Fear of illness recurrence and mental health anxiety in people recovering from psychosis and common mental health problems

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Objectives. It is well known that mental health problems can recur even after effective treatment, leading to an understandable fear of illness recurrence (FIR) and mental health anxiety (MHA). These may themselves contribute to the process of relapse. This study aims to examine whether people recovering from psychosis have greater FIR than those recovering from common mental health problems or healthy controls. The study also hypothesized that there will be a relationship between FIR and MHA and that both these constructs will be associated with maladaptive coping behaviours. Finally, the relationship between mental defeat with FIR and psychological distress (anxiety and depression) will be examined.

Method. A cross-sectional questionnaire design was employed. Thirty-nine participants in recovery from psychosis, eighty-two in recovery from other mental health difficulties, and sixty-one healthy controls aged 18–73 were recruited from NHS services and via social media. Self-report questionnaires measured mental defeat, mental health anxiety, fear of illness recurrence, maladaptive coping behaviours, and psychological distress.

Results. Those recovering from psychosis were found to more negatively evaluate the likely consequences of relapse than those recovering from common mental health problems or healthy controls. However, the levels of FIR in common mental health problems were also significantly elevated when compared to healthy controls. There were no other differences between these groups (in terms of mental defeat, anxiety, depression, social functioning, and maladaptive coping behaviours). The hypothesized relationship between FIR and MHA was also found, and both were associated with maladaptive coping behaviours. Mental defeat was associated with FIR and psychological distress (anxiety and depression).

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Conclusions. This study found that those with psychosis experienced higher FIR than those with common mental health problems. Furthermore, people defining themselves as in recovery are worried about relapse and the extent of this is linked to mental health anxiety. Given that such responses may contribute to actual relapse, it is important that these issues are better understood and interventions developed to ameliorate them.

Practitioner points

- Following recovery, fear of relapse may be particularly high in those with experience of psychosis; it is also present in those with common mental health problems
- The importance of this observation lies in the issue that anxiety about relapse may initiate a self-fulfilling process, with increased anxiety worsening symptoms and vice versa.
- Cognitive-behavioural therapy for health anxiety may be beneficial to those experiencing high levels of mental health anxiety.
- Cognitions related to relapse need to be explored and addressed both in further research and, when clearly identified, may be a target during relapse-prevention planning.

Psychosis is considered to be a severe mental health problem involving alteration of perception, thoughts, mood, and behaviour compounded by factors such as 'unpleasant side effects of treatment, social adversity and isolation, poverty and homelessness' (NICE, 2014, p. 14). These problems can be compounded by the ongoing prejudice, stigma, and social exclusion connected with the diagnosis (Sartorius, 2002; Thornicroft, 2006). Aracena (2012) discusses how the media promulgates many myths about people with psychosis such as the way that people with psychosis are depicted in films such as 'American Psycho' and 'Psycho' as violent, unpredictable, and evil. The media also often wrongly confuses psychosis with 'split personality' disorder (Duckworth, Halpern, Schutt, & Gillespie, 2003; McNally, 2007).

Angermeyer and Matschinger (2003) suggest one of the most notable differences between psychosis and depression is the responses of others, with predominantly negative responses and fear to the label of psychosis versus positive, more caring response for the label of depression. Psychosis also has many real-world repercussions including mortality (including but not confined to suicide), effects on employment, and family life (Aracena, 2012) all of which impact on the perception of psychosis as particularly threatening.

A recent study (Reavley, Morgan, & Jorm, 2017) considered the factors predicting experiences of avoidance, discrimination, and positive treatment in people with mental health problems, with the aim of exploring the experiences of people with stigmatized mental health problems. A diagnosis of a psychotic disorder was a significant predictor of experiencing avoidance from others after disclosure, and avoidance and discrimination scores were highly positively correlated. However, scores denoting positive treatment by others were only weakly correlated with both avoidance and discrimination (Reavley, Morgan, & Jorm, 2017).

Problems labelled as 'Schizophrenia' are particularly stigmatized, alongside drug and alcohol misuse (Crisp, Gelder, Rix, Meltzer, & Rowlands, 2000). Internalized stigma or self-stigma is characterized by the attribution of damaging beliefs, commonly held by the public about mental illness, to oneself (Corrigan & Watson, 2002). Internalizing discriminatory messages can have a deleterious impact on people with 'schizophrenia' (Brohan, Elgie, Sartorius, Thornicroft, & Group, 2010; Cavelti, Kvrgic, Beck, Rüsch, & Vauth, 2012; Corrigan, Watson, & Barr, 2006). Individuals with self-stigma experience lower self-esteem, inferior quality of life, hopelessness, and poorer adherence to

treatment plans (Fung, Tsang, & Corrigan, 2008; Livingston & Boyd, 2010). Collett, Pugh, Waite, and Freeman (2016), in a recent study, found that individuals with persecutory delusions had poorer self-compassion and self-esteem, greater fears of being mad, viewed themselves as inferior to others, and held unhelpful self-schemas. Furthermore, the diagnosis of schizophrenia is associated with negative self-evaluation (Aakre, Klingaman, & Docherty, 2015).

