

AB design

Setting		Adult inpatient setting
Design		AB
Length of baseline (A)		14
Length of intervention phase (B)		35
Idiographic measures		Scale
Feelings of hope		0-20 (increase)
Verbal abuse towards staff		Count (decrease)
Self-criticism		0-10 (decrease)
Control - Sleep Quality		Count (decrease)
Nomothetic measures		Outcome
CORE-OM	General distress	
PHQ-9	Depression symptoms	

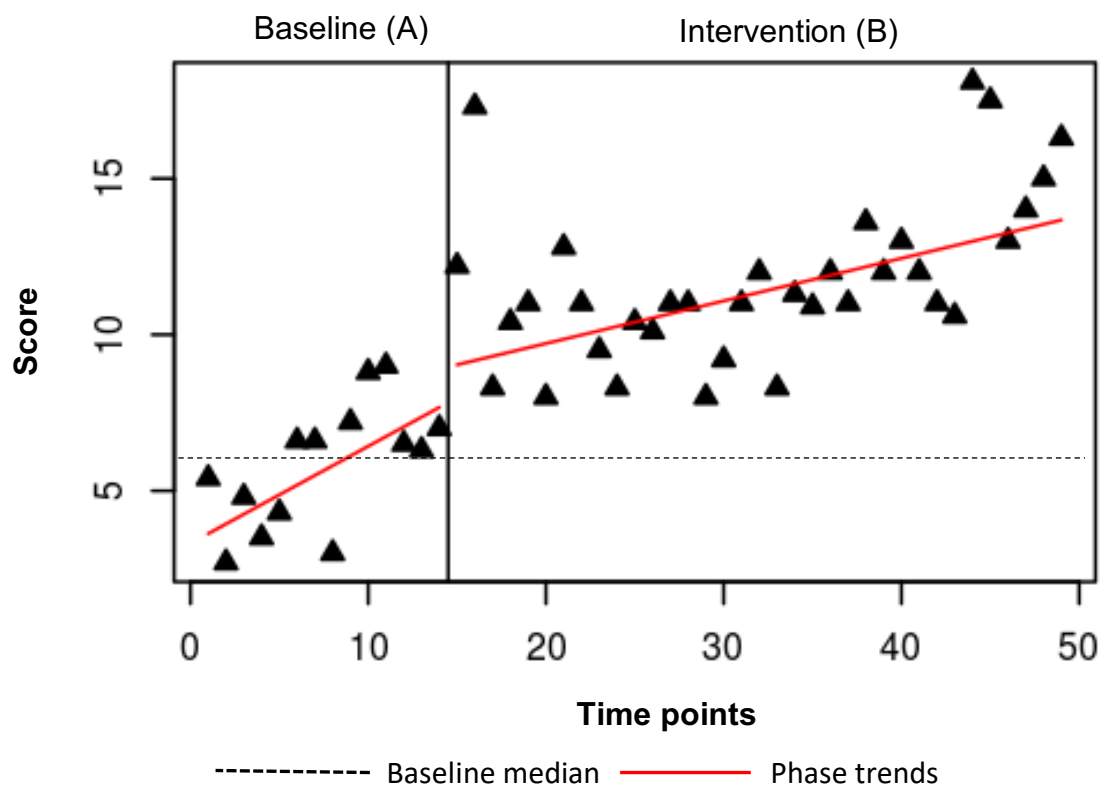
1. Visual analysis

Idiographic measure 1: Feelings of hope

- Best fitting trend line plot

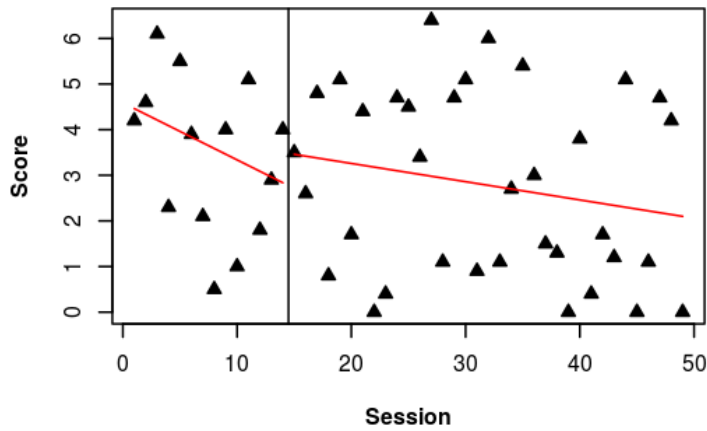
- Plot manually customised using text boxes and shapes in Microsoft Word. See [Box 2](#) in the Analysis Guide for tips.

