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SELINA THORRINGTON BSc Hons, MSc

IMPLICIT AND EXPLICIT SELF-STIGMA, PSYCHOLOGICAL FLEXIBILITY
AND OUTCOMES IN FIRST EPISODE PSYCHOSIS

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CANTERBURY CHRIST CHURCH UNIVERSITY

CANTERBURY CHRIST CHURCH UNIVERSITY

Doctorate in Clinical Psychology (D.Clin.Psychol.)

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MAJOR RESEARCH PROJECT PORTFOLIO

This Major Research Project comprises of three sections:

Section A reviews the literature from two areas; first it looks at empirical studies exploring self-stigma in psychosis and second at psychological flexibility in psychosis. In doing so, the review aims to consider the question as to whether the psychological flexibility model, as presented by Acceptance and Commitment Therapy, can help us to understand how and why self-stigma can have a detrimental impact of some individuals experiencing symptoms of psychosis.

Section B reports finding of a quantitative study that utilised both explicit and implicit measures of self-stigma and how these are related to psychological flexibility, psychological well-being and quality of life in a First Episode Psychosis population. As well as simple relationships, the study also explored the potential mediational role of self-stigma on the relationship between psychological flexibility and well-being and quality of life. Finally, it explored whether greater psychological flexibility strengthened the correlation between implicit and explicit self-stigma.

Section C presents a critical appraisal of the research that considers the skills and knowledge that has been acquired throughout the whole process, what would be done differently, clinical skills and future research.

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SECTION A

**Psychological Flexibility and Self-Stigma in Psychosis:
A Literature Review**

Selina Thorrington

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CANTERBURY CHRIST CHURCH UNIVERSITY

Abstract

Objective: Self-stigma is prevalent in individuals experiencing psychosis. However, as not all individuals with psychosis will experience self-stigma, this review aims to explore one process that may account for why self-stigma negatively impacts on some individuals, but not others. This process is psychological flexibility, a central component of Acceptance and Commitment Therapy (ACT).

Method: Two electronic searches were conducted. The first reviewed 25 empirical studies exploring self-stigma in psychosis in terms of causes, outcomes and interventions. The second reviewed 12 empirical studies addressing psychological flexibility in psychosis in terms of outcomes and interventions.

Results: Identified studies suggest that self-stigma is associated with several negative outcomes, such as reduced self-esteem and quality of life. The picture became more complex when factors such as insight were explored, as this often mediated the relationship between self-stigma and outcomes. The results also suggest that psychological flexibility plays an important role in psychosis.

Conclusions: As the majority of studies addressing self-stigma were cross-sectional, causality is unclear. The synthesis of this review considers a number of areas that add to the proposition that the psychological flexibility model can help us to understand the detrimental impact of self-stigma, and how this may apply to psychosis. Potential future research is considered.

Introduction

Research has shown that stigmatising attitudes are held about mental illness (e.g., Jorm, 2000). The psychological impact of stigma may include reduced self-esteem and decreased quality of life (Corrigan, Watson & Barr, 2006; Livingstone & Boyd, 2010). Stigmatising attitudes towards individuals with psychotic disorders have been found to be stronger than that towards individuals with other mental health conditions such as anxiety or depression (Corrigan, 2004; Lincoln, Arens, Berger & Rief, 2008). Stigma held by the public directed towards minority groups such as those with a mental illness has been conceptualised as public stigma, whereas self-stigma has been used to describe the process whereby the individual experiencing a mental health condition endorses such views and applies them to themselves (Corrigan, 2004). However, it is acknowledged that not all individuals with psychosis will be negatively affected by self-stigma (Corrigan et al., 2006). This review will therefore consider one psychological process that may shed some light on why self-stigmatising thoughts may have a negative impact on some individuals but not others. This process is psychological flexibility.

A central component of Acceptance and Commitment Therapy (ACT: Hayes, Strosahl & Wilson, 1999), psychological flexibility has been presented as a model of health, psychopathology and intervention (Kashdan, Barrios Forsyth & Steger, 2006). Six processes are argued to increase human suffering: inflexible attention; disruption of values; inaction, impulsivity or avoidant resistance; attachment to the conceptualised self; cognitive fusion; and experiential avoidance. If these processes are at play, this is thought to lead to psychological inflexibility, and this has been associated with increased symptoms of mental illness and poorer outcomes (e.g., Kashdan & Rottenberg, 2010).

The purpose of this review is to consider how psychological inflexibility, as presented within the ACT model, can help us to understand the links between self-stigma and mental health in individuals experiencing psychosis. After describing the relevant theory and defining terms, a systematic review of the literature in two areas will be presented: first, the empirical evidence looking at self-stigma and psychosis in terms of psychological outcomes and interventions, and second, research that has explored the link between psychological flexibility and psychosis in terms of outcomes and interventions. Following this, the reviewed literature will be considered alongside additional literature that will help us to consider whether the psychological flexibility model can help us to consider how and why self-stigma may impact on individuals experiencing psychosis. Avenues for future research will then be considered.

Definitions and Theory

Psychosis

Psychosis is a broad term in which “the individual to some extent can be said to be out of touch with reality” (Bentall, 2004, p.523) in terms of having ‘unusual’ perceptual, visual, auditory or sensory experiences that are distressing and interrupt functioning. It has been proposed that psychosis lies on a continuum of normality; large numbers of the population report experiencing unusual, psychotic-like experiences at some point in their lives (Johns & van Os, 2001). At the further end of the continuum lie schizophrenia spectrum disorders, which are characterised by positive and negative symptoms. Positive symptoms can be described as something that has been ‘added’ to the person’s usual repertoire, such as perceptual disturbances in the form of hallucinations, or cognitive disturbances, such as delusional beliefs. Negative symptoms can be described as something that has been ‘lost’

from the person's usual repertoire, such as reduction in motivation, interest, language and expression. Psychosis can be highly debilitating and distressing (Pfammatter, Junghan & Brenner, 2006). This is perhaps best demonstrated by the elevated lifetime risk of suicide amongst those with psychotic disorders (Brown, 1997).

Stigma

Although there is considerable variation in how stigma is defined and conceptualised (Stafford & Scott, 1986), Goffman is generally quoted from his seminal book on the subject; "an attribute that is deeply discrediting", reducing the person "from a whole and usual person to a tainted, discounted one" (Goffman, 1963, p.3). More recently, others have given further consideration to the definition. For instance, Crocker, Major and Steele (1998) write that "stigmatized individuals possess (or are believed to possess) some attribute, or characteristic, that conveys a social identity that is devalued in a particular social context" (p.505). This has been termed 'public stigma' (Corrigan, Kerr & Knudsen, 2005).

Self-Stigma

Self-stigma has been described as "a process whereby affected individuals endorse stereotypes about mental illness, anticipate social rejection, consider stereotypes to be self-relevant, and believe they are devalued members of society" (Livingston & Boyd, 2010; p.2151). This may in turn impact on individuals perusing their life goals (Luoma, Kohlenberg, Hayes, Bunting & Rye, 2008). Much of the conceptualising and research around self-stigma stems from the work of Link (1987; Link, Cullen, Struening, Shrout & Dohrenwend, 1989) who proposed that people hold a belief as to how others think about and relate to individuals with mental health conditions. This means that when they themselves

experience such a condition, these ideas and beliefs become applicable to themselves. This model has been developed by Corrigan et al. (2006) to account for the observation that the presence of public stigma does not automatically lead to self-stigma. They propose that there are three necessary components for a person to experience self-stigma: 1) stereotype awareness (an awareness of the negative stereotypes held within their own culture), 2) stereotype agreement (they themselves endorse such a view, perhaps due to their socialisation within that culture), and most importantly, 3) self-concurrence (the belief that these stereotypes apply to themselves).

ACT and Psychological Flexibility

ACT's theoretical foundation is drawn from Relational Frame Theory (RFT; Hayes, Barnes-Holmes & Roche, 2001), which emphasises the importance of language and cognition in understanding human behaviour. More specifically, RFT proposes that language is formed of learned relations between events that are based on particular cures. These cures can often be arbitrary (Hayes, Villatte, Levin & Hildebrandt, 2011). For example, a person when presented with loose change and asked to choose the "biggest" coin, may choose the one with the 'biggest' value, rather than the one biggest in size. This is an arbitrary relation, learned through socialisation and training (Hayes et al., 2001). In the same way, ACT applies RFT to psychological functioning by proposing that through the verbal behaviour of relating events, language can become a source of distress or pain as a result of arbitrary relations of negative words and emotions, events and memories (Hayes et al., 2011). Therefore, in contrast to traditional cognitive-behavioural schools of thought, which may emphasise the need to alter the frequency and form of thoughts, ACT instead focuses on the acceptance of thoughts and other internal experiences, to enable a person to move towards their values and goals.

Psychological flexibility is a central tenet of ACT, and can be defined as “the ability to contact the present moment more fully as a conscious human being and to change or persist in behaviour when doing so serves valued ends” (Biglan, Hayes & Pistorrello, 2008, p. 140). The inverse of this concept is psychological inflexibility, and it is this inflexibility that is thought to underlie a broad range of psychopathology (Kashdan et al., 2006).

According to ACT there are six core processes involved in psychological inflexibility:

1. **Cognitive Fusion:** This occurs when an individual’s behaviour is excessively influenced by their thoughts at the cost of engaging in valued actions. Different words, thoughts or evaluations may become associated with particular feelings and lead to a practiced or automatic way of behaviourally responding, reducing the opportunity to learn through direct experience. An individual is said to be ‘fused’ with their thoughts when they believe them to say something important about them as a person (Healy et al., 2008).
2. **Experiential Avoidance:** This is when an individual battles to change the form or frequency of private internal events, even when this may result in behavioural harm (Hayes, Luoma, Bond, Masuda & Lillis, 2006). Attempting to avoid such events has the converse effect of increasing their functional relevance (Gross & Levenson, 1997).
3. **Inflexible Attention:** This occurs when an individual is ‘stuck’ in the past or future, for example by thinking about difficult memories, or worrying about what will happen in the future. This means that an individual will be less attentive to the ‘here and now’. This may increase the use of old or rigid patterns of behaviour.
4. **Attachment to the Conceptualised Self:** Language is used to define ourselves as a person, or to create our self-concept. When a person becomes fused with the

conceptualised self this reduces flexibility as it can lead to information being distorted or misinterpreted in order to fit this conceptualised self.

5. **Disruption of Values:** ACT argues that connection with our values through committed action is what makes life meaningful (Hayes et al., 2011). The four processes described above are likely to disrupt connection with values and therefore increase the risk of reduced quality of life.
6. **Inaction, Impulsivity, or Avoidant Persistence:** This refers to behaviours that lead us away from our valued directions.

Rationale for the Current Review

Previous reviews have been conducted on certain components of this question. With regards to self-stigma, two reviews have looked at self-stigma and mental health (Livingston & Boyd, 2010; Mak, Poon, Pun & Cheung, 2007). Both suggested that a variety of psychological and psychosocial factors appear to be related to self-stigma. However, results were ultimately varied and therefore inconclusive. In terms of psychological flexibility, at least three reviews have been published (Chawla & Ostafin, 2007; Kashdan & Rottenburg, 2010; Hayes, Wilson, Gifford, Follette & Strosahl, 1996), and again, although evidence suggests a link between psychological (in)flexibility and various domains in terms of the development and maintenance of psychopathology, no firm conclusions could be made. Although such reviews are informative, the populations and symptoms studied have been vast, ranging from chronic pain and HIV to post-traumatic stress disorder and depression, which may account for some of the differences in findings. No review has focused exclusively on psychosis. Given the potentially debilitating nature of psychosis, as well as research suggesting that rates of self-stigma are high in psychosis populations (Brohan, Elgie, Sartorius & Thornicroft, 2010), as well as the debates surrounding the recently published fifth

edition of the Diagnostic and Statistical Manual (DSM-V; American Psychological Association, 2013) and the impact that this could have on the stigma of psychosis (Ben-Zeev, Young & Corrigan, 2010), such a review appears timely.

Methodology

This review considers a broad range of literature in terms of theory and empirical research. In order to narrow it down, two systematic searches were conducted using the Cochrane Database of Systematic Reviews, Ovid Medline, PsychoInfo and Web of Knowledge. The final search was conducted in the last week of April 2013. The first searched for papers looking at self-stigma and psychosis in terms of associated outcomes and interventions and the second looked at the relationship between psychological flexibility and psychosis as well as ACT as an intervention for symptoms associated with psychosis. Please refer to Appendix A for the full search strategy and the inclusion and exclusion criteria.

Self-Stigma and Psychosis

Correlates of Self-Stigma for People Experiencing Psychosis

An overview of the relationships between self-stigma and other variables are presented in Table 1. As with a previous review on self-stigma and mental health, variables are grouped according to psychosocial or psychiatric variables for clarity (Livingstone & Boyd, 2010). Where the same participants were utilised in multiple papers and where this was very clear, only one paper was included. When it was unclear, they were treated as unique papers. This resulted in 24 unique papers that had employed some form of correlational

design (please refer to Appendix B for a description of all studies reviewed in Section A).

Whilst correlational designs increase ecological validity as variables are not manipulated, a weakness is that we cannot assume cause and effect.

Table 1

Relationships between self-stigma with psychosocial and psychiatric variables.

Variables	Number of studies (k = 24)		Non-significant relationship (p >.05)		Positive relationship (p <.05)		Negative relationship (p <.05)	
	k	%	k	%	k	%	k	%
Psychosocial								
Self-esteem	4	16.7					4	100
Quality of life	8	33.3	1	12.5			7	100
Social support	1	4.2					1	100
Empowerment	1	4.2					1	100
Self-efficacy	1	4.2					1	100
Hope	2	8.3					2	100
Activity	1	4.2					1	100
Temperament	1	4.2			1	100		
Avoidant coping	1	4.2			1	100		
History of sexual abuse	1	4.2			1	100		
Recovery narrative	1	4.2					1	100
Engulfment	1	4.2			1	100		
Dysfunctional attitudes	1	4.2			1	100		
Psychiatric								
Psychotic symptoms	11	45.8	3	27.3	8	100		
Depression	7	29.2	1	14.3	6	100		
Anxiety	2	8.3			2	100		
Insight	5	20.8	2	40	2	66.7	1	33.3

Treatment adherence	3	12.5		3	100
Functioning	1	4.2		1	100
Suicide attempts/risk	2	8.3	2	100	

As can be seen, a large number of variables have been explored in relation to self-stigma in psychosis. The two most regularly explored variables were self-esteem and quality of life, appearing in 16.7% and 33.3% of the studies respectively. All of the psychosocial variables were significantly correlated with self-stigma, and in the direction that may be expected, with the exception of one study assessing quality of life. For instance, results suggest that as self-stigma increases, self-esteem, hope and quality of life decreases, whereas avoidant coping styles and engulfment increases. Sibitz et al. (2011) did not find a direct effect of self-stigma on quality of life. However, they did find an indirect effect; reduced social network contributed to reduced empowerment and greater self-stigma, which resulted in depression and in turn poorer quality of life. This suggests that self-stigma may play a complex role, and exert an influence both directly and indirectly. In terms of psychiatric variables, the results were perhaps less consistent. For instance, symptoms related to psychosis were explored in nearly half of the studies (45.8%), but a positive relationship was only found in 72.7%. Likewise, the role of insight is unclear; a significant relationship with self-stigma was found in three of the five studies (60%), but the relationship was sometimes positive (66.7%), but other times negative (33.3%).

A number of studies went beyond basic correlations between variables. For instance, Yanos, Roe, Markus and Lysaker (2008) found that the relationship between self-stigma and symptoms associated with psychosis was mediated by hope and self-esteem. The role of insight was further explored in three studies (Cavelti, Kvrjic, Beck, Rusch & Vauth, 2012;

Fung, Tsang & Chan, 2010; Lysaker, Roe & Yanos, 2007). Cavelti et al. (2012) found that self-stigma partially mediated the relationship between insight and depression, and Fung et al. (2010) found that insight mediated the relationship between self-stigma and treatment adherence. Lysaker et al. (2007) conducted a cluster analysis to create three groups according to insight and the presence of self-stigma. Those with high insight and moderate self-stigma were found to have less self-esteem and hope. These additional analyses help demonstrate the complexity of how variables may interact to explain patterns of findings.

Six studies conducted by Lysaker and colleagues (e.g., Lysaker, Roe, Ringer, Gilmore & Yanos, 2012) utilised a longitudinal component where the measures completed at baseline were also completed at five month and one year follow-up. These studies in general suggest that the relationships between self-stigma and other variables such as anxiety and self-esteem remain consistent over time. Yanos, Lysaker and Roe (2010) evaluated change in quality of life (in terms of vocational functioning) from baseline to five month follow-up, and found that only self-stigma predicted change; participants with lower levels of self-stigma initially performed more poorly in terms of functioning at follow-up.

The 24 studies reviewed strongly suggest that self-stigma is associated with several negative outcomes, such as reduced quality of life and self-esteem and increased symptoms such as depression and anxiety. It is positive that the studies were conducted in a range of countries, including the UK, America, Egypt, China and Ethiopia. This suggests self-stigma consistently impact on individuals experiencing psychosis despite cultural differences in how mental illnesses are viewed and treated. However, a number of limitations abound. The majority of studies were cross-sectional and correlational which means that causation cannot be assumed. A large number of studies (11) were conducted by one research group (Lysaker and colleagues) and so were likely to have used one body of participants. They were treated as independent studies here as each paper had different sample sizes as not all participants

completed all measures. This will mean that the significant findings are overinflated as it looks as though more papers studied a particular variable than was the case. In addition, the participants in these studies were all enrolled in a rehabilitation intervention and so this pattern of results may not have been found in service users less willing to engage in treatment.

Although some variables were explored in multiple studies, the choice of measure varied from study to study. This was also true in the case of self-stigma measurement. The majority (83.3%) employed the Internalized Stigma of Mental Illness Scale (ISMIS; Richter, Otilingham & Grajales, 2003), but others used the Self-Stigma of Mental Illness Scale (SSMIS; Corrigan et al., 2006). Each scale has a slightly different view on how self-stigma is defined. For instance, the SSMIS includes questions relating to self-esteem as theoretically this is considered an automatic consequence of stereotype endorsement whereas the ISMIS does not. The use of different measures across the variables means that it is difficult to confidently generalise results.

Interventions to Reduce Self-Stigma in Psychosis

Only one study was found that empirically evaluated an intervention to reduce self-stigma in psychosis that also included a measure of self-stigma as opposed to perceived stigma. Fung, Tsang & Cheung (2011) randomly assigned 66 individuals to either 12 group sessions and four individual sessions of cognitive-behavioural therapy (CBT) for self-stigma, or a newspaper reading control group in China. CBT aims to challenge self-stigmatising beliefs alongside psycho-education, coping strategies, and improving various psychosocial variables that may be associated with self-stigma such as self-esteem and assertiveness. Following treatment, individuals in the intervention group showed significant reductions in

the self-esteem component of self-stigma (as measured by the SSMIS; Corrigan et al., 2006), increased readiness for change and greater treatment adherence relative to the control group. However, these results were not maintained at six month follow-up. This study was a randomised-controlled trial (RCT) which is beneficial, although as there was no comparison treatment group, we cannot be confident that any benefits were attributable to the CBT intervention as opposed to just receiving an intervention of any format.

As only one study met the inclusion criteria, conclusions cannot be drawn regarding the effectiveness of interventions designed to reduce self-stigma in psychosis. Other studies were found that aimed to reduce self-stigma (McCay et al., 2007; Uchino, Maeda & Uchimura, 2012). However, without including a measure that explicitly measures what the intervention is targeting, such studies cannot reliably inform us as to whether the intervention is effective and so were not included for review here.

Psychological Inflexibility and Psychosis

Psychological Inflexibility and Symptoms of Psychosis

Nine studies were found looking at the relationship between psychological inflexibility and outcomes in psychosis or psychosis related symptoms. Three studies by the same authors and utilising the same sample were grouped together (Goldstone, Farhall & Ong, 2011a; 2011b; 2012). This resulted in seven unique papers. Those that employed a correlational analysis are summarised in Table 2 below (k=6). One study did not report correlations and so is discussed separately below. Please note that for studies utilising the Acceptance and Action Questionnaire-II as a measure of psychological flexibility (AAQ-II; Bond et al., 2011), some report scores of psychological flexibility (a higher score) whereas

others report psychological inflexibility (low scores). For the purposes of clarity, all findings presented below have been equated to psychological inflexibility.

Table 2: Relationships between psychological inflexibility with variables associated with psychosis.

