

Outcomes Star™ Psychometric Factsheet: Empowerment Star™

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Background

The Empowerment Star was designed for use in women's refuge or outreach services, where domestic abuse is the main reasons for using the service and where there is ongoing and holistic support. It was developed by Triangle in collaboration with Eaves Housing.

More information about the Empowerment Star can be found in the Organisation Guide (Burns, & MacKeith, 2017) and the overall principles behind the development of all versions of the Outcomes Star are described in MacKeith (2011).

Method and analytic strategy

Empowerment Star data routinely collected and entered onto the Star Online was analysed by Triangle to test the Star's validity as an outcomes measurement tool. These psychometric tests were conducted using anonymised data ($N = 241$) collected by a UK crisis support centre providing accommodation for women and children in need of a supportive environment. The average time between 1st and 2nd Star readings was 61 days.

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

Results

Do service users and workers view the Star as appropriate and useful?

Acceptability: Feedback from domestic violence projects participating in the pilot reported that the Empowerment Star worked well, service users liked it and that it supported keywork. Respondents felt that the visual aspect of the Star was helpful in engaging service users and demonstrating progress.

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

Factor Structure: 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. The analysis yielded a unidimensional factor structure explaining 62% of the variance in the data.

Internal Consistency Internal consistency was very good (Cronbach's $\alpha = .84$).

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

Item redundancy: Three inter-item correlations exceeded the 0.7 threshold – the highest correlation between Accommodation and Safety was 0.78. Looking into this further, it appears that the vast majority of service users who are Stuck in one of these areas are also Stuck in the other area. However, there is much more variability at other Journey of Change stages and from a practical perspective it is important to include both outcome areas.

The correlations between Safety and Support networks and between Support networks and Accommodation were just over .70.

There was no evidence of possible redundancy in the other six areas (see Table 1).

Does the Star detect change occurring within a service?

Responsiveness to change: The Wilcoxon Signed Rank Test revealed a statistically significant increase and a medium effect size in all outcome areas (see Table 2).

Conclusions

The results of these initial analyses are encouraging and suggest that the Empowerment Star is a valid outcomes measurement tool, with high acceptability, a unidimensional factor structure and good responsiveness to change. Research is planned to examine inter-rater reliability and the relationship between Star readings and other measures (convergent and predictive validity).

Additional 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. Correlation matrix for outcome areas (N =241)

	1	2	3	4	5	6	7	8
1 Safety								
2 Accommodation	.78							
3 Support networks	.72	.76						
4 Legal issues	.13	.10	.17					
5 Health and well-being	.46	.46	.60	.24				
6 Money	.53	.54	.63	.27	.50			
7 Children	.39	.34	.38	.17	.33	.43		
8 Work and learning	.48	.57	.58	.12	.53	.53	.43	
9 Empowerment and self-esteem	.63	.66	.68	.15	.63	.57	.40	.65

Table 2. Responsiveness of the Empowerment Star (N =241)

	First Star median	Final Star median	Z	Effect size r^2
Safety	3.00	6.00	-10.38***	0.47
Accommodation	3.00	5.00	-10.20***	0.46
Support networks	4.00	6.00	-10.08***	0.46
Legal issues	5.00	7.00	-6.62***	0.30
Health and well-being	4.00	6.00	-9.59***	0.44
Money	4.00	7.00	-9.68***	0.44
Children	5.00	7.00	-8.92***	0.41
Work and learning	4.00	6.00	-7.58***	0.35
Empowerment and self-esteem	3.00	6.00	-10.59***	0.48

*** $p < .001$

¹Cohen provided rules of thumb for interpreting these effect sizes, suggesting that an r of .1 represents a 'small' effect size, .3 represents a 'medium' effect size and .5 represents a 'large' effect size

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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