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Supporting Information

Supplementary information

This appendix was part of the submitted manuscript and has been peer reviewed.
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Appendix to: Iorfino F, Carpenter JS, Cross SPM, et al. Social and occupational outcomes for young people who attend early intervention mental health services: a longitudinal study. *Med J Aust* 2022; doi: 10.5694/mja2.51308.

Supplementary methods: Further information about the variables assessed in this study

The clinical notes for all study participants were manually read and assessed by a team of trained clinical researchers. Data was then extracted from these clinical notes by the clinical researchers and entered into the proforma as required. All clinical notes are generated by the study participants' treating clinician/s as part of their standard care.

Demographic information
Biological sex, and age; current engagement in part- or full-time education or employment.

Social and occupational functioning
The Social and Occupational Functioning Assessment Scale (SOFAS) (1) is a clinician-rated measure that assesses functioning on a 0–100 scale, with lower scores suggesting functional impairment. The instructions emphasise that the rater should avoid confounding the rating with clinical symptoms (1-3). A SOFAS score of below 70 is considered to be clinically-significant impairment (4).

Mental disorder diagnoses
Mental disorder diagnoses at each time point are classified according to DSM-5 criteria (5) and specified as either full- or sub-threshold. Diagnoses are also labelled as either primary, secondary, or tertiary based on judgement of which was the dominant presenting problem at that time point.

Mental disorder diagnosis is determined solely by the symptomology or diagnosis reported and recorded by the treating clinicians as presented in the clinical notes of each study participant. Based on the information provided within these clinical notes, researchers determined whether DSM-5 criteria were met for a specific disorder at that time point. If symptomology recorded in the clinical notes indicated only some, but not all criteria being met for a specific disorder, then a sub-threshold classification was recorded. If symptomology indicated full DSM-5 criteria were met for that time point, then a full-threshold classification was recorded.

As per diagnosis, medication is also obtained from a review of the clinical notes as generated by the study participants' clinician/s. A certain medication is recorded if the clinical notes indicate that the study participant took that particular class of medication within the specified timeframe.

At-risk mental states
Clusters of symptoms that have been previously indicated as risk factors for progression to more severe mental disorders (6-11) are recorded in all individuals regardless of diagnosis. This includes psychotic-like experiences (the presence of any psychotic symptoms including: perceptual abnormalities, bizarre ideas, disorganised speech etc.), manic-like experiences (the presence of any manic/hypomanic symptoms including: abnormally elevated mood or irritability; increased motor activity, speech, or sexual interest etc), and circadian disturbance (the presence of significant disruption in sleep-wake or circadian cycles including the presence of a severe sleep-wake disorder or chronic fatigue). The presence or absence of these clusters of symptoms is determined solely by the symptomology reported and recorded by the treating clinicians as presented in the clinical notes of each study participant. Similarly, the distinction between psychotic-like and manic-like symptoms is judged within the context of the clinical notes.

The threshold for mania like experiences and psychotic like experiences in this study is low. Conversely, the threshold for circadian disturbance in this study is high. More specifically, these experiences are rated based on their presence or absence and the nature (e.g. type, severity, frequency) of these experiences, and so stage 1a and stage 1b mania-like experiences and psychosis-like experiences are not necessarily different, but in some cases may differ in nature. The presence of these symptoms does not necessarily mean the participant currently has or will go on to develop a serious mental health disorder. It is simply one of many risk factors that may exist. Moreover, the presence or absence of these symptoms do not, in and of themselves, determine the staging of a participant.

Self-harm and suicidal thoughts and behaviours
The presence of suicidal ideation, suicide attempts, and self-harm is recorded. A suicide attempt is recorded when a young person has taken steps to take their own life. If an individual harms themselves via cutting, hitting themselves, burning themselves, or scratching with the intention to self-harm only and not to take their life, then this is included as self-harm and not a suicide attempt.

Physical health comorbidity
Any major physical illness is recorded. This includes (but is not limited to): diabetes, cancer, asthma, chronic pain, epilepsy and obesity.

Personal mental illness history
Known childhood-onset disorders (i.e. with clear onset prior to 12 years old) are recorded in addition to current diagnoses. Family history of a mental health disorder is ascertained via the treating clinician's assessment with the client. Please note, family history is only recorded when the client has reported a mental health diagnosis of a first degree relative. Moreover, family history is only recorded if the client reported that the first-degree family member has a current of past diagnosed mental health disorder. Symptoms only, but no diagnosis, is not enough to meet criteria for this category.

Treatment utilisation
Exposure to classes of medication (antidepressant, antipsychotic, mood stabiliser, or stimulant medication), and hospitalisation overnight or longer due to a mental health problem are recorded.