Given these negative implications, people with 'psychotic symptoms' might be expected to have a greater fear of illness recurrence than both healthy controls and people with non-psychotic mental health conditions. Salkovskis (1996) proposed that anxiety about a mental illness (re)occurring would be greater if the illness is perceived as especially serious (awfulness). This might be expected to operate particularly strongly in people in recovery from psychosis relative to those experiencing other mental health problems. For those with past experience of ill health, the idea of a recurrence can become the focus of understandable pre-occupation and worry, which may then itself result in distress and impairment. This is well documented in those in remission from physical problems such as cancer (Crist & Grunfeld, 2013; Grozdziej, 2015; Koch *et al.*, 2014) and heart disease (Jones *et al.*, 2015; Millstein & Huffman, 2017), and has been related to poor quality of life (Koch *et al.*, 2014). Fear of illness recurrence (FIR) has been extended to mental health problems. FIR in psychosis is noted as common and understandable given how distressing the experience of a first episode or a relapse of psychosis can be (Herz & Melville, 1980) and is linked to poorer emotional recovery in those in remission from psychosis (Gumley, O'Grady, Power, & Schwannauer, 2004).

Fear of relapse for many relates to a number of devastating pre-suppositions about relapse (Gumley *et al.*, 2015). Psychosis-related post-traumatic stress (PPTSD) character-ized by intrusions, avoidance, anxiety, and being constantly tense and 'on guard' is reportedly common following the traumatic experience that is an episode of psychosis (Shaw, McFarlane, Bookless, & Air, 2002). Therefore, fear of psychosis recurrence commonly produces responses such as viewing relapse as a catastrophic event, hypervigilance, fear, and 'interpersonal threat sensitivity' (Hagen, Turkington, & Berge, 2010, p. 130) on one hand and the avoidance of thoughts, behaviours, and emotions related to the experience of psychosis, and subsequent postponement of seeking help on the other hand (Gumley, Braehler, Laithwaite, MacBeth, & Gilbert, 2010; Gumley & MacBeth, 2006). Birchwood and Spencer (2001) and Gumley, White, and Power (1999) propose that 'fearful catastrophic appraisals of relapse in response to low-level psychotic experiences' (Gumley *et al.*, 2015, p. 3) are associated with greater proclivity to actual relapse. A recent RCT concluded FIR a better predictor of actual relapse than early-sign monitoring (Gumley *et al.*, 2015). FIR is also associated with shorter duration to actual relapse (Herz & Melville, 1980). That is, those with greater anxiety about relapse were more likely to relapse sooner than those who had lesser fear of relapse. It is not known, however, what might influence the extent of fear of recurrence in psychosis. Given the finding that the extent of health anxiety is strongly associated with FIR in cancer (Grozdziej, 2015), considering whether a similar relationship may be present in FIR in mental health problems and its possible link with 'mental health anxiety' (MHA) would appear useful.

The concept of mental health anxiety
Health anxiety is said to be accounted for by the tendency to misinterpret health-related information as signs that they currently have, or are at risk of developing, a serious illness

(Salkovskis, Warwick, & Deale, 2003; Warwick & Salkovskis, 1990). Asmundson, Abramowitz, Richter, and Whedon's (2010) literature review summarized recent research regarding potential mechanisms underlying health anxiety. A common vulnerability factor for health anxiety was personal experience with serious illness – either one's own or in a close acquaintance or relation (Abramowitz & Braddock, 2008; Salkovskis & Warwick, 1986; Taylor & Asmundson, 2004). Individuals with concerns about their mental health also experience severe and lasting anxiety about their mental health (Anderson, Saulsman, & Nathan, 2011; Rachman, 2012). Worry has also been implicated in the causation of paranoia in Freeman *et al.* (2015) recent research. Bassett, Sperlinger, and Freeman (2009) in their study on fear of madness found that bigger worries [as assessed by the Worries About Mental Health (WAMH) questionnaire] were positively correlated with higher levels of 'delusional distress'. The WAMH is comprised of items such as 'I worry my mind is falling apart' and 'I worry that feeling I have special powers means I am mentally unbalanced' (Bassett *et al.*, 2009). The authors asserted that this 'fear of madness' (p. 39) worsens delusional distress and advocated that this worry needed to be addressed in treatment to alleviate the other symptoms of psychosis. This study is vital because their proposal that 'fear of madness' might aggravate distress caused by symptoms is akin to Salkovskis and Warwick's (1986) proposal that symptoms can get worse just by paying excessive attention to them.

The concept of mental defeat

The perception of oneself as having failed or feeling dehumanized and lacking agency as a consequence of a mental health problem or traumatic event is described in the literature as mental defeat (Gilbert & Allan, 1998; Rooke & Birchwood, 1998). Ehlers *et al.* (1998) found elevated mental defeat in a group of rape survivors with poorer outcome after traditional relieving work when compared to a comparable group of survivors with better treatment outcomes.

A review by Taylor, Gooding, Wood, and Tarrier (2011) synthesized existing evidence investigating links between defeat, entrapment, and psychopathology in the domains of depression, suicidality, PTSD, and other anxiety disorders. The review found that perceptions of defeat and entrapment were correlated with various types of psychopathology and this relationship was significant even when the impact of other environmental and psychological stressors on psychopathology were accounted for.

