Childhood adversity

Introduction

Childhood adversities encompass a range of childhood experiences, including loss of a close relative, bullying, physical abuse, sexual abuse, emotional abuse, and neglect. The nature, timing, severity, and duration of exposure are likely to influence mental health, however any evidence that childhood adversity directly causes psychosis or schizophrenia is controversial. Firstly, psychotic disorders may be secondary to comorbid affective, substance use, personality, or post-traumatic stress disorders, all of which have been linked to early adversities and all of which are common in those with a psychotic mental illness. Another difficulty is accurately measuring childhood adversity, as it is dependent on assessment of the experiences via information collected retrospectively. This is particularly problematic if having a psychotic disorder impacts on memory recall. This summary of evidence table contains reviews that have attempted to summarize the evidence pertaining to childhood adversity as a risk factor for schizophrenia, however the limitations outlined above should be taken into consideration when interpreting the evidence. Further, the studies also include patients with other psychotic disorders such as psychotic depression.

Method

We have included only systematic reviews (systematic literature search, detailed methodology with inclusion/exclusion criteria) published in full text, in English, from the year 2000 that report results separately for people with a diagnosis of schizophrenia, schizoaffective disorder, schizophreniform disorder or first episode schizophrenia. Due to the high volume of systematic reviews, from 2014 we have limited inclusion to systematic meta-analyses. Reviews were identified by searching the databases MEDLINE, EMBASE, CINAHL, Current Contents, PsycINFO and the Cochrane library. Hand searching reference lists of identified reviews was also conducted.

When multiple copies of reviews were found, only the most recent version was included.

Review reporting assessment was guided by the Preferred Reporting Items for Systematic Reviews and Meta-Analyses (PRISMA) checklist that describes a preferred way to present a meta-analysis. Reviews with less than 50% of items checked have been excluded from the library. The PRISMA flow diagram is a suggested way of providing information about studies included and excluded with reasons for exclusion. Where no flow diagram has been presented by individual reviews, but identified studies have been described in the text, reviews have been checked for this item. Note that early reviews may have been guided by less stringent reporting checklists than the PRISMA, and that some reviews may have been limited by journal guidelines.

Evidence was graded using the Grading of Recommendations Assessment, Development and Evaluation (GRADE) Working Group approach where high quality evidence such as that gained from randomised controlled trials (RCTs) may be downgraded to moderate or low if review and study quality is limited, if there is inconsistency in results, indirect comparisons, imprecise or sparse data and high probability of reporting bias. It may also be downgraded if risks associated with the intervention or other matter under review are high. Conversely, low quality evidence such as that gained from observational studies may be upgraded if effect sizes are large, there is a dose dependent response or if results are reasonably consistent, precise and direct with low associated risks (see end of table for an explanation of these terms). The resulting table represents an objective summary of the available evidence, although the conclusions are solely the opinion of staff of NeuRA (Neuroscience Research Australia).
Childhood adversity

Results

We found 12 systematic reviews that met our inclusion criteria.\(^5\)\(^6\)

- Moderate to high quality evidence suggests a medium-sized effect of increased rates of childhood adversity in people with schizophrenia, psychotic disorders or psychotic symptoms, and a small effect of greater persistence of psychotic symptoms. A large effect is reported from moderate quality evidence for increased rates of childhood trauma in people at ultra-high risk of psychosis.

- Moderate to high quality evidence suggests the prevalence of retrospectively reported childhood sexual abuse in people with psychosis is approximately 26.3%, physical abuse is approximately 38.8%, and emotional abuse is approximately 34%. Rates may be highest in older studies than recent studies, in studies with more females, in studies with older patients, and in studies of patients with comorbid substance abuse.

- Moderate quality evidence suggests a medium effect of increased rates of childhood adversity in schizophrenia vs. anxiety disorders although subgroup analysis showed this effect was not apparent in the majority of studies that assessed sexual abuse.

- Moderate quality evidence suggests a large effect of reduced rates of childhood adversity in schizophrenia vs. dissociative disorders or post-traumatic stress disorder.

- Moderate to high quality evidence suggests no differences in rates of childhood adversity in schizophrenia vs. affective psychosis.

- Moderate to low quality evidence suggests no differences in rates of childhood adversity in schizophrenia vs. depressive disorders.

