MONEY AND MENTAL HEALTH POLICY INSTITUTE

# Appendix A: Literature review methodology and the quality of the evidence

## A.1 Methodology

To gather evidence for this report, we employed a snowball search strategy to identify peer-reviewed academic journal articles with information on the cognitive impacts of different mental health problems. To find studies we initially searched key databases such as PubMed, using key search terms such as “cognitive impairment”, “cognition”, “neurocognitive deficit”, “Meta-analysis”, “review” and “systematic review” alongside variations of search terms for different mental health problems, such as “Obsessive Compulsive Disorder”, “OCD” and “anxiety disorder”. We used these results as a starting point for our snowball search, and used signals such as number of citations and journal reputation as a guide to find further sources. Beyond this, we used more targeted searches to try to fill any apparent evidence gaps, for example addressing a lack of evidence regarding how a particular cognitive process is affected in a particular mental health condition.

Our strategy was to identify journal articles that presented aggregate results, systematically reviewed findings in a particular sub-field of the literature or provided primary findings with a large sample size and rigorous methodology. We only considered findings that compared the cognitive performance of people with a certain mental health problems against that of a group of healthy controls, ideally one that is matched for age and level of education. We only reported findings that reached statistical significance.

## A.2 Evaluating the evidence

The impact of mental health problems on cognition is difficult to research. Common methodological limitations constrain the wider application of their findings.

Heterogeneity is a major problem. People with the same mental health problem are all different, so there will be a range of levels of cognitive ability within each diagnosis group. Many people with bipolar disorder, for example, will have impaired memory relative to the average person. Others will perform about the same as the average and some will even have superior memory abilities. This heterogeneity can lead to different studies producing varied or even conflicting results depending on the sample used.

Another problem is the varied methods and standards that different cognitive researchers apply. Researchers can use different definitions of clinical remission or apply different cognitive testing procedures. This sort of variety makes it harder to establish precise consensus regarding how cognitive abilities are affected by any particular mental health problem.

A further methodological problem is that it is often practically impossible for researchers to control for the effects of potentially important factors such as psychiatric medication or comorbid mental health problems, which may distort findings somewhat.

All of these limitations are to some extent remedied by our decision to survey aggregate level and meta-analytic data wherever possible. This allows us to assess the overall balance of evidence and make well-informed judgements. Overall, this strategy yielded relatively consistent patterns of evidence. Another benefit of meta-analyses is that they address the problem of low statistical power that affects many studies with small sample sizes. However, one weakness of meta-analyses is that they are are vulnerable to distortions caused by publication bias. It is possible that the aggregate results we reviewed have been positively biased, as research that fails to find evidence of cognitive impairments, may be less likely to be published and may thus not feature in reviews. Some of the meta-analyses we reviewed took steps to assess this risk, but it is practically impossible to gauge the scale of such a bias or to correct for it.

However, there is good reason to believe that this aggregate evidence base understates the aggregate level of cognitive impairment in different mental health problems, for reasons of selection bias. Firstly, people with mental health problems are more likely to be available or to volunteer to take part in research when they are at their best, so their cognitive performance at this time may positively biased. It is also likely that people with the most severe cognitive problems will be less accessible to researchers, perhaps because they are more focused on treatment, rather than participation in research, or because of practical and ethical barriers to testing people in mental health crisis.

Cognitive research has been relatively successful at isolating and measuring specific effects, excluding complex cases such as people with other comorbid physical health conditions, psychosis or drug users. Thus, it is likely that aggregate findings over-represent “neater” cases, at the expense of those with more complex conditions where severe cognitive impairments may be more prevalent.

### A.3 Evidence not considered in this report

In this report we sought to summarise the evidence about how a range of different mental health problems can affect people’s financial capability. However, there is an abundance of research into mental health and we had limited research capacity, so we prioritised the mental health problems that are the most prevalent and for which there was the most consistent evidence.

Notable omissions from this report include schizophrenia and schizoaffective disorder. Research often suggests that schizophrenia is characterised by wide-ranging and severe cognitive impairments, but there is significant heterogeneity in this field, so it is difficult to draw firm conclusions.

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For more information on how different mental health problems can affect people's financial capability, please do not hesitate to contact us at: contact@moneyandmentalhealth.org.