and substance use. Despite wide variation in research findings, the overwhelming weight of evidence indicates that substance use is proportionally more prevalent in a population of people with psychosis than in the general population (Mueser et al., 1990; Regier et al, 1990). The literature also suggests that the individuals responsible for this over-representation are typically young males (Cantwell et al, 1999; Wade et al. 2005). For more than 15 years nationwide development and expansion of Early Intervention and Early Detection teams for people with psychosis has been a priority in the UK (DoH, 1999). These services' client group are typically adolescents and young adults as they aim to engage people as early as possible in their illness with the theoretical under-pinning that earlier treatment leads to better clinical outcome. Therefore these teams in particular will be working with a relatively high proportion of clients who have substance use problems.

The DoH publication 'Dual Diagnosis Good Practice Guide' (DoH, 2002) reflected the growing awareness that individuals with psychosis who also use substances often have complex needs that services find difficult to meet. This publication recognised the reported efficacy of specialist services that offered integrated interventions for clients' psychosis and substances use problems. However, due to differences in

funding and staff training between the UK and the US, where most of the evidence for integrated services had come from, better coordinated parallel intervention was recommended as a viable alternative route for service development in this country. Another pertinent factor would be the expense involved in setting up totally new integrated services.

Research indicates that people experiencing a first episode of psychosis who also use substances are more prone to depression, and suicidal ideation and behaviour, than those with psychosis but no substance use (Drake et al., 2006; Hunt et al., 2006). Other recent studies suggest that clients with first-episode psychosis are more likely to have erratic patterns of medication use, drop out of treatment programmes and have less family support if they use substances (Coldham et al., 2002; Lambert et al., 2005; Schimmelman et al., 2006). First episode psychosis and substance use has also been linked to poorer quality of life (Addington & Addington, 1998) and increased risk of violence (Milton et al., 2001). A two-year follow up study of individuals first admitted for psychosis conducted by Sorbara et al., (2003) found that those who continued to use substances following discharge experienced increased psychotic symptoms and were three times more likely to be re-admitted to hospital.

This array of negative associations highlights the need for services to continue to strive for better provision for this particular client group. One seemingly neglected source of information has been qualitative data that could give better insight into what motivates people with psychosis to use different substances. This information could be valuable to services in promoting healthier more pro-social alternatives to substance use that can serve a similar function. Baigent et al. (1995) did use

qualitative methods to elicit the views of individuals who had experienced psychosis and used substances and found that their participants reported substances use as means to alleviate affective problems such as depression, anxiety and boredom. The majority of participants in this study reported substance use prior to the onset of psychosis and it remains unclear whether or not similar affective problems were the motivation for use prior to psychosis or whether people's motivations for using substances change over time. Hirschfeld et al., (2005) interviewed six young men during a three to five year period following their first psychotic episode to gain insight into the meaning of their psychotic experiences for them. All of the participants reported having used substances and identified this as a contributory factor to their experiences of paranoia, although positive effects of substance use were also identified. This small sample study suggests that some individuals have an ambivalent view of substance use and one, which may well change over time.

Some quantitative measures of why people in the general population use substances have been adapted for use with people with psychosis (Cooper et al., 1992; Mueser et al., 1995). Motives for using substances, such as social enhancement and coping with unpleasant affect, have been found to be common to people with and without psychosis (Spencer et al., 2002).

An area that has only received limited research interest is the role played by different types of substances in clients' experiences of psychosis. Many studies seem to treat individuals with psychosis who use one or more of a wide range of illicit substances as representing a homogenous group by placing them together in a 'substance using' sample. Some studies that have differentiated between individuals based on the

substances of use have shown substance specific interactions with psychosis. Strakowski et al. (1994) found evidence for a link between alcohol use and increased depression, and cannabis use and higher rates of positive symptoms in people with schizophrenia. It has also been suggested that there is a specific link between the use of stimulants (cocaine, crack cocaine and amphetamine) and a higher incidence of a life-time history of violence (Miles et al, 2003).

There has been extensive research regarding psychosis and substance use but very few studies have focused on qualitative phenomenological data as a potentially valuable resource to contribute to the knowledge base and make clinical work more appropriate and relevant to clients. This bias towards research that seeks to deliver generalizable and quantifiable knowledge creates an evidence base with a depersonalised quality by leaving the experiences of those individuals who are at the centre of the subject area on the periphery of the findings.

1.1 Aim

The current study aimed to explore participants' beliefs and attitudes about their use of illicit substances and alcohol and any interaction they felt this had with their psychotic experiences. Increased knowledge in this area could help services to devise interventions that their client group feels are relevant to their experiences and improve both engagement and outcome for young adults with psychosis who use substances.

2 Method

2.1 Design

A Grounded Theory (GT) approach to data collection and analysis was selected as appropriate for the current study as the aim was to gain an understanding of clients' beliefs and attitudes about the interaction between their psychotic experiences and their substance use. This aim does imply a positivist epistemological position (Glaser and Strauss, 1967), which holds that 'real' theoretical categories exist and that the task for the Principal Investigator is to facilitate their emergence. Whilst the current Principal Investigator did take the stance that people hold beliefs and attitudes as distinct and objective entities, recognition was also given to the inevitable influence of subjective characteristics during data collection and analysis such as the Principal Investigators prior clinical experience and the participant's expectations and assumptions about the interview. Various epistemological positions have been adopted by researchers employing a Grounded Theory methodology and the 'contextual constructivism' (Parker, 1994) that the Principal Investigator held is considered a viable viewpoint from which to work. Background information about the Principal Investigator is provided below in order to improve transparency with regards to 'constructionist' processes that may have influenced this study.

2.2 The Principal Investigator

The Principal Investigator (PI) was a final year trainee on a Doctorate in Clinical Psychology course at the time that the current study was undertaken. He had worked with people who had both had psychotic experiences and used various substances.

This work had been in both inpatient and community settings prior to and during Clinical Psychology training. The PI had become interested in how substance use was frequently an area of tension between clients and professionals. In the PI's experience this often resulted in professionals attempting to persuade or coerce clients into stopping their substance use by citing possible health and/or legal repercussions of continued use. Despite these efforts substance use remained high amongst the populations that the PI had worked with.

At the time that the current research was undertaken there had been substantial media interest in the effects of drugs, particularly cannabis, on mental health (Giving up the weed, Channel 4, 2007; The Big Drugs Debate Channel 4, 2007; Drugs the Low-Down on Getting High Channel 4, 2007; Cannabis: What Teenagers Need to Know, BBC, 2005) and this, the PI believed, both reflected and encouraged increased debate in popular culture about the interaction between illicit substances and mental health. These programmes all made some reference to possible connection between substance use and mental illness. This seems likely to have had some influence on the beliefs and attitudes of both the PI and participants. The PI had conducted a literature review in the subject area which had required exposure to a large amount of literature frequently reporting findings of high prevalence of substance use by people with psychosis, increased symptoms, high rates of compulsory detainment, and poor engagement and prognosis. The PI, therefore, did believe that substance use often had a deleterious effect on the mental health of people with psychosis. Awareness of this made it possible to purposely avoid using leading questions in interviews and consider these biases during analysis and write up.

2.3 Participants

Participants for the current study were recruited from the Psychosis Intervention and Early Recovery (PIER) team, a service working with people experiencing their first episode of psychosis. The team was located in the East Midlands of the UK and included both inner city and rural environments.

The inclusion criteria were that participants were a) between the ages of 16 and 35, b) currently engaged with the PIER team, c) identified by their care coordinator as a ‘regular’ user of alcohol or one or more illicit substances in the last six months (i.e. using a substance at least twice in a 4 week period). The criteria for ‘regular user’ were purposefully broad so as to ensure, as far as possible, that a reasonable sample size was recruited. In practice all participants had recently used significantly more heavily than the minimum ‘regular user’ criteria. Clients who would have required the use of a translator were also excluded from the study. The research methodology required in depth analysis of participants’ accounts by transcribing their narratives verbatim. The use of inflection was also important and having a participant’s narrative translated by a third party would almost certainly have led to a loss of accuracy and nuance in their account (Fontana & Frey, 2000). Finally if a client’s mental state were such that their capacity to make an informed decision about participating was in doubt they were excluded. The care-coordinator and the PI made this decision.

In total, eight participants were recruited and their demographic details are provided in Table 1.

Table 1. Demographic details of participants and their historical and current substances of use.

Number	Age	Gender	Ethnicity	Living Situation	Substances Ever Used	Currently Using
P1	20	M	White British	With Family	Cannabis, ecstasy, amphetamine, cocaine (powder), alcohol	Yes to all
P2	22	M	White British	With Family	Cannabis, ecstasy, cocaine (powder), alcohol	Ecstasy, cocaine, alcohol
P3	20	M	White British	With Family	Cannabis, alcohol	Alcohol
P4	22	M	White British	Alone	Cannabis, ecstasy, amphetamine, alcohol Cocaine (powder and crack)	Yes to all except crack-cocaine
P5	24	M	White British	With Family	Cannabis, alcohol	Alcohol
P6	19	M	Asian British	With Family	Cannabis, alcohol, ecstasy, cocaine (powder)	Yes to all
P7	22	F	White British	With Partner	Cannabis, ecstasy, amphetamine, Cocaine (powder), alcohol	Alcohol
P8	26	M	White British	Alone	Cannabis, alcohol	Yes to all

2.4 Data Collection

After discussion with experts in the fields of addiction and psychosis, the PI composed an initial interview schedule. This consisted of open-ended questions based on the aims of the study and some follow up probe queries (Appendix 2). The schedule was a flexible guide to the topics of interest identified by the PI, whilst also allowing the participant to tell their story in the way they wanted. The initial schedule was designed to facilitate the exploration of participants' understanding of their psychotic experiences; motivations for using individual substances; beliefs and attitudes about any interaction between use of individual substances and mental health; and factors that influenced amount and type of substance use.

As part of the Grounded Theory methodology analysis and data collection were conducted simultaneously and emerging categories influenced subsequent interviews as the interview schedule evolved to enable the PI to explore these categories in more depth (Charmaz, 2006). For example, analysis of the first three interviews had led to the emergence of a possible category about 'escaping'. This led to the inclusion of questions that explored feeling trapped or constrained by sobriety in subsequent interviews. This process of enquiring about themes that had emerged in previous interviews continued throughout data collection. The schedule used with the final participant is provided in Appendix 3.

2.5 Procedure

2.5.1 Ethical approval

Ethical approval was sought from the Leicestershire, Northamptonshire and Rutland Research Ethics Committee 1 (Appendix 4). The local Research and Development Department was informed prior to any contact with participants.

2.5.2 Recruitment

Potential participants were initially approached by their care coordinators and asked for their consent for the PI to jointly visit them with the coordinator. At this meeting clients were briefed about the research and given the study Information Sheet (Appendix 5). They were also invited to ask any questions that they may have had. Two clients declined to meet the PI after their coordinator had approached them and one more decided not to proceed following a briefing meeting with the PI. One other potential participant agreed to meet the PI in principle but did not attend three planned meetings, after which this client's participation was not pursued any further. This meant that in total 12 clients were approached by care coordinators eight of which were interviewed and included in the study.

Once a client agreed to proceed, the PI arranged a mutually convenient time and location for a one-off interview. Prior to the interview, participants were asked to sign two identical 'Briefing and Consent' forms (Appendix 6), one for research records and one for the client. Interviews lasted between 27-72 minutes depending on how much the participant wanted to say. It was made clear that participants could have a break, or terminate the interview at any stage. The interviews took place at a location

convenient to participants that could offer privacy for the discussion. Six of the eight interviews were conducted at the client's homes and two at public sector premises familiar to the clients (i.e. a health centre and a leisure centre).

Before starting the interview the research was briefly introduced again and the participants reminded of the measures taken to ensure confidentiality and their right to withdraw from the study at any time prior to the research being written up. As the research topic covered clients' use of illegal substances these steps were important in making participants feel comfortable discussing such sensitive material.

2.5.3 Transcription

The PI transcribed the first two interviews. This assisted in gaining an intimate knowledge of the early data, which aids the analytic process (Charmaz, 2006). The subsequent six interviews were transcribed by a secretary external to the PIER team, but within the university. The PI read through the transcripts whilst listening to the audio recordings to increase exposure to the data and make any corrections necessary. The transcription convention used was based on that suggested by Silverman (2000). Each participant was given a pseudonym and any identifying information altered.

2.5.4 Analysis

The process of data analysis involved initial coding, focused coding, memo writing, theoretical sampling and theoretical sorting and diagramming (Charmaz, 2006).

