

Experienced stigma and its impacts in psychosis: The role of social rank and external shame

Abstract

Objectives: Experienced stigma is detrimental to those who experience psychosis and can cause emotional distress and hinder recovery. Social Mentality Theory (SMT) outlines that external shame and low social rank play a mediatory role between threatening experiences and emotional distress. This study aimed to explore the relationship between experienced stigma with emotional distress and recovery in people with psychosis. It explored the role of external shame and social rank as mediators in these relationships.

Design: A cross-sectional design was implemented.

Methods: Fifty two service users were administered a battery of questionnaires examining experienced stigma, external shame, social rank, personal recovery, positive symptoms, depression and anxiety. Correlation and multiple regression analysis were conducted on the data. Where appropriate mediation analysis was employed to explore social rank and external shame as mediatory variables.

Results: Experienced stigma was significantly related to shame (social rank and external shame), positive symptoms, emotional distress (depression and anxiety) and personal recovery. The impact of experienced stigma on depression was mediated by external shame. Social rank was a mediator between experiences of stigma and personal recovery only.

Conclusion: People with psychosis who have experienced stigma are likely to experience emotional distress and be inhibited in their recovery. This was found to be partly mediated by external shame and low social rank. Clinical approaches to stigma need to target these as potential maintenance factors.

Practitioner Points:

- Experienced stigma is significantly related to shame, emotional distress and reduced personal recovery.
- External shame mediates the relationship between stigma and depression in psychosis. Social rank mediates the relationship with personal recovery.
- Clinical approaches to stigma should include the assessment of shame and low social rank.

Introduction

Stigma is a significant problem for those who experience psychosis. They experience the worst public stigma (the negative reaction the public have to mental illness) (Corrigan & Watson, 2002), and are viewed by the public as the most dangerous, unpredictable and least likely to recover, compared to other mental health diagnoses (Wood et al., 2014). Experienced stigma has been defined as ‘experiences of actual discrimination and/or participant restrictions on the part of the person affected’ (Van Brakel et al., 2006). Experienced stigma is prevalent in those who experience psychosis, with 87% of service users reporting experiences of stigma (The Schizophrenia Commission, 2012). Dinos et al. (2004) interviewed service users with psychosis about stigma and they reported high levels of verbal abuse, physical abuse and bullying. Experienced stigma can cause people to feel rejected and demoralised (Link, 1987). As a result, experienced stigma has been found to be significantly associated with shame, low social rank (a low perceived social positioning and status) and emotional distress (Birchwood et al., 2007; Byrne, 2001).

Social mentality theory (SMT), an evolutionary approach to understanding emotional distress, provides a model of understanding how experienced stigma could cause shame to occur. SMT explains that our minds are developed to create and seek out social relationships (Gilbert, 2009). Our motives, feelings, attention, thoughts and behaviours are guided towards finding and engaging in certain types of relationships. SMT allows people to assess the threats posed, potential rewards, and safeness within a relationship in order to act accordingly (Gumley et al., 2010). When someone has multiple threatening experiences such as stigma and discrimination, an individual’s approach to social relationships will adapt and become more attuned to threat. This can lead to a lowering of social rank and development of shame. Shame has been identified to have two subcomponents of external and internal shame. External shame occurs when we believe that others perceive us negatively, see us as rejectable and feel anger and contempt towards us. Internal shame is when we perceive ourselves in this way.

Birchwood and colleagues (2008) have applied SMT to understanding the consequences of experienced stigma in psychosis. They explain that experienced stigma causes catastrophic shaming beliefs and low social rank which leads to emotional distress (such as social anxiety and anger). This process has also been described as self-stigma, defined as the “internalisation of shame, blame, hopelessness and guilt and fear of discrimination associated

with a mental illness” (Corrigan, 1998). A recent quantitative study examined the relationship between shame and self-stigma and identified that shame proneness is significantly associated with self-stigma (Hasson-Ohayon et al., 2012).

Experienced stigma has been demonstrated to have a number of negative psychological and emotional consequences for people who experience psychosis. Experienced stigma has been shown to have a direct relationship with anxiety (Lysaker et al., 2010; Markowitz, 1998). More specifically, Birchwood et al. (2007) found a significant relationship between experienced stigma and social anxiety in a group of first-episode psychosis service users. Experienced stigma has been illustrated to cause depression and hopelessness. In a systematic review and meta-analysis Livingston and Boyd (2010) found that depression and hopelessness were significantly related to stigma. Furthermore, in a quantitative cross-sectional study, Yanos et al. (2008) found that stigma was significantly associated with depression and hopelessness. Although there has been less exploration, stigma has also been found to be significantly related to experiences of psychosis (Markowitz, 1998; Schrank et al., 2014). Vass et al. (2015) found that stigma had a significant relationship with psychotic experiences such as delusions, hallucinations, suspiciousness and guardedness.

