TECHNICAL COMMENTARY

Attachment styles

Introduction

Attachment styles are used to describe patterns of attachment in relationships. Adults with a secure attachment style tend to have good self-esteem, they share their feelings with partners and friends, and have trusting, lasting relationships. Insecure attachment styles include anxious attachment style (also known as ambivalent or preoccupied), which involves reluctance to become close to others, worry about the security of relationships, a reduced sense of autonomy, and increased dependence on others. Avoidant attachment style is another insecure style. It involves problems with intimacy, over-regulation of emotions, and unwillingness to share thoughts and feelings. Fearful attachment style is represented by an inconsistent sense of self and an inability to regulate one's emotions.

While attachment style in adulthood is thought to be based on early experiences with primary care givers, life's experiences can also impact on attachment style in adults. Children described as ambivalent or avoidant can become securely attached as adults, while those with a secure attachment in childhood can show insecure attachment patterns in adulthood.

Method

We have included only systematic reviews with detailed literature search, methodology, and inclusion/exclusion criteria that were published in full text, in English, from the year 2010. Reviews were identified by searching the databases MEDLINE, EMBASE, and PsycINFO. Reviews with pooled data are prioritized for inclusion. Reviews reporting fewer than 50% of items on the Preferred Reporting Items for Systematic Reviews and Meta-Analyses (PRISMA[1]) checklist have been excluded from the library. The evidence was graded guided by the Grading of Recommendations Assessment, Development and Evaluation (GRADE) Working Group approach[2]. 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).

Results

We found one systematic review that met our inclusion criteria[3].

- Moderate to high quality evidence finds a large effect of more insecure attachment style in people with bipolar disorder than controls. The effect size was similar in people with depression or schizophrenia compared to controls. It was also large across all three disorders for anxious attachment style, however for avoidant attachment style, it was small for schizophrenia, medium-sized for bipolar disorder, and large for depression.

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Herstell S, Betz LT, Penzel N, Chechelnizki R, Filihagh L, Antonucci L, Kambeitz J

Insecure attachment as a transdiagnostic risk factor for major psychiatric conditions: A meta-analysis in bipolar disorder, depression, and schizophrenia spectrum disorder

Journal of Psychiatric Research 2021; 144: 190-201

View review abstract online

Comparison	**Insecure attachment styles in people with bipolar disorder vs. controls and vs. depression and schizophrenia.**
Summary of evidence	**Moderate to high quality evidence (large sample, inconsistent, precise, direct) finds a large effect of more insecure attachment style in people with bipolar disorder than controls. The effect size was similar in people with depression or schizophrenia compared to controls. It was also large across all three disorders for anxious attachment style, however for avoidant attachment style, it was small for schizophrenia, medium-sized for bipolar disorder, and large for depression.**

Insecure attachment styles

A large effect of more insecure attachment styles in people with bipolar disorder than controls;

10 studies, N = 918, g = 0.89, 95%CI 0.56 to 1.21, $p < 0.05$, I^2 = 82%

Subgroup analysis found similar effect sizes for insecure attachment style between people with depression vs. controls (g = 0.96), and between people with schizophrenia vs. controls (g = 0.79).

People with schizophrenia, depression or bipolar disorder all showed significant, large effects of more anxious attachment style than controls, with similar effect sizes across disorders (schizophrenia g = 0.85, depression g = 0.94, bipolar disorder g = 1.07).

People with schizophrenia, depression or bipolar disorder all showed significantly more avoidant attachment style than controls, although the effect size for schizophrenia was small, bipolar disorder was medium-sized, and depression showed a large effect (schizophrenia g = 0.31, depression g = 0.83, bipolar disorder g = 0.50).

There were insufficient studies reporting fearful attachment style for subgroup analyses.

Consistency in results‡	Inconsistent
Precision in results§	Precise
Directness of results‖	Direct

Explanation of acronyms

CI = confidence interval, Hedges' *g* = standardised mean differences, I^2 = the percentage of the variability in effect estimates that is due to heterogeneity rather than sampling error (chance), N = number of participants, *p* = statistical probability of obtaining that result ($p < 0.05$ generally regarded as significant), vs. = versus

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 tath 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[4].

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† Different effect measures are reported by different reviews.

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[4].

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[5]. lnOR 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.

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).

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 unforseen 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. I^2 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. I^2 can be calculated from Q (chi-square) for the test of heterogeneity with the following formula[4];

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

§ 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 relaxed[6].

‖ 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.

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