- Moderate to low quality evidence suggests no differences in rates of childhood adversity in schizophrenia vs. other psychoses.
Childhood adversity

*Bendall S, Jackson HJ, Hulbert CA, McGorry PD*

**Childhood trauma and psychotic disorders: a systematic, critical review of the evidence**

*Schizophrenia Bulletin 2008; 34(3): 568-579*

[View review abstract online](https://www.neura.edu.au/)

<table>
<thead>
<tr>
<th>Comparison</th>
<th>Prevalence of retrospective self-reported childhood trauma by people with a psychotic disorder.</th>
</tr>
</thead>
<tbody>
<tr>
<td>Summary of evidence</td>
<td>Moderate to low quality evidence (inconsistent, imprecise, direct) suggests the overall prevalence of childhood trauma in patients with schizophrenia may be between 28 and 73%.</td>
</tr>
</tbody>
</table>

### Prevalence of childhood trauma

*Prevalence of childhood trauma:

26 studies (N = unclear); 28% to 73% reported any childhood abuse, 13% to 61% reported childhood sexual abuse, 10% to 61% reported childhood physical abuse.

*Prevalence of childhood trauma in people with a psychotic disorder compared to prevalence of childhood trauma in people who do not have a psychiatric disorder (not all studies used matched controls):*

4 out of 5 studies found that people with psychotic disorders reported more childhood trauma than people who do not have a psychiatric disorder.

*Prevalence of childhood trauma in people with a psychotic disorder compared to prevalence of childhood trauma in people with non-psychotic psychiatric disorders:*

10 studies; no consistent differences observed.

*Prevalence of psychotic disorders in people who have experienced childhood trauma compared to people who have not experienced childhood trauma;*

2 studies reported greater prevalence of psychosis in people who experienced childhood trauma compared to those with a diagnosed psychiatric disorder who did not experience childhood trauma.

2 studies reported less prevalence of psychosis in people who experienced childhood trauma compared to those with a diagnosed psychiatric disorder who did not experience childhood trauma.

3/4 studies reported greater prevalence of psychosis in people who experienced childhood trauma compared to the prevalence of psychotic disorder in people who had not experienced childhood trauma, although 2 of these studies did not reach statistical significant. 3 studies employed a longitudinal design.

| Consistency in results | Inconsistent – mixed results |

---

Margarete Ainsworth Building, Barker Street, Randwick NSW 2031. Phone: 02 9399 1000. Email: info@neura.edu.au

To donate, phone 1800 888 019 or visit www.neura.edu.au/donate/schizophrenia
### Childhood adversity

<table>
<thead>
<tr>
<th>Precision in results</th>
<th>Imprecise – authors state extreme variability</th>
</tr>
</thead>
<tbody>
<tr>
<td>Directness of results</td>
<td>Direct</td>
</tr>
</tbody>
</table>


**Prevalence of self-reported childhood abuse in psychosis: A meta-analysis of retrospective studies**

*Psychiatry Research 2013; 210: 8-15*

**View review abstract online**

<table>
<thead>
<tr>
<th>Comparison</th>
<th>Prevalence of retrospective self-reported childhood trauma by people with a psychotic disorder.</th>
</tr>
</thead>
<tbody>
<tr>
<td>Summary of evidence</td>
<td>Moderate to high quality evidence (large samples, consistent, unable to assess precision, direct) suggests the prevalence of retrospectively reported childhood sexual abuse in people with psychosis is approximately 26.3%, physical abuse is approximately 38.8%, and emotional abuse is approximately 34%. Rates may be highest in older vs. more recent studies, in studies with more females, in studies with older patients and in studies of patients with substance abuse.</td>
</tr>
</tbody>
</table>

**Prevalence of sexual abuse**

20 studies, N = 1,889, prevalence of childhood sexual abuse = 26.3%, 95% CI 21.2% to 32.2%, Q = 98.85, p < 0.001, I² = 82.54%

Higher rates of sexual abuse were reported in older studies vs. more recent studies (β = -0.038, p < 0.001), in studies with older vs. younger patients (β = 0.038, p < 0.001), in studies with a higher proportion of females vs. males (β = 0.009, p < 0.001), and in studies of patients with substance abuse vs. no substance abuse (41.4% vs. 21%, p < 0.001).

Authors state that overall, these moderators were able to explain approximately 60% of the observed heterogeneity.

**Prevalence of physical abuse**

15 studies, N = 1704, prevalence of childhood physical abuse = 38.8%, 95% CI 36.2% to 42.4%, Q = 123.01, p < 0.001, I² = 92.71%

Higher rates of physical abuse were reported in older studies vs. more recent studies (β = -0.027, p
= 0.047), in studies with older vs. younger patients (β = 0.0817, p < 0.001), in studies of outpatients vs. inpatients (32.7% vs. 14.5%, p < 0.001), and in studies of patients with substance abuse vs. no substance abuse (53.8% vs. 25.5%, p = 0.002).

Authors state that overall, these moderators were able to explain approximately 60% of the observed heterogeneity, with age alone accounting for approximately 40%.

