

Supplemental Table 1. Random Effects Models Testing Appraisal and Time Effects on HOOS Scores (n=503)

Type III Tests of Fixed Effects: Dependent Variable: HOOS Score								
Appraisal Item Content	Model	Source	Numerator df	Denominator df	F	Sig.	Akaike's Information Criterion (AIC)	Schwarz's Bayesian Criterion (BIC)
Baseline Model for all HOOS models		Intercept	1	196.39	6771.52	0.00	4099.78	4108.21
		Time Window	3	366.97	390.25	0.00		
Healthcare problems								
Appraisal Main-Effect Model		Intercept	1	208.10	6681.82	0.00	4073.15	4081.56
		Time Window	3	366.68	363.55	0.00		
		Appraisal: Healthcare problems	4	489.43	3.81	0.00		
Appraisal-by-time Interaction Model^ψ		Intercept	1	213.36	6655.68	0.00	3999.96	4008.32
		Time Window	3	367.63	321.45	0.00		
		Appraisal: Healthcare problems	4	474.98	4.08	0.00		
		Appraisal * Time Window	12	414.56	1.26	0.24		
Problems with living situation								
Appraisal Main-Effect Model		Intercept	1	206.88	6923.29	0.00	4058.73	4067.14
		Time Window	3	370.68	374.31	0.00		
		Appraisal: Problems with living situation	4	483.79	7.66	0.00		
Appraisal-by-time Interaction Model^ψ		Intercept	1	210.70	6744.70	0.00	3989.28	2997.64
		Time Window	3	362.53	339.62	0.00		
		Appraisal: Problems with living situation	4	470.27	7.63	0.00		
		Appraisal * Time Window	12	412.77	0.96	0.48		
Preparing family for your health changes								
Appraisal Main-Effect Model		Intercept	1	254.92	5503.67	0.00	4056.73	4065.13
		Time Window	3	381.20	291.44	0.00		
		Appraisal: Preparing family for health changes	4	490.16	8.10	0.00		
Appraisal-by-time Interaction Model^ψ		Intercept	1	354.55	4215.98	0.00	3978.48	3986.84
		Time Window	3	380.54	222.43	0.00		
		Appraisal: Preparing family for health changes	4	466.06	8.27	0.00		
		Appraisal * Time Window	12	411.11	1.42	0.15		

Estimates of Fixed Effects: Dependent Variable: HOOS Score								
Parameter			Mean Difference from Pre- Surgery	Std. Error	df	Sig.	95% Confidence Interval	
Baseline Model								
Time Window			Pre-surgery	referent				
			6 weeks post-surgery	32.47	1.54	361.54	0.00	29.45 35.49
			3 mo. post-surgery	40.23	1.62	367.96	0.00	37.06 43.41
			12 mo. post-surgery	43.89	1.51	358.98	0.00	40.93 46.86
Healthcare problems								
Appraisal Main-Effect Model			Time Window					
			Pre-surgery	referent				
			6 weeks post-surgery	31.91	1.56	357.45	0.00	28.84 34.97
			3 mo. post-surgery	39.27	1.65	373.22	0.00	36.03 42.50
			12 mo. post-surgery	43.46	1.53	356.91	0.00	40.45 46.46
			Appraisal: Healthcare problems					
			Never	referent				
			Rarely	-1.37	1.88	494.60	0.46	-5.07 2.32
			Sometimes	-4.87	1.96	492.99	0.01	-8.73 -1.01
			Often	-6.10	2.00	475.65	0.00	-10.03 -2.17
			Always	-6.81	2.38	494.23	0.00	-11.49 -2.13
Problems with living situation								
Appraisal Main-Effect Model			Time Window					
			Pre-surgery	referent				
			6 weeks post-surgery	31.70	1.54	361.51	0.00	28.66 34.73
			3 mo. post-surgery	39.87	1.62	373.00	0.00	36.68 43.06
			12 mo. post-surgery	43.10	1.51	363.30	0.00	40.13 46.06
			Appraisal: Problems with living situation					
			Never	referent				
			Rarely	-3.80	1.93	490.85	0.05	-7.59 -0.01
			Sometimes	-9.02	1.86	491.69	0.00	-12.66 -5.37
			Often	-8.16	1.97	489.97	0.00	-12.03 -4.30
			Always	-7.30	2.20	487.50	0.00	-11.62 -2.99
Preparing family for your health changes								
Appraisal Main-Effect Model			Time Window					
			Pre-surgery	referent				
			6 weeks post-surgery	30.27	1.59	377.17	0.00	27.15 33.40
			3 mo. post-surgery	37.37	1.69	392.69	0.00	34.05 40.69
			12 mo. post-surgery	41.03	1.58	385.44	0.00	37.91 44.15
			Appraisal: Preparing family for health changes					
			Never	referent				
			Rarely	-1.47	1.72	494.03	0.39	-4.84 1.90
			Sometimes	-7.59	1.89	493.47	0.00	-11.31 -3.87
			Often	-9.97	2.08	474.74	0.00	-14.06 -5.88
			Always	-8.10	2.98	494.80	0.01	-13.94 -2.25