In summary, it is suggested MHA represents a vulnerability factor for FIR in individuals who perceive themselves to be recovered or recovering. The occurrence of ambiguous experiences will tend to activate such fears, particularly when the 'awfulness' of recurrence is perceived as especially serious (Salkovskis, 1996). FIR will tend to motivate safety-seeking/maladaptive coping behaviours (behaviours that inhibit a person's ability to adjust to their situation such as avoidance, reassurance seeking, self-harm, substance misuse, etc.) and distress at the prospect of recurrence, with there being a reciprocal relationship. As a secondary appraisal, mental defeat will be activated and again form a reciprocal relationship with FIR. Thus, each of these factors will contribute to increases in the (mis)perception that the mental health problem is recurring (with there being some evidence from psychosis that fear of relapse may indeed have this effect).

Hypotheses

1. Participants with experience of psychosis will have greater FIR than those who have experienced common mental health problems.
2. MHA and mental defeat will be positively related to and will predict FIR, irrespective of group.
3. Higher levels of FIR and MHA will be associated with increased maladaptive health-related coping behaviours, including but not limited to reassurance, irrespective of group.
4. MHA, mental defeat, and FIR will be related to and will predict psychological distress, irrespective of group.

Method

Design

This study utilized a cross-sectional questionnaire design. It explored and compared the influence of MHA and mental defeat on levels of FIR, psychological distress, and maladaptive coping behaviours between three groups: people in recovery from psychosis, people in recovery from common mental health problems, and healthy controls.

Participants

Participants were recruited through social media (all groups) and from early intervention (EIP), recovery, and secondary care mental health teams in two NHS Trusts (clinical groups).

Definition of type of problem

In order to separate participants into the two clinical groups, the questionnaire included a screening question: 'Have you experienced psychosis (hallucinations, paranoia, delusions) as part of your mental health problems?' Participants who responded 'yes' were screened into the psychosis group and those who responded 'no' into the common mental health problem group.

Definition of recovery

Diagnostic, dichotomous definitions of recovery from mental health difficulties have been challenged (Kaskutas *et al.*, 2014; Slade, Amering, & Oades, 2008). Recovery is better conceptualized as a personal journey, unique to each individual (Slade *et al.*, 2014). To reflect this 'journey' in our study, recovery was measured as a continuous instead of a categorical variable. As improvement in mental health symptoms could potentially leave participants open to fear of recurrence, we primarily looked for the personal perception of improvement in participants.

For this study, therefore, the following definition of recovery by the South London and Maudsley NHS Foundation Trust and South West London and St George's Mental Health NHS Trust (2010, p. 4) was used:

1. 'Recovery is about having a satisfying and fulfilling life, as defined by each person.

2. Recovery does not necessarily mean "clinical recovery" (usually defined in terms of symptoms and cure) - it does mean "social recovery" – building a life beyond illness without necessarily achieving the elimination of the symptoms of illness.
3. Recovery is often described as a journey, with its inevitable ups and downs and people often describe themselves as being "in recovery" rather than "recovered".'

Recovery was defined here as the perception of having rebuilt their life. Participants were asked to respond to the screening question: 'Would you say that you have been able to build a life beyond your mental illness (even if all your symptoms haven't disappeared)?' Those responding with 'neutral' (1), 'mildly agree' (2), 'moderately agree' (3), 'agree' (4), and 'strongly agree' (5) will be deemed as self-reporting as in recovery and will be included in the study. Those rating themselves as 'strongly disagree', 'disagree', 'moderately disagree', and 'mildly disagree' will be excluded.

Psychosis and common mental health groups

Thirty-nine participants in recovery from psychological difficulties with psychosis and eighty-two participants in recovery from common mental health problems were recruited.

Inclusion criteria.

1. Aged 18 or over,
2. Diagnosis of a mental health difficulty,
3. Completed or ongoing treatment,
4. Capacity to provide informed consent for participation,
5. Self-reported recovery, and
6. No time limit was set for the time since diagnosis.

Healthy control group

Sixty-one healthy community controls were recruited for this study.

Inclusion criteria.

- Aged 18 or over,
- No previous psychiatric diagnosis, and
- Capacity to provide informed consent for participation.

Measures

Demographic and clinical characteristics

Participants were asked to provide information on demographic characteristics such as age, ethnicity, level of education, relationship and employment status, and country of residence and clinical characteristics such as depression, generalized anxiety, social functioning, mental health-related coping behaviours, and number of illness episodes.

Mental health anxiety

MHA was measured using the Mental Health Anxiety Inventory (MHAI; Commons & Salkovskis, 2012), an 18-item self-report questionnaire with a 0–3 scale where higher scores indicate higher levels of MHA (clinical cut-off score is 27). The MHAI has demonstrated excellent internal consistency (Cronbach's α = .92) and test–retest reliability (r = .68; Commons, Greenwood, & Anderson, 2016).

Mental defeat

Self-Perception Scale–Mental Health (SPS-MH; Tang & Salkovskis, 2004) describes thoughts and feelings associated with a sense of mental defeat, rated on a 5-point scale where 0 means 'Not at all/Never' and 4 means 'Very Strongly'. Summing all responses provides a total score, which ranges from 0 to 96. There is currently no established cut-off for this scale (García-Campayo *et al*., 2010). The original version of this scale, the Pain Self-Perception Scale (PSPS), demonstrates excellent internal consistency (Cronbach's α = .98) and test–retest reliability (r = .92; Tang, Salkovskis, & Hanna, 2007).

