The Relation between SMART Goal Construction and Level of Goal Attainment: A Service Evaluation in a Paediatric Neurorehabilitation Service

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BACKGROUND:

The SMART acronym is widely known as a goal-setting standard across different fields such as business and sports (Locke & Latham, 2002). However, there is insufficient evidence to establish that this standard maximises goal attainment in neurorehabilitation settings (Evans & Krasny-Pacini, 2017). This study aims to fill the gap in existing literature and improve goal-setting techniques within the service by exploring if SMART goals are positively associated with higher goal attainment in neurorehabilitation settings.

AIMS:

This service evaluation assessed (1) variability of data within the Goal Attainment Scaling (GAS) Light template, and (2) the relationship between goals' 'SMARTness' ratings and level of change (from baseline to scaled goal achievement) within the GAS 5-point scale. The ultimate aim: to improve future goal-setting and rehabilitation outcomes.

METHOD:

This service evaluation was a retrospective within-subjects design. An adapted, 7-item version of the Grant and Ponsford (2014) checklist was used to assess the 'SMARTness' of n=165 anonymised paediatric neuropsychological rehabilitation goals. Two trained rehabilitation practitioners were recruited to rate each goal's SMARTness against the checklist (range: 0-14). Inter-rater reliability (IRR) was calculated per goal, the overall measure, and individual measure items. Demographic data was not included in the sample.

Three criteria were taken to refine data for the correlational analysis. 1) an IRR cut-off score (Kappa ≥ 0.41) of SMARTNESS score per goal, and 2) including only the goals containing both baseline function and post-intervention achievement status. This significantly reduced the sample size (n=30).

Three criteria were taken to refine data for the correlational analysis. 1) exclude questionnaire items below an IRR cut-off score (Kappa ≥ 0.41); 2) include only goals above this cut-off, and 3) including only the goals containing both baseline function and post-intervention achievement status. This significantly reduced the sample size (n=30) and allowed only 3 of the 7 questionnaire items to be analysed.

RESULTS:

Of the 165 goals on GAS sheets, 42.4% contained data in every section, 45.5% contained both 'baseline' and 'scaled achievement' data. By the criteria of Landis & Koch (1977) the IRR of the overall goal sample and measure was fair (Mean= 0.378; SD=0.40; Kappa=0.399). The 30 goals with complete data showed moderate IRR (Mean=0.741; SD=0.224; Kappa=0.650). Of these, SMARTness and GAS change score were negatively correlated (Tb (30) = -.4; p= .006) (Figure 1). A secondary analysis was performed for each SMART component. Only the 'Attainability' component within the SMART acronym had a significant negative correlation with level of change (Tb (30) = -.347, p= .019) (Figure 2).

CONCLUSIONS:

The amount of data provided within the GAS light template was variable. Goal recording can be improved by completing all sections of the GAS Light format. Automated methods of goal-setting are recommended to facilitate completion of all sections. SMARTness rating can be improved by using SMART-GEM which has high reliability (Bowman et al. 2015). A negative association between SMARTness and goal attainment may be due to: a) 'unSMART' goals being more likely judged as achieved by practitioners; or b) attainment being influenced by a different factor e.g., meaningfulness of the goal to the client/patient (McPherson et al., 2014).

Figure 1: Scatterplot showing negative correlation between SMARTness score and GAS Change rating (Tb (n=30) -.4; p= .006).