Ψ Estimates of fixed effects not shown for this model because interaction was not statistically significant. Note: Bolded values have statistically significant p-values ($p < 0.05$).

Supplemental Table 2. Random Effects Models Testing Appraisal and Time Effects on MCS Scores (n=493)

Type III Tests of Fixed Effects: Dependent Variable: MCS Score								
Appraisal Item Content	Model	Source	Numerator df	Denominator df	F	Sig.	Akaike's Information Criterion (AIC)	Schwarz's Bayesian Criterion (BIC)
Baseline Model for all MCS models		Intercept	1	200.99	7253.71	0.00	3337.92	3346.30
		Time Window	3	340.14	1.79	0.15		
Positive outlook								
Appraisal Main-Effect Model		Intercept	1	229.96	7402.45	0.00	3299.64	3308.01
		Time Window	3	338.17	1.14	0.33		
		Appraisal: Positive Outlook	4	459.23	8.28	0.00		
Appraisal-by-time Interaction Model^ψ		Intercept	1	245.41	7116.07	0.00	3244.48	3252.80
		Time Window	3	335.64	0.54	0.66		
		Appraisal: Positive Outlook	4	437.86	7.25	0.00		
		Appraisal * Time Window	12	356.98	1.20	0.28		
Others' opinion								
Appraisal Main-Effect Model		Intercept	1	318.95	5271.45	0.00	3294.14	3302.51
		Time Window	3	342.14	0.53	0.66		
		Appraisal: Others' opinion	4	448.86	9.69	0.00		
Appraisal-by-time Interaction Model		Intercept	1	404.60	4572.33	0.00	3231.29	3239.61
		Time Window	3	339.75	3.55	0.01		
		Appraisal: Others' opinion	4	412.00	10.25	0.00		
		Appraisal * Time Window	11	362.37	2.22	0.01		
Comparing yourself to healthier people								
Appraisal Main-Effect Model		Intercept	1	315.64	5339.85	0.00	3306.10	3314.47
		Time Window	3	338.69	0.63	0.59		
		Appraisal: Comparing yourself to healthier people	4	432.17	6.52	0.00		
Appraisal-by-time Interaction Model^ψ		Intercept	1	412.02	4296.50	0.00	3241.82	3250.14
		Time Window	3	330.27	3.19	0.02		
		Appraisal: Comparing yourself to healthier people	4	390.20	6.30	0.00		
		Appraisal * Time Window	12	354.73	1.71	0.06		

