**QUEEN'S
UNIVERSITY
BELFAST**

Rates of childhood trauma in a sample of patients with schizophrenia as compared with a sample of patients with non-psychotic psychiatric diagnoses

Spence, W., Mulholland, C., Lynch, G., McHugh, S., Dempster, M., & Shannon, C. (2006). Rates of childhood trauma in a sample of patients with schizophrenia as compared with a sample of patients with non-psychotic psychiatric diagnoses. *Journal of Trauma and Dissociation*, 7(3), 7-22. https://doi.org/10.1300/J229v07n03_02

Published in:

Journal of Trauma and Dissociation

Document Version:

Early version, also known as pre-print

Queen's University Belfast - Research Portal:

[Link to publication record in Queen's University Belfast Research Portal](#)

General rights

Copyright for the publications made accessible via the Queen's University Belfast Research Portal is retained by the author(s) and / or other copyright owners and it is a condition of accessing these publications that users recognise and abide by the legal requirements associated with these rights.

Take down policy

The Research Portal is Queen's institutional repository that provides access to Queen's research output. Every effort has been made to ensure that content in the Research Portal does not infringe any person's rights, or applicable UK laws. If you discover content in the Research Portal that you believe breaches copyright or violates any law, please contact openaccess@qub.ac.uk.

**Rates of childhood trauma in a sample of patients with schizophrenia
as compared with a sample of patients with non-psychotic psychiatric
diagnoses**

Wendy Spence D. Clin. Psych.

Ciaran Mulholland M.D.

Gerry Lynch M.D.

Suzanne McHugh Dip. Clin. Psych.

Martin Dempster, PhD.

Ciaran Shannon D. Clin. Psych.

Wendy Spence, Gerry Lynch, Suzanne McHugh and Ciaran Shannon are affiliated to
Homefirst Community Health and Social Services Trust, Holywell Hospital, 60 Steeple
Road, Antrim, Northern Ireland

Ciaran Mulholland is affiliated to the Department of Mental Health, The Queens
University of Belfast, The Whitla Medical Building, 97 Lisburn Road, Belfast, Northern
Ireland.

Martin Dempster is affiliated to the Department of Psychology, The Queens University
of Belfast, The David Keir Building, Malone Road, Belfast, Northern Ireland.

Address correspondence to: Dr Ciaran Shannon, Consultant Clinical Psychologist,
Department of Clinical Psychology, Homefirst Community Health and Social Services
Trust, Holywell Hospital, 60 Steeple Road, Antrim, Northern Ireland. (E-mail:
ciaran.shannon@homefirst.n-i.nhs.uk)

Rates of childhood trauma in a sample of patients with schizophrenia as compared with a sample of patients with non-psychotic psychiatric diagnoses

ABSTRACT

Despite strong evidence of high rates of childhood and adult trauma in schizophrenia the area remains under-researched. Our objectives in the study were first, to examine the rates of exposure to childhood, adult and lifetime (child plus adult) trauma in a population with schizophrenia and a population with non-psychotic psychiatric diagnoses and secondly, to examine the effect of trauma on the symptoms of schizophrenia. Two groups, those with schizophrenia (n=40), and those with a non-psychotic diagnosis (n=30), were recruited. Data was collected for demographic, psychiatric and trauma histories for all participants and on psychosocial functioning and psychiatric symptomatology for the patients with schizophrenia. Childhood exposure to trauma was significantly more common in the schizophrenia group ($t = 5.196$, $df = 68$, $p < 0.001$, Eta squared = .28), with the strongest relationship being childhood physical assault. In the schizophrenia group a history of trauma was significantly related to poor communication skills ($r = -0.529$, $p < 0.001$) and depressive symptoms ($r = 0.443$, $p = 0.004$). Evidence that childhood exposure to trauma is more common in a population with schizophrenia is consistent with other studies and raises the possibility that such trauma is of aetiological importance. Further research is required to replicate those

findings, to elucidate possible pathways by which the experience of trauma may contribute to the development of schizophrenia, and to explore the relationship between a history of childhood trauma and the experience of depressive symptoms in schizophrenia.

Key Words. Schizophrenia, psychosis, trauma, depression, child abuse

In recent years there has been a growing awareness of the importance of abuse or trauma in shaping the course of people's lives. Childhood abuse (sexual, physical and emotional) has been causally linked to a wide range of adult disorders including depression, anxiety disorders, post-traumatic stress disorder (ptsd), eating disorders (Boney-McCoy & Finkelhor, 1996; Kendler et al., 2000). Research has suggested the more severe the abuse, the greater the probability of a psychiatric disorder in adulthood (Mullen, Martin, Anderson, Romans & Herbison, 1993).