Initial coding

The PI coded each line of transcript with a brief statement using words that reflected action. This procedure encouraged the analytic process to be open to all theoretical possibilities and by keeping analysis closely allied to the data prevented conceptual leaps being made by the PI (Charmaz, 2006). Although it was impossible to totally exclude pre-existing ideas and beliefs, the PI strove to be as open to the data as possible to let codes emerge from it, rather the data being contorted to fit with preconceived codes. An example of initial coding from the current study is provided in Appendix 7.

Focused coding

The second phase of coding involved selecting the most salient initial codes to categorize and explain larger sections of data. Codes were selected based on their ability to succinctly and completely represent the experiences expressed by participants, as judged by the PI. Factors such as the importance the PI felt participants placed on them and/or the frequency with which they had occurred were central to this process. Where the PI judged appropriate, novel codes were generated to encapsulate themes from the narratives.

Memo writing

This technique was used to explore the PI's ideas about codes and how they related to other codes and emerging categories. This involved writing down thoughts without censorship. Memo writing was used to record and explore the PI's developing abstract analysis of the data and to generate subsequent lines of enquiry. Memos were treated as evolving entities and revisited and refined following further data collection.

In this way they were integral to identifying and developing conceptual categories. These categories were more than just descriptions of data as they became abstract accounts of the meanings behind the data. An example of a memo from the current study is provided in Appendix 8.

Theoretical sampling

Following on from the initial recruitment strategy, which was broad and designed to facilitate access to any appropriate participants, a theoretical sampling strategy was employed with the aim of gathering data pertinent to emerging categories in the analysis. Two participants were selected with this strategy. After Interview 5 the sample contained only one participant who had recently ceased their use of substances altogether because they had concerns about the impact on their mental health. The sample also included one participant who felt their frequent substance use had no negative consequences for their psychological well-being. The other participants' beliefs seemed to lie between these polar positions. A concept that emerged from analysis of the data up to this point was a possible link between participants' beliefs about the nature of their mental health problems and the amount of substances they were using. In an attempt to clarify this category two further participants were selected to be in the final sample who seemed likely to represent the 'extremes' of beliefs about the interaction between substance use and psychosis; one, who had recently stopped taking illicit substances altogether, and another, who had recently started to smoke cannabis on a more regular basis despite his ongoing psychotic experiences. Theoretical sampling also involved the modification of the interview schedule as described earlier.

Theoretical sorting and diagramming

Once categories were established and fully explored the relationships between them were analysed and clarified. This process was informed by repeated attempts to diagram the emerging theory. This required succinct representations of complex, abstract elements of the theory and the relationships between them explored. This task encouraged the PI to construct a strong and comprehensible framework on which to hang the complex and conceptually rich products of the analytic process. Examples of theoretical diagram progression are included at Appendix 9.

2.6 Quality

2.6.1 Owning one's perspective

Elliot et al. (1999) highlighted the importance of 'owning one's perspective' in producing credible qualitative research. This involves including information about the PI's orientation with regards to the research area. Section 2.2 details the current PI's perspective on the research topic and gives some relevant cultural information at the time of studies inception.

2.6.2 Reflexivity

Stiles (1993) highlighted the importance of recognizing the PI's internal processes during the investigation as a significant contextual element. The current PI kept a research diary in which reflections on the research were recorded. This involved the PI considering how he was influencing the study and how he was being influenced by it.

Stiles (1993) was also mindful that PIs are likely to be unaware, or unintentionally distort or overlook, some internal processes. The PI had supervision from two colleagues with extensive research and clinical experience relevant to the current study. The PI met with one or other supervisor, or on occasion, all three met together. Part of the structure of this supervision was for the supervisors to reflect back their perspective on the emotional impact that the research was having on the PI. The PI also attended a qualitative research peer support group and benefited from discussing his experience of the research process and gained insight from the observations of others.

2.6.3 Credibility checking

From the content of the original interview guide and throughout the data collection and analysis processes the PI sought discussion and advice from the two supervisors. This included asking them to code some data excerpts independently from the PI and then meeting to discuss the similarities and differences. Some time was also spent coding together and this process assisted the PI in increasing his awareness of the analytic value of returning to the data throughout the investigation to check for alternative areas of significance, and to validate emerging categories and lines of interest.

2.6.4 Grounding analysis with examples

Whilst conducting the investigation, the PI strove to return to the data in an iterative manner to compare increasingly abstract interpretations with the narratives of participants'. This constant allying of interpretations with data is reflected in the

Results section where examples from the data are used to reveal the analytic path taken and to connect the reader with the experiences of the participants.

3 Results

A core category of 'Emotionally Charged Relationship with Substances' and the constituent categories of 'Escaping', 'Limiting factors', 'Making sense of psychosis and substance use' and 'Identity and substance use' emerged from analysis of the data. These will be presented in turn and then a diagrammatic representation of the results is provided followed by the discussion section (page 87).

3.1 Emotionally charged relationship with substances

Dec (Line 804): I swear by it religiously that I'll never stop even when I'm an old man you know I'll never stop it I don't think never...It's helped me. It's been a friend to me basically if you want to put it like that you know so that's why that's why I love my weed and that.

The concept of participants' relationships with substances being powerful, complex and emotionally charged, rather than merely casual, was revealed as a feature in the narratives of all of the participants. The manner in which substances were talked about suggested a connection akin to an interpersonal relationship. This is not however to suggest that the relationship was always viewed as harmonious and cherished by participants; ambivalence and rejection also featured heavily in their accounts.

Steve (line 560): ... it's the weed and the tobacco it was just, and the hash you know the solid stuff it was too much it was just making me rush from place to place getting nothing done get generally annoyed with myself, it's bad stuff you know...

Int. (line 573): So six months ago what would your views have been?

Steve: - There's no worries, it's like the best thing in the world and everybody should use it.

Some participants' relationships with substances had not remained wholly positive and, as can be the case with unsatisfactory or abusive interpersonal relationships, it seemed that 'breaking up' took time and was not a quick, straightforward process.

Lucy (line 225): I must have carried on doing the whole lot for a good 4 months just not associating it with the drugs or not wanting to associate it with the drugs cause I wasn't ready to give them up.

Some participants had come to attribute their psychosis, often characterised by terrible fear and isolation, to their substance use and so discontinued using them. However, even for these individuals substances appeared to retain some 'siren song' type appeal that was almost irresistible.

Steve (line 669): Of course I wouldn't say this with my dad around but I'd love to have a smoke but I can't [um] cos I'm pretty scared because of what it will do.

Ambivalence was also a feature of the accounts of the five participants who were still in a 'relationship' with substances at the time of being interviewed.

Vince (line 539): When I'm stoned it's I don't know I'm paranoid as heck, can't really go anywhere or do anything if I'm stoned, don't even like opening the front doors to let my mate out. Don't want people to like walk past and see me standing or something, start up the voices.

Int. (line 655): OK. So it's interesting that there does seem to be quite a lot of downsides to your smoking that you're talking about but you, you still do it pretty regular?

Vince: Yeah.

Int.: Why is that...?

Vince: Er dunno man like the slow downess and the er relaxation erm er sort of in la la land sometimes like a little bit like the E like you're in another world...

Some participants did acknowledge bad experiences when using substances but attributed these negatives to things other than their substances of choice. It seemed

some participants were motivated to defend the object of their affection (the substance[s] of choice) by blaming other factors for negative experiences and so maintain the idealised relationship.

Nathan (Line344): ... the thing was I was sure that it was mixed with other stuff and I just felt that at times I felt really alert and really struggling to keep hold of myself so that I don't get paranoid and err that's a completely different feeling to cannabis if you know what I mean.. So I knew something was in it, in the drug kind of thing, it has been messed with.

All participants spoke of relationships with substances that were complex and intense and many referred to changes that had occurred to these relationships. The following categories emerged from the analysis as being involved in shaping these relationships.

3.2 Escaping

For participants, sobriety had a number of uncomfortable, constraining and depressing elements to it and substance use was seen as a means of liberation. Some components of this liberation were more related to them as a group of people who had psychotic experiences whilst others seemed more widely applicable to people who use drugs and alcohol. Participants described intense emotional attachment to substances due to their perception of them being a means of escape from various disliked aspects of their lives.

Dec (line 514): I don't like being straight... it's just that when I'm straight I don't really, I don't really like it I'd rather, I'd rather have summat in me [UM] than nothing you know what I mean I just don't really like being straight.

However, some participants' narratives suggested that they had become too dependant on substances as a means of liberation and so conversely felt trapped by their use. This paradox is discussed below.

3.2.1 Boredom

Participants spoke of the monotony of their lives and limited social and occupational opportunities, which left them frequently bored. Substance use was a vehicle to travel away from tedious sobriety to respite in intoxication, which offered instant if temporary entertainment.

Vince (Line 671): Yeah it's sort of like getting out of Leicester for a day...(Line 662) you feel fresh and like you've been somewhere else... not the same crap for the whole day... every day a little out outin' sort of thing.

Int.: Yeah. So why is it that it's nice to have an outing away from, what are the bad things?

Vince: ... just the boringness of the day really... sometimes it gets a bit boring and it's nice to have a little outin' ...

This perception of substances as entertainment and as a means of achieving happiness contributed to participants' emotional connection with substances.

3.2.2 Mental Health Problems

Apart from Lucy, all participants were taking some anti-psychotic medication at the time of interview. However it seemed many felt that there was a role for taking illicit substances and alcohol to help escape elements of their mental health problems as described below. The perceived power of substances to help participants in this manner fed into the emotionally charged relationships they held with substances.

Perceptual disturbances

For some participants, the use of cannabis and alcohol provided respite from frightening thoughts, voices and perceptual disturbances that they considered part of pre-existing mental health problems. In psychiatric language this could be termed the self-medication of positive symptoms but would not convey the idiosyncrasies of emotion and experience expressed in the current sample. Participants appeared to be striving to gain some control over experiences they did not understand or desire.

Dec (line 368): I've always had like [um] you know like the voices in the back of my head that you know I've always had and I never could put my finger on it like where it were coming from ... (Line 382) I was getting all that like back in the day and that's why I started smoking weed so I was totally mellow all the time I was totally stoned out my brains all the time twenty-four seven

Nathan (Line: 512): I use drink and cannabis like in a similar kind of way...control these feelings, you know the weird shapes and all the strange colours.

Lethargy or Lack of vitality

Other participants referred to their substance use as a means to escape apathy and a sense of emotional barrenness.

Tom (line 185): I quite like pills because they just I dunno make me cos I'm always like I feel quite flat a lot of the time [UM] just it's just like a release really it's like makes me feel really happy and sort of makes me feel alive sort of thing

Nathan (line 601): If its mundane things like cleaning and things like that you know I find it difficult to motivate myself to do that, but cannabis seems to motivate me – to get me up and going again and I just do it without thinking about it, put some music on and yeah its just a lot better to do.

These experiences are akin to what may well be classified as negative symptoms of schizophrenia in traditional psychiatric parlance. The descriptions suggest that substance use was viewed as a remedy to these experiences by 'getting going' 'feeling alive' rather than remaining in an emotional and motivational stupor. Perceiving

substances to have this medicinal quality meant that participants forged a close bond with substances.

Perceived Malevolence of others

When reflecting on the time that they were most unwell, all participants felt that other people were against them. This ranged from beliefs about being made fun of by others to anxieties about being murdered. Participants described being betrayed by 'so called friends' and not being able to trust in what other people said, or even that they were who they were supposed to be. This perceived malevolence of others included close family and strangers alike and created a terrifying and lonely existence. However, this was tempered for some, by doubts about themselves. Their accounts suggested that they had questioned why others victimised them and the possibility that it was their fault had not been ruled out.

Tom (Line 532): ... he didn't know any of my friends or anything that had happened to me in the past and he started doing this thing these mind games on me it was like, I just felt that you know everyone.. what's wrong ...? just everyone doesn't like me sort of thing.. so I'd had some coke and I asked him about it.

Lucy (Line 624): I was frightened to be awake I was frightened to go to sleep, I couldn't trust anyone ... (Line 631) ... the escape that I had was just that very short time that I was peaking I was out of it and

Int.: On speed or on E?

Lucy: Yeah, it just took me out of it for err for a couple of hours and you know obviously you start to come down it starts creeping back in again and even when I was straight it was still there, so I suppose it was my escape, a while, but like I say I was frightened to wake up I was frightened to go to sleep.

