Z = 0.91 [0.92], -0.25 [1.25], p = .020) during therapy. Compared to those without educational programming, survivors with educational programming had lower estimated IQ (SS = 109.25 [13.48], 98.07 [15.74], p = .045) and greater inattention [CPT Beta T = 56.80 [13.95], 75.70 [22.93], p = .017) at the end of therapy.

Conclusions: Parents report that nearly three quarters of children treated for ALL with chemotherapy only experience neurocognitive late effects during early survivorship, with no difference in frequency by established risk factors. Of those with late effects, nearly half required educational programming implemented after diagnosis, suggesting a significant impact on school performance. Results from neurocognitive monitoring beginning during therapy has utility for predicting educational need in survivors experiencing late effects. Our findings provide direction on the timing and content of neurocognitive monitoring, which is the recommended standard of care for childhood cancer patients treated with CNS-directed therapy.

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4 Does Working Memory Training for Children Need to be Adaptive? A Randomised Controlled Trial

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Objective: A common assumption to maximise cognitive training outcomes is that training tasks should be adaptive, with difficulty adjusted to the individual's performance. This has only been tested once in adults (von Bastian & Eschen, 2016). We aimed to examine children's outcomes of working memory training using adaptive, self-select and stepwise approaches to setting the difficulty of training tasks compared to an active control condition.

Participants and Methods: In a randomised controlled trial (ACTRN 12621000990820), children in Grades 2-5 (7 to 11 years) were allocated to one of four conditions: adaptive working memory training, self-select working memory training, stepwise working memory training, or active control. An experimental intervention embedded in Minecraft was developed for teachers to deliver in the classroom over two weeks (10 x 20-minute sessions). The working memory training comprised two training tasks with processing demands similar to daily activities: backward span with digits and following instructions with objects. The control condition comprised creative building tasks. As part of a larger protocol, children completed at baseline and immediately post-intervention working memory measures similar to the training activities (primary outcome): backward span digits and letters versions, following instructions objects and letters versions. Primary analyses were intention-to-treat. Secondary analyses included only children who completed 10 sessions.

Results: Of 204 children recruited into the study, 203 were randomised, with 95% retention at post-intervention. 76% of children completed all 10 training sessions. Comparisons between each working memory training condition and the active control on working memory measures were non-significant (f^2 = 0.00), with one exception. Children in the self-select condition on average performed 1-point better than the controls on the following instructions objects measure (p = .02, f^2 = 0.03). A pattern emerged that the self-select condition performed better on most measures.

Conclusions: We found little evidence that an adaptive approach to setting the difficulty of training tasks maximises training outcomes for children. Findings suggest that working memory outcomes following training are limited and are not modulated by the approach to setting the difficulty of training tasks. This is consistent with findings from von Bastian & Eschen (2016), who also observed that the self-select condition (and

not the adaptive condition) showed a slightly larger change in working memory performance following training than the control. It is helpful for clinicians to be aware that adaptive working memory training programs might not be superior in improving children's working memory, and the benefits of programs are limited.

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5 Social perception and ability to evaluate sincerity of speech impacted by childhood hemispherectomy

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Objective: Hemispherectomy (HE) is a surgical intervention to treat intractable epilepsy. It involves disconnecting or removing the right or left cerebral hemisphere, depending on the location of the pathological substrate or epileptogenic activity. HE impacts neural functions related to social cognition (Fournier et al., 2008). This study investigates the effects of childhood HE on social deception and sarcasm using the Thames Awareness of Social Inferences Task (TASIT; McDonald, Flanagan, & Rollins, 2010) to explore emotion identification and social inference appraisal as adults.
Participants and Methods: Fifteen adults with hemispherectomy and 16 neurotypical controls completed the TASIT. All HE patients underwent hemispherectomy (right-HE = 10) during childhood (age of surgery = 3 months to 16 years) and had FSIQ > 70 at the time of study. HE and control groups were matched for age (HE M = 25.7, SD = 5.4; control M = 27.1, SD = 10.7) and education (HE M = 14.0, SD = 1.88; control M = 13.3, SD = 1.8). FSIQ was significantly lower in the HE group than control group (HE M= 90.8, SD = 9.4; control (M = 100.4, SD = 7.1). TASIT uses videotaped vignettes to assess aspects of social perception: emotion recognition (Part 1), social inference regarding sincerity, simple sarcasm, and paradoxical sarcasm (Part 2) and social inference regarding sincerity of speech (lie vs sarcasm) in the presence of additional text or visual cues (Part 3).
Results: For Part 1, MANCOVA (covarying FSIQ) found no group difference in emotion identification. Analysis of data from Part 2 was conducted using repeated measures ANCOVA accounting for 2 groups x 3 conditions (sincere, simple sarcasm, and paradoxical sarcasm) and revealed only a significant overall group effect, $F_{(1, 28)} = 5.72$, $p = .024$, $\eta p2 = .170$. Likewise, analysis of Part 3 using repeated measures ANCOVA accounting for 2 groups x 2 cue types (visual, text) and 2 actor intentions (lie, sarcasm) revealed only a significant overall group effect, $F_{(1,28)} = 11.35$, $p = .002$, $\eta p2 = .288$, with no interaction of group by condition.
Conclusions: HE patients exhibited no difficulty identifying basic emotional expressions. Performance was significantly impaired when additional social information was added to the context (i.e., detecting sarcasm or deception). HE patients begin to struggle with the complexity of new social information or how it changes the meaning of a conversation. Even simple sarcastic exchanges are difficult to interpret. When a visual or textual cue was introduced to reveal the true state of affairs, HE patients could not could integrate the information into their interpretations of the scenario. There are unique contributions of the left and right hemispheres to cognitive processes for complex social behavior, and absence of an entire hemisphere results in deficits in social language comprehension. Future research should investigate performance differences in left vs. right HE patients.