<table>
<thead>
<tr>
<th>Prevalence of emotional abuse</th>
</tr>
</thead>
<tbody>
<tr>
<td>8 studies, N = 520, prevalence of childhood emotional abuse = 34%, 95%CI 29.7% to 38.5%, Q = 54.44, p &lt; 0.001, I² = 87.14%</td>
</tr>
<tr>
<td>Higher rates of sexual abuse were reported in older studies vs. more recent studies (β = -0.075, p = 0.05), and in studies with a higher proportion of females vs. males (β = 0.017, p = 0.003).</td>
</tr>
</tbody>
</table>

Authors state that overall, these moderators were able to explain approximately 23% of the observed heterogeneity.

<table>
<thead>
<tr>
<th>Consistency in results</th>
<th>Consistent for sexual and physical abuse (most heterogeneity is explained by moderators).</th>
</tr>
</thead>
<tbody>
<tr>
<td>Precision in results</td>
<td>Unable to formally assess; appears precise</td>
</tr>
<tr>
<td>Directness of results</td>
<td>Direct</td>
</tr>
</tbody>
</table>


Sexual abuse and lifetime diagnosis of psychiatric disorders: systematic review and meta-analysis

Mayo Clinic Proceedings 2010; 85(7): 618-629

View review abstract online

<table>
<thead>
<tr>
<th>Comparison</th>
<th>Prevalence of schizophrenia among those who experienced childhood sexual abuse vs. controls.</th>
</tr>
</thead>
<tbody>
<tr>
<td>Summary of evidence</td>
<td>Moderate to high quality evidence (large samples, direct, imprecise, consistent) suggests no relationship between childhood sexual abuse and schizophrenia.</td>
</tr>
</tbody>
</table>

Childhood sexual abuse
No significant difference between groups;
3 longitudinal studies, N = 3,131,503, OR = 1.36, 95%CI 0.81 to 2.30, I² = 0%, p = 0.45
The subgroup analysis found no difference of gender or study design.

### Consistency in results
Consistent

### Precision in results
Imprecise

### Directness of results
Direct

---

**Cunningham T, Hoy K, Shannon C**

*Does childhood bullying lead to the development of psychotic symptoms? A meta-analysis and review of prospective studies*

*Psychosis* 2016; 8(1): 48-59

View review abstract online

### Summary of evidence
Moderate quality evidence (large sample, direct, inconsistent, imprecise) suggests a medium-sized increased risk of psychotic symptoms after exposure to childhood bullying.

---

**Childhood bullying**

A medium-sized effect of increased psychotic symptoms in people who have experienced bullying compared to people who have not experienced bullying;

7 studies, N = 23,668, OR = 2.15, 95%CI 1.14 to 4.04, p < 0.05, Q = 5.590, p = 0.018

### Consistency in results
Inconsistent

### Precision in results
Imprecise

### Directness of results
Direct

---

McGuire P
Deconstructing vulnerability for psychosis: Meta-analysis of environmental risk factors for psychosis in subjects at ultra high-risk

European Psychiatry 2017; 40: 65-75
View review abstract online

Comparison | Childhood trauma in people with ultra high-risk (UHR) mental states, which are determined as; attenuated psychotic symptoms, brief and limited intermittent psychotic symptoms, and genetic risk and functional deterioration.

Summary of evidence | Moderate to low quality evidence (imprecise, consistent and direct) suggests a medium to large effect of increased childhood trauma in people with ultra high-risk mental states, in particular emotional abuse and physical neglect.

**Childhood trauma**

A significant, large effect of increased non-specific childhood trauma in people with UHR mental states;

3 studies, N = 1333, OR = 5.943, 95%CI 2.896 to 12.199, p < 0.001, I² 42%, p = 0.181

A significant, large effect of increased childhood emotional abuse in people with UHR mental states;

2 studies, N = 160, OR = 5.843, 95%CI 1.794 to 19.027, p = 0.003, I² 8%, p = 0.298

A significant, medium-sized effect of increased childhood physical neglect in people with UHR mental states;

2 studies, N = 160, OR = 3.066, 95%CI 1.043 to 9.013, p = 0.042, I² 0%, p = 0.411

No associations were found between UHR and sexual abuse, physical abuse, emotional neglect, or childhood bullying.

There was no evidence of publication bias

**Consistency in results** | Consistent

**Precision in results** | Imprecise

**Directness of results** | Direct

Kraan T, Velthorst E, Smit F, de Haan L, van der Gaag M
Trauma and recent life events in individuals at ultra-high risk for
## Childhood Adversity

### Childhood adversity: Review and meta-analysis

Schizophrenia Research 2015; 161: 143-149

**View review abstract online**

<table>
<thead>
<tr>
<th>Comparison</th>
<th>Rates of childhood trauma in people at ultra-high risk of psychosis compared to people not at ultra-high risk of psychosis. Ultra-high risk as assessed by the Comprehensive Assessment of At Risk Mental State (CAARMS) or Structured Interview for Prodromal Syndromes criteria (SIPS).</th>
</tr>
</thead>
<tbody>
<tr>
<td>Summary of evidence</td>
<td>Moderate to high quality evidence (large sample, consistent, imprecise, direct) suggests a large increased rates of childhood trauma in people at ultra-high risk of psychosis.</td>
</tr>
</tbody>
</table>