Stimulants appeared for some, to offer a way to cope with, or provide respite from, the hostile world in which they perceived themselves to be living. These significant characteristics, which some participants attributed to stimulants, were seen as attractive and led to affection for these substances. Stimulants were often referred to

as being helpful in social situations by reducing the value that participants placed on others' judgements of them. In this way stimulant use mimicked the protective quality of having good self-esteem.

Cannabis seemed to increase introspection, which combined with beliefs about others' malevolence and associated low self-esteem, made being with other people very uncomfortable for participants. The emotional relationship with cannabis was frequently strong enough that, rather than stop using it, participants either tolerated this social discomfort or chose to withdraw and continue to use it in solitude. In this sense cannabis seemed to contribute to the impact of participants' perception of others being malevolent rather than helping them to escape from it, and spending time with cannabis replaced being in the company of other people.

Steve (Line 350): ... I found it very difficult to get out and and smoke with people ... (Line 354) I'd make more excuses to be on my own I'd make more effort not to be with people ... (Line 362) I couldn't actually sit down in a room comfortably with people without thinking what they're thinking of me.

3.2.3 Limited range of experience

Some motivations for using substances appeared common to young people both with, and without, mental health problems. Participants described their substance use starting as experimenting with friends to find out about the effects of drugs for themselves and expanding their range of experience. This enabled them to feel part of their peer group at an age when acceptance and belonging are often especially desired. Substance use appeared to offer the opportunity to escape from the 'normal' spectrum of sensations and transcend the limitations of pleasure in sobriety.

Lucy (line 140): ... it was the most amazing feeling of my life otherwise I wouldn't have done it again.

Tom (line 418): it was all yeah just experimenting really friends together... we all tried things together.

The sense of euphoria, excitement and belonging associated with early substance use had a powerful emotional quality that remained part of participants' relationships with substances later on in their lives.

Vince (line 261): ...Err I love it, love the buzz mainly... (Line 263) the way it makes me feel and err things that you do on it and shit, its good fun.

3.2.4 Feeling socially inadequate

At the time of interview, most participants were not having psychotic experiences involving paranoia about the malevolence of other people although they still talked of feeling uncomfortable in social situations. This anxiety appeared to be based on concerns about their own abilities to be good company, and to offer something to a social group rather than fears about others being malevolent. However the use of stimulants to help was common to both types of social anxiety. In respect of feelings of social inadequacy stimulants were identified as a means of relief by increasing confidence and the ability to converse spontaneously. Whilst, as mentioned above, the utility of stimulants when participants were suffering with paranoia was more about reducing, or escaping from their perception of others as being malicious. This association between substance use and increased feelings of social competence and enjoyment contributed to the intensity of the emotional attachment to substances.

Tom (line 348): ... feel a lot like you know like I could do it again take some pills or something just to like sort of lift me out of my mood [um] make it easier to be with people, it's not like sort of the answer like...it's just er like a relief sort of thing.

Int. (line 557): What would be the biggest fear about going out socially and being straight?

Nathan: I don't know its just like not being able to be myself erm having nothing to say not being able to have a laugh not being able to.. just enjoy myself.

3.2.5 Substance dependence

Substance use was also identified by some participants as trapping them in a restricted existence from which, at least in part, they wanted to escape. Cannabis was most often talked about in this way. On reflection, participants felt that by using cannabis heavily they had created a need for continued use as sober life had become an impoverished, uncomfortable experience. In this way cannabis use had changed from being an optional, pleasurable experience into a requirement to get to a comfortable state.

Steve (Line 294): ...the problem was I got to the point where I didn't want to but I had to have it just to function ...

Steve (Line 975): ... when I want one it's like erm (.) it's like you get agitated [um] you're pepped up and stuff and worked up (Line 979) ... you can't actually think of anything think of anything else ... (Line 988) You know I'd like bags under my eyes that were really bad and I was like you know like a skeleton [um] cos I just couldn't eat I was more interested in getting stoned ... (Line 993) but for those moments where I was smoking a joint I was fine/

Several participants felt that they were actually addicted to cannabis and their options were limited as they were trapped in a pattern of repeated use.

Vince (Line 440): ...the geezer says on there that mental addiction ain't possible but I think it is. I used to go out like you know like a crackhead [um] used to go out every day looking all over town trying to get a smoke/

3.3 Limiting factors

Participants' choice of substance(s) and quantity and frequency of use were moderated by a number of factors. Again the complexity of the relationships with substances came to the fore as participants described how their personal beliefs and choices combined with external factors to determine which substances were used when, and to what extent.

3.3.1 Internal control

From analysis of the data several themes emerged with regards to participants making choices about substance use and so suggesting that they exerted some self-control over which substances they took.

Concerns about Health

All participants talked about the health implications of their substance use. Although cannabis was frequently identified as having a negative impact on participants' mental health it was viewed, along with alcohol, as a substance that was appropriate for daily use. In contrast, the use of substances that many participants felt had very few negative mental health consequences, such as stimulants, were generally viewed as drugs for occasional use. These opinions were heavily influenced by what participants believed the physical health risks of these different substances were. In this way it seemed that physical health concerns were given priority over mental health concerns by the majority of participants.

Satnam (Line204): well I've tried crack in my life as well I've only tried it 3 or 4 times... I tried cocaine as well but the safest drug was cannabis so I stayed on that.

Int.: OK. What was the danger about the crack and the powder cocaine?

Satnam: Well it can kill you ...(Line 214) I think it can just kill you I don't know if it can just kill your brain cells or your body or anything like that all I know is it can kill you.

Vince (Line 1073): Oh sometimes I'll be thinking like I'll just have a weed tonight and err a little bit later I'll start thinking I wanna pill wanna pill and it'll be like no I'll just have a weed ... (Line 1082) Erm I know that ecstasy does your spinal fluid in ... (Line 1084) So having as little of that is probably best so probably you usually think of that.

Whilst most participants viewed the physical health consequences of frequently using stimulants as severe and enduring, the mental health consequences of using cannabis were seen as moderate and temporary. This suggested that even frequent cannabis use, which was acknowledged to exacerbate some psychotic symptoms whilst intoxicated, was not seen by most participants as being a significant influence in the long term course of their psychosis.

In contrast, two participants had stopped taking all substances, other than alcohol, as over time they had come to believe that use of cannabis and stimulants was responsible for their psychotic experiences. Both of these participants described a protracted period during which their mental health was deteriorating when they continued to use substances. This was because at the time they felt that the two were unconnected or they were not prepared to consider that there might be a connection. Stopping taking substances seemed to happen as a last resort when their mental health problems had become so unbearable that the only choice they had was to see if stopping would improve their situation. The difficulty of this decision, characterised as it was by sadness and emotional pain, illustrates the intensity of the relationship with substances that had developed.

Lucy (Line 273): ... so I realised that I was getting more and more poorly so erm you know I wasn't ready to give things up but you know begrudgingly I realised that I had to ... (Line 287) I felt like you know it wasn't my choice to stop taking it – I was only stopping taking things because I had to ...

Preference

Participants did express preference for particular substances which were influenced by several factors. For some, certain substances were perceived as too risky in terms of becoming addicted. This implied that some participants saw certain substances as more powerful than others, and indeed than themselves, in terms of becoming dependant on them.

Nathan (Line 655): Ahh cocaine I don't think I would go for that cause I think that's just too hardcore.. I think it would be brilliant I think I would love it but it's too addictive

For other participants, particular substances had been tried but not enjoyed enough to be used regularly.

Dec (Line 298): when I'm using speed and that it's more intense that's why I don't really use it that often ... (Line 312) it's just that you know I don't I don't really like it that much really I prefer my pills.

This suggested that participants' formed relationships with substances based on how they matched their personal requirements. The closer this match was, the stronger the emotional attachment and the more enduring the relationship became.

3.3.2 External control

Participants identified a number of external influences that limited their use of substances. These indicated that substance use was not purely a matter of personal choice but that limitations were imposed by others or by lack of resources.

Being punished

A number of participants limited their substance use because of worries about sanctions that family or the police may impose if they got caught. This process involved making choices but ones where other people had significant influence and were forcing the decision to be made in line with their agenda.

Int. (Line 256): ...what were the bad things about using it?

John: Cos I'd get kicked out if I did

Nathan (Line 193): I'd like to use it more kind of thing cause it is quite relaxing and that, erm it helped my sleep a bit better...

Int.: So why don't you use it more?

Nathan: Erm it's a criminal offence so you know I'm a little bit paranoid about you know if the police start sniffing round ...

Reactions to these sanctions differed: some participants resented their freedom being curtailed, whilst others seemed resigned to accepting the situation as it was.

Access to substances

Participants frequently talked about their substance use being limited by their financial resources and being unable to access a supply for what they wanted.

Int. (Line 661): ... what stops you smoking more?

Dec: Money, if I was a millionaire I'd grow it ... (Line 665) I'd have big fields of it I would I'd have big big fields and I'd just be running through the fields picking buds off wrapping 'em in Rizlas and that and smoking every single day, all day every day ...

Tom (Line 459): ... I mean if I was working and I knew some people who who could get hold of it I'd probably ask them but yeah it's just people really because I don't go out or see anybody I don't don't have any contacts to get it from regularly.

Generally these limitations were passively accepted as part of the way life was for participants. This seemed to reflect an acceptance that life was limited for them in that

they did not have paid employment or wide social networks and so they could not expect more from life.

3.4 Making sense of psychosis and substance use

In their accounts, participants shared their beliefs about the nature of psychosis and why they felt they had experienced it. Even when some participants could not come to a definite conclusion on this topic it seemed that they were striving to make sense of experiences that had had a dramatic impact on their lives. In grappling with this issue participants revealed their beliefs about the role that substance use played in their psychotic experiences.

3.4.1 Psychosis as uncontrollable

For some participants, psychosis was an entity out of their control that happened to them without them having any influence over it. These individuals perceived their behaviour, such as substance use, as having no significant impact on their long-term mental health.

John (Line 295): I can't stop it, if it happens again it happens. I don't think it's err anything that I did wrong.

Nathan (Line 57): I think its something to do with subliminal messaging erm through the TV probably... (Line 65) I know how that sounds, but there is no other explanation for me ... (Line 83) I had no control over it whatsoever ... (Line 92) It must have been triggered by something.

This understanding of psychosis allowed participants' relationship with substances to remain untainted by concerns about possible negative consequences for their mental health.

3.4.2 Psychosis as result of substance use

Some participants had come to have very clear beliefs that substance use had caused them to have psychotic experiences. This way of understanding their mental illness gave individuals a sense that they had agency in determining their own psychological well being and resulted in them stopping their substance use. It also implied that they were responsible for causing their psychotic experiences and with this came guilt and regrets. In this way their relationship with substances had changed dramatically but remained emotionally charged.

Lucy (Line 888): ...If I had my time again in hindsight I would not have done it ... (Line 892) I wish I could I had a time machine to take me back and just to say no ... (Line 902) I would wholeheartedly say you know hand on my heart 150% my psychosis is down to pure and simply to drugs, nothing else. And you know I will swear that until my dying day.

Another challenge faced by participants that stopped using substances was that their mental health continued to deteriorate and doubts remained about whether or not a full recovery could be made. Participants' understanding of this seemed to suggest concerns about organic damage.

Steve (Line 1075): I was trying to taper everything like slowly get off the stuff ... and then when I stopped I had two weeks before I came into the ward that's when everything went really really badly wrong.

Lucy (Line 484): it depends how you brain will re-route, its gonna re-route somehow its just whether it re-routes in a normal way or not.. or just leave permanent permanent scars.

3.4.3 Uncertainty about interaction

For some participants it seemed that the nature of psychosis, and the interaction of substance use with it, was unclear. This left them in a state of 'limbo' with regards to

their substance use and resulted in their narratives communicating a sense of being confused and lost.

Satnam (Line 237): I don't think it's the cannabis that's done this, I think it just come anyway... (Line 240) cause there are loads of people out there smoking cannabis and its not done no effects to them ...((Line 245) I think it might have some impact on me yeah ... (Line 267) its just something that has come along I think cannabis has helped it to come along.

This fed emotional ambiguity into their relationship with substances, with a mixture of hope of positive effects and fear of negative ones.

3.5 Sense of identity and substance use

Participants talked about their sense of self, and the role substance use had in this, in a number of ways. The narratives revealed how substance use had been, or still was, a positive and integral part of participants' understanding of who they were. For some participants substance use was also implicated in changing their identity. In some instances this seemed like a positive change in others it was more of a destructive change of identity that left some participants grieving for the self they believed they had lost.

