Outcomes Star™ Psychometric Factsheet: Shooting Star™

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Background

The Shooting Star was developed for school students, to capture more holistic outcomes and give a greater emphasis to outcomes beyond academic achievement. It was developed by Triangle alongside Darwen Aldridge Community Academy and piloted in the Brighton Aldridge Community Academy.

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

Method and analytic strategy

Shooting 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* =118 1st Stars, 99 reviews) collected by a UK charity. The average time between 1st and 2nd Star readings was 56 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: Two thirds of the 101 students who completed feedback forms agreed that the Shooting Star 'Helped me see my strengths and what needs to change'. All tutors and mentors felt that the Shooting Star helped them have useful discussions with students, and almost all (92%) felt that using the Star helped them to get an overall picture of strengths, needs and progress.

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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 55% of the variance.

Internal Consistency Internal consistency was minimally acceptable (Cronbach's α =.66) and tends to be lower with a smaller number of items (in this case there are only 6 outcome areas). It would increase to .69 if the Communication area were excluded – this area had some low correlations with other outcome areas, perhaps because over half of service users were at 3 - 'Having a go' for this area ('I can share my ideas in small groups or with my friends and adults I know'). Nevertheless, those involved in supporting students deemed it important to include this outcome area in the Shooting Star.

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

Averaged across outcome areas, in this sample, 17% of service users began at the highest point on the Journey of change, and therefore this test of responsiveness looked only at those who were below this point and could move forward.

Conclusions

The results of these initial analyses are encouraging and suggest that the Shooting Star is a valid outcomes measurement tool, with high acceptability, a unidimensional factor structure and good responsiveness. 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

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Table 1. Polychoric correlation matrix for outcome areas (*N* =118)

	1	2	3	4	5
1 Aspiration					
2 Contribution	.35				
3 Confidence	.27	.28			
4 Learning	.44	.47	.20		
5 People and support	.47	.48	.18	.40	
6 Communicating	.12	.09	.19	.22	-.09

Table 2. Responsiveness of the Shooting Star

	First Star median	**Final Star median**	***Z***	***Effect size r*[1]**	***N***
1 Aspiration	3.00	4.00	-4.42***	0.35	80
2 Contribution	3.00	4.00	-6.06***	0.45	92
3 Confidence	3.00	4.00	-5.41***	0.43	80
4 Learning	3.00	4.00	-5.97***	0.45	89
5 People and support	4.00	4.00	-4.70***	0.43	61
6 Communicating	3.00	4.00	-5.55***	0.39	99

****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

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References

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