### Childhood trauma

A significant, large effect of increased rates of childhood trauma in people at ultra-high risk of psychosis compared to controls; 3 studies, N = 700, \( g = 1.09, 95\% \text{CI not reported, } p < 0.001, I^2 = 56.2\%, p > 0.05 \)

Effect size adjusted for publication bias = 0.74 (large)

Mean prevalence of trauma in people at ultra-high risk of psychosis; 6 studies, N = 765, prevalence = 86.8\%, 95\%CI 77\% to 93\%, \( I^2 = 83\%, p < 0.001 \)

Authors report no evidence of publication bias.

**Consistency in results**

Inconsistent for prevalence rates, consistent for the comparison with controls.

**Precision in results**

Unable to assess; no CI reported for g-value, prevalence CIs are not standardised.

**Directness of results**

Direct

*Linscott R J, van Os J*

An updated and conservative systematic review and meta-analysis of epidemiological evidence on psychotic experiences in children and adults: on the pathway from proneness to persistence to dimensional expression across mental disorders
## Psychological Medicine 2013; 43: 1133-1149

<table>
<thead>
<tr>
<th>Comparison</th>
<th>Rates of subclinical psychotic symptoms in people exposed to stress and trauma compared to people not exposed to stress and trauma.</th>
</tr>
</thead>
<tbody>
<tr>
<td>Summary of evidence</td>
<td>Moderate quality evidence (unclear sample size, consistent, imprecise, direct) suggests a large increase in the incidence rates of subclinical psychotic symptoms in people reporting stress and trauma exposure compared to people not reporting stress and trauma exposure. Moderate to low quality evidence (inconsistent) also suggests increased prevalence of subclinical psychotic symptoms.</td>
</tr>
</tbody>
</table>

### Stress or trauma

*Significant, large increased prevalence and incidence of subclinical psychotic symptoms in people previously exposed to stress or trauma;*

- **Prevalence:** 11 studies, N not reported, OR 2.57, 95%CI 1.89 to 3.51, \( p < 0.05 \), \( I^2 = 80\% \), \( p < 0.01 \)
- **Incidence:** 2 studies, N not reported, OR 4.77, 95%CI 2.15 to 19.2, \( p < 0.05 \), \( I^2 = 0\% \), \( p > 0.05 \)

<table>
<thead>
<tr>
<th>Consistency in results</th>
<th>Consistent for incidence only</th>
</tr>
</thead>
<tbody>
<tr>
<td>Precision in results</td>
<td>Imprecise</td>
</tr>
<tr>
<td>Directness of results</td>
<td>Direct</td>
</tr>
</tbody>
</table>

---

**Matheson SL, Shepherd AM, Pinchbeck RM, Laurens KR, Carr VJ**

### Childhood adversity in schizophrenia: a systematic meta-analysis

<table>
<thead>
<tr>
<th>Comparison 1</th>
<th>Rates of self-reported childhood adversities (sexual, physical, emotional abuse) in schizophrenia spectrum patients vs. controls.</th>
</tr>
</thead>
<tbody>
<tr>
<td>Summary of evidence</td>
<td>Moderate to high quality evidence (large sample, direct, consistent without outliers, imprecise) suggests a medium effect of increased rates of childhood adversity in schizophrenia vs. controls.</td>
</tr>
</tbody>
</table>

**All childhood adversities**
Childhood adversity

A significant, medium effect of increased reporting of childhood adversity among schizophrenia patients compared to controls;

7 studies, N = 1,681, OR = 3.60, 95%CI 2.08 to 6.23, p < 0.00001, I² = 65%, p = 0.009

Subgroup analyses;
Without outliers or atypical controls: 4 studies, N = 1,414, OR = 3.92, 95%CI 2.37 to 6.50, p < 0.001, I² = 55%, p = 0.08

Authors state there were no differences in results due to adversity type (sexual or combined sexual, physical and other adversity, or adversity measure (clinical interview or questionnaire).

<table>
<thead>
<tr>
<th>Consistency in results</th>
<th>Consistent in subgroup analysis without outliers or atypical controls</th>
</tr>
</thead>
<tbody>
<tr>
<td>Precision in results</td>
<td>Imprecise</td>
</tr>
<tr>
<td>Directness of results</td>
<td>Direct</td>
</tr>
<tr>
<td>Comparison 2</td>
<td>Rates of self-reported childhood adversities in schizophrenia spectrum patients vs. affective psychosis.</td>
</tr>
<tr>
<td>Summary of evidence</td>
<td>Moderate to high quality evidence (direct, consistent, imprecise, large sample) suggests no differences in rates of childhood adversity in schizophrenia vs. affective psychosis.</td>
</tr>
</tbody>
</table>

All childhood adversities

No significant differences between groups;

8 studies, N = 1,060, OR = 1.23, 95%CI 0.77 to 1.97, p = 0.39, I² = 42%, p = 0.10

Subgroup analyses;
Authors state there were no differences in results due to diagnoses (bipolar disorder, manic disorder or combined bipolar and psychotic depression, adversity type or adversity measure.

