

Outcomes Star™ Psychometric Factsheet: Family Star (Relationships)™

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Background

The Family Star (Relationships) is a version of the Outcomes Star for protecting children from conflict between parents, developed by Triangle with Essex and Hertfordshire county councils. More information about the Family Star (Relationships) can be found on the Triangle website and in the Development Report: <https://www.outcomesstar.org.uk/using-the-star/see-the-stars/family-star/>

Method and analytic strategy

Family Star (Relationships) data that was routinely collected and entered onto the Star Online by an Australian organisation was analysed by Triangle to confirm the validity of the published Family Star (Relationships) as an outcomes measurement tool. A full explanation of the analytic strategy is provided in the accompanying document – Outcomes Star Psychometric Factsheets: Overview.

In total, 1194 service users were included, of whom 229 had a review reading.

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 53.2% of the variance in the data.

Internal Consistency: Internal consistency was good (Cronbach's $\alpha = .83$).

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: Wilcoxon Signed Rank Test comparing 1st and 2nd Star readings revealed statistically significant change for all outcome areas. After excluding those who could move forward (who began at 10 on the individual outcome areas), over half of service users progressed in each area and the effect size was medium to large for three outcomes areas, medium for three areas and small-medium for two areas- ranging from $r = 0.27$ to 0.45 ($p < .001$, See Table 2).

The results of these initial analyses are encouraging and suggest that the Family Star (Relationships) 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 Family Star (Relationships) data and would like to be involved in this research.

Further research

External research about the Star as an outcomes and keyword 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 (N = 1194)

	1	2	3	4	5	6
1. Practical arrangements						
2. Routines and stability	.64					
3. Money	.27	.26				
4. Meeting emotional needs	.59	.67	.29			
5. Boundaries and behaviour	.54	.58	.34	.69		
6. Relationship skills	.52	.26	.25	.41	.22	
7. Managing strong feelings	.22	.32	.31	.36	.21	
8. Your well-being	.27	.36	.36	.41	.72	

TABLE 2: Responsiveness of the Family Star (Relationships): 1st to 2nd readings excluding service users starting at 10 who could not move forward

Scale	Time 1	Time 2	Wilcoxon	Effect	Readings	N
	Median	Median	statistic	size	improved	
	(IQR)	(IQR)	Z	r		
Practical arrangements	5 (2-7)	8 (6-10)	-9.19***	0.44	67%	217
Routines and stability	6 (4-8)	9 (7-10)	-8.78***	0.45	66%	187
Money	6 (4-8)	8 (6-9)	-7.11***	0.36	58%	190
Meeting emotional needs	6 (5-8)	8 (7-10)	-8.29***	0.42	66%	198
Boundaries and behaviour	6 (4-8)	8 (7-10)	-7.53***	0.38	60%	198
Relationship skills	6 (4-8)	8 (7-10)	-7.83***	0.37	61%	223
Managing strong feelings	7 (6-8)	8 (7-9)	-5.31***	0.27	50%	192
Your well-being	7 (6-8)	8 (7-9)	-5.62***	0.28	56%	196

*** $p < .001$

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.

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