There is a growing literature to indicate that trauma is also linked with more severe psychiatric disturbances, including symptoms indicative of psychosis in general and schizophrenia in particular (Read, Goodman, Morrison, Ross & Aderhold, 2004). Among persons with a diagnosis of severe mental illness rates of childhood abuse have been found to be much higher than that in the normal population. Read et al. (2004) have reviewed over 40 studies on the prevalence of child abuse among female psychiatric inpatients and outpatients and found rates of child sexual abuse ranging from 22 to 85% in these studies and rates of childhood physical abuse ranging from 17 to 87%. It made little difference to the prevalence rates whether the samples used in the studies were all diagnosed with schizophrenia in particular or psychotic disorders in general. Based on 25 published studies the prevalence of childhood abuse among male psychiatric inpatients and outpatients are slightly less dramatic. Rates of childhood

sexual abuse range from 0 to 47% and rates of childhood physical abuse range from 21 to 68% (Read et al., 2004).

On the basis of these findings many authors conclude that psychosis may emerge as a reaction to trauma in some individuals (e.g. Ellason & Ross, 1997; Read, 1997). In a recent review of the links between trauma and psychosis Morrison, Frame & Larkin (2004) speculate that psychosis and PTSD may be related types of reactions to trauma in some individuals and propose a cognitive model that views them as part of spectrum of reactions to trauma, sharing developmental and maintenance processes. These authors note however that the life events literature is somewhat equivocal in relation to the aetiology of psychosis. Studies typically employ small sample sizes, lack comparison groups and are retrospective in nature.

To date two prospective studies have been published. Janssen et al. (2004) measured the development of psychotic symptoms over a 2-year period in a sample of 4045 people with no previous lifetime psychotic or psychotic-like symptoms. After adjustment for confounding variables such as drug use, unemployment and urbanicity, child abuse (emotional, physical, psychological or sexual) before the age of 16 was significantly related to measures of psychosis. Another large prospective study (Spataro, Mullen, Burgess, Wells & Moss, 2004) showed no association between childhood sexual abuse and subsequent rates of schizophrenia though the sampling used in this study has been criticized (Read & Hammersley, 2005) because the abused subjects were drawn from police and court records and many would have been removed from abusive situations and received early support.

This present study aims to investigate the possibility of a link between schizophrenia and trauma by comparing trauma exposure in a group of people with a schizophrenia diagnosis and a group of people with non-psychotic diagnoses attending the same psychiatric clinic. A further purpose of this study is to examine the relationship between trauma exposure and measures of psychiatric symptomatology and psychosocial functioning for those with a diagnosis of schizophrenia.

METHOD

Participants

The study was designed to assess childhood, adult, and lifetime (childhood plus adult) trauma exposure for two psychiatric sample groups, those who had a diagnosis of schizophrenia according to DSM IV (American Psychiatric Association, 1994) criteria and those who had no history of psychosis (non-psychosis group) but had other psychiatric diagnoses (anxiety disorder or non-psychotic depression). Diagnosis was established on the basis of routine clinical contact by an experienced general adult psychiatrist. The study was also designed to assess psychosocial functioning and psychiatric symptomatology in relation to exposure to trauma for the schizophrenia group. Two random lists were generated from the caseload of one Consultant Psychiatrist within Homefirst Community Trust in Northern Ireland. Exclusion criteria for both groups were; a history of traumatic head injury, a learning disability, a diagnosis of PTSD (primary or secondary), and being under 18 years of age. Inclusion of PTSD would have inflated trauma scores, as, by definition, these patients would have experienced a significant trauma. For the non-psychosis group a history or disclosure of psychotic experience also excluded participation. Diagnoses in this group included major depressive disorder (57%) and anxiety disorders such as generalised anxiety disorder (43%).

Potential participants in each group were contacted and given verbal and written details regarding the study (including the choice to remove themselves from the study at any time). Written informed consent was obtained from those who chose to participate in the study. From those approached, 12 (23%) of the psychosis group and 11 (27%) of

the non-psychosis group were either uncontactable or declined to participate. There were 40 participants in the psychosis group and 30 participants in the non-psychosis group. Data were obtained through a structured interview format in an attempt to optimise participants understanding, and to accurately assess incidents as a trauma and as reality based. Different interviewers collected data from each group. In all cases, measures of psychiatric symptomatology were collected before assessing trauma history.