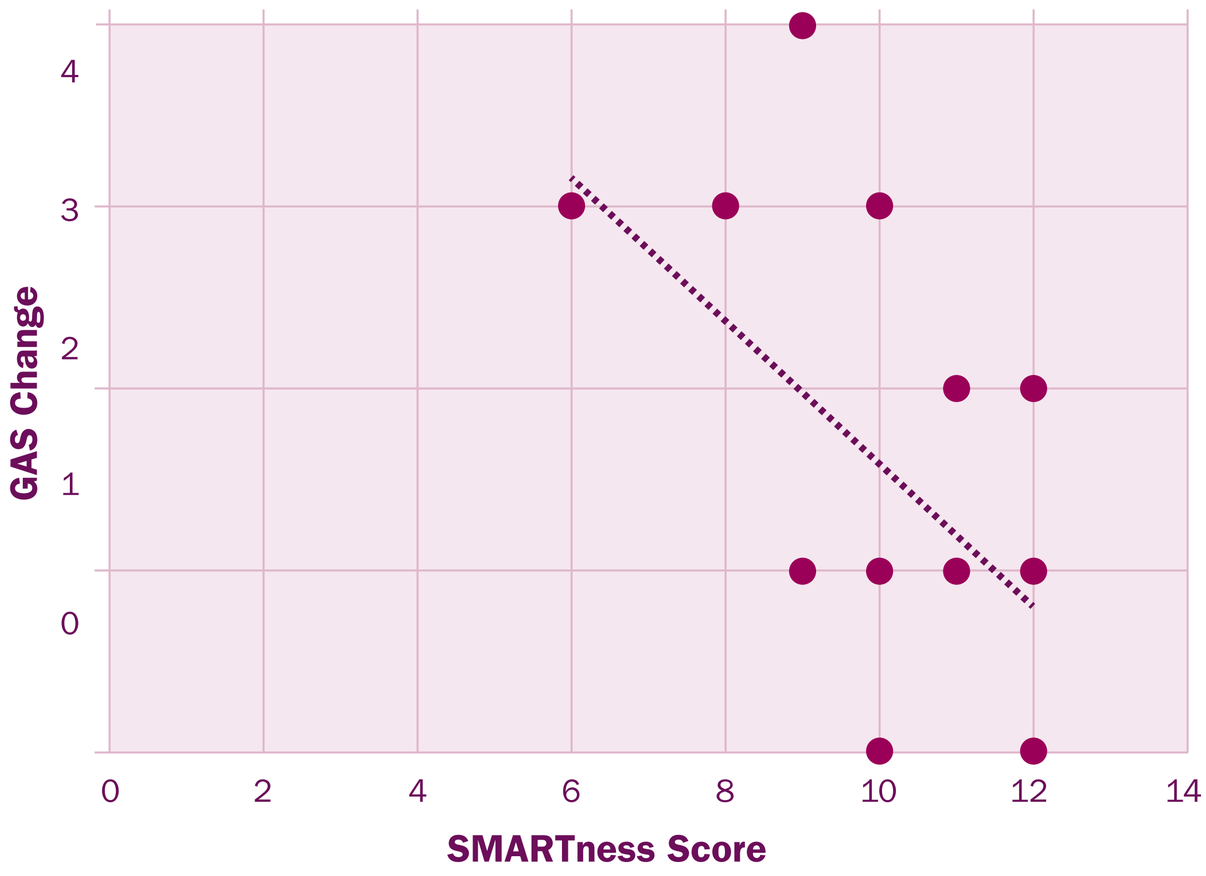

Figure 2: Correlation coefficient scores and significance values between level of change and A) the summed 3 items above acceptable IRR threshold, B) question 4, C) question 6, and D) question 7.

CORRELATIONS

		Level of change	Overall Questions	Q4. Follow up	Q6. Attainability	Q7. Baseline
Level of Change	Correlation Coefficient	**				
Overall Questions	Correlation Coefficient	-.400**	--			
Q4. Follow up	Correlation Coefficient	-.275	.623**	--		
Q6. Attainability	Correlation Coefficient	-.347*	.511**	-0.26	--	
Q7. Baseline	Correlation Coefficient	-.211	.246	.134	-.110	--

Notes: **= Correlation is significant at the 0.01 level(1-tailed). *= Correlation is significant at the 0.05 level (2-tailed). N=30 for all variables.

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