Variables	Number of studies (k = 6)		Non-significant relationship (p >.05)		Positive relationship (p <.05)		Negative relationship (p <.05)	
	k	%	k	%	k	%	k	%
Sample characteristics								
Student	5	83.3						
Clinical	3	50						
Variables								
Hallucinations	3	50			3	100		
Delusions	2	33.3			2	100		
Paranoid ideation	1	16.7			1	100		
Anxiety	3	50			3	100		
Depression	4	66.7			4	100		
Self-esteem	1	16.7					1	100
Life stress	2	33.3			2	100		
Dissociation	1	16.7			1	100		
Negative schemas	1	16.7			1	100		

As can be seen in Table 2, psychological inflexibility is associated with a number of negative variables. For instance, the more inflexible a person is, the greater their symptoms of hallucinations, delusions, paranoia, depression and anxiety. They also report greater life stressors. Likewise, people demonstrating greater inflexibility score lower on measures of

self-esteem. In the additional paper, Valiente, Provencio, Espinosa, Chaves and Fuentenbro (2011) divided 40 individuals with psychosis into low and high insight groups. Moderation analyses revealed that when an individual was psychologically inflexible, insight into their illness was associated with poorer outcomes in terms of psychiatric symptoms. Some of the papers summarised in Table 2 also completed more thorough analyses such as mediation and moderation. For instance, Goldstone et al. (2011a; b) found that the relationship between life hassles and delusional ideation was partially mediated by psychological inflexibility. Oliver, O'Connor, Jose, McLachlan and Peters (2012) undertook a moderated mediation analysis, and found that the greater the psychological inflexibility, the greater the correlation between negative schemas and delusional ideation. Data was also taken at two time points six months apart, and as no significant differences were found between the two time-points, this suggests that the relationship between psychological inflexibility and the variables assessed remains consistent.

The above studies are an important first step in exploring the role psychological inflexibility plays in psychosis. The studies were carried out in a range of countries including the UK, Spain and New Zealand. This increases generalisability. However, the majority of studies utilised student populations which reduces generalisability to clinical populations. However, considering that the studies that did employ clinical samples showed similar patterns of results, this concern is minimal. The majority of studies were cross-sectional and correlational which means that causation cannot be inferred. Only one took data from two time points (Oliver et al., 2012), which means that we cannot be sure with the other studies that the pattern of findings would remain consistent.

ACT as an Intervention for Psychosis

Another potential source of evidence for the role of psychological inflexibility in psychosis is to consider interventions which try and change it (i.e., ACT). Three unique studies reported in five articles were found in which ACT was uniquely administered to individuals experiencing psychosis. Bach and Hayes (2002) randomly allocated 80 inpatients in America into treatment as usual (TAU) or TAU plus four sessions of individual ACT. At pre-intervention and at four month follow-up, participants rated the frequency, believability and distress associated with their symptoms. At follow-up, participants in the ACT group were significantly less likely to have been readmitted to hospital. Those in the ACT group were also significantly more likely to report the presence of symptoms at follow-up relative to TAU, but significantly less likely to rate them as believable. The authors suggest that the greater reporting of symptoms may represent acceptance. Bach, Hayes and Gallop (2012) reported one year rehospitalisation follow-up data on the same participants. At one year, the TAU group were at 254% greater risk of rehospitalisation compared to ACT, whilst controlling for prior admissions. This was a significant difference. The RCT nature and the one year follow-up of this study is an advantage. However, the follow-up only took rehospitalisation rates into account, rather than the presence of symptoms or any self-report measure. There were no treatment adherence checks, and the majority of participants were white Caucasian (75%), reducing generalisability.

Guadiano and Herbert (2006) randomised 40 inpatients into TAU or TAU plus ACT. Those in the ACT group received between one and five sessions, with an average of three. Post-intervention, the ACT group showed significant reductions in distress related to hallucinations compared to TAU, although there were no significant differences between groups in terms of frequency of symptoms or believability. When the groups were analysed separately, believability in hallucinations decreased by post intervention for the ACT

condition but not TAU. At four month follow-up, 28% of individuals receiving ACT were readmitted to hospital compared to 45% in TAU. However, this difference was not significant. Following this, Guadiano, Herbert and Hayes (2010) reanalysed the same data and found that believability in hallucinations significantly moderated the relationship between treatment condition and hallucination distress at post-treatment, whilst controlling for pre-treatment distress scores. Again, the randomised nature of this study is positive. However, raters were not blind to condition increasing the possibility of bias. The population were not ethnically diverse (90% were African-American), limiting generalisability. Also, no data on symptoms was taken at follow-up.

White et al. (2011) randomised 27 participants from inpatient and outpatient services in the UK to either TAU or TAU plus 10 sessions of individual ACT, aimed at reducing emotional dysfunction following psychosis. Participants completed a number of outcome measurements on a monthly basis by raters blind to treatment condition. At three month follow-up, those in the ACT group were significantly more likely to show reductions in depression and negative symptoms, and were less likely to have had crisis contacts relative to TAU. However, there were no differences in anxiety or positive symptoms. Participants also completed the AAQ-II, but no differences between the groups were found. It is a strength that raters were blind to treatment condition. It is also the first study to employ a measure directly assessing what ACT attempts to alter (i.e., the AAQ-II). However, the sample size was small (24 by follow-up) and the follow-up period was short.

In summary, there is mixed support for relatively brief individual sessions of ACT for those experiencing symptoms of psychosis. Studies suggest that those receiving ACT are less likely to be readmitted to hospital, and negative and depressive symptoms may reduce relative to TAU. These findings add another arm of evidence suggesting that psychological flexibility may play a role in the experience of psychosis. However, these remain feasibility

studies and tighter experimental control is required before we can be confident that ACT is beneficial in the long term.

Synthesis: Self-Stigma, Psychological Inflexibility and Psychosis

So how do we draw all of the above together to consider whether psychological inflexibility can help us to understand the detrimental impact of self-stigma in those experiencing psychosis? Recall that cognitive fusion, an important component of psychological inflexibility, occurs when an individual is heavily influenced by their thoughts, believing them to say something significant about them as a person. As such, it is proposed that self-stigma may negatively impact on outcomes such as quality of life and psychological well-being when the individual becomes 'fused' with self-stigmatising thoughts and believe them to accurately represent who they are as a person. There have been six empirical studies that have used cognitive defusion techniques to help individuals to become distanced from their thought content (e.g., Healy et al., 2008; Masuda, Feinstein, Wendell & Sheehan, 2010). Overall, the studies found that defusion techniques reduced discomfort and believability of negative self-referential thoughts, and increased participants' willingness to engage with such thoughts. In other words, if an individual does not believe an intrusive or automatic thought to be true, and is willing to experience such thoughts without attempting to avoid or suppress them, then they are less likely to negatively impact on them. These studies are therefore presented as a starting point in attempting to understand how fusion to self-stigmatising thoughts may negatively impact on an individual. However, there are several limitations. All studies used undergraduate students and therefore cannot be applied to clinical samples. Additionally, no measures were taken that may indicate the impact of negative self-relevant thoughts on other areas of functioning, such as quality-of-life.

To date there have been no empirical studies linking together self-stigma, psychological inflexibility and psychosis. However, there have been studies that have

explored the links between self-stigma and psychological inflexibility in other areas. For instance, Luoma et al. (2008) developed a six hour ACT group intervention aimed toward reducing self-stigma in individuals attending treatment for substance misuse. Forty-eight residential participants in North America completed a number of measures pre and post-intervention. Believability of self-stigmatizing attitudes did not change post-intervention. However, there were significant reductions in internalized stigma and improvements in psychological flexibility as measured by the AAQ. Lillis, Hayes, Bunting and Masuda (2009) randomly allocated 87 obese participants in America to either a one day ACT workshop, or wait-list control (WLC). At three month follow-up, participants in the ACT condition showed less psychological distress, greater quality of life and less weight-related self-stigma than those in the control group. In terms of ACT process measures, those receiving the ACT intervention showed greater levels of psychological flexibility at follow-up compared to the control group. In addition, they found that psychological flexibility significantly mediated all outcomes (distress, quality of life and self- stigma). Overall, these findings suggest that interventions geared toward increasing psychological flexibility can have a positive impact on psychological distress, quality of life and self-stigma.

Such studies add some support the hypothesis that psychological flexibility plays an important role in self-stigma as increases in psychological flexibility were associated with correspondent decreases in self-stigma and variables associated with self-stigma. Although these studies were conducted in non-psychotic populations, it is possible that a similar pattern of results could be found for such populations. However, further research is clearly needed. It should also be borne in mind that the studies noted above did not have a comparison intervention group and so we cannot be sure that ACT would be superior over alternative interventions. In addition, the length of follow-up was limited.

Summary and Future Directions

This review has presented empirical studies that have highlighted the detrimental effect of self-stigma on individuals with psychosis (e.g., Fung et al., 2010; Lysaker et al., 2012). Only one self-stigma intervention study met the inclusion criteria (Fung et al., 2011), and the effectiveness of the intervention in reducing self-stigma was not maintained at follow-up. The majority of studies were cross-sectional and correlational in nature and so causality cannot be determined. Although the studies were conducted within a range of countries, most included mainly men which means that generalisability to women is limited. Many also had as their inclusion criteria that participants were in a stable condition and so findings may be less relevant to individuals who are in acute phases of illness (e.g., Lysaker et al., 2012).

Psychological inflexibility was presented as a potential process to explain the negative impact of self-stigma in psychosis. The first step in doing so was to show that psychological inflexibility was associated with certain symptoms of psychosis, such as hallucinations (e.g., Goldstone et al., 2011a), and also played a mediating role between variables such as life hassles and symptoms (Goldstone et al., 2011b) and negative schemas and symptoms (Oliver et al., 2012). The second step was to present ACT as a promising intervention for psychosis (e.g., Back & Hayes, 2002) under the premise that as a central aim of ACT is to promote psychological flexibility, improved outcomes suggest that this is an important psychological process in psychosis. Third, studies that have highlighted the positive effects of defusing from self-referential thoughts (of which self-stigma is an example) were briefly drawn upon to highlight the negative effect of fusing to negative thoughts (e.g., Masuda et al., 2010). Finally, studies that have employed ACT to reduce self-stigma in other contexts were presented (e.g., Luoma et al., 2008) as the promising results may suggest that similar processes could be found for self-stigma in terms of psychosis.

Clearly, drawing the concepts of self-stigma and psychological flexibility in terms of psychosis is only at a theoretical stage. Future research will need to explore all of these variables in one study in order to begin to understand the role of psychological inflexibility in the relationship between self-stigma and psychosis. For instance, people with a diagnosis of psychosis could complete a measure of self-stigma and psychological inflexibility to see how they relate. It would also be interesting to take a measure of variables that have been linked with self-stigma such as quality of life. If this was the case, it would be possible to explore whether psychological flexibility mediates the relationship between self-stigma and these variables.

Future research should also address the methodological limitations of research to date. For instance, larger sample sizes would increase power, and in terms of the intervention studies, longer follow-up periods should be employed. It would also be helpful if more studies looking at self-stigma required participants to complete data at more than one time point in order to assess the stability of the construct.

To date, no research has explored the efficacy of ACT as an intervention for self-stigma in psychosis. It would be helpful if this could be compared to traditional CBT interventions as if the former was superior, this would add to the evidence that psychological inflexibility is an important process in self-stigma.

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SECTION B

**Self-Stigma and Psychological Flexibility in
First Episode Psychosis and their Relationship with Psychological
Well-Being and Quality of Life**

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Abstract

Objective: Research suggests that individuals experiencing psychosis may self-stigmatise, whereby negative beliefs and stereotypes about mental health difficulties are internalised. This in turn has been found to negatively impact on a number of areas. The psychological flexibility model as presented by Acceptance and Commitment Therapy may help us to understand this. This study aimed to explore self-stigma using both an explicit and implicit measure of self-stigma to see how these were related to psychological flexibility, quality of life and well-being.

Method: Twenty-six participants experiencing first episode psychosis were recruited. They completed self-report questionnaires pertaining to quality of life, psychological well-being, psychological flexibility and explicit self-stigma. In addition, they completed a computer based reaction-time task designed to measure implicit self-stigma.

Results: Significant relationships were found between explicit self-stigma and well-being, and between psychological flexibility, explicit self-stigma, quality of life and well-being. Explicit self-stigma was found to statistically mediate the relationship between flexibility and well-being. Implicit self-stigma was not related to any investigated variable.

Conclusions: The findings suggest psychological inflexibility may lead to greater self-stigma, which in turn decreases psychological well-being. This implied that interventions geared towards increasing flexibility may not only improve well-being, but may also help address issues of self-stigma.

Introduction

Stigma has received increased attention in the literature since Goffman's seminal book on the subject which defined stigma as "an attribute that is deeply discrediting", reducing the person "from a whole and usual person to a tainted, discounted one" (Goffman, 1963, p.3). It is this attribute that represents a devalued social identity (Crocker, Major & Steele, 1998). In the UK, the campaign 'Time to Change' was launched, aiming to reduce mental health stigma (Time to Change, 2008). This included press releases, poster advertisement and celebrity testimonials. However, any progress will undoubtedly be slow, and the World Health Organisation (WHO; 2012) highlight stigma as a significant problem within society.

Stigma towards mental illness within society has been termed 'public stigma' (Corrigan, Kerr & Knudsen, 2005). Self-stigma on the other hand occurs when an individual endorses stereotypes about mental illness and believes them to be self-relevant (Livingston & Boyd, 2010). To explain how self-stigma may emerge and negatively impact on an individual, Corrigan, Watson and Barr (2006) proposed that there are three necessary components for a person to experience self-stigma: 1) stereotype awareness (an awareness of the negative stereotypes held within their own culture), 2) stereotype agreement (they themselves endorse such a view, perhaps due to their socialisation within that culture), and most importantly, 3) self-concurrence (the belief that these stereotypes apply to themselves). If these three components are in place, it is argued that there will be a resultant loss of self-esteem and self-efficacy (Corrigan et al., 2006). This theoretical supposition has been relatively well supported in the empirical literature (e.g., Watson, Corrigan, Larson & Sells, 2007), and two self-report measures have been developed in the last decade based on such theory; the Self-Stigma of Mental Illness Scale (SSMIS; Corrigan et al., 2006) and the Internalized Stigma of Mental Illness scale (ISMI; Richter, Otlingam & Grajales, 2003). Such

measures can be defined as explicit measures as they ask direct questions related to the topic and allow respondents time to construct their answers. Some authors question the reliability of such measures however as they may be influenced by respondent biases, or fail to capture responses that people are less aware of (e.g., Rusch, Corrigan, Todd & Bodenhausen, 2010).

This has led to the consideration of indirect, or implicit, measures. Rusch et al. (2010) employed a brief version of the Implicit Association Test (IAT; Sriram & Greenwald, 2009) to measure self-stigma. This is a reaction-timed computer task which theoretically allows for the measurement of implicit attitudes towards mental illness as the fast reaction time prevents respondents from deliberating about their answer. Rusch et al. (2010) found that both explicit and implicit measures predicted quality of life in participants with serious mental illness (including psychosis). However, the measures were unrelated to each other, suggesting that they measure different constructs or aspects of self-stigma.

One of the most stigmatised of mental health conditions is schizophrenia (Corrigan, 2004). In a survey completed in 2003 by 1725 individuals in the UK, 66% endorsed the belief that people with schizophrenia are dangerous, and 73% endorsed the belief that they are unpredictable (Crisp, Gelder, Goddard & Meltzer, 2005). Schizophrenia falls under the umbrella term of psychosis, a broad term in which “the individual to some extent can be said to be out of touch with reality” (Bentall, 2004, p.523) in terms of having ‘unusual’ perceptual, visual, auditory or sensory experiences. It has been proposed that psychosis lies on a continuum with normality (Johns & van Os, 2001) as studies have suggested that large numbers of the population report experiencing unusual experiences at some point in their lives (van Os, Hanssen, Bijl & Ravelli, 2000).

In a recent study conducted across 14 European countries, 41.7% of individuals with psychosis reported medium to high levels of self-stigma (Brohan, Elgie, Sartorius &

Thornicroft, 2010). Studies have found that for those with a psychotic disorder, the presence of self-stigma has been associated with reduced hope (Yanos, Roe, Markus & Lysaker, 2008), poorer well-being (Calveti, Kvrjic, Beck, Rusch & Vauth, 2012; Lv, Wolf & Wang, 2012; Lysaker, Roe, Ringer, Gilmore & Yanos, 2012) and reduced quality of life (Cavelti et al., 2012; Vauth, Kleim, Wirtz & Corrigan, 2007). Importantly for clinical practice, research also suggests that self-stigma is associated with reduced help-seeking behaviour and treatment engagement (Vogel, Wade & Haake, 2006).

Self-stigma has also been linked with engulfment, whereby an individual's identity becomes defined by their illness (McCay & Seeman, 1998). Engulfment has been found to be particularly pertinent in individuals experiencing their first episode of psychosis (McCay et al., 2007). This could be because the onset of psychosis often occurs at a time when a person is entering into adulthood and grappling with the challenges of an emerging self-concept, and striving towards educational or vocational attainment (Zarret & Eccles, 2006).

Arguably, increasing self-acceptance should help to reduce self-stigma and the negative outcomes associated with it. One approach that may increase self-acceptance is Acceptance and Commitment Therapy (ACT; Hayes, Strosahl & Wilson, 1999). ACT's theoretical foundation is drawn from Relational Frame Theory (RFT; Hayes, Barnes-Holmes & Roche, 2001), which emphasises the importance of language and cognition in understanding human behaviour. ACT applies RFT to psychological functioning by proposing that through the verbal behaviour of relating events, language can become a source of distress or pain as a result of arbitrary relations of negative words, emotions, events and memories (Hayes, Villatte, Levin & Hildebrandt, 2011). In this sense, it could be argued that if negative self-stigmatising words become associated with negative memories, emotions or events, then this will negatively impact on psychological well-being or quality of life, for example. It is therefore not the presence of such self-stigmatising words that negatively

impacts on an individual, but the function of such thoughts (Luoma Kohlenberg, Hayes, Bunting & Rye, 2008).

The central process that underlies ACT is psychological flexibility; “the ability to contact the present moment more fully as a conscious human being and to change or persist in behaviour when doing so serves valued ends” (Biglan, Hayes & Pistorrello, 2008, p. 140). The inverse of this is psychological inflexibility, which is maintained by cognitive fusion (when an individual’s behaviour is excessively influenced by their thoughts at the cost of engaging in valued actions) and experiential avoidance (the attempt to change the form, frequency or impact of private mental events).

Theoretically, ACT proposes that self-stigma is more likely to be detrimental to an individual if they are psychologically inflexible. Cognitive fusion will lead to negative self-stigmatising thoughts being interpreted as the truth and therefore an accurate representation of them as a person, and experiential avoidance will result in attempts to avoid situations that trigger thoughts, or attempts to suppress or alter thoughts. This may mean that psychologically inflexible individuals will not act in ways that are consistent with their values and goals, negatively impacting on outcomes such as quality of life and psychological well-being.

Evidence for this can be drawn from a number of areas. First, cognitive defusion techniques when applied to negative self-referential thoughts in non-clinical populations have reduced the discomfort and believability, and increased the willingness to engage with such thoughts, over and above distraction or suppression techniques (e.g., Healy, Barnes-Holmes, Barnes-Holmes & Keogh, 2008; Masuda, Twohig, Stormo, Feinstein, Chou & Wendell, 2010). This suggests that if an individual does not believe in or attempt to avoid a particular thought, the thoughts are less likely to negatively impact on them.

Second, ACT has been employed as an intervention to reduce self-stigma. Luoma et al. (2008) developed a six hour ACT group intervention aimed toward reducing self-stigma in substance misuse. Following the group, there were significant reductions in self-stigma and improvements in psychological flexibility. Lillis Hayes, Bunting and Masuda (2009) randomly allocated obese participants in North America to either a one day ACT workshop, or wait-list control (WLC). At three month follow-up, participants in the ACT condition showed greater levels of psychological flexibility, less psychological distress, greater quality of life and less weight-related self-stigma than those in the control group. In addition, psychological flexibility significantly mediated all outcomes (distress, quality of life and self-stigma).

Third, ACT has been employed to tackle stigma towards individuals with mental health conditions in the general public. For instance, Masuda et al., (2007) provided workshops to university students, who were randomly assigned to either an education or an ACT workshop. Results indicated that psychologically inflexible participants held significantly greater stigmatising beliefs than psychologically flexible participants. Although in general both interventions reduced stigma at post-treatment and follow-up, in the education group, those who were psychologically inflexible did not alter their beliefs, whereas those in the ACT intervention did.

A growing number of studies have begun to explore the significance of psychological inflexibility in psychosis. Goldstone, Farhall & Ong (2012) found that psychological inflexibility was the best predictor of the presence of hallucinations in a clinical sample. Oliver, O'Connor, Jose, McLachlan and Peters (2011) explored delusional ideas in a non-clinical sample and found that although anxiety mediated the relationship between negative schemas and delusional beliefs, this relationship was moderated by psychological flexibility, whereby those who showed greater psychological flexibility were less likely to report

delusional beliefs even if they were anxious and held negative schemas. Valiente, Provencio, Espinosa, Chaves and Fuenttenbro (2011) found that psychological inflexibility moderated the relationship between insight and self-acceptance in participants experiencing paranoia; those who were more psychologically flexible were more accepting of themselves whether they had high or low insight, whereas for those who were psychologically inflexible, people with high insight were significantly less self-accepting than those who were low in insight. This reduced self-acceptance is particularly important in terms of self-stigma as endorsing negative stereotypes and beliefs about mental illness could be described as an example of less self-acceptance.

Rationale for the Current Study

To date, no studies have explored the relationships between psychological flexibility and self-stigma for people with psychosis. As psychosis is one of the most heavily stigmatised mental health conditions (Corrigan, 2004), and self-stigma is high in individuals experiencing psychosis (Brohan et al., 2010), it was felt that such an attempt was appropriate. It was hoped that if psychological flexibility was found to be associated with less self-stigma and greater psychological well-being and quality of life, then this would suggest that ACT would be an appropriate intervention for individuals experiencing psychosis.

