

Supplemental Material



PARTICIPANTS NEEDED FOR SURVEY ON RUNNING AND KNEE HEALTH!

The Motion Analysis and Biofeedback Laboratory at The University of British Columbia (principal investigator: Dr. Michael Hunt) is leading a worldwide online survey on perceptions about running and knee health. An online educational module is also provided.

We are looking for people (aged 18+ years) who speak English, French, Spanish, Dutch, Portuguese, Danish or Italian

- **Runners (with or without knee osteoarthritis)**
- **Non-runners (with or without knee osteoarthritis)**
- **Healthcare professionals**

If you are interested, please follow this link

https://ubc.ca1.qualtrics.com/jfe/form/SV_d5vfGTuZ3gLkllV

*or contact Dr. Jean-Francois Esculier at
jean-francois.esculier@ubc.ca for further details*

Please note: If you choose to post to the page, or "like" the page, or "follow" it (e.g. on Facebook), you will be identified personally.

Version 2

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Supplemental Figure S1. Survey advertisement.

Supplemental Table S1. Demographics of Survey Respondents by Language

	English (n=1747)	Spanish (n=672)	French (n=593)	Portuguese (n=568)	Italian (n=495)	Danish (n=345)	Dutch (n=101)
Participant split							
PUB	886 (50.7)	493 (73.4)	298 (50.3)	315 (55.5)	276 (55.8)	170 (49.3)	76 (75.2)
HCP	861 (49.3)	179 (26.6)	295 (49.7)	253 (44.5)	219 (44.2)	175 (50.7)	25 (24.8)
Age, y, mean ± SD	41.3 ± 12.8	38.7 ± 10.4	37.0 ± 11.4	34.5 ± 11.7	37.6 ± 10.3	40.6 ± 11.1	44.0 ± 11.6
Gender							
Woman	977 (55.9)	294 (43.8)	260 (43.8)	314 (55.3)	146 (29.5)	187 (54.2)	49 (48.5)
Man	758 (43.4)	377 (56.1)	331 (55.8)	254 (44.7)	349 (70.5)	156 (45.2)	52 (51.5)
Gender-fluid	3 (0.2)	0 (0)	0 (0)	0 (0)	0 (0)	1 (0.3)	0 (0)
Nonbinary	4 (0.2)	1 (0.1)	0 (0)	0 (0)	0 (0)	1 (0.3)	0 (0)
Two-spirit	1 (0.1)	0 (0)	1 (0.1)	0 (0)	0 (0)	0 (0)	0 (0)
Prefer not to answer	4 (0.2)	0 (0)	1 (0.1)	0 (0)	0 (0)	0 (0)	0 (0)
Level of education							
Below high school	3 (0.2)	11 (1.6)	9 (1.5)	0 (0)	15 (3.0)	7 (2.0)	1 (1.0)
High school	42 (2.4)	34 (5.1)	41 (6.9)	21 (3.7)	97 (19.6)	41 (11.9)	5 (5.0)
Non-university	87 (5.0)	48 (7.1)	41 (6.9)	106 (18.7)	12 (2.4)	53 (15.4)	46 (45.5)
University	1615 (92.4)	579 (86.2)	502 (84.7)	441 (77.6)	371 (74.9)	244 (70.7)	49 (48.5)
General health status							
Excellent	719 (41.2)	193 (28.7)	183 (30.9)	130 (22.9)	88 (17.8)	98 (28.4)	37 (36.6)
Very good	760 (43.5)	348 (51.8)	292 (49.2)	265 (46.7)	235 (47.5)	185 (53.6)	43 (42.6)
Good	237 (13.6)	118 (17.6)	113 (19.1)	146 (25.7)	150 (30.3)	53 (15.4)	17 (16.8)
Fair	28 (1.6)	13 (1.9)	5 (0.8)	25 (4.4)	20 (4.0)	7 (2.0)	4 (4.0)
Poor	3 (0.2)	0 (0)	0 (0)	2 (0.4)	2 (0.4)	2 (0.6)	0 (0)
Currently a runner	1359 (77.8)	549 (81.7)	499 (84.1)	352 (62.0)	366 (73.9)	256 (74.2)	85 (84.2)
Diagnosed with KOA	213 (12.2)	59 (8.8)	54 (9.1)	62 (10.9)	93 (18.8)	50 (14.5)	19 (18.8)
History of knee injury							
No	627 (35.9)	257 (38.2)	229 (38.6)	305 (53.7)	204 (41.2)	110 (31.9)	27 (26.7)
Yes, without surgery	832 (47.6)	345 (51.3)	285 (48.1)	211 (37.1)	210 (42.4)	156 (45.2)	56 (55.4)
Yes, with surgery	288 (16.5)	70 (10.4)	79 (13.3)	52 (9.2)	81 (16.4)	79 (22.9)	18 (17.8)

Data are presented as n (%) unless stated otherwise. HCP, health care professional; KOA, knee osteoarthritis; PUB, general public.

