CLINICAL RESEARCH WITHIN ADULT AND YOUTH MENTAL HEALTH SERVICES

by

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MRES IN CLINICAL PSYCHOLOGY

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Contents

THESIS OVERVIEW

This thesis contains three sections of work carried out over two separate clinical research placements. The two placements differed largely in terms of the theme and the setting of the research being carried out as well as my role within it. However, synthesising the work into one thesis allows me to reflect upon the learning I have undertaken as a whole and to provide an overview of the insight I have gained into two separate fields of mental health.

Section One: Service evaluation

The first section details a service evaluation carried out across two medium secure inpatient clinics. The evaluation focused on a set of service user tools designed to facilitate the delivery of recovery-focused care. During the placement I was involved in the launch of the recovery tools through delivery of group sessions with staff and service users to inform their use. As the deliverable element of my placement, I designed, conducted and reported a service evaluation aiming to gauge the success of the implementation from the perspective of nursing staff and service users. The evaluation findings suggest that the introductory training sessions were accessible and achieved the aim of motivating service users and staff to begin utilising the tools. There were also some negative attitudes expressed in regards to the tools being repetitive and potentially creating unnecessary paperwork for nursing staff.

Section Two: Brief literature review
The second section of the thesis was conducted during my placement with the Transitions team who are conducting a large cohort study assessing young help seekers in order to inform a clinical staging model of mental illness. The section consists of a brief literature review conducted to explore the evidence for a causal relationship between childhood trauma and psychosis. I conducted this review alongside the collection of data from young people seeking help for mental health concerns, including the experience of psychotic symptoms.

Conducting the literature review was challenging due to the wealth of literature within the field; requiring me to focus primarily on review papers. However, the process allowed me to gain a good grasp of the research area and develop the ideas for my independent research study, reported within section three.

Whilst reviewing the literature I was also required to conduct assessment interviews with the young people recruited for the cohort study. I learnt skills in clinical interviewing, mental health assessments and the management of a large cohort dataset. Interviewing the study participants encouraged me to be reflective about the piece of research I was carrying out for my independent research study. Becoming immersed within the research into childhood trauma it became easier to perceive trauma experiences as another variable, a risk factor or predictor. Intermittently I found myself forced to step back from the literature and really consider the reality of these experiences and the impact they have upon the lives of children involved. These moments of reflection evoked a strong emotional reaction which powerfully reminded me why I am interested in youth mental health and how passionate I am about contributing to the wellbeing of young people in distress suffering their own personal traumas. Although the consideration of an abusive childhood was not a pleasant experience, I feel it is an important one. Psychological research should be fuelled by the consideration of real people and real lives which we often distance ourselves from with the use of psychological terminology, diagnostic boundaries, psychometric definitions and theoretical models.

Section three: Empirical study

The final section of the thesis contains a quantitative study into the association between childhood trauma and psychotic experiences in the cohort of young participants previously described. A novel element to my study was the exploration of ruminative thinking style as a cognitive mechanism which may be involved in the relationship between childhood trauma and psychotic experiences. The findings provide support for a specific association between different trauma types and different psychotic experiences. The results also revealed a novel finding which provides initial evidence that a

history of childhood trauma when combined with the tendency to ruminate may increase the frequency and severity of psychotic experiences.

Reflection

The completion of my thesis has been a continual learning process. My first placement was concerned largely with service improvement and evaluation, and although I was familiar with the service itself, I found myself approaching it from an unfamiliar position. I gained an understanding of how different it is to look at a service from within the field of service development compared to when you are in the position of delivering care, on a day to day basis, as a member of the nursing team. A more detailed reflection of my first placement is available in Appendix A.

Within my second placement, I was again involved in research which ultimately aimed to inform services by identifying clinical characteristics to inform the early intervention of mental health problems. Interacting with young help seekers provided me with a new experience as I had previously worked and been on placement with adult inpatients. It struck me how open many of the young people were about their experiences. This contrasted with the views partially captured by the section one placement evaluation. During the service user interviews the negative feedback in regards to the recovery tools being launched was often about the amount of self-disclosure they encouraged. I see this as a positive change and hopefully reflective of a younger generation more willing and able to speak openly about issues surrounding mental health. However, it also highlights the potential of research to capture biased views and characteristics inherent to the individuals we recruit. The young people and the adults interviewed in sections one and three were relatively well engaged with services and could be perceived as having greater insight into their mental health problems than those who do not participate in research and whose voices may go unheard.

Both of my placements required me to be highly organised and to work systematically. My first placement involved a lot of independent work as I was required to design and implement the evaluation stage alone, whereas my second placement took place within a research project which

was already set up and involved a team of researchers. I continually aimed to use the feedback and support available from my supervisors. This was particularly useful during my second placement where the assessment of mental health problems required the use of my clinical judgement. I utilised regular meeting with my supervisors to go over any cases in which I was unsure of my assessment ratings and used this process to improve my future practise.

This thesis contains only a proportion of what I have learnt during the completion of my MRes in Clinical Psychology and I am confident that the knowledge and skills I have gained throughout the production of my thesis have developed my skills in the field of applied clinical research.

SECTION ONE

A SERVICE EVALUATION: LAUNCHING THE USE OF MY SHARED PATHWAY IN FORENSIC CARE
Evaluating the launch of the My Shared Pathway work stream delivered through staff and service user

training groups

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Introduction

My shared pathway (MSP) is a recovery focused work stream guided by a set of service user workbooks. MSP was developed to encourage secure services to become more explicit about the services being delivered and the outcomes being achieved. The current service evaluation focuses on the launch of the shared pathway work stream within the largest NHS mental health trust in Birmingham, primarily focusing on two medium secure inpatient units. The evaluation will focus firstly on the specific success of introductory training sessions delivered to staff and service users, and secondly the more general reception to the MSP processes and workbooks incorporated within the workstream.

The National Health Service is increasingly focused on providing cost effective and efficient services. Secure or Forensic hospitals are categorised as Specialised Services due to the multifaceted nature of treatment provision and the notably high cost to low volume ratio (Secure Services Strategy, 2010-2015). The elevated expenditure of secure services is associated with high treatment activity and the relatively extended occupancy of the inpatient population. The care pathway of an individual inpatient receiving forensic care is commonly littered with legal restrictions, multi-agency involvement, substance misuse and co-morbid diagnoses (Durcan, Hoare & Cumming, 2011). These factors, understandably, curtail progressive outcomes, increasing length of stay and concurrently cost to the service.

The inherently complex nature of forensic care and the heterogeneous population it serves makes it difficult to follow and measure standardised outcomes (Blackburn, 2004). However there are recommendations to be taken from both policy and psychological research which seek to drive services toward meeting aims not only of cost efficiency but of providing care which includes and empowers the service user in reaching personalised recovery outcomes. One of the many responses to current cost and health demands has been the development and implementation of the MSP workstream. MSP provides accessible booklet-based tools to promote a recovery centred approach to care delivery

whereby treatment outcomes are assessed via a clear and comprehensive framework specified for the nature of the forensic population.

Policy context

In specific regard to secure services the Department of Health's [DH] care programme approach policy (2011) outlines the need for the definition and facilitation of deliverable care standards for secure services. These standards should aid recovery and ultimately reduce average length of stay. These requirements are further defined in the best practise guidelines where emphasis is placed on adhering to the patient-centred care programme approach (CPA). The CPA values a collaborative approach to care facilitated by a personalised recovery plan based not just on an individual's needs and difficulties but on their personal goals and aspirations (Department of Health, 2008). The best practice guidance specification states that mental health care delivery should involve; "listening, communicating, understanding, clarification, and organisation of diverse opinion to deliver valued, appropriate, equitable and co-ordinated care" (Jobbins et al., 2007, p 7). With the longer duration of stay associated with secure services it is particularly important that these efforts are consistent and continue from admission through to discharge, an achievement which the MSP workstream aims to facilitate.

Recovery focused practise in forensic services

The nature and requirement of a forensic service expects a balance between health and legal requirements (Pouncey & Lukens, 2010). This naturally creates a tension between the legal restrictions commonly enforced upon secure care patients by the Ministry of Justice and the promotion of fundamental recovery principles such as empowerment and collaborative decision making (Livingston, Nijdam-Jones & Brink, 2012). However, as asserted by Mullen (2000), punitive containment is not within the remit of any health care provider and although risk reduction is imperative to the rehabilitation of

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mentally disordered offenders, therapeutic intervention should be directed at the psychological dysfunction contributing to risk behaviours (Robertson, Barnao & Ward, 20110) rather than confinement of the 'risky' person.

In order to provide a truly therapeutic environment forensic organisations must embrace recovery-oriented practise. The recovery principles denote services should allow: empowerment; individualised care; collaboration; and a focus upon an individual's strengths (National Institute of Mental Health [NIMHE], 2005). Although the inherent tension between punitive and therapeutic cultures should be recognised, it should not be presumed that recovery oriented practise cannot flourish within forensic health services. Recovery principles underlie the most fundamental policies for patient care and are associated with improved mental health outcomes and adherence to treatment (Livingston, Nijdam-Jones & Brink 2012; Warner, 2010).

The MSP work stream has embraced the principles of recovery and created a platform to ensure they are being implemented throughout a patient's stay in secure services.

The My Shared Pathway Recovery Tool

The MSP resources consist of recovery focused workbooks and an outcomes framework document. The workbooks are designed to be used as a platform for creating care plans which reflect an understanding of each patient as an individual. Working with the MSP processes will provide opportunities for service user involvement and multi-disciplinary collaboration to enhance the provision of holistic, personalised and systematically organised care. The outcomes framework document aims to offer clarity and promote collaboration between service users and the multi-disciplinary agencies involved in their care. Furthermore, it will result in a standardised process of recording outcomes observable to third party

regulators whilst simultaneously ensuring that services are consistently achieving outcomes in a

recovery focused manner. The main aims and principles of MSP work stream are outlined in Table 1.

Table 1
The Principles and Aims of My Shared Pathway

MSP Principles	Service Aims
A new way of working together	To enhance an outcomes based approach to care delivery
A way of sharing responsibility and choice	Requires services to focus specifically on outcomes which will aid a patient's progression toward discharge
A way of working that uses everyday language	To encourage shared responsibility with service users taking ownership over reaching the outcomes they have agreed to work toward
A way of helping people to achieve their goals	To develop a standard pathway to be delivered across services in order to drive efficiency and encourage transparency
A way of helping people live the life they want in the present and the future	To fund services according to how well they are achieving outcomes rather than by bed occupancy
A way of making recovery as important as security	To reduce the overall length of stay for individuals in secure care driving down capacity requirements and overall costs.
A way of making sure people stay in services "not a day more" than they need	
A way of helping care providers as thinking about each patient individually	
A way of ensuring patient's keep focused on the outside world	

Note: Adapted from *"*Background to the Project," (2012)

The outcomes framework is encompassed in an accessible service user workbook and guides patients through a self-report evaluation process. Firstly, patients give themselves scores of competence in each area of recovery with the guidance of their care team. The clinical team responsible for a patient's care will subsequently repeat this scoring process using the patient's engagement and behaviour as indicators. All disciplines should be involved in this process to gain substantial evidence for achievements in different areas. These scores would then be fed back to the patient and compared with the self-evaluation the service user has completed. The shared pathway process would then promote the collaborative planning of treatment to address the needs of the patient as identified by the framework. Figure 1 illustrates an example of the outcomes framework. A more detailed description of the complete set of MSP workbooks is available in Appendix B.

Please score the following statements using this scale:
1 - Major difficulties 2 - Some difficulties 3 - Making progress 4 - Some strengths 5 - Major strengths

Outcome Area A - My Mental Health Recovery	My previous score and date	Team previous score and date	My current score and date	Team current score and date
1. I have taken positive steps towards my recovery and actively engage in activties that help me get better				
2. I am independent and managing my self care				
3. My symptoms are well controlled with treatment				
4. I have regularly shown that I think before I act even when I am stressed and upset				
5. I have demonstrated that I can take my medication responsibly and manage this outside of secure hospital environment				
6. When stressed I can consistently use coping strategies that stop me becoming unwell				

Figure 1. Example from the outcomes framework booklet (My Outcomes, Plans and Progress, 2012)

A recent pilot evaluation study undertaken by York Mental Health Research group found that the implementation of MSP was positively received and successful in achieving its aims of promoting

increased collaboration and understanding between service users, nursing staff and their clinical teams (Hughes & Ayub, 2011). MSP has been effective in encouraging the achievement of evidence based outcomes in a variety of secure services including populations suffering from severe cognitive impairment (Esan, Pittaway, Nyamande & Graham, 2012).

Shared Pathway Implementation: Staff and Service User Training

The Shared pathway implementation plan instructs services to disseminate staff and service user training groups in preparation of the widespread use of the shared pathway processes. The plans suggest training sessions should provide information on the principles of recovery focused care and include specific instruction regarding the use of the shared pathway booklets as recovery tools.

The current report focuses on the training sessions disseminated to nursing staff and service users. A more detailed description of the MSP training sessions is available in Appendix C.

The main aims of the training sessions were to:

1) Provide staff and service users with enough knowledge of the shared pathway workbooks and processes to feel comfortable engaging in their use.
2) To convey the recovery focused ethos behind the MSP work stream.
3) To initiate and facilitate widespread implementation of the MSP workbook based tools.

The Current Project

The current evaluation utilised surveys to gather feedback from nursing staff and service users with the purpose of evaluating two different components of the MSP introduction:

(a) Specifically how useful the introductory training sessions were to service users and staff members.
(b) The general attitude of staff and service users to the MSP work stream.

Additionally, service user interviews were conducted in order to gain further insight from service users

in regards to their opinions, attitudes and experiences using the MSP tools.

Method

The current project was confirmed as a service evaluation through communications with the trust's Research and Development department and was therefore exempt from requiring NHS ethical approval. The evaluation was conducted as part of a placement project within the Masters of Research in Clinical Psychology at the University of Birmingham and required university ethical approval which was obtained prior to the evaluation commencing.

Participants

Participants were identified as any staff member or service user having attended the MSP training sessions.

A total of 72 questionnaires were collected: 52 from staff members (28 Registered Mental Nurses, 23 Healthcare Assistants and 1 Student Nurse) and 20 questionnaires from patients (5 in acute care and 15 in rehabilitation units). Six interviews were conducted with patients; staff members were excluded from interviews due to time constraints and the higher response rate of staff in the evaluation survey stage. One staff questionnaire was excluded from analysis due to an insufficient number of completed questionnaire items.

Materials

Information and consent forms were constructed in line with NHS ethical guidelines for research. The survey questions were constructed utilizing Rust and Golombok's (1989) methods of constructing questionnaires and discussed in supervision sessions with the academic and placement supervisors overseeing the current project. The interview questions were similarly constructed through identification of the service aims and how they may manifest in response to questions.

The surveys consisted of 15 questions in total; 11 structured questions using a 5-point Likert scale response items (1 strongly disagree, 2 slightly disagree, 3 neither agree nor disagree, 4 slightly agree, 5

strongly agree). One question allows for multiple responses (see Appendices D and E, question 6). The two final items invite participants to list areas in which they think their introduction to the shared pathway could have been improved and lastly a prompt to share any additional comments. Copies of the questionnaires are available in Appendices D and E.

Procedure

Participants were approached by shared pathway advisors following the training sessions and asked to complete either staff or service user feedback surveys.

Written informed consent was obtained prior to completion of both staff and service user questionnaires. The information and consent forms also outlined the future plan to conduct participant interviews and asked individuals to indicate whether or not they would like to be invited to take part in an interview at a later date (see Appendices F and G).

Participants for the interview stage were identified as those who had expressed an interest at the survey stage. Potential interview participants were selected via opportunity sampling methods. Informal invitations to participate in interviews were made in person by the current author and appointment times and dates were confirmed for the interviews to take place. Prior to approaching service users nursing staff on duty were informed of the evaluation interviews being planned and asked about any relevant information regarding the mental state and behaviour of the patients concerned which may affect their suitability to participate. All interviews took place on the residing units of participants in the private interview rooms situated on each unit. Participants were taken through an information sheet and informed consent was obtained.

The current author, who is employed with the participating trust as a Healthcare Assistant, acted as one of the shared pathway advisors and collected the feedback surveys from all participants and conducted the interviews. The second shared pathway advisor is employed as a Registered Mental Nurse within the trust and assisted in the delivery of training sessions and recruitment of participants only.

Analysis: Survey Data

Analysis of the feedback surveys has been conducted on Microsoft Excel (2007) using simple frequency calculations suited to the purpose of the data. Results are separated into feedback focused specifically on the training groups and feedback given on the broader MSP work stream.

Survey Feedback on Training groups

Figures 2 and 3 display a largely positive response pattern from staff and patients to the training groups. The majority of individuals attending the session agreed (slightly or strongly) that the training was easy to understand (question 1) and agreed that the training had provided them with an understanding of the shared pathway resources (question 3). In addition the majority of participants agreed or strongly agreed that they were ready to begin using the MSP tools (question 4) and that they planned to do so in the near future. Tables detailing staff and patient response numbers to the survey questions displayed in Figures 1 to 4 are available in Tables 1 and 2 in Appendix H.
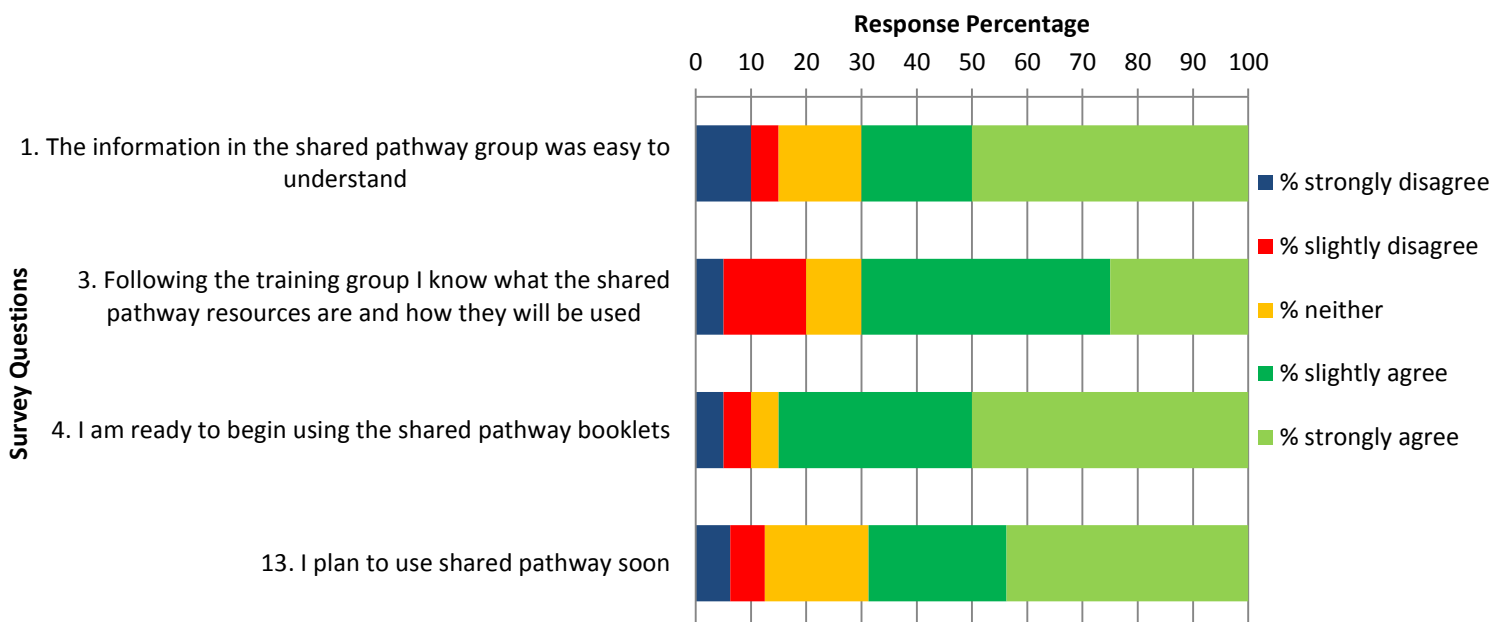

Figure 2. Patient survey responses: feedback on the success of MSP training sessions, n = 20.

