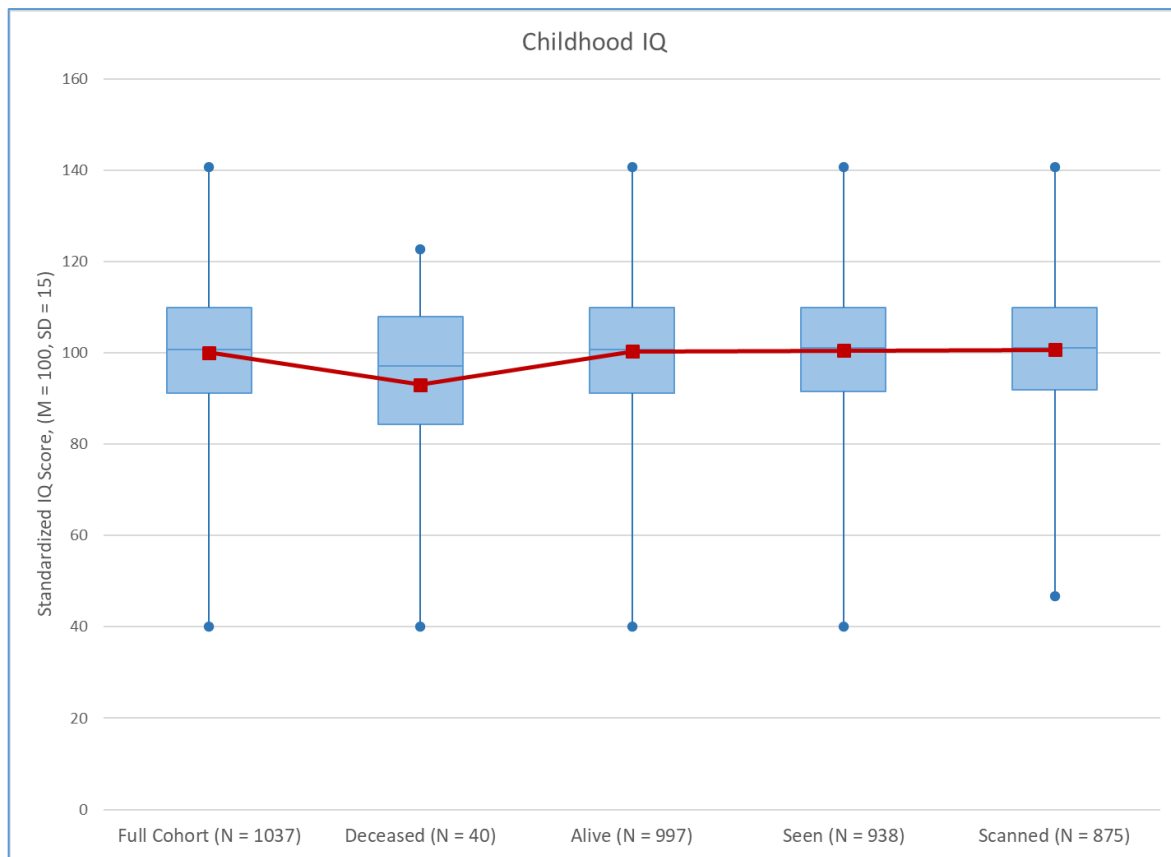


Supplementary Material

Phase 45 Attrition Analysis

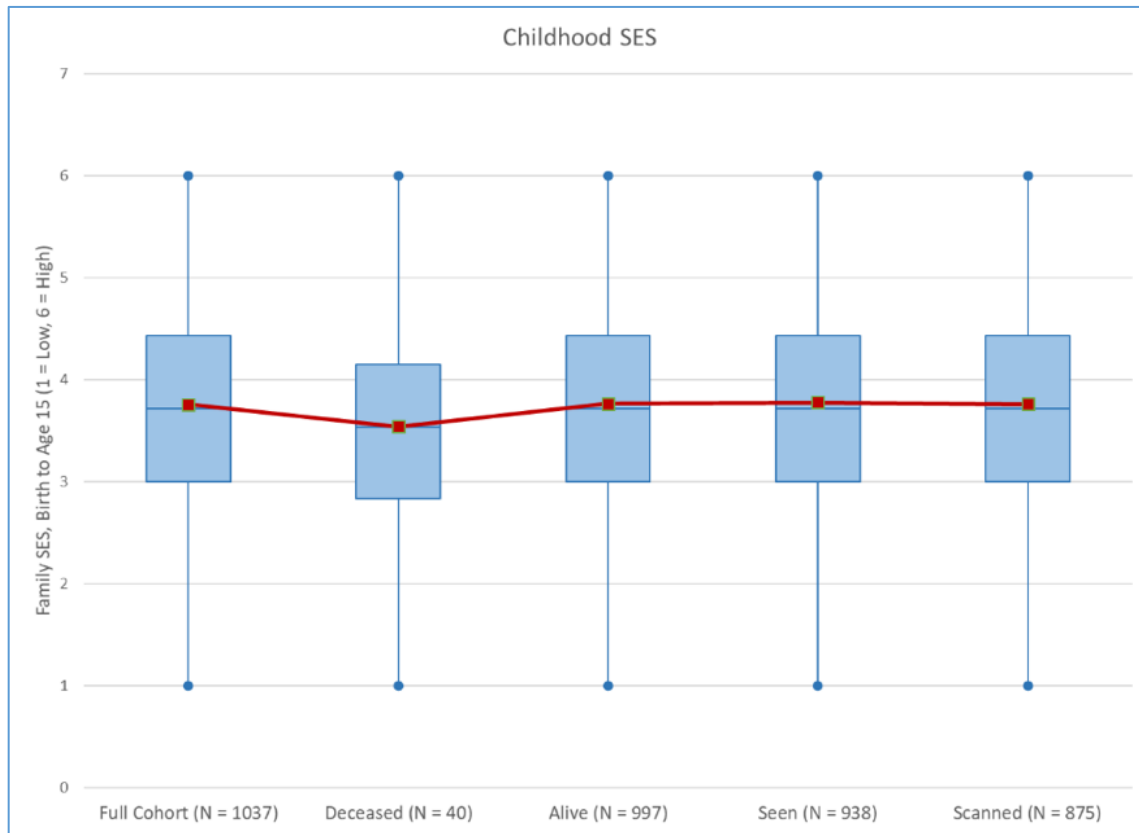
We conducted an attrition analysis using childhood intelligence quotient (IQ; Supplementary Fig.1) and socioeconomic status (SES; Supplementary Fig. 2) to determine whether participants in the Phase 45 data collection were representative of the original cohort.

Attrition Analysis of Childhood IQ in Phase 45



Supplementary Figure 1. No significant differences in childhood IQ were found between the full cohort, those still alive, those seen at Phase 45 or those scanned at Phase 45. Those who were deceased by the Phase 45 data collection had significantly lower childhood IQ's than those who were still alive ($t = 2.09$, $p = 0.04$).

Attrition Analysis of Childhood SES in Phase 45



Supplementary Figure 2. No significant differences were found between the full cohort, those deceased, those alive, those seen at Phase 45 or those scanned at Phase 45 on childhood SES.