Money problems								
Appraisal Main-Effect Model	Intercept	1	237.49	6201.81	0.00	3308.42	3316.79	
	Time Window	3	337.41	1.14	0.33			
	Appraisal: Money problems	4	462.25	5.91	0.00			
Appraisal-by-time Interaction Model ^ψ	Intercept	1	247.71	6048.84	0.00	3247.06	3255.37	
	Time Window	3	337.34	1.78	0.15			
	Appraisal: Money problems	4	445.04	4.82	0.00			
	Appraisal * Time Window	12	360.04	1.62	0.08			
Preparing family for your health changes								
Appraisal Main-Effect Model	Intercept	1	255.32	6324.71	0.00	3306.00	3314.37	
	Time Window	3	347.75	0.01	1.00			
	Appraisal: Preparing family for your health changes	4	444.47	6.66	0.00			
Appraisal-by-time Interaction Model ^ψ	Intercept	1	333.42	5394.78	0.00	3246.33	3254.65	
	Time Window	3	336.96	1.11	0.34			
	Appraisal: Preparing family for your health changes	4	414.51	5.33	0.00			
	Appraisal * Time Window	12	359.44	1.37	0.18			
Being independent and mobile								
Appraisal Main-Effect Model	Intercept	1	195.72	8022.48	0.00	3313.29	3321.66	
	Time Window	3	335.95	0.38	0.77			
	Appraisal: Being independent and mobile	4	446.50	5.11	0.00			
Appraisal-by-time Interaction Model	Intercept	1	204.98	7508.02	0.00	3248.19	3256.51	
	Time Window	3	323.22	0.13	0.94			
	Appraisal: Being independent and mobile	4	418.61	3.63	0.01			
	Appraisal * Time Window	12	347.51	2.19	0.01			
Shedding responsibilities								
Appraisal Main-Effect Model	Intercept	1	241.72	6089.05	0.00	3307.16	3315.53	
	Time Window	3	331.49	0.98	0.40			
	Appraisal: Shedding responsibilities	4	465.16	6.59	0.00			
Appraisal-by-time Interaction Model ^ψ	Intercept	1	248.15	5890.33	0.00	3252.71	3261.03	
	Time Window	3	325.94	1.98	0.12			
	Appraisal: Shedding responsibilities	4	445.03	6.39	0.00			
	Appraisal * Time Window	12	353.20	1.01	0.44			

Not complaining about your health							
Appraisal Main-Effect Model	Intercept	1	204.96	7955.71	0.00	3299.06	3307.43
	Time Window	3	340.98	0.41	0.74		
	Appraisal: Not complaining about your health	4	448.30	8.83	0.00		
Appraisal-by-time Interaction Model	Intercept	1	209.63	7780.18	0.00	3233.26	3241.58
	Time Window	3	332.36	0.91	0.44		
	Appraisal: Not complaining about your health	4	420.81	8.36	0.00		
	Appraisal * Time Window	12	360.90	2.27	0.01		
Estimates of Fixed Effects: Dependent Variable: MCS Score							
Parameter		Mean Difference from Pre- Surgery	Std. Error	df	Sig.	95% Confidence Interval	
Baseline Model							
Time Window		Pre-surgery	referent				
		6 weeks post-surgery	1.08	0.71	338.23	0.13	-0.31 2.47
		3 mo. post-surgery	1.26	0.74	341.79	0.09	-0.20 2.71
		12 mo. post-surgery	1.32	0.69	335.95	0.06	-0.04 2.68
Positive outlook							
Appraisal Main-Effect Model							
Time Window		Pre-surgery	referent				
		6 weeks post-surgery	0.78	0.71	333.72	0.27	-0.61 2.17
		3 mo. post-surgery	1.23	0.74	342.92	0.10	-0.23 2.70
		12 mo. post-surgery	0.84	0.69	333.06	0.23	-0.52 2.21
Appraisal: Positive Outlook		Never	referent				
		Rarely	-4.28	1.45	454.80	0.00	-7.13 -1.43
		Sometimes	-5.87	1.29	475.50	0.00	-8.41 -3.33
		Often	-5.31	1.15	480.18	0.00	-7.58 -3.05
		Always	-2.39	1.20	482.58	0.05	-4.74 -0.04

Others' opinion

Appraisal Main-Effect Model

Time Window

Pre-surgery	<i>referent</i>					
6 weeks post-surgery	0.81	0.71	336.20	0.25	-0.58	2.21
3 mo. post-surgery	0.58	0.74	344.83	0.43	-0.88	2.04
12 mo. post-surgery	0.54	0.70	342.67	0.44	-0.84	1.91