Response Percentage

Survey Questions:
1. The information in the shared pathway group was easy to understand
3. Following the training group I know what the shared pathway resources are and how they will be used
4. I am ready to begin using the shared pathway booklets with my patients
13. I plan to begin using the shared pathway booklets in the near future

Legend:
- % strongly disagree
- % slightly disagree
- % neither agree nor disagree
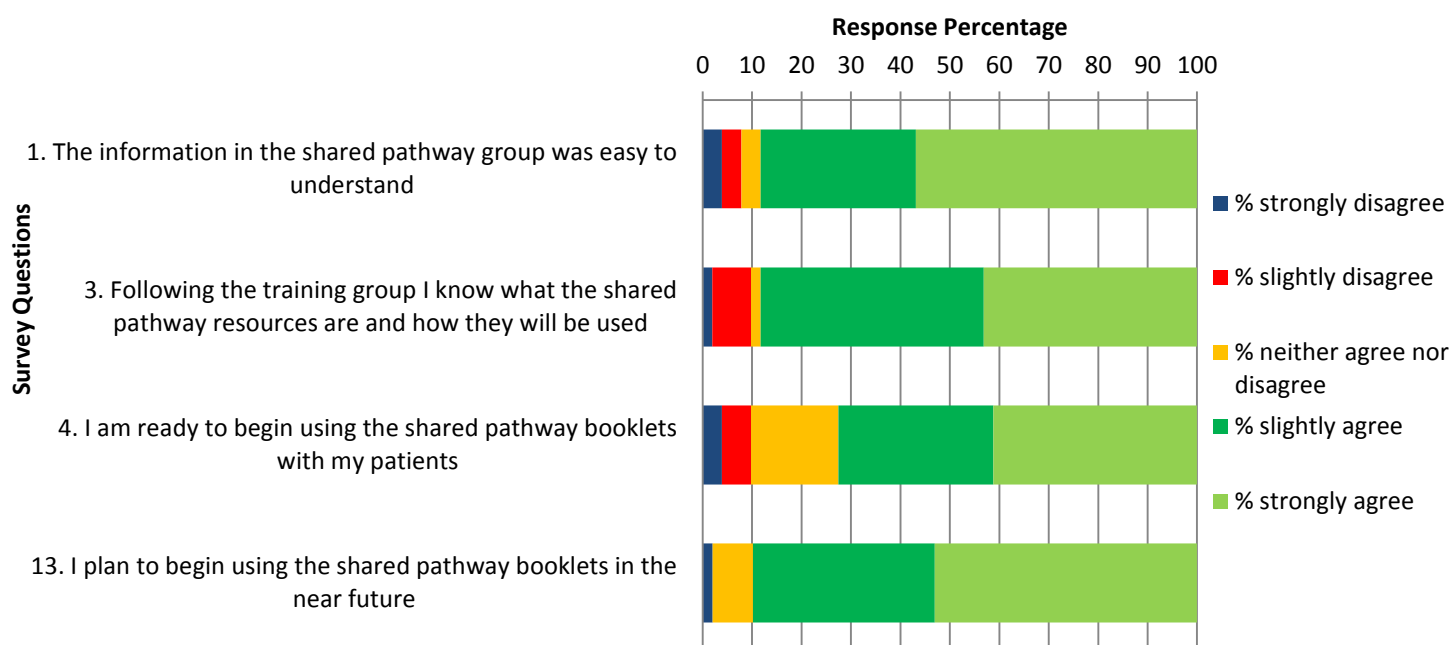- % slightly agree
- % strongly agree

Figure 3. Staff survey responses: feedback on the success of MSP training sessions, n= 51.

In order to balance the direction of questions, 2 additional questions were framed negatively (see Appendices D and E questions 2 and 5,) and are not depicted in Figure 2 or 3. In response to these questions a considerable proportion of service users (45%, n = 9) slightly or strongly agreed that there were still things that they did not understand in regard to the shared pathway information provided. Similarly 45% (n=9) of patients slightly or strongly agreed that they would like to use the booklets but were still unsure how to use them (see Table 2 in Appendix H).

Staff members provided a similar pattern of response to these questions with 58.82% (n= 30) slightly or strongly agreed that there were still elements of the shared pathway they didn't understand and 56% (n=28) of staff slightly or strongly agreed that they were unsure of how to implement use of the shared pathway processes with their patients (see Table 3 in Appendix H)

Another additional survey item (see Appendices D and E, question 6) asked patients and staff to identify resources they would find useful beyond the training sessions. Patients indicated they would like to be

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provided with further support in the form of information leaflets (30%, n= 6), one to one sessions with

staff (40%, n=8) and step by step instructions (40%, n=8). Staff respondents indicated they would like to

be provided with information leaflets (43.14%, n= 22), one to one supervision sessions (50.98%, n=26)

and step by step instructions (56.86%, n=29).

Survey Feedback on the MSP work stream

Patient feedback in regards to the MSP work stream (Figure 4) demonstrate largely optimistic views that

the MSP processes will succeed in its aims of focusing on recovery, increased communication and have a

positive effect on care. For full details of patient responses see Table 2 in Appendix H.
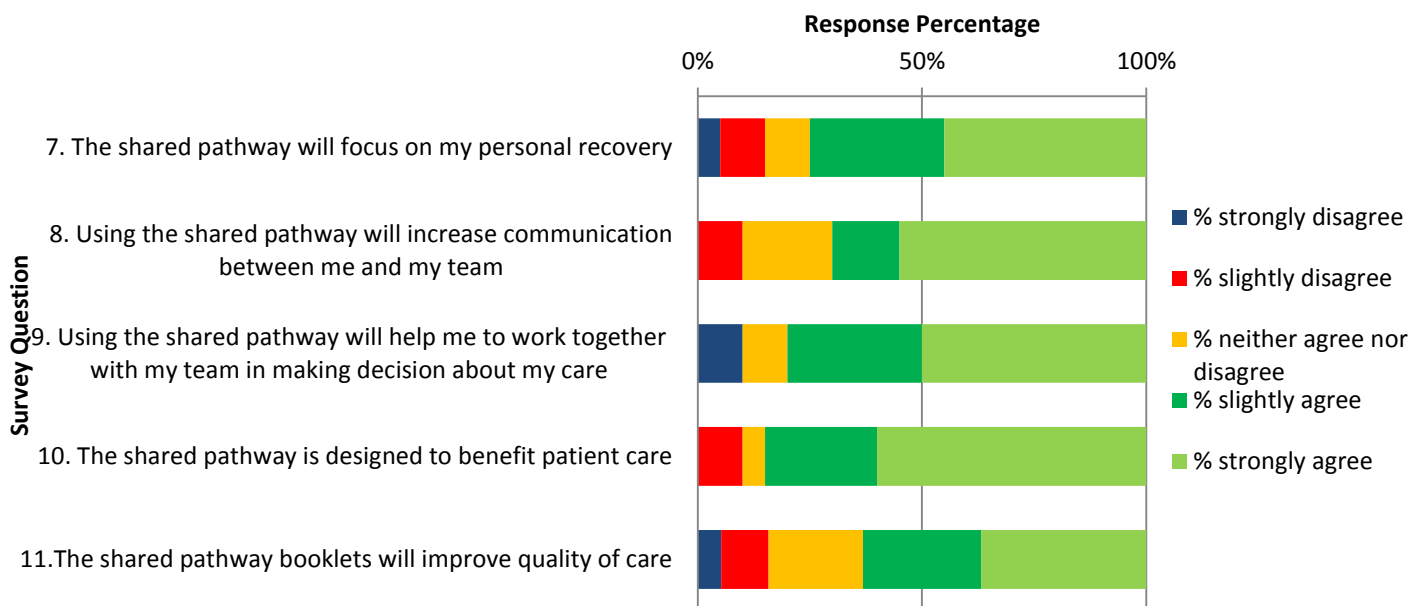
Figure 4. Patient survey responses: Feedback on the MSP work stream, n= 20

Concurrently, staff views, shown in Figure 5, were predominantly optimistic demonstrating positive

views that the MSP processes will succeed in focusing on patient recovery, increased collaboration and

have a positive effect on care. . For full details of staff responses see Table 3 in Appendix H.
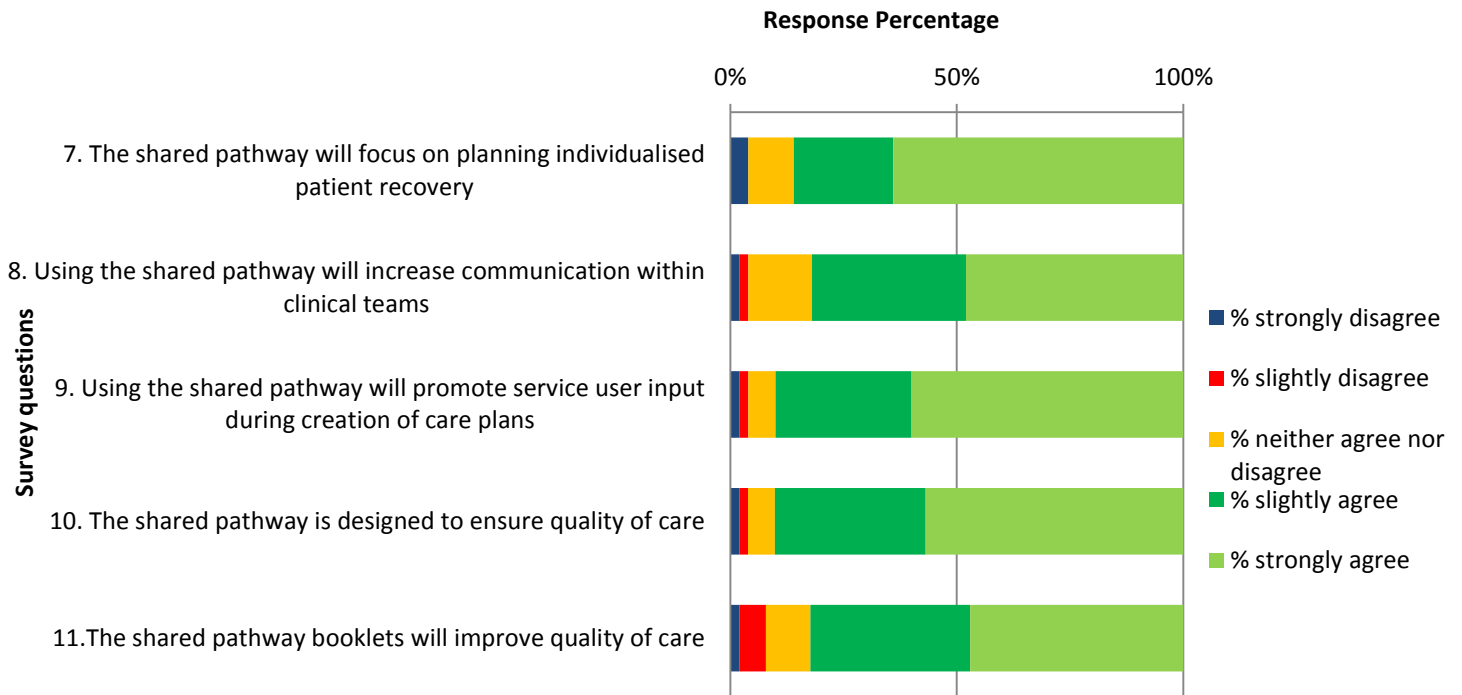
Figure 5. Staff survey responses: Feedback on the MSP work stream, n=51

Patients and staff were also invited to leave additional comments with two free text items at the end of

the survey. Patient responses to these sections were few and so have been omitted from the results.

Staff responses are outlined in Table 4 and considered in categories of; comments regarding to

improvement of the introductory training sessions, positive comments and negative comments.

Table 4.
Free text survey responses from staff

Recommendations for training sessions	Positive Comments	Negative Comments
I feel it was delivered really well however I would have found it better if we could have seen examples of how it is completed.	It is a good concept that is potentially useful.	May fall short in terms of patients who are possibly disinterested in completing their shared pathways.
The session was good - not too long to feel bombarded with information and clearly set out however as it is completely new I think it will take a while to fully understand and implement	The theory is good	Patients are finding these booklets confusing. Named nurses have to address certain issues with patients to fulfil the requirements of the nursing metrics, these are addressed via rio [online patient records] care plans now using booklets we still have to do rio care plans and have info in 2 different places. Also if patients decide not to include an area we still have to for audits
1.An opportunity to read the various books before introduction 2. My responsibility in contributing to the shared pathway as a key worker i.e. who creates the care plan?	Good to involve patients input into their care	Unsure it will work in practise - some patients lack motivation
Not knowing whose responsibility it is to introduce to patient. Knowing which booklet to do first and when to do subsequent booklets. What to do if patients do not want you involved.		
Reduce content very informative but keep it slightly brief 30-40 minute session. Felt content was too much and a bit repetitive.		
Use of video would be good and there was not enough input from other staff.		
A folder with a set of completed pathway booklets and some blank copies for staff to look over to check that they are completing them properly. An example of a shared pathway care to give staff a template on how to complete it correctly		

Analysis: Service User Interviews

The interviews were transcribed and the scripts analysed using template analysis (King,1999) which

required the a priori identification of broad first level codes further specified by second level codes. The

codes or themes were largely derived from the interview questions and composed of feedback in three

areas; discussions of the training sessions, use of the MSP workbooks; and general opinion of the MSP

work stream. Each transcript was carefully analysed line by line assigning statements to the code they

best represented. Whilst the broader first level codes were identified a priori the second level themes

were more often informed by the content of the interviews, new themes were identified if mentioned

in detail by one participant or repetitively by several participants. A coded transcript is available in

Appendix I. The first and second level themes identified are coded in Table 5

The results will be described thematically combining quotes from the six interviews which give insight

into the identified themes.

The first theme **discussion of training sessions** will not be included in the results section as this has

been covered by both staff and patients in the survey data analysis section. The analysis for this theme

is available in Appendix J. Tables 4 and 5 organise the qualitative analysis of the remaining themes.

Table 5.
Table of First and Second Level Themes for Analysis

First Level Code	Second Level Code
Discussion of training session	Retention of content Understanding Motivation Areas for improvement
Use of the MSP workbooks	Actual experiences using the work books Perceived experiences of using the work books in the future Obstacles to using the work books
Opinion of the MSP work stream	Benefit to care Benefit to recovery

Use of the MSP workbooks

This theme encompasses descriptions specifically of the MSP booklets. Some patients describe actual experience using the booklets whilst others describe their perception of future use of the workbooks based on the information covered in the training session. We will focus here only on **actual patient experience** and **obstacles** to booklet use as these are the areas most indicative for evaluating MSP. See Tables 6 and 7 for full analysis.

Actual experience of using booklets

Interviewees A, E and C had all made considerable progress in filing out their shared pathway workbooks, describing these experiences in some detail and often touching on similar experiences encompassing both positive and negative elements of the process (Table 6).

Obstacles

Those who had not yet begun using the booklets were specifically asked why they had not yet begun using the booklets in order to identify potential obstacles needing to be addressed. The identification of staff related issues seemed to be the most prominent (Table 6).

Opinion of the Shared Pathway work stream

The final template code encompasses discussion referring to the general processes and aims promoted by the shared pathway work stream. The overarching aims of the shared pathway work stream are to improve patient care through systematic goal setting and achievement, increased collaboration between clinical teams and ultimately the reduction of length of stay of patients within secure care. Patients were asked if they felt use of the shared pathway would improve their recovery and aid them in moving on from medium secure care, the full analysis is in Table 6.

Table 6

Qualitative Data Analysis of Patient Interviews for First Level Theme: Use of MSP Workbooks

First Level code	Second level code	Interpretation	Supportive quotes
Use of the workboks	*Actual/perceived experience of using booklets*	Interviewees A and C go into some detail about his experience having filled the booklets out describing their difficulties. They encounter similar opinions in regards to how difficult it can be to work through some of the more in-depth questions contained in the work books.	I still find them overwhelming at times very in depth and how much detail there asking you to go into. It's like we've done all of it before with psychology and the doctors so a lot of its rehashing things that have been discussed maybe three or four times. (Interviewee A)

It is a bit daunting when your first going through them because there is a lot there ...its talking about reviewing your whole life your episode what brought you here (Interviewee C)

Not an easy task (Interviewee E) |
| | *Obstacles* | The main obstacle identified by patient's related to the availability or the lack of involvement by staff in training sessions. | I had a couple key worker sessions...on my other unit and she didn't know too much about it so I gave the booklets to her to study and she's still got them (Interviewee B)

well my key worker works nights so it's quite hard to yano cus I go bed at nine after my medication it's quite hard (Interviewee D) |

Benefit to care

 Generally patients expressed positive belief that the shared pathway will benefit the care they receive

in comparison to care delivered presently (Table 6).

Benefit to Recovery

Patients expressed the belief that use of the shared pathway would aid them in their personal recovery

process. Notably patients express a positive belief that the shared pathway processes could be of

benefit to their progression toward discharge (Table 7). However, as displayed in Table 6, there are also

individuals who seem to hold a less optimistic view of the work stream's long term benefit.

Table 7

Qualitative Analysis of Patient Interviews for First Level Theme: Opinion of the MSP Work Stream

First Level code	Second level code	Interpretation	Supportive quotes
Opinion of the MSP work stream	*Benefit to care*	Patients speak of the increased patient involvement the processes will encourage and how the shared pathway processes will offer them empowerment whilst working towards discharge.	I think the whole thing is very valuable cus in the past we didn't know, we didn't have any form of information or have any part in our care... it gives us a shared part in our care and the pathway it is on, how we can get out into the community...and progress (Interviewee B)
			I think it's just gonna be helpful, really helpful to help empower the service user to have something that they can say to their team "what about this" and "we said this before" whereas previously you kind of you know you don't have anything in writing... I think it's going to be very useful (Interviewee C)
		One patient discusses the belief that the shared pathway has the potential to increase collaboration between patients and their clinical teams.	You'll be more open with the team and a bit more connected...it's been three months since ive been to a CTM [Clinical Team Meeting] they come and see me on the unit and you have a quick five minute chat with them then there gone again for a couple of weeks you don't really feel very connected...I think doing the shared project thing I think they'd have to be more involved (Interviewee F)
		One patient expressed the belief that the care he was given would not be altered by the shared pathway but that it would be of personal benefit.	I'm not sure it will affect my care I think it's for personal benefit it's something really useful (Interviewee D)
	Benefit to recovery	The majority of patients expressed the belief that use of the shared pathway would aid them in their personal recovery process.	I'll be more focused on understanding my personal illness and the erm recovery that I'm going through (Interviewee B)
			It's gonna help me to move further through my recovery definitely just as far as understanding about moving on from here and yeah just to have a clearer picture (Interviewee C)
		In order to be moved on from secure care patients are required to tackle their problematic behaviours. One interviewee specifically details the process of self-evaluation required by the MSP outcomes framework and how this will affect his behaviour positively. His statement suggest that being more aware of the way in which his progress is measured will aid him in controlling potentially problematic behaviours,	well maybe not on their own but with the help of the different sessions we partake in such as psychology anger management and remembering that we've got to grade ourselves we would think more on our behaviour on the unit where sometimes it can be hectic and you get into arguments with staff. With the with the forms that you've given us to grade ourselves we'll think well I can't really get too angry and get it out of hand because I won't be able to score myself a high score (Interviewee B)
		One patient showed some scepticism when asked if he felt the shared pathway would help him to progress toward discharge.	That you'd have to wait and see really cus anything new you've gotta see how it goes sometimes they change things half the stuff it fades out hopefully it don't cus I do wanna be more connected with my team cus it's about me and sometimes you don't feel like it is (Interviewee F)

Conclusions

The feedback surveys generated largely positive feedback regarding the success of the introductory training sessions. It seems the training sessions were accessible and that they caused both staff and patients involved to express intentions of using the booklets. Furthermore the sessions successfully communicated the aims and recovery focused ethos behind MSP as both patients and staff agreed that recovery, patient involvement and increased collaboration were the focus of the resources. Most importantly the majority of both staff and patients felt that use of the booklets would actually improve quality of care, although it seems a higher level of scepticism was present in patient opinion as almost forty percent of them disagreed, a theme also identified during interview data analysis. The interview data suggests that this could be due to patient's perception of NHS policies and practice as transient and inconsistent, although this conclusion must be put forward tentatively as it is drawn from the analysis of case study data.

