Table 7: *Summary table with an overview of research questions, hypotheses, planned analyses and interpretation of outcomes*

Question	**Hypothesis**	**Sampling plan**	**Analysis Plan**	**Rationale for deciding the sensitivity of the test for confirming or disconfirming the hypothesis**	**Interpretation given different outcomes**	**Theory that could be shown wrong by the outcomes**
Does systolic blood pressure predict WML progression ?	H1: Higher systolic blood pressure at baseline is associated with stronger increase in WML progression .	See section "Power Calculation"	Statistical model: M1: asinh(WML) ~ Age_baseline + Age_change + DBP_baseline + **DBP_baseline:Age_change** + DBP_change + WHR_baseline + WHR_baseline:Age_change + WHR_change + gender + HT_medication + TIV + (1|subj) Inference: Frequentist/Bayes Factor analysis comparing M1 with a null model leaving out the term **"DBP_baseline:Age_change"**	p< 0.033 and BF > 6	positive evidence for H1	Systolic blood pressure is a risk factor for progression of WML.
				If p < 0.033 and BF > 3	moderate evidence for H1	
				p <0.033 and BF > 1/3 and BF < 3	If weak evidence for H1	

				p > 0.033 and BF > 1/3 <3	inconclusive evidence	
				p > 0.033 and BF < 1/3	moderate evidence for H0	
				p > 0.033 and BF < 1/6	positive evidence for H0	
Is WML progression associated with decline in executive function?	H2: Stronger increase in WML volume from baseline to follow-up is associated with stronger decrease in executive function.	See section “Power Calculation”	Statistical model: M2: Z_exec ~ asinh(WML)_baseline + **WML_change** + Age_baseline + Age_change :asinh(WML)_baseline + Age_change + gender + education + CESD + (1|subj) Inference: Frequentist/Bayes Factor analysis comparing M2 with a null model leaving out the term “**WML_change**”	p< 0.033 and BF > 6	positive evidence for H1	MRI markers of cSVD are associated with specific cognitive decline.
				If p < 0.033 and BF > 3	moderate evidence for H1	

				p <0.033 and BF > 1/3 and BF < 3	If weak evidence for H1	
				p > 0.033 and BF > 1/3 <3	inconclusive evidence	
				p > 0.033 and BF < 1/3	moderate evidence for H0	
				p > 0.033 and BF < 1/6	positive evidence for H0	
Is WML progression associated with decline in general cognitive function?	H3: Stronger increase in WML volume from baseline to follow-up is associated with stronger decrease in global cognition.		M3: Z_globalcog ~ asinh(WML)_baseline + **WML_change** + Age_baseline + Age_change :asinh(WML)_baseline + Age_change + gender + education + CESD + (1|subj) Inference: Frequentist/Bayes Factor analysis comparing M3 with a null model leaving out the term "**WML_change**"	p< 0.033 and BF > 6	positive evidence for H1	MRI markers of cSVD are associated with general cognitive decline
				If p < 0.033 and BF > 3	moderate evidence for H1	

				p <0.033 and BF > 1/3 and BF < 3	If weak evidence for H1	
				p > 0.033 and BF > 1/3 <3	inconclusive evidence	
				p > 0.033 and BF < 1/3	moderate evidence for H0	
				p > 0.033 and BF < 1/6	positive evidence for H0	