Appraisal: Others' Opinion

Never	<i>referent</i>					
Rarely	-2.71	0.79	459.90	0.00	-4.27	-1.15
Sometimes	-4.89	0.93	477.63	0.00	-6.72	-3.07
Often	-5.93	1.13	484.89	0.00	-8.14	-3.71
Always	-3.93	1.89	449.10	0.04	-7.63	-0.22

Appraisal*Time Window Interaction Model

Time Window

Pre-surgery	<i>referent</i>					
6 weeks post-surgery	1.27	0.82	346.05	0.12	-0.35	2.89
3 mo. post-surgery	0.13	0.98	346.83	0.89	-1.80	2.07
12 mo. post-surgery	4.38	1.41	339.63	0.00	1.60	7.16

Appraisal: Others' Opinion

Never	<i>referent</i>					
Rarely	-2.62	0.80	443.67	0.00	-4.18	-1.05
Sometimes	-5.60	0.97	458.88	0.00	-7.50	-3.69
Often	-5.20	1.17	469.55	0.00	-7.49	-2.90
Always	0.26	2.43	363.32	0.92	-4.52	5.03

Appraisal * Time Window Interaction

Pre-surgery * Rarely	-3.17	1.24	412.78	0.01	-5.60	-0.73
Pre-surgery * Sometimes	-4.21	1.35	439.48	0.00	-6.86	-1.56
Pre-surgery * Often	-8.39	1.53	452.66	0.00	-11.39	-5.38
Pre-surgery * Always	-4.94	2.38	453.73	0.04	-9.62	-0.26
6 weeks post-surgery * Rarely	-1.31	1.52	377.79	0.39	-4.29	1.68
6 weeks post-surgery * Sometimes	-5.28	1.69	396.98	0.00	-8.60	-1.97
6 weeks post-surgery * Often	-4.62	2.08	403.81	0.03	-8.71	-0.53
6 weeks post-surgery * Always	c					
3 mo. post-surgery * Rarely	-1.14	1.54	379.86	0.46	-4.16	1.88
3 mo. post-surgery * Sometimes	-8.10	2.15	380.68	0.00	-12.32	-3.88
3 mo. post-surgery * Often	-5.64	2.18	399.94	0.01	-9.92	-1.36
3 mo. post-surgery * Always	-6.13	3.20	351.36	0.06	-12.43	0.16
12 mo. post-surgery * Rarely	-4.86	1.45	389.41	0.00	-7.71	-2.00
12 mo. post-surgery * Sometimes	-4.80	1.66	387.13	0.00	-8.06	-1.54
12 mo. post-surgery * Often	-2.15	2.28	388.99	0.35	-6.63	2.34
12 mo. post-surgery * Always	11.68	6.05	336.13	0.05	-0.23	23.58