The interview data also revealed negative attitudes toward the repetitive nature of the information covered by the MSP work books, a theme which was also touched upon within the free text survey comments from staff members. Patients expressed concerns over having to discuss the same information repeatedly to different disciplines whilst one staff member expressed frustration over having to repeatedly record the same information across different formats (e.g. within the patient work books and also on patient's online records). These concerns may be partially overcome once the MSP tools are fully integrated into the service as the work books will be introduced to a patient at admission and completed involving representatives from all disciplines. This prevents service users from having to "rehash" details of their lives which may be challenging to discuss. The participants interviewed had already been within the service for some time hence the feeling that they had already disclosed a lot of the information being prompted by the work books. From the perspective of staff members having a single workbook follow a patient throughout their stay should ease the process of getting to know newly admitted patients and the transition from unit to unit

within the hospital. However the issue of having to copy information from the workbooks onto the online patient records system will still remain.

The survey also provided some useful insight into the requirement of further provisions to aid implementation of MSP into the service. The survey suggested both patients and staff would like to be provided with leaflets, instructions and supervisory or one to one sessions, suggesting that although the introductory sessions were received positively there is more work to be done to support people in utilising the resources.

The free text section allowed the identification of specific improvements of the training sessions desired largely by staff. For example, two recommendations for a set of completed example booklets were made by staff, a suggestion which can easily be made a reality. It also it seems the training sessions did not sufficiently clarify the exact role of nursing staff and the stages within the shared pathway processes as two staff members recommend the provision of this information to be included in the future.

The interviews provided a window into the experiences patients were having using the booklets, obstacles they were encountering and their opinion on the MSP work stream as a whole. The results section provides sufficient discussion of these themes although it is worth noting the main obstacle identified as preventing the use of the MSP resources was lack of staff knowledge or training. This highlights the importance of continuing training sessions and providing on-going support for staff to implement the use of the MSP workbooks into daily practise.

Limitations

Although the benefits of service evaluations are discernible they also contain inherent research limitations. The involvement of service providers in the conduct of an evaluation is likely to have an impact on findings. The evaluation was carried out by the author who is employed within the service and is familiar as a colleague or carer to all of the participants involved in the evaluation. This could

potentially have a significant impact on the attitudes expressed by participants. However the report used anonymised surveys and a combination of both quantitative and qualitative research methods in order to provide an evaluation of the service which was as true to reality as possible.

The collection of attitudinal research data also comes with inherent problems as it presumes that attitudes expressed are true and fixed. It is possible that participants were being generous in their survey responses as providing negative answers would deem the training sessions as unsuccessful, an obviously undesirable evaluation. This is highlighted by the change in proportion toward negative responses observed by questions which were negatively framed. Although answers were still positive by majority, the increase in negative responses suggests answers were not necessarily true reflectors of opinion as participants could have been answering according to pattern rather than true opinion.

The sample size, particularly for patients, was also relatively low, limiting the generalisation of the evaluation as reflective of the whole hospital population. However, action evaluations are designed only to reflect the individuals affected by the service delivery and it is likely that the current evaluation was still likely to provide some insight into this. A more problematic limitation may be the nature of the interview sample in particular. Invitation to the interview was determined by a previous expression of interest being made by patients filling out feedback surveys. It is likely that patients who agree to fill out surveys and furthermore were willing to take part in an interview may have been similar in characteristics which would affect the experiences they have had engaging in the MSP work stream. Specifically, patients who agreed to participate may be more likely to engage in the work stream and have more insight into their process of personal recovery. This is an important consideration and efforts to gain insight into the experience of those who are more difficult to engage should be pursued beyond the current evaluation.

Recommendations

The current evaluation has been conducted not only to gain insight into present experience but to inform future practise which will assist the embedding of MSP and its processes into daily clinical practise. Table 8 provides a set of recommendations based on the findings of the report and how these can be applied within the clinical service. The recommendations are based on the attitudes and experiences of staff and service users in the introductory implementation phase of MSP. It is therefore important that efforts in evaluation are continued beyond implementation to evaluate the effect of the work stream on longer term patient and service outcomes.

Table 8.
Recommendations Informed by the Service Evaluation

Recommendations	Clinical application
The creation of staff training provisions reflective of requirements	A steering group of nursing staff should be created to build a comprehensive set of guidance tools to be disseminated across the trust.
Continued support for both staff and patients	Continued provision of shared pathway advisors to provide 'floating' support for staff members having difficulties implementing the MSP tools. This should be on going until service user engagement rates reach a satisfactory level.
Identification of MSP leads	Each unit should allocate a staff member to act as shared pathway lead. This individual should have a good knowledge of the resources and the ability to communicate this to colleagues. This will provide a permanent source of support beyond the implementation phase to maintain full integration of the MSP processes into the service.
Peer support for patient's	Shared pathway patient leads, who have experience utilising the MSP tools, should be identified to provide support for patients who desire it.
Long term evaluation	A larger scale research project should be organised involving secure care clinics around the country who have implemented MSP into their services. The evaluation should assess the efficacy of MSP in terms of recovery outcomes for patients and quality and efficiency outcomes for the service.

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SECTION TWO

ENVIRONMENTAL FACTORS IN PSYCHOSIS: CHILDHOOD TRAUMA

A brief literature review exploring evidence for a causal relationship between childhood trauma and

psychosis

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Clinical Research Placement
Environmental factors in Psychosis: Childhood Trauma

Placement Background

TRANSITIONS

- Cohort study of young help-seekers
- Modelling clinical stages of mental illness
  - Progression/regression of illness
  - Risk factors
  - Protective factors
- Comprehensive assessment interviews

The placement from which I developed the current presentation was with the "Transitions" research team. The Transitions research team aims to develop a clinical staging model of mental illness by following a cohort of young help-seekers and gaining insight into the onset, progression and outcomes of their mental health problems. By collating a wide range of clinical, psychological, social, and genetic details over an extended period of time the team hopes to identify clinical markers in the development of disorders. This would aid the provision of specific and effective treatment dependent upon the clinical stage presented. Furthermore, it will also be possible to observe the co-occurrence of different factors, and to potentially identify those which may pose as risk or protective factors in psychological outcomes. My presentation is based on the exploration of childhood maltreatment as a risk factor for schizophrenia and psychosis.
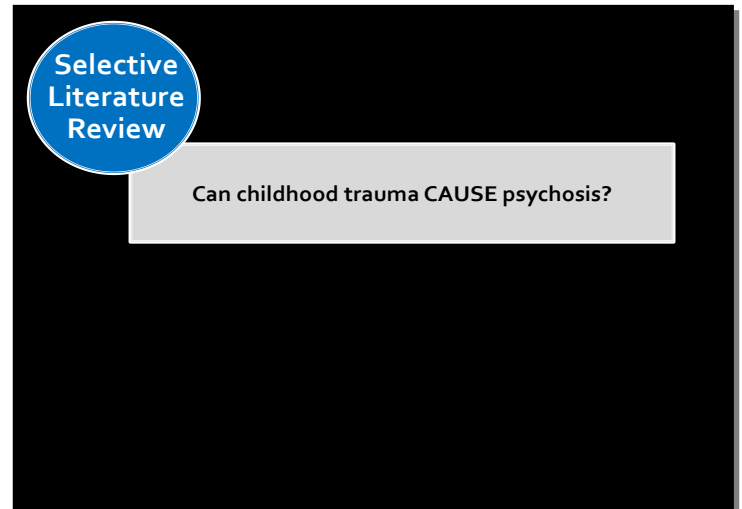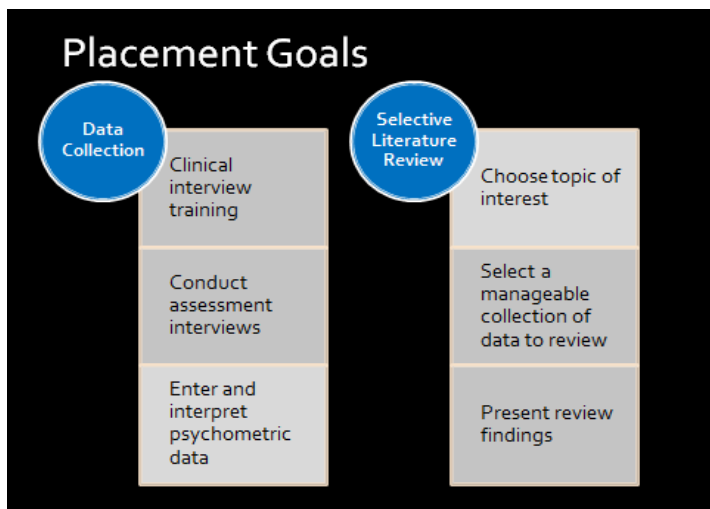
My goals within this first part of my placement were to be involved in recruitment and data collection to contribute toward the longitudinal Transitions study. Data collection involved conducting assessment interviews with the young help-seekers recruited. As an interviewer I gathered a wide range of information concerning individuals help seeking patterns, coping strategies, self-harm behaviours, substance use and family history of mental health problems. I also utilised a range of psychometric measures to assess the presence and severity of depression, mania, substance abuse, social and occupational functioning and psychotic experiences. Alongside data collection, I was also required to choose an element of the research I was particularly interested in and to become familiar with the relevant background research in the area to present within my thesis.

My choice was to explore the research into childhood trauma and psychosis due to an interest in the development of psychosis in young people. My research question seeks to explore how strong the evidence is that childhood trauma can exert a causal influence on the development of psychosis. I conducted a selective literature review focusing largely on

review papers due to the vast amount of primary research papers in the topic area. My presentation will give an overview of significant findings in the area and offer a conclusion as to whether childhood trauma can be considered as a causal factor.
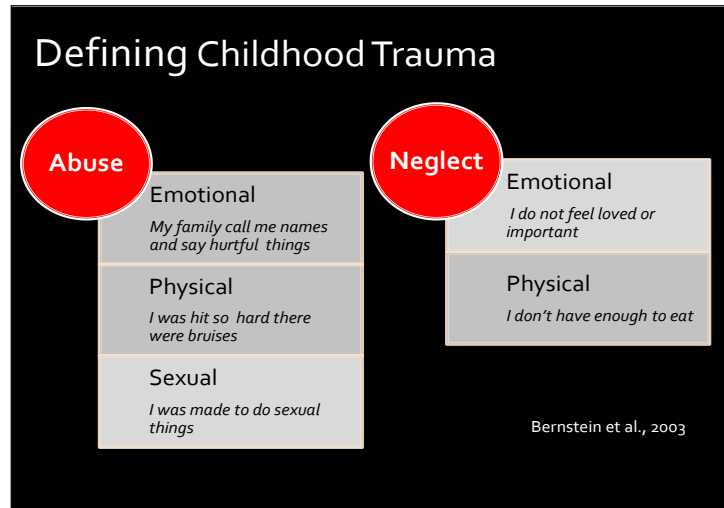
Defining childhood trauma

The definition of a traumatic childhood event is the occurrence of events which have the potential to cause intended physical or psychological harm. The Transitions research team utilise the Childhood Trauma Questionnaire (CTQ; Bernstein et al., 2003) which categorises trauma into 5 subtypes of child maltreatment (emotional abuse, physical abuse, sexual abuse, emotional neglect and physical neglect). The CTQ encompasses the childhood events typically referred to within the current literature search when considering trauma.

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The Debate

•High levels of trauma experiences in clinical populations

•If psychosis is a "disease of the brain" can environmental factors be causal?

❏ Dominance of a biomedical model

❏ Environmental factors can contribute but can they cause?

❏ Bio-psycho-social model should allow for integration of both

The potential role for childhood trauma in the development of psychosis has been repeatedly highlighted by the increased prevalence of childhood maltreatment in clinical populations with psychosis (for a review see Read, Os, Morrison & Ross, 2005). The acceptance of childhood adversity as a risk factor has been attached with some resistance due to the desire to avoid family blaming and the dominance of a predominantly biomedical model of schizophrenia (Read, Fink, Rudegeair, Felitti & Whitfield, 2008). The dominance of the biomedical paradigm fails to consider childhood trauma as a causal factor in the development of psychosis. The existing association is therefore explained by positioning childhood trauma as an environmental trigger highlighting a pre-existing vulnerability to schizophrenia. The notion of a genetic vulnerability as a prerequisite to developing schizophrenia presumes that environmental factors are not pernicious enough to cause direct influence (Read, 1997). It is argued that a truly integrated bio-psycho-social model of mental illness should allow equal weight to be given to all factors (Read et al., 2008).

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The Evidence

· Read et al. (2005) Large meta-analysis

• Associations between Childhood Trauma (CT) and psychotic disorders

• High prevalence of CT in psychiatric population

❑ Heterogeneous population

❑ Inconsistent measures

❑ Confounding variable

Janssen et al., 2004

• Prospective study

• General population

• Baseline abuse measure

• Psychosis symptoms at 2 year follow up

• Childhood abuse predicted psychosis

❑ Demographic variables and risk factors controlled

❑ Dose response association

Outcomes following childhood trauma consistently find robust associations between trauma in childhood and psychotic experiences later in life (Read et al., 2005). However, the meta-analysis by Read and colleagues (2005) pinpoint the lack of methodological rigour within the field, weakening the conclusions to be drawn from many of the studies carried out in the past. Measures of psychopathology were often inconsistent, measures of childhood trauma often lack severity, and temporal specificity and potentially confounding factors were often not controlled for during analysis.

However there are a growing number of well-designed studies continuing to find support for a causal relationship between childhood adversity and psychosis. Janssen et al. (2004) conducted a prospective study which assessed the occurrence and severity of childhood abuse at baseline and subsequent development of psychotic symptoms at a two year follow up assessment. The findings revealed that incidence of regular exposure to sexual or physical abuse and neglect predicted the onset of positive psychotic symptoms at follow up. This association remained significant after controlling for important demographic variables (education, ethnicity, co-morbid diagnosis, unemployment, drug use and urbanicity). Furthermore, a dose-response relationship was detected as those reporting the most severe levels of abuse were 48.4 times more likely to develop psychosis requiring treatment

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whereas individuals exposed to moderate or severe abuse were 10.6 times more likely to develop psychosis compared to an increase of 2.0 for those suffering the least severe levels of maltreatment. The study therefore provides evidence for a causal role of childhood abuse in the development of psychosis. However, the population of participants experiencing trauma within this study was relatively low with only 7 participants experiencing severe trauma. Additionally although a dose response trend was observed there is no report of this trend being validated statistically.

Bebbington et al (2004)

- Interview data from 8580 adults
- Victimisation and sexual abuse
- Diagnosis of definite or probable psychosis
- Psychosis group 3.9 times more likely to have experienced sexual abuse
  - ❑ Lack of temporal specificity
  - ❑ Implies victimisation to be an important factor

Bebbington et al. (2004) found that 60 participants assessed as suffering from definite or probable psychosis were significantly more likely to have experienced: physical assaults; been removed from the care of parents; and incidents of sexual abuse. Interrelationships between other negative life events, not classified as involving victimisation (such as parental death), and levels of depression were controlled for. Sexual abuse was found to have the strongest association with psychosis. However, the authors did not measure severity or temporal specificity of the traumatic events which means experiences could have occurred in adulthood. However, the findings may still suggest that experiences of victimisation, specifically, contribute to the development of psychosis.

Varese et al. (2012)

- Large meta-analysis synthesising primary papers since 1980
- Considered longitudinal, cross sectional and case control data
- Found a robust association between trauma and psychosis

  ❑ Dose response relationship
  ❑ Trauma related to more complex presentations within populations with psychosis

The growing body of literature regarding the development of psychosis following CT was recently examined and quantitatively synthesised by Varese and colleagues (2012). The authors examined relevant literature published since 1980 including longitudinal, cross sectional and case control research data taken from individuals with psychotic diagnoses and experiences. The 41 studies included in the review led the authors to conclude that there is a robust association between childhood trauma and psychosis, as well as evidence for causality. Prospective studies revealed that adverse experiences in childhood increased the risk of developing psychotic symptoms by nearly three times (OR = 2.75–2.99). Evidence for causality has been explored via a dose response and bidirectional effects (Janssen et al., 2004; Kelleher et al., 2013). Ten studies examined by Varese and colleagues (2012) specifically explored a dose response relationship, nine of which found a significant effect. Evidence from clinical populations with psychosis and histories of experiencing trauma suggests that adversity is also associated with worse treatment outcomes in psychosis (Lecomte et al., 2008) , higher levels of violence when unwell (Steintert, Bergbauer, Schmid & Gebhardt, 2007) and higher rates of suicide (Tarrier, Khan, Cater & Picken, 2007).

Despite the seemingly strong evidence for childhood trauma playing a role in the development of psychosis there remains debate within the field. For example, Susser and Widom (2012) criticise the claims made by Varese and colleagues (2012) as being exaggerated given that the majority of studies in the field rely on retrospective recall of trauma events. Susser and Widom (2012) suggest that results should be interpreted with caution as trauma may be over-reported within clinical populations by individuals searching for explanations of their experiences. Similarly, one of the most consistent arguments rebuking the validity of the association so commonly found between trauma events and psychopathology, is that patient's recollections of abuse may be inaccurate or distorted by delusional symptoms (Morgan and Fisher, 2007). However, it has been repeatedly found that the high rates of abuse reported by patients with schizophrenia are reliable over time and accurate when compared with documented evidence (Dill, Chu, Grob & Eisen, 1991; Fisher et al., 2011).

It does, however, seem that some criticisms pinpoint the tendency to exaggerate significant findings and gloss over potential flaws (Morgan and Fisher, 2007). Previous studies have

failed to find a significant relationship while others have provided fundamentally flawed

findings (Bendall, Jackson, Hulbert & McGorry, 2008; Chen et al., 2010) due to issues such as

population heterogeneity (Read et al., 2005), lack of statistical power and, again, a lack of

specificity in measures of childhood trauma (Bendall et al., 2008). However, a recent

systematic meta-analysis adopting critical quality control over inclusion criteria concluded

that 25 studies, providing moderate to high quality evidence, demonstrated a medium to

large effect of childhood adversity in psychotic disorders (Matheson, Shepherd, Pinchbeck,

Laurens and Carr, 2012). This finding extends to individuals at clinical high risk of psychosis

and those in the normal population experiencing psychotic like symptoms.

