**Supplementary Information**

**Individual SCED Design Plan**

Visual analysis of SCED data involves (1) determining stability of baseline data; (2) assessing the level, trend and variability of data within each phase and (3) comparing phases to consider whether patterns of level, trend and variability change across phases (Kratochwill et al., 2010). When necessary, overlap of data between phases can also be assessed. The following plan for analysis was established (see Table 5 for definitions of key terms). Central tendency and trend were calculated for all VAS measures. Various methods were used to calculate these parameters depending on phase length (Morley, 2015; Morley & Adams, 1991). Table 6 summarises the calculations used and the manner in which these are presented within the graphs. Due to short phase length, it was not deemed necessary to graphically depict variability as this was clear from visual inspection. Phases are separated by vertical solid lines.

Frequency and distress graphs for all participants, along with their coding across sessions, can be seen in Fig2. For each participant, Phase A represents the baseline phase, Phase B displays data collected during the ImRs sessions and Phase C represents the follow-up phase. The image distress VAS was administered at the start and end of all sessions. The image frequency VAS was administered only at the start of each session (as the frequency VAS asks the participant to rate ‘frequency over the past 3 days’, it did not make sense to administer this twice in an hour)[[1]](#footnote-1). The ImRs phase lasted for the number of sessions required to rescript one image up to a maximum of 3 sessions. As such, there is no image frequency data available for Phase B for those participants who only had one ImRs session. Each ImRs session was coded separately using the Goodness of Simulation (GOS) and Session Content coding schemes.

***Baseline Stability***

Baseline stability can be assumed when 80% of the phase data falls within a 20% range of the median (Gast & Spriggs, 2010). Due to the small number of data points available, a conservative approach to baseline stability was used with stability being assumed only when all phase data points fell within a 20% range of the median. In cases where baseline data was unstable and there was a minimum of three data points in both baseline and treatment phases, it was planned to carry out Tau-U analysis, a statistical test that controls for trend in baseline while simultaneously assessing level of overlap between phases (Parker et al., 2011). However, data from only one participant (P2), who did not have sufficient data for Tau-U analysis, failed to meet stability criteria. As Tau-U analysis was not possible, the source of variability is discussed in so far as is possible (Kratochwill et al., 2010) and cautious visual analysis is carried out.

Table 5.

*Explanation of Key Terms used within Graphical Analysis.*

|  |  |
| --- | --- |
| Key Term | Explanation |
| Median | Number in the middle of the data when data is rank ordered. If there is an even number of data points, then the median is estimated by calculating the average of the middle two data points. |
| Broadened Median (BMED) | The average of the three middle values when data are rank ordered. |
| Running Median of 2 (RM2) | Average of successive sets of 2 data points throughout the phase |
| Trended Range (TR) | Lines connecting the highest and lowest values in each half of the phase – depicts change in variability across time. |

Table 6.

*Calculations used for Central Tendency, Trend and Variability.*

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| --- |
| Measures of Central Tendency – Dashed Line |
| Phase Length | Method Used | Represented Graphically by |
| 1 | Data points only (no line) | Round dots |
| 2-4 | Median | Dashed line |
| 5+ | Broadened Median (BMED) | Dashed line |
| Trend in Phase Data – Dotted Line |
| Phase Length | Method Used | Represented Graphically by |
| 1-2 | Data points only (no line) | Round dots |
| 3+ | Running Mean of 2 (RM2) | Dotted line |
| Variability within Phases – Solid Lines |
| Phase Length | Method Used | Represented Graphically by |
| 1-2 | Data points only (no line) | Diamond shaped dots |
| 3+ | Trended Range | Solid black lines |

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| P1 | BACBAC

|  |  |  |  |  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- |
| GOS | Image Departure | Timing of Change | Staying with Image | Therapist Guidance | OriginalImagery Activation | New Imagery Activation | Original Processes | New Processes | Cognitive/Emotional Shift | Rescript Believability |
| 9 | 2 | 3 | 3 | 3 | 2 | 2 | 2 | 3 | 3 | 3 |
| 8 | 2 | 3 | 3 | 2 | 3 | 2 | 2 | 3 | 2 | 2 |
| 10 | 2 | 3 | 3 | 2 | 3 | 3 | 3 | 3 | 3 | 3 |

 |
| P2 | BCCAA

|  |  |  |  |  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- |
| GOS | Image Departure | Timing of Change | Staying with Image | Therapist Guidance | OriginalImagery Activation | New Imagery Activation | Original Processes | New Processes | Cognitive/Emotional Shift | Rescript Believability |
| 12 | 2 | 3 | 3 | 3 | 3 | 3 | 1 | 3 | 3 | 3 |