Fear of psychosis recurrence

The Fear of Recurrence Scale (FoRSe; Gumley, 2013) is a 23-item scale used in the detection of relapse in people diagnosed with schizophrenia. Responses are on a 4-point Likert scale (1–4). Items are clustered into three factors including fear of relapse (seven items), awareness of symptoms (nine items), and intrusiveness of thoughts (seven items). The scores range from 23 to 92, with higher scores representing greater fear of recurrence. Spearman's rho and Cronbach's α for the scale are .70 and .92, respectively.

Mental health-related coping behaviours

A new 33-item measure, the Reactions to Mental Health Worries Questionnaire (RMHWQ; see Appendix S1), was developed for and piloted before its use in this study. Responses are rated on a 6-point Likert scale (0 = never, 5 = always); scores range from 0 to 165. It measures maladaptive coping behaviours a person may engage in because of mental health worries. Cronbach's α (internal consistency) for the scale was .91.

Impaired functioning

The Work and Social Adjustment Scale (WSAS; Marks, 1986; Mundt, Marks, Shear, & Greist, 2002) was employed to measure impaired functioning. It is a 5-item scale that assesses an individual's ability to perform everyday activities including work, home management, family and relationship interaction, and social and private leisure activities. Each item is rated on a 9-point scale ranging from 0 (not at all a problem) to 8 (very severely impaired) with total scores ranging between 0 and 40, with high scores denoting higher levels of disability (0–10: mild functional impairment; 11–20: moderately severe functional impairment; 21 and above: severe functional impairment). The WSAS has good internal consistency (i.e., Cronbach's α between .70 and .90) and test–retest reliability (Pearson's r = .73).

Psychological distress

Depression
The PHQ-9 (Kroenke, Spitzer, & Williams, 2001) is a valid and reliable 9-item self-report screen for depression symptoms. The total score for the items ranges from 0 to 27 with higher scores indicating elevated depression (0–4: no depression; 5–9: mild depression; 10–14: moderate depression; 15–19: moderately severe depression; 20–27: severe depression).

Anxiety
The GAD-7 (Spitzer, Kroenke, Williams, & Löwe, 2006) is a valid and reliable 7-item self-report screening inventory for anxiety symptoms. Total score for the items ranges from 0 to 21, with higher scores indicating elevated anxiety (0–5: mild anxiety; 6–10: moderate anxiety; 11–15: moderately severe anxiety; 16–21: severe anxiety).

Procedure

Participants were provided with an information sheet, consent form, and questionnaire pack either via an online link or by post to be returned to the researcher. Participants were encouraged to contact the research team with questions or concerns about the study and given the option to complete the questionnaire alone or with support from the researcher.

After written consent was obtained, participants provided demographic and clinical information, answered recovery-related screening questions, and completed the questionnaires.

Following participation, participants were asked to provide a contact address if they would like a summary of the study results and to participate in similar research. Participants were sent a £5 Love2Shop voucher to thank them for their participation. Participants then read the debrief sheet that provided further information about the study, signposted them to sources of support if required, and thanked participants for their time.

Data analytic strategy

IBM SPSS Statistics for Windows (Version 23) was the software used for statistical analyses. Analyses were decided *a priori*:

1. Group characteristics were compared using one-way ANOVAs for each of the continuous variables used to characterize the groups; where main effects were significant, multiple comparisons using the LSD test were used. When Levene's test for homogeneity of variance was significant, multiple comparisons using Dunnett's T3 test were used.
2. FIR scores were compared between the two main groups using independent-samples *t*-tests.
3. FIR was entered into a hierarchical multiple regression as a dependent variable, with MHA and mental defeat as independent variables.
4. Maladaptive coping behaviours were entered into a hierarchical multiple regression as a dependent variable with levels of FIR and MHA as independent variables.
5. Psychological distress was entered into a hierarchical multiple linear regression analysis as a dependent variable with levels of FIR, MHA, and mental defeat as independent variables.

Hierarchical linear regression was chosen as all the proposed hypotheses were grounded in theory. For example, that MHA and mental defeat would predict FIR (Grozdziej, 2015; Morrison, 1998), FIR and MHA would predict maladaptive coping behaviour (Gumley *et al*., 2010; Gumley & MacBeth, 2006), and FIR, MHA, and mental defeat would predict psychological distress (Karatzias, Gumley, Power, & O'Grady, 2007).

Power considerations
A priori power analysis using G*Power (Faul, Erdfelder, Buchner, & Lang, 2009) was calculated and indicated a required sample size of 93 (31 in each group), to achieve an effect size of 0.33, power 0.8, and alpha .05.

Involvement of people with personal experience
A person with personal experience (PPE) of mental illness was consulted to ensure the research protocol, information sheet, and questionnaire pack were clear, concise, and acceptable, with piloting completed by a PPE to ascertain feasibility in terms of time required to complete the questionnaires.

Governance procedures and ethical considerations
This study was approved by the London – London Bridge NHS Research Ethics Committee, the Health Research Authority, the University of Bath Psychology Research Ethics Committee, and the Research and Development Teams of the local NHS Trusts involved.

Results

Participants
Two hundred and nineteen participants completed the questionnaires between March and May 2017, and 182 met the inclusion criteria. All 61 healthy controls who completed the questionnaires were included in the study. Of the 121 clinical participants, $n = 8$ were recruited from mental health services and $n = 113$ were recruited online.