Conclusions

- Substantial amount of evidence supports a relationship between trauma and psychosis
- The cause of psychosis is still unknown theoretical explanations may benefit from critical open-mindedness
- Biological changes in psychosis are apparent but not necessarily the sole cause of symptoms
- One of the most predominant explanations of psychosis lies in the stress-vulnerability model which suggests that individuals with psychosis have a heightened vulnerability to stressful stimuli which leads to abnormal perceptual and cognitive processes.
- The stress vulnerability model would still allow for trauma to exert a causal effect

In consideration of the evidence it is likely that childhood trauma has the ability to exert a

causal influence on the development of psychosis. It is important to remember that the

aetiological explanations of psychosis development are not set in stone. The effective

treatment of psychotic symptoms via anti-psychotic medication highlights the involvement

of biological mechanisms in symptom formation but does little to explain the origins of these

inherent changes. The heightened stress response characteristic of many psychotic experiences does lend toward a biological explanation of symptom formation but does not necessarily exclude a causal role for environmental factors. There is substantial evidence to suggest that biological stress responses are not necessarily genetically informed and can be altered by developmental environments. This would allow for the exposure to adverse environments in childhood to impact upon a person's biological response to stress in the future (Read, Perry, Moskowitz & Connolly, 2001).

Final thoughts

- Causal factors in psychosis are likely to be as complex as the disorder
- It may still be too early to presume that childhood trauma exerts a causal effect on psychosis, although it's consistent association warrants continued research
- There remains no defined cause of psychosis develops and therefore a medical (nor any other) model of should dominate research findings or constrain theoretical suggestions

Psychosis is a complex disorder so it is unsurprising that the causal factors involved are equally as complex and likely to be multi-faceted. Although childhood trauma is likely to be involved in the development of psychosis the exact toxins involved in this causal relationship are yet to be determined. Again, this is likely to be a complex and varied relationship differing from person to person. Primary research studies should not presume that trauma plays a definitively causal role in the development of psychosis. Large scale and rigorously designed studies are still required to provide further evidence for the trauma to psychosis

relationship whilst empirically exploring potential underlying mechanisms. Importantly,

childhood trauma, or any other environmental factor, should not be deemed as unworthy of

exploration due to the dominance of a medical model. There remains too much unknown

about the cause of psychosis to rule out the role of factors which appear to be consistently

involved in the development and progression of the disorder.

Reflections

- The project has fuelled my interest in the complexities underlying the development and presentation of psychosis.

- I have gained insight into how difficult it is to identify causal factors in a complex disorder such as psychosis.

- The high prevalence of traumatic experiences in clinical populations provides implications for the treatment and consideration of individuals with psychosis.

- Even without definite empirical evidence it is likely that childhood maltreatment has a severe and enduring impact upon the life of any individual who has experienced it.

- Whilst debate may remain in the field of psychological research I believe there should be no debate that a history of maltreatment should be considered in the psychological formulation for treatment of individuals with any mental health concern, including psychosis.

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SECTION THREE

INVESTIGATING THE RELATIONSHIP BETWEEN CHILDHOOD TRAUMA AND PSYCHOTIC EXPERIENCES
AND EXPLORING A POTENTIAL ROLE FOR RUMINATION

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Abstract

Aim: Childhood traumatic experiences have consistently been associated with the occurrence and severity of psychotic experiences in both clinical samples and within the normal population. Previous research suggests that childhood maltreatment may increase the risk of developing psychosis however; the mechanisms underlying this relationship remain largely unknown. Rumination is a cognitive thought process describing a repetitive and obsessional style of thinking. The current study aims to explore the relationship between specific trauma events, rumination and the experience of attenuated psychotic symptoms.

Methods: A total of 72 young help seekers, aged 16 to 25, participated in the study and were assessed for the presence of attenuated psychotic symptoms. A total of 69 participants were included in the final sample. The Comprehensive assessment of at-risk mental states (CAARMS) was utilised to classify participants as Ultra-High Risk (UHR) for three subtypes of psychotic experience. UHR status is associated with more frequent and severe symptoms. The self-report Childhood Trauma Questionnaire (CTQ) was utilised to assess history of trauma and the ruminative thinking style questionnaire assessed levels of rumination.

Results: Experiences of sexual and emotional abuse in childhood were significantly associated with more severe and frequent delusional symptoms after controlling for age, depression and gender. Physical and emotional neglect showed trends toward associating with frequency and severity of hallucinatory experiences although this finding did not reach statistical significance. In a novel finding the results support the theory that rumination interacts with abuse history to impact upon paranoid ideation and perceptual abnormalities although this is limited to specific types of abuse.

Conclusions: The current study provides further support for a significant relationship between childhood trauma and psychotic experiences, this relationship could be specific depending on the

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type of trauma experienced. Tentative evidence is provided for ruminative thinking styles impacting upon psychosis symptom experience following childhood trauma.

Introduction

Evidence consistently points toward a relationship between early life trauma and development of psychotic disorder (Bentall, 2007; Janssen, 2004; Larkin, 2012; for recent review see Varese, 2012). The prevalence of childhood trauma (CT) experiences in populations with psychosis is consistently high (Read, van Os, Morrison & Ross, 2005) and a number of well-designed association studies imply a contributory relationship between the two (Varese, 2012). However, there remains debate as to whether causality can be assumed, and if so, what mechanisms drive the relationship.

Importantly, changes in the definition and aetiological presumptions underlying psychotic disorders have been reflected in the current research approach. Traditionally clinical diagnoses require the exhibition of certain symptoms to persist for a particular length of time leading to the categorical diagnosis of the disorder in question. However, it is becoming increasingly popular and clinically valid to consider symptoms along a continuum of experience. The notion of a psychosis continuum is increasingly supported within the literature and reflected in the current piece of research. This concept acknowledges that psychotic like experiences such as paranoia, hallucinations and delusional ideas exist within the normal population (Rossler et al., 2007; Van Os, Linscott, Myin-Germeys, Delespaul & Krabbendaum, 2009) and are exaggerated at the level of psychiatric disorder. Additonally, the current literature supports a "complaints – based" approach to psychotic experiences (Bentall, 2006) whereby symptoms or complaints are considered independently as opposed to being clustered and classified by diagnostic labels. The current research effort therefore utilises complaints based evidence from both clinical and non-clinical populations assuming shared aetiology across the continuum of distinct psychotic experiences.

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Cognitive approaches to psychosis propose that mechanisms affecting attention, emotion regulation, schematic structures and information and thought processing become aberrant in those vulnerable to and living with psychosis (Garety, Kuipers, Fowler, Freeman & Bebbington, 2001; Morrison, Renton, Dunn, Williams & Bentall, 2003). These cognitive mechanisms vary within the normal population as well as clinical populations and are likely to be influenced by environmental factors such as adverse childhood experiences (Bentall, 2006; Garety et al., 2001). One such thought process is rumination, a self-focused, critical and repetitive thinking style, which has been theoretically linked to a lasting effect of traumatic experiences (Fowler et al., 2006; Jones and Fernyhough, 2009;) and the formation and maintenance of hallucinations, paranoid ideation and delusions (Jones & Fernyhough, 2009; Knowles, McCarthy-Jones & Rowes, 2011; Martinelli, 2013). The current piece of research explored the relationship between trauma and psychotic experiences in young help seekers and has proposed ruminative thinking style as an interacting factor.

Psychosis and Trauma

Recent literature has provided confirmatory evidence of early life trauma being a risk factor in the development of psychosis (Janssen et al., 2004). The past decade has seen an increase in methodological rigour applied to association studies suggesting that the relationship between early life adversity and later development of psychosis is not only significant but is potentially causal in nature (Larkin & Read, 2008). However there is still some cause for debate; this issue is discussed in detail in section two of the current thesis.

Trauma along the Psychosis continuum

In line with the notion of a psychosis continuum there is evidence that the risk factors for non-clinical and true psychotic experiences are shared (Fisher et al., 2009; Van Os et al., 2009). Psychotic like experiences have been found to be relatively common within the normal population and to be associated with adverse experiences such as victimisation and abuse (Rossler et al., 2007; Lataster et

al., 2006). Examining populations experiencing any level of psychotic experience is clinically useful, particularly if the transition of subclinical to clinical symptoms can be observed.

The onset of a clinical psychotic disorder has been observed to be preceded by an ultra-high risk (UHR) state characterised by the experience of subclinical or attenuated psychotic symptoms and a reduction in social and occupational functioning (Yung, Phillips Yuen & McGorry, 2004). There is a growing body of evidence suggesting that CT is not only associated with increased experience of psychotic symptoms, but it can also predict transition from UHR status to a diagnosis of psychotic disorder. Thompson et al. (2009) found that help seeking individuals at UHR for psychosis reported high rates of childhood adversity which were associated with attenuated symptom severity. Furthermore, Bechdolf et al. (2010) found that sexual trauma in childhood predicted transition to psychotic disorder in young help seekers. However, this finding may have been confounded by the use of third party assessment of CT; as case managers provided the reports of trauma history. More recently this finding has been replicated by Thompson et al. (2013) who found that individuals in a UHR sample previously exposed to sexual abuse in childhood were two to three times more likely to transition to psychosis. These authors utilised the self-report childhood trauma questionnaire (CTQ) and considered a range of potential confounding variables such as duration of untreated psychosis, depression and education level.

Interestingly, the previous studies of at-risk samples specify only sexual abuse as significantly indicative of psychosis outcome. There is however evidence that a wider range of CT experiences are associated with psychosis outcomes, specifically traumas inducing feelings of fear and helplessness (Spauwen, Krabbendam, Lieb, Wittchen & Van Os, 2006). This has led to the hypothesis that it is specifically the experience of being victimised which underlies psychological disturbance as a result of CT. This is supported by the observed association between victims of bullying and development of psychotic like experiences (Lataster et al., 2006; Kelleher et al., 2008) and the lack of association between CT and psychosis when examining non-victim trauma events such as parental death or

serious injury and accident (Thompson et al.; Spauwen et al., 2006). Examining the effects of specific trauma types may give insight into the pathways between childhood adversity and later psychopathology and how the experience of being victimised may impact upon psychological resilience.

Interestingly, the evidence relating to the CT and psychosis indicates that the effects of different trauma types may be specific as different experiences of maltreatment appear to impact differently upon distinct psychotic experiences. A study carried out this year by Velthorst and colleagues (2013) found that within the UHR for psychosis population, levels of physical abuse experiences significantly higher levels of perceptual abnormalities (hallucinatory experiences) and delusional beliefs including suspiciousness and grandiosity, whereas sexual abuse was associated with increased perceptual disturbances only. This confirms and extends upon previous research which has consistently found a history of sexual abuse to increase the risk experiencing positive attenuated symptoms (Bechdolf et al., 2010) and predicts transition to a clinical diagnosis of psychosis (Thomspon et al., 2013). The current study aimed to explore the differential effects of specific trauma types on specific attenuated symptoms as this may provide insight into the mechanism driving the relationship. This approach also enables the exploration of different presentations of early stage psychosis experiences relating to the trauma histories of young help seekers.

There is evidence to suggest that clues to the psychological impact of CT may be observable by altered cognitive processes in those who have experienced trauma and subsequently develop psychosis (Kilcommons & Morrison, 2005). The impact of childhood trauma may imprint a cognitive vulnerability upon the victim making subsequent development of psychological dysfunction more likely (Fowler et al., 2006).

Cognitive explanations of the childhood trauma and psychosis association: A role for rumination

Garety et al. (2001) proposed a cognitive model of psychosis development whereby negative life experiences and dysfunctional family and social environments contribute to a cognitive vulnerability. They propose that thought processes such as negative self-schematic beliefs; worry/rumination; and cognitive biases are shaped by early life experiences and, if maladaptive, can cause the formation and maintenance of psychotic symptoms. The cognitive style of ruminative thinking has been highlighted as a plausible candidate for the formation, and maintenance, of psychotic symptoms following adverse childhood events (Fowler et al., 2006); this is due to its critical and intrusive nature, immersing the thinker in cycles of maladaptive cognition and emotions fuelled by adverse experiences and relationships.

Rumination describes a perseverative cognitive style of repetitive and self-focused thinking with a critical stance on the causes and consequences of life events (Gruber, Harvey and Johnson, 2009). Rumination over past experiences often influences contemplation over future events (McLaughlin, Hatzenbuehler & Hilt 2009) and demonstrates a narrow and maladaptive focus on negative appraisals of the self, event causality and worry in regards to the future (Nolen-Hoelenska, 1991). Intuitively, it is highly plausible that the impact of childhood trauma may be longer lasting and more intense for individuals who have adopted a negative view of themselves and others based on the past and who ruminate upon this in the present. Indeed increased levels of rumination over a traumatic stressor has been linked with more intense and enduring experiences of negative affect and thought intrusions (Ehring, Fuchs & Klasner, 2009) and to exacerbate anxiety (McLaughlin,Borkovec, & Sibrava, 2007) and evoke feelings of anger and helplessness (Thomsen, 2006). These findings provide evidence of a role for rumination beyond its theoretical origins within depressive disorders.

Recently, rumination has been linked with emotion regulation across affective disorders and proposed to be an overarching maladaptive mechanism predicting the occurrence of psychopathological symptoms (Aldao & Nolen-Hoeksema, 2011). Extended to psychotic experiences, ruminative thinking styles and worry have been proposed to work alongside maladaptive cognitive attention processes such as threat monitoring and failure to regulate dysfunctional beliefs; each resulting in emotional disturbance and cognitive aberrations (Fowler et al., 2006). These cognitive processes may mark a vulnerability to, and contribute to the maintenance of, psychotic symptoms (Morrison & Wells, 2007). This is supported by evidence that levels of rumination and worry are increased in individuals diagnosed with schizophrenia (Morrison & Wells, 2007), and that those more prone to experiencing psychotic symptoms are more likely to hold positive beliefs about the functional value of cognitive processes such as rumination (Morrison, French & Wells, 2007). Furthermore, literature on rumination and psychotic experiences provide both theoretical and empirical support for a role for rumination in the formation of hallucinations, paranoid ideation and delusions. Pivotal to the current research effort, a ruminative thinking style has also been proposed as a mechanism influencing the association between childhood trauma and psychotic symptoms (Fowler et al., 2006).

i. Hallucinations

Jones and Fernyhough (2009) proposed and tested a model whereby rumination describes repetitive and intrusive thinking about the self and the world, contributing to the formation of hallucination proneness due to a self -attentive focus on negative events (Trapnell and Campbell, 1999). In relation to trauma this would be demonstrated by rumination not only over traumatic events but of the feelings associated with them and the personal consequences to the self of being victimised (Fowler et al., 2006). Empirical testing of the model found that rumination was significantly

associated with hallucination proneness when mediated by intrusive thinking. Rumination has been found to increase levels of cognitive intrusions (Ehring et al., 2009), which have in turn been proposed to form the raw material of auditory and verbal hallucinations (Morrison, Haddock, & Tarrier, 1995). Jones and Fernyhough (2009) provide evidence that a ruminative thinking style may increase unwanted thoughts and drive the intrusive audio and visual perceptions internally projected in hallucinatory experiences. The authors found that higher levels of rumination were associated with increased hallucination proneness in a sample of university students. However it is important to note that the non-clinical nature of the sample is likely to limit the severity of hallucinatory experiences observed.

Further support linking rumination specifically to psychotic symptoms of hallucinations came from Stirling, Barkus and Lewis (2007), who found that measures of rumination and worry were highly associated with increased scores on a hallucination proneness scale and measures of schizotypal personality traits. The authors conclude that hallucination proneness is likely to be characterised by high levels of ruminative thinking. This contributes to the cognitive preoccupation and disturbance observed in psychotic experiences via intrusive negative thoughts and perceptual abnormalities. Although there is evidence to support a role for rumination in the development of hallucinations there is a lack of empirical evidence considering the effect CT may have on the content and consequences of rumination in the development of psychotic symptoms.

A theoretical model of voice hearing in psychosis has been developed with specific relation to trauma and rumination by Fowler et al., (2006) within the catastrophic interaction hypothesis. Exposure to adverse environments in childhood can lead to the development of negative schemas involving victimisation and powerlessness fostering negative perceptions of the self and others (Birchwood, 2004). The catastrophic interaction hypothesis proposes that ingrained schemas based on traumatic events in childhood promote rumination over the abusive relationship and fuel a

critical inner voice detailing one's own failures, humiliations and interpersonal submission to other's (Fowler et al., 2006). Voices have been proposed to arise from the misattribution of one's inner voice to an outside source (Bentall, Wickham, Shevlin & Varese, 2012). Rumination over past traumatic events and abusive relationships is likely to fuel the maintenance of negative internal schemas and could potentially create a powerful and distressing inner voice via intrusive thoughts which may then be misattributed to an external source (Figure 1). This is supported by the finding that voice hearers perceptions of their voice as dominant and powerful is intertwined with underlying schemas of submissive social positions, powerlessness and low societal rank and that perceiving a voice in this manner exacerbates the preoccupation and distress accompanied by voice hearing (Birchwood et al., 2004). Voice hearers often experience voices commenting on current actions or situations Fowler et al. (2006) explain this as "rumination or internal dialogue about self in relationship to what a shaming and insulting abuser might say" which is supported by the finding that the content of hallucinations is rarely directly reflective of past adversity but are often related thematically (Hardy et al., 2005).
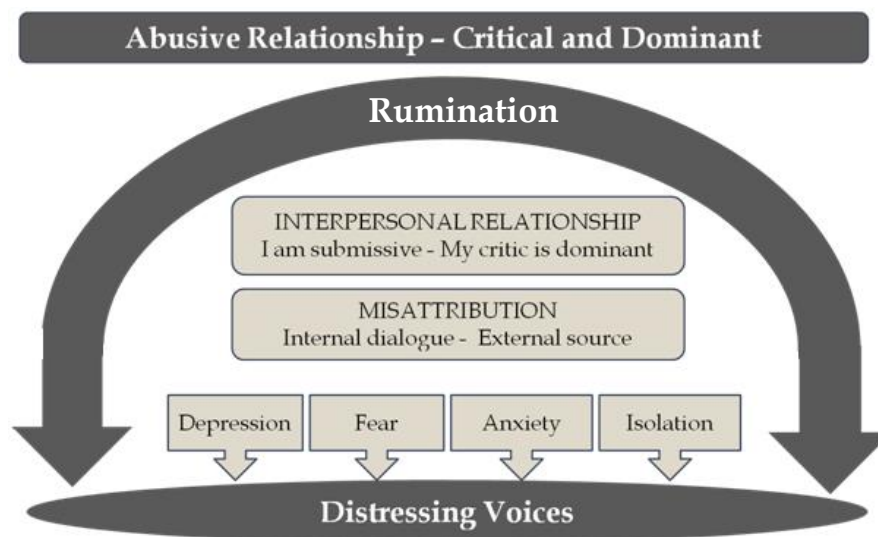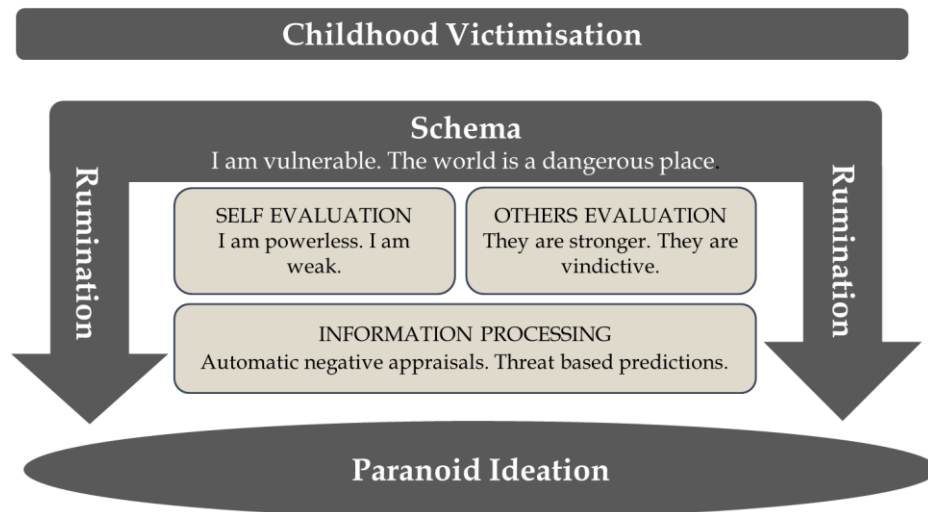

Figure 1. The role of trauma experiences and rumination in the formation of voice hearing

ii. Paranoid ideation

The role proposed for rumination in paranoid ideation is similar to that for hallucinations as the notion of an underlying schema is maintained to fuel threat based ruminative thinking which in turn drives paranoia.