<table>
<thead>
<tr>
<th>Consistency in results</th>
<th>Consistent</th>
</tr>
</thead>
<tbody>
<tr>
<td>Precision in results</td>
<td>Imprecise</td>
</tr>
<tr>
<td>Directness of results</td>
<td>Direct</td>
</tr>
<tr>
<td>Comparison 3</td>
<td>Rates of self-reported childhood adversities in schizophrenia spectrum patients vs. anxiety disorders.</td>
</tr>
<tr>
<td>Summary of evidence</td>
<td>Moderate quality evidence (direct, consistent, very imprecise, large sample) suggests a medium effect of increased rates of childhood adversity in schizophrenia vs. anxiety disorders. Subgroup analysis showed this effect was not apparent in studies of sexual abuse.</td>
</tr>
</tbody>
</table>
Childhood adversity

All childhood adversities

A significant, medium increased risk of childhood adversity in schizophrenia compared to anxiety disorders;

7 studies, N = 779, OR = 2.54, 95%CI 1.29 to 5.01, p = 0.007, I² = 37%, p = 0.15

Subgroup analyses;

A significant difference was reported between adversity types (Q_B = 5.43, p = 0.02);

5 studies of sexual abuse report no significant differences between groups: N = 649, OR = 1.66, 95%CI 0.90 to 3.08, p = 0.10, I² = 12%, p = 0.27

2 studies with mixed sexual and physical abuse and neglect report increased childhood adversity in schizophrenia: N = 130, OR = 6.95, 95% CI 2.48 to 19.51, p < 0.001, I² = 12%, p < 0.27

Authors state there are no differences in adversity measure or diagnoses.

<table>
<thead>
<tr>
<th>Consistency in results</th>
<th>Consistent</th>
</tr>
</thead>
<tbody>
<tr>
<td>Precision in results</td>
<td>Imprecise</td>
</tr>
<tr>
<td>Directness of results</td>
<td>Direct</td>
</tr>
<tr>
<td>Comparison 4</td>
<td>Rates of self-reported childhood adversities in schizophrenia spectrum patients vs. depressive disorders.</td>
</tr>
<tr>
<td>Summary of evidence</td>
<td>Moderate to low quality evidence (direct, inconsistent, imprecise, large sample) suggests no differences in rates of childhood adversity in schizophrenia vs. depressive disorders.</td>
</tr>
</tbody>
</table>

All childhood adversities

No significant differences between groups;

7 studies, N = 1,411, OR = 1.37, 95%CI 0.53 to 3.49, p = 0.51, I² = 88%, p < 0.00001

Subgroup analyses;

A significant difference was reported between adversity measures (Q_B = 8.98, p < 0.01);

6 studies using questionnaires reported no differences between groups: N = 982, OR = 1.77, 95%CI 0.73 to 4.25, p = 0.20, I² = 76%, p < 0.01

1 study using chart review reported significantly reduced childhood adversity in schizophrenia: N = 429, OR = 0.39, 95%CI 0.25 to 0.61, p < 0.001

A significant difference was reported between diagnoses (Q_B = 8.69, p < 0.01);

5 studies including patients with depression reporting no differences to schizophrenia: N = 1,281, OR = 0.83, 95%CI 0.32 to 2.18, p = 0.71, I² = 88.0%, p < 0.001

2 studies with mixed samples of depression and anxiety patients reported increased childhood

Page 11
NeuRA | Childhood adversity
Margarete Ainsworth Building, Barker Street, Randwick NSW 2031. Phone: 02 9399 1000. Email: info@neura.edu.au
To donate, phone 1800 888 019 or visit www.neura.edu.au/donate/schizophrenia
Childhood adversity

Consistency in results | Inconsistent
Precision in results | Imprecise
Directness of results | Direct
Comparison 5 | Rates of self-reported childhood adversities in schizophrenia spectrum patients vs. dissociative disorders or post-traumatic stress disorder (PTSD).

Summary of evidence | Moderate quality evidence (small sample, direct, consistent, precise) suggests a large effect of reduced rates of childhood adversity in schizophrenia vs. dissociative disorders or PTSD.

All childhood adversities

A significant, large effect of decreased reporting of childhood adversity in patients with schizophrenia compared to dissociative disorders and PTSD;

4 studies, N = 135, OR = 0.03, 95%CI 0.01 to 0.15, p < 0.0001, \( I^2 = 51\% \), p = 0.11

Subgroup analyses;
Authors state there were no differences in results due to diagnosis or adversity measure. All studies assessed only sexual abuse.