A First Episode Psychosis (FEP) sample was employed for several reasons. First, self-stigma may be particularly relevant for individuals who are potentially experiencing their first diagnosis of a mental illness. Second, psychosis and schizophrenia spectrum disorders are thought to attract the greatest amount of public stigma (Corrigan, 2004). Third, as FEP individuals are generally young adults, stigma may occur at particularly influential time, when they are developing their own identities, attempting to individuate and seeking

employment, further education or housing, all factors that are thought to be negatively impacted by mental health stigma (e.g., Thornicroft, Brohan, Kassam, & Lewis-Homles, 2008).

Aims and Hypotheses

The ACT model suggests that more psychologically flexible individuals are less likely to fuse with self-stigmatising thoughts, and are therefore less negatively affected by such thoughts. It could be hypothesised therefore that more psychologically flexible individuals would experience less self-stigma, as these thoughts are treated as passing mental events as opposed to absolute truth, and will therefore score higher on measures of quality of life and psychological well-being. This relationship is presented diagrammatically in Figure 1 below.

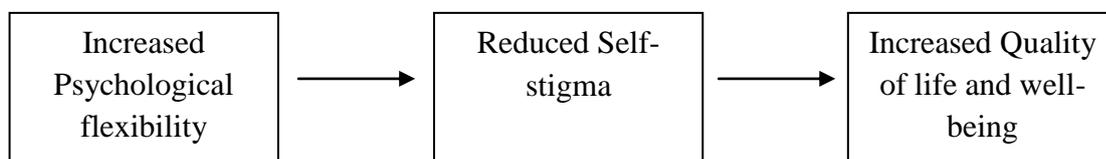


Figure 1: The hypothesised relationship between psychological flexibility, self-stigma and quality of life and well-being.

The primary aim of the research was to explore the relationship between self-stigma, psychological flexibility, quality of life and psychological well-being in FEP. Psychological well-being was chosen as this has been shown to be reduced in FEP and is associated with further negative outcomes such as depression (Uzenoff et al., 2010). Well-being is also routinely measured in practice in the UK (Evans et al., 2000). Quality of life was chosen as this is repeatedly shown to be affected by the presence of self-stigma (e.g., Lysaker, Roe & Yanos, 2007).

As a secondary aim, this study measured self-stigma using both traditional explicit measures (i.e., a questionnaire) and an implicit measure (a computer based reaction-time task). This was to explore whether a similar relationship would be found for implicit self-stigma as with explicit self-stigma, and also to consider whether the relationship between explicit and implicit self-stigma would be affected by psychological flexibility. Although this was exploratory in nature, it could be hypothesised that for individuals who are more flexible, implicit and explicit self-stigma will be more strongly correlated, as more flexible individuals will be less fused to negative self-referential thoughts and will not be attempting to suppress or avoid such thoughts (Hayes et al., 2011), and so their automatic reactions will more closely match responses that are under conscious deliberation.

The following hypotheses were therefore derived from theory and research:

1. Individuals in a FEP sample with lower explicit self-stigma will score higher on quality of life and psychological well-being measures.
2. Individuals in a FEP sample with lower implicit self-stigma will score higher on quality of life and psychological well-being measures.
3. Individuals in an FEP sample who are psychologically inflexible will be more self-stigmatising and have poorer quality of life and psychological well-being.
4. Implicit and explicit self-stigma will mediate the effect of psychological flexibility on psychological well-being and quality of life in a FEP sample.
5. For individuals high in psychological flexibility, implicit and explicit self-stigma will be strongly, positively correlated, whereas there will be a weaker correlation for individuals low in psychological flexibility as lower flexibility is associated with more avoidance and less self-knowledge (Hayes et al., 1999).
6. If hypothesis five is supported, then for individuals with low psychological flexibility, implicit self-stigma will be a better predictor of quality of life and psychological well-

being than explicit self-stigma. This is because implicit measures rely on more automatic responses, before potential respondent biases come into play (Barnes-Holmes et al., 2006).

Method

Participants

Twenty-six participants were recruited from an Early Intervention Service (EIS) for people with psychosis. The EIS contained multiple teams and people were eligible to access EIS if they were aged between 18 and 35 and were either exhibiting symptoms of psychosis for the first time, or were still within the first three years of a psychotic illness.

The EIS was based within an inner London Borough. This Borough was one of the most populated areas of London and was ethnically diverse; the largest minority group was African Caribbean who represented 25.9% of the population. This was compared to an average within London of 13.3% (Census, Office for National Statistics, 2011).

Inclusion criteria: Individuals were eligible to participate if they were accessing the EIS, were aged 18 and over, and were able to give informed consent.

Exclusion criteria: Individuals were excluded if they were not fluent in English (both written and spoken). This was because the questionnaires employed were designed for English speaking individuals. In addition, the computer task relied on accuracy and reaction times and so sufficient grasp of English was vital for the validity of the results. For the same reasons, individuals with significant cognitive impairments were not included. Due to issues surrounding informed consent, individuals detained under the Mental Health Act were not included.

The final sample were aged between 18 and 36 (mean age = 26.81, SD=5.28). The individual aged 36 was able to access services as they were within the first three years of a psychotic episode. Table 1 provides further demographic information. Employment/education refers to whether the participant was in paid or voluntary employment, or was completing full or part-time education. Medication refers to whether the participant was taking prescribed psychiatric medication.

Table 1: Demographic characteristics (N=26)

Gender	Males	14 (53.8%)
	Females	12 (46.2%)
Ethnicity	Black African	3 (11.5%)
	Black Caribbean	7 (26.9%)
	White British	2 (7.7%)
	Black British	4 (15.4%)
	Black and White British	1 (3.8%)
	Black and White African	1 (3.8%)
	Black and White Caribbean	1 (3.8%)
	White European	2 (7.7%)
	Other White unspecified	2 (7.7%)
	Indian	2 (7.7%)
	Bangladeshi	1 (3.8%)
Age	18-20	3 (11.5%)
	21-30	16 (61.5%)
	31-36	7 (26.9%)
Employed/ education	Yes	10 (38.5%)
	No	16 (61.5%)
Medication	Yes	18 (69.2%)
	No	8 (30.8%)

Design

A cross-sectional design was employed to address the hypotheses, in which self-report and computerised measures were administered at one time point.

Materials and measures

Four standardised questionnaires were utilised to measure quality of life, explicit self-stigma, psychological flexibility and psychological well-being. There were all administered in the order presented below.

The Manchester Short Assessment of Quality of Life (MANSA; Priebe, Huxley, Knight & Evans, 1999; Appendix C).

The MANSA is a 16-item measure. Twelve questions are subjective and assess the respondents' satisfaction with 11 domains of life (e.g., employment status, friendships, safety, accommodation). Respondents' rate their satisfaction on a seven point Likert scale from 1 ('couldn't be worse') to 7 (couldn't be better). Higher scores relate to higher quality of life. Following prior studies (e.g., Hanson & Bjorkman, 2007), only these questions were included in the analysis. Validity analysis found correlation coefficients of 0.83 and above with the Lancashire Quality of Life Profile (LQLP; Oliver, 1991). There was acceptable internal consistency; Cronbach's alpha for the 12 subjective satisfaction ratings was 0.74. The MANSA was chosen for this study because a significant proportion of the participants employed for the standardisation of the measure had a diagnosis of schizophrenia (69.1%). The MANSA was administered first as it also included demographic characteristics such as age, gender and medication.

The Internalised Stigma of Mental Illness Scale (ISMI; Ritsher et al., 2003; Appendix D).

The ISMI is a 29-item questionnaire relating to the subjective experience of mental health stigma. There are five subscales (alienation, stereotype endorsement, perceived discrimination, social withdrawal and stigma resistance) and each question is answered on a four-point Likert scale from 1 (strongly agree) to 4 (strongly disagree). A higher score signifies the presence of self-stigma. The scale was validated on 127 mental health service users, including individuals with psychosis. It was found to have good test-retest reliability ($r=0.92$, $p<.05$) and a high internal consistency ($\alpha = 0.90$). It was significantly correlated with another measure of self-stigma ($r=0.35$, $p<.01$). The ISMI was chosen for the present study as it is a self-report questionnaire (therefore tapping into conscious deliberation), is the most widely used measure in the field and has been used in studies exploring self-stigma in psychosis (e.g., Brohan et al., 2010).

Acceptance and Action Questionnaire-II (AAQ-II; Bond et al., 2011; Appendix E).

The AAQ-II is a seven-item measure assessing psychological flexibility. The questions are based on a seven-point Likert scale ranging from 1 (never true) to 7 (always true). The score of each item was reversed so that a higher score reflects greater psychological flexibility, with low scores reflecting greater experiential avoidance. The measure was validated on 2,816 individuals from a range of settings, (including those with clinical disorders and problems), with reported satisfactory reliability, validity and structure of the measure. For instance, test-retest reliability at three and 12 months was .81 and .79 respectively. It was significantly correlated with several measures of psychopathology, such as the Beck Depression Inventory-II ($r=.71$, $p<.001$). The AAQ-II has been employed in

several studies where participants were experiencing symptoms of psychosis (e.g., Valiente et al., 2011).

Clinical Outcomes in Routine Evaluation – Outcome Measure (CORE-OM; Evans et al., 2000; Appendix F).

The CORE-OM includes 34 items in four categories; problems, well-being, functioning and risk. The questions are based on a five-point Likert scale ranging from 0 (not at all) to 4 (most or all of the time). A higher score is indicative of greater psychological distress. The CORE-OM has excellent internal consistency (.92 to .94), good test-retest reliability (.91), strong discrimination between clinical and non-clinical samples, and strong convergent validity with other measures (Evans et al., 2002). The CORE-OM was employed as a measure of psychological well-being due to its encouraging psychometric properties and its wide use within UK services. In addition, it has been used as a measure of well-being in populations with psychosis (Chadwick, Newman-Taylor & Abba, 2005).

In addition to the four self-report questionnaires, participants completed an implicit measure of self-stigma:

Implicit Relational Assessment Procedure (IRAP; Barnes-Holmes et al., 2006).

The IRAP is a computer based task drawn from the theoretical implications of Relational Frame Theory (RFT; Hayes et al., 2001; see introduction) in that it presents certain relational terms such as 'Same', 'Different' or 'True' 'False', in order to assess the relationships between two stimuli. Participants use these relational terms to respond quickly and accurately to word pairs according to whether the word pairs were, for instance, the 'Same' or 'Different'. For example, Barnes-Holmes, Barnes-Holmes, Stewart and Boles (2010) presented the word 'Pleasant' or 'Unpleasant' with either positive (e.g., 'Love') or negative (e.g., 'Hate') words and asked participants to select whether they thought the word pairings

were 'Similar' or Opposite. Half of the time participants need to respond in a 'consistent' manner (that is, in the way that would be assumed by relevant theory or research, in this example 'Pleasant' and 'Love' as 'Similar'), and half of the time on an 'inconsistent' manner ('Pleasant' and 'Love' as 'Opposite'). Studies that have employed the IRAP to date, generally suggest that participants respond more slowly when required to choose a response that is inconsistent with what they implicitly believe (Barnes-Holmes et al., 2010; Dawson, Barnes-Holmes, Gresswell, Hart & Gore, 2009). The IRAP effect is thought to be based on immediate relational responding, which becomes evident when the respondent is under pressure to respond quickly and accurately. The difference between consistent and inconsistent trials is thought to represent the strength of the specific belief (Dawson et al., 2009).

The IRAP was implemented in the same manner as prior studies (e.g., Barnes-Holmes et al., 2010; Dawson et al., 2009; see Appendix G for a more detailed description) with modifications in terms of the words presented. To develop the IRAP, the literature surrounding stigma was reviewed to pull out words used to describe and infer the presence of stigma. This generated a list of 24 words (see Appendix H for the list of possible words and their corresponding reference). Then, a sample of 14 mental health professionals rated these 24 words according to how stigmatising they were. The top six were utilised for the IRAP (worthless, dangerous, inferior, bad, violent and inadequate). As with prior studies (Dawson et al., 2009), these words were reversed for the non-stigma word trials (valued, safe, superior, good, gentle and adequate).

The final IRAP included two possible category labels ("Me" or "Not Me"), twelve target words (six stigmatising words and six non-stigmatising words), and two response options ("Same" or "Different"). Figure 2 below depicts examples of each of the four IRAP

trial types (“Me” and a non-stigma word, “Me” and stigma word, “Not Me” and non-stigma, “Not Me” and stigma).

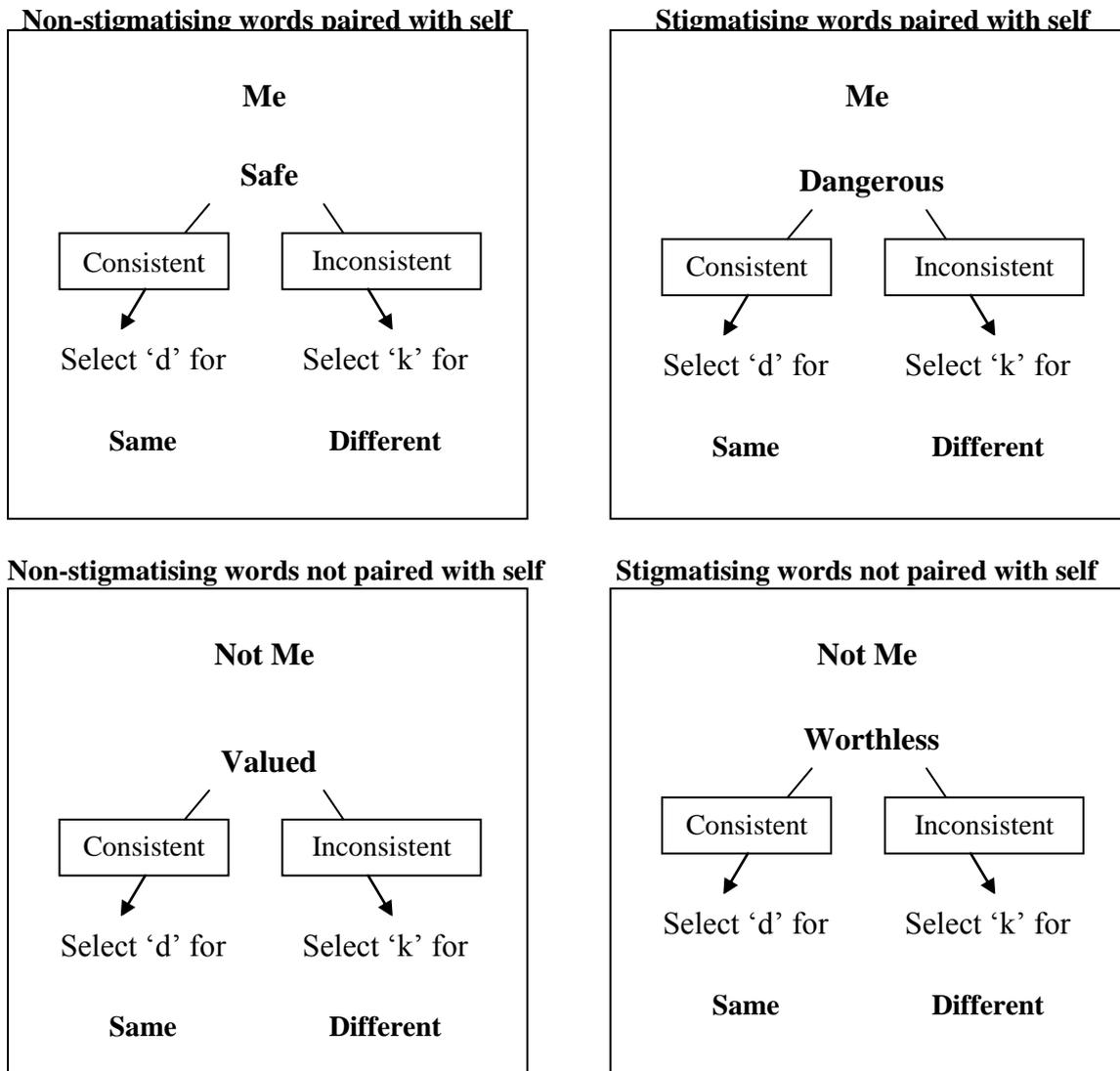


Figure 2: An example of four IRAP trials for the study, with the category label (“Me”, “Not Me”), target word (e.g., “Safe”, “Dangerous”), and response option (“Same”, “Different”) appearing together on each trial. Arrows and text boxes illustrate which response was considered consistent or inconsistent, but these were not visible to participants on screen.

In accordance with previous research (e.g., Dawson et al., 2009), the latency scores from the test blocks were used to calculate an overall IRAP score (the ‘DIRAP’). The DIRAP is calculated by measuring the difference in response latencies between consistent and inconsistent trials. A positive DIRAP score is suggestive of responding consistent with self-

stigma, while a negative score is suggestive of the absence of self-stigma (see Appendix I for full calculation method).

The IRAP was chosen above other implicit measures, such as the Implicit Association Test (IAT; Sriram & Greenwald, 2009), primarily because it was developed using the same theoretical foundations as ACT (Relational Frame Theory). In addition, measures such as the IAT can only detect an association between stimuli, whereas the IRAP, by calculating the differences in latency times between consistent and inconsistent trials, can measure the direction and strength of a belief (Barnes-Holmes et al., 2006).

Ethical Considerations

Ethical approval was sought and granted by an NHS Research Ethics Committee (Appendix M). The relevant Research and Development department within the host trust also approved the project (Appendix N).

To ensure confidentiality, The British Psychological Society's (BPS) code of human research ethics was followed (The British Psychological Society, 2010). In terms of managing risk, brief conversations would be held with relevant care co-ordinators regarding potential participant's current mental state, capacity to consent and any risk issues. During the informed consent process, the limits of confidentiality were explained to participants.

Procedure

Presentations of the information about the study were given at three Early Intervention community teams. Care co-ordinators were then asked to identify potential participants from their caseload. A total of 27 care co-ordinators were approached. Care co-

ordinators gave potential participants the participant information sheet (Appendix J). If the participant gave consent to be contacted, the researcher contacted them by telephone to discuss the project and arrange an appointment time. In total, 74 potential participants were approached either by the care co-ordinator or the researcher. Therefore 48 did not consent. It was not possible to ascertain reasons for this.

Participants were seen within a private room within the relevant EIS team. Participants read the participant information sheet and had an opportunity to ask questions. Signed consent forms (Appendix K) were completed. Capacity to consent was therefore judged in two ways; first by the care co-ordinators and then by the researcher. All participants completed the four questionnaires in the order detailed above followed by the IRAP. It is acknowledged that the presentation order may have influenced responses. However, due to the small sample size, it was not possible to counterbalance presentation order. The IRAP was presented on a Dell Inspiron lap-top computer. All participants read full instructions for the practice trials presented on the computer. They then completed the practice trials until they obtained sufficient accuracy and speed (70% and an average of 10 seconds respectively). They then read on-screen instruction for the test trials (see Appendix L) before moving onto the test trials. Appointments took between 60 and 90 minutes. Twenty minutes were set aside at the end to debrief and allow participants to talk about any emerging issues. Participants were paid £10 towards their travel costs.

Data Analysis and Power Calculations

Hypothesis 1 was analysed using Pearson's correlations. As an example, Luoma et al. (2008) found a large effect size ($r = -.56$) in their self-stigma study. According to Clark-Carter (2010), to detect a large effect size, 25 participants were required to detect a

significant result at 80% power. Pearson's correlations were conducted for Hypothesis 2 and 3 and so the same power calculation was considered. Bootstrapping was employed for Hypothesis 4, and as this was appropriate for large and small sample sizes, no specific recommendations regarding sample size was suggested (Hayes, 2009). Hypothesis 5 was analysed by conducting a median split between high and low scores on psychological flexibility and completing Persons correlations for each. Clark-Carter (2010) recommends that a sample size of at least 20 in each group is satisfactory. Therefore, 40 participants were needed for the study. As recruitment proved difficult, only 26 participants consented to participate. This should be born in mind when interpreting any non-significant results that follow.

Results

Data screening and Exploratory Analysis

All data were analysed using IBM SPSS (Version 19.0). Data missing from the four questionnaires were treated as missing values on SPSS and scores were therefore averaged based on present responses (Gray & Kinnear, 2012). In terms of the IRAP, following Dawson et al. (2009), reaction times of longer than 10.0 seconds were entered as user-missing values and so were not included in the analysis.

Assumptions for parametric tests were examined. Kolmogorov-Smirnov's test was employed to establish if distribution deviated from normality. None of the tests reached significance, so it was concluded that the data did not violate assumptions of normality and so parametric tests were employed. See also Appendix O for additional normality checks.

Preliminary Analyses

Internal consistency of measures.

To gain an estimate of internal consistency, Cronbach's alpha was calculated for each measure. Three measures had 'excellent' internal consistency (Kline, 1999); the 12-item MANSA $\alpha=.93$, the 29-item ISMI $\alpha=.92$ and the 34-item CORE-OM $\alpha=.96$. The seven item AAQ-II $\alpha=.90$ had 'good' internal consistency (Kline, 1999).

Descriptive statistics.