Assessment Measures

1. Childhood, adult, and lifetime exposure to trauma was assessed with the Trauma History Questionnaire (THQ: Green, 1996). Events meeting the DSM IV Criterion A definition of traumatic event are included in this measure (exposure to events involving actual or threatened death, serious injury, or threat to self or others, in which the person experienced intense fear, horror or helplessness: American Psychiatric Association, 1994). This instrument has been found to have good inter-rater reliability, test-retest reliability and convergent validity in rating trauma in clients with severe mental illness (Mueser et al., 2001). Kappas for interrater reliability of items in the THQ ranged from .76 (sexual assault; 88% agreement) to 1.0 (accidents and witnessing killing/serious injury of other). Test-retest Kappas for lifetime traumatic events ranged from .57 (97% agreement; physical attack without a weapon) to .89 (97% agreement; natural or human made disaster). Test-retest Kappas for childhood and adulthood sexual abuse/assault were .64 (82% agreement) and .82 (93% agreement), respectively.

2. Psychosocial functioning was assessed with The Social Functioning Scale (Birchwood, Smith, Cochrane, Wetton & Copestake, 1990) which is specifically

designed to assess seven areas of functioning for individuals with a diagnosis of schizophrenia: Social Withdrawal, Interpersonal Communication, Pro-social activities, Recreation, Independence-competence, Independence-performance and Employment/Occupation. The authors report high internal reliabilities (coefficient alpha) and strong correlations between informants and patients. Regarding validity there was strong differentiation between a patient group and a matched community sample. In addition strong correlations are reported between self-rating and rating by patient relatives. Factor analysis yielded a single powerful factor accounting for almost 60% of the variance that is loaded uniformly across the constituent scales.

3. The Krawiecka Rating Scale (Manchester Scale), version 6 (Lancashire, 1998) was utilized to evaluate current psychiatric symptoms. This contains fourteen items: Anxiety, Depression, Suicidal thoughts and behaviour, Elevated mood, Hallucinations, Delusions, Flattened affect, Incongruous affect, Overactivity, Psychomotor retardation, Incoherent speech, Poverty of speech and Abnormal movements or postures. Items are rated by the interviewer using structured, mandatory and supplementary questions. Jackson, Burgess, Minas & Joshua (1990) report on the psychometric properties of the scale. Inter-rater reliability scores are high for all items with the exception of anxiety. For example, high inter-rater reliability was found for the hallucinations subscale ($r = 1.00$, $p < 0.001$), the delusions subscale ($r = 0.84$, $p < 0.001$) but not the anxiety subscale ($r = -0.17$, $p > .05$). High correlations are reported for subscales with counterpart items on the Schedules for the Assessment of Positive Symptoms and Negative Symptoms.

Bivariate correlations, Chi-squared, and t-tests were utilized for statistical analysis. Results were analysed using the Statistical Package for the Social Sciences

RESULTS

Demographic and Psychiatric Information

Table 1 shows demographic information collected from the schizophrenia and non-psychosis groups. There were significant differences between the group for marital status ($\chi^2=9.582$, $df=2$, $p<.01$) and in how the two groups occupied their days ($\chi^2=14.366$, $df=4$, $p<.01$). There were no significant differences found between the groups for age, gender or accommodation.

Table 2 shows psychiatric information collected for the two groups. For those reporting admission, the schizophrenia group showed significantly higher mean admissions compared to the non-psychosis group ($t=6.931$, $df=67$, $p<.001$). The schizophrenia group also showed significantly higher average weekly alcohol units consumed ($t=5.649$, $df=68$, $p<.001$).

Trauma Exposure and Group Differences

Rates of exposure to traumatic events for the schizophrenia and non-psychosis groups are presented in Table 3. High levels of trauma were found throughout the life span in both groups. 75% of the schizophrenia group reported one or more traumas in childhood, compared with 23 % of the non-psychotic group. 77.5% of the schizophrenia group reported one or more adult trauma compared to 73% of the non-psychotic group. 90% of the schizophrenia group reported lifetime trauma compared with 80% of the non-psychotic group.

Independent t-tests were employed to examine differences between the groups on the individual items of the THQ. In order to correct for possible multiplicity effects the Bonferroni adjustment was applied to significance levels. This was done by dividing the significance level (.05) by 3 (the number of categories of trauma variables: childhood, adulthood and lifetime). The probability level required for statistical significance was .017. The schizophrenia group were significantly more likely to report childhood physical assault without weapon ($t=5.649$, $df=68$, $p<.001$, Eta Squared = .32), childhood witness of killing or serious injury of another ($t=2.082$, $df=68$, $p<.05$, Eta Squared = .06), adult physical assault without weapon ($t=2.445$, $df=68$, $p<.05$, Eta squared = .08), adult assault with weapon ($t=-2.078$, $df=68$, $p<.05$, Eta squared = .06), adult witness killing or serious injury of another ($t=2.199$, $df=68$, $p<.05$, Eta squared = .07)), lifetime physical assault without weapon ($t=6.530$, $df=68$, $p<.001$, Eta Squared = .38), and lifetime witness of killing or serious injury of another ($t=2.199$, $df=68$, $p<.001$, Eta Squared = .07).