Sensitivity Analyses	Standardized β (95% CIs)	P value
Association between Adult Cognitive Function (age 45) and:		
<i>WMH</i>	-0.15 (-0.22 to -.09)	<.001
<i>WMH (adjusting for mean arterial blood Pressure)</i>	-0.13 (-0.21 to -0.08)	<.001
<i>WMH (adjusting for childhood SES)</i>	-0.15 (-0.19 to -0.06)	<.001
Association between Childhood Cognitive Function and:		
<i>WMH</i>	-0.08 (-0.15 to -0.01)	0.017
<i>WMH (adjusting for mean arterial blood Pressure)</i>	-0.07 (-0.14 to -0.01)	0.034
<i>WMH (adjusting for childhood SES)</i>	-0.05 (-0.11 to 0.01)	0.125
Association between Cognitive Decline (Childhood to Age 45) and:		
<i>WMH</i>	-0.09 (-0.13 to -0.05)	<.001
<i>WMH (adjusting for mean arterial blood Pressure)</i>	-0.09 (-0.13 to -0.05)	<.001
<i>WMH (adjusting for childhood SES)</i>	-0.09 (-0.13 to -0.05)	<.001

Supplemental Table 1. Sensitivity analyses demonstrating the incremental validity of WMH to predict cognitive function and cognitive decline over and above arterial blood pressure and childhood socioeconomic status (SES).