Relatedly, experienced stigma has also been found to be a significant factor in an individual’s personal recovery from psychosis. Personal recovery, from a service user perspective, has been defined as ‘the establishment of a fulfilling meaningful life and a positive sense of identity founded on hopefulness and self-determination’ (Allot, Loganathan, & Fulford, 2002). Lysaker et al (2006) explain that experienced stigma impacts upon recovery due to it causing a diminished sense of self. They explain that stigma impedes meta-cognitive ability which lessens the individual’s ability to understand themselves and how they relate to their social world. Improving a sense of self, or “rebuilding self” has been identified as essential to the recovery processes (Pitt et al., 2007).

As outlined, stigma is problematic and detrimental to those with experiences of psychosis. It is associated with shame, anxiety, depression, positive symptoms and poor personal recovery. To build on this current evidence, guided by SMT (Gilbert, 2010), this study will aim to examine the relationship between experienced stigma with anxiety, depression, positive symptoms and personal recovery (emotional and functional consequences). Furthermore, it will explore whether social rank and external shame are significant mediators within these relationships, as postulated by SMT. It is hypothesised that (a) experienced stigma and

shame will be significantly associated with personal recovery, positive symptoms, depression and anxiety, and (b) that shame (social rank and external shame) will mediate the relationship between experienced stigma with depression, anxiety, positive symptoms and personal recovery.

Method

Participants

Participants were recruited from mental health teams in East London, UK. More specifically, they were recruited from an Early Intervention in Psychosis (EIP) team, a Community Mental Health Team (CMHT) and a Psychiatric Inpatient Ward. Potential participants were identified by their care coordinator/key worker who also made initial contact and informed the potential participants about the study. If the potential participant consented, the researcher would contact them to see if they wanted to take part. Participants met the following criteria: (a) they were either diagnosed with a schizophrenia-spectrum disorder (schizophrenia, schizophreniform disorder, schizoaffective disorder, delusional disorder or psychotic disorder not otherwise specified; ICD-10), self-reported experiences of psychosis, or were under an early intervention service (to allow for diagnostic uncertainty); (b) were aged between 18 and 65 years; (c) had capacity to provide informed consent to the study; and (d) spoke fluent English. Participants were excluded if they were unable to give informed consent and not able to communicate in English.

Measures

Independent Variable

The *Stigma Scale* (King et al., 2007). Experienced stigma was measured by the Stigma Scale (SS). The SS is a 28-item measure widely used to examine stigma. Items are rated on a 5-point likert scale from “strongly agree” to “strongly disagree”. It consists of three subscales; discrimination, disclosure and positive experiences. Example items include “I find it hard telling people I have mental health problems”, and “people have insulted me because of my mental health problems”. For the purposes of this study only the discrimination and disclosure subscale was used to examine experienced stigma, as recommended in other studies (Morrison et al., 2016). The SS has been shown to have good internal consistency for the discrimination (Cronbach’s alpha =0.87) and disclosure (Cronbach’s alpha =0.85) subscales (King et al, 2007). Higher scores on the measure illustrate higher levels of experienced stigma.

Mediator Variables

Other as Shamer Scale (Goss, Gilbert, & Allan, 1994). The Other as Shamer (OAS) scale was used to measure experiences of external shame. The OAS is an 18-item scale measuring external shame, reflecting global judgements of how people think others view them. It has been found to have good internal consistency, with Cronbach's alpha of 0.92 (Goss et al., 1994). Participants rate item agreement on a 4-point Likert scale. Example items include "I feel other people see me as not good enough" and "other people put me down a lot". Higher scores illustrate higher levels of external shame.

Social Comparison Scale (Allan & Gilbert, 1995). The Social Comparison Scale (SCS) was used to measure social rank. The SCS is a reliable and widely used measure of social rank (Cronbach's alpha = 0.88). Respondents are asked to make global ratings of themselves in relation to others, with a series of bipolar constructs, rated on a 1–10 Likert scale. The scale has 11 items, measuring a series of bipolar constructs of "inferior–superior", "attractiveness–unattractiveness" and "insider–outsider". Low scores on this scale reflect lower levels (less favourable comparisons) of social rank.

