

SI Network - Systematic review table for therapy cushions and ball chairs

| Author & Date | Purpose of study | Type of study | Main findings/ conclusions | Limitations | Identified themes |
|---------------------------------------|---|--|--|---|---|
| Fedewa and Erwin (2011) | To assess the effects of stability balls on in-seat and on-task behaviour for those with attention difficulties | Single subject A-B continuous time-series using MTS (momentary time sampling) Social validity questionnaire for teachers | Results indicated that the stability balls proved effective in increasing levels of attention and time spent in seat for tasks. <u>Social validity:</u> teachers were initially hesitant when using the balls because of the potential disruption of bouncing but during the study noted that behaviour in seat and on task did improve. | Small sample size (8 participants) Short study duration. Social validity did not consider participants opinions | Effective with ADHD Perceived as disruptive by teacher |
| Umeda and Deitz (2011) | To investigate if therapy cushions were more effective at increasing in-seat and on-task behaviours than standard classroom chairs on children with ASD | Single subject A-B-A-B-C interrupted time series design Social validity questionnaire for teachers | No significant difference in increasing attention when using the therapy cushion was observed. Therapy cushions may not provide enough movement to increase postural demands or meet sensory needs to influence change in behaviour. <u>Social validity:</u> Teacher reported would like to have access to cushions, because increased behaviour was occasionally noticed. | Small sample size (2) Sampling was not discussed, neither were inclusion/ exclusion criteria Intervention was assessed during one lesson only | Base of support may influenced results Results varied among ASD participants |
| Pfeiffer and Henry et al (2008) | To investigate the effectiveness of disc o sit cushions for improving attention to tasks for children with attention difficulties | Randomised control trial | A significant difference was found between the control and treatment group; indicating that the disc o sit cushions positively influenced increased attention to tasks. | Small sample size for this type of research, 29 treatment group 32 control group Uncertainty of severity of attention difficulties. | Effective with attention problems |
| Schilling and Schwartz (2004) | To investigate the effects of therapy balls as seating on engagement and in-seat behaviour of young children with ASD. | Single subject withdrawal design A-B-A-B for three participants, B-A-B for one participant Social validity questionnaire for teachers | All demonstrated improvement in engagement and sitting when using therapy balls. Reverting back to chairs immediately decreased behaviour. <u>Social validity:</u> teachers strongly supported the use of balls for seating. | Small sample size (3). Short study duration: participants sat on therapy balls for a maximum of 10 minutes a day for three weeks. | Effective with ASD |
| Schilling and Washington et al (2003) | To examine the effects of ball chairs on in seat behaviour and legible word productivity in children with attention difficulties. | Single subject A-B-A-B interrupted time series design | Improvements in sitting behaviour and legible word productivity increased regardless of age, gender, medication and co-morbid conditions when using the therapy balls. <u>Social validity:</u> All participants in study preferred ball chairs over classroom chairs for writing and comfort. Class teacher noted that the bouncing on the balls was disruptive but word productivity increased. | Short study duration (12 weeks). Small sample size. Quality of written work was not assessed. | Effective with ADHD Perceived as disruptive by teacher |
| Bagatell and Mirigliani et al (2010) | To assess the effectiveness of therapy ball chairs on classroom participation in boys with ASD. | Single subject A-B-C design Social validity questionnaire | Results were varied: Ball chair had a positive effect on in-seat behaviour for the child who experienced the most extreme vestibular-proprioceptive seeking behaviour. No change in behaviour was noted in participants with poor postural stability. The balls had ring supports to prevent them from moving which may not have provided enough sensory feedback or meet postural demands to make behavioural changes. <u>Social validity:</u> Teacher reported that the therapy ball did not offer any benefit over classroom chairs because they were disruptive due to vigorous bouncing. | A-B-C study design so only one baseline phase. Small sample size (6) and short study duration (4 weeks) | Base of support may influence results Results varied among ASD participants |