Independent t-tests show significant differences between the schizophrenia and non-psychosis groups for childhood exposure to trauma ($t=5.196$, $df=68$, $p <.001$, Eta Squared = .28), and lifetime exposure to trauma ($t=3.369$, $df=68$, $p=.001$, Eta squared = .14), with no significant differences for adult exposure to trauma ($t=1.942$, $df=68$, $p=.056$, Eta squared = .05).

Schizophrenia Group: Trauma Exposure, Symptoms and Psychosocial Functioning

Bivariate correlations were examined to explore the relationship between childhood, adult, and lifetime exposure to trauma, the Social Functioning Scale (subscales and total), and psychiatric symptomatology (Manchester Scale – individual items and total)

for the schizophrenia group (Table 4). Childhood exposure to trauma negatively correlated with the Intercommunication subscale of the Social Functioning Scale ($r = -0.529$, $p < .001$) suggesting that childhood exposure to trauma has a depleting effect on intercommunication functioning. Interestingly, for this group the Social Functioning subscale for occupation/employment showed a positive moderate correlation with childhood exposure to trauma ($r = .404$, $p = .01$), that is, those who were employed were more likely to report trauma. Childhood exposure to trauma also significantly correlated with the withdrawal ($r = -0.315$, $p < .05$) and recreation subscales ($r = 0.018$, $p < .05$).

Childhood exposure to trauma also positively correlated with the depression item of the Manchester Scale ($r = 0.443$, $p < .01$) indicating that childhood exposure to trauma is associated with higher levels of depression in this group. A significant correlation was also found with the anxiety item ($r = 0.335$, $p < .05$).

DISCUSSION

The results show that the schizophrenia group compared to the non-psychosis group were exposed to higher levels of trauma in childhood and in lifetime exposure to trauma, with little difference between the groups for adult exposure to trauma. Childhood physical abuse in particular was more related to schizophrenia than to the non-psychotic disorders. This adds to the literature in a number of ways. Firstly, these findings may contribute to the literature, in that, childhood trauma in general for our group was related to severity of disturbance as defined by experience of psychosis. Perhaps assessing only sexual and physical abuse/assault histories in childhood in

relation to severity of disturbance does not fully develop the picture. The results, along with other research in the area, is a significant challenge to the dominant biological model that assumes the adverse childhood experience is less related to schizophrenia than to other disorders.

Secondly, the population studied had a clear diagnosis of schizophrenia. Many previous studies (e.g. Neria, Bromet, Sievers, Lavelle & Fochtmann, 2002; Mueser et al., 1998) have used severe mental illness populations, which included patients with diagnoses such as schizophrenia, schizoaffective disorder, bipolar disorder with psychotic features, psychotic depression and other non-organic psychoses.

This study compares a schizophrenia group with a non-psychotic psychiatric control group attending clinics in the same area. The findings lend support to Read's Traumagenic Neurodevelopmental Model (Read, Perry, Moskowitz & Connelly, 2001), which proposes that adverse life events (such as traumatic events, significant losses, and deprivation, if they occur early enough or are sufficiently severe), not only contribute to a psychosocial vulnerability to schizophrenia, but may also help shape the underlying neurodevelopmental abnormalities present in schizophrenia. Other theorists (Ellason & Ross, 1997) have postulated the possibility of two pathways to positive symptoms of psychosis; one primarily endogenously driven while the other may be primarily driven by trauma (Ross, Anderson & Clark, 1994).

The study also highlights an apparent relationship between a history of childhood trauma and the experience of depression in individuals with a diagnosis of schizophrenia. To date psychological theories of the causation of depressive symptoms in schizophrenia such as those of Birchwood, Iqbal, Chadwick & Trower (2000) and

Iqbal, Birchwood, Chadwick & Trower (2000) have suggested that depression may arise from the individuals appraisal of psychosis and its implication for his/her perceived social identity, position and “group fit”. The role of trauma in this process, other than the trauma of psychosis itself, has been neglected.

Limitations to the study are apparent. Firstly, the trauma measure used does not attempt to elicit whether there is a history of neglect or emotional abuse. Secondly the sample was taken from within Northern Ireland, which means that individuals may have been exposed to “Troubles” related trauma which was not specifically examined for in this study (Loughrey, Curran & Bell, 1993). Clearly, other populations will not have been so exposed. The study did however draw from a population in rural Co. Antrim that has been less affected by the conflict than many other parts of Northern Ireland. Indeed the rural nature of the area may be responsible for relatively low rates of trauma found in the control group.

