

Invited Commentary




Cite this article: Douglas KM, Thwaites B, Frawley E, Hammar Å (2023). Tailoring cognitive interventions to individuals' cognitive profiles: commentary on 'Prevalence of cognitive impairments and strengths in the early course of psychosis and depression' by Stainton et al. *Psychological Medicine* **53**, 5958–5960. <https://doi.org/10.1017/S0033291723002076>

Received: 1 July 2023
Accepted: 10 July 2023
First published online: 31 July 2023

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Tailoring cognitive interventions to individuals' cognitive profiles: commentary on 'Prevalence of cognitive impairments and strengths in the early course of psychosis and depression' by Stainton et al

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Cognitive impairment is a common feature of mood and psychotic disorders. Impairment often persists into clinical recovery, and in depression, has preliminarily been shown to relate to relapse. Cognitive impairment in mood and psychotic disorders impacts on many important domains of functioning; that is, the ability to perform and operate in society. Understandably, cognitive impairment has been rated as one of the most frustrating aspects of mental illness. Research examining interventions targeting cognitive function, and reducing its functional burden on individuals, is a clear priority. Here we use the broad term 'cognitive interventions' to describe behavioural/cognitive treatments that directly aim to improve cognitive and general functioning through use of psychoeducation, repetitive cognitive practice and strategy coaching, and strategies to enhance transfer to daily life.

In this issue, Stainton et al. (2023) present a comprehensive analysis of prevalence rates of 'clinically meaningful' cognitive impairment and strength in a large ($n = 1286$) sample of younger people (mean age = 25 years) with recent-onset depression, recent-onset psychosis, at high risk of developing psychosis, as well as healthy control participants. This paper is a valuable contribution to the field of cognition in mental health disorders. Authors advocate for cognitive screening early on in the course of depression and psychosis in order to guide tailored cognitive interventions for the individual. In this commentary, we have elaborated on how Stainton et al.'s analysis can contribute to cognitive intervention research and clinical practice.

Early intervention for depression and psychosis symptoms using cognitive interventions

Research has examined prevalence rates of objective cognitive impairment in adult samples with mood and psychotic disorders, using various definitions and cut-offs of impairment. Less is known about prevalence rates of impairment in younger people early in the course of depression and psychosis, even though cognitive impairment is often a prominent feature of early-stage psychosis and depression. Stainton et al.'s analysis reported that a significant portion of their young sample with recent-onset psychosis or depression (i.e. onset of episode within 24 months) showed moderate (1–2 s.d. below healthy control group) or severe (>2 s.d. below healthy control group) cognitive impairment. For example, 38% of individuals with recent-onset psychosis and 13% of those with recent-onset depression showed at least moderate impairment on a global cognitive composite score, compared with 4.7% of the healthy control group. Severe impairment was reported in 10% of the psychosis group and 2% of the depression group (0% of healthy control group). Determining if or how these rates relate to severity of symptoms would be an interesting next step in future analyses.

Early identification of cognitive impairment, and interventions to address this, is a clear implication of Stainton et al.'s study. Early identification and treatment may serve a protective function for individuals with depression and psychosis. While evidence of progressive cognitive decline over time in mood disorders is mixed, a recent meta-analysis in remitted depression suggested worsened cognitive functions (particularly memory and attention) with repeated episodes (Semkowska et al., 2019). A longitudinal study in psychotic disorders also reported significant decline in cognitive functions over 20 years after first hospitalisation (Fett et al., 2020). For young individuals, as in Stainton et al.'s sample, preventing possible

cognitive scarring effects of repeated episodes may have implications for maximising opportunities to gain and maintain employment in young adulthood, as well as development of identity and independence. Further, cognitive interventions may be particularly effective in younger people early in the course of their illness, when neuroplasticity is greater.

Previous research examining rates of cognitive impairment in adult mood disorder samples has also incorporated premorbid level of cognitive functioning into their approaches, which has often markedly altered rates of impairment and added complexity to interpretation of data (Douglas et al., 2018; Tran, Milanovic, Holshausen, & Bowie, 2021). The younger mean age of the sample and the recent-onset of illness in Stainton et al.'s analysis reduce the possible influence of factors relating to decline in cognitive function over time.

