

Outcomes Star™ Psychometric Factsheet: Music Therapy Star™

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Background

The Music Therapy Star was developed by Triangle alongside the music therapy service at Coram for children under the age of 11 who are received music therapy.

Coram contributed to the outcome areas and Journey of Change and provided feedback on the tool as part of an iterative process of development and refinement. They also piloted draft versions of the Star within their services.

More information about the development of the Music Therapy Star can be found in the organisation guide (Burns & MacKeith, 2011) and the overall principles behind the development of all versions of the Outcomes Star are described in MacKeith (2011).

Method and analytic strategy

Data on the acceptability and content validity of the pilot version of the Music Therapy Star was gathered using questionnaires completed by individuals using services provided by the collaborators at the end of the pilot period.

Routinely collected Music Therapy Star data was analysed by Triangle to test the Star's validity as an outcomes measurement tool. These analyses used anonymised data from 210 service users collected by a not-for-profit organisation that provides music therapy and community music to people of all ages. Fifty-nine percent of service users were male, just over half were under the age of 11 (52%), 31% were 12-18 and 16% were older than 18.

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?

The acceptability and perceived utility of the pilot version of the Music Therapy Star was assessed by a small sample of parents, practitioners and referrers. All participants understood the purpose of the Music Therapy Star and found it easy and enjoyable to use. The Music Therapists reported that it helped them to direct their intervention, that it improved their interaction with parents, and all but one felt that it captured the changes occurring as a result of therapy (changes were made to the published version on the basis of the feedback).

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

Factor Structure: The suitability of the data for factor analysis was confirmed, with all inter-item correlations above .30, a Kaiser-Meyer-Olkin value exceeding the recommended minimum value of 0.60 (Kaiser 1970, 1974) and a significant Bartlett's Test of Sphericity (Bartlett, 1954). This analysis yielded a unidimensional factor structure explaining 81% of the variance in scores.

Internal Consistency Internal consistency was good (Cronbach's $\alpha = .90$).

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

Item redundancy: The only inter-item correlation exceeding the 0.7 threshold was between Relating and Use of voice time ($r = .74$; see Table 1). Since Use of voice involves the ability to communicate it is to be expected that readings in this area will be strongly associated to ability to relate to others. As with the other areas, from a practical perspective it was judged important to keep these as distinct.

Does the Star detect change occurring within a service?

Responsiveness to change: The Wilcoxon Signed Rank Test revealed a statistically significant increase in all areas of the Music Therapy Star ($p < .001$), with a large effect size for Emotional well-being, medium-large effects for Relating, Attention and awareness and Play and creativity and a medium effect size for Use of voice (see Table 2).

Conclusion

These initial psychometric analyses are encouraging and suggest that the Music Therapy Star is a valid outcomes measurement tool, which measures one underlying construct and is responsiveness to change.

Further research

We plan to conduct further research to assess inter-rater reliability and predictive validity of the Music Therapy Star.

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 = 210)

	1	2	3	4	5
Relating					
Use of voice	.74				
Attention and awareness	.67	.60			
Play and creativity	.69	.65	.63		
Emotional well-being	.65	.54	.62	.70	

TABLE 2: Responsiveness of the Star (n = 147)

	First Star median	Final Star median	Z	Effect size r^2
Relating	4.00	6.00	-7.93***	.46
Use of voice	5.00	6.00	-6.22***	.36
Attention and awareness	5.00	6.00	-7.67***	.45
Play and creativity	5.00	6.00	-8.03***	.47
Emotional well-being	4.00	6.00	-8.82***	.51

*** $p < .001$

¹ Cohen 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

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