Another limitation is that no attempt was made to rule out the presence of dissociative disorders in the psychosis sample. Despite the fact that schizophrenia and dissociative identity disorder (DID) have completely distinct discriminating symptoms in the ICD-10 and DSM-IV-TR classification systems, there is some overlap in several phenomenological features. The most evident overlapping clinical characteristic is the existence of the positive or Schneiderian first rank symptoms of schizophrenia. These symptoms include ‘made’ or unwilled actions, thoughts, and feelings, thought withdrawal, thought insertion, thought broadcasting and hearing voices. Clinically these symptoms may appear as schizophrenia indicators if not rigorously assessed (Peterson, 1995). As childhood abuse has been consistently reported in both case and

large series studies of DID (e.g., Lewis, Yeagar, Swica, Pincus & Lewis, 1997; Wilbur, 1984) it is possible the inflated levels of adverse childhood experience was found in the schizophrenia sample due to diagnostic error. Alternatively, however, it has been pointed out (Read, 1997; Read et al., 2001) that psychotic symptoms are often wrongly recategorised as non-psychotic whenever trauma is identified, because of the false assumption that trauma cannot cause psychosis, thereby leading to diagnostic error in the opposite direction.

Other limitations are that separate interviewers collected the data from the schizophrenia and non-psychosis groups. This, in itself, may have led to variations in disclosure of trauma. Also, sample size was small and group membership was based on clinical diagnoses of one psychiatrist. The reliability of these diagnoses is not known. In addition, the stark differences between the two groups in terms of the level of childhood trauma may possibly be explained by the exclusion of primary or comorbid diagnoses of PTSD. A schizophrenia population may be less likely to attract a PTSD diagnosis than other patient groups.

The issue of the accuracy of the reporting of trauma is a controversial one. There may be underreporting due to the nature of the information. One of the main difficulties in eliciting trauma histories is that those who have experienced trauma, especially in childhood, may be more likely to be mistrusting of others. Establishing a relationship that facilitates disclosure is of utmost importance. A research interview may not be the ideal setting for this to occur. There may also be over-reporting of trauma due to a subject's mental state. For example, a subject might report a "traumatic event" which is based on a delusional memory. In an outpatient study that found some form of

supporting evidence in 82% of child sexual abuse cases there was no difference in the frequency of such evidence between those with and without psychotic symptoms or between those with and without a diagnosis of schizophrenia (Read, Agar, Argyle & Aderhold, 2003). Another study found that: "The problem of incorrect allegations of sexual assaults was no different for schizophrenics than the general population" (Darves-Bornoz, Lemperiere, Degiovanni & Gaillard, 1995, p.82).

Herman & Schatzow (1987) do report that 74% of their outpatient psychiatric sample receiving treatment in a group setting for incest survivors were able to validate their memories by obtaining corroborating evidence. Goodman et al. (1999) report fair to moderate test-retest reliability of trauma reports in a SMI population as do Mueser et al. (2001). Meyer, Muenzenmaier, Cancienne & Struening (1996) report reliability and validity of an instrument tapping sexual and physical abuse among women with a serious mental illness. Test-retest reliability yielded a Kappa of .63 for the measure of physical abuse and .82 for the measure of sexual abuse. Validity, assessed as consistency with an independent clinical assessment, showed 75% agreement for reports of physical abuse and 93% agreement for reports of sexual abuse.

Further research is needed to explore the negative impact of trauma histories on the outcome of schizophrenia. Longitudinal studies are likely to be helpful in this regard as are studies that further elucidate the connections between trauma and the experience of depression in this population. If traumatic childhood events represent a possible aetiological factor in the development of psychosis in some individuals further research is needed to clarify the mechanisms by which these events act to increase vulnerability.

This study, along with much of the literature within the area (Mueser et al, 1998, 2001; Read, 1997, 1998) suggests that routine inquiry about trauma and abuse histories in all mental health settings should be formally and consistently applied. Trauma assessment should hold as much importance as the evaluation of hallucination and delusional components of psychosis. Abuse histories are rarely taken in routine care (Read & Fraser, 1998). Several authors note the need for training of staff in this area (Young, Read, Barker-Collo & Harrison, 2001; Read & Fraser, 1998).

Post traumatic stress disorder (PTSD) models such as that suggested by Mueser, Rosenberg, Goodman & Trumbetta (2002) suggest the basis for appropriate trauma assessment within a severe mental illness population. An understanding of the trauma experience and recurring symptoms attached to this may then provide an individualised approach to intervention. Presently, trauma processing intervention is available in many forms and it is widely recognised that PTSD can be effectively treated in the general population. However, as PTSD is virtually never diagnosed in individuals with severe mental illness (Mueser et al, 2002), there is a need for further controlled research exploring the interactions of trauma with severe mental illness and its suitability as a focus for treatment.

REFERENCES

American Psychiatric Association. (1994). *Diagnostic & Statistical Manual of Mental Disorders* (4th ed.). Washington, DC: APA.