Using cognitive strengths in cognitive interventions

As Stainton et al.'s study highlights, not everyone with psychotic and mood disorders exhibit cognitive impairment. Indeed, research in psychosis and bipolar disorder samples has suggested different cognitive subtypes; with one subtype reflecting 'intact' cognitive function. On their global cognitive composite measure, Stainton et al. reported that the majority of individuals in all clinical groups showed 'no impairment', with 62% in their recent-onset psychosis group to 86% in their recent-onset depression group. Further, the percentage of individuals in each group who were above average (1–2 s.d. above healthy control mean) on at least two cognitive tests was 41% for the recent-onset depression group and 16% for the recent-onset psychosis group. That is, these groups showed *cognitive strength*.

The reporting of both cognitive impairment and strength in Stainton et al.'s paper is a new addition to this field, with clear implications for intervention research, particularly in compensatory strategy learning with cognitive remediation treatments. Qualitative research has shown that current approaches in treating cognition in mental health services typically default to a 'deficit-based' approach to make up for a 'loss' (e.g. focuses on remediation of deficits), even though clinicians and young people with mental illness view strengths-based approaches favourably (Bryce et al., 2023; Steele et al., 2021). Considering the impact of being identified as 'cognitively impaired' is important too, with this label having been described as a 'self-fulfilling prophecy' which is taken on as an 'identity in a very profound way' (Jones, 2023). Such a perspective may help to explain the association between subjective cognitive impairment and reduced self-efficacy in early psychosis.

While addressing areas of clinically meaningful impairment is crucial for cognitive interventions, balancing this with a strengths-based approach would likely reinforce key psychological processes that promote engagement in cognitive interventions, such as self-esteem and motivation. Indeed, research in psychotic disorders has indicated that greatest treatment success in cognitive interventions is often reached when such factors are targeted during treatment. In mood disorders, integrating cognitive restructuring of negative thinking styles has been recommended as an important element for improving adherence and retention in cognitive interventions. In line with Stainton et al.'s study, reporting back to an individual after cognitive assessment that they have areas of cognitive strength would ensure these strengths are fostered during therapy and may impact on confidence to approach cognitively demanding tasks throughout treatment.

Relating cognitive impairment and strength to life functioning

A useful future direction of Stainton et al.'s analysis is determining if or how 'clinically meaningful' cognitive impairment and/or *strength* relates to general functioning and to treatment planning. Much research is currently investigating how cognitive impairment may relate to difficulties in functioning; but how does having key areas of strength relate to functioning? It is common to see individuals in our clinics broadly within the expected range of cognitive functioning based on normative comparisons, but who describe debilitating cognitive challenges in their everyday life. Research supports this discrepancy between objective and subjective cognitive impairment. In young people with mental illness, very high rates (70%) of subjective cognitive difficulties have been reported, but a much lower rate (31%) have reported receiving treatment targeting cognition (Bryce et al., 2023). While this may reflect other systemic factors in mental health provision, this low rate of cognitive intervention for individuals reporting significant cognitive difficulties may relate to clinicians typically only delivering interventions targeting cognition when objective cognitive impairment is present.

Metacognitive or subjective issues with cognitive function do tend to be correlated with depression severity, however, the relationship may be bidirectional, with metacognitive beliefs about deficits playing a part in the precipitation and maintenance of depression and possibly predisposing towards relapse. Research indicates that individuals reporting subjective, but not objective, cognitive impairment still benefit functionally from cognitive interventions (Strawbridge et al., 2021). For these individuals, work on metacognitive knowledge and regulation in addition to mass practice of cognitive functions appears to be a good fit in terms of impacting functional outcomes. Research is investigating whether these individuals may also have experienced a greater cognitive decline from premorbid level of functioning, with their subjective reports of cognitive difficulty capturing this decline and perhaps relating more strongly to functional problems (e.g. difficulty returning to jobs that required strong cognitive ability) (Tran et al., 2021).