Dependent variables

Process of Recovery Questionnaire (Neil et al., 2009). Personal recovery was measured using the Process of Recovery Questionnaire (QPR). The QPR is a 22-item measure developed from service-users experiences of recovery. It consists of two factors measuring both interpersonal and intrapersonal recovery. Each item is measured on a five point likert scale ranging from "strongly agree" to "strongly disagree". Examples of items are "I feel better about myself" and "I can take charge of my life". Higher scores on this measure illustrate higher levels of recovery. The QPR illustrated good reliability and internal consistency, (intrapersonal subscale $\alpha=0.94$; interpersonal subscale 2 $\alpha=0.77$).

Positive and Negative Syndrome Scale (Kay, Fiszbein, & Opler, 1987). Experience of psychosis was measured using the Positive and Negative Syndrome Scale (PANSS). The PANSS has been used widely in psychosis studies and considered a reliable and valid tool (Mortimer, 2007). The PANSS is a clinician administered semi-structured interview to measure the positive, negative and general symptoms associated with psychosis. The first author LW, who conducted all the PANSS assessments, had been fully PANSS trained and assessed for inter-rater reliability at the Psychosis Research Unit, Greater Manchester West

NHS Foundation Trust. The PANSS consists of three subscales: positive, negative, and general symptoms. As this study was interested in the experience of positive symptoms, only this subscale of the PANSS was used. Example items on the positive subscale include delusions, hallucinations, and suspiciousness. Higher scores illustrate increased positive symptoms. The positive subscale demonstrates good internal consistency (Cronbach's $\alpha = 0.73$).

Calgary Depression Scale (Addington, Addington, & Maticka-Tyndale, 1994). Depression was measured using the Calgary Depression Scale (CDS) which is a nine item measure that examines subjective experiences of depression in psychosis. It has been found to be a reliable measure, with Cronbach's alpha of 0.89 (Addington et al., 1994). Participants are rated on a 4-point rating scale from 0–3 (0 = absent, 1 = mild, 2 = moderate, 3 = severe). Items examine areas such as current mood, hopelessness, self-depreciation and guilt ideas of reference. Higher scores illustrate increased levels of depression.

Beck Anxiety Inventory (Beck et al., 1988). The Beck Anxiety Inventory was used to measure anxiety. It is a 21 item measure which measures the physical symptoms of anxiety. It is a reliable and widely used measure, with a Cronbach's alpha of 0.92 (Beck et al, 1988). Participants rate items on a 4-point likert scale from 0-3 (0 = absent, 1 = mild, 2 = moderate, 3 = severe). Example items include “difficulty breathing”, “heart pounding or racing”, and “incapable of relaxing”. Higher scores indicate higher levels of anxiety.

Procedure

This study was undertaken as part of the first author's doctoral thesis and received ethical approval from the NHS Research Ethics Committee. All assessments were completed by the first author. Once the participant had agreed to take part in the study, they were seen either within their own homes or at their local mental health service. Participants were given the opportunity to complete the measures themselves or have the researcher complete the measures with them, in order to reduce burden. A previous study has been published using the same dataset (Wood & Irons, 2015).

Statistical analysis

All statistical analysis was conducted on SPSS version 20 (IBM Corp, 2011). Data were screened for normality and most variables were found to be normally distributed (except the Calgary and PANSS-P scales). Therefore, Spearman's correlation coefficients were used to examine the relationships between all variables. Data met all assumptions necessary for the completion of regression analysis. No outliers were identified, the Leverage and Cook's Distance values did not illustrate any influential cases and residuals were normally distributed. Multiple linear regressions were used to examine the associations between independent variable (IV), mediator variables (M) and dependent variables (DV) in order to identify whether potential mediation was present, as outlined by Baron and Kenny (1986). In order to determine that mediation is present; the IV has to significantly predict the DV and M respectively, and the IV and M have to collectively predict the DV, with the IV becoming an insignificant predictor (Baron & Kenny, 1986). Mediation was confirmed using procedures outlined by Hayes and Preacher (2010). Their SPSS PROCESS macro was used to conduct the analysis. Significant indirect effects were examined using the bootstrapped bias-corrected 95% confidence intervals of 1000 bootstraps. Mediating effects were considered present when 0 did not fall between the confidence intervals.

Results

A total of 52 participants were included in the analysis, 21 females and 31 males. The average age of the sample was 36.96 (SD, 13.02: range 19-62). Further demographics can be found in table 1.

[INSERT TABLE 1 HERE]

Exploratory data analysis

Descriptive statistics and Pearson correlation coefficients of outcome measures can be found in table 2. Measure descriptives illustrate a relatively “well” sample population, as scores measures fall into a clinically low range, e.g. PANSS-P (minimal 8-14, (Kay et al., 1987)). BAI (mild 0 – 15, (Beck & Steer, 1990)) and Calgary (absent 0-9,(Addington et al., 1994)).

