Outcomes Star™ Psychometric Factsheet: Planning Star™

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Background

The Planning Star is a version of the Outcomes Star for use with children and young people, both unaccompanied asylum seekers and those who have come to this country to settle with relatives. It was developed by Triangle with a diverse group of collaborators including South East Strategic Partnership for Migration and Pathways to Independence UK. More information about the Planning Star can be found on the Triangle website and in the Development Report:
https://www.outcomesstar.org.uk/using-the-star/see-the-stars/planning-star/

Method and analytic strategy

Planning Star data that was routinely collected and entered onto the Star Online by a UK organisation supporting young people with a refugee or asylum seeking background was analysed by Triangle to confirm the validity of the published Planning Star as an outcomes measurement tool. In total, 55 service users were included, all of whom had a review reading.

A full explanation of the analytic strategy is provided in the accompanying document – Outcomes Star Psychometric Factsheets: Overview.

Results

Does it make sense for the different outcome areas of the Star to be included in the same tool?

Factor Structure: All inter-items correlations were above .30 supporting the inclusion of the outcome areas in the same tool, the Kaiser-Meyer-Olkin value exceeded the recommended minimum value of 0.60 (Kaiser 1970, 1974) and a significant Bartlett's Test of Sphericity (Bartlett, 1954) supported the suitability of the data for factor analysis. This analysis yielded a unidimensional factor structure explaining 55.5% of the variance in the data.

Internal Consistency: Internal consistency was good (Cronbach's α = 82.).

Is each outcome area measuring a unique aspect of the service user's situation?

Item redundancy: No inter-item correlation exceeded the 0.7 threshold, suggesting no redundancy between areas (see Table 1).

Does the Star detect change occurring within a service?

Responsiveness to change: After excluding those who could move forward (who began at 5 on the individual outcome areas), a Wilcoxon Signed Rank Test comparing 1st and 2nd Star readings revealed statistically significant change for all outcome areas. At least 48% of service users progressed in each area and the effect size was large for "People and support network" and "Immigration process" and medium-large for the remaining six outcomes areas (see Table 2).

Conclusion

The results of these initial analyses are encouraging and suggest that the Planning Star is a valid outcomes measurement tool, with a single underlying construct and responsiveness to positive changes.

We are keen to examine consistency in understanding of the scales (inter-rater reliability) and the relationship between Star readings and other measures (convergent and predictive validity). Please contact us if you have Planning Star data and would like to be involved in this research.

Further research

External research about the Star as an outcomes and keywork measure can be found on our website: http://www.outcomesstar.org.uk/about-the-star/evidence-and-research/research-library/#all

TABLE 1: Polychoric correlation matrix for outcome areas

	1	2	3	4	5	6	7
1. Where you live							
2. Education, activities and work	.43						
3. Physical health	.45	.65					
4. People and support network	.48	.52	.59				
5. Money	.50	.45	.48	.58			
6. Understanding life in the UK	.40	.68	.38	.50	.46		
7. How you feel	.44	.40	.40	.59	.41	.36	
8. Immigration process	.48	.29	.29	.53	.26	.37	.51

TABLE 2: Responsiveness of the Planning Star: 1st to 2nd readings excluding starting at 5

Scale	Time 1 Median (IQR)	Time 2 Median (IQR)	Wilcoxen statistic Z	Effect size r	Readings improved	N
Where you live	3 (3-4)	4 (4-5)	-4.48***	.47	63%	46
Education, activities and work	4 (3-4)	4 (4-5)	-3.70***	.38	48%	48
Physical health	4 (3-4)	4 (4-5)	-4.44***	.46	54%	46
People and support network	4 (3-4)	5 (4-5)	-4.77***	.54	64%	39
Money	3 (3-4)	4 (4-5)	-3.94***	.42	58%	43
Understanding life in the UK	3 (3-4)	4 (4-5)	-4.66***	.48	58%	48
How you feel	4 (3-4)	4 (4-5)	-3.29**	.35	55%	44
Immigration process	3 (2-4)	5(4-5)	-4.29***	.57	86%	29

*** $p <.001$, ** $p <.01$

References

Bartlett, M. S. (1954). A note on the multiplying factors for various χ 2 approximations. Journal of the Royal Statistical Society. Series B (Methodological), 296-298.

Kaiser, H. F. (1970). A second generation little jiffy. Psychometrika, 35(4), 401-415

Kaiser, H. F., & Rice, J. (1974). Little jiffy, mark IV. Educational and psychological measurement, 34(1), 111-117.

MacKeith, J., (2014). Assessing the reliability of the Outcomes Star in research and practice. Housing, Care and Support, 17(4), 188-197.