Money problems								
Appraisal Main-Effect Model								
	Time Window							
		Pre-surgery	<i>referent</i>					
		6 weeks post-surgery	0.74	0.72	337.30	0.31	-0.69	2.16
		3 mo. post-surgery	1.11	0.74	338.05	0.14	-0.36	2.57
		12 mo. post-surgery	1.05	0.70	332.05	0.13	-0.32	2.42
	Appraisal: Money Problems							
		Never	<i>referent</i>					
		Rarely	-1.50	0.85	447.84	0.08	-3.17	0.17
		Sometimes	-4.29	0.99	484.50	0.00	-6.24	-2.34
		Often	-4.26	1.14	481.95	0.00	-6.50	-2.03
		Always	-3.07	1.40	483.21	0.03	-5.82	-0.31
Preparing family for your health changes								
Appraisal Main-Effect Model								
	Time Window							
		Pre-surgery	<i>referent</i>					
		6 weeks post-surgery	0.08	0.74	347.76	0.92	-1.38	1.54
		3 mo. post-surgery	0.01	0.79	357.94	0.99	-1.54	1.56
		12 mo. post-surgery	0.07	0.74	354.59	0.92	-1.38	1.52
	Appraisal: Preparing family for your health changes							
		Never	<i>referent</i>					
		Rarely	-2.29	0.85	452.17	0.01	-3.96	-0.63
		Sometimes	-2.76	0.96	466.65	0.00	-4.64	-0.89
		Often	-5.19	1.06	483.03	0.00	-7.28	-3.11
		Always	-5.01	1.50	465.93	0.00	-7.95	-2.07
Being independent and mobile								
Appraisal Main-Effect Model								
	Time Window							
		Pre-surgery	<i>referent</i>					
		6 weeks post-surgery	0.54	0.73	332.06	0.46	-0.90	1.98
		3 mo. post-surgery	0.62	0.77	340.57	0.42	-0.88	2.13
		12 mo. post-surgery	0.62	0.73	337.57	0.40	-0.81	2.05
	Appraisal: Being independent and mobile							
		Never	<i>referent</i>					
		Rarely	-2.37	1.12	422.36	0.04	-4.58	-0.17
		Sometimes	-1.63	1.02	442.37	0.11	-3.64	0.38
		Often	-3.78	1.02	472.08	0.00	-5.79	-1.76
		Always	-4.09	1.00	484.76	0.00	-6.05	-2.12

Appraisal*Time Window Interaction Model

Time Window

Pre-surgery	<i>referent</i>						
6 weeks post-surgery	0.30	0.85	319.50	0.73	-1.38	1.98	
3 mo. post-surgery	0.43	0.78	328.17	0.58	-1.10	1.96	
12 mo. post-surgery	0.32	0.74	322.57	0.66	-1.13	1.77	

Appraisal: Being independent and mobile

Never	<i>referent</i>						
Rarely	-2.54	1.19	386.50	0.03	-4.87	-0.21	
Sometimes	-2.02	1.03	414.33	0.05	-4.05	0.00	
Often	-3.52	1.04	452.55	0.00	-5.56	-1.48	
Always	-3.24	1.01	467.34	0.00	-5.24	-1.25	

Appraisal * Time Window Interaction

Pre-surgery * Rarely	-3.05	1.98	391.90	0.12	-6.95	0.85	
Pre-surgery * Sometimes	-1.11	1.72	413.51	0.52	-4.49	2.26	
Pre-surgery * Often	-5.23	1.65	413.50	0.00	-8.47	-1.98	
Pre-surgery * Always	-5.70	1.54	427.60	0.00	-8.73	-2.67	
6 weeks post-surgery * Rarely	-3.22	3.01	346.02	0.28	-9.13	2.69	
6 weeks post-surgery * Sometimes	-0.68	1.86	356.23	0.71	-4.33	2.96	
6 weeks post-surgery * Often	-0.57	1.86	379.10	0.76	-4.23	3.08	
6 weeks post-surgery * Always	-4.48	1.65	393.44	0.01	-7.71	-1.24	
3 mo. post-surgery * Rarely	-1.38	2.09	358.94	0.51	-5.50	2.73	
3 mo. post-surgery * Sometimes	-2.47	2.17	377.51	0.26	-6.74	1.80	
3 mo. post-surgery * Often	-4.37	2.00	369.76	0.03	-8.30	-0.44	
3 mo. post-surgery * Always	-4.23	1.89	378.41	0.03	-7.94	-0.52	
12 mo. post-surgery * Rarely	-2.52	1.81	357.31	0.16	-6.08	1.03	
12 mo. post-surgery * Sometimes	-3.83	1.98	367.91	0.05	-7.72	0.06	
12 mo. post-surgery * Often	-3.90	1.72	368.52	0.02	-7.28	-0.52	
12 mo. post-surgery * Always	1.43	1.81	379.85	0.43	-2.12	4.99	

Shedding responsibilities

Appraisal Main-Effect Model

Time Window

Pre-surgery	<i>referent</i>						
6 weeks post-surgery	0.74	0.72	329.13	0.31	-0.68	2.16	
3 mo. post-surgery	1.05	0.76	332.19	0.17	-0.44	2.53	
12 mo. post-surgery	0.96	0.71	327.84	0.18	-0.43	2.35	

