FACT SHEET

FOR MENTAL HEALTH CLINICIANS

COGNITION AND PSYCHOSIS

This fact sheet will help you to understand how cognition may be impacted in young people who have a psychotic disorder. It may also help you to guide discussions with young people and families about the relationship between cognition and psychosis.

WHAT IS COGNITION?

Cognition refers to thinking skills that include problem-solving, concentrating, judging, planning, remembering and reasoning.

Social cognition refers to the perception, processing and interpretation of social information, such as people's intentions, feelings and thoughts. It includes emotion recognition, theory of mind, social perception and attributional style.[1]

Impaired cognition and social cognition are core features of psychotic disorders.

You can refer to the Introduction to cognition factsheet for more information.

WHAT IS PSYCHOSIS?

Psychosis refers to a range of symptoms where a person's beliefs, thoughts, feelings, senses and behaviours are altered. Symptoms can include delusions, hallucinations, changed feelings and confused thinking. Psychosis can cause someone to misinterpret or confuse what's going on around them.

Psychotic disorders are diagnosed according to the international classification of disease (ICD-11) and diagnostic and statistical manual (DSM-5) and include, but are not limited to, schizophrenia, schizoaffective disorder, bipolar and major depressive disorder with symptoms of psychosis.

'Approximately 75 per cent of young people diagnosed with psychosis experience some form of cognitive impairment.'

WHY CONSIDER COGNITION IN YOUR CLINICAL PRACTICE WITH YOUNG PEOPLE EXPERIENCING PSYCHOSIS?

Although around 25 per cent of young people with psychosis will not be affected by cognitive difficulties, addressing cognition will be an important part of treatment and recovery for many young people with psychosis.[2]

You should consider cognition in your clinical practice with young people experiencing psychosis for many reasons, including:

- Seventy-five per cent of young people diagnosed with psychosis experience some form of cognitive impairment.[3]
- Widespread and persistent impairments are considered a core feature of psychotic disorders.
- In many cases, cognitive difficulties are evident early – before the psychosis emerges and even in childhood.[3]
- Cognitive difficulties are strongly associated with poorer functional outcomes and disability.
- Cognitive difficulties impact treatment engagement and can limit the benefits gained from psychosocial interventions.
- Cognitive difficulties are linked to factors that can influence symptomatic recovery, such as insight, medication adherence, substance use and engagement/participation in therapy.[4]

TABLE 1: IMPACT OF COGNITIVE DIFFICULTIES ON AREAS OF FUNCTIONING

AREA OF FUNCTIONING	IMPACT OF COGNITIVE DIFFICULTIES ON A YOUNG PERSON
Ongoing learning and development	Mental ill-health can be associated with disruption to the expected developmental trajectory of a young person. Emerging difficulties with cognition can potentially be understood as a delay in development rather than a worsening of cognitive symptoms, as may be assumed.[2]
Daily functioning	Cognitive abilities have been found to have a greater influence on independent living and quality of life than mental health symptoms.[2] Our thinking skills support our ability to perform activities of daily living, such as self-care, socialising, working, completing homework, scheduling tasks and grocery shopping. In doing these tasks we use planning, organising, sequencing, language processing, focusing, coordinating, judging, problem-solving and remembering skills.[2] Impairments affecting these activities can result in young people struggling to individuate from family and others.
Vocational functioning	The peak onset for mental health difficulties (i.e. before the age of 25) occurs at a time when young people are developing their career and vocational identity. Disruption during this time has the potential to negatively influence long-term employment. Studies have found that more than 65 per cent of people with a psychotic disorder have not completed Year 12;[5] 85 per cent rely on government benefits; 63 per cent have poor social functioning;[6] and, 40–70 per cent are unemployed.[7] Disruptions to vocational functioning also impact financial stability, opportunities for social inclusion, independence and self-esteem.[5] Evidence shows that when treating psychosis, returning to school and/or work is a more important predictor of long-term health and functioning than early symptomatic recovery.[8]
Social functioning	Young people with psychotic disorders can be particularly prone to difficulties with working memory, verbal memory, and processing and production of speech[9] which may, in turn, impact their ability to have fluent social interactions. They are also more susceptible to difficulties with their social cognition,[9] which impacts on their overall functioning, as well as continuing social and emotional development. It may also cause significant distress, as peer social relationships are often identified as of high importance to young people.

Self-esteem and self-confidence	Research suggests that untreated cognitive difficulties can result in young people blaming themselves, losing hope for recovery, developing feelings of incapacity and inadequacy, and developing themes of hopelessness by comparing their current selves to their past selves[10] and/or to their peers. These beliefs may contribute further to poor mental health and impact functional recovery.[10] Young people experiencing first episode psychosis are already at risk of further mental ill-health and damaged self-esteem and identity, due to stigma in the community and the disruptiveness of mental ill-health.[11]
Engagement with services and treatment	Cognitive needs can interfere with the effectiveness of treatment.[12] Areas impacted may be engagement, difficulty understanding therapeutic concepts, remaining focused during treatment sessions and remembering session content. These in turn impact the young person's ability to benefit from psychological treatment, particularly in the early stages.[1] Young people may also see their cognitive difficulties as related to their medication, which may influence decisions around medication adherence.[10] Cognitive impairments can also negatively impact medication adherence due to forgetfulness or poor organisation.