The Spearman’s correlation coefficients illustrated that all variables were significantly related to one another. Experienced stigma was positively correlated to low social rank and external shame, as well as personal recovery, positive symptoms, depression, and anxiety. Its relationship was particularly strong with external shame, depression and anxiety. External shame and social rank were also correlated with all other variables. Both social rank and external shame had the strongest relationships with depression and anxiety.

[INSERT TABLE 2 HERE]

Linear regression analysis

Table 3 illustrates the results for the regression models. Initially, the IV (experienced stigma) was entered as a predictor to both M’s (external shame and social rank). Secondly, the Ms were entered as predictors to the DVs. The IV (experienced stigma) was entered into separate models with the respective DVs (personal recovery, positive symptoms, depression and anxiety). Finally, the IV (experienced stigma) and M’s (external shame and social rank) were entered into individual models with each DV (personal recovery, positive symptoms, depression and anxiety).

Experienced stigma significantly predicted both external shame ($F(1, 49) = 14.039, r^2=0.226, p < .05$) and social rank ($F(1, 49) = 4.085, r^2=0.078, p < .05$) respectively.

Experienced stigma significantly predicted personal recovery ($F(1, 49) = 5.318, r^2=0.100, p < .05$). When external shame was entered into the model, it demonstrated some improvements ($F(2, 48) = 4.299, r^2=0.155, p < .05$) but external shame was not an individual significant predictor. When social rank was entered, the model improved and social rank was a significant predictor. Experienced stigma became non-significant suggesting mediation ($F(2, 48) = 10.802, r^2=0.315, p < .001$).

Experienced stigma significantly predicted positive symptoms ($F(1, 49) = 11.178, r^2=0.189, p < .05$). External shame was entered into the model and it illustrated no improvements ($F(2, 48) = 6.587, r^2=0.219, p < .05$) suggesting that external shame was not a mediator. When social rank was entered as a predictor variable, the model did not improve ($F(2, 48) = 6.504, r^2=0.217, p < .001$), suggestion no mediation effect.

Experienced stigma significantly predicted depression ($F(1, 49) = 11.622, r^2=0.195, p < .001$). When external shame was entered as a variable the model improved ($F(2, 48) = 13.611, r^2=0.367, p < .001$), external shame was a significant predictor and experienced stigma became a non-significant predictor suggesting mediation. When social rank was entered as a predictive variable the model improved ($F(2, 48) = 14.087, r^2=0.375, p < .001$) but experienced stigma did not become an insignificant predictor suggesting no mediatory effect of social rank.

Experienced stigma also significantly predicted anxiety ($F(1, 49) = 15.286, r^2=0.242, p < .001$), but explained more variance when external shame was also entered as a predictive variable ($F(2, 48) = 16.565, r^2=0.413, p < .001$). However, experienced stigma did not become non-significant predictor suggesting no evidence of mediation. When social rank was entered as a variable the model improved ($F(2, 48) = 9.526, r^2=0.288, p < .001$), but experienced stigma did not become an insignificant variable suggesting again no mediatory effect of social rank.

[INSERT TABLE 3 HERE]

Mediation analysis

Mediation was carried out using the PROCESS macro for SPSS (Hayes & Preacher, 2010). Mediation descriptives can be found in table 4. As identified in the multiple regression analyses, external shame was identified as a potential mediator with depression. External shame was found to be a significant mediator in the relationships between stigma and depression. The regression analysis suggested that social rank was only a potential mediator between experienced stigma and recovery and mediation analysis found social rank to be a significant mediator (table 4). The identified effect sizes illustrated a small to moderate effect.

[INSERT TABLE 4 HERE]

Discussion

This study aimed to examine the relationship between experienced stigma with shame (social rank and external shame), personal recovery, positive symptoms, depression and anxiety. It also aimed to examine the mediatory role of social rank and external shame. This study found experienced stigma to be significantly related to depression, anxiety, positive symptoms and personal recovery supporting previous literature (Iqbal et al., 2000; Link et al., 2001; Link et al., 1997; Livingston & Boyd, 2010; Pyle et al., 2015; Vass et al., 2015).

External shame was identified as a mediator between experienced stigma and depression, and social rank was identified as a significant mediator between experienced stigma and personal recovery. This tentatively supports the use of SMT in explaining the impacts of experienced stigma on depression and personal recovery (Gilbert, 2010). SMT would describe experienced stigma to be an external threat which can cause external shame and for evaluations of an individual's social ranking. As outlined, external shame reflects the negative perceptions that the individual believes are present within their social relationships, and low social rank reflects how individuals feel about themselves in comparison to others. Stigma theorists have identified that experienced stigma can cause an individual to internalise stereotypes, believe that they are perceived negatively by their social network (Brohan et al., 2010), and consequently experience emotional distress and poor recovery. Therefore, SMT would hypothesise that this occurs because the individual is feeling shamed. This suggests that social rank plays a role in understanding the impacts of experienced stigma on personal recovery, and that the depression resulting from stigma is more strongly associated with the preoccupation with how others perceive us (external shame) rather how we feel about ourselves (internal shame).