 |
| P3 | CCBAA

|  |  |  |  |  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- |
| GOS | Image Departure | Timing of Change | Staying with Image | Therapist Guidance | OriginalImagery Activation | New Imagery Activation | Original Processes | New Processes | Cognitive/Emotional Shift | Rescript Believability |
| 7 | 2 | 2 | 3 | 2 | 3 | 2 | 1 | 1 | 1 | 1 |

 |
| P4 | BBAACC

|  |  |  |  |  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- |
| GOS | Image Departure | Timing of Change | Staying with Image | Therapist Guidance | OriginalImagery Activation | New Imagery Activation | Original Processes | New Processes | Cognitive/Emotional Shift | Rescript Believability |
| 7 | 2 | 3 | 3 | 2 | 1 | 3 | 2 | 2 | 1 | 1 |
| 10 | 2 | 3 | 3 | 3 | 2 | 3 | 2 | 3 | 2 | 2 |
| 9 | 2 | 3 | 3 | 3 | 1 | 2 | 1 | 3 | 2 | 2 |

 |
| P5 | CCAABB

|  |  |  |  |  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- |
| GOS | Image Departure | Timing of Change | Staying with Image | Therapist Guidance | OriginalImagery Activation | New Imagery Activation | Original Processes | New Processes | Cognitive/Emotional Shift | Rescript Believability |
| 6 | 2 | 3 | 3 | 1 | 1 | 3 | 1 | 3 | 3 | 2 |
| 12 | 2 | 3 | 3 | 3 | 2 | 3 | 2 | 3 | 3 | 3 |

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| P6 | BAACC

|  |  |  |  |  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- |
| GOS | Image Departure | Timing of Change | Staying with Image | Therapist Guidance | OriginalImagery Activation | New Imagery Activation | Original Processes | New Processes | Cognitive/Emotional Shift | Rescript Believability |
| 7 | 2 | 2 | 3 | 1 | 1 | 3 | 0 | 2 | 2 | 2 |

 |
| P7 | CCAA

|  |  |  |  |  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- |
| GOS | Image Departure | Timing of Change | Staying with Image | Therapist Guidance | OriginalImagery Activation | New Imagery Activation | Original Processes | New Processes | Cognitive/Emotional Shift | Rescript Believability |
| 5 | 1 | 3 | 3 | 2 | 3 | 2 | 3 | 2 | 2 | 2 |

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*Figure 2.* Frequency and Distress VAS data, and summary of GOS and session content codes for all participants across sessions.

Note: Raw data (●), central tendency (------) and trend (ˑ ˑ xˑ ˑ). Phase A represents baseline data, Phase B represents data collected during ImRs and Phase C represents follow-up data points. Each row of data for the GOS and Session Content coding schemes relates to each individual ImRs session.

Below is the full version of the session content coding scheme, providing anchoring points for each level of each code:

*Session Content Coding Scheme (FULL)*

**Departure from the original imagery**

Summary: This item rates the extent to which the rescript departs from the original imagery in terms of the amount of new material being introduced. Consider the setting and time taken up by the new imagery.

**3 = All new**: All new (e.g., safe place imagery);

*Additional guidance:* none of the original imagery is included in the rescript.

 **2 = Mostly new**: Mostly new imagery, some old material;.

*Additional guidance:* a small portion of the original intrusive imagery is incorporated into the rescript*.*

**1 = Some new**: the majority of the imagery is taken up with the original

intrusive imagery.

*Additional guidance:* Less than half of the imagery incorporates new material,

**0 = Mostly old/no change**: Mostly old imagery or no change from original intrusive imagery (e.g., reliving only);

*Additional guidance:* a minimal amount of new material is incorporated

 **Timing of change**

Summary: This item rates the point in time when new information is introduced into the imagery.

**3 = During the imagery:** The rescript coincides in time with the original imagery.

*Additional guidance: Change in the imagery is introduced part way through the original imagery –. .*

**2 = Immediately (1) before OR (2) after the imagery**: The rescript occurs immediately before or in the aftermath of the original imagery (specify before or after).

*Additional guidance: Change in the imagery is introduced immediately before or at the end of events in the original imagery (i.e., one follows consecutively after the other). For example, events in the new imagery pre-empt events in the original imagery or build on the ending of the original imagery.*

**1 = Some time (1) before or (2) after the imagery:** The rescript occurs a while before or after the original imagery (specify before

or after).

*Additional guidance: A new imagery is created that, if real, would have occurred some length of time before or after the original imagery (i.e., one does not follow consecutively after the other) but the temporal link is clear. For example, the new imagery changes the story of the original imagery by adding new content at an earlier or later point in time (e.g., days, weeks or years earlier or later).*

**0 = No temporal relationship to the imagery**: The rescript occurs at a time that appears unrelated to the original imagery or the temporal relationship between original and new imagery is not apparent.