Appraisal: Shedding responsibilities

Never	<i>referent</i>						
Rarely	-1.75	0.80	453.50	0.03	-3.32	-0.18	
Sometimes	-3.93	0.99	476.26	0.00	-5.88	-1.98	
Often	-5.02	1.17	484.48	0.00	-7.33	-2.72	
Always	-4.41	1.52	484.07	0.00	-7.40	-1.43	

Not complaining about your health

Appraisal Main-Effect Model

Time Window

Pre-surgery	<i>referent</i>						
6 weeks post-surgery	0.60	0.72	336.68	0.41	-0.81	2.01	
3 mo. post-surgery	0.66	0.75	346.03	0.38	-0.82	2.14	

Appraisal*Time Window Interaction Model	12 mo. post-surgery		0.58	0.71	341.51	0.42	-0.82	1.98
	Appraisal: Not complaining about your health							
	Never		<i>referent</i>					
	Rarely		-1.77	0.96	441.11	0.07	-3.66	0.12
	Sometimes		-2.79	0.96	461.24	0.00	-4.67	-0.91
	Often		-4.58	0.96	481.99	0.00	-6.47	-2.68
	Always		-5.81	1.09	480.15	0.00	-7.95	-3.67
	Time Window							
	Pre-surgery		<i>referent</i>					
	6 weeks post-surgery		1.00	0.74	330.07	0.18	-0.45	2.46
	3 mo. post-surgery		0.74	0.77	337.46	0.34	-0.77	2.24
	12 mo. post-surgery		0.94	0.74	328.38	0.20	-0.51	2.39
	Appraisal: Not complaining about your health							
	Never		<i>referent</i>					
	Rarely		-1.71	0.97	418.51	0.08	-3.62	0.20
	Sometimes		-3.11	0.97	432.59	0.00	-5.03	-1.20
	Often		-4.61	0.98	461.93	0.00	-6.54	-2.67
	Always		-5.49	1.09	462.07	0.00	-7.63	-3.35
	Appraisal * Time Window Interaction							
	Pre-surgery * Rarely		-2.84	1.55	409.33	0.07	-5.90	0.21
	Pre-surgery * Sometimes		-4.12	1.45	427.26	0.00	-6.97	-1.27
	Pre-surgery * Often		-5.67	1.40	438.55	0.00	-8.42	-2.92
	Pre-surgery * Always		-9.29	1.70	435.71	0.00	-12.62	-5.95
	6 weeks post-surgery * Rarely		0.89	1.93	364.02	0.64	-2.90	4.69
	6 weeks post-surgery * Sometimes		0.18	1.79	381.10	0.92	-3.34	3.71
	6 weeks post-surgery * Often		-5.20	1.77	389.45	0.00	-8.68	-1.73
	6 weeks post-surgery * Always		-6.13	2.00	406.76	0.00	-10.05	-2.20
	3 mo. post-surgery * Rarely		-2.68	2.08	385.29	0.20	-6.77	1.41
	3 mo. post-surgery * Sometimes		-2.86	1.84	371.54	0.12	-6.49	0.76
	3 mo. post-surgery * Often		-4.41	1.87	383.76	0.02	-8.10	-0.73
	3 mo. post-surgery * Always		-6.43	2.07	379.67	0.00	-10.51	-2.36
	12 mo. post-surgery * Rarely		-2.22	1.65	370.78	0.18	-5.46	1.03
	12 mo. post-surgery * Sometimes		-5.65	2.02	364.30	0.01	-9.62	-1.69
	12 mo. post-surgery * Often		-3.14	1.77	383.25	0.08	-6.62	0.33
	12 mo. post-surgery * Always		-0.12	1.89	388.07	0.95	-3.83	3.58

^ψ Estimates of fixed effects not shown for this model because interaction was not statistically significant.

c. The level combination of factors in (I) is not observed.

Note: Bolded values have statistically significant p-values (p<0.05).