Experienced stigma and its relationship with positive symptoms were not found to be mediated by shame (external shame and social rank). Similar results were found by Vass et al. (2015) who identified that experienced stigma did predict positive symptoms, and this was mediated by hopelessness, but not self-esteem. Yanos et al. (2008) found that positive symptoms were not only an outcome of experienced stigma but were predictive of increased hopelessness and emotional distress caused by stigma. Therefore, a potential explanation for shame not being found as a significant mediator as the relationship may be more complex, i.e. there may be multiple mediation factors including emotional distress and hopelessness. Shame (external shame and social rank) was also not identified as a mediator between

experienced stigma and anxiety. This is in contrast to previous literature which has identified shame beliefs to mediate the relationship between these two variables (Birchwood et al., 2007). The authors would argue that this may be due to the choice of anxiety measure which measures symptoms of anxiety, rather than social anxiety which is more likely to be impacted upon by stigma.

The evidence base of stigma-focused interventions for people who experience psychosis is expanding (Fung, Tsang, & Cheung, 2011; Lucksted et al., 2011) but findings continue to be inconclusive with some studies not finding significant clinical reductions in their primary outcomes. The majority of interventions have used cognitive behavioural techniques and none have focused on the role of shame. The findings of the study may suggest that a shame-focused intervention, such as Compassion Focused Therapy (Gilbert, 2010), may be efficacious for alleviating the impacts of stigma. This would need to be examined further in a clinical trial.

One of the main limitations to the study was the relatively small sample size. Although the sample size was ample for data analysis, some of the data was non-normally distributed which may have impacted on the statistical analysis. Having a larger sample would reduce the risk of type II errors which are common in small sample sizes. Furthermore, the samples were relatively “well”, in the sense that most of their outcome measures reflected minimal or mild symptoms levels. This created a floor effect which would reduce the ability to identify significant relationships.

A limitation to the study is that the SS (King et al., 2007) which was used as the measure of stigma. The SS is not time limited and items does not specify clear the time frame of which they want the participant to rate (e.g. past or present experiences of stigma) (Vass et al., 2015). In contrast, all other measures are time specific looking at changes in presentation in the last week. This may mean that participants are rating stigma globally but all other measures in a time limited manner. Furthermore, the SS does not measure the multiple components of stigma which have equally important roles in understanding the impact of stigma on emotional distress. Another limitation was that two other widely agreed upon components of stigma are perceived stigma and internalised stigma which were not assessed within this study. Future research should examine the relationships of shame with perceived and internalised stigma. A further limitation was the examination of recovery itself. Recovery continues to be a disputed term and there continues to be a lack of agreement on

what it contains. Service users perceive recovery as an ongoing idiosyncratic process (Pitt et al., 2007) whereas professionals still lean towards it being a number of distinct measurable components with a definite endpoint (Silverstein & Bellack, 2008). This limitation was hoped to be minimised by using a service user informed and developed measure of recovery.

This study has important clinical implications for professionals working psychologically with people who experience psychosis and who have also been victims of experienced stigma. The findings of the current study suggest the importance of exploring the role of shame in causing and maintain stigma-related emotional distress and would be imperative in providing relevant care. This research also provides evidence for the use of empathy, normalisation and validation of people's stigma-experiences in therapy in order to reduce the shame associated with their stigma experiences. Finally, exploration of experienced stigma when considering service-users' recovery needs is also imperative.