Consistency in results | Consistent
Precision in results | Precise
Directness of results | Direct
Comparison 6 | Rates of self-reported childhood adversities in schizophrenia spectrum patients vs. other psychoses.

Summary of evidence | Moderate to low quality evidence (small sample, direct, consistent, imprecise) suggests no differences in rates of childhood adversity in schizophrenia vs. other psychoses.

All childhood adversities

No significant differences between groups;

3 studies, N = 139, OR = 0.69, 95%CI 0.28 to 1.68, p = 0.41, \( I^2 = 2\% \), p = 0.36

Subgroup analyses;
Authors state there were no differences in results due to diagnosis or adversity type or adversity measure.
Childhood adversity

### Consistency in results
Consistent

### Precision in results
Imprecise

### Directness of results
Direct

### Comparison
Rates of self-reported childhood adversities in schizophrenia spectrum patients vs. personality disorders.

### Summary of evidence
Low quality evidence (small sample, direct, inconsistent, imprecise) is unable to determine any differences in childhood adversity rates between schizophrenia vs. personality disorders.

#### All childhood adversities

*No significant differences between groups;*

3 studies, N = 187, OR = 0.65, 95%CI 0.09 to 4.71, $p = 0.67$, $I^2 = 80\%$, $p = 0.006$

*Subgroup analyses;*

Authors state there were no differences in results due to diagnosis or adversity measure. All studies assessed only sexual abuse.

### Consistency in results
Inconsistent

### Precision in results
Imprecise

### Directness of results
Direct

---

*Read J, van Os J, Morrison AP, Ross CA*

**Childhood trauma, psychosis and schizophrenia: a literature review with theoretical and clinical implications**

*Acta Psychiatrica Scandinavica 2005; 112(5): 330-350*

[View review abstract online](http://example.com)

### Comparison
Prevalence childhood trauma in people with a psychotic disorder. Data reported here are for people with schizophrenia or schizophrenia spectrum disorder, see review for other psychotic disorders.

### Summary of evidence
Moderate to low quality evidence (inconsistent, unable to assess)
# Childhood adversity

<table>
<thead>
<tr>
<th>Consistency in results</th>
<th>Inconsistent</th>
</tr>
</thead>
<tbody>
<tr>
<td>Precision in results</td>
<td>CIs not reported</td>
</tr>
<tr>
<td>Directness of results</td>
<td>Direct</td>
</tr>
</tbody>
</table>

## Prevalence of retrospective self-reported childhood trauma by people with a psychotic disorder (sample includes schizophrenia spectrum disorders)

11 observational studies of female patients diagnosed with schizophrenia or schizophrenia spectrum disorder, \( N = 197 \); overall prevalence of childhood trauma: range 14% to 100%.

11 observational studies of male patients with schizophrenia or schizophrenia spectrum disorder, \( N = 330 \); Overall prevalence of childhood trauma: range 0% to 47%.

Relationships between child abuse and symptoms of schizophrenia or related schizotypal traits

Physical or sexual abuse; 7 out of 9 observational studies found that patients with a history of childhood trauma reported significantly more hallucinations than patients with no history of childhood trauma. 5 studies out of 8 also reported significantly more delusions. No differences for thought disorder or negative symptoms.

Incest; 1 out of 5 observational studies found that patients with a history of childhood trauma reported significantly more hallucinations than patients with no history of childhood trauma. No differences for delusions, thought disorder or negative symptoms.

## Summary of evidence

Moderate to high quality evidence (large sample, consistent, imprecise, direct) suggests greater persistence of psychotic experiences in people with a history of childhood adversity compared to people without a history of childhood adversity.

---

*Trotta A, Murray RM, Fisher HL*

**The impact of childhood adversity on the persistence of psychotic symptoms: a systematic review and meta-analysis**

*Psychological Medicine* 2015; 45: 2481-2498

[View review abstract online](http://example.com/abstract)

## Comparison

Persistence of psychotic symptoms in people with a history of childhood adversity vs. people without a history of childhood adversity.
Childhood adversity

Persistence of psychotic experiences

A significant, small effect of greater persistence of psychotic experiences in people with a history of childhood adversity;

Overall: 9 studies, N = 13,887, OR = 1.73, 95%CI 1.26 to 2.20, p < 0.05, I^2 = 36.4%, p = 0.127

General population: 5 studies, N = 13,699, OR = 1.76, 95%CI 1.19 to 2.32, p < 0.001, I^2 = 58%, p = 0.049

Clinical populations: 4 studies, N = 188, OR = 1.55, 95%CI 0.32 to 2.77, p = 0.007, I^2 = 0%, p = 0.407

Consistency in results: Consistent for overall effect and clinical populations, inconsistent for general population studies

Precision in results: Imprecise

Directness of results: Direct

van Dam DS, van der Ven E, Velthorst E, Selten JP, Morgan C, de Haan L

Childhood bullying and the association with psychosis in non-clinical and clinical samples: a review and meta-analysis

Psychological Medicine 2012; 42: 2463-2474

View review abstract online

Comparison

Risk of subclinical psychotic symptoms in adolescents and adults who were exposed to childhood bullying vs. those not exposed to childhood bullying.