*Additional guidance: New imagery is created that, if real, would have occurred at a time that is unrelated to the original imagery - the temporal link is not clear. The new imagery is thus not part of the original imagery*

 **Ability to stay with the imagery**

Summary: This item rates the client’s ability to continuously activate and stay with the imagery throughout the rescripting process.

**3 = Mostly stays with**: The client stays with the imagery throughout.

*Additional guidance: The client for the most part is able to bring to mind and stay with the imagery through the entire rescripting session.*

**2 = Stays with moderately**: The client stays with the imagery but falls short of doing so for the entire session.

*Additional guidance: The client is able to bring to mind and stay with the imagery for the majority of the rescripting session, but comes out of the imagery at times ().*

**1 = Stays with somewhat**: The client struggles to stay with the imagery.

*Additional guidance: Although the client is able to bring to mind and stay with the imagery at times, he/she frequently come back to the therapy room.*

**0 = Stays with minimally/not at all**: The client cannot stay with imagery.

*Additional guidance: The client is unable to bring the imagery to mind for most of the session.*

 **Amount of guidance given by the therapist**

Summary: This item rates the client’s ability to follow the rescripting process and incorporate changes in the imagery without significant guidance from the therapist.

**3 = Mostly self-guided:**Little guidance from therapist is needed; the client is able to incorporate change into the imagery and guide themselves through the rescript with little or no prompting.

*Additional guidance: The client is able to bring to mind and describe the rescripted imagery with little input from the therapist. For example, the therapist provides infrequent minor/general prompts to capture more details or to bring in additional changes.*

**2 = Moderately self-guided:** Some guidance from therapist is provided; the client and therapist guide the rescript equally.

*Additional guidance: The client is able to follow therapist prompts in order to bring to mind and vividly describe the rescripted imagery. Without these prompts, it is likely that the client would leave out details or become stuck.*

**1 = Somewhat self-guided:** The rescript is mostly guided by the therapist; the client struggles to guide the rescript.

*Additional guidance: Rescripting is mostly guided by the therapist; the client finds it difficult to describe the imagery and to incorporate change. For example, the therapist provides frequent specific prompts to capture more details or to bring in additional changes.*

**0 = Minimally/not at all self-guided***:* The rescript is mostly/completely guided by the therapist.

*Additional guidance: The client is reliant on the therapist for guiding the rescript. It is necessary for the therapist to become actively involved in the description of the event and to ensure changes to the imagery are incorporated*

 **Activation of imagery – original imagery elements**

Summary: This item rates the client’s ability to visualise the imagery as indicated by the vividness of their description.

**3 = Mostly able:** The client can see the imagery easily in the mind’s eye; the imagery is very vivid (“I can see, hear, smell, feel and/or taste it very clearly”).

*Additional guidance: The client creates imagery that is very clear and intense for the majority of the session. All or most of the imagery is experienced in great detail. The imagery is mostly or entirely described in present tense and first person.*

**2 = Moderately able:** Parts of the imagery can be seen easily in the mind’s eye; most of the imagery is vivid (“Mostly all of the details are there”).

*Additional guidance: The client creates imagery where parts are clear and intense, while other parts are lacking in clarity. Both present and past tense, and first and third person may be used.*

**1 = Somewhat able:** Some of the imagery can be seen easily in the mind’s eye;some parts of the imagery are vivid (“Some of the details are there”).

*Additional guidance: The client creates imagery where many parts are lacking in clarity. The imagery may be mostly described in third person but first person may also be used.*

**0 = Minimal/not at all able:** Very little or none of the imagery can be seen clearly in the mind’s eye; the imagery is not vivid (“Everything is a bit blurred”).

*Additional guidance: Client is not able to bring to mind imagery that is clear. The imagery is not likely to be described in present tense and first person*

 **Activation of imagery – new imagery elements**

Summary: This item rates the client’s ability to visualise the imagery as indicated by the vividness of their description.

**3 = Mostly able:** The client can see the imagery easily in the mind’s eye; the imagery is very vivid (“I can see, hear, smell, feel and/or taste it very clearly”).

*Additional guidance: The client creates imagery that is very clear and intense for the majority of the session. All or most of the imagery is experienced in great detail. The imagery is mostly or entirely described in present tense and first person.*

**2 = Moderately able:** Parts of the imagery can be seen easily in the mind’s eye; most of the imagery is vivid (“Mostly all of the details are there”).

*Additional guidance: The client creates imagery where parts are clear and intense, while other parts are lacking in clarity. Both present and past tense, and first and third person may be used.*

**1 = Somewhat able:** Some of the imagery can be seen easily in the mind’s eye;some parts of the imagery are vivid (“Some of the details are there”).