References

- Addington, D., Addington, J., & Maticka-Tyndale, E. (1994). Specificity of the Calgary Depression Scale for schizophrenics. *Schizophrenia Research*, 11(3), 239 - 244.
- Allan, S., & Gilbert, P. (1995). A social comparison scale: Psychometric properties and relationship to psychopathology. *Personal and Individual Differences*, 19, 293 - 299.
- Allot, P., Loganathan, L., & Fulford, K. W. M. (2002). Discovering hope for recovery. *Canadian Journal of Community Mental Health*, 21(3), 1 - 22.
- Baron, R. M., & Kenny, D. A. (1986). The moderator-mediator variable distinction in social psychological research: Conceptual, strategic and statistical considerations. *Journal of Personality and Social Psychology*, 51, 1173-1182.
- Beck, A. T., Epstein, R. M., Brown, G. K., & Steer, R. A. (1988). An inventory for measuring clinical anxiety: psychometric properties. *Journal of Consulting and Clinical Psychology*, 56(6), 893 - 897.
- Beck, A. T., & Steer, R. A. (1990). *Manual for the Beck Anxiety Inventory*. San Antonio, TX: Psychological Corporation.
- Birchwood, M., Trower, P., Brunet, K., Gilbert, P., Iqbal, Z., & Jackson, C. (2007). Social anxiety and the shame of psychosis: a study in first episode psychosis. *Behaviour Research and Therapy*, 45, 1025-1037.
- Brohan, E., Elgie, R., Sartorius, N., & Thornicroft, G. (2010). Self-stigma, empowerment and perceived discrimination among people with schizophrenia in 14 European countries: The GAMIAN-Europe study. *Schizophrenia Research*, 122(1-3), 232-238.
- Byrne, P. (2001). Psychiatric Stigma. *The British Journal of Psychiatry*, 178, 281 - 284.
- Corrigan, P., & Watson, A. (2002). The paradox of self-stigma and mental illness. *Clinical Psychology: Science and Practice*, 9, 35 - 53.
- Corrigan, P. W. (1998). The impact of stigma on severe mental illness. *Cognitive and Behavioral Practice*, 5, 201-222.
- Dinos, S., Stevens, S., Serfaty, M., Weich, S., & King, M. (2004). Stigma: the feelings and experiences of 46 people with mental illness. *British Journal of Psychiatry*, 184, 176 - 181.
- Fung, K. M., Tsang, H. W., & Cheung, M. (2011). Randomized controlled trial of the self-stigma reduction program among individuals with schizophrenia. *Psychiatry Research*, 30, 208-214.
- Gilbert, P. (2009). An Introduction to Compassion Focused Therapy. *Advances in Psychiatric Treatment*, 15, 199 - 208.
- Gilbert, P. (2010). *Compassion Focused Therapy*. Hove: Routledge.
- Goss, K., Gilbert, P., & Allan, S. (1994). An exploration of shame measures: I: The 'other as shamer' scale. *Personality and Individual Differences*, 17, 713 - 717.
- Gumley, A., Braehler, C., Laithwaite, H. M., MacBeth, A., & Gilbert, P. (2010). A compassion focused model of recovery after psychosis. *International Journal of Cognitive Therapy*, 3(2), 186 - 201.
- Hasson-Ohayon, I., Ehrlich-Ben Or, S., Vahab, K., Amiaz, R., Weiser, M., & Roe, D. (2012). Insight into mental illness and self-stigma: the mediating role of shame proneness. *Psychiatry Research*, 30(2-3), 802-806.
- Hayes, A. F., & Preacher, K. J. (2010). Estimating and testing indirect effects in simple mediation models when the constituent paths are nonlinear. *Multivariate Behavioral Research*, 45, 627-660.
- IBM Corp. (2011). *IBM SPSS Statistics for Windows, Version 20.0*. Armonk, NY: IBM Corp.
- Iqbal, Z., Birchwood, M., Chadwick, P., & Trower, P. (2000). A cognitive approach to depression and suicidal thinking in psychosis II: testing the validity of a social ranking model. *British Journal of Psychiatry*, 177(6), 522 - 528.
- Kay, S. R., Fiszbein, A., & Opler, L. A. (1987). The positive and negative syndrome scale (PANSS) for schizophrenia. *Schizophr Bull*, 13(2), 261-276.