Table 2: Means and Standard Deviations for completed questionnaires

Measure	Mean	SD
ISMI	1.99	0.48
AAQ-II	4.58	1.32
CORE-OM	1.29	0.73
MANSA	4.64	1.10
DIRAP	0.09	0.32

Table 2 shows the means and standard deviations (SD) of the four self-report questionnaires and the IRAP. Where norms were available, the mean scores were suggestive of relatively good levels of functioning. For instance, the mean score of the CORE-OM falls within the 'Mild' range ($M = 1.29$, $SD = 0.73$). In terms of the ISMI, the mean score of 1.99 ($SD = 0.48$) falls just within the 'Minimal' range. The mean DIRAP score is very close to zero, suggesting only minimal presence of implicit self-stigma.

Hypothesis Testing

Hypothesis 1: Individuals in a FEP sample with lower explicit self-stigma will score higher on quality of life and psychological well-being measures.

Hypothesis 1 was tested using two-tailed Pearson's correlations. Explicit self-stigma was significantly positively correlated with the CORE-OM ($r=.558$, $p<.01$) such that individuals who were more explicitly self-stigmatising scored higher on the CORE-OM (a higher score is indicative of poorer well-being). There was not a significant relationship between explicit self-stigma and quality of life ($r=-.170$, $p=.407$). Hypothesis 1 was therefore partially supported.

Hypothesis 2: Individuals in a FEP sample with lower implicit self-stigma will score higher on quality of life and psychological well-being measures.

Hypothesis 2 was tested using Pearson's correlations. Implicit self-stigma was not significantly correlated with either quality of life ($r=.052$, $p=.801$) or psychological well-being ($r=-.003$, $p=.990$). Hypothesis 2 was not supported.

Hypothesis 3: Individuals in an FEP sample who are psychologically inflexible will be more self-stigmatising and have poorer quality of life and psychological well-being.

Hypothesis 3 was tested using two-tailed Pearson's correlations. The AAQ-II was negatively correlated with explicit self-stigma ($r=-.420$, $p<.05$), negatively correlated with CORE-OM ($r=-.771$, $p<.01$) and positively correlated with the MANSAs ($r=.566$, $p<.01$). This suggests that individuals who are more psychologically inflexible are more explicitly

self-stigmatising, have poorer psychological well-being and quality of life. However, the AAQ-II was not significantly correlated with implicit self-stigma ($r = -.037, p = .859$).

Hypothesis 3 was therefore supported in terms of explicit, but not implicit self-stigma.

Hypothesis 4: Implicit and explicit self-stigma will mediate the effect of psychological flexibility on psychological well-being and quality of life in a FEP sample.

Bootstrapping was used to assess for mediation as this is considered superior to the more traditional Baron and Kenny (1986) approach (MacKinnon, Lockwood, Hoffman, West & Sheets, 2002). One reason for this is that the Baron and Kenny (1986) causal steps approach is generally underpowered unless very large sample sizes are involved, and so it is less likely to detect mediation effects (Hayes, 2009). The bootstrapping analyses were conducted using 5000 samples and using bias-corrected and accelerated confidence intervals (CIs) of 95%. An indirect (mediation) effect is found if the CI's do not include zero.

Following recommendations from Hayes (2009), bootstrapping is used in isolation rather than in conjunction with Baron and Kenny (1986).

Table 3: Normal theory tests for direct effects, and bootstrapped bias-corrected and accelerated (BCa) confidence intervals (CIs) for the indirect effects of psychological flexibility on well-being and quality of life, with explicit and implicit self-stigma as mediators. The format for presenting this will follow Gaudiano, Bach and Hayes (2006)

Mediator	Path	Normal Theory Tests				Bootstrap Results for Indirect Effects (BCa; 95% CI)	
		Coefficient	SE	t	p	Lower	Upper
Relationship between psychological flexibility (IV) and well-being (DV)							
Explicit	a	-.1615	.0672	-2.403	.0243		
self-stigma	b	.4099	.2064	1.986	.0591		
	Total (c)	-.4274	.0720	-5.937	<.001		

	Direct (<i>c'</i>)	-.3612	.0757	-4.773	<.001		
	Indirect	-.0662				-.2934*	-.0013*
	(ab)						
		Model Adjusted R ² (p)		.62 (p<.001)			
Implicit	a	.0090	.0500	.1794	.8591		
self-stigma	b	.0578	.2998	.1927	.8489		
	Total (c)	-.4274	.0720	-5.937	<.001		
	Direct (<i>c'</i>)	-.4279	.0735	-5.819	<.001		
	Indirect	.0005				-.0198	.0392
	(ab)						
		Model Adjusted R ² (p)		.56 (p<.001)			
Relationship between psychological flexibility (IV) and quality of life (DV)							
Explicit	a	-.1615	.0672	-2.403	.0243		
self-stigma	b	.2251	.4338	.5189	.6088		
	Total (c)	.4730	.1406	3.3641	.0026		
	Direct (<i>c'</i>)	.5093	.1590	3.2025	.0040		
	Indirect	-.0363				-.2525	.1175
	(ab)						
		Model Adjusted R ² (p)		0.27 (p.01)			
Implicit	a	.0090	.0500	.1794	.8591		
self-stigma	b	.1063	.5856	.1815	.8575		
	Total (c)	.4730	.1406	3.3641	.0026		
	Direct (<i>c'</i>)	.4720	.1436	3.2868	.0032		
	Indirect	.0010				-.0489	.0823
	(ab)						
		Model Adjusted R ² (p)		0.26 (p.01)			

Table 3 presents the meditational analyses. As can be seen, the relationship between psychological flexibility and well-being is mediated by explicit self-stigma since the CIs for the indirect effect do not cross zero. This is presented diagrammatically in Figure 3 below. No evidence for further indirect effects was found since the CIs crossed zero.

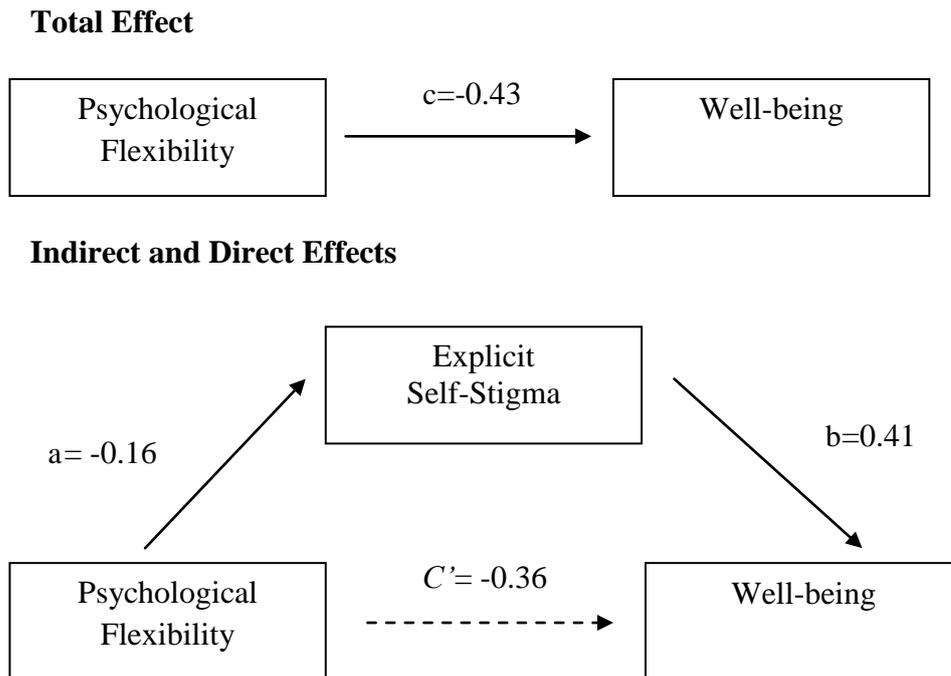


Figure 3: Coefficients for the total effect of psychological flexibility on well-being, and the indirect and direct effects of explicit self-stigma on the relationship between psychological flexibility and well-being

Overall, Hypothesis 4 was partially supported; only explicit self-stigma statistically mediated the relationship between psychological flexibility and well-being.

Hypothesis 5: For individuals high in psychological flexibility, implicit and explicit self-stigma will be strongly, positively correlated, whereas there will be a weaker correlation for individuals low in psychological flexibility.

In order to assess Hypothesis 5, a median split was conducted for AAQ-II scores. This divided the sample into individuals who were relatively psychologically inflexible (i.e., relatively low scores on the AAQ-II) and individuals who were more psychologically flexible (relatively high scores). Pearson's correlations between implicit and explicit self-stigma were

then conducted separately on each half of the sample. In terms of those grouped as psychologically inflexible, explicit self-stigma was not significantly correlated with implicit self-stigma ($r=.161$, $p=.598$). Similarly, in terms of those scoring high in psychological flexibility, there was a non-significant correlation between implicit and explicit self-stigma ($r=-.492$, $p=.087$). As neither of these correlations were significant, the difference between the correlation coefficient's were not assessed. Hypothesis 5 was not supported.

Hypothesis 6: If hypothesis 5 is supported, then for individuals with low psychological flexibility, implicit self-stigma will be a better predictor of quality of life and psychological well-being than explicit self-stigma

As Hypothesis 5 was not supported, the planned analysis for Hypothesis 6 was not conducted.

Discussion

The study aimed to explore the relationship between psychological flexibility, self-stigma, quality of life and psychological well-being in individuals experiencing FEP. The intention was to measure self-stigma in two ways; both explicitly with a self-report questionnaire and implicitly with a relational-based computer task. Mixed support was found for the six hypotheses of the study.

As hypothesised, lower levels of explicit self-stigma was related to greater psychological well-being. This finding is consistent with previous studies (e.g., Cavelti et al., 2012; Lv et al., 2012; Lysaker et al., 2012). As the current data were cross-sectional and correlational, causality cannot be inferred. There are therefore at least two potential

explanations as to this pattern of results. First, it could be that individuals who are more self-stigmatising have a resultant drop in well-being. This would perhaps fit with the Corrigan model of self-stigma: self-stigma results in a loss of self-esteem, which is in turn linked to further negative outcomes such as reduced social contact (Corrigan et al., 2006). As self-esteem is often included as a component of psychological well-being (e.g., Norman, Windell, Lynch & Manchanda, 2011), the current results could fit with this explanation. A second possibility is that poorer psychological well-being leads to the internalisation of stigmatising attitudes. This could fit with the idea that poorer well-being may lead to individuals believing that they are socially unacceptable and in turn therefore internalise certain stereotyped beliefs (Vogel, Bitman, Hammer & Wade, 2013). Items on the ISMI such as ‘I can’t contribute anything to society because I have a mental illness’ may tap into this. Of course, it is likely that the relationship between self-stigma and well-being is complex and bi-directional. It is also likely that additional variables that may or may not have been captured by the current study will influence the relationship both directly and indirectly.

Support for Hypothesis 3 was found in terms of explicit self-stigma: individuals who were psychologically inflexible were more explicitly self-stigmatising and had poorer quality of life and psychological well-being. This fits with the theoretical stance of ACT and RFT which would posit that if people become fused with self-stigmatising thoughts, they will become distressed and may experience poorer well-being and quality of life (Hayes et al., 2012). In contrast, more flexible individuals may be able to experience such thoughts as passing phenomena, rather than engage with them as fact. By this account, such individuals will be more able to persist with their values and goals and as such would be expected to be more psychologically well and have greater quality of life.

These findings also fit with the empirical literature base exploring the role of psychological flexibility in symptoms associated with psychosis, in that psychological

flexibility was associated with symptoms such as hallucinations (e.g., Goldstone, Farhall & Ong, 2011), influenced the relationship between life stress and symptoms of psychosis (Goldstone et al, 2012), and negative schemas and delusional ideation (Oliver et al., 2011). In addition, the current findings are consistent with the empirical literature employing ACT to reduce self-stigma (Lillis et al., 2009; Luoma et al., 2008). The interventions in these studies led to reduced self-stigma, increased psychological flexibility, reductions in distress and improvements in quality of life. As increasing psychological flexibility is the primary aim of ACT interventions, these findings of improved functioning point to the important role of psychological flexibility in these variables.

Hypothesis 4 was partially supported. Explicit self-stigma was found to statistically mediate the relationship between psychological flexibility and well-being. The analysis suggests that more psychologically flexible participants were less self-stigmatising, and this in turn was associated with greater well-being. This adds to the literature which suggests that explicit self-stigma acts as a mediator. Cavelti et al. (2012) found that self-stigma partially mediated the relationship between insight and demoralisation (assessed by symptoms of depression and emotional regulation). Yanos et al. (2008) found that self-stigma mediated the relationship between hope and self-esteem and avoidant coping.

Contrary to predictions, explicit self-stigma was not related to quality of life. This is perhaps surprising given that prior research consistently links explicit self-stigma with poorer quality of life (Lv et al., 2012; Lysaker et al., 2007; Park, Bennett, Couture & Blanchard, 2013). A potential reason for this could be the choice of measurement. Park et al. (2013) employed the Brief Quality of Life Interview (BQOL; Lehman, 1988) and Lysaker et al. (2007) used the Quality of Life Scale (QOLS; Heinrichs, Hanlon and Carpenter, 1984). The QOLS entails of a semi-structured interview which may have led to a more in-depth exploration of quality of life. Other studies only utilised specific components of quality of

life. For example, Lysaker et al. (2007) only used questions pertaining to social relationships from the QOLS. Sibitz et al. (2011) however, did not find a direct relationship between quality of life and self-stigma either. Instead, an indirect effect was found; reduced social network contributed to reduced empowerment and greater self-stigma, which resulted in depression and in turn poorer quality of life. It could be therefore that in the current study, self-stigma may have exerted an indirect effect on quality of life if other variables had been assessed (such as depression). Future studies should consider examining further the relationship between quality of life and explicit self-stigma.

Implicit self-stigma as measured by the IRAP was not found to be related to any other variable. This means that Hypotheses 2, 5 and 6 were not supported, and parts of Hypothesis 3 and 4 were not supported. The findings of the current study support that of Rusch et al. (2010); implicit and explicit self-stigma was not related. This suggests that they could be measuring different constructs. However, Rusch et al. (2010) found that implicit self-stigma did predict quality of life. However, a different measure of quality of life was employed, as well as a different implicit programme (the IAT; Sriram & Greenwald, 2009) and this may have tapped into something different to the current study. The IAT was not employed in the current study as the IRAP is thought to be a superior measure as the IAT can only suggest an association between factors that are presumed to be involved in particular beliefs, and as such it cannot provide direct evidence of a belief (De Houwer, 2002). The IRAP was developed in part to tackle this underlying weakness (Barnes-Holmes et al., 2006). By asking respondents to respond to words pairs as being the 'same' or 'different', and then calculating the differences in reaction times between consistent and inconsistent trials, it is thought that the strength of the belief under observation is provided. However, as the current IRAP was not correlated with either of the outcome measures or with the explicit measure of self-stigma, the expected belief was not found. There are a number of possible explanations for this.

First, it is possible that individuals did not hold implicit self-stigmatising beliefs. Second, it is possible that the IRAP was not measuring what it was intended to; i.e., it was not measuring implicit self-stigma, or not doing so reliably. Third, it could be that the IRAP was measuring implicit self-stigma, but that implicit self-stigma is a separate construct from explicit self-stigma and so this could result in a different pattern of findings. Finally, it could be the nature of the IRAP task itself. It requires self-shifting and sustained attention. As these deficits have been found in people with psychosis (Fioravanti, Carlone, Vitale, Cinti & Clare, 2005), it could be that the IRAP is an unsuitable task for this group.

Methodological Limitations

A key limitation of the current research is the sample size. Due to difficulties in recruitment, the study ended when it was underpowered (26 versus 40 participants). This means that the non-significant results should be interpreted with caution as they may represent Type II errors. However, significant patterns were nevertheless found in a number of analyses, and generally, non-significant results were not close to significant. An exception to this may have been for the correlation between the total DIRAP score and explicit self-stigma for individuals high in psychological flexibility, which was approaching significance ($p=0.87$). It is also possible that some of the mediation analyses may have shown a different pattern of results had there been greater power, although this is unlikely as bootstrapping is recommended for smaller sample sizes (Hayes, 2009), and the non-significant mediations were unsurprising given the pattern of results revealed through correlation.

The correlational, cross-sectional design of this study is a limitation as causation cannot be inferred. Future studies should aim to collect longitudinal data. Likewise, the majority of the variables employed were self-report measures which can increase the

potential of certain biases, such as the desire of participants to present in a certain light, or a wish to please the researcher (Rusch et al., 2010). It is a strength that an additional measure of self-stigma was employed (the IRAP), as this attempted to measure the process in a different, automatic way. The current study did not include an objective, interviewer-rated measure of symptom severity, such as the Positive and Negative Syndrome Scale (PANSS) for schizophrenia (Kay, Fiszbein & Opfer, 1987). Although previous studies have found mixed results in terms of how this influences relationships with self-stigma, future research could include the PANSS.

As potential participants were suggested by care coordinators, this often meant that participants were relatively well and settled. The decision to recruit participants this way was based on ethical considerations; however, it is acknowledged that this may have been to the detriment to a truly representative sample. It may also have contributed to a lack of significance on the quality of life measure due to the restricted range of scores. Indeed, mean scores of all the self-report measures were relatively functional. For instance, self-stigma was just within the 'Minimal' level, and well-being was within the 'Mild' range.

Implications for Clinical Practice and Future Research

The current research highlighted the link between self-stigma and psychological well-being; specifically that greater explicit self-stigma is associated with greater psychological distress. This suggests that self-stigma may be an important process to address in psychological therapy. It also supports the current drive within the government to tackle stigma towards mental health (Time to Change, 2008). As explicit self-stigma was found to be correlated with well-being, it could be that therapeutic interventions to reduce explicit self-stigma may improve well-being.

Similarly, the importance of psychological flexibility in psychosis was also corroborated; individuals who were more flexible were less self-stigmatising, and demonstrated greater well-being and quality of life. This suggests that interventions that aim to increase flexibility may be helpful for the current client group in terms of improving quality of life and well-being, and also potentially as an intervention to reduce self-stigma. ACT may be particularly suited for this as the primary aim of the therapeutic intervention is to increase flexibility. As explicit self-stigma was found to mediate the relationship between flexibility and well-being, this could suggest that it could be helpful to address psychological flexibility therapeutically as if this could be increased, self-stigma may reduce, which may in turn improve well-being. Increased flexibility would equate to a more decentred stance towards self-stigmatising thoughts and more action based in personal values rather than struggling or attempting to avoid such thoughts.

Suggestions for future research have been presented throughout the above discussion. In addition, although previous studies have employed ACT as an intervention to reduce self-stigma in other areas (substance misuse and obesity), future studies could employ ACT with an early intervention population to assess whether similar results can be expected with this client group. It could also be helpful to consider different presentations within this client group (e.g., experiences of hearing voices, delusions of grandeur, paranoia) to ascertain whether the relationship between self-stigma and flexibility varies according to particular presentations.

It may also be interesting to compare populations at different stages of psychosis. Are different patterns of self-stigma, flexibility, well-being and quality of life found in an early intervention service compared to people who have experienced psychosis for over three years? Similarly, are there differences between those who are actively psychotic compared to those in remission?

Conclusion

This study demonstrated that explicit self-stigma was related to poorer psychological well-being in a population experiencing their first episode of psychosis. In addition, explicit self-stigma was higher in individuals who were less psychologically flexible, and explicit self-stigma statistically mediated the relationship between psychological flexibility and well-being. Although methodological limitations are present, these findings lend initial support to the idea that clinical interventions that address self-stigma and those that aim to increase psychological flexibility may be beneficial in first episode psychosis. Future research is required to explore these possibilities. Implicit self-stigma as measured by the IRAP was not found to be correlated with any of the variables under investigation. Further research is needed to explore whether the IRAP is a helpful measure for implicit self-stigma.

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SECTION C
Critical Appraisal Paper

Selina Thorrington

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SALOMONS
CANTERBURY CHRIST CHURCH UNIVERSITY

Section C

This section presents a critical appraisal of the current research project which explored explicit and implicit self-stigma in a First Episode Psychosis population, and how these may be related to psychological flexibility, well-being and quality of life. This section answers questions pertaining to acquired skills and knowledge, what would be done differently, clinical skills and future research.

Question One: What research skills have you learned and what research abilities have you developed from undertaking this project and what do you think you need to learn further?

This project provided a steep learning curve in a number of key areas. My first project fell through and as such I researched a number of ideas before finding and settling on the current project. Although anxiety provoking, I realise that this has allowed me to develop a number of skills in terms of researching initial ideas and considering what is feasible in tight time frames, and also considering what meets the demands of both the NHS and the University research procedures. This has challenged my time management and organisational skills beyond what I would have expected initially. I also feel that it has made me much more aware of the challenges of conducting research within the NHS, and the need to anticipate particular challenges that may be faced. I found that I needed to adapt to various setbacks quickly, and problem solve to find solutions to problems, even when I sometimes felt like giving up. This has also emphasised the importance of having good working relationships with my supervisors, both in terms of their expertise and advice, but also in terms of support during the most difficult periods.

