**Supplement 1 – study participant flow chart for sub-samples 1 and 2**

During the MatCH survey (conducted in 2016/2017), 3,063 women provided data about their children (n = 5,822).

Sub-sample 1 consisted of children (and their mothers) who were of an eligible age for the Ages and Stages Questionnaire (ASQ), that is between 1-66 months of age. The flow chart shows that of the 5,822 children (3,063 mothers) who participated in MatCH, 1,266 fulfilled the age criteria for the ASQ. Of these, 771 children (652 mothers) had complete data on the gross motor scale. The remaining 495 children either had missing ASQ data or missing data about their mothers (Fig S1a).

Not eligible for MatCH survey (n=5,318) due to; died (n=108), withdrew from ALSWH (n=1,549), declined to participate in sub-studies (n=105), infertility (n=255), no email or mail address (n=3,301)

14,247 women born in 1973-78 participated in baseline ALSWH survey in 1996

Found to be ineligible (n=110);

* Had no children (n=108)
* Died (n=2)

Did not participate (n=5,756)a

Women invited for MatCH study (n=8,929)

Responded to MatCH study (3,063 women with 5,822 children)b

* Agreed to data linkage only (n=43 children from 24 women)

Not eligible for ASQ (n=4,513 children from 2061 women)c

Eligible children for ASQ (n=1,266, from 978 women)

Missing or incomplete gross motor data (n=135 children from 106 women)

Children with complete gross motor data (n=1,131, from 872 women)

360 children from 220 women were excluded;

* Women did not complete the ALSWH survey prior to the birth of index child or were born after Survey 7 (n=243)
* Missing women’s BMI at 2 or more surveys (n=2)
* Multiple pregnancies (n=29)
* Missing covariates (n=86)

Children included in the ASQ (gross motor) analyses (N=771 from 652 women)

*Abbreviations; ASQ: Ages and Stages Questionnaire; ALSWH: Australian Longitudinal Study on Women’s Health, MatCH: Mothers and their Children’s Health*

*aOf 5,756 women who did not participate, 2,551 had not reported any eligible births during the seventh survey of ALSWH in 2015 (when aged 37-42 years) so may have been ineligible.*

*b24 women did not do the survey, but they have agreed to external data linkage for 43 children*

*cThe ASQ measure is applicable only for children between 1 and 66 months*

Fig S1a. Study participant flow chart for children included in the ASQ (gross motor) analyses

Sub-sample 2 consisted of children (and their mothers) who had linked data from the AEDC. The flow chart shows that of the 5,822 children (3,063 mothers) who participated in MatCH, 943 had linked AEDC data (Note that while the AEDC is conducted the year a child starts school but is not collected every year. The AECD collection years that corresponded to the MatCH children were 2009, 2012 and 2015; note also that each mother needed to consent to the researchers linking their child’s MatCH survey data to the linked to AEDC data). Of the 943 children with linked AEDC data, 708 (630 mothers) had complete AEDC data. The remaining 235 children either had missing AEDC data or missing data about their mothers (Fig S1b).

Note, for both the ASQ and AEDC sub-samples, children from multiple pregnancies were excluded as they are considerably different from singletons in many aspects of health.

235 children from 177 women excluded;

* Mothers did not complete the ALSWH survey prior to the birth of index child (n=85)
* Missing mothers’ BMI at 2 or 3 surveys (n=26)
* Multiple pregnancies (n=44)
* Missing child outcome data (n=25)
* Missing covariates (n=55)

Children included in the AEDC analyses (N=708 from 630 women)

Children had no AEDC data (n=3339):

* Unlikely to have started school in an AEDC collection yearc (n=3059)
* May have started school in an AEDC collection year but no matching AEDC record (n=280)

Children with linked AEDC data (n=943 from 807 women)

* Women did not agree to external data linkage (n=358 for 650 children)
* Did not complete the consent form (n=440 for 866 children)
* Omitted essential consent form information (n=12 for 25 children)

Found to be ineligible (n=110):

* Had no eligible children (n=108)
* Died (n=2)

Did not participate (n=5,756)a

Responded to MatCH study (3,063 women with 5,823 children)b

Not eligible for MatCH survey (n=5,318) due to; died (n=108), withdrew from ALSWH (n=1,549), declined to participate in sub-studies (n=105), infertility (n=255), no email or mail address (n=3,301)

Women invited for MatCH study (n=8,929)

14,247 women born in 1973-78 participated in baseline ALSWH survey in 1996

Women agreed to external data linkage (n=2253 for 4282 children)

*Abbreviations; AEDC: Australian Early Development Census; ALSWH: Australian Longitudinal Study on Women’s Health, MatCH: Mothers and their Children’s Health*

*aOf 5,756 women who did not participate, 2,551 had never reported any eligible births in any ALSWH surveys so may have been ineligible.*

*b24 women did not do the survey, but they have agreed to external data linkage for 43 children with their ALSWH data*

*cBirth year 2003, 2006 or 2009 (most children born in 2003 were aged over 12 years at time of survey and thus ineligible)*

Fig S1b. Study participant flow chart for children included in the AEDC domain analyses