One hundred and twenty-one clinical participants who rated themselves as 'neutral' (1), 'mildly agree' (2), 'moderately agree' (3), 'agree' (4), and 'strongly agree' (5) on the screening question 'Would you say that you have been able to build a life beyond your mental illness (even if all your symptoms haven't disappeared)?' were deemed as self-reporting as in recovery and were included in the study. Those rating themselves as 'strongly disagree', 'disagree', 'moderately disagree', and 'mildly disagree' were not included.

Demographic and clinical characteristics
Demographic and clinical characteristics are presented in Tables 1 and 2. Chi-square tests were carried out for the categorical variables. For many of these (except for gender and UK residency), cell frequencies were low (see Table 1) and the categories were collapsed as described in Table 3 for the purpose of statistical comparisons.

Table 1. Demographic characteristics of the participants

	Psychosis	No psychosis	Healthy controls	All clinical participants	Statistics		
					Chi-square	df	p
	Number (%)	Number (%)	Number (%)	Number (%)			
Gender							
Female	29 (74.4)	74 (90.2)	46 (75.4)	103 (85.1)	7.07	2	.029
Male	9 (23.1)	8 (9.8)	15 (24.6)	17 (14.1)			
Transmasculine	1 (2.5)	–	–	1 (0.8)			
Ethnicity							
Caucasian	35 (89.7)	74 (90.2)	42 (68.9)	109 (90.1)	12.94	2	.002
Asian	2 (5.1)	4 (4.9)	15 (24.6)	6 (5.0)			
Mixed	–	4 (4.9)	3 (4.9)	4 (3.3)			
Black	1 (2.6)	–	1 (1.6)	1 (0.8)			
Chicana	1 (2.6)	–	–	1 (0.8)			
Education							
No formal qualification	2 (5.1)	–	–	2 (1.6)	2.77	2	.250
Primary	–	2 (2.4)	–	2 (1.6)			
Secondary	7 (17.9)	8 (9.8)	5 (8.2)	15 (12.5)			
Diploma	7 (17.9)	9 (11.0)	6 (9.8)	16 (13.2)			
Degree	13 (33.3)	23 (28.0)	14 (23.0)	36 (29.8)			
Post-graduate	10 (25.6)	38 (46.3)	34 (55.7)	48 (39.7)			
Other	–	1 (1.2)	–	1 (0.8)			
A levels	–	1 (1.2)	2 (3.3)	1 (0.8)			
Employment status							
Paid work	22 (56.4)	60 (73.2)	47 (77.0)	82 (67.8)	5.17	2	.075
Unpaid work	2 (5.1)	1 (1.2)	–	3 (2.5)			
On sick leave	–	4 (4.9)	–	4 (3.3)			
Unemployed	9 (23.1)	7 (8.5)	7 (11.5)	16 (13.2)			
Other	6 (15.4)	10 (12.2)	7 (11.5)	16 (13.2)			
Relationship status							
Married	8 (20.5)	21 (25.6)	23 (37.7)	29 (24.0)	4.21	2	.122
Single	18 (46.2)	30 (36.6)	18 (29.5)	48 (39.7)			
Cohabiting	9 (23.1)	16 (19.5)	12 (19.7)	25 (20.7)			
Dating	2 (5.1)	14 (17.1)	7 (11.5)	16 (13.2)			
In a long-term relationship	–	1 (1.2)	–	1 (0.8)			
Divorced	–	–	1 (1.6)	–			
Separating	2 (5.1)	–	–	2 (1.6)			
Widowed	–	–	–	–			
UK resident							
Yes	32 (82.1)	62 (75.6)	51 (83.6)	94 (77.7)	1.5	2	.460
No	7 (17.9)	20 (24.4)	10 (16.4)	27 (22.3)			

Note. df = degrees of freedom.

Chi-square tests revealed no significant differences between healthy controls, the psychosis group, and the non-psychosis group for educational qualification, relationship status, employment situation, or UK residency. There were, however, significant differences between the three groups for gender and ethnicity.

Table 2. Mean and standard deviations of demographic and clinical characteristics

	Psychosis, n = 39 Mean (SD) (range)	No psychosis, n = 82 Mean (SD) (range)	Healthy controls, n = 61 Mean (SD) (range)	All clinical participants, N = 121 Mean (SD) (range)	Statistics		
					F	df	p
Age	33.05 (11.30) (18–73)	32.94 (10.63) (18–73)	32.44 (11.84) (18–73)	32.98 (10.80) (18–73)	0.47	2, 179	.954
Mental health anxiety[†,‡]	20.74[a] (7.50) (0–42)	17.43[a] (8.34) (0–42)	8.57[b] (5.58) (0–42)	18.50 (8.20) (0–42)	39.79[§]	2, 179	<.001
Mental defeat (SPS)	30.10[a] (23.69) (0–96)	22.96[a] (21.46) (0–96)	12.75[b] (21.61) (0–96)	25.26 (22.36) (0–96)	7.95[§]	2, 179	<.001
Depression (PHQ-9)	10.46[a] (6.23) (0–27)	8.88[a] (6.00) (0–27)	5.39[b] (5.41) (0–27)	9.39 (6.10) (0–27)	10.38[§]	2, 179	<.001
Anxiety (GAD-7)	8.44[a] (6.04) (0–21)	7.62[a] (5.47) (0–21)	5.20[b] (4.54) (0–21)	7.88* (5.65) (0–21)	5.50[§]	2, 179	.005
Social functioning[†] (WSAS)	16.13 [a] (9.44) (0–45)	12.46[a] (9.36) (0–45)	4.52[b] (6.38) (0–45)	13.64 (9.50) (0–45)	25.83[§]	2, 179	<.001
Maladaptive coping behaviours (RMHWQ)	67.71[a] (25.11) (0–165)	68.59[a] (22.77) (0–165)	51.93[b] (23.01) (0–165)	68.31 (23.45) (0–165)	9.97[§]	2, 179	<.001
Number of episodes	8.90 (7.92) (1–25)	5.79 (6.62) (1–25)	–	6.79 (7.18) (1–25)	5.11[§]	1, 119	.026