Boney-McCoy, S. & Finkelhor, D. (1996). Is youth victimization related to trauma symptoms and depression after controlling for prior symptoms and family relationships? *Journal of Consulting and Clinical Psychology*, 64, 1406-1416.

Birchwood, M.J., Iqbal, Z., Chadwick, P. & Trower, P. (2000). Cognitive approach to depression and suicidal thinking in psychosis. *British Journal of Psychiatry*, 177, 516-521.

Birchwood, M.J., Smith, J., Cochrane, R., Wetton, S., & Copestake, S. (1990). The social functioning scale: The development and validation of a new scale of social adjustment for use in family intervention programmes with schizophrenic patients. *British Journal of Psychiatry*, 157, 853-859.

Darves-Bornoz, J-M., Lemperiere, T., Degiovanni, A., & Gaillard, P. (1995). Sexual victimization in women with schizophrenia and bipolar disorder. *Social Psychiatry and Psychiatric Epidemiology*, 30, 78-84.

Ellason, J. and Ross, C. (1997). Childhood trauma and psychiatric symptoms. *Psychological Reports*, 80, 447-450.

Goodman, L.A., Thompson, K.M., Weinfurt, K., Corl, S., Acker, P., Mueser, K.T., Rosenberg, S.D. (1999). Reliability of reports of violent victimisation and PTSD among men and women with SMI. *Journal of Traumatic Stress*, 12, 587-599.

Green, B.L. (1996). Trauma History Questionnaire. In Stamm, B.H. & Varra, E.E. (Eds.) *Measurement of Stress, Self-Report Trauma, and Adaptation*. Sidran Press, Lutherville, M.D.

Herman, J.L. & Schatzow, E. (1987). Recovery and verification of memories of childhood sexual trauma. *Psychoanalytic Psychology*, 4 (1), 1-14.

Iqbal, Z., Birchwood, M., Chadwick, P. and Trower, P. (2000). Cognitive approach to depression and suicidal thinking in psychosis. *British Journal of Psychiatry*, 177, 522-528.

Jackson, H.J., Burgess, P.M., Minas, I.H. & Joshua, S.D. (1990). Psychometric properties of the Manchester Scale. *Acta Psychiatrica Scandinavica*, 81, 108-113.

Janssen, I., Krabbendam, L., Bak, M., Hanssen, M., Vollebergh, W., de Graff, R. & Os, J. (2004). Childhood abuse as a risk factor for psychotic experiences. *Acta Psychiatrica Scandinavica*, 109(1), 38-45.

Kendler, K.S., Bulik, C.M., Silberg, J., Hettma, J.M., Myers, J. & Prescott, C.A. (2000). Childhood sexual abuse and adult psychiatric and substance use disorders in women. *Archives of General Psychiatry*, 57, 953-959.

Lancashire, S. (1998). *KGV (M) Symptom Scale: Version 6*. London: Institute of Psychiatry.

Lewis, D. O., Yeager, C. A., Swica, Y., Pincus, J. H., & Lewis, M. (1997). Objective documentation of child abuse and dissociation in 12 murderers with dissociative identity disorder. *American Journal of Psychiatry*, 154, 1703-1710.

Loughrey, G.C., Curran P.S., & Bell, P. (1993). Posttraumatic stress disorder and civil violence in Northern Ireland. In Wilson, J.P., & Raphael, B. (Eds). *International handbook of traumatic stress syndromes*. New York. Plenum Press.

Meyer, I.H, Muenzenmaier, K., Cancienne, J. & Struening, E. (1996). Reliability and validity of a measure of sexual and physical abuse histories among women with serious mental illness. *Child Abuse and Neglect*, 20 (3), 213-219.

Morrison, A. P., Frame, L. & Larkin, W. (2003) Relationships Between Trauma and Psychosis: A Review. *British Journal of Clinical Psychology*, 42, 331-353.

Mueser, K.T., Goodman, L.B., Trumbetta, S.L., Rosenberg, S.D., Osher, F.C., Vidaver, R., Auciello, P., & Foy, D.W. (1998). Trauma and posttraumatic stress disorder in severe mental illness. *Journal of Consulting and Clinical Psychology*, 66, 493-499.

Mueser, K.T., Rosenberg, S.D., Fox, L., Salyes, M.P., Ford, J.D., & Carty, P. (2001). Psychometric evaluation of trauma & PTSD assessments in persons with severe mental illness. *Psychological Assessment*, 13(1), 110-117.

Mueser, K.T., Rosenberg, S.D., Goodman, L.A., & Trumbetta, S.L. (2002) Trauma, PTSD, and the course of severe mental illness: an interactive model. *Schizophrenia Research*, 53, 123-143.