This is the first full scale research project that I have done, aside from audits and service evaluations, that has included participants from clinical populations. I have found this both rewarding and challenging at times. I was warned by my external supervisors that people accessing services for psychosis can be a difficult group to engage and recruit, and whilst I certainly found this the case at times, I feel this has allowed me to develop my interpersonal skills in terms of contacting potential participants, and explaining a complex study in a clear way, but also in a way that allows them to consider the pros and cons of participating. I believe that this was particularly important considering that I was offering them money to participate; I wanted to minimise the impact this may have on their decision to consent. Perhaps unexpectedly, I found that I had to dedicate a lot of my time to sitting with the service teams, as they were essentially the gatekeepers to potential participants. I think in doing so, I have developed my skills in listening to their concerns regarding their service users participation in research and reducing their anxieties.

The Implicit Relational Assessment Procedure (IRAP) was completely new to me and as such I have learned quite a lot about this and other implicit measures. Not being the most technically able person, I found it very complex and had to do copious amounts of reading just to follow its basic principles. On top of this, I did a lot of reading around the differences between implicit and explicit measures and various critiques of the former. I found this all very challenging, but at the same time I am pleased that I attempted something that was quite different to other research projects in the field.

Having not used SPSS for several years, I found getting to grips with the statistical package daunting, but it became more familiar as I grappled with my analysis. I also appreciate much more than I did, the intricacies involved in quantitative design in terms of choices of measurement as well as the analysis itself. I spent a lot of time reading about mediation analysis in particular, and bootstrapping specifically, something which I have not

tried previously. I was surprised by how many debates there were in the field as to what approach to take. Having decided on bootstrapping, this required the use of an additional macro for SPSS and took quite some time to understand it sufficiently.

Although I believe and hope that my research skills have developed throughout this project, I am perhaps more aware now of what remains to be developed. With so many options available in terms of the ‘best way’ to conduct various analyses, it could sometimes feel a bit of a minefield. I think I will always be able to learn more and develop further, and hope that I will get the opportunity to as my career progresses.

One specific area that I would like to develop further, but did not get the opportunity to in this instance, is qualitative research skills. I used thematic analysis as part of my Quality Improvement Project in the first year and really valued hearing about people's experiences first hand and incorporating this into the analysis. I would value developing these skills further through a more in depth qualitative approach such as grounded theory. Although participants during the current study volunteered some of their stories, it was a shame that this could not be incorporated easily into the write-up.

Question Two: If you were able to do this project again, what would you do differently and why?

In terms of the current study, certain political factors erupted once I attempted to gain approval within the trust I was conducting the research in. This resulted in a five month delay while attempts were made to overturn an initial decision by a senior manager to decline permission to complete the research within the host trust. If I were to repeat the experience, I would try to consult with individuals who make such decisions at an earlier stage to avoid lengthy delays. In addition, I would possibly aim to do the research in a trust where there was

less research being conducted as I found that the service I was recruiting from had numerous on-going studies which meant it was more challenging to obtain support from care co-ordinators. I attempted to counteract this by spending study days with the team, with varying degrees of success. Over a recruitment period of five months, at least one whole day per week was spent at one of two primary teams, sometimes two. Despite over 70 potential participants being approached, only 26 agreed to participate. Previous studies in this area had also recruited from the inpatient early intervention ward which may have allowed for greater numbers. However, the decision was made not to seek ethical approval for those under the Mental Health Act due to concerns relating to capacity to consent. In discussion with my external supervisors, it was felt that inpatients often 'consent' due to boredom, or due to the pull of payment. It was therefore decided that the most ethical approach was to seek participation only from service-users in the community, after brief conversations with care co-ordinators and clinicians regarding their capacity to consent.

I would also like to have spent more time developing the words that were used in the IRAP. Although significant time was spent reviewing the relevant literature to select word options, and then asking mental health professionals to rank order them, I would have liked to have followed a similar technique with service users. Ideally, with less time constraints, I would have held focus groups to generate word choices.

In addition, I would have liked to have piloted the study with a handful of participants, and this feels particularly important for the computer task (the IRAP). This was omitted through discussion with my supervisors due to the time constraints and expected difficulties in recruiting. However, with hindsight, particularly regarding the lack of significant findings in terms of this measure, piloting seems vital. If the IRAP did not appear to be well linked with explicit self-stigma during piloting, it could have been helpful to have tried different category labels, target words or response options. However, as was discussed

in section B, this may not have made resulted in vastly different findings as it could be the case that the task was not appropriate for individuals with first episode psychosis.

Question Three: Clinically, as a consequence of doing this study, would you do anything differently and why?

Clinically, I have found that I am already so much more aware of experiences relating to stigma, either in terms public stigma or self-stigma, with the service users I work with. This can be quite subtle in terms of people talking about not wanting to tell their friends they see a psychologist, thorough to stories where people have been sacked as a result of their struggles. I plan to continue to hold this in mind and consider whether this is something that could be either directly or indirectly addressed within therapy.

I am much more interested in Acceptance and Commitment Therapy (ACT), and how important processes of psychological flexibility may be. Although I believe that many therapeutic modalities share similar concepts, perhaps under a different name, I particularly value ACTs person-centred stance in terms of helping people to move towards their values and goals, whether or not symptoms reduce. During my research for Section A, I was also encouraged by the promising results of ACT for psychosis after only a few short sessions. As I will be working with adults with psychosis following training, I am hoping that, with some further training, I may be able use some of these methods in my own practice.

Question Four: If you were to undertake further research in this area, what would that research project seek to answer and how would you go about doing it?

As one of the key variables under investigation in this study was a central component of the ACT model (i.e. psychological flexibility), I would like to conduct a study that utilises ACT as an intervention to address self-stigma in a first episode psychosis population. Two previous studies have used ACT for self-stigma in different populations (substance misuse and obesity) and so it could be possible to adapt the techniques employed in such studies for psychosis. I would therefore recruit from a similar population as the current study and take measures of self-stigma (at this stage I would use the explicit measure as opposed to the implicit measure due to the lack of significant findings with the latter), psychological flexibility, and perhaps measures of well-being, as this was found to be related to self-stigma in the current study. I would then repeat the measures at the end of therapy, and ideally include a lengthy follow-up period. This would allow us to explore whether any gains are maintained post-intervention. As ACT does not necessarily aim for symptom reduction, and instead aims to change the person's relationships with difficult experiences, I would perhaps also include a measure of believability and willingness to experience difficult thoughts, feelings and experiences, similar to what has been utilised in prior research that has evaluated ACT (e.g. Bach & Hayes, 2002).

In order to make the study as robust as possible, ideally it would be a randomised controlled trial and would include not only a treatment-as-usual control group (I would choose this as opposed to a no treatment control group as this appears the most ethical), but also a group assigned to a different treatment modality, perhaps traditional cognitive-behavioural therapy (CBT). I think this would be interesting considering that ACT is classed as a 'third wave' CBT approach, but has a fundamentally different philosophy to CBT. I would also want to have good treatment fidelity checks to ensure adherence to the relevant manuals.

References

Bach, P., & Hayes, S. C. (2002). The use of acceptance and commitment therapy to prevent the rehospitalization of psychotic patients: a randomized controlled trial. *Journal of Consulting and Clinical Psychology, 70*, 1129-1139.

SECTION D

Appendices

Selina Thorrington

A thesis submitted in partial fulfilment of the requirements of
Canterbury Christ Church University for the degree of
Doctor of Clinical Psychology

JULY 2013

SALOMONS

CANTERBURY CHRIST CHURCH UNIVERSITY

Appendix A: Search Strategy for Section A

Electronic searches were conducted using the Cochrane Database of Systematic reviews, Ovid Medline, PsychoInfo and Web of Knowledge. No limits were placed on start dates and the final search was conducted in the final week of April 2013. Two separate searches were conducted.

Search one: self-stigma and psychosis

The following search terms were entered to find empirical studies that have addressed self-stigma in psychosis and interventions for self-stigma in psychosis:

- Self-stigma OR internal* stigma OR personal stigma AND
- Psychosis OR schizo* OR mental* OR psychopathology

No further search terms were executed in order to allow studies pertaining to both variables linked to self-stigma and interventions. The search was limited to peer reviewed journals and the English Language. This resulted in over 1,000 initial articles. Further articles were obtained using reference lists from reviewed articles and Google Scholar. Abstracts were reviewed and the following inclusion and exclusion criteria were applied:

Inclusion:

1. Those that utilised a measure of self-stigma
2. All participants were explicitly described as experiencing symptoms of psychosis
3. Participants were aged 18 and over

Exclusion:

1. Studies that included a measure of stigma that did not tap into the theoretical underpinnings of self-stigma, such as the Perceived Devaluation and Discrimination

Scale (PDD; Link, 1987). Although some studies define this as a measure of self-stigma (e.g., Vauth, Kleim, Wirtz & Corrigan, 2007). The PDD has questions relating to whether the respondent believes the general population stigmatise and discriminate against those with a mental illness. It does not question whether the respondent believes they are themselves experiencing mental health difficulties or whether they believe the negative statements apply to them. Please refer to a review of stigma measures which provides a good overview of what each measure taps into (Brohan, Slade, Clement & Thornicroft, 2010).

2. Those in which the client group were not explicitly described as fitting within the experience of psychosis.
3. Studies in which the participant group were not all experiencing symptoms of psychosis were excluded. This was in order to keep the review focused on psychosis.

This resulted in 29 studies for inclusion in the review. Of these, 28 looked at self-stigma and various psychosocial and psychiatric correlates. Several used the same participant pool, and when this was clear they were combined as a single study. This resulted in 24 unique papers. The final study evaluated an intervention for self-stigma in populations with psychosis.

Search two: psychological flexibility and psychosis

The following search terms were entered to find empirical studies that have explored psychological flexibility in psychosis, and intervention studies for psychosis using Acceptance and Commitment Therapy (ACT):

- Psychological inflexibility OR psychological flexibility OR acceptance and commitment therapy OR experiential avoidance OR cognitive fusion OR inflexible attention OR attachment to conceptualised self OR disruption of values AND
- Psychosis OR schizo* OR mental* OR psychopathology

The search was limited to peer reviewed journals and those written in the English Language. This resulted in over 1,300 initial articles. Further articles were obtained using reference lists from reviewed articles and Google Scholar. Abstracts were reviewed and the following inclusion and exclusion criteria were applied:

Inclusion:

1. The inclusion of a measure of psychological flexibility as formulated within ACTs philosophy (for example the Acceptance and Action Questionnaire, or rating scales of believability)
2. The inclusion of a measure of symptoms of psychosis, either in terms of diagnosis within clinical populations, or a questionnaire measuring unusual experiences in non-clinical populations
3. In terms of interventions for psychosis, all participants would be described as experiencing psychosis
4. In terms of interventions, only those that used a pure ACT approach were included as this approach explicitly aims to increase psychological flexibility

Exclusion:

1. Those in which the client group were not explicitly described as fitting within the experience of psychosis, or where there was no measure of the presence of symptoms in non-clinical populations
2. Intervention studies that targeted mental health difficulties in general rather than psychosis in particular
3. Intervention studies that employed a mixed approach (e.g., ACT plus mindfulness, or ACT plus psychoeducation). This was in order to increase the likelihood that any effects could be attributed to ACT

This resulted in 14 studies for inclusion in the review. Nine explored the link between psychological flexibility and symptoms of psychosis. Of these, three reported findings on the same participant group and so were treated as one study in the review. Five evaluated ACT as an intervention for psychosis. Similarly, two were follow-ups from earlier papers and so this represented three unique studies.

Appendix B: Summary of Studies Reviewed in Section A

Study	Sample	Design	Measures	Main Findings related to Self-Stigma/Psychological Flexibility	Summary Critique
<u>Self-stigma and psychosis: correlates</u>					
Assefa, Shibre, Asher & Fekadu (2012)	212 participants (65.1% male), mean age 33.3. Recruited through medical note reviews in Ethiopia	Cross-sectional	<ul style="list-style-type: none"> - Internalised Stigma of Mental Illness scale (ISMI) - Positive and negative symptoms (DSM-IV) - Questions relating to suicidal ideation and history of suicide attempts 	<ul style="list-style-type: none"> - Positive relationship between history of suicide attempts of self-stigma 	<ul style="list-style-type: none"> - Cross-sectional nature means that causality cannot be assumed - History of suicide attempts taken retrospectively which may have resulted in memory biases - Those with a history of substance misuse were excluded which may have reduced the representativeness of the sample
Cavelti, Kvgric, Beck, Rusch & Vauth (2012)	145 participants (65.5% male), mean age 44.11. Recruited from community mental health services in Switzerland	Cross-sectional	<ul style="list-style-type: none"> - Self-Stigma of Mental Illness Scale (SSMIS) - Scale to Assess Unawareness of Mental Disorder (SUMD) - The Calgary Depression Scale - Beck Depression Inventory - Positive and Negative Symptoms of Schizophrenia (PANSS) - Global Assessment of Functioning 	<ul style="list-style-type: none"> - Self-stigma was positively correlated with 'demoralisation' (depression and emotional regulation) - Self-stigma moderated the relationship between insight and demoralisation: the relationship was stronger for those who were more self-stigmatising - Self-stigma partially mediated the relationship between insight and demoralisation 	<ul style="list-style-type: none"> - Cross-sectional nature means that causality cannot be assumed - 'Demoralisation' was assessed through depression and emotional regulation but did not consider other factors such as isolation
Fung, Tsang & Chan (2010)*	105 participants (48.6% male), mean age 41.83. Recruited from five psychiatric settings in Hong Kong	Cross-sectional. Measures were taken at one time point after three months of attending a psychosocial intervention (Cognitive Behavioural Therapy (CBT), family intervention, etc)	<ul style="list-style-type: none"> - SSMIS - Scale to Assess Unawareness of Mental Disorder (SUMD) - Change Assessment Questionnaire for People with Severe and Persistent Mental Illness - The Psychosocial Treatment Compliance Scale (PTCS) - Brief Psychiatric Rating Scale 	<ul style="list-style-type: none"> - The self-decrement scale of the SSMIS was associated with insight. This was therefore used in path analysis - Self-stigma was found to exert direct and indirect effects in terms of reducing treatment adherence 	<ul style="list-style-type: none"> - Cross-sectional nature means causality cannot be assumed - Participants were engaged to a certain extent in treatment and so cannot extend to those not receiving treatment

Fung, Tsang & Corrigan (2008)	86 participants (51.2% male), mean age 39.9. Recruited from inpatient and outpatient services in Hong Kong	Cross-sectional. Measures were taken at one time point after three months of attending a psychosocial intervention (Cognitive Behavioural Therapy (CBT), family intervention, etc)	<ul style="list-style-type: none"> - SSMIS - The Psychosocial Treatment Compliance Scale (PTCS) - Self-Efficacy Scale - Rosenberg Self-Esteem Scale (RSES) - Scale to Assess Unawareness of Mental Disorder (SUMD) 	- Self-stigma was negatively correlated with both participation and attendance of psychosocial treatment	<ul style="list-style-type: none"> - Cross-sectional nature means causality cannot be assumed - Participants were engaged to a certain extent in treatment and so cannot extend to those not receiving treatment - Potential mediating and moderating variables were not assessed, such as therapeutic alliance - They did not show correlations between self-stigma and the other variables assessed such as self-esteem; these could have been potential mediators
Hill & Startup (2013)	60 participants (73.3% male), mean age 34.4. Recruited from inpatient facilities in Australia	Cross-sectional	<ul style="list-style-type: none"> - ISMI - Scale for Assessment of Negative Symptoms - National Adult Reading Test - Quality of Life Scale (QOLS) - The Faux Pas Test - Self-Efficacy Questionnaire 	<ul style="list-style-type: none"> - Negative symptoms of quality of life were negatively correlated with self-stigma - High self-stigma was correlated with lower self-efficacy - Self-efficacy did not mediate the relationship between negative symptoms and self-stigma 	<ul style="list-style-type: none"> - Cross-sectional nature means causality cannot be assumed - Relatively small sample size limits generalisability - Cannot be generalised outside of inpatient settings
Lv, Wolf & Wang (2012)	95 participants (61.1% male), mean age 26.3. Recruited from inpatient and outpatient services in China	Cross-sectional	<ul style="list-style-type: none"> - ISMI - Consumer Experiences of Stigma Questionnaire - Social Support Rating Scale - World Health Organization Questionnaire on Quality of Life (WHOQOL) - Assessment of Negative Symptoms - Assessment of Positive Symptoms 	<ul style="list-style-type: none"> - Psychiatric symptoms were not related to self-stigma - Self-stigma was negatively related to psychological well-being (as measured through the WHOQOL) and social support 	<ul style="list-style-type: none"> - Cross-sectional nature means causality cannot be assumed - Participants were a convenience sample rather than randomly selected
Lysaker, Buck, Taylor & Roe (2008)	51 Participants (90.2% male), mean age 48.5. Recruited from a medical centre or community mental	Cross-sectional. Measures taken as a baseline before commencing vocational placements and	<ul style="list-style-type: none"> - ISMI - Scale to Assess Unawareness of Mental Disorder (SUMD) - The Vocabulary Subtest - Marlowe-Crowne Social Desirability Scale 	<ul style="list-style-type: none"> - The Stereotype Endorsement scale of the ISMI was significantly negatively correlated with social desirability and narrative development - Metacognition was not 	<ul style="list-style-type: none"> - Small sample size and a large number of comparisons made - Cross-sectional nature means causality cannot be assumed - Homogenous group limiting generalisability

	health centre in Canada	psychosocial interventions	<ul style="list-style-type: none"> - Indiana Psychiatric Illness Interview - Scale to Assess Narrative Development - Metacognition Assessment Scale 	correlated with self-stigma	- All involved in vocational treatment and so generalising beyond those willing to engage is problematic
Lysaker, Davis, Warman, Strasburger & Beattie (2007)	36 participants, (91.7% male), mean age 46.9, recruited from a medical centre in Canada	Pre-post design. Measures taken at baseline and six month follow-up	<ul style="list-style-type: none"> - PANSS - ISMI - Quality of Life Scale (QOLS) 	- Higher self-stigma at baseline was correlated with higher symptoms and poorer QLS at both baseline and follow-up	<ul style="list-style-type: none"> - Small sample size - Homogenous group limiting generalisability - All involved in vocational treatment and so generalising beyond those willing to engage is problematic
Lysaker, Roe, Ringer Gilmore & Yanos (2012)	70 participants (85.7%), mean age 46.8. Recruited from a medical centre or community mental health centre in Canada	Quasi-experimental. Measures taken at baseline and then at five months following vocational placements and psychosocial interventions	<ul style="list-style-type: none"> - ISMI - PANSS - Multidimensional Self-Esteem Inventory 	<ul style="list-style-type: none"> - Participants were divided into three group: low moderate and severe self-stigma - Self-stigma significantly reduced by follow-up, although for the majority of participants, self-stigma remained relatively stable - For individuals who's self-stigma reduced by follow-up, emotional discomfort scores were lower at both time points, and higher self-esteem at follow-up 	<ul style="list-style-type: none"> - All involved in vocational treatment and so generalising beyond those willing to engage is problematic, could have been helpful to have included a control group - Difficult to generalise to women
Lysaker, Roe & Yanos (2007)	75 participants (gender not reported), mean age 48.3. Recruited from a medical centre or community mental health centre in Canada	Cross-sectional. Measures were taken at baseline prior to participants taking part in vocational placements and psychosocial treatments	<ul style="list-style-type: none"> - ISMI - PANNS positive symptoms - PANSS insight - Quality of Life Scale - The Multidimensional Self-Esteem Inventory - Beck Hopelessness Scale 	<ul style="list-style-type: none"> - Self-stigma was significantly positively correlated with positive and negative symptoms and self-esteem, and negatively correlated with quality of life and hope -Participants were divided into three groups: low insight/mild stigma, high insight/minimal stigma and high insight/moderate stigma. The high insight/minimal stigma group showed significantly fewer positive and negative symptoms and greater quality of life 	<ul style="list-style-type: none"> - Cross-sectional nature means causality cannot be assumed -Had consented to participate in vocational placements and psychosocial treatment so may not generalise to those who did not - All measures used were self-report

				- The high insight/ minimal stigma group had lower self-esteem and less hope	
Lysaker, Tsai, Yanos & Roe (2007)	133 participants (gender not reported), mean age 47.2. Recruited from a medical centre or community mental health centre in Canada	Cross-sectional. Measures taken as a baseline before commencing vocational placements and psychosocial interventions	- ISMI - The Multidimensional Self-Esteem Inventory	- Higher self-stigma was predictive of lower self-esteem	- Cross-sectional nature means causality cannot be assumed -Had consented to participate in vocational placements and psychosocial treatment so may not generalise to those who did not
Lysaker, Tunze, Yanos, Roe, Ringer & Rand (2012)	110 participants (86.4% male), mean age 46. Recruited from a medical centre or community mental health centre in Canada	Quasi-experimental. Participants completed measures at baseline, and at 5 and 12 months post baseline.	- Emotional discomfort component of the PANSS -Stereotype endorsement and discrimination experience scales of the ISMI	- Stereotype endorsement and discrimination were correlated with each other at each time point - The relationship between self-stigma and distress was inconsistent over the different time points, and often unrelated - Findings generally suggest that self-stigma constructs may fluctuate over time	- Homogenous group limiting generalisability - Enrolled in rehabilitation which may have influenced the results, plus limits generalisability to those not engaged in vocational support
Lysaker, Vohs & Tsai (2009)	99 participants (86.3% males), mean age not reported. Recruited from a medical centre or community mental health centre in Canada	Cross-sectional	- PANSS - QOLS - Multidimensional Self-Esteem Inventory (MSEI) - ISMI - Connors Continuous Performance Test - II	- Participants with greater negative symptoms and greater attentional impairment, showed greater self-stigma, poorer quality of life and self-esteem.	- Cross-sectional designs means causality cannot be assumed - Majority were males limiting generalisability to women
Lysaker, Yanos, Outcalt & Roe (2010)*	78 participants (84.6% male), mean age 46.7, recruited from a medical centre or community mental health centre in	Quasi-experimental. Participants completed measures at baseline line and then at five month follow-up following vocational work	- PANSS - ISMI - Multidimensional Anxiety Questionnaire - Multidimensional Self-Esteem Inventory (MSEI) - Bell-Lysaker Emotional	- ISMI scales of stereotype endorsement and discrimination experience were significantly correlated with social anxiety at baseline and follow-up - Discrimination experiences made a unique contribution to the	- Correlational design precludes assumptions of causality - Homogenous group enrolled in vocational treatment limits generalisability - High number of measures used increases chance of Type II errors