Clearly, the issue of how to define 'functioning' requires further consideration and study. Cross-sectional self-report measures of functioning (i.e. the individuals' perception of their functioning) may capture different aspects of functioning to how the person is actually functioning in the real-world, or how much the person rates where they are at in their *return* to functioning. In addition, important areas of functioning may change over life stages, with younger populations more invested in social functioning, for example. Use of person-specific measures, which focus on areas of functioning relevant for each individual, has been integrated into recent cognitive intervention trials (Strawbridge et al., 2021) and holds promise as meaningful outcome tools in this area.

Conclusions

Addressing cognitive impairment is a clear need for intervention research in psychotic and mood disorders. Stainton et al.'s analysis confirms this need by showing that even in the early stage of mental illness, many individuals may be presenting with clinically meaningful impairment. Stainton et al.'s paper is also a balanced approach in reporting cognitive profiles in young people with psychosis and depression, with rates of cognitive strength included. By addressing both cognitive impairment and strength in cognitive

interventions, compensatory strategies can be reinforced, as well as important psychological mechanisms targeted, such as engagement and self-efficacy. This, in turn, should impact on treatment success and functional gains for people with mental illness.

Financial support. K. M. D. would like to acknowledge fellowship funding from the Health Research Council of New Zealand, by way of a Sir Charles Hercus Health Research Fellowship (19/082), during preparation of this manuscript.

Conflict of interest. K. M. D. uses software for research at no cost from Scientific Brain Training Pro.

References

- Bryce, S., Cheng, N., Dalton, A., Ojinnaka, A., Stainton, A., Zbukvic, I., ... Allott, K. (2023). Cognitive health treatment priorities and preferences among young people with mental illness: The your mind, your choice survey. *Early Intervention in Psychiatry*. doi: 10.1111/eip.13436
- Douglas, K. M., Gallagher, P., Robinson, L. J., Carter, J. D., McIntosh, V. V., Frampton, C. M., ... Porter, R. J. (2018). Prevalence of cognitive impairment in major depression and bipolar disorder. *Bipolar Disorders*, 20, 260–274. doi: 10.1111/bdi.12602
- Fett, A. J., Velthorst, E., Reichenberg, A., Ruggero, C. J., Callahan, J. L., Fochtmann, L. J., ... Kotov, R. (2020). Long-term changes in cognitive functioning in individuals with psychotic disorders: Findings from the Suffolk County Mental Health Project. *JAMA Psychiatry*, 77(4), 387–396. doi: 10.1001/jamapsychiatry.2019.3993
- Jones, N. (2023). *Cognitive challenges, cognitive remediation and lived experience*. Paper presented at the Cognitive Remediation in Psychiatry, New York.
- Semkovska, M., Quinlivan, L., O'Grady, T., Johnson, R., Collins, A., O'Connor, J., ... Gload, T. (2019). Cognitive function following a major depressive episode: A systematic review and meta-analysis. *The Lancet Psychiatry*, 6(10), 851–861. doi: 10.1016/S2215-0366(19)30291-3
- Stainton, A., Chisholm, K., Griffiths, S., Kambeitz-Ilanovic, L., Wenzel, J., Bonivento, C., ... Wood, S. (2023) Prevalence of cognitive impairments and strengths in the early course of psychosis and depression. *Psychological Medicine*, 1–13. doi: 10.1017/S0033291723001770
- Steele, P., Cheng, N., Phillips, L. J., Bryce, S., Alvarez-Jimenez, M., & Allott, K. (2021). Cognitive strengths in first episode psychosis: A thematic analysis of clinicians' perspectives. *BMC Psychiatry*, 21(1), 612. doi: 10.1186/s12888-021-03627-y
- Strawbridge, R., Tsapekos, D., Hodsoll, J., Mantingh, T., Yalin, N., McCrone, P., ... Young, A. H. (2021). Cognitive remediation therapy for patients with bipolar disorder: A randomised proof-of-concept trial. *Bipolar Disorders*, 23(2), 196–208. doi: 10.1111/bdi.12968
- Tran, T., Milanovic, M., Holshausen, K., & Bowie, C. R. (2021). What is normal cognition in depression? Prevalence and functional correlates of normative versus idiographic cognitive impairment. *Neuropsychology*, 35(1), 33–41. doi: 10.1037/neu0000717