Summary of evidence

Moderate to high quality evidence (consistent, imprecise, direct, large sample) suggests a medium sized increased risk of subclinical psychotic symptoms in adolescents and adults who were exposed to childhood bullying.

Childhood bullying

Significant, medium increased risk of subclinical psychotic symptoms in adolescents and adults who were exposed to childhood bullying;

7 studies, N = 22014, OR 2.67, 95%CI 2.01 to 3.56, p < 0.05, Q = 7.45, p = 0.28

Adjusted for gender, age, and other negative life events: OR 2.25, 95%CI 1.49 to 3.40.

Consistency in results: Consistent
Childhood adversity

<table>
<thead>
<tr>
<th>Precision in results</th>
<th>Imprecise</th>
</tr>
</thead>
<tbody>
<tr>
<td>Directness of results</td>
<td>Direct</td>
</tr>
</tbody>
</table>

**Varese F, Smeets F, Drukker M, Lieverse R, Lataster T, Viechtbauer W, Read J, van Os J, Bentall, R**

**Childhood Adversities Increase the Risk of Psychosis: A Meta-analysis of Patient-Control, Prospective- and Cross-sectional Cohort Studies**

*Schizophrenia Bulletin 2012; 38(4): 661-671*

[View review abstract online]

<table>
<thead>
<tr>
<th>Comparison</th>
<th>Rates of childhood adversities in people with a psychotic disorder or symptoms vs. controls.</th>
</tr>
</thead>
<tbody>
<tr>
<td>Summary of evidence</td>
<td>Moderate quality evidence (very large sample, direct, inconsistent, imprecise) suggests a medium to large effect of increased rates of childhood adversity in people with psychosis compared with controls.</td>
</tr>
</tbody>
</table>

**Childhood adversity**

A significant medium to large effect size suggests increased reporting of childhood adversity in people with psychosis compared to controls:

36 studies, N = 81,253, OR = 2.78, 95%CI 2.34 to 3.31, p < 0.05, Q not reported, p < 0.01

Authors report that the effect size was similar across study designs (case-control, population, cross-sectional), in studies samples with a diagnosis of psychosis or with psychotic symptoms, and in subgroups of studies that controlled for gender, age, SES or any other confounder.

**Subgroup analyses:**

A significant, medium to large effect of increased reporting of different types of childhood adversity in people with psychosis compared to controls:

- **Sexual abuse:** 20 studies, OR 2.38, 95%CI 1.98 to 2.87, p < 0.001, Q = 34.5, p < 0.05, I² = 44.9
- **Physical abuse:** 13 studies, OR 2.95, 95%CI 2.25 to 3.88, p < 0.001 Q = 47.8, p < 0.001, I² = 74.9
- **Emotional abuse:** 6 studies, OR 3.40, 95%CI 2.06 to 5.62, p < 0.001 Q = 23.1, p < 0.001, I² = 78.3
- **Bullying:** 6 studies, OR 2.39, 95%CI 1.83 to 3.11, p < 0.001 Q = 19.1, p < 0.01, I² = 73.9
- **Neglect:** 7 studies, OR 2.90, 95%CI 1.71 to 4.92, p < 0.001, Q = 32.9, p < .001, I² = 81.8
- **Parental death:** 8 studies, OR 1.70, 95%CI 0.82 to 3.53, p = 0.154 Q = 35.4, p < 0.001, I² = 80
Parental death (less outlier): 7 studies, OR 2.30, 95% CI 1.63 to 3.24, p < .001, Q not reported

<table>
<thead>
<tr>
<th>Consistency in results</th>
<th>Inconsistent</th>
</tr>
</thead>
<tbody>
<tr>
<td>Precision in results</td>
<td>Imprecise</td>
</tr>
<tr>
<td>Directness of results</td>
<td>Direct</td>
</tr>
</tbody>
</table>

Explanation of acronyms

$CI = \text{Confidence Interval, } I^2 = \text{the percentage of the variability in effect estimates that is due to heterogeneity rather than sampling error (chance), } N = \text{number of participants, } OR = \text{odds ratio, } p = \text{statistical probability of obtaining that result (} p < 0.05 \text{ generally regarded as significant), } Q = \text{test for differences between individual study results, } Q_B = \text{test for differences between results of groups of studies}$
Explanation of technical terms

- Bias has the potential to affect reviews of both RCT and observational studies. Forms of bias include: reporting bias – selective reporting of results, publication bias - trials that are not formally published tend to show less effect than published trials, further if there are statistically significant differences between groups in a trial, these trial results tend to get published before those of trials without significant differences; language bias – only including English language reports; funding bias - source of funding for the primary research with selective reporting of results within primary studies; outcome variable selection bias; database bias - including reports from some databases and not others; citation bias - preferential citation of authors. Trials can also be subject to bias when evaluators are not blind to treatment condition and selection bias of participants if trial samples are small\(^\text{17}\).

