## **Supplementary Online Content**

Hausmann LRM, Youk A, Kwoh CK, et al. Effect of a positive psychological intervention on pain and functional difficulty among adults with osteoarthritis: a randomized clinical trial. *JAMA Netw Open.* 2018;1(5):e182533. doi:10.1001/jamanetworkopen.2018.2533

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This supplementary material has been provided by the authors to give readers additional information about their work.

eTable 1. Reasons for Ineligibility

Reasons	No. (of 351)*
Under 50 years old	2
Does not receive primary care at study site	30
Race other than non-Hispanic white or African American	29
Infrequent knee pain	83
Pain rating < 4 on 0-10 scale	77
Self-reported serious problems with hearing or eyesight	15
Diagnosed with any type of arthritis other than OA or degenerative arthritis	77
Treated for cancer in the last three years	73
Had a steroid injection into one or both knees in the past 3 months	50
Had a knee replacement into one or both knees in the past 3 months	3
Plan to have a knee replacement in one or both knees in the next 6 months	15
Self-reported inability to complete the study telephone calls and program activities that involve reading and writing	15
Lack of a reliable telephone number	3
Answering 2 or more items incorrectly on a 6-item screener for cognitive impairment	36
Deemed unable to participate by interviewer**	4

<sup>\*</sup>Numbers will not add to 351 because individuals could be ineligible for multiple reasons.

<sup>\*\*</sup>Scheduled for shot (n=1), knee pain due to an accident (n=1), difficulty completing screening survey (n=2)

eTable 2. Reasons for Missing Data Points

		W	hite	African American		
Time Point	Reasons	Control	Positive	Control	Positive	
Week 1	No answer	5	3	4	3	
	Refused	2	3	3	6	
	Withdrawn*	0	0	1	1	
	Other	1	0	0	0	
Week 2	No answer	8	2	5	7	
	Refused	2	7	6	7	
	Withdrawn*	1	1	1	2	
	Other	2	0	0	0	
Week 3	No answer	5	4	11	9	
	Refused	2	4	4	11	
	Withdrawn*	2	2	1	2	
	Other	1	0	0	0	
Week 4	No answer	5	5	9	7	
	Refused	6	8	4	12	
	Withdrawn*	2	2	2	3	
	Other	1	0	0	0	
Week 5	No answer	9	6	6	9	
	Refused	2	8	5	9	
	Withdrawn*	2	2	2	3	
	Other	0	0	0	0	
Week 6	No answer	6	7	7	4	
	Refused	3	4	3	8	
	Withdrawn*	2	2	2	3	
	Other	0	1	0	0	
1-month follow-up	No answer	7	1	7	4	
	Refused	5	4	5	7	
	Withdrawn*	3	3	2	4	
	Other	1	0	0	1	
3-month follow-up	No answer	3	3	7	6	
<del>-</del>	Refused	4	4	7	3	
	Withdrawn*	3	4	2	4	
	Other	0	0	0	1	
6-month follow-up	No answer	3	3	8	3	
-	Refused	1	4	8	5	
	Withdrawn*	3	4	2	4	
	Other	0	0	1	1	

<sup>\*</sup>See eTable 3 for reasons for withdrawing from the study.

eTable 3. Reasons for Withdrawing From the Study

	Wh	nite	African American		
	Control	Positive	Control	Positive	
Total number withdrawn	3	4	2	4	
Reasons for withdrawing*					
Did not think activities would help	1	2	2	3	
Too busy	1	1	1	1	
Activities too difficult	0	0	0	1	
Inadequate payments	0	0	0	1	
Unrelated health problems	1	0	0	0	
No reason given	0	1	0	1	

<sup>\*</sup>Participants could withdraw for multiple reasons.

eTable 4. Adherence to Positive and Control Programs by Race

Adherence, n (%)*	Total	Treatment Group			Participant Race		
	(n=360)	Positive (n=180)	Control (n=180)	Test Statistic	White (n=180)	African American (n=180)	Test Statistic
Completed at least 5 of 6 calls	287 (79.7)	142 (78.9)	145 (80.6)	$\chi^2(1)=0.16,$ p=0.69	146 (81.1)	141 (78.3)	$\chi^2(1)=0.44,$ p=0.51
Entirely or partially completed at least 5 of 6 activities	234 65.0)	121 (67.2)	113 (62.8)	$\chi^{2}(1)=.79,$ $p=0.37$	126 (70.0)	108 (60.0)	$\chi^2(1)=4.00,$ p=0.05

<sup>\*</sup>Participants who did not complete a weekly call were counted as not completing that week's activity. P-values comparing adherence rates are from logistic regression models. Positive vs. neutral and White vs. African American p-values are from main effect models that include study site. There were no significant Treatment Group by Race interactions (data not shown). See eTable 2 for weekly adherence rates.

eTable 5. Ratings to Positive and Control Programs by Race

Ratings of	Total	Treatment Group			Participant Race		
Completed	(n=1620)	Positive	Control	Test Statistic	White	African	Test Statistic
Weekly		(n=814)	(n=806)		(n=839)	American	
Activities,						(n=781)	
mean (SD)*							
Perceived	5.58 (1.52)	5.77 (1.32)	5.39 (1.68)	$\chi^2(1)=10.27$ ,	5.54 (1.52)	5.62 (1.52)	$\chi^2(1)=0.84$ ,
benefit				p=0.001			p=0.36
Perceived	5.62 (1.55)	5.91 (1.30)	5.33 (1.72)	$\chi^2(1)=22.17$ ,	5.60 (1.53)	5.64 (1.57)	$\chi^2(1)=0.17$ ,
enjoyment				p<0.001			p=0.68
Perceived	2.24 (1.83)	2.26 (1.80)	2.23 (1.87)	$\chi^2(1)=0.00$ ,	2.24 (1.79)	2.25 (1.87)	$\chi^2(1)=0.00$ ,
difficulty				p=0.95			p=0.96

<sup>\*</sup>Activities were rated on 7-point Likert scales (1=not at all to 7=extremely). P-values comparing activity ratings are from mixed-effects linear regression models using maximum likelihood estimation. The analyses included multiple observations per patient, with observation weeks only analyzed for those recalling the correct activity for the week (1620 observation weeks nested within 333 participants). Positive vs. neutral and White vs. African American p-values are from main effect models that included study site. There were no significant Treatment Group by Race interactions (data not shown).