3.5.1 Substance use as part of identity

Some participants seemed satisfied with the current sense of self. For these individuals substance use was part of a wider cultural 'scene' involving music and socialising. These participants forgave substances any negative effects they had, both to physical and mental health, as using them played a big part in defining their

identity. In this way they had a strong emotional connection and investment in continuing to use substances. Others reminisced about the role substances used to have in their sense of identity and this demonstrated the intensity of the relationship that had been an integral element in their life and sense of who they were.

Dec (Line 906): I get enjoyment out me drugs it's just I suppose in a way it's part of me I suppose innit you know especially my raving and that going to my clubs it's that's part of me definitely that's a big part of my life that is.

Steve (Line 696): for a certain period ... it was like my life... (Line 730) there's a bit of like a reputation kind of thing attached to it all ... it's was like my job

3.5.2 Substance use changing identity

Some participants felt that substance use had changed their identity in a negative and fundamental way. Their narratives conveyed sorrow and loss for their past sense of self and elements of blame and resentment characterised their emotionally charged relationship with substances.

Lucy (Line 894): because I am never going to get back the personality that I lost I don't think I am ever going to get that back erm, and that makes me sad because I loved the person that I used to be... (Line 912) there's one thing that's caused it ... the drugs that I was taking that to me said you know ... that was the start of it..

Although there was grief in these participants' accounts they also seemed to have gained comfort from having identified what they believed to be the cause of their problems and then taking action to remove it from their lives. With this came a sense of optimism with regards to the process of reorganising and rebuilding a sense of identity without substance use as a factor.

Steve (Line 1177): Yeah so no I'll get better I know I've got myself back a bit, I feel a lot better in the last two or three weeks anyway than what I used to...

Others shared their sense of loss of a fondly remembered past self, but attributed it to mental health problems unconnected to substance use. For these participants, substance use offered a means to change their presentation of self and become more like the person they used to be. There was often some ambivalence about this due to a perception of there being some negative effects of using substances and concerns about it only being a temporary solution to a big problem.

Satnam (Line 343): I just don't feel my normal self so when I drink I think like the alcohol will help a bit.

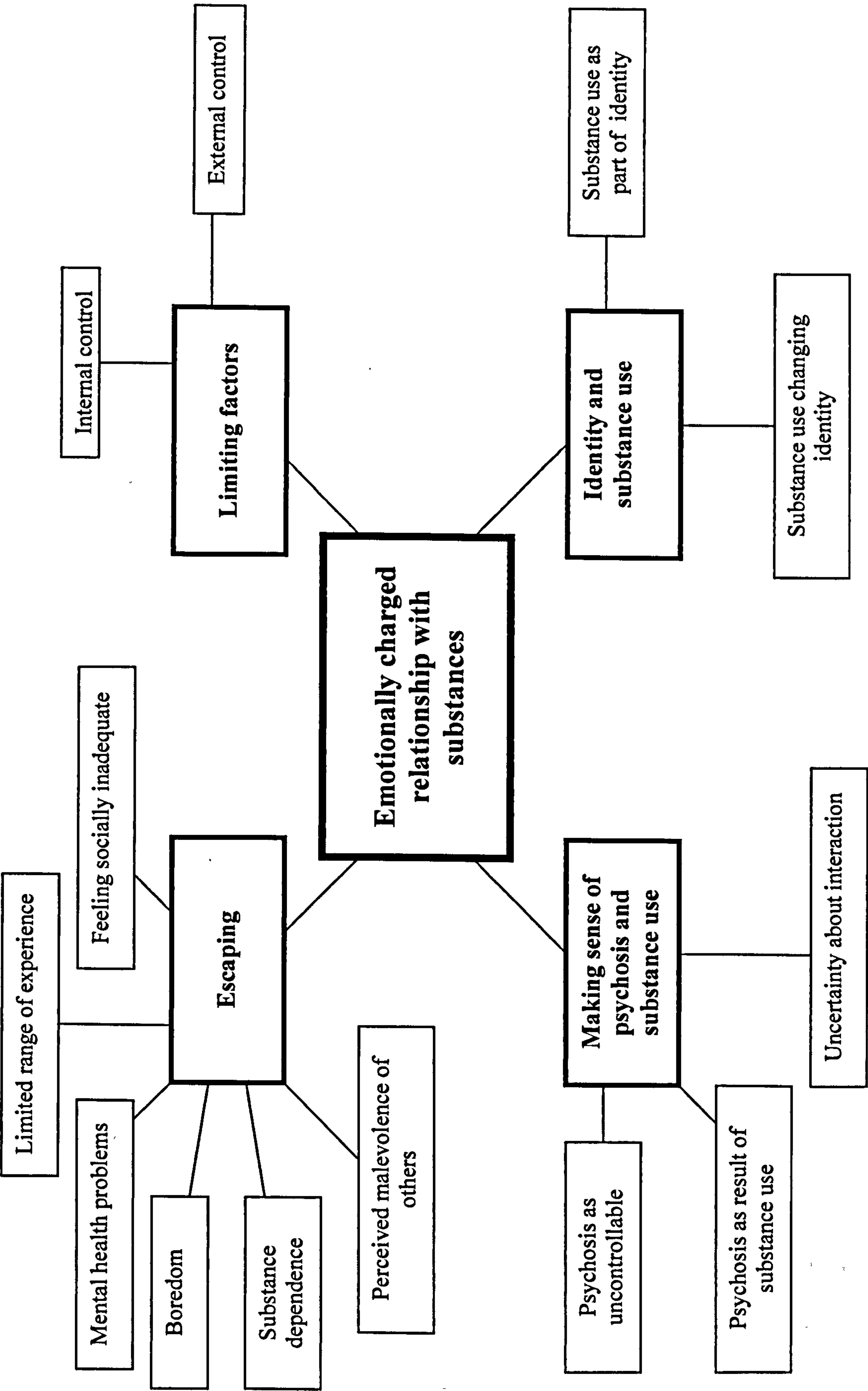
Nathan (Line 213): it does help me with that so I can be a bit more like me old self.

Nathan (Line 545): my problem is you need to learn to do it without because in a job situation you cant be drinking and smoking... you know and in certain other situations you cant be drinking and smoking

It appeared that these individuals were uncertain about the future and how they could address their discontent with their current sense of self. Substance use seemed to be viewed as a not wholly satisfactory means to temporarily come closer to having the identity that these participants desired.

Figure 1 is a diagrammatic representation of the core and constituent categories that emerged from analysis of the data.

Figure 1. Diagram of the emotionally charged relationship participants held with substances



4 Discussion

4.1 Aim

The current study aimed to explore participants' beliefs and attitudes about their use of illicit substances and alcohol, and any interaction they felt this had with their psychotic experiences.

4.2 Summary of findings

The major theme to emerge from the analysis of the data was that the relationships that participants formed with substances were charged with an emotional intensity that was compared to a significant interpersonal relationship. The constituent categories of 'Escaping', 'Limiting factors', 'Making sense of psychosis and substance use' and 'Identity and substance use' were constructed from analysis of the data. The value placed on these elements by participants and the way in which they combined determined the nature of the relationship that individuals had with substances at any point in time.

4.3 Emotionally charged relationship with substances

The core category of the current study highlighted the intense emotional relationship that participants had with substances. The PI felt the complexity and power of this relationship had similarities to interpersonal relationships involving qualities such as love, loyalty and friendship as well as dependence, betrayal and rejection.

The onset of psychosis is typically during adolescence, a transition period often characterised by individuals becoming less reliant on family relationships and forming more intense peer relationships (Mackrell & Lavender, 2004). Psychosis can impact heavily at this emotionally turbulent time and those who experience it have been found to form less supportive peer relationships (Mackrell & Lavender, 2004; McClellan & McCurry, 1999). The causal direction between emerging psychosis and difficulties with peers is unclear but the correlation between the two has implications for the current study.

For some young adults who experience psychosis and unsatisfactory peer relationships it may be that substance use offers some comfort, not only in terms of being a means to cope with loneliness and depression, but also by being identified as alternative entities with which to form relationships. Unlike peers without psychosis, who may be rejecting or rejected due to perceived differences, substances may be viewed as less threatening or challenging and the emotional attachment and support usually directed towards and received from peers is given to and perceived to be received from substances.

In the current study a number of participants did describe their use of substances, particularly cannabis, as exacerbating their separation from peers by increasing thoughts about other people having malevolent intentions. It may be that substances not only serve young adults with psychosis as alternative relationship partners, but use of them also further precludes them from forming relationships with other people.

For other young adults who experience psychosis, substance use may be a way of sharing a commonality with a peer group. In this sense rather than replacing friendships with peers substance use is a means of accessing relationships with others. Research has shown that substance use elevates young people's social standing amongst their peer group (Killea-Jones et al., 2007) and for individuals with psychosis this may represent an easily attainable means to try and overcome the difficulties they experience in forming relationships with their contemporaries.

4.4 Escaping

The category of escaping included numerous factors that participants felt constrained by and used substances to escape from. Sensation-seeking and alleviating boredom have been shown to be significant factors in the use of substances by young people (Paglia & Room, 1999) and so it is hypothesised that some of the motivating factors identified in the current study (i.e. boredom and a limited range of experience) are also common to people who use substances but do not have psychosis. However, participants spoke of how they had experienced reduced confidence and motivation to engage in social activities since having psychotic experiences and so this client group could be particularly vulnerable to experiencing boredom and a limited range of experiences.

Some factors seemed more directly related to gaining respite from psychotic experiences such as perceptual disturbances, paranoia, avolition and flat mood. This is consistent with the notion that participants were self-medicating with substances. A review of the literature found little empirical evidence in support of the self-

medication theory of substance use by people with psychosis. However those studies that accessed clients' own opinions about why they used substances reported alleviation of a variety of symptoms as a major factor (Gregg, Barrowclough & Haddock, 2007). The current study is congruent with these findings and although it is not claimed that psychotic experiences precede substance use, the narratives of participants in this study suggest that they are implicated in the maintenance of substance use.

Although cannabis was identified by the majority of participants in the current study as having the most negative impact on their mental health it had been used on a daily basis by all participants at some point in their lives. A pattern of use increasing from occasional smoking with friends to daily use often alone was a common experience. It seemed that cannabis use became implicated in exacerbating experiences such as paranoia and voice hearing and this increased participant's sense of sober life as lonely, monotonous and anxious. However, simultaneously its use was seen by participants as an effective means to manage these problems by getting temporary relief when intoxicated. As well as being temporary, this relief was not always reliable, especially it seemed, when in the company of others. Another qualitative study has found that clients report using cannabis to alleviate loneliness, boredom and anxiety (Baigent, 1995) whilst others have reported cannabis use leading to increased positive symptoms in samples of people with psychosis (Pencer & Addington, 2003, Rosenthal et al., 1994, Strakowski et al., 1994). Participant's appeared to form the most intense relationships with cannabis and it seemed that their affection towards it often crossed over into a dependence on it to manage difficulties exacerbated by its use. Several participants who stopped using cannabis broke this vicious circle but the

cessation of use appeared traumatic and tainted with uncertainty. This pattern is similar to that reported in a study involving a different clinical group but which may have similarities in terms of the impact of prolonged cannabis use. Crowley et al., (1998) found that for adolescents with conduct problems cannabis use was not benign, and that use reinforced subsequent cannabis-taking and led to both dependence and withdrawal difficulties

If substances are viewed by young adults with psychosis as a remedy to boredom, loneliness, limited experiences, anxiety, and other psychotic experiences, all of which they are particularly vulnerable to, then emotional attachment to substances is not surprising.

4.5 Limiting factors

A major factor relevant to participants' decisions about continued substance use, and its frequency, was the perceived risk of serious physical harm or addiction. For many, cannabis and alcohol were viewed as physically less risky than ecstasy, cocaine or amphetamines. This was reflected in some participants not having used stimulants at all, and those that did generally reported choosing to limit their use due to physical health implications. For all participants alcohol and cannabis had been viewed as suitable for daily use at some point in their lives. Even though many participants did allude to some concerns about cannabis having some negative consequences for their mental health these appeared to be viewed as less serious than the potential physical consequences of using other substances. This may reflect the influence of media attention in recent years to deaths of young people who have taken stimulant drugs

such as ecstasy (<http://news.bbc.co.uk/1/hi/uk/1320949.stm>), as well as the large amount of coverage of celebrities addicted to substances like cocaine. The fact that these drugs have a higher legal classification also may have influenced participants' decisions about which substances were safer to use and to what degree. Although there has been increased debate about the possible link between cannabis and mental health problems it seems cannabis use is widely viewed as acceptable, or at least as not dangerous. It appeared that many participants in the current study shared this popular view, and whilst it may well be that the risks are low for the majority of cannabis users, the literature would suggest that people with serious mental health problems risk experiencing significantly poorer illness outcome (Pencer & Addington, 2003, Rosenthal et al., 1994, Strakowski et al., 1994).