\(^\dagger\) Different effect measures are reported by different reviews.

Prevalence refers to how many existing cases there are at a particular point in time. Incidence refers to how many new cases there are per population in a specified time period. Incidence is usually reported as the number of new cases per 100,000 people per year. Alternatively some studies present the number of new cases that have accumulated over several years against a person-years denominator. This denominator is the sum of individual units of time that the persons in the population are at risk of becoming a case. It takes into account the size of the underlying population sample and its age structure over the duration of observation.

Reliability and validity refers to how accurate the instrument is. Sensitivity is the proportion of actual positives that are correctly identified (100% sensitivity = correct identification of all actual positives) and specificity is the proportion of negatives that are correctly identified (100% specificity = not identifying anyone as positive if they are truly not).

Weighted mean difference scores refer to mean differences between treatment and comparison groups after treatment (or occasionally pre to post treatment) and in a randomised trial there is an assumption that both groups are comparable on this measure prior to treatment. Standardised mean differences are divided by the pooled standard deviation (or the standard deviation of one group when groups are homogenous) that allows results from different scales to be combined and compared. Each study’s mean difference is then given a weighting depending on the size of the sample and the variability in the data. 0.2 represents a small effect, 0.5 a medium effect, and 0.8 and over represents a large treatment effect\(^\text{17}\).

Odds ratio (OR) or relative risk (RR) refers to the probability of a reduction (< 1) or an increase (> 1) in a particular outcome in a treatment group, or a group exposed to a risk factor, relative to the comparison group. For example, a RR of 0.75 translates to a reduction in risk of an outcome of 25% relative to those not receiving the treatment or not exposed to the risk factor. Conversely, an RR of 1.25 translates to an increased risk of 25% relative to those not receiving treatment or not having been exposed to a risk factor. An RR or OR of 1.00 means there is no difference between groups. A medium effect is considered if RR > 2 or < 0.5 and a large effect if RR > 5 or < 0.2\(^\text{18}\). InOR stands for logarithmic OR where a lnOR of 0 shows no difference between groups. Hazard ratios...
measure the effect of an explanatory variable on the hazard or risk of an event. Correlation coefficients (eg, r) indicate the strength of association or relationship between variables. They are an indication of prediction, but do not confirm causality due to possible and often unforeseen confounding variables. An r of 0.10 represents a weak association, 0.25 a medium association and 0.40 and over represents a strong association. Unstandardised (b) regression coefficients indicate the average change in the dependent variable associated with a 1 unit change in the dependent variable, statistically controlling for the other independent variables. Standardised regression coefficients represent the change being in units of standard deviations to allow comparison across different scales.

‡ Inconsistency refers to differing estimates of treatment effect across studies (i.e. heterogeneity or variability in results) that is not explained by subgroup analyses and therefore reduces confidence in the effect estimate. I² is the percentage of the variability in effect estimates that is due to heterogeneity rather than sampling error (chance) - 0% to 40%: heterogeneity might not be important, 30% to 60%: may represent moderate heterogeneity, 50% to 90%: may represent substantial heterogeneity and 75% to 100%: considerable heterogeneity. I² can be calculated from Q (chi-square) for the test of heterogeneity with the following formula;

\[ I^2 = \left( \frac{Q - df}{Q} \right) \times 100\% \]

§ Imprecision refers to wide confidence intervals indicating a lack of confidence in the effect estimate. Based on GRADE recommendations, a result for continuous data (standardised mean differences, not weighted mean differences) is considered imprecise if the upper or lower confidence limit crosses an effect size of 0.5 in either direction, and for binary and correlation data, an effect size of 0.25. GRADE also recommends downgrading the evidence when sample size is smaller than 300 (for binary data) and 400 (for continuous data), although for some topics, this criteria should be relaxed19.

|| Indirectness of comparison occurs when a comparison of intervention A versus B is not available but A was compared with C and B was compared with C that allows indirect comparisons of the magnitude of effect of A versus B. Indirectness of population, comparator and or outcome can also occur when the available evidence regarding a particular population, intervention, comparator, or outcome is not available so is inferred from available evidence. These inferred treatment effect sizes are of lower quality than those gained from head-to-head comparisons of A and B.
Childhood adversity

References