

Supplemental Material S2. Study parameters by treatment category.

Study	Stated Purpose of the Study	Auditory Comprehension Treatment Target	Study Design	Experimental Control (Condition or Group)
Direct Auditory Treatments (<i>n</i> = 7)				
Davidoff & Katz (1985)	Improve attention and understanding of verbal messages over the telephone	Sentence	Group Study	No
Haendiges et al. (1996)	Improve comprehension of semantically reversible sentences	Sentence	Case Study	No
Knollman-Porter et al. (2018)	Examine feasibility and influence of high-intensity word-picture verification treatment on word comprehension	Word	Single-Subject	No
Mitchum et al. (1995)	Examine thematic mapping treatment on comprehension of reversible sentences	Sentence	Case Study	Yes (Condition)
Morris & Franklin (2012)	Examine effect of semantic treatment on comprehension	Word	Single Subject	No
Musso et al. (1999)	Determine which brain area mediates recovery of auditory comprehension	Word & Sentence	Group Study	Yes (Condition)
Woolf et al. (2014)	Determine if two forms of discrimination therapy for auditory processing impairment can improve speech perceptions and/or help participants use semantic information to compensate for impairment	Word	Group Study	No
Mixed Auditory Treatments (<i>n</i> = 13)				
Archibald et al. (2009)	Determine the influence of AphasiaMate on word comprehension and retrieval when added to their existing therapy program	Word	Group Study	No
Behrmann & Lieberthal (1989)	Determine the influence of a semantic rehabilitation program using visual and verbal semantics	Word	Case Study	Yes (Condition)
Francis et al. (2001)	Contrast effects of implicit and explicit auditory treatment on access to semantic knowledge	Word	Single-Subject	Yes (Condition)
Grayson et al. (1997)	Determine effect of semantic therapy and semantic plus auditory therapy on comprehension in aphasia	Word & Sentence	Single-Subject	Yes (Condition)
Jacobs & Thompson (2000)	Examine the relationship between sentence comprehension and expression	Sentence	Single-Subject	Yes (Condition)
MacGregor et al. (2015)	Investigate the spatiotemporal dynamics of rapid automatic lexical processing in aphasia before and after intensive language aphasia treatment	Word & Sentence	Group Study	No
Maneta et al. (2001)	Improve discrimination skills	Word	Case Study	No
Munro & Siyamblapitiya	Examine effect of semantic therapy on comprehension	Word	Single-	No

(2017)			Subject	
Prins et al. (1989)	Evaluate effectiveness of a systematic auditory comprehension treatment program compared to general language treatment or no treatment	Word & Sentence	Group Study	Yes (Condition & Group)
Raymer et al. (2006)	Investigate effect of multi-mode matching exercises on improving word comprehension and retrieval	Word	Single-Subject	No
Schwartz et al. (1994)	Examine effects of a training program that encourages explicit analysis of the verb-noun relational structure in canonical and non-canonical sentence types	Sentence	Group Study	Yes (Condition)
Thompson et al. (2010)	Examine patterns of neural activation associated with treatment induced improvements of complex sent production and comprehension	Sentence	Single-Subject	Yes (Condition)
Thompson et al. (2003)	Determine if training production of syntactically complex sentences would generalize to less complex sentences	Sentence	Single-Subject	No
Indirect Treatments ($n = 8$)				
Bonakdarpour et al. (2003)	Determine effect of MIT on verbal production and auditory comprehension	Verbal Production	Group Study	Yes (Condition)
Francis et al. (2003)	Determine if improving short-term/working memory would improve sentence comprehension	Sentence Repetition	Case Study	Yes (Condition)
Javadipour et al. (2018)	Explore impact of visual attention training on auditory comprehension abilities	Attention	Single-Subject	No
Murray et al. (2006)	Examine whether attention training would improve attn and auditory comprehension	Attention	Single-Subject	No
Szelag et al. (2014)	Improve auditory comprehension following training in the perception of temporal order of events (monaural presentation)	Auditory Processing	Randomized Control Study	Yes (Group)
Szymaszek et al. (2017)	Improve auditory comprehension following training in the perception of temporal order of events (binaural presentation)	Auditory Processing	Group Study	Yes (Group)
You et al. (2011)	Investigate the effect of transcranial direct current stimulation on comprehension	Auditory Comprehension	Randomized Control Study	Yes (Group)
Zakarias et al. (2018)	Investigate whether a combined working memory and executive function training improved comprehension spoken sentences	Working Memory & Executive Function	Group Study	Yes (Group)