Table 1. Demographic and clinical comparisons of the excluded and included sample

	Excluded	Included	*P*
Number of potential participants	1391	1510	
Age (years)			
Mean (SD)	19.5 (4.2)	18.1 (3.3)	<0.001
Median [Min, Max]	19.0 [12.0, 30.0]	18.0 [12.0, 25.0]	
Sex			
Female	777 (55.9%)	930 (61.6%)	0.002
Male	614 (44.1%)	580 (38.4%)	
Not in education, employment or training			
No	1124 (80.8%)	1272 (84.2%)	0.017
Yes	267 (19.2%)	238 (15.8%)	
SOFAS			
Mean (SD)	62.1 (9.6)	62.3 (9.0)	0.80
Median [Min, Max]	61.0 [31.0, 90.0]	61.0 [30.0, 90.0]	
Missing	29 (2.1%)	3 (0.2%)	
Depression			
No	516 (37.1%)	471 (31.2%)	<0.001
Yes	875 (62.9%)	1039 (68.8%)	
Bipolar			
No	1244 (89.4%)	1367 (90.5%)	0.36
Yes	147 (10.6%)	143 (9.5%)	
Psychosis			
No	1221 (87.8%)	1431 (94.8%)	<0.001
Yes	170 (12.2%)	79 (5.2%)	
Anxiety			
No	549 (39.5%)	443 (29.3%)	<0.001
Yes	842 (60.5%)	1067 (70.7%)	
Substance use disorder			
No	1228 (88.3%)	1391 (92.1%)	<0.001
Yes	163 (11.7%)	119 (7.9%)	
Mania-like experiences			
No	1190 (85.5%)	1295 (85.8%)	0.91
Yes	201 (14.5%)	215 (14.2%)	
Psychosis-like experiences			
No	1057 (76.0%)	1230 (81.5%)	<0.001
Yes	334 (24.0%)	280 (18.5%)	
Circadian disturbance			
No	1195 (85.9%)	1287 (85.2%)	0.64
Yes	196 (14.1%)	223 (14.8%)	
Childhood psychiatric disorder			
No	1218 (87.6%)	1291 (85.5%)	0.12
Yes	173 (12.4%)	219 (14.5%)	
Family history of psychiatric disorder			
No	788 (56.6%)	777 (51.5%)	0.006
Yes	603 (43.4%)	733 (48.5%)	
Any previous hospitalisation			
No	1145 (82.3%)	1310 (86.8%)	0.001
Yes	246 (17.7%)	200 (13.2%)	
Any previous psychiatric medication use			
No	685 (49.2%)	791 (52.4%)	0.10
Yes	706 (50.8%)	719 (47.6%)	
Any physical comorbidity			
No	1154 (83.0%)	1231 (81.5%)	0.34
Yes	237 (17.0%)	279 (18.5%)	
Self-harm			
No	983 (70.7%)	841 (55.7%)	<0.001
Yes	408 (29.3%)	669 (44.3%)	
Suicide ideation			
No	868 (62.4%)	755 (50.0%)	<0.001
Yes	523 (37.6%)	755 (50.0%)	
Suicide attempt			
No	1210 (87.0%)	1283 (85.0%)	0.13
Yes	181 (13.0%)	227 (15.0%)	
Total follow up time (days)			
Mean (SD)	694 (848)	688 (575)	<0.001
Median [Min, Max]	195 [28.0, 3870]	490 [101, 3580]	
Missing	433 (31.1%)	0	

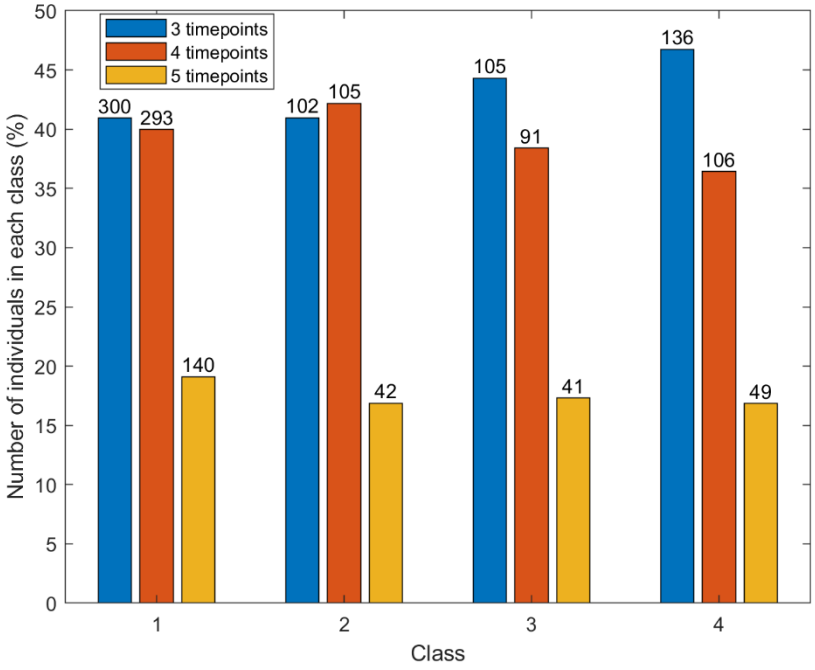
SOFAS: Social and Occupational Functioning Assessment Scale; SD: Standard deviation; Min: Minimum; Max: Maximum.