Note. GAD-7 = Generalised Anxiety Disorder-7; PHQ-9 = Patient Health Questionnaire-9; RCQ-MH = Responsibility for Consultation Questionnaire – Mental Health; RMHWQ = Reactions to Mental Health Worries Questionnaire; SPS = Self-perception Scale; WSAS = Work and Social Adjustment Scale. [†]Dunnett's T3 used as Levene's statistic was significant; [‡]Mental Health Anxiety score was calculated by adding up scores of the first 14 items on the MHAI; means with differing superscripts differ significantly; [§]Indicates a significant difference between groups.

One-way ANOVAs (see Table 2) showed no significant main effect of group on age. However, there was a significant main effect of group on MHA, mental defeat, depression, generalized anxiety, social functioning, and mental health-related coping behaviours. Number of illness episodes was significantly different for the two mental health groups. In all of these variables, as expected, the two mental health groups' scores were significantly more severe than those of the controls.

Mean WSAS scores for the clinical group were 13.64. Mundt, Marks, Shear, and Greist (2002, p. 463) suggest that 'scores between 10 and 20 [on the WSAS] are associated with significant functional impairment but less severe clinical symptomatology'. In addition, the mean PHQ-9 scores for the clinical participants were 9.39 (mild depression) and 'watchful waiting' is the recommended intervention for this score category (Kroenke & Spitzer, 2002, p. 2). The research team therefore deemed the clinical group as sufficiently recovered to carry out the planned analysis.

There was a significant correlation between the rating of recovery and of work and social adjustment in the larger mental health group, $r(119) = -.51$, $p < .01$. The correlation was similar when the group was divided into non-psychosis, $r(80) = -.51$, $p < .01$, versus psychosis, $r(37) = -.44$, $p = .005$.

Table 3. Collapse of demographic characteristics for statistical analysis

Ethnicity	Ethnicity was collapsed into 'Caucasian' (including only 'Caucasian' category) and 'Non-Caucasian' (including 'Asian', 'Black', 'Chicana', and 'Mixed' categories)
Educational qualifications	Educational qualifications was collapsed into 'A levels and below' (including 'no formal qualification', 'primary', 'secondary', and 'A levels' categories) and 'Diploma and above' (including 'diploma', 'degree', post-graduate', and 'other' categories)
Relationship status	Relationship status was collapsed into 'Single' (including 'single', 'separating', 'divorced', and 'widowed' categories) and 'In a relationship' (including 'dating', long-term relationship, 'cohabiting', and 'married' categories)
Employment situation	Employment situation was collapsed into 'Employed' (including 'paid', 'unpaid', 'on sick leave', and 'other' categories) and 'Unemployed' (including only 'unemployed' category)

Before conducting parametric statistical analyses, the relevant assumptions of this statistical analysis were tested. Firstly, a sample size of 182 was deemed adequate given three independent variables to be included in the hierarchical analyses (Tabachnick & Fidell, 2019). An examination of correlations (Table 4) revealed that no independent variables were highly correlated ($r > .9$; Field, 2013). Also, as the collinearity statistics (i.e., tolerance and VIF) were all within accepted limits, the assumption of multicollinearity was met (Coakes, Steed, & Dzidic, 2006; Hair, Black, Babin, Anderson, & Tatham, 1998). Residual and scatter plots indicated the assumptions of linearity and homoscedasticity were satisfied (Hair *et al.*, 1998; Pallant, 2001). Due to the data for Mental Defeat, FIR, and MHA being positively skewed, bootstrapping for confidence intervals was carried out for both the independent-samples *t*-test and the hierarchical linear regressions (Field, 2013).

The remainder of this section will be discussed in line with the proposed hypotheses.

Primary analysis

Hypothesis 1. Participants with experience of psychosis will have greater FIR than those who have experienced common mental health problems.

An independent-samples *t*-test (see Table 5) was conducted to compare the group with psychosis with the group with mental health difficulties but no psychosis on fear of relapse. The results indicated that those in recovery from psychosis reported significantly

Table 4. Correlations between all dependent and predictor variables

Variable	I	2	3	4	5	6
1. Mental defeat	–	.435	.757	.600	.839	.698
2. Maladaptive coping behaviours		–	.556	.608	.510	.513
3. Fear of illness recurrence			–	.763	.734	.696
4. Mental health anxiety				–	.672	.710
5. Psychological distress					–	.725
6. Work and Social Adjustment Scale						–

Table 5. Comparison of FIR in psychosis and non-psychosis mental health groups

Groups	n	M	SD	t	Mean difference	Fear of relapse BCa[a] 95% confidence interval Lower	Upper	Effect size, Cohen's d
Psychosis	39	2.44	0.93	−1.98[b]	−0.33	−0.64	−0.02	−.363
No psychosis	82	2.11	0.82					

Note. [a]Bias corrected accelerated; [b]Significant, $p = .048$.

higher levels of fear of relapse $t(119) = -1.98$, $p = .048$. Cohen's effect size value ($d = .36$) suggested a small-to-moderate effect.