Idiographic outcome: Feelings of hope



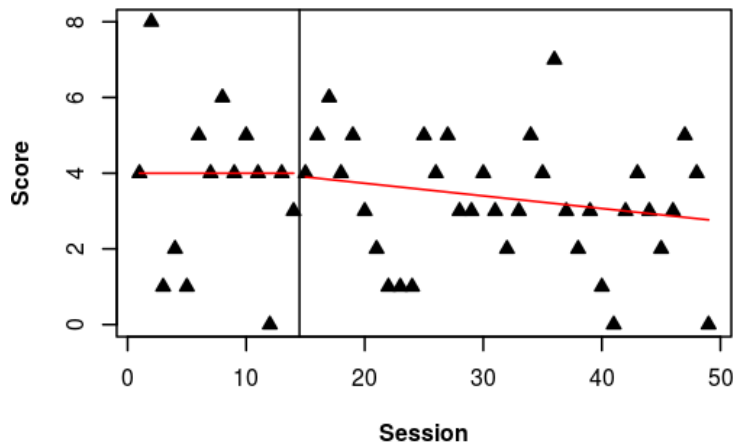
Idiographic measure 2: Verbal abuse towards staff
- Cut directly from app with no customisation.

Best fitting straight line (mean MASE): Theil-Sen



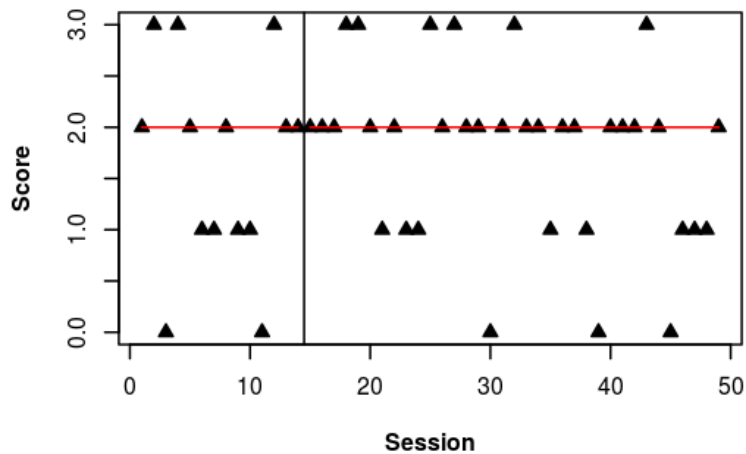
Idiographic measure 3: Self-criticism
- Cut directly from app with no customisation.

Best fitting straight line (mean MASE): Theil-Sen



Idiographic measure 3: Control
- Cut directly from app with no customisation.

Best fitting straight line (mean MASE): differencing



2. Statistical analysis

Table 1: Nonoverlap effect and Tau-u statistics for ideographic measures between specific phases of SCED

Idiographic measure	Baseline (A) vs. Intervention (B)				
	Baseline trend (τ^{trendA})	¹ Tau (τ^{AvsB}) ² Tau-U ($\tau^{\text{AvsB} - \text{trendA}}$)	PEM (%)	NAP (proportion)	PND (%)
Feelings of hope	0.538*	-0.485* ²	100	0.96	71.43
Verbal abuse towards staff	-0.224	-0.138 ¹	57.14	0.60	17.14
Self-criticism	-0.106	-0.094 ¹	57.14	0.57	0
Control	-0.087	0.057 ¹	31.43	0.46	0

* = Significant at $p = <.05$. ¹If baseline trend is not significant, Tau between phase effect size is reported (τ^{AvsB}). ²If baseline trend is significant, Baseline corrected Tau-U between phase effect size is reported ($\tau^{\text{AvsB} - \text{trendA}}$).