WHAT ARE THE PRESENTING DIFFICULTIES OF COGNITION AND PSYCHOSIS?

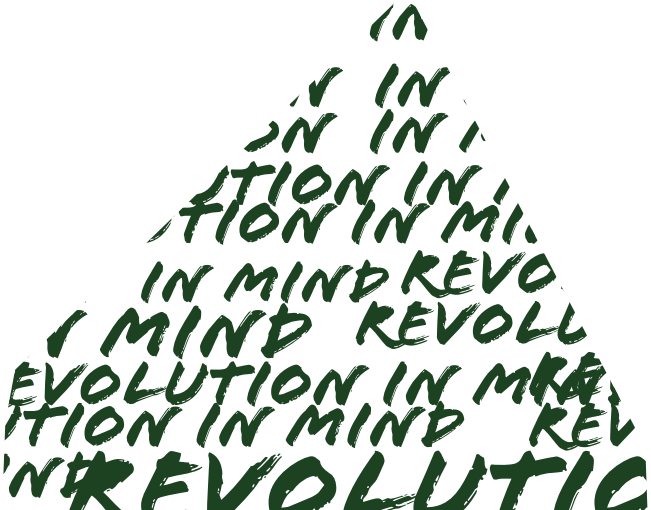
Cognitive impairment typically occurs prior to and around the onset of mental ill-health, with limited deterioration occurring thereafter.[10] Cognitive symptoms may be overlooked at this time due to a greater focus on psychotic symptoms, or if cognitive symptoms are more subtle.

> "About a month before I was properly diagnosed … I was going in and out of concentration a lot."
>
> YOUNG PERSON[10]

> "A bit before I was unwell, I couldn't concentrate at work, kept making mistakes … and just overall wasn't learning as fast as the others were … that is why I got fired from the job."
>
> YOUNG PERSON[10]

The main cognitive domains affected in young people diagnosed with a psychotic disorder are verbal learning, processing speed and executive functioning. However, two people diagnosed with the same psychotic disorder won't share the same cognitive profile or set of symptoms.[11] Cognitive profiles, an individual's pattern of relative strengths and difficulties across several cognitive domains, may differ based on symptoms (for example, negative, positive, disorganised) and comorbidity (for example, depression, substance use).

Cognitive functioning in this population ranges from severe impairment in all domains to above average cognitive functioning, with approximately one in four people experiencing minimal or no cognitive difficulties. Cognitive screening should therefore be incorporated into your usual assessment process, such as the Mental State Examination (MSE) or biopsychosocial assessment, and individualised treatment plans depending on the presenting difficulties.



COMMONLY EXPERIENCED COGNITIVE DIFFICULTIES BY CONTEXT

The following provides a contextual overview of the cognitive difficulties commonly experienced by young people.

PRE-EXISTING DIFFICULTIES

Young people with pre-existing neurodevelopmental difficulties are at significantly higher risk of experiencing a psychotic disorder.[3] For example, people with intellectual disability (ID) are at 3–5 times greater risk than the general population,[3] while those diagnosed with autism spectrum disorder (ASD), dyslexia or dyspraxia are at a nearly twofold risk of experiencing psychosis during adolescence.[3]

POSITIVE SYMPTOMS

Young people may feel like their brains are working in overdrive or are overly distracted, which can make it hard to focus.[10] They may experience significant changes to the content of their thinking, which may result in thinking becoming more rigid or inflexible, or focused on information that supports core beliefs (such as 'the world is not safe') and may result in difficulty focusing on other content.[11]

> "Attention from the voices [meant that] it was hard to distinguish what is real and what was not."
>
> YOUNG PERSON[10]

> "My thoughts were really anxious and I was worried a lot about how I was and stuff and who was around me and just imagining things."
>
> YOUNG PERSON[10]

Cognitive difficulties may be overlooked during acute mental ill-health due to focusing on the management of psychotic symptoms.

NEGATIVE SYMPTOMS

Cognitive impairments commonly co-occur with negative symptoms. Some young people experience slow, delayed or fragmented thinking, feeling 'like a sieve', and/or thought blocking, where it may feel like they have no thoughts or slowed thoughts.[10]

> "I was just not remembering things well. Even after my psychosis, I notice at my job sometimes I'm a bit slow to pick up on things or remember to do things."
>
> YOUNG PERSON[10]

> "Just simple things I guess, like forgetting to do stuff around the house, forgetting to call a mate back or yeah … something like that."
>
> YOUNG PERSON[10]

SUBSTANCE USE

Some young people may use substances, such as alcohol, cannabis or methamphetamines, to cope with their symptoms. While young people may subjectively report improvements with their cognition following substance use, research suggests that, objectively, it often causes further deterioration in thinking.[10]

Though it may not affect cognition in the long-term, cannabis is associated with poorer cognitive functioning in the present.[13] Alcohol is harmful to the brain and cognition, especially if used in high amounts. It also affects attention, verbal learning, visuospatial processing and memory in adolescents, along with altered development of grey and white matter brain volumes.[14]

Consistent and heavy substance use during adolescence and early adulthood may result in permanent cognitive and brain impairments. Providing psychoeducation on these impacts may be helpful in your work with young people.