- King, M., Sokratis, D., Shaw, J., Watson, R., Stevens, S., Passetti, F., . . . Sefaty, M. (2007). The Stigma Scale: development of a standardised measure of the stigma of mental illness. *British Journal of Psychiatry*, 190, 248 - 254.
- Link, B. G. (1987). Understanding labelling effects in the area of mental disorders: An assessment of the effects of expectations of rejection. *American Sociological Review*, 52(96-112).
- Link, B. G., Struening, E. L., Neese-Todd, S., Asmussen, S., & Phelan, J. C. (2001). Stigma as a barrier to recovery: the consequences of stigma for the self-esteem of people with mental illness. *Psychiatric Services*, 52, 1621 - 1626.
- Link, B. G., Struening, E. L., Rahav, M., Phelan, J. C., & Nuttbrock, L. (1997). On stigma and its consequences: evidence from a longitudinal study of men with dual diagnosis of mental illness and substance abuse. *Journal of Health and Social Behavior*, 38, 177 - 190.
- Livingston, J. D., & Boyd, J. E. (2010). Correlates and consequences of internalized stigma for people living with mental illness: A systematic review and meta-analysis. *Social Science & Medicine*, 71(12), 2150-2161.
- Lucksted, A., Drapalski, A., Calmes, C., Forbes, C., DeForge, B., & Boyd, J. (2011). Ending Self-Stigma: Pilot Evaluation of a New Intervention to Reduce Internalized Stigma Among People with Mental Illnesses. *Psychiatric Rehabilitation Journal*, 35, 51-54.
- Lysaker, P., Yanos, P., Outcalt, J., & Roe, D. (2010). Association of stigma, self-esteem, and symptoms with concurrent and prospective assessment of social anxiety in schizophrenia. *Clinical Schizophrenia & Related Psychoses*, 4(1), 41-48.
- Markowitz, F. E. (1998). The Effects of Stigma on the Psychological Well-Being and Life Satisfaction of Persons with Mental Illness. *Journal of Health and Social Behaviour*, 39(4), 335-347.
- Morrison, A., Burke, E., Murphy, E., Pyle, M., Bowe, S., Varese, F., . . . Wood, L. (2016). Cognitive Therapy for Internalised Stigma in People Experiencing Psychosis: A pilot randomised controlled trial. *Psychiatry Research*.
- Mortimer, A. M. (2007). Symptom rating scales and outcome in schizophrenia. *The British Journal of Psychiatry*, 191(50), s7-14. doi: 10.1192/bjp.191.50.s7
- Neil, S., Pitt, L., Kilbride, M., Morrison, A. P., Nothard, S., Welford, M., & Selwood, W. (2009). The Process of Recovery Questionnaire (QPR). *Psychosis*, 1(1-11).
- Pitt, L., Kilbride, M., Nothard, S., Welford, M., & Morrison, A. P. (2007). Researching Recovery from Psychosis: A User-Led Project. *Psychiatry Bulletin*, 31, 55 - 60.
- Pyle, M., Stewart, S., French, P., Byrne, R., Birchwood, M., & Morrison, A. (2015). Internalized stigma, emotional dysfunction and unusual experiences in young people at risk of psychosis. *Early Intervention in Psychiatry*, 9(2), 133-140.
- Schrank, B., Amering, M., Hay, A. G., Weber, M., & Sibitz, I. (2014). Insight, positive and negative symptoms, hope, depression and self-stigma: a comprehensive model of mutual influences in schizophrenia spectrum disorders. *Epidemiology and psychiatric sciences*, 23, 271-279.
- Silverstein, S. M., & Bellack, A. S. (2008). A scientific agenda for the concept of recovery as it applies to schizophrenia. *Clinical Psychology Review*, 28(7), 1108 - 1124.
- The Schizophrenia Commission. (2012). *The Abandoned Illness: A report by the Schizophrenia Commission*. London: Rethink Mental Illness.
- Van Brakel, W. H., Anderson, A. M., Mutatkar, R. K., Bakirtzieff, Z., Nicholls, P. G., & Raju, M. S. (2006). The Participation Scale: measuring a key concept in public health. *Disability and Rehabilitation*, 28, 193-203.
- Vass, V., Morrison, A., Law, H., Dudley, J., Taylor, P., Bennett, K. M., & Bentall, R. P. (2015). How stigma impacts on people with psychosis: The mediating effect of self-esteem and hopelessness on subjective recovery and psychotic experiences. *Psychiatry Research*, doi:10.1016/j.psychres.2015.09.042.
- Wood, L., Birtel, M., Alsawy, S., Pyle, M., & Morrison, A. (2014). Public perceptions of stigma towards people with schizophrenia, depression, and anxiety. *Psychiatry Research*, 220(1), 604-608.

- Wood, L., & Irons, C. (2015). Exploring the Associations between Social Rank and External Shame with Experiences of Psychosis. *Behavioural and Cognitive Psychotherapy*, doi:10.1017/S1352465815000570.
- Yanos, P., Roe, D., Markus, K., & Lysaker, P. (2008). Pathways Between Internalized Stigma and Outcomes Related to Recovery in Schizophrenia Spectrum Disorders. *Psychiatris Services*, 59(12), 1437-1442.