Regression analyses

Hypothesis 2. MHA and mental defeat will be positively related to and will predict FIR, irrespective of group.

Regression analysis 1: Fear of illness recurrence
A hierarchical multiple linear regression analysis was performed to examine the strength of MHA and mental defeat in predicting FIR. A significant model accounting for 72 per cent of the variance in FIR was obtained, as illustrated in Table 6. Cohen's effect size value ($f^2 = .07$) suggested a small-to-moderate effect.

Hypothesis 3. Higher levels of FIR and MHA will be associated with increased maladaptive health-related coping behaviours, including but not limited to reassurance, irrespective of group.

Regression analysis 2: Maladaptive coping behaviours
A hierarchical multiple linear regression analysis was performed to examine the strength of MHA and FIR in predicting maladaptive coping behaviours. A significant model

Table 6. Model summary and beta values for the multiple regression of mental health anxiety and mental defeat as predictors of FIR

Model	R^2	Adjusted R^2	F change	B	β	t	BCa[a] 95% confidence interval for B Lower	Upper	Effect size, Cohen's f^2
Mental health anxiety	.723	.720	233.34	.048	.483	9.82[b]	.038	.058	.07
Mental defeat				.018	.468	9.51[b]	.014	.022	

Note. β – standardized regression coefficient.
[a]Bias corrected accelerated; [b]$p = .001$.

accounting for 38.3 per cent of the variance in maladaptive coping behaviours was obtained, as illustrated in Table 7. Cohen's effect size value (f^2 = .07) suggested a small-to-moderate effect.

Hypothesis 4. MHA, mental defeat, and FIR will be related to and will predict psychological distress, irrespective of group.

Regression analysis 3: Psychological distress
A hierarchical multiple linear regression analysis was performed to examine the strength of levels of FIR, MHA, and mental defeat in predicting psychological distress. Only mental defeat and MHA were significantly associated, accounting for 74.6 per cent of the variance in psychological distress; the contribution of FIR to the variance was not significant at p = .428, as illustrated in Table 8. Cohen's effect size value (f^2 = .08) suggested a small-to-moderate effect.

Discussion

The primary aim of this study was to investigate the extent to which people self-defining as in recovery from psychosis will have greater FIR than those recovering from common mental health problems. The relationship between MHA and FIR was also examined. FIR in relation to psychosis was elevated, although the levels of FIR in common mental health problems were also higher than expected. The hypothesized relationship between FIR and MHA was also found across groups, and maladaptive coping behaviours were associated with both FIR and MHA. Mental defeat was associated with both FIR and psychological distress (anxiety and depression).

The finding that MHA and mental defeat predicted FIR (Hypothesis 2) is consistent with the findings of a similar, recent study looking at fear of cancer recurrence (Grozdziej, 2015) and Morrison's (1998) study. The latter study suggested that health anxiety in people who experience psychosis makes them vulnerable to developing FIR as a consequence of attentional biases, safety-seeking behaviours, hypervigilance to symptoms, and catastrophic interpretations of paranoid thoughts. MHA or the pre-occupation with and sensitivity to symptoms can predict FIR or a heightened perception of risk of mental illness recurrence. While MHA can occur even before the first experience of an episode of mental illness, by definition FIR is fear of re-experiencing a condition from

Table 7. Model summary and beta values for the multiple regression of mental health anxiety and FIR as predictors of maladaptive coping behaviours

Model	R^2	Adjusted R^2	F change	B	β	t	BCa[a] 95% confidence interval for B Lower	Upper	Effect size, Cohen's f^2
Mental health anxiety	.390	.383	57.24	1.228	.439	4.86[b]	.724	1.753	.07
FIR				6.170	.221	2.44[c]	1.463	10.926	

Note. β – standardized regression coefficient.
[a]Bias corrected accelerated; [b]Significant, p < .001; [c]Significant, p = .015.

Table 8. Model summary and beta values for the multiple regression of mental defeat and MHA as predictors of psychological distress

Model	R^2	Adjusted R^2	F change	B	β	t	BCa[a] 95% confidence interval for B		Effect size, Cohen's f^2
							Lower	Upper	
Mental defeat				0.308	.652	11.34[b]	0.254	0.364	
FIR	.750	.746	177.98	0.765	.062	.874[c]	−1.18	2.82	.08
Mental health anxiety				0.288	.234	4.027[b]	1.48	0.418	

Note. β – standardized regression coefficient.
[a]Bias corrected accelerated; [b]Significant, $p = .001$; [c]Not significant, $p = .428$.

which a person has recovered. Mental defeat, or a sense of lacking agency over one's circumstances following an experience of mental illness, can lead to a fear of the illness recurring. It could be hypothesized that the loss of control experienced in mental defeat mediates this relationship if an individual feels they had no agency in their illness or recovery.

The finding that MHA and FIR predicted reactions to mental health worries (Hypothesis 3) is consistent with two studies that specifically examined fear of psychosis recurrence (Gumley *et al.*, 2010; Gumley & MacBeth, 2006). These studies found that fear of psychosis recurrence often results in maladaptive coping behaviours as a consequence of catastrophic misinterpretations of signs of illness. It is well established in the literature that MHA and FIR promote hypervigilance to signs of illness, avoidance, reassurance seeking, and other unhelpful coping behaviours. It is possible that MHA and FIR lead to worry characterized by intolerance of uncertainty (Freeston, Rheaume, Letarte, Dugas, & Ladouceur, 1994; Howe, Salkovskis, & Lagerdahl, 2014) which then leads to maladaptive coping behaviours.