Mullen, P.E., Martin, J.L., Anderson, J.C., Romans, S.E. & Herbison, G.P. (1993). Childhood sexual abuse and mental health in adult life. *British Journal of Psychiatry*, 163, 721-732.

Neria, Y., Bromet, E.J., Sievers, S., Lavelle, J. & Fochtmann, L.J. (2002). Trauma exposure and posttraumatic stress disorder in psychosis: Findings from a first-admission cohort. *Journal of Consulting and Clinical Psychology*, 70 (1), 246-251.

Peterson, G. (1995). Auditory hallucinations and dissociative identity disorder. *American Journal of Psychiatry*, 152, 1403-1404.

Read, J. (1997). Child abuse and psychosis: a literature review and implications for professional practice. *Professional Psychology: Research & Practice*, 28, 448-456.

Read, J. (1998). Child abuse and severity of disturbance among adult psychiatric inpatients. *Child Abuse & Neglect*, 22(5), 359-367.

Read, J., Agar, K., Argyle, N., & Aderhold, V. (2003). Sexual and physical abuse during childhood and adulthood as predictors of hallucinations, delusions and thought disorder. *Psychology and Psychotherapy: Theory, Research and Practice*, 76, 1-22.

Read, J. & Fraser, A. (1998). Abuse histories of psychiatric inpatients: to ask or not to ask? *Psychiatric Services*, 49, 355-359.

Read, J., Goodman, L., Morrison, A.P., Ross, C.A. & Aderhold, V. (2004). Childhood trauma, loss and stress. In Read, J., Mosher, L., & Bentall, R.P. (Eds.) *Model of madness*. Brunner-Routledge, Hove.

Read, J. & Hammersley, P. (2005). Child sexual abuse and schizophrenia. *British Journal of Psychiatry*, 186, 76.

Read, J., Perry, B.D., Moskowitz, A., & Connelly, J. (2001). The contribution of early traumatic events to schizophrenia in some patients: a traumagenic neurodevelopmental model. *Psychiatry*, 64(4), 319 - 345.

Ross, C. A., Anderson, G., & Clark, P. (1994). Childhood abuse and the positive symptoms of schizophrenia. *Hospital and Community Psychiatry*, 45, 489-491.

Spataro, J., Mullen, P.E. Burgess, P.M., Wells, D.L. & Moss, S.A. (2004). Impact of child sexual abuse on mental health. *British Journal of Psychiatry*, 184, 416-421.

Young, M., Read, J., Barker-Collo, S. & Harrison, R. (2001). Evaluating and overcoming barriers to taking abuse histories. *Professional Psychology: Research and Practice*, 32 (4), 407-414.

Wilbur, C. B. (1984). Multiple personality and child abuse: An overview. *Psychiatric Clinics of North America*, 7, 3-7.

Wurr, J.C., & Partridge, I.M. (1996). The prevalence of a history of childhood sexual abuse in an acute adult inpatient population. *Child Abuse and Neglect*, 20, 867-872.

Table 1: Demographic Information

	Schizophrenia Group n=40		Non-psychosis Group n=30		p value	
	%		%		t	Chi-Square
Age (yrs)					-0.959	
Mean	42.63		45.5			p = .341
SD	12.56		12.23			
Range	20 - 71		29 – 70			
Gender						2.538 p = .111
Male	25	62.5	13	43.3		
Female	15	37.5	17	56.7		
Marital Status						9.582 p = .008**
Single	20	50	6	20		
Married	11	27.5	19	63.3		
Separated/Divorced/ Widowed	9	22.5	5	16.7		
Accommodation						7.000 p = .136
Hostel/ Supported Living	4	10	1	3.3		
Home/Family of Origin	9	22.5	3	10		
Home with Spouse	12	30	18	60		
Independent Shared	10	25	6	20		
Independent Alone	5	12.5	2	6.6		
Occupation						14.366 P = .006**
No Structured Day	20	50	10	33.3		
Mainstream Employment	9	22.5	3	10		
Rehabilitation/Industrial Training	4	10	1	3.3		
Working in the Home	4	10	15	50		
Occupational Therapy	3	7.5	1	3.3		
* p<0.05** p<0.01						