The presence of negative self-schemas can affect one's interpretation not only of the current world around us but also extends to interpretations of future events (Anderson, Spielman & Bargh, 1992) and guides the way we process situational information, i.e. whether we ruminate or distract ourselves (Calvete, Orue & Hankin, 2013). Levels of rumination have been found to mediate the effect negative schemas have upon mood (Spasojevic & Alloy, 2001) and ruminating over negative future outcomes deepens associated negative feelings and increases the automaticity of making negative predictions (Anderson and Limpert, 2001).Despite its negative outcomes rumination is thought to be an intentional tactic deployed by those in search of answers to problems. However it is characterised by intrusive, obsessional and cyclic thought processes which in actual fact exacerbate negative affect (Nolen-Hoeksema, 1991).

Applying ruminative thinking to paranoia in childhood abuse victims it is highly plausible that early life experiences of victimisation would lend to a self-schema portraying the surrounding world as dangerous and the self as vulnerable (Fowler et al., 2006). Ruminative thinking would incorporate this underlying schema and drive obsessional and paranoid thoughts automatically triggered by current situations and relationships as well as form expectations for the future (Figure 2.). This could potentially create and maintain enduring and powerful paranoid delusions.

Figure 2. The role of trauma experiences and rumination in the formation of paranoia

Fowler et al., 2006 (in Fowler et al., 2006) provide support for this account with the finding that

negative self-other schemas are characteristic of those with chronic schizophrenia, and are also

associated with sub-clinical experiences of paranoia. Paranoia has also been associated with higher

levels of rumination within the normal population (Simpson, MacGreggor, Cavanagh & Dudley, 2012

in Martinelli et al., 2013) and worry, which incorporates some elements of ruminative thinking, in

clinical samples (Morisson & Wells, 2007). Furthermore, experimentally induced paranoia has been

found to be maintained in those engaging in rumination as opposed to distraction techniques

(Martinelli et al., 2013). Although Martinelli and colleagues (2013) provide some direct support for

levels of rumination exerting influence upon paranoid ideation it is limited to experimentally induced

paranoia and state rumination engaged in by instruction as opposed to naturally occurring paranoia

with trait rumination which may differ in interaction (Thomsen, 2006). Additionally there remains

only theoretical support for a combined effect of childhood trauma and rumination in the formation

of "psychosis-like" paranoia.

iii. Delusions
Rumination has also been linked to the creation of grandiose illusions. Due to the strong ties

between rumination as a process linked with depressive thinking, there is a lack of empirical

evidence concerning the effect of rumination on affects other than depression. However, one study

found that rumination over positive past events increased positive mood and led to increased heart rates in healthy controls and participants with bipolar disorder (Gruber et al.,2009). The potential of rumination to have a significant effect on emotional functions across affects would allow it to be a plausible mechanism for a wider range of delusion types as not all delusions are associated with negative emotions. Furthermore, the proposed connection between schemas, trauma and rumination would suggest that childhood experiences would exert influence over a range of symptoms due to the pervasive nature of schematic beliefs (Anderson et al., 1992).

Knowles, McCarthy-Jones and Rowes (2011) propose an interesting, although notably tentative, model of grandiose delusion formation which incorporates an influencing effect of ruminative thinking and retains the potential to be influenced by past incidences of trauma. The authors suggest that the roots of grandiose delusions are based in heightened feelings of low self-esteem, self-worth and powerlessness. Importantly these feelings can be incorporated as arising from the self-schema's previously discussed as influenced by childhood traumatic events. Knowles et al. (2011) suggest that a desire and motivation to alter negative feelings of low self-worth may prime the detection of improvement. This is proposed to influence an exaggerated response to positive events reflecting success, planting the seeds of grandiosity. Rumination over the perceived success is likely to lead to rumination over predicted future success and goal achievements inflating feelings of superiority, power and overstated worth, all characteristic of grandiose delusions attainments (McLaughlin et al., 2009). Although Knowles et al. (2011) provide a plausible role for rumination in the formation of grandiose delusions, the account is largely theoretical and requires empirical support.

Overall, the literature examining cognitive processes involved in psychotic experiences repeatedly implicate rumination as a potentially powerful mechanism in forming and maintaining psychotic experiences. More recently these ideas have been combined with the impact of subsequent

traumatic events and incidences of victimisation. However, there is undoubtedly a lack of empirical support for the association between childhood trauma, rumination and psychotic symptoms.

Current research rationale and predictions

Based on cognitive models of psychotic symptom formation and the robust association between childhood trauma and psychotic symptoms, the current piece of research has identified rumination as a potential mediating mechanism and sought to explore its relationship within the childhood trauma and psychosis relationship.

The current study observes the psychotic experiences held by young people seeking help for mental health concerns. The following hypotheses were defined based upon theoretical and empirical evidence:

i)   Physical, sexual and emotional trauma types will be associated with increased levels of psychotic experiences.

ii)   An interaction between higher levels of rumination and experiences of childhood trauma will be associated with increased levels of psychotic experiences.

The current research utilises measures of psychosis which allows a complaints based approach to assessing symptoms of; unusual thought content (including delusional thinking), non-bizarre ideas (including paranoid ideation and grandiosity) and perceptual abnormalities (including auditory and visual hallucinations). Incidences of trauma will be divided into; physical abuse, emotional abuse, sexual abuse, emotional neglect and physical neglect in order to detect differential effects of different trauma types.

Method

The data utilised in the present study were collected as part of the longitudinal study "Transitions", a large cohort study at the University of Birmingham designed to test clinical staging model of mental illness. The current study utilised data from the baseline cohort only. The Transitions study received ethical approval upon review by the NRES Committee, Edgbaston, West Midlands.

Participants

Young help seekers were recruited from clinics and health centres in the Birmingham and Solihull Mental Health Foundation Trust (BSMHFT). Young people aged 16 to 25 currently help seeking for mental health problems were eligible to take part. Young people attending assessment or treatment with BSMHFT's youth mental health services, Youthspace and Birmingham Healthy Minds, were informed about the study, and asked by clinical assistants at the centres to provide contact details if they were interested in taking part. The transitions team contacted those who had expressed an interest by telephone.

Help seeking was defined by young people communicating with health services to obtain advice, information, treatment or support in response to a problem or distressing experience related to mental health. The problem or distressing experience which triggered help-seeking was required to have occurred or changed in the past 12 months, this was for the purpose of observing the clinical stages of disorder development as required for the longitudinal Transitions study. Exclusion criteria were long standing or unchanged clinical presentation or diagnosis, lack of sufficient English language proficiency, or cognitive ability to inform consent.

The current study collated the data of 72 participants with a mean age of 20.7 (S.D. = 2.9) including 49 females, 19 males and 4 individuals with undisclosed sex. Further demographic details are available in Table 1.

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Table 1
Demographic data for the sample

Variable	Number	Percentage
Sex		
Male	48	69.6
Female	19	27.5
Unreported	2	2.9
Ethnicity		
White	57	82.6
Black Caribbean	6	8.7
Black African	3	4.3
Pakistani	1	1.4
Bangladeshi	1	1.4
Educational qualifications		
No qualifications	4	5.8
GCSE/NVQ level 1 or 2	28	40.6
A-level/GNVQ/BTEC/NQV level 3	29	42.0
NVQ level 4 or above	1	1.4
Higher National Diploma (HND)	1	1.4
Undergraduate degree	5	7.2
Not reported	1	1.4
Weekly household Income		
Under £149	19	27.5
£150-204	4	5.8
£205-279	9	13.0
£280-392	3	4.3
More than £393	7	10.1
Unreported	27	39.1

Measures

The current study utilised data from; the Comprehensive Assessment of At Risk Mental States (CAARMS; Yung et al., 2005); the Childhood Trauma Questionnaire (CTQ; Bernstein et al., 2003); the Ruminative Style Questionnaire (Leach, Christensen, Mackinnon, Windsor & Butterworth, 2008); the Quick Inventory of Depressive Symptoms (QIDS); and demographic detail questions pertaining to age and gender.

Psychotic experience measure

Occurrences of psychotic experiences were determined by the CAARMS semi structured interview tool, an interviewer-rated instrument for measuring sub-threshold psychotic symptoms and determine UHR status (Yung et al., 2005). The CAARMS assesses the severity of attenuated and true psychotic symptoms on dimensions of intensity, (0 – absent, 1 – questionable, 2 - mild, 3 - moderate, 4 – moderately severe, 5 - severe and 6 – severe and psychotic), frequency (0 – 6) and associated distress level (0 - 100). The psychotic symptom subtypes utilised in the current study were Unusual Thought Content (UTC), Non-Bizarre Ideas (NBI) and Perceptual Abnormalities (PA) and subtype outcomes were assessed utilising intensity and frequency ratings. The UHR threshold is defined by the experience of moderate to severe and psychotic symptoms occurring at least once per month for more than an hour. Participants were therefore required to score a three for intensity and a three for frequency in order to be categorised as UHR for the subtype examined. The original criteria defined by Young et al. (2005) also requires a drop in social and occupational functioning, the current study omits this requirement due to a focus on psychotic symptoms alone. The CAARMS has been found to have excellent predictive validity and good inter-rater reliability (Yung et al., 2005).

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Childhood trauma measure

History of trauma in early life was measured by the Childhood Trauma Questionnaire (CTQ) a brief self-report measure assessing occurrence and frequency of specific traumatic events (Bernstein et al., 2003). The questionnaire consists of 28 items divided into 5 empirically derived subscales referring to emotional abuse, physical abuse, sexual abuse, emotional neglect and physical neglect (Bernstein et al., 1994). Questions enquire how true the occurrence of a trauma event in childhood is, for example "People in my family hit me so hard that it left me with bruises or marks", participants are required to respond on a 5 point Likert-type scale ranging from "Never true" which is scored as 1, to "Very often true" which is scored as 5. A total score for each subscale is derived from the responses of 5 items per subscale, 3 validity items are excluded from the final score. The CTQ also gives a total trauma score including the sum of scores from each subscale. The lowest score, indicating no trauma on the CTQ, would be 25 (5 per subscale) and the highest would be 125 (25 per subscale). (The CTQ has been found to be a valid and reliable measure of trauma history (Bernstein et al., 2003).

Rumination measure

Ruminative thinking style was measured using a short scale with 10-items (Leach, Christensen, Mackinnon, Windsor & Butterworth, 2008) drawn from the original 21-item Ruminative Response Scale (Nolen-Hoeksema, Parker and Larson, 1994). The questionnaire requires participants to indicate how they respond when they feel "sad, down or depressed". The questionnaire details 10 ruminative response styles asking how often one engages in each thinking style e.g. "I think about how alone I feel". Responses are recorded on a 4 point scale ranging from "Never" to "Always".

Depressive symptom measure

Presence of depressive symptoms was measured using the QIDS (Rush et al. 2003); a 16 item inventory which assess the severity of symptoms indicative of a depressive disorder. The 16 items are used to assess symptoms in nine criterion domains 1) sad mood; 2) cognitive difficulties

(concentration and decision making); 3) self-critical outlook; 4)suicidal ideation; 5) loss of interest 6) energy level; 7) sleep disturbances; 8) weight or appetite changes; 9) psychomotor agitation or delay. The questionnaire was interview-rated, participants were asked how often or to what extent they had experienced a depressive symptom in the past two weeks, for example, "Have you felt slowed down in your thinking, speaking, or movement in the past week?" Interviewers are required to rate the severity of the symptom experienced from 0, indicating least severity, to 3, indicating most severe. Each item has a set of anchors used by the interviewer to assess the severity of symptom experience based on the participant's report and behavioural presentation. For example, 0 - Normal speed of thinking, gesturing, and speaking; 1 - Patient notes slowed thinking, and voice modulation is reduced; 2 - Takes several seconds to respond to most questions, reports slowed thinking; 3 - Is largely unresponsive to most questions without strong encouragement. The QIDS has been utilised in a wide variety of clinical and research settings and has found to be a valid, reliable and generalizable measure of depressive symptom severity (Rush et al., 2003).

Analysis

One of the participants was excluded prior to analysis due to his pattern of help-seeking being long-standing and unchanged within the past 12 months. Two further participants were excluded due to missing CTQ data. Sixty nine participants in total were included in the analysis.

Descriptive statistics revealed the distribution of CTQ data did not meet the assumption of normality according to the Shapiro-Wilk test of normality (S-W = .982, df = 69, p = .000). Non-parametric tests were therefore utilised for means comparison analyses with the CTQ data. Scores were normally distributed for rumination (S-W = .110, df = 69, p = .172) and depression (S-W = .088, df = 69, p = .134).

Hierarchical binary logistic regression analyses were carried out in SPSS to examine the association between the five subscales of trauma (emotional abuse, physical abuse, sexual abuse, emotional neglect and physical neglect) and the three subtypes of psychotic experience (unusual thought content, non-bizarre ideas and perceptual abnormalities) and to explore a role for rumination within this relationship. Scores for intensity and frequency were taken from the CAARMS measure of psychotic experiences and used to categorise UHR status for each experience type. Age, gender and levels of depression were identified as potential confounding variables and considered as background variables within the regression analysis.

The dependent variable in each regression model was Ultra-high risk (UHR) status for each psychotic experience subtype (UTC, NBI or PA) which was classified for each participant (0, not UHR; 1, UHR). Separate regression analyses were applied with each psychotic subtype status as the dependent variable and re-run for each trauma type. The first block consisted of age, sex and depression entered as covariates. The second block consisted of CTQ scores and rumination levels considered as the main predictor variables. In the final block the trauma and rumination interaction was entered to detect an association of traumatic experiences combined with a ruminative thinking style on psychosis outcome.

Results

Traumatic events: The mean total CTQ score was 51.01 (S.D = 14.26). All participants endorsed at least one type of trauma event. Trauma scores were transformed into tertiles ranked for severity of trauma experience. The most frequently experienced subtypes of abuse were emotional abuse (66.7%, n=46 moderate to severe; 33.3%, n=23 none to minimal) and emotional neglect (66.7%, n=46 moderate to severe; 33.3%, n=23 none to minimal). Followed by physical neglect (59.4%, n=41 moderate to severe; 40.6%, n=28 none to minimal), physical abuse (34.8%, n=24 moderate to severe; 65.2% n=45 none to minimal) and sexual abuse (21.7%, n=15 moderate to severe; 78.3, n=54 none to minimal).

Psychotic experiences and trauma: UHR status was reached for at least one subtype of psychotic experience by 51.4% (*n* = 36) of the sample. Mann Whitney independent samples tests were conducted to detect any significant difference in trauma levels across UHR groups for each psychotic experience subtype. The results (Tables 2 to 4) show that total CTQ scores were only significantly higher in individuals classified as UHR for experiences of UTC demonstrating higher levels of trauma in those experiencing more severe delusional symptoms. Examining specific trauma types revealed that emotional and sexual abuse accounted for this difference. Therefore the group of participants experiencing more severe delusional experiences reported significantly higher levels of emotional and sexual abuse. No other significant differences in total CTQ scores were found across UHR groups for experiences of NBI or PA.

Rumination and Depression: T-tests revealed no significant difference in rumination scores across UHR groups for any of the psychotic experience subscales (Table 5). Depression scores were found to be significantly higher for those in the UHR group for UTC and PA experiences.

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Table 2.

CTQ Score Comparison Across Ultra High Risk Groups for Experiences of Unusual Thought Content

	UHR		Not UHR				
	Mean (*SD*) n = 16	Median	Mean (*SD*) n = 53	Median	Test score (U)	z score	p value
Emotional Abuse	15.85 (5.21)	17.00	11.32 (5.41)	11.00	539.00	2.70	0.007**
Physical Abuse	6.69 (4.94)	5.00	6.57 (3.26)	5.00	370.00	0.12	0.917
Sexual Abuse	10.62 (7.59)	5.00	7.04 (4.92)	5.00	474.00	2.34	0.019*
Emotional Neglect	11.92 (4.46)	12.00	12.00 (4.91)	13.00	364.00	0.00	1.000
Physical Neglect	13.23 (2.55)	13.00	12.46 (1.66)	13.00	412.00	0.77	0.440
Total	58.31 (16.02)	58.00	49.39 (13.42)	46.50	505.50	2.17	0.03*

*Note. *p < .05. **p < .01*

Table 3.

CTQ Score Comparison Across Ultra High Risk Groups for Experiences of Non Bizarre Ideas Content

	UHR		Not UHR				
	Mean (*SD*) *n = 21*	Median	Mean (*SD*) *n = 48*	Median	Test score (*U*)	z score	p value
Emotional Abuse	13.57 (5.10)	13.00	11.56 (5.79)	11.00	613.5	1.43	.152
Physical Abuse	6.38 (4.59)	5.00	6.69 (3.12)	5.00	454	-0.74	.458
Sexual Abuse	8.52 (6.58)	5.00	7.35 (5.20)	5.00	555.5	0.93	.352
Emotional Neglect	12.48 (5.18)	14.00	11.77 (4.66)	12.00	546.0	0.55	.583
Physical Neglect	13.05 (2.04)	13.00	12.42 (1.77)	13.00	575.0	0.97	.331
Total	54.00 (15.49)	50.00	49.79 (13.67)	47.00	599.5	1.25	.213

Table 4.

CTQ Score Comparison Across Ultra High Risk Groups for Experiences of Perceptual Abnormalities

	UHR		Not UHR				
	Mean (*SD*) *n = 16*	Median	Mean (*SD*) *n = 53*	Median	Test score (*U*)	z score	p value
Emotional Abuse	13.31 (5.29)	14.50	11.83 (5.73)	11.00	513.0	1.27	.204
Physical Abuse	5.81 (2.10)	5.50	6.83 (3.92)	5.00	460.0	0.59	.555
Sexual Abuse	8.38 (6.60)	5.00	7.51 (5.36)	5.00	445.5	0.42	.672
Emotional Neglect	13.81 (4.58)	13.50	11.43 (4.77)	12.00	542.0	1.68	.092
Physical Neglect	11.88 (1.86)	11.50	12.83 (1.83)	13.00	295.5	-1.92	.055
Total	53.19 (12.80)	52.00	50.43(14.73)	47.00	503.5	1.13	.258

Table 5.

Depression and Rumination across UHR Groups

	UTC				NBI				PA			
	UHR	Not UHR	t value	p value	UHR	Not UHR	t value	p value	UHR	Not UHR	t value	p value
	n = 13	*n = 56*	*(df=67)*		*n = 21*	*n = 48*	*(df=67)*		*n = 16*	*n = 53*	*(df=67)*	
Mean												
Rumination *(SD)*	32.15 (5.98)	29.63 (4.67)	2.22	.100	31.81 (6.13)	29.35 (4.27)	1.67	.106	30.44 (4.73)	30.00 (5.11)	0.32	.761
Mean												
Depression *(SD)*	13.23 (4.85)	10.23 (3.80)	2.43	.018*	11.67(4.70)	10.38 (3.86)	1.28	.204	12.63 (4.05)	10.25(4.06)	2.06	.044*

*Note. *p < .05. **p < .01*

Regression Analysis Results

Unusual thought content

The initial regression analysis revealed that the addition of total CTQ scores trauma and rumination significantly improved the fit of a model predicting UHR for UTC status beyond the background variables (block 1: χ^2 = 9.95, df = 3, *p* = .019; block 2: χ^2 = 16.14, df = 5, p = .006, $\Delta\chi^2$ = 6.19, Δdf = 2, p < .05). The addition of the trauma and rumination interaction did not make a significant improvement (block 3: x^2 = 16.14, df = 6, *p* = .013, $\Delta\chi^2$ = 6.19, Δdf = 3, p > .10)

The separate analysis of the trauma types (emotional abuse, physical abuse, sexual abuse, emotional neglect and physical neglect) and their interactive effect with rumination in predicting psychosis outcome for UTC is presented in Table 6. Background variables depression and age were almost always found to be significantly associated with UTC outcome with higher levels of depression and a younger age being associated with UHR for UTC status.