	Canada	placements.	Recognition Task - Marlowe-Crowne Social Desirability Scale	regression model only at five month follow-up.	
Mak & Wu (2006)	162 participants (66% male), mean age 36. Recruited from community mental health teams in China	Cross-sectional	- The Self-Stigma Scale (developed by the authors) - Beck's Cognitive Insight Scale - Causal Dimension Scale - Colorado Symptom Index	- The variables under study accounted for 31% of the variance in self-stigma - Greater symptomatology was related to higher self-stigma - People who attributed greater responsibility for their illness to themselves, and those who had greater insight reported greater self-stigma	- Cross-sectional and so cannot assume causation - Self-stigma measure developed for current study and so psychometric properties are less known
Margetic, Jakovljevic, Ivanec, Margetic & Tosic (2010)	120 participants (58.3% male), mean age 33.9. Recruited from two outpatient clinics in Croatia	Cross-sectional	- Temperament and Character Inventory (TCI) - ISMI - PANSS	- Self-stigma was positively correlated with TCI trait harm avoidance and negatively correlated with TCI traits self-directedness and persistence	- Cross-sectional and so cannot assume causality - Would have been beneficial to have measured at two time points as temperament is considered relatively stable, whereas this is less certain with regards to self-stigma - Medication was not controlled for and this could influence certain temperament characteristics
Moriarty, Jolley, Callanan & Garety (2012)	50 participants (66% male), mean age 45.5. Recruited from community mental health services in the UK	Cross-sectional	- Time Budget - Brief Illness Perception Questionnaire - ISMI - Hospital Anxiety & Depression Scale (HADS) - PANSS - Schedule for Assessment of Insight (SAI) - Mini Mental State Examination	- Self-stigma was negatively correlated with activity levels	-Cross-sectional so cannot assume causality - Convenience sample
Norman, WIndell, Lynch & Manchanda	102 participants (70.6% male), mean age 26.9. Recruited from Early	Cross-sectional	- SSMIS - Birchwood Insight Scale - Self-Esteem Rating Scale - Rosenberg Self-Esteem	- Self-stigma was negatively correlated with self-esteem and positively correlated with depression, anxiety and	-Cross-sectional so cannot assume causality

(2011)	Intervention services in Canada		Scale - Profile Mood States (depression, anxiety and anger) - Engulfment - Hamilton Anxiety Rating Scale - Calgary Depression Scale	engulfment - the perceived public stereotype subscale of the SSMIS impacted on well-being (anxiety, depression, anger) when insight into illness was high	
Outcalt & Lysaker (2012)*	78 participants (84.6% male), mean age 46.7. Recruited from a medical centre or community mental health centre in Canada	Quasi-experimental. Participants completed measures at baseline and five month follow-up. Participants were enrolled on vocational placements and wither CBT or supportive therapy	- ISMI - State-Trait Anger Expression Inventory-2 - Trauma Assessment for Adults	- Participants with a history of sexual trauma reported greater self-stigma at baseline and five month follow-up	- Correlational design precludes assumptions of causality - Homogenous group enrolled in vocational treatment limits generalisability - Predominantly male participant group limits generalisability to women - Would have been helpful to have included correlations between anger and self-stigma
Park, Bennett, Couture & Blanchard (2013)	49 (71.4% male), mean age 49.6. Recruited from Veteran Medical Centre or community mental health teams in the USA	Cross-sectional	- ISMI - Scale for the Assessment of Negative Symptoms - Calgary Depression Scale - Brief Quality of Life Interview - Dysfunctional Attitudes Scale - Success and Resource Appraisals Questionnaire	- Self-stigma was positively correlated with dysfunctional attitudes and negatively correlated with satisfaction with family and social relationship aspects of quality of life - Self-stigma was not related to negative symptoms but was positively correlated with depression	- Correlational design precludes assumptions of causality - They assessed negative symptoms but not positive and so unclear whether this could have related to self-stigma - All measures were self-report
Sharaf, Ossman & Lachine (2012)	200 participants (82.5% male), mean age 30.4. Recruited from outpatient clinics in Egypt	Cross-sectional	- Suicide Probability Scale - Insight Scale - ISMI - Depressed mood (from the PANSS)	- Suicide risk and depression was positively correlated with self-stigma. Greater insight was significantly correlated with increased self-stigma	- Convenience sample and proportion of men limits generalisability - Cross-sectional nature means causality cannot be assumed
Sibitz et al. (2011)*	157 participants (54.5% male), mean age 37.3. Recruited from inpatient and	Cross-sectional	- ISMI (excluding the Stigma Resistance scale) - Perceived Devaluation and Discrimination (PDD)	- Stigma did not directly impact on quality of life. However, it may have done so indirectly; reduced social network negatively	- Social network was assessed by asking one question which may have meant this variable was not robust - Cross-sectional nature means that

	day care settings, and community mental health centres in Austria		<ul style="list-style-type: none"> - Social Network - Centre for Epidemiological Studies Depression Scale (CESDS) - Rosenberg's Self-Esteem Scale (RSES) - Roger's Empowerment Scale (RES) - World Health Organization Questionnaire on Quality of Life (WHOQQOL) 	impacted on quality of life, but only if it led to self-stigma and reduced empowerment	causality cannot be inferred
Sibitz, Unger, Woppmann, Zidek & Amering (2011)*	157 participants (54.5% male), mean age 37.3. Recruited from inpatient and day care settings, and community mental health centres in Austria	Cross-sectional	<ul style="list-style-type: none"> - The Stigma Resistance scale of the ISMI - PDD - Centre for Epidemiological Studies Depression Scale (CESDS) - Rosenberg's Self-Esteem Scale (RSES) - Roger's Empowerment Scale (RES) - World Health Organization Questionnaire on Quality of Life (WHOQQOL) 	<ul style="list-style-type: none"> - Stigma Resistance was negatively correlated with perceived discrimination and depression - Stigma Resistance correlated positively with self-esteem, quality of life and empowerment 	<ul style="list-style-type: none"> - Cross-sectional nature means causation cannot be assumed - Only was scale of the ISMI was used in the correlations with dependent variables (stigma resistance) which is arguably less about self-stigma as it does not measure stigma endorsement
Tang & Wu (2012)	100 participants (81% male), mean age 46. Recruited from community rehabilitation centres in Taiwan	Cross-sectional	<ul style="list-style-type: none"> - ISMI - World Health Organization Questionnaire on Quality of Life (WHOQQOL) 	<ul style="list-style-type: none"> - Mental health quality of life was negatively correlated with self-stigma - Physical health quality of life was not correlated with self-stigma 	<ul style="list-style-type: none"> - Cross-sectional nature means causality cannot be assumed
Tsang, Fung & Chung (2010)*	105 participants (48.6% male), mean age 41.8. Recruited from day hospitals and community settings in Hong Kong	Cross-sectional	<ul style="list-style-type: none"> - Psychosocial Treatment Compliance Scale (PTCS) - Brief Psychiatric Rating Scale (BPRS) - SSMIS - Change Assessment Questionnaire - Scale to Assess Unawareness of Mental Disorder (SUMD) 	<ul style="list-style-type: none"> - The self concurrence and self-esteem decrement scales of the SSMIS were correlated with poor treatment engagement 	<ul style="list-style-type: none"> - Cross-sectional nature means causality cannot be assumed - Engaged in psychosocial treatment so may not generalise to those who are not - Diagnoses of schizophrenia were not verified

			- General Self-Efficacy Scale		
Yanos, Lysaker & Roe (2010)*	78 participants (84.6% male), mean age 46.7, recruited from a medical centre or community mental health centre in Canada	Randomised controlled trial (RCT): cognitive behavioural therapy (CBT) or support services. All participants offered a 26 week vocational placement. Measured were taken at baseline and five month follow-up	<ul style="list-style-type: none"> - Positive and Negative Syndrome Scale (PANSS) - Internalised Stigma of Mental Illness Scale (ISMI) - Beck Hopelessness Scale - Rosenberg Self-Esteem Scale - Quality of Life Scale (QOLS) 	<ul style="list-style-type: none"> - Stereotype agreement (on the ISMI) significantly predicted change in QLS - greater self-stigma was associated with poorer vocational functioning at follow-up, independent of treatment group 	<ul style="list-style-type: none"> - Potential lack of power to detect whether the relationship between self-stigma and vocational outcome was mediated by hope and self-esteem - Relatively homogenous sample limiting generalisability - As all were involved in vocational treatment, this may limit generalizability to more difficult to engage service-users
Yanos, Roa, Markus & Lysaker (2008)	102 participants (85.3% male), mean age 46.2. Recruited from a medical centre or community mental health centre in Canada	Cross-sectional. All participants were enrolled on a vocational programme and were receiving either CBT or supportive therapy	<ul style="list-style-type: none"> - ISMI - PANSS - Scale to Assess Unawareness of Mental Disorder (SUMD) - Beck Hopelessness Scale - Rosenberg Self-Esteem Scale - Ways of Coping Questionnaire 	<ul style="list-style-type: none"> - Self-stigma was negatively associated with hope and self-esteem and positively associated with avoidant coping and PANSS social avoidance and positive symptoms - Self-stigma was not related to insight or depression (PANSS) - Self-stigma mediated the effect of avoidant coping, depression and social avoidance on hope and self-esteem 	<ul style="list-style-type: none"> - Cross-sectional nature means causality cannot be assumed - Engaged in psychosocial treatment so may not generalise to those who are not - Difficult to generalise to women
<u>Self-Stigma Intervention Study</u>					
Fung, Tsang & Cheung (2011)	66 participants (56% male), mean age in experimental group 43.9, in comparison group 46.9	RCT; 16 sessions of CBT for self-stigma or a reading control group	<ul style="list-style-type: none"> - SSMIS - Scale to Assess Unawareness of Mental Disorder (SUMD) - Change Assessment Questionnaire for People with Severe and Persistent Mental Illness - The Psychosocial Treatment Compliance Scale (PTCS) - Brief Psychiatric Rating Scale 	<ul style="list-style-type: none"> - Self-esteem decrement was found to be significantly lower at the mod point and post-intervention for the experimental group. They also showed greater readiness for change at the mid-point and greater treatment participation at post-intervention - There were no significant differences for the other scales of the SSMIS - Benefits were not found at 	<ul style="list-style-type: none"> - The comparison group was a reading group so we cannot be sure that changes were a result of this particular intervention, or just a result of receiving an intervention per se - Relatively small sample sizes initially on each group (32 and 34) - Diagnoses were not verified by interview

				follow-up	
Psychological Flexibility and Symptoms of Psychosis					
Goldstone, Farhall & Ong (2011a)*	133 non-clinical participants recruited from University. 41% male, 45% aged 18-25 100 participants with psychosis recruited from community mental health teams in Australia. 56% male, 13.1% aged 18-25	Cross-sectional	- Peters Delusions Inventory - Heredity - Early Trauma Inventory-Self-Report - Survey of Recent Life Experiences - AAQ-II	- Psychological inflexibility was positively correlated with delusions in both the clinical and non-clinical sample - In the non-clinical sample, psychological inflexibility was a good predictor of delusional vulnerability and was also strongly connected with life hassles - In the clinical sample, the relationship between life hassles and delusions was partially mediated by psychological flexibility	- Cross-sectional nature means causality cannot be assumed - The trauma Inventory has not been validated - Demographics between the clinical and non-clinical participants were quite varied limiting confidence in comparisons
Goldstone, Farhall & Ong (2011b)*	As above	Cross-sectional	As above	- The clinical population showed greater psychological inflexibility relative to the non-clinical participants - In the non-clinical population, the strongest correlation was between psychological inflexibility and delusional distress. This was similar but slightly weaker in the clinical population - Psychological inflexibility partially mediated the relationship between life stress and delusions in the clinical participants and significantly mediated the relationship for non-clinical participants	- As above
Goldstone, Farhall & Ong (2012)*	As above	Cross-sectional	As above Also: - The Lunacy Slade	- In the clinical and non-clinical groups, psychological inflexibility was significantly positively	- As above - It should also be noted that if the three papers are put together, a large

			Hallucinations Scale-Revised - The Metacognitions Questionnaire	correlated with hallucinations in general, but weakly but significantly correlated with auditory hallucinations - Psychological flexibility was a better predictor of hallucinations than Metacognitions	number of comparisons were made in total, increases the risk of a Type I errors
Langer, Cangas, Preez-Moreno, Carmona & Gallego (2010)	265 participants from a University in Spain. 38% male, mean age 21.9	Cross-sectional	- Revised Hallucination Scale - Symptom Check-list - Acceptance and Action Questionnaire-II (AAQ-II)	- Psychological inflexibility was positively correlated with auditory and visual hallucination experiences - Regression analysis revealed that depression and psychological inflexibility were the best predictors of hallucinatory experiences	- The study employed non-clinical students and so cannot be generalised to clinical populations with psychosis - In the regression model, the variance explained was low and so results should be interpreted with caution - Cross-sectional nature means causality cannot be assumed
Oliver, O'Connor, McLachlan & Peters (2011)	700 students from New Zealand and the UK completed measures at baseline. 204 participants completed the same measures six months later. Of these, 19% were men, mean age 28	Longitudinal	- The Peters et al. Delusion Inventory - Brief Core Schema Scale - Depression, Anxiety and Stress Scale - The AAQ-II	- At baseline, psychological inflexibility was correlated with negative schemas, anxiety, depression and delusional ideation - A moderated mediation effect was found: the indirect effect of negative schemas on delusional ideation was conditional upon psychological flexibility - the greater the flexibility, the lower the indirect effect - Psychological inflexibility at both time points was predictive of negative schemas, depression, anxiety and delusions	- The study employed non-clinical students and so cannot be generalised to clinical populations with psychosis - Difficult to generalise to women
Udachina et al. (2009)	427 students participated from University's in the UK. 22% were male, mean age 21.7.	Experience Sampling Method (ESM). All 427 completed initial questionnaires, and then those scoring in the upper and lower quartile range of the	<u>Initial sample of 427</u> - The Self-Esteem Rating Scale - The Acceptance and Action Questionnaire-II (AAQ-II) - Persecution and Deservedness Scale	<u>Initial sample of 427</u> - Psychological inflexibility was predictive of lower self-esteem, and higher paranoia. - Psychological inflexibility was found to have both a direct and an indirect effect on paranoia	- The study employed non-clinical students and so cannot be generalised to clinical populations with psychosis - The ESM component had a small sample size - Although the ESM took data at several time points, because of the

		Persecution and Deservedness Scale were invited to take part in the ESM (32 participants)	<u>ESM participants (n = 32)</u> - Participants completed questions pertaining to self-esteem, experiential avoidance (psychological flexibility), paranoia, depression, social stress and activity-related stress at 10 time points a day for six days.	- Self-esteem partially mediated the relationship between psychological inflexibility and paranoia <u>ESM</u> - Those in the high paranoia group showed significantly greater psychological inflexibility than those in the low group - This remained after controlling for depression	sample size it was not possible to conduct a thorough analyses regarding change over time and so the study is essentially cross-sectional in nature and therefore difficult to extract causation
Valiente, Provencio, Espinosa, Chaves & Fuentenbro (2011)	40 participants (52.5% men), mean age not reported. Recruited from an inpatient ward in Spain	Cross-sectional	- PANSS (positive, negative symptoms and insight) - Beck Depression Inventory-II - Scales of Psychological Well-being - Enjoyment Orientation Scale - AAQ-II	- Participants were split into a low insight and a high insight group - There were no significant differences in psychological flexibility between the two groups - However, the interaction term of psychological inflexibility and insight was significant for the self-acceptance dimension of well-being and flexibility was found to be a moderator; for those who were high in flexibility, similar levels of self-acceptance was found irrespective of insight, whereas those who were inflexible and had high insight were less self-accepting	- Cross-sectional nature means causality cannot be assumed. - Small sample size limits power - Insight was judged based on one item of the PANSS which may limit validity
Varese, Udachina, Myin-Germeys, Oorschot & Bentall (2011)	42 participants with schizophrenia were recruited from inpatient and outpatient centres in the UK. 23 healthy controls were recruited from university	Experience Sampling Method (ESM)	- PANSS - The Quick Test (premorbid IQ) - ESM measured auditory hallucinations, paranoia, stress, psychological inflexibility and dissociation. Recorded at 10 time points for six days	- The clinical participants were divided into two groups: hallucinating (n=21) and non-hallucinating (n=21) - Those in the hallucinating group were significantly more psychologically inflexible than either of the other two groups - The non-hallucination group were significantly more psychologically inflexible than	- Although the ESM took data at several time points, because of the sample size it was not possible to conduct a thorough analyses regarding change over time and so the study is essentially cross-sectional in nature and therefore difficult to extract causation - The finding that auditory hallucinations were more closely related to dissociative experiences

				<p>the control group</p> <ul style="list-style-type: none"> - Psychological inflexibility was also significantly associated with dissociation - Psychological inflexibility predicted auditory hallucinations but this became non-significant when paranoia was entered as a confound 	<p>than inflexibility should be interpreted with caution as the difference was very small</p>
White et al. (2012)	30 participants, (76.7% male), mean age 34.4. Recruited from community mental health teams in the UK	Cross-sectional	<ul style="list-style-type: none"> - The Hospital Anxiety and Depression Scale (HADS) - PANSS - AAQ-II - The Kentucky Inventory of Mindfulness Skills 	<ul style="list-style-type: none"> - Psychological inflexibility was positively correlated with depression and anxiety - Mindfulness and the AAQ were entered into a regression model with depression as the outcome. The overall model was significant, but only the AAQ achieved statistical significance suggesting it explains more variance in depression than mindfulness. The same patterns was found for anxiety 	<ul style="list-style-type: none"> - Cross-sectional and so cannot assume causality - The participants went on to be involved in an intervention programme and so finding may not generalise to populations who are not willing to engage in interventions - The sample size was small and the majority were male and this reduced generalisability
Acceptance and Commitment Therapy as an Intervention for Psychosis					
Bach & Hayes (2002)	80 participants (63.8% male), mean age 39. Recruited from inpatient services in the USA	Randomised-Controlled Trial: four sessions of ACT plus treatment as usual (TAU) or just TAU	<ul style="list-style-type: none"> - Data on rehospitalisation - Frequency of symptoms (delusions or hallucinations) - Distress caused by symptoms (rating scale) - Believability of the symptoms (rating scale) 	<ul style="list-style-type: none"> - 20% of the ACT group were readmitted within a four month follow-up period compared to 40% of the TAU group. This was a significant difference - This remained the case when controlling for baseline admission rates - No significant difference at follow-up on distress rating between groups - Believability significantly reduced for ACT at follow-up relative to TAU 	<ul style="list-style-type: none"> - Follow-up period was relatively brief (4 months) and as problem in the ACT group began to be readmitted by this stage, four sessions of ACT may not be enough to maintain outcomes - Believability, distress and frequency of symptoms was measures by a rating scale rather than validated measures. This rating were also not taken at follow-up, only after the sessions and so we do not know whether these changed over time - No adherence to manual checks were performed
Bach, Hayes	Same as above, but	As above	- Rehospitalisation rates at one	- Rates of readmission continued	- Outcome based fully on hospital

& Gallop (2012)	data presented based on 71 participants for whom follow-up information was available		year post-discharge	to diverge at one year follow-up, even when controlling for rate of readmission at 4 months; a significant effect of group	readmission, which may miss other areas of difficulty/distress
Gaudiano & Herbery (2006)*	40 participants (64% male), mean age not reported. Recruited from inpatient ward in the USA	Pilot results of a randomised controlled trial. Randomly assigned to TAU+ACT (average of three sessions) or TAU alone. Measures were taken at baseline and last session. Rehospitalisation rates taken at four month follow-up	<ul style="list-style-type: none"> - Brief Psychiatric Rating Scale - Clinical Global Impression Scale - Self-rating of Psychotic Symptoms - Sheehan Disability Scale - Rehospitalisation data 	<ul style="list-style-type: none"> - The ACT group showed significantly greater reductions in distress related to delusions - No significant group differences in terms of hallucination frequency or believability - At follow-up, 45% of TAU were rehospitalised compared to 28% in ACT. However, this wasn't statistically significant - The ACT group showed greater improvements on the social scale of the Sheehan Disability Scale and the Brief Psychiatric Rating Scale. This was a medium effect size - 50% of those in ACT showed clinically significant improvements on the Brief Psychiatric Rating Scale compared to 7% of TAU 	<ul style="list-style-type: none"> - Small sample size, especially in terms of follow-up date (29 remaining) - Measures of symptoms, believability etc only taken at post-treatment, not follow-up - Assessors were not blind to treatment condition which could have led to bias - Session numbers varied from one to five and this variation could have influenced results, although it increases ecological validity
Gaudiano, Herbert & Hayes (2010)*	As above: current data utilised the 29 participants remaining at follow-up	As above	As above	<ul style="list-style-type: none"> - Hallucination believability was a mediator of the relationship between treatment condition and distress - Believability accounted for 68% of the variance 	- As above
White et al. (2011)	27 participants (77.8% male), mean age around 34. Recruited from community mental health services in	Randomised controlled trial. Randomised to 10 sessions of ACT+TAU or TAU	<ul style="list-style-type: none"> - PANSS - HADS - AAQ-II - Kentucky Inventory of Mindfulness Skills - The Working Alliance 	<ul style="list-style-type: none"> - No significant group differences post intervention for positive symptoms, but ACT showed a significant reduction in negative symptoms - There was a trend towards 	<ul style="list-style-type: none"> - Sample size very small, although large effect sizes were found for several variables - The follow-up period was brief (three months)

	the UK		Inventory	improvement in depression - No significant post-intervention differences on AAQ-II between groups - Those in the ACT group had fewer crisis contacts over the treatment period than those in TAU	
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* Denotes paper with the same participants used in a previous study and so not treated as a unique paper in the review (i.e., three papers with the same author and participants were treated as one paper in the review)

Appendix C: Manchester Short Assessment of Quality of Life

Section 1

Date of Birth..... Ethnic Origin.....
 Gender..... Diagnosis.....
 Medication.....