*Additional guidance: The client creates imagery where many parts are lacking in clarity. The imagery may be mostly described in third person but first person may also be used.*

**0 = Minimal/not at all able:** Very little or none of the imagery can be seen clearly in the mind’s eye; the imagery is not vivid (“Everything is a bit blurred”).

*Additional guidance: Client is not able to bring to mind imagery that is clear. The imagery is not likely to be described in present tense and first person*

 **Activation of original internal processes**

Summary: This item rates activation of emotions, cognitions and/or physical sensations associated with the original imagery.

**3 = Very high activation**: Most or all trauma-related thoughts, feelings and/or physiological reactions are present in the session. Processes are very intense.

*Additional guidance: The client experiences very intensely exactly how they felt emotionally or physically or what they thought at the time of the original event.*

**2 = High activation**: A high amount of trauma-related thoughts, feelings and/or physiological reactions are present during the session. Processes are intense.

*Additional guidance: Trauma-related internal experiences are experienced intensely. Select this option if the client reports or appears to be experiencing these internal processes in the session (e.g., more than 50% if the client were asked to rate the intensity).*

**1 = Moderate/low activation**: A moderate or low amount of trauma-related thoughts, feelings and/or physiological reactions are present during the session. Processes are moderately intense.

*Additional guidance: Trauma-related internal experiences are present in the description of how the client feels but are experienced at a moderate or low level (e.g., less than 50% if the client were asked to rate the intensity).*

**0 = Minimal/no activation**: Trauma-related thoughts, feelings and/or physiological reactions are minimal/absent during the session. Processes are of very low intensity.

*Additional guidance: The client does not access trauma-related thoughts, feelings and/or physiological reactions during the session. It may be that the client does not express these internal experiences, or that the client reports how he/she felt/thought at the time but does not feel/think that way now in the therapy room.*

 **Activation of new internal processes**

Summary: This item rates activation of emotions, cognitions and/or physical sensations associated with change in the imagery.

**3 = Very high activation**: New emotions, cognitions and/or physiological sensations are present and very intense during the rescripted part of the imagery.

*Additional guidance: Change-related internal processes are experienced very intensely. .*

**2 = High activation**: New emotions, cognitions and/or physiological sensations are present and intense during the rescripted part of the imagery.

*Additional guidance: Change-related internal experiences are experienced intensely. Select this option if the client reports or appears to be experiencing these internal processes but at less than full intensity.*

**1 = Moderate/low activation**: New emotions, cognitions and/or physiological sensations are present but of moderate/low intensity during the rescripted part of the imagery.

*Additional guidance: Change-related internal experiences are present in the description of how the client feels, but are experienced at a moderate or low level.*

**0 = Minimal/no activation**: New emotions, cognitions and/or physiological sensations are not accessed during the rescripted part of the imagery.

*Additional guidance: The client does not access change-related thoughts, feelings and/or physiological reactions during the session. Either they are completely absent, or the client can hypothetically describe how he/she might feel/think but does not experience them directly from the rescript.*

 **Cognitive and emotional shift**

Summary: This item rates the extent to which the meaning (as indicated by expressed thoughts and/or feelings) associated with the original imagery changes during the rescripting process.

**3 = High change**: The client thinks and/or feels markedly differently towards the original imagery at the end of the session. It is clear a shift has taken place.

*Additional guidance: Rescripting has produced a high degree of cognitive and/or emotional change.*

**2 = Medium change**: The client thinks and/or feels distinctly differently towards the original imagery at the end of the session. It is likely a shift has taken place.

*Additional guidance: Rescripting has produced a moderate degree of cognitive and/or emotional change.*

**1 = Some change**: The client thinks and/or feels somewhat differently towards the original imagery at the end of the session. It is unclear whether a shift has taken place.

*Additional guidance: Rescripting has produced a low degree of cognitive and/or emotional change.*

**0 = Minimal/No change**: The client thinks and/or feels the same towards the original imagery at the end of the session.

*Additional guidance: Rescripting has produced no cognitive and/or emotional change.*

 **Believability of rescript**

Summary: This item rates the extent to which the rescript feels believable and compelling to the client regardless of whether it is physically possible.

**3 = Completely believable**: The rescript feels completely believable.

*Additional guidance: The client describes the new outcome as feeling believable and something they can connect with.*

**2 = Mostly believable**: The client cannot connect with some aspects of the rescript.

*Additional guidance: The client describes the new outcome as feeling mostly believable but may not be able to connect with some aspects.*

**1 = Somewhat believable**: The rescript mostly does not feel believable but the client can connect with some aspects.

*Additional guidance: The client mostly does not feel that the new outcome is believable.*

**0 = Minimally/Not at all believable**: The rescript seems alien and the client cannot connect with it.

*Additional guidance: The client does not feel that the new outcome is believable.*

1. The one exception to this is P7 for whom all VAS measures were only administered once at the start of each session. [↑](#footnote-ref-1)