Baseline (A) vs. Intervention (B)					
Interpretation guide	Baseline trend (τ^{trendA})	¹ Tau (τ^{AvsB}) ² Tau-U ($\tau^{\text{AvsB} - \text{trendA}}$)	PEM (%)	NAP (proportion)	PND (%)
<i>Interpretation:</i>	Higher τ^{trendA} value indicates more evidence of baseline trend – positive or negative values indicate direction of trend (increasing/decreasing). P value indicates if trend is significant or not (if $<.05$). Larger ($\tau^{\text{AvsB}} / \tau^{\text{AvsB} - \text{trendA}}$) values indicate larger differences between phases. Where improvement = increased scores, larger positive Tau values reflect improvement due to intervention. Where improvement = decreased scores, larger negative Tau values reflect improvement due to intervention.		Higher scores reflect improvement due to intervention. Scruggs & Mastropieri (1998) suggested interpretation; > 0.90 (or 90%) indicative of a very effective treatment $0.70-0.89$ (or 70-89%) represent moderate effectiveness $0.50-0.69$ (or 50-69%) are debatably effective <0.50 (50%) are regarded as not effective		

3. Descriptive analysis

Table 2: Means and Standard deviations of each phase

Idiographic measure	Means (SD)	
	Baseline (Phase A)	Intervention (Phase B)
	(14 days)	(35 days)
Feelings of hope	6.21 (2.21)	11.71 (2.63)
Verbal abuse towards staff	3.50 (1.66)	2.80 (2.00)
Self-criticism	3.64 (2.13)	3.23 (1.65)
Control	1.64 (1.01)	1.77 (0.84)

4. Nomothetic measures

Table 3: Nomothetic measures and reliable and clinically significant change analysis

Nomothetic measure	Outcomes		Norms Mean (SD)		RCSI analysis (Pre-baseline to post-intervention)			
	Pre-baseline (A)	Post-intervention (B)	Community / non-clinical	Clinical	Reliable change criteria	Reliable change (Y/N)	Clinical cut-off	Clinical change (Y/N)
CORE-OM	34 (severe)	26 (severe)	2.5 (1.8)	18.3 (7.1)	>=6	Y	<10	N
PHQ-9	25 (severe)	21 (severe)	3.3 (3.8)	17.3 (5.0)	>=5	N	<10	N

CORE-OM – RCSI analysis and norms based on reliable change index (RCI) and clinical cut-off reported in Connell et al. (2007) (Cronbach's alpha reliability =0.91)

PHQ-9 – RCSI analysis and norms based on reliable change index (RCI) and clinical cut-off reported in McMillan et al (2010) (Cronbach's alpha reliability =0.89)

Summary of findings

Visually – Hope and verbal abuse towards staff both showed improvement during the baseline that continued into the intervention phase suggesting improvements were not initiated by the intervention phase. Self-criticism remained stable during the baseline, but did not appear to be greatly affected by the intervention showing only a slight reduction. The control variable remained stable over the baseline and intervention phases suggesting it was not affected. Taken together the visual analysis suggests the intervention had limited effectiveness.

Statistics – Although the non-overlap statistics for Hope suggested improvement due to the intervention, there was evidence of a significant baseline improving trend for Time seated (significant $\text{Tau}^{\text{trendA}}$). The other three measures did not have evidence of significant baseline trend ($\text{Tau}^{\text{trendA}}$), the difference between phases were not significant (Tau^{AvsB}) and the non-overlap statistics were smaller suggesting minimal to no intervention effect. The PEM and NAP effect sizes were similar to each other, however PND was more variable (but has known limitations). While there was improvement in 3 of the outcomes at the end of treatment (ID1, 2 & 3), it is not clear if they were influenced by the intervention. The control variable did not show any change suggesting it was unaffected by the intervention.

Nomothetic – CORE-OM showed reliable but not clinical change from baseline to end of intervention – the client had shown a reliable improvement in symptoms but did not finish treatment in the non-clinical range. The PHQ-9 did not indicate that the client had experienced reliable or clinically significant change from pre-baseline to end of intervention.