Current findings that psychological distress was accounted for by MHA and mental defeat (Hypothesis 4) is consistent with the recent findings of mental defeat being the strongest predictor of subsequent psychological distress in cancer patients (Howe, Salkovskis & Lagerdahl, 2014). However, FIR did not significantly predict any variance in psychological distress. This is in contrast to previous findings that fear of relapse/feeling unable to control relapse in psychosis can lead to depression and anxiety (Karatzias *et al.*, 2007). Severe and problematic worry about mental health (MHA) and an erosion of a sense of self (mental defeat) can lead to psychological distress. It could be hypothesized that the loss of social role and self-criticism exacerbated by worry could mediate this relationship.

Overall, from the findings of this study we can summarize that MHA and mental defeat predict FIR which may in turn increase reliance upon maladaptive coping behaviours and this subsequently has an effect on mood and levels of anxiety.

Clinical implications

This study concluded that levels of psychological distress, mental defeat, MHA, poor social functioning, FIR, and maladaptive coping behaviours are significantly elevated in people in recovery from psychological difficulties compared with healthy controls. This is cause for concern as many of these factors have been shown to predict future relapse in

psychosis (Gumley, 2013); it is unclear whether this is the case in other mental health problems. If so, this would suggest the need for interventions to reduce these factors after recovery to reduce the possibility of actual relapse.

Defeat is a strong predictor of psychological distress. It is characterized by loss of autonomy and identity, and feelings of being dehumanized (Ehlers *et al.*, 1998). It is important that this nuanced concept is understood by clinicians and not confused with anxiety or depression. A compassion-focused therapy (Gilbert, 2009) approach, a modified CBT approach, or an acceptance and commitment therapy (Hayes, Strosahl, & Wilson, 1999) approach may help alleviate this experience of feeling defeated by life and mental illness; novel, targeted interventions that address feelings of dehumanization and self-catastrophizing thoughts might also be considered.

Mental health anxiety was the strongest predictor of FIR for all three groups in this study. This is a relatively new and under-researched concept, and clinicians might need information and training in how this differs from anxiety in the context of psychological difficulties. MHA may need to be addressed during interventions to reduce FIR, which in turn may keep relapses at bay. One way of doing this would be to extend CBT for health anxiety (Salkovskis *et al.*, 2003) to MHA. This is important given the findings of the Worry Intervention Trial (Freeman *et al.*, 2015) that found that intervention techniques that address worry are a helpful addition to the routine psychological management of psychosis.

Fear of illness recurrence scales could be used before ending treatment, so these cognitions can be explored and addressed during relapse-prevention planning. This is crucial as research has shown that FIR is better at predicting actual relapse than early-sign monitoring in psychosis (Gumley *et al.*, 2015).

Research implications

While this study suggests psychosis increases FIR in individuals, further research is required to investigate what about the experience of psychosis makes the idea of a further episode worrisome. Misinterpretation, distractibility, hypervigilance, etc., might mediate the relationship between the constructs examined in this study. Future research could look at the mechanisms underlying the links between MHA, mental defeat, and FIR.

Limitations

The samples included were recruited primarily over the Internet and therefore self-diagnosing. The accuracy of these diagnoses should therefore be viewed with caution. Participants self-defined their recovery, and clinicians' views on recovery could not be considered for the majority of the sample as they were recruited online. However, we suggest that it is at least as important as a clinician's opinion that an individual self-identifies as being in recovery. Recruitment over the Internet gave this study access to a large pool of participants. As a consequence, the findings of this study are more generalizable than if recruitment was only from mental health services for the two clinical groups.

The mental health groups were different in their rating of recovery with participants with common mental health problems regarding themselves as more significantly recovered than those with psychosis. However, it is unlikely that this could explain the difference between groups for FIR as participants with common mental health problems would have a lot more to lose (as they were more recovered) than the participants with psychosis.

Conclusions

This study found that, overall, people defining themselves as in recovery are worried about the recurrence of their mental health problems and the extent of this is linked to MHA. There should therefore be a greater focus on MHA in planning interventions for psychological difficulties. Future research should focus on the factors mediating the relationship between fear of relapse and MHA, while also evaluating interventions targeting MHA in individuals with or in recovery from psychosis to consider the impact on relapse.

Conflicts of interest

All authors declare no conflict of interest.

Author contributions

Taruna Jamalamadaka: Data curation, Formal analysis, Investigation, Methodology, Project administration, Resources, Software, Visualization, Writing – original draft, Writing – review & editing. Emma Griffith: Conceptualization, Methodology, Visualization, Supervision, Writing – original draft, Writing – review & editing. Hannah Steer: Conceptualization, Supervision, Writing – review & editing. Paul Salkovskis: Conceptualization, Formal analysis, Investigation, Methodology, Supervision, Visualization, Writing – original draft, Writing – review & editing.

Data availability statement

The data that support the findings of this study are available from the corresponding author upon reasonable request.

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Supporting Information

The following supporting information may be found in the online edition of the article:

Appendix S1. Reactions to Mental Health Worries Questionnaire.