Other factors that were influential in determining the type and degree of substance use were external to participants. Sanctions by family members and fear of legal repercussions limited some participant's use. For others limited access to money and to a supply of substances was more pertinent. Generally participants passively accepted these limitations as a part of the way life was for them and seemed to reflect a more general 'learned helplessness' (Seligman, 1975) type response where they believed themselves to have no control over the situation they were in. However they did still choose to take substances to try and improve their lives so it may be more accurate to view their situation as being typified by a degree of resignation to some external control rather than classic 'learned helplessness'. Some research has suggested that a negative explanatory style, whereby negative events are attributed to internal, stable and global characteristics maybe typical in depressive psychotic individuals (Addington et al, 1999).

4.6 Making sense of psychosis and substance use

Some participants had very clear beliefs about the interaction between substance use and psychosis, whilst for others the subject seemed more confusing and uncertain. There were oppositional opinions amongst those with definite beliefs about the interaction, with some asserting that substance use had caused their psychotic experiences, and others denying that it had any contributory role whatsoever.

Participants described their psychosis as involving paranoia characterized by the perceived malevolence of others as an element in their psychosis. A study into the experience of suffering from persecutory paranoia suggested that living with this belief system could be a terrifying experience with the individual in a constant state of fear (Boyd & Gumley, 2007). Participants who came to attribute this perpetually frightening existence to substance use experienced a dramatic change in their relationship with substances. The relationships became characterized by blame, resentment and ultimately rejection in the form of cessation of use. These participant's narratives suggested that they did not perceive themselves to have mental health problems prior to taking substances and this seems likely to be a factor in their attribution of psychosis to substance use. However, experiences associated with the prodromal stage of psychosis may not be readily identifiable by the person experiencing them as emerging mental health problems (Gourzis et al., 2002). Evidence for drug induced psychoses that would not have occurred without substance use, and that persist more than a short time after cessation of taking the substance is limited. However, there is better support for the theory that substance use can be a

contributory risk factor in the development of psychosis in vulnerable individuals (Miller et al., 2001).

For some participants psychosis was an entity that they perceived themselves to have no influence over. In their opinion therefore, this left behaviour such as substance use, as incidental to the onset and course of their psychosis. It could be that their intense emotional commitment to substances was implicated in them adopting this fatalistic position (whether they were aware of it or not) whereby the individual's desire to maintain their lifestyle, including substance use, was defended and legitimised. However, it also suggests some resignation to an unknown and uncontrollable force that could strike again in the future, over which the person had no power. This places the individual in a vulnerable position at the mercy of an unpredictable threat and seems a depressing way of understanding their psychotic experiences, which may lead to increased substance use. Indeed, Baigent et al., (1995) found that people with psychosis who used substances reported a major factor in so doing was to get relief from low mood.

The literature suggests that individuals who have had psychotic experiences and continue to use substances have higher rates of relapse and hospitalization, and experience more extreme symptoms than people with psychosis who do not use substances (Pencer & Addington, 2003, Ries et al., 2000, Sorbara et al., 2003, Strakowski et al., 1994, Swofford et al., 2000). This represents a clinically significant alternative understanding of the interaction between substance use and psychosis than that held by some participants. In contrast to those who attributed their psychotic experiences to substance use, the narratives of participants who held a fatalistic view

of psychosis revealed long standing mental health problems pre-dating regular substance use. This may explain their reluctance to make a link between using substances and the onset, or exacerbation, of psychotic symptoms. These participants tended to use substances regularly as their emotional attachment to substances remained unsullied by concerns about use being bad for their psychological well-being.

For other participants the interaction between psychosis and substance use was confusing and contradictory. It was identified as being beneficial in some respects usually associated with managing experiences such as flat affect, avolition and perceived social inadequacy however, concerns were also present about the negative impact substances were perceived to have on paranoia and delusional experiences. This 'love-hate' relationship with substances was reflected in patterns of use which tended to be sporadic and not wholly satisfactory. This ambivalence about substance use and its implications for psychotic experiences was identified as a common issue for participants in a study into the psychotic experiences of young men (Hirschfeld et al., 2005). It could be that clients with this mixed relationship with substances are amenable to ceasing their substance use given the right encouragement and support. This would need to involve offering alternative means of gaining the positives of substance use that were meaningful to clients and non-deleterious to health.

4.7 Identity

It has been suggested that people who experience psychosis frequently suffer a loss of identity (Roe & Davidson, 2005). This is perhaps not surprising given that the onset

of psychosis is typically during adolescents and early adulthood when the psychosocial developmental process of identity formation occurs (Erikson, 1994). It has been suggested that substance use infers identity on the user and that individuals who are dissatisfied with their sense of self are more prone to problematic use (Abrams & Niaura, 1987). For some participants substance use offered a way to rebuild a sense of identity, or maintain a link to their sense of self prior to their psychotic experiences. It seems likely that young adults who have experienced psychosis as an interruption to their developing independence and sense of self, and then find relief in the form of substance use, will have relationships with substances imbued with positive emotions. For other participants substance use was perceived to be the cause of their psychotic experiences and loss of identity. This led to their relationship with substances becoming characterized by blame, regret and resentment. Some participants also experienced a sense of loss of a valued identity but why this had happened seemed to elude them. Because of this they seemed unable to make long term plans to remedy the situation and substance use was viewed as a possible short term means to improve their view of themselves, but this was tainted by uncertainty and emotional ambiguity. The different roles that substances were perceived to have had in participants' attempts to resolve their 'identity crises' were significant factors in determining the emotions that characterised their relationships with substances.

The majority of participants who used ecstasy, amphetamine and cocaine viewed their interaction with their psychosis as non-deleterious. They did feel their use was helpful in managing feelings of anxiety and inadequacy in social situations, which were common problems. Social rank theory has been used to explain the social anxiety

experienced by people who have experienced psychosis (Birchwood et al., 2006). It is suggested that individuals who experience shame and perceive themselves to be socially marginalized by their diagnosis, come to believe they have low social status and so feel inadequate and anxious around others. It could be that use of stimulants in this context is a way of managing social anxiety. However this temporary enhancement of identity led to further doubts about the individual's abilities to perform adequately in social situations when sober. In this way stimulant use could be viewed as a way of avoiding social anxiety, and at the same time, maintaining the individual's perception of themselves when sober as having low social status and therefore requiring stimulants to manage the associated anxiety.

4.8 Clinical implications

The powerful, emotionally charged relationship with substances frequently described by participants led them to holding a number of what Graham (1998) called 'dysfunctional substance-related beliefs'. For example 'it makes it easier to be with people' (Tom) and 'cannabis seems to motivate me, to get me up and going again' (Dec). Dysfunctional beliefs such as these, Graham suggests, not only maintain substance use but reduce medication compliance and engagement with services. These effects help account for the substantially worse prognosis for people with psychosis that use substances compared to those with psychosis only. Graham (2003) developed a cognitive-behavioural integrated treatment (C-BIT) approach incorporating an element to modify the cognitive distortions about substance use held by some people with psychosis, particularly those who do not perceive their substance use as problematic. Existing clinical teams dealing with people with psychosis and

substance use problems were trained in the use of C-BIT and the effectiveness of this training evaluated (Graham et al., 2006). Although staff reported increased levels of confidence in skills in working with this client group after C-BIT training, it was too early to show whether or not this led to an improvement in client outcomes.

Whether or not a C-BIT type approach is used, professionals working clinically with people with psychosis who are also substance users need to bear in mind that there may well be a mismatch between their beliefs about substance use and their clients' perceptions. Although mental health professionals may view their clients' substance use as harmful their clients may very well believe that their substance use has benefits for them. Many will also have a degree of loyalty and commitment to the favoured substances, which it might be difficult for a non-user to appreciate. It would always be beneficial for mental health workers to spend time getting to understand their clients' beliefs and building a solid therapeutic relationship before suggesting that substance use is deleterious to mental health.

Interestingly participants whose relationship with substances had become charged with negative emotions that led them to ceasing use reported that in the following 4-6 week period their mental health did not improve at all. In fact one participant felt his psychotic experiences actually became worse and this led to him being hospitalised two weeks after stopping all substance use. It is possible that these participants' mental health would have deteriorated even further during this period if they had not stopped using substances. What can be said though is that the immediate improvements they expected did not happen. The implication of this for services is that whilst advising clients with psychosis that using substances is a risk factor for

exacerbating symptoms it maybe prudent to discuss both the possible short-term and long-term effects of abstinence. Without this information clients who heed the advice to stop taking substances may lose faith in health professionals, return to using substances and disengage from services.

Many participants cited flat mood, boredom and feelings of social anxiety as significant reasons why they used substances. Birchwood et al. (2007) suggested that the development of a negative attribution style whereby negative events are attributed to internal, stable and global factors is common in people who have experienced psychosis. Some research into depression and attribution style has suggested that following anti depressant medication participants who received continuation CBT therapy showed a move towards a more positive attribution style (Petersen et al., 2004). The residual symptoms of psychosis have marked similarities to depression. It maybe that the use of CBT to maintain attribution style improvements made via medication, could be appropriate for individuals with psychosis who experience flat mood, social anxiety and boredom. This may, in turn, reduce their perceived need to use substances to obtain these effects.

Another potentially important focus of intervention for these difficulties would be for services to promote social skills training and involvement in occupational and leisure activities to combat the boredom and social anxiety experienced by young adults with psychosis. These social interventions may assist clients to develop, or regain, skills and confidence to be active in managing their psychosis. This should lead to increased empowerment and quality of life, and would also be positive for wider society.

With regards to the self-control participants exerted over their substance use it seemed that substances perceived as posing serious physical harm were used far less than those that had some mental health consequences but were seen as relatively benign in terms of physical health. There may be a role for educating clients about the relationship between mental health problems and physical health problems. Research suggests individuals who experience repeated psychotic episodes die prematurely (Connolly & Kelly, 2005). This is due to a combination of factors including diet, smoking habits and low levels of physical activity. If clients can be encouraged to think about their longer-term physical health and the negative impact that psychosis, potentially exacerbated by substance use, it may encourage them to reduce their substance use.

4.9 Future research

Reference has already been made to the difficulty of interpreting some of the findings concerning the perceived positive and negative psychological interactions of substance use and mental state to the fact that the participants were also suffering from psychosis. Some of the same beliefs (e.g. that substance use increases paranoia) may also be present in the non-psychotic population. Similarly some of the reasons for using substances given by the participants (e.g. relief from boredom, development of a positive self identity) may be just as significant in non-clinical groups. To identify which, if any, of the themes which emerged in this study are unique to substance users who also have psychosis it might be necessary to repeat the study but with a second group of substance users without psychosis. This may reveal factors

idiosyncratic to substance users with psychosis that have not previously been recognised in the literature.

A particularly interesting finding emerged from the reports of the two participants who had given up substance use because they firmly believed that it had caused their psychosis. It appeared from their accounts that the anticipated benefits to their mental health of ceasing to use substances had not arrived in the short-term, but had taken up to 6 weeks to appear. This leads to at least two possible lines of future research. A study of clients whose substance use had ceased some time ago would give insight into how they maintained abstinence in the face of delays in improvements in symptoms. A similar study using a sample of people with psychosis who had given up substance use on medical advice but then started using again could show what factors precipitated relapse. Second, if as is often the case, strong clinical advice is given to abandon substance use but this advice is not acted on, a qualitative study of how people perceive and interpret the advice they receive might provide clinically usable insights into this process.

An experimental study could be designed comparing the longevity of abstinence of a group of clients educated about, and supported through, the initial 'no improvement' stage following cessation of use with a group who received no such preparation and support.

It would be interesting to explore whether the model developed here is applicable to people with other mental health problems (e.g. anxiety disorders) who use substances

and also to people from different demographic strata in society by replicating the current qualitative study with these groups.