Section 2

1. Age at leaving full time education
2. Employment status
3. If employed – what is your occupation?
4. If employed, how many hours per week do you work?
5. What is your total monthly income after tax?
6. What if any, benefits do you receive?
7. How many children (if any) do you have?
8. Who else (if anybody) do you live with?
9. In what type of residence do you currently live?

Section 3

Using the satisfaction scale below please tick either yes or no, or circle the numbered boxes, to indicate your response to each of the following questions:

1	2	3	4	5	6	7
Couldn't be Worse	Displeased	Mostly dissatisfied	Mixed	Mostly satisfied	Pleased	Couldn't be better

10. How satisfied are you with your life as a whole today?	1	2	3	4	5	6	7
11. How satisfied are you with your job/volunteering/training as your main occupation? (or if unemployed/retired how satisfied are you with being unemployed/retired)	1	2	3	4	5	6	7
12. How satisfied are you with your financial situation?	1	2	3	4	5	6	7
13. Do you have anyone who you would call a “close friend”?	Yes			No			
14. In the last week, have you seen a friend? (visited, been visited by or met with a friend outside home/work?)	Yes			No			
15. How satisfied are you with the number and quality of your friendships?	1	2	3	4	5	6	7
16. How satisfied are you with your leisure activities?	1	2	3	4	5	6	7
17. How satisfied are you with your accommodation?	1	2	3	4	5	6	7
18. In the past year have you been accused of a crime?	Yes			No			
19. In the past year have you been a victim of physical violence?	Yes			No			
20. How satisfied are you with your personal safety?	1	2	3	4	5	6	7
21. How satisfied are you with the people that you live with? (or if you live alone, how satisfied are you with living alone?)	1	2	3	4	5	6	7
22. How satisfied are you with your sex life?	1	2	3	4	5	6	7
23. How satisfied are you with your relationship with your family?	1	2	3	4	5	6	7
24. How satisfied are you with your physical health?	1	2	3	4	5	6	7
25. How satisfied are you with your mental health?	1	2	3	4	5	6	7

Appendix D: Internalized Stigma of Mental Illness Scale

PARTICIPANT NUMBER:

We are going to use the term "mental illness" in this questionnaire, but please think of it as whatever you feel is the best term for it.

For each question, please mark whether you strongly disagree (1), disagree (2), agree (3), or strongly agree (4).

	Strongly disagree	Disagree	Agree	Strongly agree
1. I feel out of place in the world because I have a mental illness.	1	2	3	4
2. Mentally ill people tend to be violent.	1	2	3	4
3. People discriminate against me because I have a mental illness.	1	2	3	4
4. I avoid getting close to people who don't have a mental illness to avoid rejection.	1	2	3	4
5. I am embarrassed or ashamed that I have a mental illness.	1	2	3	4
6. Mentally ill people shouldn't get married.	1	2	3	4
7. People with mental illness make important contributions to society.	1	2	3	4
8. I feel inferior to others who don't have a mental illness.	1	2	3	4
9. I don't socialize as much as I used to because my mental illness might make me look or behave "weird."	1	2	3	4
10. People with mental illness cannot live a good, rewarding life.	1	2	3	4
11. I don't talk about myself much because I don't want to burden others with my mental illness.	1	2	3	4
12. Negative stereotypes about mental illness keep me isolated from the "normal" world.	1	2	3	4
13. Being around people who don't have a mental illness makes me feel out of place or inadequate.	1	2	3	4
14. I feel comfortable being seen in public with an obviously mentally ill person.	1	2	3	4
15. People often patronize me, or treat me like a child, just because I have a mental illness.	1	2	3	4
16. I am disappointed in myself for having a mental illness.	1	2	3	4
17. Having a mental illness has spoiled my life.	1	2	3	4
18. People can tell that I have a mental illness by the way I look.	1	2	3	4
19. Because I have a mental illness, I need others to make most decisions for me.	1	2	3	4
20. I stay away from social situations in order to protect my family or friends from embarrassment.	1	2	3	4
21. People without mental illness could not possibly understand me.	1	2	3	4
22. People ignore me or take me less seriously just because I have a mental illness.	1	2	3	4
23. I can't contribute anything to society because I have a mental illness.	1	2	3	4
24. Living with mental illness has made me a tough survivor.	1	2	3	4
25. Nobody would be interested in getting close to me because I have a mental illness.	1	2	3	4
26. In general, I am able to live my life the way I want to.	1	2	3	4
27. I can have a good, fulfilling life, despite my mental illness.	1	2	3	4
28. Others think that I can't achieve much in life because I have a mental illness.	1	2	3	4
29. Stereotypes about the mentally ill apply to me.	1	2	3	4

Appendix E: Acceptance and Action Questionnaire-II

Below you will find a list of statements. Please rate how true each statement is for you by circling a number next to it. Use the scale below to make your choice.

1	2	3	4	5	6	7
Never true	Very seldom true	Seldom true	Sometimes true	Frequently true	Almost always true	Always true

1.	My painful experiences and memories make it difficult for me to live a life that I would value	1	2	3	4	5	6	7
2.	I'm afraid of my feelings	1	2	3	4	5	6	7
3.	I worry about not being able to control my worries and feelings	1	2	3	4	5	6	7
4.	My painful memories prevent me from having a fulfilling life	1	2	3	4	5	6	7
5.	Emotions cause problems in my life	1	2	3	4	5	6	7
6.	It seems like most people are handling their lives better than I am	1	2	3	4	5	6	7
7.	Worries get in the way of my success	1	2	3	4	5	6	7

Appendix F: Clinical Outcomes in Routine Evaluation - Outcome Measure

This has been removed from the electronic copy

Appendix G: Description of the Implicit Relational Assessment Procedure (IRAP)

Participants completed a block of practice trials followed by a set of twelve test blocks. The practice blocks required participants to decide whether the category labels of “shape” or “colour” were the same or different to one of six target words (circle, square or triangle; red, blue or yellow). Participants were required to hit an 80% accuracy rate within a three-second latency period in order to proceed to the test blocks.

In terms of the test blocks, each block consists of the same number of trials; on each trial, one of two category labels is presented at the top of the screen (“Me” or “Not Me”), with one of two types of target stimuli (one of the six self-stigmatising words, or one of the six non-self-stigmatising words) presented in the centre of the screen. Participants were required to choose between two response options, which were presented at the bottom left and bottom right of the screen. The response options were “same” or “different”, and their choice was recorded by them pressing the “D” or “K” key. The position of the response options was randomised from trial to trial. Each of the four trial types was presented a total of three times when a consistent response is required, and three times when an inconsistent response is required. During the consistent trials, participants were required to respond with the “Same” key when non-stigmatising words were presented with the category label “Me” (e.g., “Me” and “Safe” = same) and “Different” when non-stigmatising words were presented with category label “Not Me” (e.g., “Not Me” and “Safe” = different). During inconsistent trials, they were required to respond with the “different” key when presented with non-stigmatising words paired with the category label “Me” (“Me” and “safe” = different) and with the “same” key when presented with stigmatising words paired with the category label “Not Me (e.g., “Not Me” and “Safe” = same). Participants always started with a consistent trial, and then inconsistent, for a total of three times each.

If the participant selected the correct response, the screen would be cleared for 0.4 seconds before presented the next trial. If they were incorrect, a red X would appear on the screen and remain until they chose the correct response and then move them on to the next trial. As with prior research, during the test block responses were included if they were within a 10-second latency (Dawson et al., 2009).

Appendix H: List of Generated IRAP words

Word	Reference	Rank Order
Bad	Rusch et al. (2010); Teachman et al. (2008)	4
Blameworthy	Corrigan (2004); Peris et al. (2008); Teachman et al. (2008)	18
Burden	Richter et al. (2003)	13
Cureless	Lincoln et al. (2008)	22
Dangerous	Lincoln et al. (2008); Watson et al. (2007)	2
Deficient	Corrigan (2004)	9
Embarrassing	Stier & Hinshaw (2010)	19
Failure	Lincoln et al. (2008); Watson et al. (2007)	7
Helpless	Peris et al. (2008); Teachman et al. (2008)	23
Horrible	Rusch et al. (2010)	10
Inadequate	Richter et al. (2003)	6
Incompetent	Corrigan (2004); Lincoln et al. (2008); Stier & Hinshaw (2010); Watson et al. (2007)	8
Inferior	Richter et al. (2003)	3
Insincere	Nunnally (1961)	21
Isolated	Watson et al. (2007)	24
Reject	Meuller et al. (2006)	11
Shameful	Corrigan (2004)	16
Terrible	Rusch et al. (2010)	15
Unintelligent	Nunnally (1961)	14
Unpredictable	Corrigan (2004); Corrigan et al. (2006); Masuda & Latzman (2011); Richter et al. (2003)	20
Untreatable	Lincoln et al. (2008)	17
Untrustworthy	Corrigan et al. (2006)	12
Violent	Corrigan (2004); Richter et al. (2003)	5
Worthless	Nunnally (1961)	1

Appendix I: DIRAP Calculations

1. Remove latencies above 10 seconds
2. Calculate 24 mean latencies for the four trial-types in each of the three test blocks
3. Calculate an initial DIRAP score for each of the four trials within each of the three test blocks by subtracting the inconsistent trial mean from the consistent trial mean, divided by the trial standard deviation.
4. Use the resultant 12 initial DIRAP scores to calculate the overall DIRAP total score, which is the mean of the 12 initial DIRAP's. Table 1 below shows each of the configurations to calculate the 24 means, 12 standard deviations and 12 DIRAP's to aid clarity.

Table 1: Configurations required to calculate the total DIRAP score

Block Number (mean number in brackets)	Category Label	Target Word	Relational Response	Standard Deviation Number	Initial DIRAP Number
1 (1)	Me	Positive	Consistent	1	1
1 (2)	Me	Positive	Inconsistent		
1 (3)	Me	Negative	Consistent	2	2
1 (4)	Me	Negative	Inconsistent		
1 (5)	Not Me	Positive	Consistent	3	3
1 (6)	Not Me	Positive	Inconsistent		
1 (7)	Not Me	Negative	Consistent	4	4
1 (8)	Not Me	Negative	Inconsistent		
2 (9)	Me	Positive	Consistent	5	5
2 (10)	Me	Positive	Inconsistent		
2 (11)	Me	Negative	Consistent	6	6
2 (12)	Me	Negative	Inconsistent		
2 (13)	Not Me	Positive	Consistent	7	7
2 (14)	Not Me	Positive	Inconsistent		
2 (15)	Not Me	Negative	Consistent	8	8
2 (16)	Not Me	Negative	Inconsistent		
3 (17)	Me	Positive	Consistent	9	9
3 (18)	Me	Positive	Inconsistent		
3 (19)	Me	Negative	Consistent	10	10
3 (20)	Me	Negative	Inconsistent		
3 (21)	Not Me	Positive	Consistent	11	11
3 (22)	Not Me	Positive	Inconsistent		
3 (23)	Not Me	Negative	Consistent	12	12
3 (24)	Not Me	Negative	Inconsistent		

Appendix J: Participant Information Sheet

Comparing ways of measuring attitudes, coping and well-being

My name is Selina Thorrington and I am a trainee clinical psychologist at Canterbury Christ Church University. I would like to invite you to take part in a research study. The following information will help you decide if you would like to take part. Please take your time to read it carefully.

What is the study about?

Sometimes people can have negative attitudes about mental health problems. This sometimes can make it difficult for people to seek help when they experience mental health problems. I am looking at whether there is a relationship between these attitudes and people's quality of life and wellbeing for people who are accessing mental health services. It is hoped that this research will help to find ways will enable people to feel less affected by these attitudes.

Why have I been invited to take part in this study?

You have been invited because you attend an Early Intervention Service in the XXXXX. We are hoping that about 40 people will take part in this study.

Who is organising the study?

I am Selina Thorrington, a trainee clinical psychologist. I will be supervised by Eric Morris and Dr Joe Oliver, at the XXX NHS Trust, and Dr Fergal Jones from Canterbury Christ Church University. You can contact me through the University Research number at any time on 01892 5077673.

Who has reviewed the study?

All research in the NHS is approved by an independent group of people called a Research and Ethics Committee. This is to protect your safety, well-being, rights and dignity.

What does the study involve?

You will be asked to complete four questionnaires. These questionnaires will ask you various questions about your experiences. This study is also about measuring attitudes using a

computer task and comparing it to the paper questionnaire. The questionnaires and computer task should take no more than an hour of your time. You should be able to complete everything in one session.

Do I have to take part?

No you do not. It is up to you if you decide to join the study. If you agree to take part, you can take this information sheet with you and I will ask you to sign a consent form. If you decide to take part in the study, you are free to withdraw at any time and without giving a reason. If you decide not to participate or to withdraw, your care from the Early Intervention Service will not be affected in any way.

What will happen if I agree to take part?

If you would like to take part the following will happen;

1. Your care coordinator will let you know about the study and ask if you think you would like to be a part of it. They will let me know if you do.
2. I will contact you by telephone to arrange a convenient time to meet and complete the questionnaires and computer task.
3. The meeting will be based at the Early Intervention Service. However, if it is difficult for you to come to the service, we can discuss alternative locations.
4. In the interview I will ask you to complete four questionnaires and a short computer task.
5. There will be time at the end of the meeting to give you the opportunity to ask any questions you may have.
6. At the end of the meeting, your participation in the study will have finished. You will receive £10 as compensation for your time and travel expenses. The research will be completed by July 2013 and if you would like you can be sent a summary of the findings.

What are the possible risks of taking part?

The questionnaires you will be filling in are similar to ones used in routine clinical practice and people usually do not find them distressing to fill in. However, there will be some questions about difficulties that you may experience in your life. Therefore, it is possible that people may find these questions upsetting. If you do find filling in the questionnaires upsetting you are free to stop at any time. If you feel it is appropriate, I will inform your care co-ordinator who will be able to discuss with you possible support for your distress.

What if there is a problem?

If you have a concern about any aspect of this study, you should speak to me and I will do my best address your concerns either face to face or by contacting me on 01892 5077673. If you remain unhappy and wish to complain formally, you can do this by contacting the complaints department by post, telephone or email:

Complaints Department

Will my answers be confidential?

Each person participating in the study will be given a unique number, and only this number will appear on questionnaires and with the computer task. Names and all identifiable details will be stored electronically on an encrypted, memory protected memory stick. The questionnaires will be stored in a locked file which only the primary researcher will have access too. No one outside of the study will know the names of the participants. If you would like me to let your GP know that you are taking part in this study I can. However, I will not let them know what you answered during the study, only that you are taking part.

Are there any circumstances where you will pass on information about me to someone else?

If you revealed information that suggested you or someone else may be at risk of serious harm then I would be obliged to pass this information on to an appropriate person.

What happens with the results of the research?

The study will be written up and submitted for examination by Canterbury Christ Church University. In the future, the results may be published in a professional journal so that the findings can be shared with others. It is hoped that this may lead to further research and development aimed towards helping people to access relevant services and reduce negative attitudes towards mental health. Your identity will not be revealed in any publications as all identifiable information will be kept confidential.

Once the findings have been written up for University, you can request a summary of the findings by contacting me through the University research number (01892 5077673). This will be available after July 2013.

Can I withdraw from this study?

You are free to decline to take part or to withdraw at any point, prior to the study being completed, without having to give a reason.

Who do I contact for more information?

For any further information please leave a message for me, Selina Thorrington, via your care coordinator or by calling 01892 5077673.

I have decided to take part in the study, what do I need to do now?

Just let your care coordinator know. I will then contact you through telephone.

I have decided not to take part in the study, what do I need to do now?

You do not need to do anything.

THANK YOU FOR TAKING THE TIME TO READ THIS INFORMATION SHEET. IF YOU HAVE DECIDED TO TAKE PART IN THIS STUDY I WOULD LIKE TO THANK YOU IN ADVANCE FOR YOUR PARTICIPATION

Appendix K: Consent Form

Participant Identification Number for this study:

Title of Project: Comparing ways of measuring attitudes, coping and well-being

Name of Researcher: Selina Thorrington

Please initial box

1. I confirm that I have read and understand the information sheet dated 14/11/2012 for the above study and have had the opportunity to ask questions.
2. I understand that my participation is voluntary and that I am free to withdraw at any time, without giving a reason, without my medical care and legal rights being affected.
3. I understand that data collected during the study may be looked at by the lead supervisor, Eric Morris. I give permission for these individuals to have access to my data.
4. I understand that the data may be published but that this all information will be anonymous.
5. I agree to my GP being informed that I am taking part in the study.
6. I agree to take part in the above study.

Name of participant

Date

Signature

Name of researcher

Date

Signature

Appendix L: IRAP Instructions

The initial instructions before the first consistent trial is presented on the computer as follows:

You are about to engage in a series of sorting tasks. The computer will display a set of words on the screen. Two will be in the middle near the top of the screen, and two will be below near each side of the screen.

The words at the bottom are your choices. You will select them by pressing the 'd' key for the word on the left and the 'k' key for the word on the right.

Press the 'd' key with your left index finger, and the 'k' key with your right index finger. Keep your fingers on top of these keys throughout the sorting task so that you can respond quickly.

Your task is to use the feedback from the computer to learn to sort each set of words as fast as you can.

If you make an error you will see a red 'X' appear in the middle of the screen. When this happens, you have to make the correct response to proceed.

In some parts of the experiment the feedback from the computer may make sense to you, but in others it may not. This is part of the experiment. Please do the best that you can.

The most important thing for you to do is to **RESPOND QUICKLY** and to make as **FEW ERRORS AS YOU CAN**.

If you didn't understand these instructions, please ask the experimenter before proceeding. Otherwise, place your index fingers on the 'd' and 'k' keys and hit the spacebar when you are ready to begin. Good luck!

Following this, new instructions are presented before the inconsistent trial:

The next sorting task will be identical to the one before, except that all of the correct answers will now be incorrect, and all of the incorrect answers will be correct. In other words, your answers will have to be reversed from the previous task.

Place your index fingers on the 'd' and 'k' keys and hit the spacebar when you are ready to begin. Good luck!

Following this block, the following instructions are presented for the remaining four blocks:

Again, the next task will be identical but with reversed answers. Place your index fingers on the 'd' and 'k' keys and hit the spacebar when you are ready to begin. Good luck!

After completion, the following message was presented:

Done! Thank you for participating in this experiment. Please see the experimenter for further instructions.

