Table 3: Evidence for a bilingual advantage in childhood from Simon, Flanker, and DCCS tasks

Study	Participants*	Task Details**	Dependent variables	Bilingual advantage?
Simon Task				
Bialystok, Martin & Viswanathan (2005)	Study 1 34 (17 bilingual) 4- to 5-year-olds Study 2 40 (18 bilingual) 4- to 5-year-olds		Study 1 Congruent trial RT, Incongruent trial RT Study 2 Congruent trial RT, Incongruent trial RT	Study 1 YES, YES Study 2 Trend supporting advantage in both DVS, No statistical analysis given *Indicates some evidence of overall RT advantage*
Poarch & Hell, 2012	75 (18 bilingual, 19 immersion, 18 bilinguals immersed in L3) 5- to 8-year-olds		Overall Error and RT; Conflict Error and RT.	NO, NO; NO, YES (bilingual immersion relative to monolingual, marginally non-significant for bilingual relative to monolingual) *Indicates possible RT advantage in magnitude of conflict effect*
Martin-Rhee & Bialystok, 2008	Study 1 34 (17 bilingual) 5-year-olds Study 2 41 (21 bilingual) 4-year-olds	Study 1 A. Standard B. Cue response after short delay C. Cue Response after long delay Study 2	Study 1 A. Overall Error and RT; Conflict RT B. Overall Error and RT; Conflict RT C. Overall Error and RT; Conflict RT Study 2 Overall Error and RT; Conflict RT	Study 1 A. NO, YES; NO B. NO, NO; NO C. NO, NO; NO Study 2 NO, YES; NO *Indicates overall RT advantage standard task but no advantage for delayed tasks*

Morales, Calvo & Bialystok, 2013	56 (27 bilingual) 5-year-olds	Advanced Simon task (children needed to learn up to 4 rules rather than the standard 2)	Overall Accuracy and RT; Conflict Accuracy and RT	NO, YES; YES, NO *Indicates overall RT and accuracy advantage in conflict effect*
Morton & Harper, 2007	34 (17 bilingual) 6- to 7-year-olds		Accuracy in congruent and incongruent trials; RT in congruent and incongruent trials; Conflict Accuracy, Conflict RT	NO, NO; NO, NO; NO (but collapsing across language group reports significantly reduced conflict error cost for high SES children relative to low SES group), NO *Indicates no advantage*
Gathercole et al, 2014	650 (489 bilinguals) 3- to 90-year-olds	Age appropriate Simon Task (younger children responded to a picture of a rabbit and a pig rather than colour swatches, and completed fewer trials)	Accuracy overall and in conflict trials; RT overall and in conflict trials	YES (but only for older adults), NO; NO, NO *Indicates no advantage for children*
Flanker task				
de Abreu et al (2012)	80 (40 bilingual) 8-year-olds		Accuracy in congruent and incongruent trials; RT in congruent and incongruent trials	NO, NO YES, YES *Indicates overall RT advantage*
Kapa & Colombo, 2013	79 (21 early bilingual, 36 late bilingual) 5- to 15-year-olds		Overall Accuracy and RT; Conflict RT	NO, YES (early bilingual relative to monolingual); NO *Indicates overall RT advantage*
Poarch & Hell, 2012	75 (18 bilingual, 19 immersion, 18 bilinguals immersed in L3) 5- to 8-year-olds		Overall Error and RT; Error rate in congruent and Incongruent trials; RT in congruent and incongruent trials; Conflict Error and RT	NO, NO; NO, NO; NO, NO; NO, YES (bilingual and bilingual immersion relative to immersion)

				Indicates RT advantage in magnitude of conflict effect
Yoshida et al, 2011	40 (20 bilingual) 3-year-olds		Overall Accuracy and RT	YES, NO *Indicates overall accuracy advantage*
Anton et al (2014)	360 (180 bilingual) 7- to 13-year-olds		Error rate overall and for conflict; RT overall and for conflict	NO, NO; NO, NO *Indicates no advantage*
Bialystok et al (2010)	162 (56 bilingual) 2- to 5-year-olds		Accuracy for congruent and incongruent trials; RT for congruent and incongruent trials	NO, NO; NO, NO *Indicates no advantage*
Carlson & Meltzoff (2008)	50 (12 bilingual, 21 immersion) 5- to 7-year-olds		Incongruent trial accuracy	NO *Indicates no advantage*
Nicolay & Poncelet, 2013	106 (53 immersion) 8-year-olds		Overall Error and RT; Congruent RT, Incongruent RT	NO, NO; NO, NO *Indicates no advantage*
DCCS				
Iluz-Cohen & Armon-Lotem, 2013	43 (14 balanced, 11 L1, 8 L2 dominant bilinguals and 10 low language proficiency bilinguals) 4- to 6-year-olds	Advanced DCCS (children were given hints (if needed) to cards according to three dimensions; shape, colour, many/one)	Mean score for each trial (sort, switch 1, switch 2), taking into account whether hints required	YES (for high proficiency bilinguals relative to low proficiency bilinguals on switching trials only) *Indicates switching advantage in Advanced colour-shape DCCS*
Carlson & Meltzoff (2008)	50 (12 bilingual, 21 immersion) 5- to 7-year-olds	Advanced DCCS (when you see a star above the card (minority) sort by colour, if no star (majority) then sort by shape)	Ability to sort by minority rule as expressed by mean score (of 4 cards)	YES (relative to monolingual only) *Indicates switching advantage in Advanced colour-shape DCCS*

Bialystok & Martin (2004)	Study 1 67 (31 bilingual) 5-year-olds Study 2 30 (15 bilingual) 5-year-olds	Study 1 A. Colour-shape DCCS B. Colour-object DCCS (sort by colour, now by object e.g. rabbit) C. Function-location DCCS (sort by function e.g. play/wear, now by location e.g. inside/outside) Study 2 A. Colour-shape DCCS B. Function-location DCCS (only game more difficult from the colour-shape game in terms of performance scores)	Study 1 Mean post-switch scores (of 10 cards), pass/fail post switch Study 2 Mean post-switch scores (of 10 cards), pass/fail post switch	Study 1 A. YES, YES B. YES, NO C. NO, NO Study 2 A. YES, YES B. Only if combined with A, NO *Indicates switching accuracy advantage in colour-shape DCCS only*
Bialystok (1999)	60 (30 bilingual) 3- to 6-year-olds	Colour-shape DCCS (sort by colour, now by shape)	Mean post-switch score (of 10 cards), pass/fail post-switch	YES, YES *Indicates switching accuracy advantage in colour-shape DCCS*
Bialystok & Shapero (2005)	Study 2 53 (26 bilingual) 5 ½ -year-olds	Colour-shape DCCS	Accuracy for pre- and post-switch trials; RT for pre- and post-switch switch trials	NO, NO; NO, NO (but trend for more rapid response in post-switch trials) *Indicates no significant advantage for colour-shape DCCS*
Gathercole et al, 2014	650 (489 bilinguals) 3- to 90-year-olds	Age appropriate DCCS (Colour-size DCCS for 3- to 5-year-olds, older groups were instructed to sort a deck of normal playing cards on several dimensions; high/low, red/black, odd/even, suit)	Overall Accuracy and RT; Cost of switching (pre-switch minus post switch) accuracy, RT	NO, YES (but only for 15-year-olds) YES (but only for 15-year-olds), YES (but only for 15-year-olds) *Indicates no advantage in colour-size DCCS in childhood*

* Numbers are given for dual language groups; remaining numbers are monolingual

**Given where different from standard