Table 2. Model adequacy assessment and selection

Model	Classes	Term	Variance-covariance structure	Akaike information criterion	Bayesian information criteria	Relative entropy	Class proportions
1	2	Linear	D	36611	36659	0.87	3: 97
2	2	Linear	NS	36564	36617	0.76	87: 13
3	2	Quadratic	D	36577	36636	0.82	5: 95
4	2	Quadratic	NS	36567	36631	0.83	5: 95
5	3	Linear	D	36567	36636	0.82	3: 5: 93
6	3	Linear	NS	36485	36560	0.65	72: 11: 17
7	3	Quadratic	D	36495	36580	0.86	3: 6: 92
8	3	Quadratic	NS	36451	36541	0.63	11: 74: 16
9	4	Linear	D	36475	36565	0.64	71: 16: 3: 10
10	4	Linear	NS	36491	36587	0.75	80: 5: 2: 13
11	4	Quadratic	D	36408	36519	0.56	16: 13: 53: 19
12	4	Quadratic	NS	36372	36489	0.56	16: 49: 16: 19
13	5	Linear	D	36452	36564	0.50	19: 4: 33: 25: 19
14	5	Linear	NS	36464	36581	0.55	0: 57: 6: 17: 20
15	5	Quadratic	D	36394	36533	0.73	77: 3: 6: 1: 13
16	5	Quadratic	NS	36334	36478	0.77	3: 1: 7: 76: 14
17	6	Linear	D	36508	36641	0.56	2: 18: 6: 7: 30: 36
18	6	Linear	NS	36447	36586	0.55	63: 2: 18: 14: 4: 0
19	6	Quadratic	D	36288	36453	0.55	3: 31: 12: 19: 18: 17
20	6	Quadratic	NS	36258	36428	0.65	46: 11: 3: 19: 15: 6
21	7	Linear	D	36420	36574	0.65	3: 21: 4: 5: 15: 45: 6
22	7	Linear	NS	36455	36614	0.42	3: 20: 20: 13: 38: 6: 0
23	7	Quadratic	D	36287	36478	0.65	8: 3: 1: 57: 1: 13: 17
24	7	Quadratic	NS	36249	36446	0.57	32: 18: 18: 1: 3: 12: 15

D = a diagonal matrix of variance–covariance; NS = non-structured matrix of variance–covariance.

Figure 1. Number of individuals in each latent trajectory class, by number of data timepoints available



References

1. Goldman HH, Skodol AE, Lave TR. Revising Axis V for DSM-IV: a review of measures of social functioning. Am J Psychiatry 1992;149:1148-1156.
2. Hilsenroth MJ, Ackerman SJ, Blagys MD, Baumann BD, et al. Reliability and validity of DSM-IV axis V. Am J Psychiatry 2000;157:1858-1863.
3. Hay P, Katsikitis M, Begg J, Da Costa J, et al. A two-year follow-up study and prospective evaluation of the DSM-IV axis V. Psychiatr Serv 2003;54:1028-1030.
4. Rickwood DJ, Mazzer KR, Telford NR, Parker AG, et al. Changes in psychological distress and psychosocial functioning in young people visiting headspace centres for mental health problems. Med J Aust 2015;202:537-542.
5. American Psychiatric Association. Diagnostic and statistical manual of mental disorders. 5th ed. Arlington (VA), 2013.
6. Kelleher I, Keeley H, Corcoran P, Lynch F, et al. Clinicopathological significance of psychotic experiences in non-psychotic young people: Evidence from four population-based studies. Br J Psychiatry 2012;201:26-32.
7. Kelleher I, Cannon M. Psychotic-like experiences in the general population: characterizing a high-risk group for psychosis. Psychol Med 2011;41:1-6.
8. Hauser M, Correll CU. The significance of at-risk or prodromal symptoms for bipolar I disorder in children and adolescents. Can J Psychiatry 2013;58:22-31.
9. Faedda GL, Marangoni C, Serra G, Salvatore P, et al. Precursors of bipolar disorders: a systematic literature review of prospective studies. J Clin Psychiatry 2015;76:614-624.
10. Alvaro PK, Roberts RM, Harris JK. A systematic review assessing bidirectionality between sleep disturbances, anxiety, and depression. Sleep 2013;36:1059-1068.
11. Addington AM, Gallo JJ, Ford DE, Eaton WW. Epidemiology of unexplained fatigue and major depression in the community: The Baltimore ECA follow-up, 1981–1994. Psychol Med 2001;31:1037-1044.