Emotional abuse (OR 1.16, 95% CI = 1.01-1.33, p = .04) and sexual abuse (OR 1.62, 95% CI = 1.02-1.32, p = .02) were found to be significant predictors of UHR for UTC status when controlling for background variables. The interaction between rumination and trauma type was not significantly associated with psychotic experiences for any of the trauma types examined (Table 6.).

Table 6.

Regression Analysis for Experiences of Unusual Thought Content

	Odds Ratio	95% CI		p-value
		Upper	Lower	
Emotional abuse	1.16	1.01	1.33	.040*
Rumination	1.14	0.96	1.35	.134
Emotional abuse X Rumination	1.00	0.96	1.03	.851
Depression	1.21	1.01	1.44	.039*
Age	0.72	0.54	0.96	.027*
Gender	1.28	0.27	5.96	.756
Physical Abuse	1.06	0.89	1.26	.500
Rumination	1.13	0.97	1.33	.118
Physical abuse X Rumination	0.98	0.92	1.04	.437
Depression	1.21	1.01	1.44	.039*
Age	0.72	0.54	0.96	.027*
Gender	1.28	0.27	6.00	.756
Sexual Abuse	1.62	1.02	1.32	.021*
Rumination	1.16	0.98	1.36	.080
Sexual abuse X Rumination	1.00	0.98	1.02	.684
Depression	1.21	1.01	1.44	.039*
Age	0.72	0.54	0.96	.027*
Gender	1.28	0.27	5.96	.756
Emotional Neglect	0.96	0.82	1.13	.638
Rumination	1.13	0.97	1.32	.123
Emotional neglect X Rumination	1.03	1.00	1.07	.084
Depression	0.07	1.18	0.98	.073
Age	0.04	0.77	0.60	.043*
Gender	0.44	1.90	0.38	.439
Physical Neglect	1.24	0.86	1.78	.248
Rumination	1.12	0.95	1.30	.174
Physical neglect X Rumination	0.97	0.88	1.07	.562
Depression	1.21	1.01	1.44	.039*
Age	0.72	0.54	0.96	.027*
Gender	1.28	0.27	5.96	.756

*Note. *p < .05. **p < .01*

Non-Bizarre Ideas

The initial regression analysis revealed that the addition of childhood trauma and rumination improved the fit of a model predicting UHR for NBI status beyond the background variables (block 1: χ^2 = 7.01, df = 3, *p* = .072; block 2: χ^2 = 12.08, df = 5, p = .034,$\Delta\chi^2$ = , Δdf = 2, p >.05). However this change did not reach significance. The addition of the trauma and rumination interaction did not make a significant improvement (block 3: x^2 = 14.60, df = 6, *p* = .024, $\Delta\chi^2$ = 7.59, Δdf = 3, p > .05). It is worth noting that significance levels suggested a trend towards an improved model following the inclusion of trauma and rumination as predictors of psychosis outcome.

The separate analysis of the trauma types and their interaction effects with rumination in predicting psychotic experiences for NBI is available in Table 7. The regression model including emotional neglect and rumination revealed a significant interaction effect of the two variables in predicting UHR status for NBI (OR = 1.05, 95% CI = 1.01-1.08, p = .012). The correlation between rumination and emotional neglect is depicted in Figure 3. It suggests that 21.5% of variance in rumination is accounted for by emotional neglect for the UHR group for NBI experiences. This association was alone in significantly predicting UHR status for NBI although a decrease in age showed a trend towards being associated with psychosis outcome across all trauma types (OR = 0.80, 95% CI = 0.63-1.00, p = .053). Rumination levels also showed an associative trend toward predicting psychosis outcome for NBI within models including emotional abuse (OR = 1.12, 95% CI = 0.98-1.27, p = .089), physical abuse (OR = 1.12, 95% CI = 0.98-1.27, p = .087) and sexual abuse (OR = 1.12, 95%CI = 0.99-1.27, p = .073). The analysis revealed no significant relationship between any trauma type and psychosis outcome.

Table 7.

Regression Analysis for Experiences of Non Bizarre Ideas

	Odds Ratio	95% CI		p-value
		Upper	Lower	
Emotional abuse	1.073	0.96	1.20	.210
Rumination	1.118	0.98	1.27	.089
Emotional abuse X Rumination	1.002	0.98	1.03	.913
Depression	1.089	0.95	1.25	.222
Age	.797	0.63	1.00	.053
Gender	.462	0.14	1.49	.195
Physical Abuse	1.011	0.86	1.19	.888
Rumination	1.117	0.98	1.27	.087
Physical abuse X Rumination	1.029	0.99	1.07	.177
Depression	1.089	0.95	1.25	.222
Age	.797	0.63	1.00	.053
Gender	.462	0.14	1.49	.195
Sexual Abuse	1.083	0.97	1.21	.146
Rumination	1.123	0.99	1.27	.073
Sexual abuse X Rumination	1.008	0.99	1.03	.400
Depression	1.089	0.95	1.25	.222
Age	.797	0.63	1.00	.053
Gender	.462	0.14	1.49	.195
Emotional Neglect	1.03	0.91	1.17	.634
Rumination	1.11	0.98	1.26	.102
Emotional neglect X Rumination	1.05	1.01	1.08	.012*
Depression	1.09	0.95	1.25	.222
Age	0.80	0.63	1.00	.053
Gender	0.46	0.14	1.49	.195
Physical Neglect	1.17	0.85	1.61	.339
Rumination	1.11	0.98	1.26	.117
Physical neglect X Rumination	0.96	0.87	1.05	.374
Depression	1.09	0.95	1.25	.222
Age	0.80	0.63	1.00	.053
Gender	0.46	0.14	1.49	.195

*Note. *p < .05. **p < .01 ***p < .001*
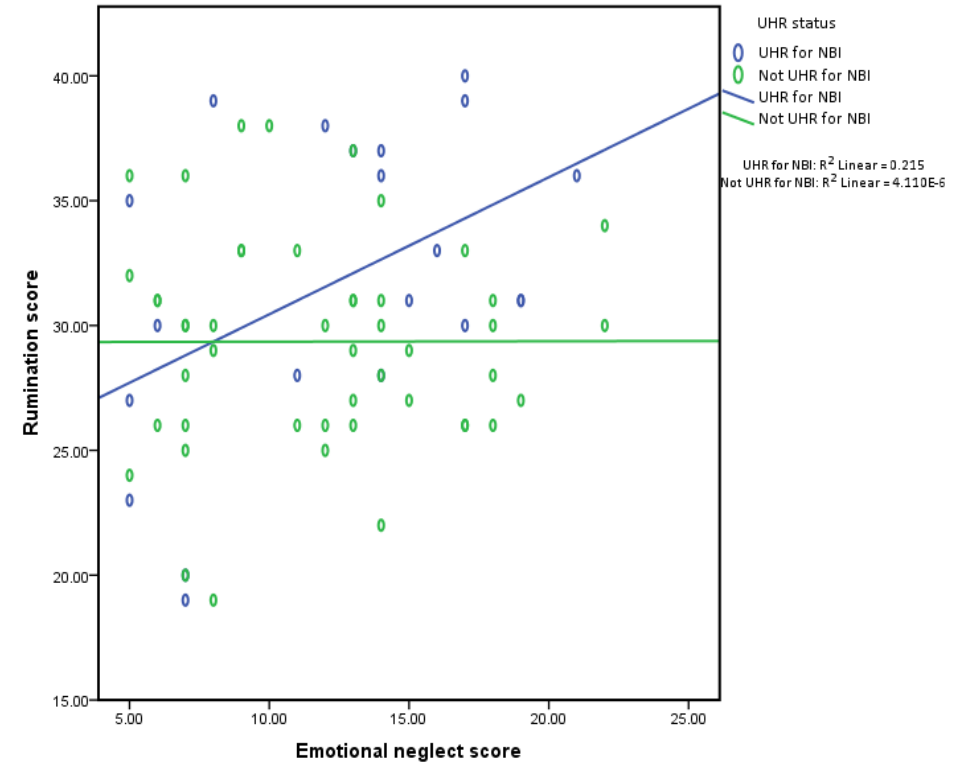
Figure 3. Positive interaction between ruminative thinking style and emotional neglect in predicting UHR for NBI status

Perceptual Abnormalities

The initial regression analysis revealed that the addition of childhood trauma and rumination did not improve the fit of the model beyond the background variables (block 1: χ^2 = 7.933, df = 3, *p* = .047; block 2: χ^2 = 8.34, df = 5, p = .139). The addition of the trauma and rumination interaction did not make a significant improvement (block 3: x^2 = 11.20, df = 6, *p* = .082, $\Delta\chi^2$ = 3.27, Δdf = 3, p > .25). The separate analysis of the trauma types and their interactive effect with rumination in predicting psychosis outcome for NBI is available in Table 8.

The regression model including sexual abuse and rumination revealed a significant interaction effect of the two variables in predicting UHR status for PA (OR = 1.03, 95% CI = 1.00-1.06, p = .039). The correlation between rumination and sexual abuse is depicted in Figure 4. It suggests that 15.8% of variance in rumination is accounted for by sexual abuse scores for the UHR group compared to 3.0% for the non-UHR for PA group.

A decrease in age showed a trend towards being associated with psychosis outcome across all trauma types (OR = 0.79, 95% CI = 0.61-1.02, p = .068). Higher levels of depression levels showed an associative trend toward predicting UHR status for PA within models including all abuse types (OR = 1.16, 95% CI = 0.99-1.36, p = .061). The analysis revealed no significant relationship between any trauma type and psychosis outcome for PA although emotional neglect (OR = 1.17, 95% CI = 1.00-1.37, p = .058) and physical neglect (OR = 0.70, 95% CI = 0.48-1.01, p = .058) show trends toward a relationship between increased trauma scores and UHR for PA status.

Table 8.

Regression Analysis for Experiences of Perceptual Abnormalities

	Odds Ratio	95% CI Upper	95% CI Lower	p-value
Emotional abuse	1.02	0.90	1.16	.699
Rumination	1.00	0.86	1.12	.736
Emotional abuse X Rumination	1.01	0.98	1.04	.427
Depression	1.16	0.99	1.36	.061
Age	0.79	0.61	1.02	.068
Gender	0.48	0.13	1.72	.258
Physical Abuse	0.90	0.74	1.11	.322
Rumination	0.97	0.84	1.11	.621
Physical abuse X Rumination	0.96	0.86	1.08	.457
Depression	1.19	1.01	1.41	.061
Age	0.79	0.61	1.02	.068
Gender	0.48	0.13	1.72	.258
Sexual Abuse	1.05	0.93	1.17	.445
Rumination	0.98	0.86	1.12	.793
Sexual abuse X Rumination	1.03	1.00	1.06	.039*
Depression	1.16	0.99	1.36	.061
Age	0.79	0.61	1.02	.068
Gender	0.48	0.13	1.72	.258
Emotional Neglect	1.17	1.00	1.37	.053
Rumination	0.95	0.82	1.10	.460
Emotional neglect X Rumination	1.01	0.98	1.04	.580
Depression	1.16	0.99	1.36	.061
Age	0.79	0.61	1.02	.068
Gender	0.48	0.13	1.72	.258
Physical Neglect	0.70	0.48	1.01	.058
Rumination	0.99	0.86	1.14	.894
Physical neglect X Rumination	1.08	0.98	1.20	.134
Depression	1.16	0.99	1.36	.061
Age	0.79	0.61	1.02	.068
Gender	0.48	0.13	1.72	.258

*Note. *p < .05. **p < .01 ***p < .001*
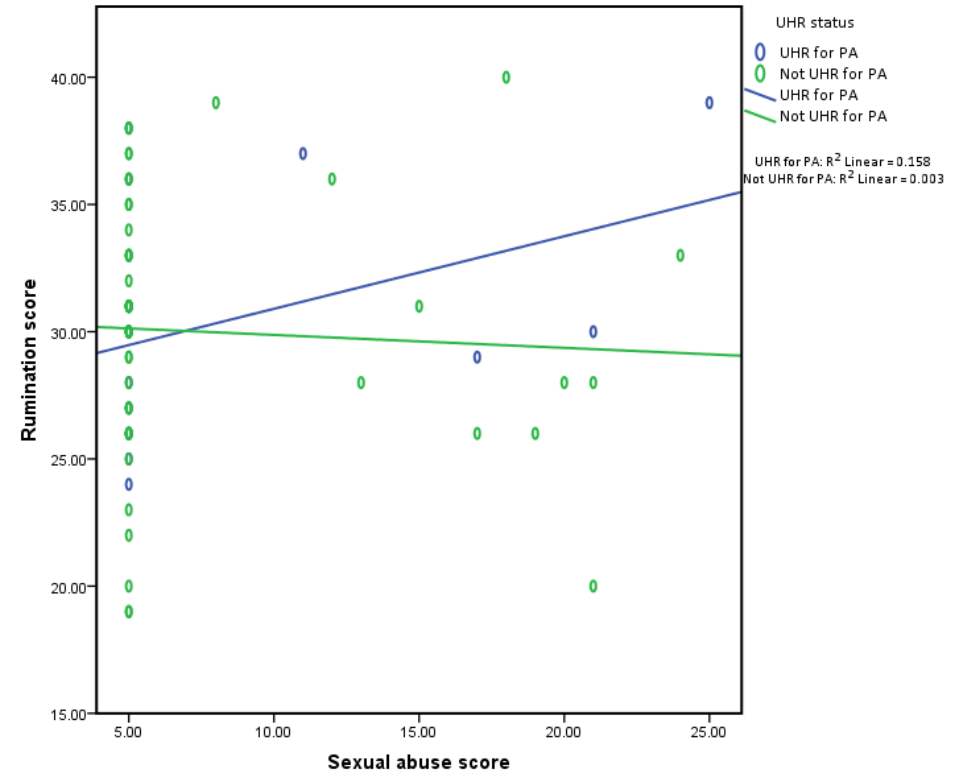
Figure 4. Positive interaction between ruminative thinking style and sexual abuse in predicting UHR for PA status

Discussion

The current results reveal that participants with more severe symptoms of bizarre delusions (UTC) reported elevated rates of childhood sexual and emotional abuse. Additionally, more severe perceptual abnormality experiences, including auditory verbal and visual hallucinations, were associated with higher reports of physical and emotional neglect; these trends did not reach significance. These findings are in line with previous evidence that childhood abuse increases the risk of developing symptoms associated with clinical high risk for psychosis (Bechdolf et al., 2010; Thompson et al., 2013).

The support for rumination interacting with traumatic childhood events to impact upon psychosis outcomes was mixed, although two novel findings have been revealed. Firstly, in the current sample a combination of highly ruminative thinking style and increased severity of emotional neglect in childhood significantly amplified the risk for developing, moderate to severe, non-bizarre delusions (NBI). Secondly, the combination of rumination and a history of childhood sexual abuse was also significantly associated with the severity of hallucinatory (PA) experiences. Interestingly, both of the interaction effects found occurred in the absence of a main effect of trauma. This suggests that without engaging in ruminative processes the impact of trauma events could be significantly reduced. This is in line with the hypothesis that cognitive processes such as rumination have the potential to act as powerful driving forces behind the trauma to psychosis relationship (Fowler et al., 2006).

The effect of sexual and emotional abuse in psychosis

The current findings support a specific relationship between abuse of a sexual nature and increased severity of psychosis outcomes; this is in line with previous research in the UHR population (Thompson, 2013). Studies observing the occurrence of attenuated symptoms have repeatedly

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found that sexual abuse specifically relates to symptom severity (Velthorst et al., 2013), and transition to a diagnosis of psychosis (Bechdolf et al., 2010; Thompson et al., 2013).

The current study has found sexual abuse increases the risk of experiencing the bizarre delusions measured by the CAARMS UTC subscale. Qualitative examination of the UTC symptoms in the current sample revealed the majority of experiences related to either delusional mood (i.e. feeling as if the surrounding world has changed in some way or something is about to happen; often described as dream- like) or thought broadcasting (feeling as though others can read your mind or hear what you are thinking). This finding differs from that of Velthorst et al., (2013) who found sexual abuse to be associated with perceptual abnormalities but not delusions. This difference in findings highlights the need for further larger scale studies within the UHR population to assess psychotic outcomes utilising specific complaints, as opposed to more general measure of UHR status and transition to psychosis. Insight of this kind is likely to guide the development of informed, causal theories.

Although rumination was not found to interact significantly within the relationship between sexual abuse and bizarre delusions, by observing associations between specific trauma types and specific psychotic experiences, we may further understand how the relationship may develop. The relationship between bizarre delusions and trauma is one of the least researched as focus tends to fall on paranoid delusions and hallucinations. However, recently the body of literature focusing on dissociative behaviours, psychosis and childhood trauma has grown and may be pertinent to the current findings. Clinical features of dissociative disorders include detachment from reality, derealisation and perceived loss of control (Vermetten, Schmahl, Lindner, Loewenstein & Bremner, 2011) these features often co-occur alongside experiences common to psychosis such as delusions of thought withdrawal, broadcasting and manipulation (Moskowitz, Read, Farrely, Rudegeair & Williams, 2009) and may be picked up on the CAARMS UTC subscale. Interestingly, a study by Schafer and colleagues (2012) found that dissociative symptoms in individuals with psychosis were

associated with emotional and sexual abuse but no other abuse types, consistent with the current finding.

The pathway between trauma and dissociation is thought to arise as a response to dysfunctional family environments and a disrupted sense of the self and others fuelled by hostile or abusive parenting (Dutra, Bereau, Holmes, lyibchik & Lyons-Ruth, 2009). Due to a substantial overlap in clinical presentation and shared risk factors, it has been suggested that psychosis and dissociation may in fact be different pathways sharing common aetiological roots (Moskowitz et al., 2009). It is therefore plausible, that early experiences of sexual and emotional abuse are more likely to be encompassed with particularly enduring and adverse developmental environments. This could fuel the development of dissociative behaviours and increase levels of bizarre delusional thinking. Although this may provide an explanation for the current findings it is a largely theoretical suggestion and would require the incorporation of a dissociative behavioural measure to assess it's validity.

Emotional neglect, rumination and non-bizarre ideas

The current study found that an interaction between rumination levels and a history of emotional neglect was associated with increased experience of NBIs. Qualitative observation of the non-bizarre experiences endorsed by the sample reveals that a large majority of the symptoms were characteristic of paranoid ideation. The results provide support for the theory that higher levels of ruminative thinking and a history of childhood trauma drive the constant activation of negative self-other schemas encouraging the perception of the world as potentially threatening. Interestingly, the current results suggest a specific role for emotional neglect in interacting with rumination and increasing levels of paranoid delusions.

Emotional neglect as defined by the CTQ is the experience of being made to feel; unloved, unsupported, unprotected, and unimportant within a disjointed family unit (Bernstein et al., 2003).