CO-OCCURRING MENTAL HEALTH CONDITIONS

Depression and anxiety often co-occur with psychosis. Several cognitive domains are affected in both, especially executive functions, processing speed, attention/working memory and learning and memory.[3] Additionally, young people with psychotic disorders can often experience adjustments to their identity and independence as a result of mental ill-health,[11] which can further compound difficulties.

CONCLUSION

Cognitive difficulties affect most young people experiencing psychotic disorders and are consistently related to functional recovery.[8]

They:

- often present before psychosis, sometimes even in childhood;
- tend to peak in terms of severity prior to the onset of mental ill-health and then remain stable thereafter;
- often remain even when symptoms of psychosis are in remission;
- are not simply a result of poor motivation or lack of effort;
- are not usually caused by medications (unless high doses or multiple medications are used); and
- can be worse in the context of substance use.

It is essential that you consider cognitive needs in your assessment and treatment plans when working with young people.

For information on screening, assessment and treatment of cognitive difficulties, refer to Orygen's:

- **Clinical practice point: Supporting cognition in youth mental health**
- **Toolkit for clinicians: Screening cognition in young people**
- **Module: Practical strategies for coping with cognitive difficulties**

FURTHER INFORMATION

For further information regarding mental health, or for information in other languages, visit:

www.orygen.org.au
www.headspace.org.au
www.sane.org
www.healthdirect.gov.au
www.oyh.org.au

For further information about psychosis please see related fact sheets:

Psychosis + young people
Getting help early + young people
Recovering from psychosis + young people
Helping someone with psychosis + young people
Getting active + young people
Sleep + young people

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REFERENCES

1. Allott K, Lin A. Cognitive risk factors for psychosis. London: Elsevier; In press.
2. Medalia A, Revheim N. Dealing with cognitive dysfunction associated with psychiatric disabilities: a handbook for families and friends of individuals with psychiatric disorders. New York State Office of Mental Health; 2002.
3. Allott K. Staging of cognition in psychiatric illness. UK: Cambridge United Press; 2019.
4. Early Psychosis Prevention and Intervention Centre. In: Australian clinical guidelines for early psychosis (2nd edn). 2010. Melbourne: Orygen Youth Health Research Centre.
5. Tell them they're dreaming: work, education and young people with mental illness in Australia. Melbourne: Orygen Youth Health Research Centre; 2014.
6. Morgan V, Waterreus A, Carr V, Castle D, Cohen M, Harvey C, et al. Responding to challenges for people with psychotic illness: updated evidence from the survey of high impact psychosis. Australian and New Zealand Journal of Psychiatry. 2017;51(2):124-14.
7. Allott K, Cotton S, Chinnery G, Baksheev G, Massey J, Sun P, et al. The relative contribution of neurocognition and social cognition to 6-month vocational outcomes following individual placement and support in first-episode psychosis. Schizophrenia Research. 2013;150(1):136-143.
8. Santesteban-Echarri O, Paino M, Rice S, González-Blanch C, McGorry P, Gleeson J, et al. Predictors of functional recovery in first-episode psychosis: A systematic review and meta-analysis of longitudinal studies. Clinical Psychology Review. 2017;58:59-75.
9. Mesholam-Gately R, Giuliano A, Faraone S, Goff K, Seidman L. Neurocognition in first-episode schizophrenia: A meta-analytic review. Neuropsychology. 2009;23(3):315-336.
10. Wright AL, Phillips LJ, Bryce S, Morey-Nase C, Allott, K. Subjective experiences of cognitive functioning in early psychosis: a qualitative study. Psychosis. 2019;11(1):63-74.
11. Hughes A, Macniel C, Francey S, Fraser S, Highes F, Purcell R. Psychological interventions: why, how and when to use in early psychosis. Melbourne: Orygen, the National Centre Of Excellence in Youth Mental Health; 2015.
12. Proffitt T, Warrick B, Parrish E, McGorry P, Allott K. Reasons for referral and findings of clinical neuropsychological assessment in youth with mental illness: a clinical file audit. Applied Neuropsychology: Child. 2017; 7(2):164-174.
13. Scott J, Slomiak S, Jones J, Rosen A, Moore T, Gur R. Association of cannabis with cognitive functioning in adolescents and young adults: a systematic review and meta-analysis. JAMA Psychiatry. 2018;75(6):585-595.
14. Spear L. Effects of adolescent alcohol consumption on the brain and behaviour. Nature Reviews Neuroscience. 2018;19:197-214.

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