A final suggestion is quite radical and may be impossible to execute. Several of the participants firmly believed that self-medication with illicit substances and/or alcohol provided them with relief from the chronic symptoms of psychosis over and above that produced by prescribed medication. These substances could be incorporated into an experimental clinical regime involving carefully controlled access to them, as well as close monitoring of their clinical effectiveness. It is recognised that the ethical, legal and logistical barriers to this experiment may be insurmountable.

4.10 Critique

The sample size for the current study was eight and predominantly male and of white British ethnic background (6:8). The other 2 participants were a female of white British background, and an Asian British male. Although the sample was not intended to be demographically representative of the clinical group the inclusion of only one white female and one Asian British male is not sufficient to reveal any possible idiosyncrasies of these populations. Other groups (Afro-Caribbean men and women and Asian women) were not represented at all and this begs the question of the transferability of the theoretical model developed here to these populations.

The definition of regular user meant that there was considerable variation in the extent of substance use between participants. At the time of interview three out of eight participants had stopped using illicit substances altogether and only continued to use

alcohol. This meant the data they provided about why they had used substances, and their beliefs at the time of using substances about any interaction with their psychosis, was retrospective. Recollection of information from memory is a selective and constructive process and so the limitations this places on the data need to be acknowledged (Hammersley, 1994). However, these participants had only recently (<6 months) stopped using substances and this criticism could be equally applied to participant's reports of current experiences as these are subject to similar biases and distortions. This limitation is perhaps better seen as a more general criticism of research that employs self-report data and is based on a 'realist' epistemological standpoint.

The selection of participants was largely governed by which people care coordinators chose to suggest to the principal researcher and then which of these individuals agreed to take part. It seemed likely that coordinators were selecting clients that they subjectively expected to consent to participation as only three clients declined the invitation to participate. This may have effectively screened out clients who care coordinators perceived as less likely to participate but who may have done if approached. In this way the sample may have been comprised of clients who were generally more compliant with the service and excluded others who may have provided valuable data.

5 Conclusion

The current study highlights the intensity and range of emotions that characterises the relationships that some young adults with psychosis have with illicit substances and

/or alcohol. The reasons for use were both varied between, and within participants, and many felt that substance use was not deleterious to their psychological well-being. This poses a significant challenge for mental health professionals working with this clinical group who are likely to view substance use by their clients as problematic. Many participants described relationships with substances involving love, loyalty, faith and commitment and in this way seemed to be akin to interpersonal relationships. This means that any attempts by a third party to become involved in the dynamic of this relationship maybe met with resistance of one kind or another. The challenge for services is to develop interventions that enable clients to explore their relationship with substances and their psychosis and offer the support necessary to both foster change and then help clients manage the potentially traumatic experience of ending an emotionally charged relationship.

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Part 3 Critical Appraisal.

1 Introduction

My interest in mental health problems developed from undergraduate studies, which included a module that at the time (1994) was entitled 'Abnormal Psychology'. The concept of people suffering with a mental illness characterised by such dramatic symptoms as hallucinations, delusions and catatonia fascinated me. Although my understanding of psychotic experiences at this point was at best rudimentary, I was motivated to learn more.

The first experience I had of working with people with psychosis was as a research assistant during a summer break in my undergraduate course. In carrying out this role I met people detained in hospital and listened to their accounts of their experiences leading up to, and during, their admission. I saw the dramatic impact psychosis could have on people's lives and how depressing the 'treatment' of the illness could be, with many patients heavily sedated in out-dated, impoverished physical environments. Later I went on to work in a Regional Secure Unit where the vast majority of patients were diagnosed with schizophrenia. Substance use featured heavily in the histories of many patients and was also a relatively common source of confrontation between them and staff, as visitors or patients returning from leave occasionally brought in substances. There were varied consequences of patients smoking cannabis; some became extremely suspicious and angry, whilst others seemed to become more relaxed and placid. Of course legal as well as mental health reasons were given for substances being prohibited but patients would go to great lengths to access them. This was as true for some individuals who seemed to become fearful, angry and upset after using them, as for those who appeared to enjoy becoming intoxicated. In contrast

staff were eager for patients to take their medication whilst many patients were resistant to this. It seemed drugs, both prescribed and illicit, were massive issues for people with psychosis and the professionals who worked with them. These issues raised my interest in the role that drugs played in the lives of people with psychosis.

In recent years there has been increased professional and popular debate about substance use and mental health problems, particularly cannabis and psychosis. At the end of my first year on the Leicester DClinPsy I was required to produce a literature review on the topic of my choosing which was psychosis and substance use. The literature that I reviewed often treated substance users as a homogenous group, placing people with very different substance using behaviours altogether in experimental groups. It seemed to me that this method of sampling would miss the idiosyncrasies of the use of different substances. There also appeared to be a gap in the literature with regards to what clients' beliefs, motivations and experiences were with regards to psychosis and substance use. This led me to choose psychosis and substance use as the area within which I wanted to conduct my doctoral research.

2 Planning

The current study emerged from discussions with supervisors about my area of interest and what would constitute a clinically relevant and feasible piece of work. Initially I proposed doing a piece of work with a mixed methodology incorporating both qualitative and quantitative approaches. The aim of this work would be to measure the prevalence and type of substances being used in a population with

psychosis, and also to elicit people's reasons for, and beliefs about, using substances. Concerns were raised by supervisors about the amount of work involved in getting the sample size required to get a meaningful measure of prevalence combined with the time needed for the collection and analysis of the qualitative data. Further discussions led me to decide that a qualitative piece of work about clients' beliefs and attitudes regarding the interaction between substance use and psychosis would potentially strike the right balance between being suitably challenging for a doctoral thesis and being feasible to complete with the time and resource limitations in mind.

During my Diploma in psychology I had completed a small-scale qualitative piece of research into personal constructs using a Repertory Grid technique, but this was the only experience of qualitative research that I had. 'Is it wise to use new methodology for doctoral thesis???' was an early entry in my research diary and reflected a sense of uncertainty about whether I was making the right methodological choice for such a challenging piece of work.

There were a number of significant factors that resulted in me choosing Grounded Theory to investigate my research topic. The literature review I had undertaken revealed that very few pieces of work had been done with the aim of eliciting the views and experiences of people with psychosis who used various substances. This seemed to be a significant gap in the literature, particularly when individuals with these issues frequently experienced severe and enduring problems and posed major challenges to services. Grounded theory offered the appropriate methods to develop theory in an area lacking prior investigation by close analysis of phenomenological data. Another influencing factor was that my supervisors had experience of

completing, and supervising, Grounded Theory projects and this provided great reassurance to me that I would be able to use their knowledge to help guide my research. Most importantly Grounded Theory offered the most appropriate means of achieving my study aims.

Preparation for submitting my project for ethical approval involved fine-tuning of my proposed method and consideration of the ethical implications of conducting such a study. This process, which seemed arduous at the time, was extremely useful in terms of encouraging me to consider in advance what and who would be involved in my project and how to minimise the potential for physical or psychological harm to come to anyone involved. Although I was anxious immediately prior to my appointment with the ethics panel I found the meeting very reassuring, and having received a favourable ethical opinion I felt the most interesting stages of the project were about to start. This process taught me about the realities of conducting research within the NHS and also that thorough preparation and close adherence to guidelines, although laborious at the time, can make the process of gaining ethical approval smooth and avoid lengthy delays.

3 Execution

3.1 Recruitment

A number of difficulties emerged early on in my attempts to recruit participants. Firstly, I was only at the service where I was going to get my sample from for one day a week. In addition as it was a community service care coordinators, who were to be

my first point of contact, were frequently out of the office and so meeting them and enlisting their help was sporadic. This required me to be proactive in terms of making first contact by availing myself of a list of coordinators' work mobile phone numbers and arranging meetings rather than waiting for them to happen by chance. This taught me the benefit of working to find solutions to unanticipated practical problems when conducting research rather than accepting them as part of the way things are.

Another issue that arose was that I became concerned about the selective role coordinators had in identifying 'suitable' participants. As well as the inclusion/exclusion criteria some coordinators seemed to be sifting potential participants based on their personal judgement about how interesting an interview a client may provide or how compliant they were. This gave me an uneasy feeling that some potentially appropriate participants were not even being raised for consideration. In my research diary I noted that these concerns stemmed from comments by coordinators such as 'I wouldn't even bother asking him' and 'she's very shy and won't have much to say'. The fact that coordinators did know their clients well, and that these judgements were probably accurate and made to avoid wasting my time, placed me in a difficult position. In dealing with this I learnt the value of impressing on coordinators that I had no rigid expectations from contacts they suggested, and that they were in no way covertly obliged to only provide introductions to 'good' participants. It was very important to keep coordinators sympathetic to my needs whilst encouraging them to do things in line with the ethos of the study, as they were vital to me getting participants. An alternative approach would have been for me to go through client files to identify potential participants and then approach coordinators and request their assistance in arranging an initial meeting

with the client where I could explain the research and ascertain whether or not they would be willing to participate.

Further on in the study it became more difficult to recruit participants. This was due to a number of factors; firstly I had already interviewed a number of the most 'obvious' candidates. Secondly, one potential participant had agreed to be interviewed in theory but had cancelled or had not turned up when the time came. This raised the issue of how long or how many times to offer an interview before deciding to stop pursuing a potential participant. The time limitations, and ethical concerns about repeatedly contacting someone who had chosen not to attend interview on several occasions, meant that after three missed appointments the care coordinator was asked to thank the client but inform them that the interview was no longer necessary. At times I felt frustrated and angry about wasting time and missing out on an interview but reflecting on this kept the process in perspective and allowed me to ask myself grounding questions such as 'why should people give their time to talk to me?' 'What's in it for them?' This not only reminded me of my position as someone requesting the assistance of others in what was primarily a self serving task, but also allowed me to refocus my attention on potentially more productive tasks.

3.2 Interviews

3.2.1 Participants

A number of factors raised concerns for me about the content of interviews. Some clients seemed to have quite a limited vocabulary with which to express themselves and at times it felt like I was saying more in interviews than the participants. Also the

sensitive nature of the subject matter may have been a factor in how much, and how accurate the information was that was shared with me. However through supervision I was given the opportunity to think about why some interviews felt less satisfactory and gained confidence that all interviews had value.

In contrast I was struck in most interviews by the openness of participants. Even clients who explained they suffered with social anxiety and often felt they had nothing to say spoke at length about their psychotic experiences and substance use. This reassured me about my methodology and richness of data I was getting by speaking to people who were true experts in the subject area.

3.2.2 Self

I was aware that as a 31-year-old white male I had some similarities with many participants however, I was introduced to them via mental health services and as an employee of the NHS conducting research. I was dressed in trousers and a shirt for interviews whilst participants were all in more casual attire. These factors are bound to have influenced the dynamic of the interactions and at times I felt I was trying to make participants more relaxed, with the hope that they would be more forthcoming about their beliefs and experiences, by attempting to come across more as a peer than a professional. This felt somewhat duplicitous and I was unsure of the benefits of this strategy. These boundary issues were difficult to navigate and again supervision provided the space for discussion on this subject.

3.2.3 Context

An entry in my research diary concerning interview 3 made me think about the influence of context on interviews. The client's care coordinator had arranged for me to meet him at a weekly football session organised by the service. I had got prior permission to use a private room at the sports centre for the interview. The client did the interview still wearing his football kit and was clearly physically tired. The interview was characterised by lot of short answers and a general sense that the participant was fatigued and uninterested. It is unknown how the interview would have been different if it had not taken place in the sports centre immediately after physical exercise but it raised the question for me about how time of interview, location and interviewer characteristics may influence the conversations I had with the participants.

3.3 Emotional impact

3.3.1 Participants

Two interviews highlighted how the interview process was not always benign. One of these participants indicated that he felt the opportunity to talk at length with someone might help him to understand what he had been through, and how to prevent something similar happening in the future. This has resonance with research that suggests individuals who integrate their psychotic experiences into their wider life situation tend to have better outcome than those who 'seal over' their illness. This participant also alluded to the fact that he expected himself to have a period of reflection on the interview and that this may be helpful, or it might cause him some discomfort. A second participant revealed his confusion about his experiences and

requested that we meet again with his coordinator. This meeting did not actually take place as the participant went on an extended holiday. However, it seemed the interview had led him to think about things he possibly had not before and which he wanted to explore further with his coordinator present. This highlighted for me the importance of anticipating possible consequences for participants and making them aware of them, and what can be done about them, prior to them giving their consent to participate. In the current study this was done as part of the participant information sheet.