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This type of neglect may be pivotal in the formation of schematic beliefs as it is likely to reflect a longstanding family environment and dysfunctional relationships with immediate family members. On the other hand different types of abuse, such as physical abuse, may occur intermittently or at the hands of a distant or non-family member and could occur within functional and adaptive home environments, moderating their enduring impact. Evidence to support this shows that insecure attachment styles predict levels of hallucinations within the normal population, suggesting that perceptual abnormalities may be connected with dysfunction in the relationship between an individual and their primary care-givers. Interestingly this relationship is mediated by low self-esteem and feelings of powerlessness, and is specific to paranoia, reflective of the current findings (Pickering, Simpson & Bentall, 2008). The pervasive and proximal nature of emotional neglect may explain its ability above other abuse forms to fuel the creation of a salient and enduring schema in which the world is a daunting place. Paranoid ideation seen in non-clinical samples often encompasses a heightened sense of self-consciousness reflecting a low sense of self-worth and feelings of inferiority which are likely to match the feelings and beliefs arising from familial emotional neglect (Pickering et al., 2008).

Contrary to the current findings previous research suggests that abusive events have a stronger relationship with psychosis than incidences of neglect (Ross, Anderson & Clark, 1994; Heins et al., 2011) whereas neglect relates to psychopathological outcomes in depression and anxiety (Heins et al., 2011). Considering that the current findings reveal a relationship between emotional neglect and specifically paranoia it is possible that the psychotic symptoms measured may be indicative of a heightened sense of self-consciousness, associated with anxiety, as opposed to a true measure of psychotic experiences. However, no main effect of emotional neglect has been found to support this as emotional neglect only significantly predicts paranoia when combined with increased levels of rumination. Rumination, however, is also found to be increased in individuals with anxiety disorders and levels of anxiety have been found to explain the association between trauma history and levels

of paranoia (Freeman & Fowler, 2009). This could explain the current findings if rumination increases anxiety levels impacting upon paranoid experiences.. This provides implications for the treatment of help seekers with a history of emotional abuse as cognitive training to reduce levels of rumination may reduce associated anxiety related symptoms. High levels of anxiety are also common in the prodromal phase to psychotic disorder reducing levels of anxiety in this phase may also be effective in delaying and even preventing transition to psychosis (Bechdolf et al., 2005).

Sexual abuse, rumination and hallucination

The current findings reveal that an interaction between rumination levels and a history of sexual abuse was associated with increased hallucinatory experiences. Previous research into sexual abuse and hallucinations has highlighted a particularly strong relationship between the two (Read, Agar, Argyle & Aderhol, 2003). However, the current findings have only detected this relationship in combination with increased levels of rumination. Read et al. (2005) propose that audio verbal hallucinations are driven by rumination over the negative interpersonal consequences of an abusive relationship. Our results provide tentative support for this theory, although this is limited to the consequences of sexual abuse. Bentall et al. (2012) found that sexual abuse specifically predicted the occurrence of hallucinatory experiences in the normal population in a dose response manner and predict that different forms of abuse affect different psychological processes and therefore, may fuel different pathological symptoms. The authors also propose that sexual abuse is likely to cause a disruption in cognitive monitoring processes such as source monitoring. Although this theory does not currently incorporate rumination, it is plausible that sexual abuse in childhood impairs source monitoring ability resulting in the misinterpretation of one's own ruminative thought stream as external to the self. The current results support this view and provide tentative evidence for rumination as a cognitive process which may be involved in the cognitive mechanism underlying the relationship between sexual trauma and psychotic experiences.

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Although the current study did not find significant associations between all types of trauma and all types of psychotic experiences this may simply lend to the increasingly popular notion that psychosis is not in fact one uniform disorder and that the behavioural presentations of psychosis may not only differ in symptom presentation but also differ in aetiological origin (Bentall et al., 2012). Hallucinations, paranoid ideation and delusional thinking are all distinct psychological processes and are likely to be caused by different cognitive processes. If these cognitive processes are influenced by early life experiences, it seems sensible that the effects of different traumatic experiences should be specific. Similarly the roles of contributory mechanisms, such as rumination, are likely to differ depending upon the adversity experienced and the way in which they contribute to symptom formation.

Study Limitations

The findings from the current research should be interpreted in the light of methodological limitations. The sample of participants consisted of current help seekers which may be a limiting factor to the conclusions drawn. Help seeking individuals experiencing psychotic symptoms and having histories of traumatic childhoods may differ significantly from those who are not seeking help. It is likely those individuals with untold adversities and a reluctance or inability to seek help represent those who will suffer poorer outcomes in the future. Unfortunately, the inclusion of such individuals is beyond the current scope of this research effort and many others.

The nature of the analysis process adopted may also present limitations of the study. The data for psychosis outcome were analysed categorically which resulted in a relatively high cut off point for the consideration of psychotic experiences. To be classified as UHR an individual would have to have experienced a moderate intensity experience at least once per month. On the other hand an individual experiencing one or two severely psychotic experiences would not be classified as UHR

neither would someone experiencing daily occurrences of mild symptoms. Although this categorisation is clinically useful in predicting transition to psychotic disorders it may have been interesting to consider psychotic experience on a continuous scale in order to consider milder or less frequent forms of psychotic symptoms and their relation to trauma and rumination. Analysing psychotic outcomes categorically may have reduced the sensitivity of our analysis in detecting main effects of trauma scores on non-clinical symptom severity as found in previous research (Lataster et al., 2006).

One of the specific aims of the current study was to observe specific associations between different trauma types and different psychotic experiences. Statistically this requires multiple comparisons which can lead to an increased risk of making type I errors. The results should therefore be appreciated tentatively with the acceptance that further research and replication is necessary to strengthen the validity of the current findings.

Conclusions

The current piece of research provides support for previous literature proposing a relationship between trauma and psychosis outcome severity. Specifically, the findings suggest a particular role for sexual and emotional abuse and more severe delusional symptoms. In a novel finding this study provides support for the involvement of rumination in the relationship between sexual abuse and paranoia and emotional neglect and hallucinations, suggesting the specificity of different trauma types on the psychological processes involved in symptom formation. The occurrence of sexual abuse and emotional neglect in childhood may be amplified by a ruminative thinking style fuelling the critical and abusive dialogic thought at the root of verbal hallucinations and the super vigilant self-awareness reflected in paranoid thinking. This finding requires further empirical study with perhaps a more comprehensive measure of rumination and consideration of similar cognitive traits, such as worry and self-consciousness. These may overlap with rumination and exert a separate or combined effect on psychotic symptoms.

The study of cognitive mechanisms allows the translation of clinical research into clinical practise settings and may pave the way to form specific strands of cognitive therapy designed specifically for service users with a history of childhood trauma. Smith et al. (2006) emphasize the importance of considering the traumatic events which may have been experienced by individuals being treated for psychosis, and being aware of potentially direct or indirect links between adverse experiences in childhood and current psychotic symptoms. The current study begins to touch upon potential mechanisms such as rumination which may be involved in the formation and maintenance particularly of paranoia and perceptual abnormalities. With further research and support, the development of CBT for such processes in relation to past traumatic experiences may be hugely beneficial and suitable to implement during the early stages of symptom exhibition.

Although the conclusions should be considered tentatively, the research effort and findings demonstrate the need to continue build and testing the causal models exploring the driving forces behind the trauma to psychosis relationship. Additionally, the consideration of separate symptoms and the potential that they may in fact stem from different causal roots provides further motivation to consider psychotic experiences holistically taking into account individual differences and environmental influences.

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APPENDICES

Appendix A: Reflection on Clinical Research Placement One

During my first placement I have had the opportunity to design and implement a true piece of action research within the dynamic and challenging environment of an inpatient forensic health care clinic. Action research is defined as the process of evaluating practical change and its effect on an organization, a process which fundamentally must involve those internal to the process or organisation being examined. My placement location was within the largest NHS mental health trust in Birmingham, based in two medium secure inpatient units. I have also worked with the trust since 2011 as a healthcare assistant.

Designing and Implementing Staff and Service user Training Sessions

The process of change focal to my placement was the implementation of a new commissioner led work stream "My Shared Pathway" (MSP) which encompasses a set of recovery focused resources to promote empowerment, goal setting and collaborative care planning. My role involved planning joint service user and staff training sessions and delivering these on all inpatient units across the two clinics involved in order to launch the implementation of MSP within the service.

The deliverable element of my placement was chosen to be a service evaluation conducted to; assess the success of the training sessions, to gauge the need for further MSP guidance resources and to generally gain feedback about the MSP work stream following people's introduction to it.

My first placement aim was to plan the MSP training session which would need to be accessible to both patients and nursing staff. A colleague and I were appointed as shared pathway advisors and guided by my placement supervisor, Principle Clinical and Forensic Psychologist Richard Barker at BSMHFT, who advised us to include a therapeutic element to the group and ask questions to initiate discussions and encourage active participation. To meet these requirements we began by discussing

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the principles of recovery. We encouraged engagement through joint creation of a 'Recovery brainstorm' asking participants of the training sessions to tell us what recovery means to them either personally as a patient or professionally as a care provider (see outline of training session, appendix B).

The next program of work was the delivery of the training sessions across the forensic units involved. This was one of the most challenging elements of my placement due to the inherently dynamic nature of the clinical environment, and also what I perceived to be reluctance on the part of staff to engage in training sessions. My colleague and I tackled the hectic schedule of the inpatient units by rolling out multiple sessions on each unit at the most appropriate times of the day (e.g. avoiding patient hand-over and mealtimes). I found myself growing more and more comfortable with engaging large groups of both patients and colleagues for an extended period of time. Over a period of 2 months we trained the majority of staff and patients across the two clinics involved.

 In order to address staff reluctance to attend sessions I sought advice from my placement supervisor who arranged support from the modern matron who oversees clinic-wide nursing conduct. She aided me in encouraging nurses to become familiar with MSP by disseminating relevant information resources via the unit managers. In addition to this I used my interpersonal communication skills to initiate open and honest discussions with staff to identify reasons for the resistance I was experiencing; this is expanded upon in the subsequent paragraph. I thoroughly enjoyed communicating with a variety of mental health professionals throughout my placement and feel my confidence has hugely benefitted from this process.

I feel it is important to reflect upon my experience of attempting to instigate a change within an NHS service. I feel that one of the major contributions to reluctance of staff to engage was low staff morale fuelled by a complexity of societal factors currently impacting the National Health Service. My perception is that nursing staff feel as if the demands upon them are ever increasing with constant pressure to meet imposed quality targets. In practise this can be seen by the myriad of

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audits and nursing metrics which consume a considerable amount of time. The MSP may simply have represented another demand on nursing staff, an idea which was reinforced by the fact that the work stream is commissioner led and will be audited to determine the amount of patients utilising the resources. My attempt to overcome this attitude involved emphasising the true value of the processes involved in using the MSP booklets. This is not simply to fulfil the demands of an audit but to focus on the true purpose of mental health nursing which is to build therapeutic bonds with our patients and empower and support them through their personal journey of recovery. This particular consideration is undoubtedly confounded by my current experience in employment as a member of the nursing team, a confound which I feel serves to strengthen the reflection.

Conducting the Service Evaluation

I found the process of conducting a service evaluation exciting, rewarding and fruitful. I began by organising what it was I aimed to evaluate and, with my supervisor, came to focus on the success of the training groups through staff and patient feedback. Alternatives were considered such as evaluating the implementation phase of MSP by uptake of patients actually utilising the resources. However the length of the placement would not have been sufficient to achieve this measurement.

 I encountered a challenge in obtaining ethical approval from the University of Birmingham's ethical board as I had not been aware of the requirement to complete this process until the MRes course began in September which meant I was not actually able to begin my evaluation until late October. However, I managed to develop my time management skills and ensure that my other assignments and all of the preparations for the evaluation (e.g. information sheets, interview schedules, and survey questions) were finalised in preparation. I learnt a range of skills including the creation of survey questions which I found to be a new challenge as I attempted to evolve my notions of what I wanted to find out into questions which would manifest appropriate responses. I also gained experience in conducting and analysing interviews within a clinical population. I practised

interviewing skills such as probing and prompting techniques which were often required for patients who were less articulate.

The summation of my experience was ultimately the production of my service evaluation report which in itself promoted a deeper understanding of the service I had been placed with and the importance of the practices the MSP promotes. I found it challenging to determine the style a service evaluation should adopt and finding the right balance between consideration of relevant psychological literature, healthcare policy, context setting and description of the service being evaluated. I look forward to disseminating my report at the BSMHFT Regional meeting in February 2013.

Conclusions

During my placement I learnt the policy and ethos behind the recovery tools being launched and for me this genuinely ignited a belief in their value to the service. Sadly this enthusiasm was not returned by the nursing professionals I disseminated the information sessions to. I feel that this reflects a fundamental problem in the way in which service improvements are launched within the current service. The professionals who are involved daily in the care of service users need to be more involved in the development of tools which are to be implemented. It is no surprise that new recovery initiatives are met with reluctance when from the point of view of nursing staff they appear from nowhere and tend to be quickly replaced with the next new initiative. If front line staff were given the opportunity to involved in service development alongside delivery it is more likely that the initiatives will be driven with some passion and will be more cohesive with the needs and abilities of both staff and service users.

Appendix B: Description of the My Shared Pathway Resources

Fulfilling the demands of the Shared Pathway work stream requires the collaborative completion of two core workbooks; A Shared Understanding and My outcomes plans and progress.

A Shared Understanding

The shared understanding work book is designed to be completed in a collaborative process between staff and service users at the earliest point possible in a patient's stay in secure services. The main aims of the booklet are:

- To ensure all patient's understand what it means to be in secure care

- To give the opportunity for individuals to inform clinical staff of their story using their own words

- To gain an increased understanding of who service user's are in terms of what is important to them, their skills and their areas of need

The shared understanding booklet aims to begin the process of working collaboratively with patients, involving them in their care from the earliest point possible and ensuring that enough information is available about each patient to create a personalised recovery plan.

My Outcomes Plans and Progress

The second of the core booklets provides an outcome measurement framework. The framework covers eight areas of recovery and provides a format for systematic planning of a patient's stay in forensic care through setting goals, planning milestones and tracking progress. Patients are required to rate themselves as to how well they feel they are achieving in each area of recovery, their clinical teams give them corresponding scores and plans are made in each recovery area depending on the apparent need of the patient. The scoring process promotes; discussion, service user involvement and transparency. Figure 2 shows a sample from the My Outcomes Plans and Progress workbook.

The main aims of working with the My Outcomes Plans and Progress resources are:

- To make service users aware of the dimensions of recovery considered by clinical teams during progress reviews

- To encourage service users to consider what they have done and what may need doing for each area of recovery with guidance from their care teams.

- To provide a supportive platform whereby positive feedback can be given and

disagreements between service users and their clinical teams can be openly discussed.

The outcome measurement process is designed to be a multi-disciplinary effort and hopes to create cohesion between teams to ensure that therapeutic efforts are consistent, methodical and planned with the patient's involvement.

The shared pathway resources also consist of four supplementary booklets focussing on more specific areas of recovery.

Me and My Recovery

My Relationships

My Health

My Safety and Risks

Each booklet encompasses the four pathway steps. Where am I now, where do I want to get to, how will I get there and how will I know when I'm there. These steps are included to encourage both service users and clinical care teams to consider recovery as a step by step process with clear milestones and goals to be achieved. The shared pathway processes aim to ensure care is provided efficiently, time-effectively and potential delays to discharge are dealt with in advance.

Appendix C: Summary of MSP Training Session

Moving Forward with My Shared Pathway

Introductions

Everyone state their name and how long they have lived or worked here.

Establish group aim

To provide the knowledge and skills to staff and service users for the appropriate use of MSP

Group Objectives

- To think about Recovery and what it means to different people
- To introduce the shared pathway as a new way of working together toward recovery
- To learn about the pathway principles
- To begin to feel comfortable using the pathway tools

Discussion

Brainstorm – What does recovery mean to you as a patient or a staff member? What do you need to do to be well enough to reach discharge?

- Clarify recovery principles
- Emphasize recovery as personalised for each individual
- Recognise barriers to recovery specific to secure care – include patient quotes:

"It's like a waiting game here, you have to be patient"
"I'd rather be in prison at least then you know when you're getting out"
We're just constantly jumping through hoops for our doctors"

Introduction to MSP

- Developed to encourage collaborative approach to care where service users are treated as an equal member of the team
- Ultimately aims to reduce length of by making the pathway to discharge clearer and giving service users more opportunities to take responsibility over their care
- Involves the collaborative completion of patient work books

Explanation of booklets (pass round example copies)

- ➢ A Shared Understanding - First booklet gives patients the opportunity to tell their story and what they have been through from a personal perspective. This will give staff members a clearer picture of who you are, what is important and the factors that are important to your care.
- ➢ My Mental Health Recovery – discusses your experience with mental health and the lifestyle choices which may have led to your hospital admission. Aims to understand what recovery means to you, how this can be achieved and how it can be maintained.

- ➢ My Health – Works through aspects of your physical and mental health that are important to you. Aims to gain an understanding of the health issues which are currently affecting you and how this can be dealt with both now and in the future. Also provides clarification of relevant medication, its purpose and potential side effects.
- ➢ My Risk Behaviours – Discusses the behaviours that may have led to patient's admission into secure care and how this may interact with mental health problems and lifestyle choices. Aims to promote an open discussion of the level of risk patients are presenting as, reasons for this and how this level of risk association can be reduced.
- ➢ My Relationships – Identifies the relationships which are important to you and discusses any difficulties which may occur in maintaining or creating relationships. Identifies the presence or lack of a supportive network outside of hospital.

Explaining my outcomes plans and progress framework (pass booklet round)

- Pathway booklets will help you to consider where you are now and where you aim to get to in terms of your recovery
- The final booklet My outcomes plans and progress will allow you to be involved in the process of measuring where you are in terms of recovery and how you can make progress.
- Recovery is broken down into eight areas:

My mental health recovery	Making feasible plans
My problem behaviours	Staying healthy
Getting insight	Life skills
Drug and alcohol problems	My relationships

- The outcomes booklet will ask service users to score themselves on statements of ability relating to each area. This should be done in collaboration with the named nurse.
- The clinical team will then give a corresponding set of scores for each area based on their observations and assessments. This will take place during your 6 monthly CPA review and will involve all multidisciplinary professionals.
- Alongside the team the service user is able to see how they are being assessed and will have the opportunity discuss any discrepancies in scores. This will lead to the creation of action plans, created in collaboration, to tackle identified areas of need.
- At the end of the process there should be a clear set of goals, methods to reach them and an organised record of progress.

Activity – In groups choose an outcome area and identify the plans which could be made to improve low scores for each statement of ability.

Summary: Discuss potential benefits, questions, issues etc.

Staff benefits
Clear guide for comprehensive care plans, give structure and purpose to 1:1 support sessions, creates standardised outcome measurement encouraging best practise, built upon already familiar recovery principles, promotes collaboration within teams.

Patient benefits
Increased involvement in care, involvement in decision making increases collaboration, records progress and goals, sets a clearer pathway to discharge

Appendix D : Patient Feedback Questionnaires

Please take a few minutes to fill out this survey to give us your opinion about the **My Shared Pathway** group you recently attended. Please answer all questions by circling one of the available options. All of your responses will remain anonymous.