Appendix M: NHS Ethics Approval

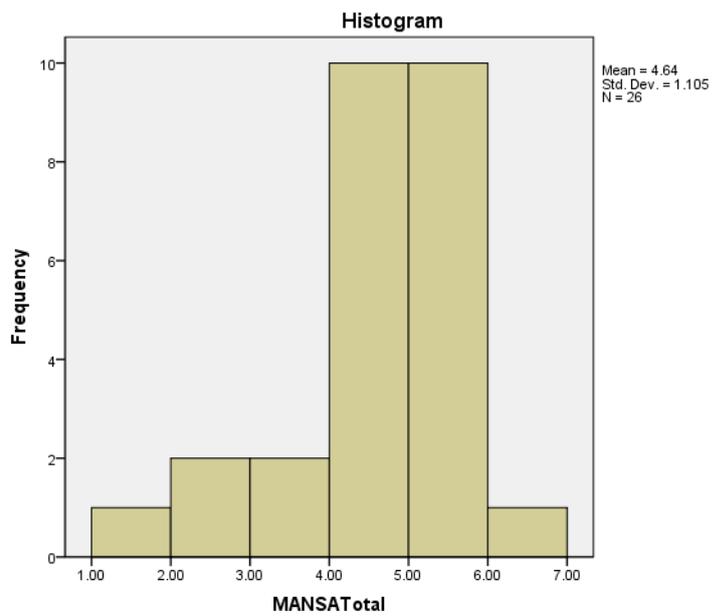
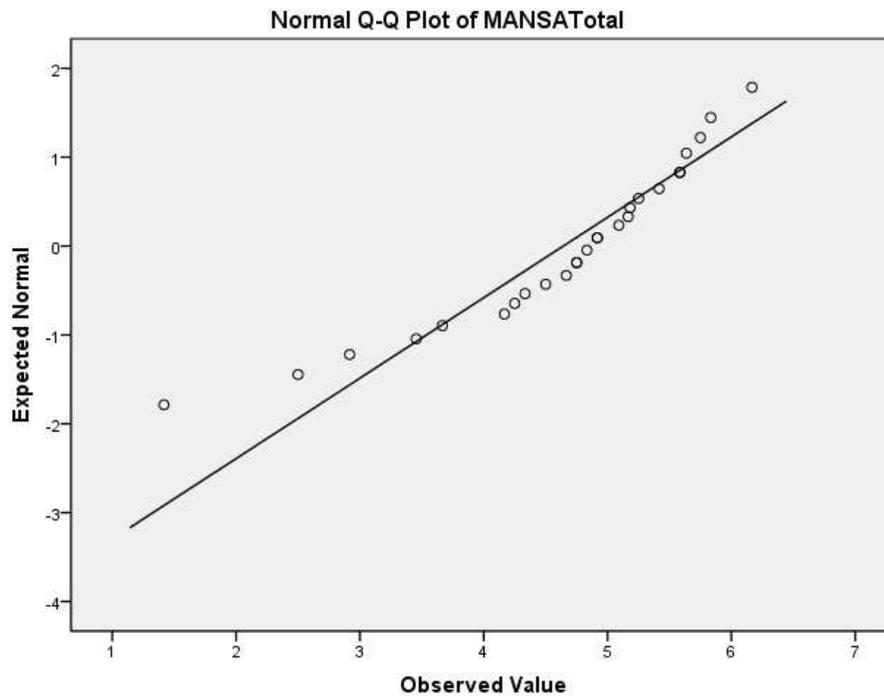
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Appendix N: Research and Development Approval

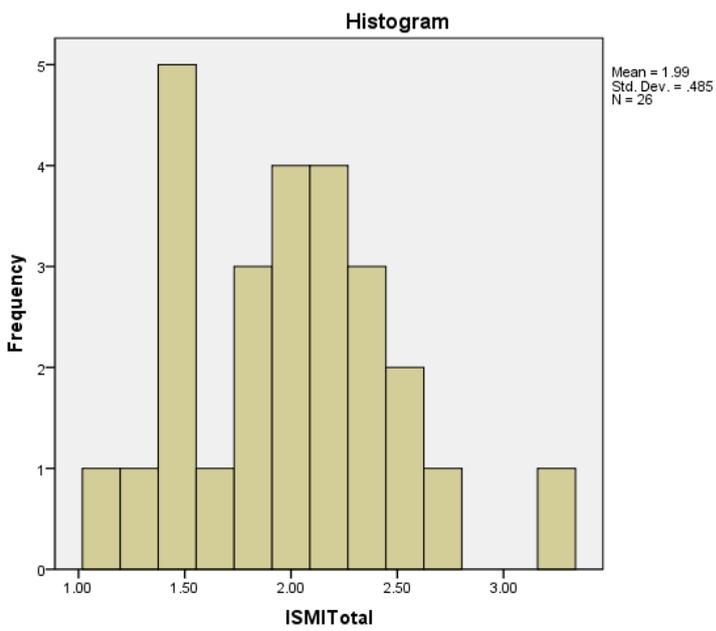
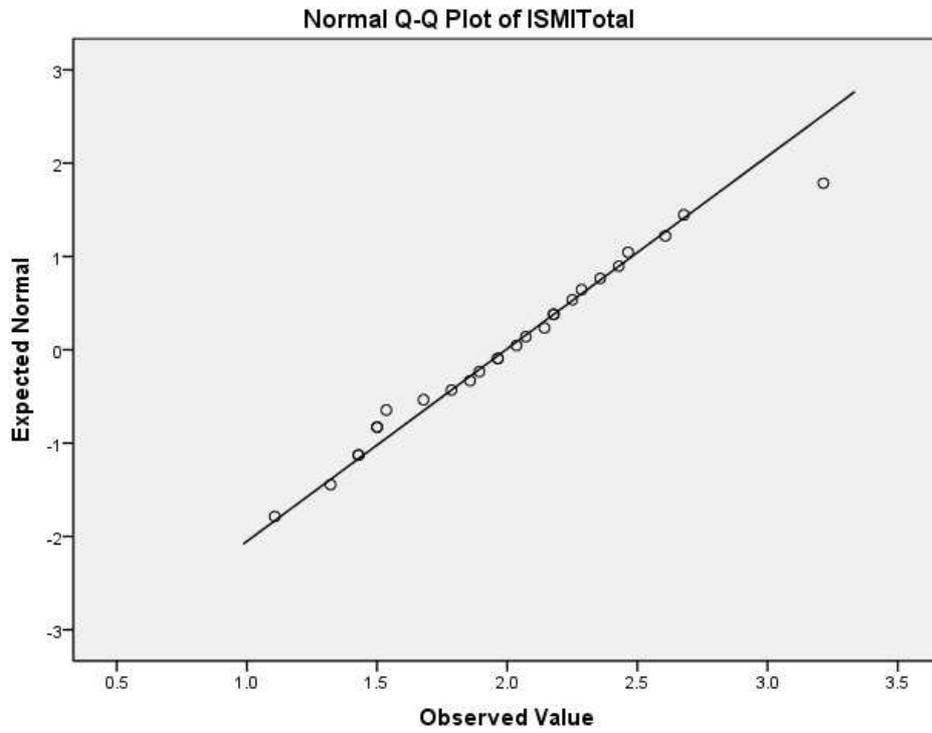
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Appendix O: Normality Checks

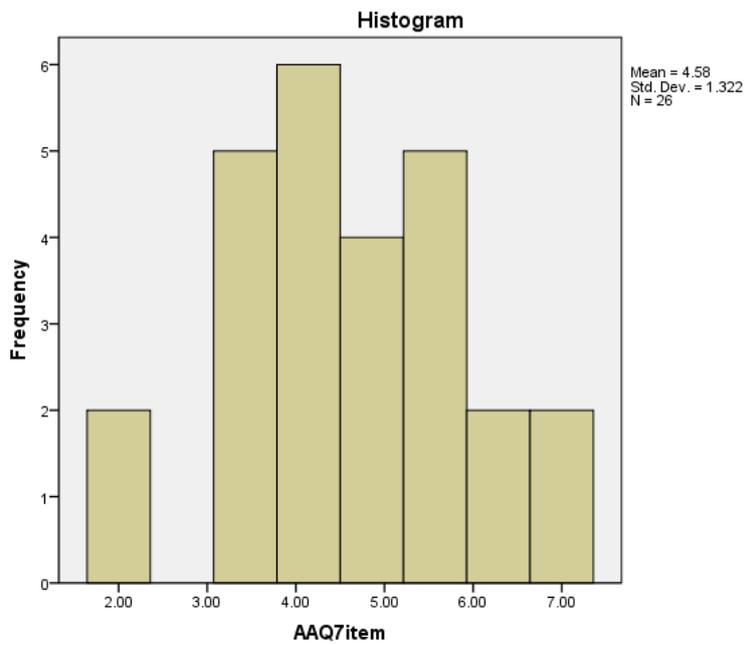
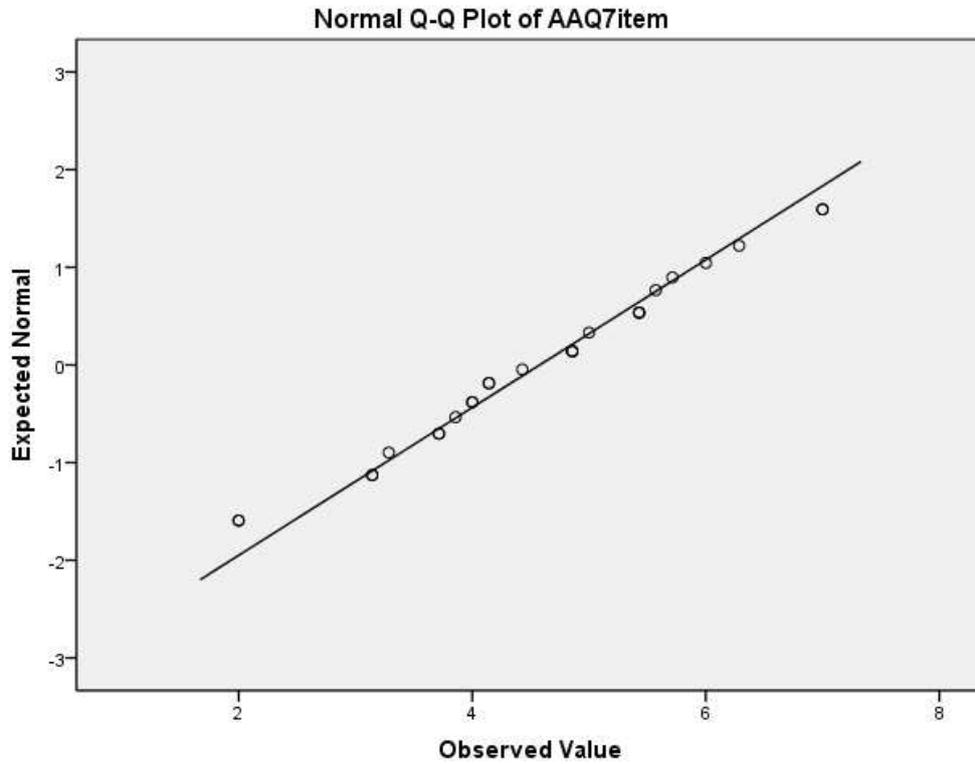
The Manchester Short Assessment of Quality of Life



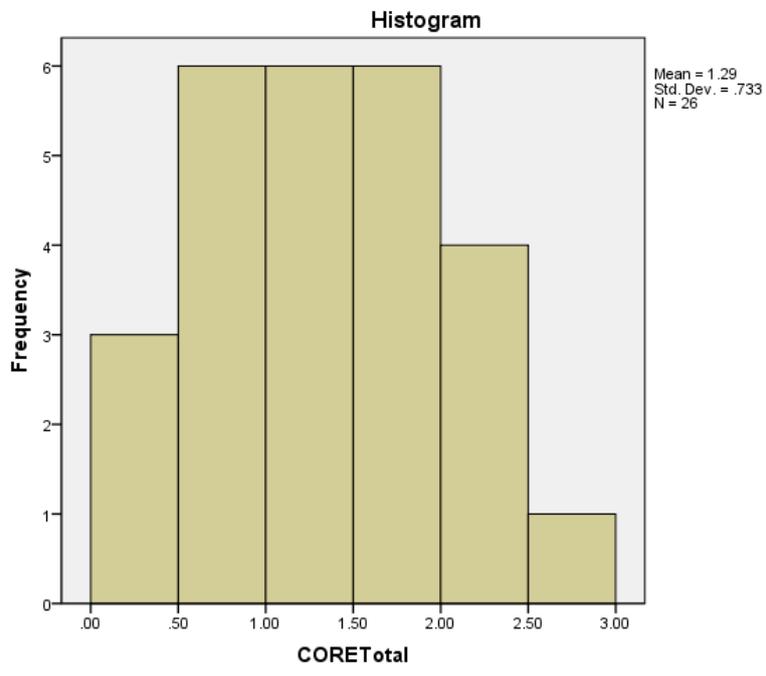
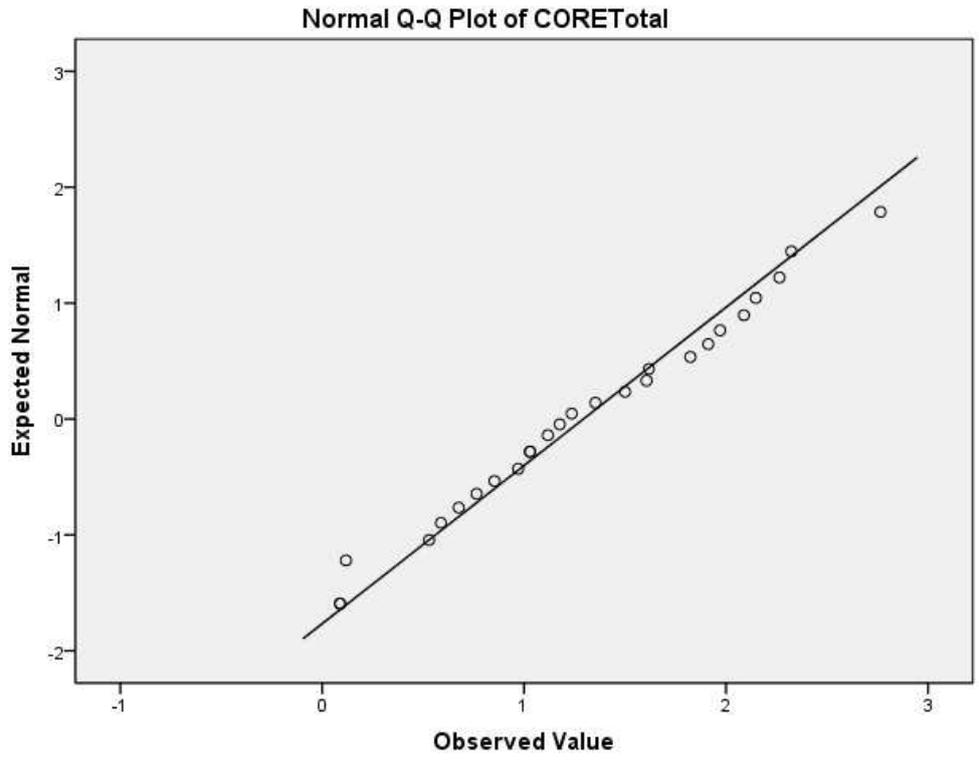
The Internalised Stigma of Mental Illness Scale



Acceptance and Action Questionnaire-II



Clinical Outcomes in Routine Evaluation – Outcome Measure



Appendix P: Feedback to Participants

Dear Study participants,

Between February and June 2013, a study was conducted at (name of service) in which you kindly participated. I am writing now to briefly notify you of the main findings of that study.

Study title: Capturing ways of measuring attitudes, coping and well-being

Aims

The study hoped to find out whether there is a relationship between self-stigma, different coping styles and quality of life and well-being. Self-stigma is when an individual believes certain stereotypes and negative attitudes about mental health and mental illness that are held within society. The particular coping styles that we were interested in is called psychological flexibility, that is, the degree with which a person can experience certain thoughts, feelings and emotions, without becoming tied up in them. A person who is psychologically flexible is generally more able to continue living in a way that is consistent with their chosen life values and goals.

The study

Twenty-six service users took part in the study conducted by (name), a Trainee Clinical Psychologist. Each participant completed four questionnaires looking at self-stigma, coping, quality of life and well-being. They also completed a computer based learning task which attempted to measure self-stigma in a different, more automatic way. Each of these components were analysed to explore relationships between them.

The results

The main findings of the study were as follows:

1. People who were less self-stigmatising had greater psychological well-being (and therefore presented with less psychological distress). It was not, however, linked to quality of life.
2. People who were more psychologically flexible were less self-stigmatising, and this meant that they had greater psychological well-being and quality of life.
3. The computer task was not found to be related to any of the other measures, which could mean that people did not hold automatic self-stigmatising beliefs, or that it was not an adequate tool to capture such beliefs.

What are the potential implications of the study?

The findings of this study supports the idea that psychological flexibility can be a positive style in terms of coping with difficult emotions, thoughts, memories and experiences. It is likely therefore that helping people to be more psychologically flexible therefore could help people experiencing mental health difficulties. It is also likely that this will minimise the occurrence of, and impact of self-stigma.

What happens now?

The study is now being written up for submission to Canterbury Christ Church University, and it is hoped that it will eventually be published in a research journal. This will allow the findings to be available to more people who work with people experiencing mental health difficulties.

I would like to take this opportunity again to thank you for your participation.

Yours sincerely,

Selina Thorrington,

Trainee Clinical Psychologist,

Salomons at Canterbury Christ Church University

Appendix Q: Progress Report to NHS Ethics

Study title: Implicit self-stigma and experiential avoidance in first episode psychosis and their relationship with psychological well-being and quality of life.

REC Reference: 12/LO/1674

Objective: Research suggests that psychosis is one of the most stigmatised mental health conditions. Stigma towards mental illness within society has been termed ‘public stigma’ (Corrigan, Kerr & Knudsen, 2005). Self-stigma on the other hand occurs when an individual endorses stereotypes about mental illness and believes them to be self-relevant (Livingston & Boyd, 2010). Self-stigma has been linked with reduced hope and self-esteem, poorer well-being and reduced quality of life. Importantly for clinical practice, research also suggests that self-stigma reduced help-seeking behaviour and treatment engagement. It is thought that self-stigma may be of particular relevance for individuals experiencing their first episode of psychosis (FEP) as stereotyped beliefs about mental illness may be perceived as applying to themselves for the first time, and as the majority of FEP are young adults developing their identities, this may occur at a particularly sensitive time. One aim of the current study was to measure self-stigma using a traditional self-report questionnaire (an explicit measure) alongside a reaction-time computer task designed to assess implicit self-stigma, and to explore how these were linked with quality of life and psychological well-being. In addition, in the recognition that not all individuals experiencing psychosis will self-stigmatise, psychological flexibility, as presented by Acceptance and Commitment Therapy, was measured to see how this was related to self-stigma, quality of life and well-being. The following hypotheses were made:

1. Individuals in a FEP sample with lower explicit self-stigma will score higher on quality of life and psychological well-being measures.

2. Individuals in a FEP sample with lower implicit self-stigma will score higher on quality of life and psychological well-being measures.
3. Individuals in an FEP sample who are psychologically inflexible (experientially avoidant) will be more self-stigmatising and have poorer quality of life and psychological well-being.
4. Implicit and explicit self-stigma will, at least partially, mediate the effect of psychological flexibility on psychological well-being and quality of life in a FEP sample.
5. For individuals high in psychological flexibility, implicit and explicit self-stigma will be strongly, positively correlated, whereas there will be a weaker correlation for individuals low in psychological flexibility.
6. If hypothesis five is supported, then for individuals with low psychological flexibility, implicit self-stigma will be a better predictor of quality of life and psychological well-being than explicit self-stigma.

Method: Twenty-six participants experiencing first episode psychosis were recruited. They completed self-report questionnaires pertaining to quality of life, psychological well-being, psychological flexibility and self-stigma. In addition, they completed a computer based reaction-time task designed to measure implicit self-stigma. Analyses through correlation, bootstrapping (mediation) and regression were planned.

Results: Support was found for Hypothesis 1 in terms of well-being; higher explicit self-stigma was associated with poorer well-being. No relationship was found for quality of life. Hypothesis 2 was not supported; implicit self-stigma was not related to either of the outcome measures. Hypothesis 3 was partially supported; individuals who were more psychologically

flexible were less explicitly self-stigmatising, had better quality of life and greater well-being. Psychological flexibility was not related to implicit self-stigma. Hypothesis 4 was partially supported; explicit self-stigma was found to statistically mediate the relationship between flexibility and well-being. Hypothesis 5 was not supported; explicit and implicit self-stigma were not related for individuals either high or low in psychological flexibility. As such, Hypothesis 6 was not assessed.

Conclusions: The findings suggest psychological inflexibility may lead to greater self-stigma, which in turn decreases psychological well-being. This implies that interventions geared towards increasing flexibility may not only improve well-being, but may also help address issues of self-stigma. The findings of this study do not suggest that the measure employed to assess implicit self-stigma was a reliable one. Further research could explore whether adapting this measure leads to a different pattern of results. It should be noted that the current study has several methodological limitations, namely they small sample size and the cross-sectional nature which means that causality cannot be inferred.

This report is intended as a progress report. It is hoped that the study will be closed after September 2013 following examination. A declaration of the end of the study will be sent after this date should recruitment cease.

Appendix Q: Submission guidelines to Behaviour Research and Therapy

- Behaviour Research and Therapy encompasses all of what is commonly referred to as cognitive behaviour therapy (CBT). The focus is on the following: theoretical and experimental analyses of psychopathological processes with direct implications for prevention and treatment; the development and evaluation of empirically-supported interventions; predictors, moderators and mechanisms of behaviour change; and dissemination and implementation of evidence-based treatments to general clinical practice. In addition to traditional clinical disorders, the scope of the journal also includes behavioural medicine. The journal will not consider manuscripts dealing primarily with measurement, psychometric analyses, and personality assessment.
-

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Contact details

Any questions regarding your submission should be addressed to the Editor in Chief:

Professor G. T. Wilson

Psychological Clinic at Gordon Road

Rutgers

The State University of New Jersey

41C Gordon Road

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New Jersey

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