3.3.2 Researcher

The process of meeting people and talking about personal and frequently distressing experiences that they had was both rewarding and challenging. One participant came from a similar socio-economic background to me and had had similar experiences in his early 20's such as going travelling which meant I could relate to a lot of things he talked about. This left me feeling that perhaps if circumstances had been different that I may have had psychotic experiences that could have seriously impacted on my life. I felt this led to me empathising more with this participant than with some others.

The emotional impact that some other participants had on me was a feeling of sadness and hopelessness. I particularly enjoyed talking with two participants who were very open and personable young men, but I feared that psychotic episodes would be a recurrent feature of their lives with possible admissions to hospital. This opinion was based heavily on their regular substance use and the lack of family support or future aspirations. It was also coloured by my previous experiences of working in in-patient settings, which at times seemed to lead to more pathogenic, than therapeutic, effects.

At times I became annoyed and frustrated either by what I perceived to be a lack of effort by one participant or when I was hoping in vain for a participant's answers to support a partially formed theory I was thinking about. These emotions were felt, if not openly displayed, and were recognised both in my research diary and in supervision.

Following interview 7 I felt a huge sense of optimism as this participant had been through some terrifying psychotic experiences and loss of identity but seemed to have come through and was looking forward to raising a family and having a career. This fits with my, and most of society's, blueprint for what constitutes a successful and fulfilling life and so led to my positive feelings.

Overall I felt a strong sense of privilege and gratitude for having been allowed to talk with people about their experiences and beliefs with regards to psychosis and substance use.

Supervision was used to explore the emotional impact of conducting interviews and also to discuss interview style and how to improve it by picking up on salient points and encouraging participants to talk more broadly than just providing answers to questions on the interview schedule.

4 Analysis

A concern that was repeatedly noted in my research diary was about how interpretive my analysis was and if another researcher were to analyse the same data would their

findings be dramatically different? This fear that I was straying too far from the data and making completely subjective interpretations was calmed by supervision with my academic and field supervisors and in a qualitative support group. By explaining the emerging analysis and justifying it by referring to the data I gained direction and reassurance. Excerpts from transcripts were also analysed independently for comparison with my own analysis and although there were differences in detail, the themes were broadly the same. However, it cannot claim that my own preconceptions and opinions that were informed by my previous clinical and academic work as well as societal influences did not penetrate every aspect of planning and conducting the current study. It was therefore seen as important to inform the reader about these experiences and biases rather than attempt, in vain, to neutralise them. This then allows the reader to understand the study within the context of which it was conducted, and thus come to his or her own informed conclusions.

Another theme to emerge from the research diary was at points in the analysis feeling adrift in a mass of data and a sense of being lost and alone. As Charmaz (2006) points out a degree of faith is required when conducting qualitative research as the process does typically involve periods of uncertainty and feeling overwhelmed, as well as times of clarity and cohesion. Again supervision was helpful in managing these difficult periods by sharing the anxiety and getting a different perspective on where I was at and how to move forward.

In reflection I feel supervision could have been used even more to help maintain momentum and manage anxieties about progress. Discussing the analysis and writing things down, even when they were not fully formed or refined, helped to advance the

process. Supervision was available when requested and there seems no reason why more of it would not have been beneficial in terms of getting over hurdles more quickly rather than struggling on and eventually overcoming difficulties.

A technique that I found particularly helpful when coding transcripts but struggling to get a satisfactory feel for what the participant was trying to communicate was to go back to the audio recording and listen to what was said and the intonation used. This assisted in getting a code that felt like it had good fit with what the participant intended to convey.

5 Writing up

At times throughout the research process and particularly during write up the burden of work was immense. To avoid getting trapped in a cycle of thoughts about all the elements that needed completing prior to hand in I selected a particular task and focused on making progress with this. In collaboration with supervisors deadlines were set for drafts of various elements of the thesis to be submitted for comment. In this way I maintained focus and gained a sense of achievement and satisfaction.

Deadlines did bring a sense of urgency to the write up and at times doubts surfaced that the 'right' analytic, and thus write up, path had been taken, and that if not, that there was not sufficient time to correct these errors. Again meeting with research supervisors and the qualitative support group were invaluable in providing reassurance that these doubts were a common experience and also suggesting that

some refinement of the research process would be beneficial, rather than wholesale changes being necessary. Support was also taken from family and from the self-belief that the work was of value and that a lot of effort had been expended.

It was also necessary to maintain perspective on the limitations of doing a piece of research where time, finances and human resources were very limited and that the purpose of the study was to add to the literature and raise further research questions.

Appendices.

**Appendix 1. British Journal of Clinical Psychology Notes for
Contributors.**

Notes for Contributors

The *British Journal of Clinical Psychology* publishes original contributions to scientific knowledge in clinical psychology. This includes descriptive comparisons, as well as studies of the assessment, aetiology and treatment of people with a wide range of psychological problems in all age groups and settings. The level of analysis of studies ranges from biological influences on individual behaviour through to studies of psychological interventions and treatments on individuals, dyads, families and groups, to investigations of the relationships between explicitly social and psychological levels of analysis.

The following types of paper are invited:

- Papers reporting original empirical investigations
- Theoretical papers, provided that these are sufficiently related to the empirical data
- Review articles which need not be exhaustive but which should give an interpretation of the state of the research in a given field and, where appropriate, identify its clinical implications
- Brief reports and comments

1. Circulation

The circulation of the Journal is worldwide. Papers are invited and encouraged from authors throughout the world.

2. Length

Papers should normally be no more than 5000 words, although the Editor retains discretion to publish papers beyond this length in cases where the clear and concise expression of the scientific content requires greater length.

3. Reviewing

The journal operates a policy of anonymous peer review. Papers will normally be scrutinised and commented on by at least two independent expert referees (in addition to the Editor) although the Editor may process a paper at his or her discretion. The referees will not be aware of the identity of the author. All information about authorship (including personal acknowledgements and institutional affiliations) should be confined to the title page (and the text should be free of such clues as identifiable self-citations, e.g. 'In our earlier work...').

4. Online submission process


1) All manuscripts must be submitted online at <http://bjcp.edmgr.com>.


First-time users: Click the REGISTER button from the menu and enter in your details as instructed. On successful registration, an email will be sent informing you of your user name and password. Please keep this email for future reference and proceed to LOGIN. (You do not need to re-register if your status changes e.g. author, reviewer or editor).

Registered users: Click the LOGIN button from the menu and enter your user name and password for immediate access. Click 'Author Login'.


2) Follow the step-by-step instructions to submit your manuscript.

3) The submission must include the following as separate files:

- Title page consisting of manuscript title, authors' full names and affiliations, name and address for corresponding author -  A title page template is available to download.
- Abstract
- Full manuscript omitting authors' names and affiliations. Figures and tables can be attached separately if necessary.

4) If you require further help in submitting your manuscript, please consult the Tutorial for Authors -  Editorial Manager - Tutorial for Authors
Authors can log on at any time to check the status of the manuscript.

5. Manuscript requirements

- Contributions must be typed in double spacing with wide margins. All sheets must be numbered.
- Tables should be typed in double spacing, each on a separate page with a self-explanatory title. Tables should be comprehensible without reference to the text. They should be placed at the end of the manuscript with their approximate locations indicated in the text.
- Figures can be included at the end of the document or attached as separate files, carefully labelled in initial capital/lower case lettering with symbols in a form consistent with text use. Unnecessary background patterns, lines and shading should be avoided. Captions should be listed on a separate page. The resolution of digital images must be at least 300 dpi.
- For articles containing original scientific research, a structured abstract of up to 250 words should be included with the headings: Objectives, Design, Methods, results, Conclusions. Review articles should use these headings: Purpose, Methods, Results, Conclusions:
 British Journal of Clinical Psychology - Structured Abstracts Information
- For reference citations, please use APA style. Particular care should be taken to ensure that references are accurate and complete. Give all journal titles in full.



- SI units must be used for all measurements, rounded off to practical values if appropriate, with the imperial equivalent in parentheses.
- In normal circumstances, effect size should be incorporated.
- Authors are requested to avoid the use of sexist language.
- Authors are responsible for acquiring written permission to publish lengthy quotations, illustrations, etc. for which they do not own copyright.

For Guidelines on editorial style, please consult the *APA Publication Manual* published by the American Psychological Association, Washington DC, USA (<http://www.apastyle.org>).

6. Brief reports and comments

These allow publication of research studies and theoretical, critical or review comments with an essential contribution to make. They should be limited to 2000 words, including references. The abstract should not exceed 120 words and should be structured under these headings: Objective, Method, Results, Conclusions. There should be no more than one table or figure, which should only be included if it conveys information more efficiently than the text. Title, author and name and address are not included in the word limit.

7. Publication ethics

Code of Conduct -  Code of Conduct, Ethical Principles and Guidelines
Principles of Publishing -  Principles of Publishing

8. Supplementary data

Supplementary data too extensive for publication may be deposited with the British Library Document Supply Centre. Such material includes numerical data, computer programs, fuller details of case studies and experimental techniques. The material should be submitted to the Editor together with the article, for simultaneous refereeing.

9. Post acceptance

PDF page proofs are sent to authors via email for correction of print but not for rewriting or the introduction of new material. Authors will be provided with a PDF file of their article prior to publication.

10. Copyright

To protect authors and journals against unauthorised reproduction of articles, The British Psychological Society requires copyright to be assigned to itself as

publisher, on the express condition that authors may use their own material at any time without permission. On acceptance of a paper submitted to a journal, authors will be requested to sign an appropriate assignment of copyright form.

11. Checklist of requirements

- **Abstract (100-200 words)**
- **Title page (include title, authors' names, affiliations, full contact details)**
- **Full article text (double-spaced with numbered pages and anonymised)**
- **References (APA style). Authors are responsible for bibliographic accuracy and must check every reference in the manuscript and proofread again in the page proofs**
- **Tables, figures, captions placed at the end of the article or attached as separate files**

Appendix 2. Initial interview schedule.

(Form to be on University of Leicester headed paper)

Initial Interview Schedule

- You are currently in contact with the Leicester PIER team, could you tell me why?
- Could you describe any mental health difficulties you have as you see them?
- What substances other than prescribed medication have you used in the last 6 months?
- Why do you take ... (different substances discussed individually)?
- How does taking ... (different substances discussed individually) interact with your mental health?
- In what ways do you think your ... (different substances discussed individually) use would be different if you did not have any mental health problems/were not in contact with a mental health service?
- What do you think the effects on your mental health would be of not using ... (different substances discussed individually)?
- What would be the downside if you stopped using ... (different substances discussed individually)?
- What would be the upside if you stopped using ... (different substances discussed individually)?
- What stops you using ... (different substances discussed individually) more heavily/frequently?
- When do you use ... (different substances discussed individually) more heavily/frequently?
- When do you use... (different substances discussed individually) the least?

Appendix 3. Final interview schedule

(Form to be on University of Leicester headed paper)

Final Interview Schedule

- You are currently in contact with the Leicester PIER team, could you tell me why?
- Could you describe any mental health difficulties you have as you see them?
 - Why do you think you have had these experiences?
 - Did these difficulties happening make any sense to you?
- What substances other than prescribed medication have you used in the last 6 months?
- Why do you take ... (different substances discussed individually)?
 - When did you start taking ...?
 - What did/do you like about ... ?
 - Were/are there any bad things about taking ...?
- Have you tried any other substances?
 - Why don't you use ... more regularly?
- How does taking ... (different substances discussed individually) interact with your mental health?
 - Does taking ... have any consequences for your physical health?
- In what ways do you think your ... (different substances discussed individually) use would be different if you did not have any mental health problems/were not in contact with a mental health service?
- What do you think the effects on your mental health would be of not using ... (different substances discussed individually)?
- What would be the downside if you stopped using ... (different substances discussed individually)?

- What would be the upside if you stopped using ... (different substances discussed individually)?
- What stops you using ... (different substances discussed individually) more heavily/frequently?
- When do you use ... (different substances discussed individually) more heavily/frequently?
- When do you use... (different substances discussed individually) the least?
- What is being sober/straight like for you?
 - Does it restrict you in any way?
 - Are there advantages to being drunk/high on ...?
- Do you feel limited by any aspect of your life?
 - Is there anything you do to help you manage this?
- Is there anything else you wanted to say on the subject?