Table 1 – Sample Demographics

Demographic		N	%
Service type	Community Mental Health Team	31	59.6
	Early Intervention Service	19	36.5
	Psychiatric Intensive Care Unit	2	3.8
Employment Status	Employed	6	11.5
	Student	9	17.3
	Unemployed	26	50.0
	Other	11	21.2
Marital Status	Single	36	69.2
	Married	10	19.2
	Divorced	6	11.5
Ethnicity	White	24	46.2
	Black	13	25.0
	Asian	11	21.2
	Other	4	7.7
Diagnosis	Schizophrenia	25	48.1
	Schizoaffective	6	11.5
	Bipolar Affective Disorder	7	13.5
	Psychosis	14	26.9

Table 2 - Spearmans Correlation Matrix, Means, and Standard Deviations for All Measures

Measure	1	2	3	4	5	6	M	SD
1. Experienced stigma							48.42	13.25
2. External Shame	0.526**						30.21	17.04
3. Social Rank	-0.334**	-0.301*					57.46	14.55
4. Recovery	-0.332**	-0.404**	0.570**				80.62	11.43
5. Positive Symptoms	0.393**	0.303*	-0.258*	-0.416**			11.23	3.62
6. Depression	0.446**	0.535**	-0.542**	-0.572**	0.756**		5.94	5.39
7. Anxiety	0.474**	0.628**	-0.380**	-0.498**	0.458**	0.657**	15.67	14.37

Note: ** p < .01, *p<0.05, one tailed significance level

Table 3 – Multiple regression analysis coefficient descriptives

<i>Regression Model</i>		<i>B</i>	<i>SE (B)</i>	<i>Beta</i>
<i>Experienced stigma</i>	<i>External shame</i>	0.603	0.161	0.476**
	<i>Social rank</i>	-0.275	0.136	-0.280*
<i>Experienced stigma</i>	<i>Recovery</i>	-0.262	0.114	-0.316*
	<i>Positive symptoms</i>	0.119	0.036	0.425*
	<i>Depression</i>	0.181	0.053	0.442*
	<i>Anxiety</i>	0.540	0.138	0.491**
<i>Recovery</i>				
<i>Model 1: Experienced stigma</i>		-0.260	0.117	-0.306**
<i>Model 2: External shame</i>	<i>Experienced stigma</i>	-0.157	0.127	-0.189
	<i>External shame</i>	-0.174	0.100	-0.266
<i>Model 3: Social rank</i>	<i>Experienced stigma</i>	-0.150	0.104	-0.181
	<i>Social rank</i>	0.409	0.106	0.483**
<i>Positive symptoms</i>				
<i>Model 1: Experienced stigma</i>		0.106	0.039	0.361**
<i>Model 2: External shame</i>	<i>Experienced stigma</i>	0.094	0.040	0.341*
	<i>External shame</i>	0.043	0.032	0.197
<i>Model 3: Social rank</i>	<i>Experienced stigma</i>	0.106	0.037	0.386*
	<i>Social rank</i>	-0.049	0.038	-0.202
<i>Depression</i>				
<i>Model 1: Experienced stigma</i>		0.188	0.054	0.447**
<i>Model 2: External shame</i>	<i>Experienced stigma</i>	0.089	0.054	0.217
	<i>External shame</i>	0.153	0.043	0.471**
<i>Model 3: Social rank</i>	<i>Experienced stigma</i>	0.131	0.049	0.318**
	<i>Social rank</i>	-0.185	0.050	-0.442**
<i>Anxiety</i>				
<i>Model 1: Experienced stigma</i>		0.560	0.140	0.499**
<i>Model 2: External shame</i>	<i>Experienced stigma</i>	0.293	0.139	0.267*
	<i>External shame</i>	0.408	0.110	0.471**

<i>Model 3: Social rank</i>	<i>Experienced stigma</i>	0.470	0.141	0.428**
	<i>Social rank</i>	-0.253	0.144	-0.226

*p<0.05, **p<0.01

Table 4 - Total, Direct, and Indirect Effects and Effect Sizes of Stigma on all Dependent Variables

<i>Mediator</i>	<i>Dependent Variable</i>	<i>B</i>	<i>SE (B)</i>	<i>p</i>	<i>95% BCa CI</i>	
					<i>LL</i>	<i>UL</i>
<i>Social Rank</i>	<i>Recovery</i>					
	<i>Total effect</i>	-0.262	0.114	0.026	-	-
	<i>Direct effect</i>	-0.149	0.105	0.160	-	-
	<i>Indirect effect</i>	-0.112	0.062	-	-0.260	0.019
	κ^2	0.141	0.074	-	0.023	0.304
<i>External Shame</i>	<i>Depression</i>					
	<i>Total effect</i>	0.181	0.053	0.001	-	-
	<i>Direct effect</i>	0.090	0.054	0.106	-	-
	<i>Indirect effect</i>	0.092	0.038	-	0.033	0.185
	K^2	0.222	0.071	-	0.093	0.365

B=beta, SE=standard error, p=significance level, CI=Confidence Interval, LL=Lower Level, UL=Upper Level, K^2 =Kappa (effect size)