Table 2: Psychiatric Information

	<i>Psychosis</i>		<i>Non-psychosis</i>		<i>t</i>	<i>Chi-squared</i>	<i>p value</i>
<i>Contact with Services (yrs)</i>	<i>(n=39)</i>		<i>(n=29)</i>		<i>1.432</i>		<i>.157</i>
Mean	15.49		11.9				
SD	11.2		8.74				
Range	0 – 46		0 – 31				
<i>Hospital Admissions (number of subjects reporting)</i>	<i>(n=39)</i>		<i>(n=14)</i>		<i>6.931</i>		<i>< .001 ***</i>
Mean	6.36		1.64				
SD	4.72		1.01				
Range	0 – 15		0 – 10				
<i>Time Since last Admission</i>	<i>(n=40)</i>	<i>%</i>	<i>(n=30)</i>	<i>%</i>		<i>25.741</i>	<i>< .001 ***</i>
None	0	0	15	50			
<6 months	8	20	3	10			
6 months < 3 years	11	27.5	3	10			
> 3 years	21	52.5	9	30			
<i>Weekly Alcohol (units)</i>	<i>(n=40)</i>		<i>(n=30)</i>		<i>2.021</i>		<i>.047 *</i>
Mean	12.07		5.07				
SD	17.24		11.74				
Range	0 - 62		0 - 42				

** p<0.05 ** p<0.01 *** p<.001*

NB: Some data not recorded for 1 participant in each group.

Table 3: Exposure to Trauma Reported by Group

	<i>Psychosis (n=40)</i>	<i>Non Psychosis (n=30)</i>	<i>Total (N=70)</i>	t	df	p value	η^2
<i>Childhood</i>	%	%	%				
Physical assault without weapon	45	0	25.7	5.649	68	.000	.32
Assault with weapon	10	6.67	8.5	.487	68	.628	.00
Witness killing or serious injury of another	10	0	5.7	2.082	68	.044	.06
Close friend or relative murdered or killed by a drunk driver	7.5	0	4.2	1.537	68	.129	.03
Car or work accident	0	0	0				
Natural or human-made disaster	12.5	6.67	10	.797	68	.428	.01
Sexual assault	30	16.67	24.3	1.322	68	.191	.02
Reporting One or More Traumas	75	23	53	5.196	68	.000	.28
<i>Adult</i>							
Physical assault without weapon	27.5	6.67	18.6	2.445	68	.017	.08
Assault with weapon	0	10	4.2	-2.078	68	.042	.06
Witness killing or serious injury of another	25	6.67	17.1	2.199	68	.032	.07
Close friend or relative murdered or killed by a drunk driver	10	20	14.3	-1.178	68	.243	.02
Car or work accident	32.5	23.33	28.6	.832	68	.408	.01
Natural or human-made disaster	60	56.67	58.6	.276	68	.783	.01
Sexual assault	5	13.33	8.6	-1.228	68	.224	.02
Reporting One or More Traumas	77.5	73	75.7	1.942	68	.056	.05
<i>Lifetime</i>							
Physical assault without weapon	65	6.67	40	6.530	68	.001	.38
Assault with weapon	10	16.67	8.6	-.817	68	.417	.01
Witness killing or serious injury of another	25	6.27	17.1	2.199	68	.032	.07
Close friend or relative murdered or killed by a drunk driver	12.5	20	15.7	-.845	68	.401	.01
Car or work accident	32.5	23.33	28.6	.832	68	.408	.02
Natural or human-made disaster	62.5	60	61.4	.210	68	.835	.00
Sexual assault	32.5	30	31.4	.220	68	.827	.00
Reporting One or More Traumas	90	80	85.7	3.369	68	.001	.14

NB: Bonferroni correction calculated at 0.017

Table 4:**Psychosis Group: Childhood Exposure to Trauma
and Outcome Measures**

	Mean (n=40)	SD	r	p
Childhood Exposure to Trauma				
<i>Social Functioning Scale (SFS)</i>				
Withdrawal	91.52	13.77	-.315	.048*
Intercommunication	106.45	9.73	-.529	.000***
Independence-performance	94.05	12.10	.011	.947
Independence-competence	94.10	11.88	.050	.760
Recreation	98.05	12.97	.378	.018*
Pro-social activities	95.70	10.14	.128	.431
Employment/Occupation	89.85	10.67	.404	.01*
<i>KSV(M) Scale</i>				
Anxiety	1.78	0.947	.335	.035*
Depression	1.92	0.888	.443	.004**
Suicidal ideation/behaviour	0.60	0.778	.281	.079
Elevated mood	0.70	1.043	-.201	.213
Hallucinations	1.65	1.231	.261	.104
Delusions	1.87	1.305	.179	.269
Flattened affect	0.65	1.075	.138	.397
Incongruous affect	0.32	0.474	-.117	.473
Overactivity	0.15	0.427	-.024	.885
Psychomotor retardation	0.05	0.316	-.041	.802
Abnormal speech	0.18	0.385	.181	.263
Poverty of speech	0.18	0.385	.181	.263
Abnormal movements	0			

* $p < 0.05$ ** $p < 0.01$ *** $p < .001$

N.B. The SFS is standardised and normalised using a 'T' transformation to a mean of 100 and a standard deviation of 15.

The KGV subscales scores range from 0 to 4. 0 representing no difficulties and 4 representing severe difficulty.