Appendix 4. Evidence of ethical approval

Leicestershire, Northamptonshire & Rutland Research Ethics Committee 1

1 Standard Court
Park Row
Nottingham
NG1 6GN

Telephone: 0115 9123344
Facsimile: 0115 9123300

16 November 2006

Mr David Cochrane
Trainee Clinical Psychologist
University of Leicester
104 Regent Road
Leicester
LE17LT

Dear Mr Cochrane

Full title of study: **The interaction between psychosis and co-morbid substance use: An exploratory study of service users' beliefs and attitudes.**

REC reference number: **06/Q2501/220**

The Research Ethics Committee reviewed the above application at the meeting held on 03 November 2006. Thank you for attending to discuss the study.

Ethical opinion

Discussions: The researcher confirmed the following:

- Key workers will be approaching and recruiting patients, key workers consist of trained nurses, occupational therapists, social workers and the researcher
- The University of Leicester will cover the costs of the research
- Leicester Partnership NHS Trust will act as sponsor
- Patients who are currently sectioned will not be included in the study
- It is not possible to include patients whose proficiency in spoken English would require the use of a translator as they would have a low understanding of the written application

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

Ethical review of research sites

The Committee agreed that all sites in this study should be exempt from site-specific assessment (SSA). There is no need to complete Part C of the application form or to inform Local Research Ethics Committees (LRECs) about the research. The favourable opinion for the study applies to all sites involved in the research.

Conditions of approval

The favourable opinion is given provided that you comply with the conditions set out in the attached document. You are advised to study the conditions carefully.

Approved documents

The documents reviewed and approved at the meeting were:

Document	Version	Date
Application		17 October 2006
Investigator CV	Educational Supervisor	
Investigator CV	Chief Investigator	
Protocol	3	05 October 2006
Peer Review		11 September 2006
Interview Schedules/Topic Guides	3	15 September 2006
Participant Information Sheet	3	02 October 2006
Participant Consent Form: briefing and Consent	3	05 October 2006

Research governance approval

You should arrange for the R&D Department at all relevant NHS care organisations to be notified that the research will be taking place, and provide a copy of the REC application, the protocol and this letter.

All researchers and research collaborators who will be participating in the research at a NHS site must obtain final research governance approval before commencing any research procedures. Where a substantive contract is not held with the care organisation, it may be necessary for an honorary contract to be issued before approval for the research can be given.

Membership of the Committee

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

Statement of compliance

The Committee is constituted in accordance with the Governance Arrangements for Research Ethics Committees (July 2001) and complies fully with the Standard Operating Procedures for Research Ethics Committees in the UK.

Appendix 5. Participant information sheet.

(Form to be on Leicester University headed paper)

Information Sheet

Part 1.

Title of Study

The interaction between psychosis and substance use: An exploratory study of service users' beliefs and attitudes.

Invitation

I am inviting you to take part in a research study that I am undertaking as part of my training in Clinical Psychology. Before you decide to participate it is important for you to understand what it will involve. Please take time to read the following information carefully. If anything needs clarifying please ask. If you do decide to participate you will be free to change your mind at any time.

Purpose of the Study

There are a high number of people diagnosed with psychosis who use substances such as alcohol, cannabis, cocaine etc. However there is a lack of research that has directly asked people why they use substances and if, and how, they feel this interacts with their mental health. This study aims to do this. This will help clinicians to understand more about the experiences, beliefs and reasons why people diagnosed with psychosis use substances. This hopefully, will be used to develop better mental health care in the future.

Why have I Been Chosen?

This study aims to find out more about the views and beliefs of people engaged with the Leicester Early Intervention Service who also use, or have recently used, one or more substances. The study aims to speak to 8-12 people who have direct experience of these issues.

Do I have to take part?

No. It is entirely optional and deciding not to participate or to withdraw from the study will have no consequences for you or your health care.

What happens if I agree to take part?

You will be asked to sign a form saying that you have agreed to take part. This is only to ensure that I have acted properly in asking you to take part. It is not a contract and you still have the right to change your mind at any time. I will then arrange to meet with you to do an informal interview to discuss your beliefs and experiences of your substance use and mental health. The length of the interview will be determined by how much you wish to say and you can stop at any time you wish. Please note there are no right or wrong answers; it is your views that are important for this study. With your consent the interview will be tape recorded and typed up so that I can be accurate in representing your views.

What are the possible disadvantages and risks I should know about before I take part?

If you find that you feel upset in any way during the interview then I will stop and ask you whether or not you would like to take a break, or stop altogether. You will decide whether or not you want to continue with the interview. If you feel you need to discuss any issues that arise in more detail, with your permission, I can speak to your key-worker at the Early Intervention Service to arrange further support.

What happens if something goes wrong?

If you have a concern about any aspect of this study, you should ask to speak to the researcher-David Cochrane, or the research supervisor Dr Marilyn Christie, who are both contactable on Tel. 01162231639. If you are not satisfied with this you can contact the Trust Complaints Advisor, Ms Sara Greasley on Tel. 0116 2463461.

Will my taking part in this study be kept confidential?

Yes. All information about your participation in this study will be kept confidential. These details are included in Part 2.

Contact Details

David Cochrane, Trainee Clinical Psychologist, University of Leicester, 104 Regent Road, Leicester, LE1 7RH. Tel. 01162231639

This completes Part 1 of the Information Sheet.

If the information in Part 1 has interested you and you are considering participation, please continue to read the additional information in Part 2 before making any decision

Part 2.

Will my taking part in this study be kept confidential?

Utmost care will be taken in order to ensure your anonymity. Your taped and typed information and consent form will be kept in a locked cabinet. Any information that is entered onto a computer will be entered in such a way that your name will not be used or able to be linked with the information. The computer will also be password protected meaning that only I will be able to access it. Your name and personal details will not be mentioned anywhere in the study in order to protect your identity.

The taped interview will be heard and transcribed only by myself or an employee of the University of Leicester who will not have access to any information with which they could identify you. The audio tape will be kept in a secure environment and destroyed after the study has been completed. The completion date is scheduled for September 2007.

Will anyone else be told what I said in my interview if I take part?

Information from your interview will not be discussed with staff from the Early Intervention Service or anyone else, other than my supervisors, unless you specifically request me to do so. Your participation will not affect your health care. Once the interview is typed up I may require some assistance with analysis from my supervisors at the University of Leicester. However your name and personal details will not be used and so will not be linkable to your transcript.

The only circumstance when I would be required to inform someone else about something said in your interview would be if it led me to believe that you or another person was in danger.

What will happen to the results of the study?

The results will be written up as a thesis which will be submitted to the University of Leicester as part of their requirements to gain a Doctorate in Clinical Psychology. They may also be published in a relevant journal. You can get a summary of the results if you would like them once the study is completed.

Who is organising and funding the research?

The study is being organised by the University of Leicester and funded by Leicestershire Partnership NHS Trust.

Who has reviewed the study?

The study has been reviewed by staff at the University of Leicester and has been given a favourable ethical opinion for conduct in the NHS by the Leicestershire Northamptonshire and Rutland Local Research Ethics Committee.

If you wish to participate we can organise a time to meet and conduct an informal interview. You will be asked to sign two copies of the attached 'Briefing and Consent' form prior to the interview starting. I will keep one copy for my records but the second copy and this information sheet are for you to keep. You can change your mind and withdraw at any time. Withdrawal or refusal to participate will not effect your health care provision in any way.

Thank you for taking the time to read this information sheet and, consider participating in this study.

Appendix 6. Briefing and consent form

(Form to be on University of Leicester headed paper)
Briefing and Consent form.

Title of Study

The interaction between psychosis and co-morbid substance use: An exploratory study of service users' beliefs and attitudes.

Consent

1. I confirm that I have read and understand the information sheet (version 3) for the above study. I have had the opportunity to consider the information, ask questions, and have had these answered satisfactorily.

yes/no
2. I understand that my participation is voluntary and that I am free to withdraw at any time, without giving any reason, without my health care or legal rights being affected

yes/no
3. I would like to receive a copy of my transcript

yes/no
4. I would like to receive a summary of the results of this study

yes/no
5. I give my consent to take part in this study

yes/no

_____	_____	_____
Name of Client	Date	Signature
_____	_____	_____
Researcher	Date	Signature

Confidentiality and data protection

Data will be kept in a locked cabinet in University of Leicester premises. Electronic data will be kept on a password protected computer and will be coded so that it cannot be linked to your name. This project complies with the requirements of the Data Protection Act.

Appendix 7. Example of line-by-line coding.

345 Dec: I You know I've always had like these silly little
346 things going through me head and that and I knew
347 something wasn't right and that's why I started
348 smoking weed because I started smoking weed and
349 that put a lid on me mental health when I was
350 younger. I

351 Dave: OK.

352 Dec: And that and then just one day when I was like
353 older and that erm the bottle broke basically and I
354 mean I kept bottling things up with the weed [UM]
355 then the bottle broke and then that's when I started
356 going downhill you know I couldn't handle it any
357 more so that's why I went to my GP. I

358 Dave: ok, so you first started smoking/

359 Dec: /yeah/

360 Dave: /because you/

361 /to to keep under control my my thoughts and that/

362 Dave: /do you mind telling me a bit more about what
363 was happening before you started smoking, what it
364 was that/

365 Dec: /well I er it was just like I don't know like
366 (phew) the voices in my head [UM] I'd got that that
367 was the strong thing that was the thing that I've
368 always had like [UM] you know like the voices in the
369 back of my head that you know I've always had and I
370 never could put my finger on it like where it were
371 coming from. I

372 Dave: OK.

373 Dec: And I was too scared to tell anybody about it. I

374 Dave: why, what did you think would happen if you
375 did?

376 Dec: I didn't know what would happen, I just thought
377 you know it's not nothing's happening [UM] you
378 know I thought no no I thought no nothing's going off
379 but then like I'd be talking to meself and then like
380 getting paranoid thoughts and that like my mates were
381 gonna bang me you know they're out to get yer [UM]
382 you know I was getting all that like back in the day
383 and that's why I started smoking weed so I was
384 totally mellow all the time I was totally stoned out my
385 brains all the time twenty-four seven so then I didn't
386 think like that I could just get on with my life you
387 know what I mean. I

388 Dave: OK.

389 Dec: You know.

MINIMISING LONG STANDING THOUGHTS
AWARENESS OF PROBLEMS

USING WEED TO CONTAIN PROBLEMS

INCREASING PRESSURE, OVERWHELMING
LOSING CONTROL

PROBLEMS ESCAPING, NEEDING
HELP, REQUESTING HELP.

CONTAINING, CONTROLLING.

HEARING VOICES, CURKING
IN BACKGROUND, PERSISTENT
LONG TERM, INCOMPREHENSIBLE
NOT UNDERSTANDING.

FEARFUL, ASHAMED.

DENYING, UNCERTAIN.
TRYING TO CONTROL
WORRYING, FEARING BETRAYAL
SEEING OTHERS AS THREATENING
REALISING

SMILING, MASKING
ESCAPING
BEING FREED TO LIVE LIFE

Appendix 8. Example of memo writing.

Memo on 'escaping/being liberated'

Notion of SU allowing the individual to escape from the constraints of sober life. Low self esteem, social anxiety, mental illness, boredom, undefined sense of self can be experienced by clients and understandably respite from these afflictions is sought.

This is not to suggest that the causal direction is limited to always being from an individual with problems (mental health, social etc...) then starting taking substances in an attempt to get some relief (maladaptive coping). It can be that SU is a contributory factor to low self esteem, mental illness, social anxiety etc... and whilst the individual may experience some positive aspects (escaping) whilst intoxicated their SU can be part of the process that traps them with their difficulties.

SU talked about as a way of masking problems, altering reality so that worries are not thought about. SU (often stimulant use) talked about as allowing the individual to behave more in line with their fantasized ideal self- socially confident and competent, self-esteem boosted so that the individual is not preoccupied with how others are evaluating them, liking self, sense of belonging/being part of a group/having identity. Enabling the person to be more how they want to be, freeing them to be more themselves, less inhibited by anxieties.

However it also seems that there is some ambivalence particularly towards cannabis in terms of its freeing and trapping qualities. Cannabis use not only gets the individual high but confers identity something remains with the individual when they aren't intoxicated (Liberating)- Some people talk about cannabis in a way that hints at a relationship with the substance not just a means to an ends. Being in love with cannabis, swearing by it **religiously**. Wider social views of cannabis may play a part seen as cool, a little bit rebellious, but not despicable, dirty, not associated with violence or being an addict. BUT is talked about by some as having the most negative effects on mental health- increase in voices, delusions, social anxiety-withdrawal, paranoia, ruminations

(trapped/limited/constrained by these things). But use continues despite the acknowledged negatives- remaining **faithful** to cannabis.

Appendix 9. Examples of theoretical diagramming progression.