1. **The information provided to me in the My Shared Pathway group was easy to understand**

O	O	O	O	O
Strongly disagree	Slightly disagree	Neither agree nor disagree	Slightly agree	Strongly agree

2. **There are still some things I do not understand about the shared pathway**

O	O	O	O	O
Strongly disagree	Slightly disagree	Neither agree nor disagree	Slightly agree	Strongly agree

3. **Following the training group I know what the shared pathway resources are and how they will be used**

O	O	O	O	O
Strongly disagree	Slightly disagree	Neither agree nor disagree	Slightly agree	Strongly agree

4. **I feel I am now ready to begin using the shared pathway booklets with my key worker/team**

O	O	O	O	O
Strongly disagree	Slightly disagree	Neither agree nor disagree	Slightly agree	Strongly agree

5. **I want to use the booklets but I do not understand exactly how this will be done**

O	O	O	O	O
Strongly disagree	Slightly disagree	Neither agree nor disagree	Slightly agree	Strongly agree

6. **Indicate which of the following you would like to be provided with**

More information about My Shared Pathway e.g. information leaflets	O
One to one sessions with a member of staff explaining how the Shared Pathway process works	O
An instruction booklet explaining the Shared Pathway process step by step	O
Nothing, the Shared Pathway group provided me with enough information	O

7. The shared pathway will focus on my personal recovery

○   ○   ○   ○   ○

Strongly disagree   Slightly disagree   Neither agree nor disagree   Slightly agree   Strongly agree

8. Using the shared pathway tools will allow more communication between me and my clinical team

○   ○   ○   ○   ○

Strongly disagree   Slightly disagree   Neither agree nor disagree   Slightly agree   Strongly agree

9. Using the shared pathway tools will help me to work together with my team in making decisions about my care

○   ○   ○   ○   ○

Strongly disagree   Slightly disagree   Neither agree nor disagree   Slightly agree   Strongly agree

10. The shared pathway has been designed to benefit patient care

○   ○   ○   ○   ○

Strongly disagree   Slightly disagree   Neither agree nor disagree   Slightly agree   Strongly agree

11. The Shared Pathway booklets will improve the quality of care I receive

○   ○   ○   ○   ○

Strongly disagree   Slightly disagree   Neither agree nor disagree   Slightly agree   Strongly agree

12. I have begun using the Shared Pathway booklets

○   ○

Yes   No

13. I plan to begin using the Shared Pathway booklets in the near future

○   ○   ○   ○   ○

Strongly disagree   Slightly disagree   Neither agree nor disagree   Slightly agree   Strongly agree

Please list any areas in which your introduction to My Shared Pathway could be improved.

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Please share any additional comments.

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Thank you for taking the time to fill out our survey. We rely on your feedback to help us improve our services. Your input is greatly appreciated.

Appendix E : Staff Feedback Questionnaires

Please take a few minutes to fill out this survey to give us your opinion about the **My Shared Pathway** group you recently attended. Please answer all questions by circling one of the available options. **Your responses will remain anonymous.**

1. **The information provided to me in the My Shared Pathway group was easy to understand**

○	○	○	○	○
Strongly disagree	Slightly disagree	Neither agree nor disagree	Slightly agree	Strongly agree

2. **There are still some things I do not understand about the shared pathway**

○	○	○	○	○
Strongly disagree	Slightly disagree	Neither agree nor disagree	Slightly agree	Strongly agree

3. **Following the training group I know what the shared pathway resources are and how they will be used**

○	○	○	○	○
Strongly disagree	Slightly disagree	Neither agree nor disagree	Slightly agree	Strongly agree

4. **I feel I am now ready to begin using the shared pathway booklets with my patients**

○	○	○	○	○
Strongly disagree	Slightly disagree	Neither agree nor disagree	Slightly agree	Strongly agree

5. **I want to begin working through the shared pathway booklets with my patients but am unsure about how I will implement this**

○	○	○	○	○
Strongly disagree	Slightly disagree	Neither agree nor disagree	Slightly agree	Strongly agree

6. **Indicate which of the following you would like to be provided with**

More information about My Shared Pathway e.g. information leaflets ○

Supervision sessions with a Shared Pathway lead/advisor ○

An instruction booklet explaining the Shared Pathway process step by step ○

Nothing, the Shared Pathway group provided me with enough information ○

7. The shared pathway will focus on planning individualised patient recovery

○	○	○	○	○
Strongly disagree	Slightly disagree	Neither agree nor disagree	Slightly agree	Strongly agree

8. Shared pathway tools will increase the communication within clinical teams

○	○	○	○	○
Strongly disagree	Slightly disagree	Neither agree nor disagree	Slightly agree	Strongly agree

9. Using the shared pathway tools will promote service user input during creation of care plans

○	○	○	○	○
Strongly disagree	Slightly disagree	Neither agree nor disagree	Slightly agree	Strongly agree

10. The shared pathway has been designed to ensure quality of care

○	○	○	○	○
Strongly disagree	Slightly disagree	Neither agree nor disagree	Slightly agree	Strongly agree

11. The shared pathway booklets will improve the quality of patient care

○	○	○	○	○
Strongly disagree	Slightly disagree	Neither agree nor disagree	Slightly agree	Strongly agree

12. I have begun using the shared pathway booklets with my patients

○	○
Yes	No

13. I plan to begin using the shared pathway booklets in the near future

○	○	○	○	○
Strongly disagree	Slightly disagree	Neither agree nor disagree	Slightly agree	Strongly agree

Please list any areas in which your introduction to My Shared Pathway could be improved.

_____

_____

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Please share any additional comments.

_____

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Thank you for taking the time to fill out our survey. We rely on your feedback to help us improve our services. Your input is greatly appreciated.

INFORMATION SHEET

Title: Evaluation of My Shared Pathway Training Groups – Feedback Forms

We would like to invite you to take part in our service evaluation. Before you decide we would like you to understand why the evaluation is being done and what it would involve for you. One of our team will go through the information sheet with you and answer any questions you have. We'd suggest this should take about 5 minutes.

What is it about?
You have recently attended the My Shared Pathway group intended to prepare staff and patients for the use of the My Shared Pathway booklets and resources. We are inviting all those who have attended to fill out feedback forms to find out if the group has been useful to both staff and service users. The form consists of questions regarding the group you have just attended and the information presented to you. It should take approximately 5 minutes to complete.
We will also be conducting a select number of **interviews** to explore in more detail the success of the groups. If you are happy to take part in a short interview please ensure you tick **box No. 7 on the consent** form and we will contact you with further details.

Anonymity
All of the information you provide to us will be confidential. Individual participant feedback will be anonymous and your forms will be labelled with a research code, which cannot be traced back to your identity. All data collected will be kept physically secure and will only be accessed by authorised members of the research team.

Withdrawal from participation
Your participation is voluntary and you may refuse to participate or withdraw from taking part once you have begun. Once you have handed in your feedback form we are unable to withdraw your data as it will not be traceable back to you, however we can remove your name from the study register.

What will happen to the results of the service evaluation?
Our findings will be reported back to the University of Birmingham in the form of a service evaluation report and will be included in a postgraduate university thesis paper which could potentially be published. The data collected from you may be used for research purposes but at no point will personal or identifiable information about any participants be included.

Who is organising the service evaluation?
Consultant Forensic and Clinical Psychologist Richard Barker and Student Researcher Ayesha Roche are organising the current service evaluation and are being supported by the University of Birmingham. If you require further information about the study, have any complaints or wish for feedback, please contact Ayesha Roche – contact details can be provided by contacting Reaside Clinic, Swift Unit – 01216783000.

CONSENT FORM

Title of Project: *Evaluation of My Shared Pathway Service User and Staff Training Groups*

Name of Researcher: Richard Barker / Ayesha Roche

Please initial all boxes

1. I confirm that I have read and understand the information sheet dated 08.10.12 (Version 1.0) for the above study. I have had the opportunity to consider the information, ask questions and have had these answered satisfactorily.

   ☐

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

   ☐

3. I understand that my feedback will be reported as part of a service evaluation report and will also form part of a postgraduate university thesis paper which may potentially be published.

   ☐

4. I understand that the data collected from me today may be used for research purposes

   ☐

5. I understand that the answers I give will remain anonymous and my answers will not be linked to my identity.

   ☐

6. I agree to take part in the above study.

   ☐

7. I agree for the research team to contact me regarding follow up interviews as described in the information sheet.

   ☐

_____   _____   _____

Name of Participant   Date   Signature

_____   _____   _____

Name of person taking consent   Date   Signature

Appendix H: Survey Response Tables

Table 2.
Patient survey responses

Survey questions	Patient Responses (n)					
	strongly disagree	slightly disagree	neither	slightly agree	strongly agree	Total
1. Training was easy to understand	2	1	3	4	10	20
2. There are still things I don't understand	5	2	4	7	2	20
3. I have knowledge of pathway resources and uses	1	3	2	9	5	20
4.I am ready to begin using resources	1	1	1	7	10	20
5. I am unsure of MSP implementation	4	4	3	7	2	20
7. MSP focus is on patient recovery	1	2	2	6	9	20
8. MSP tools will increase communication	0	2	4	3	11	20
9. MSP will promote joint decision-making	2	0	2	6	10	20
10. MSP will benefit of care	0	2	1	5	12	20
11. MSP will improve quality of care	1	2	4	5	7	19
12. I have begun using shared pathway	9	10	0	0	0	19
13. I plan to use shared pathway soon	1	1	3	4	7	16

Table 3.
Staff survey responses

Survey questions	Staff Responses (n)					
	strongly disagree	slightly disagree	neither	slightly agree	strongly agree	Total
1. Training was easy to understand	2	2	2	16	29	51
2. There are still things I don't understand	7	9	5	26	4	51
3. I have knowledge of pathway resources and uses	1	4	1	23	22	51
4.I am ready to begin using resources	2	3	9	16	21	51
5. I am unsure of MSP implementation	6	8	8	25	3	50
7. MSP focus is on patient recovery	2	0	5	11	32	50
8. MSP tools will increase communication	1	1	7	17	24	50
9. MSP will promote joint decision-making	1	1	3	15	30	50
10. MSP will benefit of care	1	1	3	17	29	51
11. MSP will improve quality of care	1	3	5	18	24	51
12. I have begun using shared pathway	5	45	0	0	0	50
13. I plan to use shared pathway soon	1	0	4	18	26	49

Appendix I: Example of Coded Transcript using Template Analysis

Colour Codes

1st Code: DESCRIPTION OF SESSION

2nd Code USE OF THE BOOKLETS

3rd Code Opinion of the Shared Pathway work stream

Interview Transcript AP3

I: So ermm first question is just asking how you learnt about the shared pathway booklets

AP3: ermm (1) well mainly by coming to the training session thered been a poster up saying it was something that was coming but there was no other information until the time of the training

I: and what do you actually remember about the training session you came to

AP3: it erm it I think it was to the point and it was easy to understand and it gave a good introduction too (2) the key points of (1) the shared pathways the benefits

I: and how did you feel after the training session

AP3: I felt quite motivated really to ermm to use use the shared pathways cus I could see how it was a big improvement on how things had been done

I: How do you think that we could have made your introduction to the shared pathway better

AP3: Yeah ermm I don't think it was a big problem but we didn't have a lot of advance notice about when the training was coming to be honest so perhaps jus I mean it wasn't a big problem because there was so many sessions held that obviously we could we could have one ermmm I cant really think of anything else

I: is there anything about the content of the session you think could have been improved

AP3: the only thing that might have made it a bit easier would have been to see some sort of diagram as to how all of the booklets fit together

AP3: cus that's the only thing that when I actually came to do I ti wasn't sure which was book 1 which was book 3 which was book 6 but in some of the information it talks about do this before this so maybe just some sort of diagram

I: so is there anything beyond the training that now you've started using the booklets would be useful from us

AP3: well I think theyre very easy to read and straightforward you know and I have sort of worked through them now so there isn't really anything that I need now no

I: ok ermmm so how do you feel about using the shared pathway booklets

AP3: ermmm theyre very comprehensive so (2) when your not at the beginning of your treatment in hospital not all the questions are relevant

I: yeah

AP3: cus a lot of the informations already been gathered ermmm but ermm it you know ive got my cpa coming and its just gonna make its just gionna make that process more meaningful

I: ok so as you've said your starting to use the booklets who has that been with

AP3: my key worker ive already reviewed the final booklet with her so ive gone through all of that so im sitting down with her and my consultant tomorrow and were going through the booklet together before my CPA on Friday

I so you may have already covered this but I want to hear more about your experience using the booklets in terms of filling them out and going through them

AP3: yeah you know it is a bit daunting when your first going through them because there is a lot there and you know you can go straight to the final booklet which I did do I went through that but I felt to answer some of those I didn't feel ready to do that so I went through all the booklets and completed mainly me and my recovery and the shared understanding and I did fill out parts of those and I found that helpful I think the main thing is just the timescales in going through all of them if you had just arrived here you would only probably be filling in the first [booklet] if you've been here a long time and the focus is mainly on the last one its quite a lot to do in one go so it's a lot do I mean I found it really useful and when I actually spent a lot of time going through that reading the book and filling it in and then I left it a day an I came back and I manage to complete the last outcomes booklet in an hour the whole booklet but that was a draft some of it you cant really fill in before you've discussed it with your team and yeah I did I found it and there was only a couple of scores that was altered from the discussion with my key worker so and that [was] actually to improve them so yeah that was positive tomorrows discussion will be the more defining one I guess

I: have you found you've hit any obstacles along the way

AP3: only only I think because of the volume I felt like I needed to give myself a bit of time to process it I think realistically I don't think you can do the whole thing in under three days just because of how much is involved especially in the shared understanding where its talking about reviewing your whole life your episode what brought you here I mean to do that justice I think you do need at least sort of three days because you need to be able to put it down and not think about it for a bit and then come back to it

I: yeah im sure even three days is quite quick

I: and is there anything in particular you've found useful what about the process is it

AP3: for me its useful in really seeing where you are and goal setting and also although I haven't finished that bit yet I think it is gonna be very useful cus your actually getting something down on paper across all the aspects of yourself that you can actually prove to the team and its in writing and

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its its useful to kind of agree where you are and then have the the sort of goals in place where your going

I: so how do you think that the booklets will affect your care now and in the future

AP3: well I think that it's a good summary you have a lot of information in one place and it is about having something there that ermm you can keep referring to between your CPAs [6 monthly Care Plan Approach review meetings] especially because on the pages where you put down your goals you've got review points a lot of mine are two weekly so I think its gonna be something your gonna be able to sort of check where you are from CTM to CTM [Clinical Team Meeting] because we only have our CTMs every two weeks so I think its just gonna be helpful really helpful to help empower the service user to have something that they can say to their team what about this and we said this before whereas previously you kind of you know you don't have anything in writing so you usually say do you remember when you said such and such an there like ermmm ive slept since then so I think its going to be very useful

I: and do you think the booklets are going to have any effect on your recovery

AP3: yes I think so you know from where I am now you know its gonna help me to move further through my recovery definitely just as far as understanding about moving on from here ermm (2) and yeah just to have a clearer picture because ive had a number of members of my team say to me in the last couple of weeks you need to be involved you need to be at the forefront this is what is now required da da da da and (1) I think everyones quite focused (1) on this new approach

I: yeah ok (1) and this kind of links back to what you've said erm do you think the booklets are gonna help you move on from here

AP3: yeah definitely because ermm I just think back to my last CPA and it doesn't feel like it was 6 months ago and you know if you think about what was discussed then and whats happened between then and now you know you know its its ive got nothing in writing about what was agreed last tijme and as things have moved on but now im gonna be having these well we all agree that im on this score which means ive achieved something and that gonna be quite motivating

I: ok yeah have you got anything else youd like to comment on

AP3: I just think for me and I would imagine for most people its only going to be beneficial so I think even people who are going to be resistant theres going to be different approaches people need to take and there teams know them and I just think that its something that even if theres resistant its something we should encourage people to move forward with

I: yeah it is always difficult to reach people who are reluctant to get involved I mean with yourself you were already involved and this is giving you a more stable guide of how to get involved

AP3: something I drew a parallel with was you know work appraisals and maybe even report cards and maybe some people have had bad experiences in the past in those areas in might kind of show up as a bit of you know it might be something they might be a bit fearful of so I can understand that but im sure there can be ways to get around that really cus I guess the thing is quite often when your here the only thing you get feedback on is when youve done something wrong this is trying to show

you know on a scale of one to five actually youre here and that actually means even a number three its still its not kind of average achievement which might be from school days it actually means your making progress and that can only be a positive thing

I: yeah it is so important to give people positive feedback that's one of the things I like about this is it gives people an opportunity to see their progress. Ermm (1) ok so have you got any questions for me

AP3: no I don't think so its all at the moment yeah seems its yeah seems I kind of yeah understand as much as I need

END OF INTERVIEW

Appendix J: Qualitative Data Analysis

Discussion of the training sessions

 The first theme focuses on the way on the way in which participants describe the training sessions four levels of the theme have been identified

 Retention of content: this theme includes the level of information understood and retained by participants indicating how useful the training sessions were to the patients being interviewed.

The comments regarding the content of the training sessions were gave an indication that five out of the 6 patients being interviewed had retained a general gist of the content covered in the training sessions. For example one patient states "it was to inform us how we would go about answering the questions within the booklet and what the booklets were meant for" (Interview A). Another patient focuses on the emphasis the training put on using the shared pathway as a method to involve service users in their care "Well it was more about having my say" (Interview E).

One patient indicated that he had very little memory of the training session after being asked if they remembered anything of the content covered during the session. "Not really no cus it was quite a while ago" (Interview D).

Understanding: The semi structured interview questions did not directly question whether or not participants had understood the training session, however on first examination of the interview data it became apparent that this had naturally been covered when patient s were asked how they felt and what they remembered about training sessions.

Two patients expressed a lack of clear understanding following the training sessions. Interview A explained that immediately following the training session he was unclear about the workbooks being introduced, "[I felt] a little bit confused as to how in depth the booklets were" (Interview A). The second patient expressing a lack of understanding explained she attended the training session on two separate occasions as she had found the initial session difficult to understand "it was good it was I understood the second one the first one wasn't that I couldn't understand it cus it was new to me I'd never heard of certain things an it was just different" (Interview E)

Conversely two patients made explicit statements supporting the clarity of the training sessions stating that it was "informative" explained "step by step", was "easy to understand and gave a "good introduction"

Motivation: this theme captured how participants felt about using the shared pathway workbooks following the training session depicting whether the training session fulfilled the aim of motivating patients to become engaged with shared pathway processes and initiating use of the workbooks.

Three of the six patients interviewed had begun using the shared pathway booklets with their teams (Interviews A, C and E), one patient had begun filling out the booklets alone but had subsequently lost them (patient D), one had begun looking over the booklets (patient B) and one had not yet begun using the booklets (patient F).

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Two patients directly express having felt motivated by the training sessions. "I felt quite motivated really to ermm to use use the shared pathways cus I could see how it was a big improvement on how things had been done" (Interview C). "I was quite excited cus I like to try new things" (Interview E). Another patient (Interview F), who had not yet begun using the booklets, stated he "was quite looking forward to it". Suggesting within the individuals being interviewed the training sessions had encouraged them to engage with the shared pathway work stream and begin or consider beginning to use the tools provided.

Areas for improvement: The last second level code, specifically concerning the discussion of training sessions, covers suggested improvements to the training sessions. During the interview participants were specifically asked if they felt there could have been any improvements made.

One patient focused on the content of the training session and what could have been added to make the process of using the workbooks clearer

> the only thing that might have made it a bit easier would have been to see some sort of diagram as to how all of the booklets fit together... that's the only thing that when I actually came to do I it wasn't sure which was book 1 which was book 3 which was book 6...so maybe just some sort of diagram (Interview C)

Interview A who had earlier spoken of being left "a little bit confused" following the training sessions later on went to explain that despite this he does not think improvements could be made to the training session as the booklets themselves had caused the confusion, "I don't think there is [any improvements to be made] because the booklets are what they are" (Interview A)

In relation to organisation of the training sessions Interview B identified the fact that not all of the staff had been trained yet and recommended the training should be more widely available."I think maybe there's more people to contact in terms of informing more of the staff because some of them don't know a lot about it" (Interview B)

A second organisational improvement was suggested by interview C who felt patients had not been given enough notice prior to the sessions being delivered.

> "Yeah ermm I don't think it was a big problem but we didn't have a lot of advance notice about when the training was coming ...it wasn't a big problem because there was so many sessions held that obviously we could we could all have one" (Interview C)

Interview F could not identify any necessary improvements stating we had given lots of information in a "step by step" manner. Interview D stated there was no more he felt he needed to be provided with following the training sessions "no not really like you done the presentation I asked for the booklets and got em the same day so no." (Interview D)