Supplemental Table S2. Detailed Response Proportions for Survey Questions

	PUB	HCP	P-value	Runner	Nonrunner	P-value
In general, regular running (at least once per week) is _____ for the knee joint.						
Healthy (very, somewhat)	67.9%	85.8%	<0.001	76.8%	75.5%	0.399
Neither healthy nor unhealthy	20.0%	10.9%	<0.001	15.4%	16.2%	0.557
Unhealthy (somewhat, very)	8.0%	2.4%	<0.001	5.4%	5.5%	0.880
I don't know	4.1%	0.9%	<0.001	2.4%	2.8%	0.489
	χ^2 (3, n=4,521) = 210.09		<0.001	χ^2 (3, n=4,521) = 0.950		0.813
	Cramer's V = 0.22 (moderate)			Cramer's V = 0.02 (negligible)		
Running frequently (at least 3 times per week) _____ the risk of getting KOA.						
Increases (greatly, somewhat)	28.5%	12.5%	<0.001	20.4%	21.7%	0.383
Does not change	32.9%	38.1%	<0.001	38.6%	34.2%	0.008
Decreases (somewhat, greatly)	24.7%	46.4%	<0.001	36.0%	33.8%	0.180
I don't know	13.9%	3.0%	<0.001	4.9%	10.4%	<0.001
	χ^2 (3, n=4,521) = 442.23		<0.001	χ^2 (3, n=4,521) = 32.30		<0.001
	Cramer's V = 0.31 (large)			Cramer's V = 0.09 (small)		
Running long distances (such as marathons and ultra-marathons) _____ the risk of getting KOA.						
Increases (greatly, somewhat)	54.4%	45.1%	<0.001	54.4%	49.0%	0.003
Does not change	22.4%	33.6%	<0.001	26.4%	27.6%	0.450
Decreases (somewhat, greatly)	8.1%	15.6%	<0.001	11.9%	11.3%	0.591
I don't know	15.1%	5.7%	<0.001	7.3%	12.1%	<0.001
	χ^2 (3, n=4,521) = 214.60		<0.001	χ^2 (3, n=4,521) = 21.78		<0.001
	Cramer's V = 0.22 (moderate)			Cramer's V = 0.07 (small)		
Running on hard surfaces _____ the risk of getting KOA.						
Increases (greatly, somewhat)	59.8%	35.7%	<0.001	47.6%	49.6%	0.269
Does not change	25.1%	52.5%	<0.001	40.6%	36.3%	0.011
Decreases (somewhat, greatly)	3.9%	7.0%	<0.001	5.0%	5.3%	0.730
I don't know	11.2%	4.8%	<0.001	6.7%	8.9%	0.031
	χ^2 (3, n=4,521) = 431.44		<0.001	χ^2 (3, n=4,521) = 9.07		0.028
	Cramer's V = 0.31 (large)			Cramer's V = 0.05 (negligible)		

continued

	PUB	HCP	P-value	Runner	Nonrunner	P-value
Running with shoes that have more cushioning and support _____ the risk of getting KOA.						
Increases (greatly, somewhat)	9.5%	11.1%	<0.001	8.7%	10.6%	0.079
Does not change	30.1%	54.7%	<0.001	43.3%	40.3%	0.076
Decreases (somewhat, greatly)	50.0%	29.4%	<0.001	42.4%	40.4%	0.254
I don't know	10.4%	4.8%	<0.001	5.5%	8.7%	<0.001
	χ^2 (3, n=4,521) = 327.69		<0.001	χ^2 (3, n=4,521) = 15.62		0.001
	Cramer's V = 0.27 (moderate)			Cramer's V = 0.06 (small)		
It is _____ for a non-runner with KOA to start a running program if they don't have symptoms before or after they go running.						
Appropriate (very, somewhat)	49.4%	74.4%	<0.001	62.7%	59.8%	0.089
Neither appropriate nor inappropriate	13.8%	12.2%	0.123	14.6%	12.6%	0.087
Inappropriate (somewhat, very)	19.1%	10.0%	<0.001	16.7%	14.5%	0.082
I don't know	17.8%	3.3%	<0.001	5.9%	13.0%	<0.001
	χ^2 (3, n=4,521) = 343.02		<0.001	χ^2 (3, n=4,521) = 42.50		<0.001
	Cramer's V = 0.29 (large)			Cramer's V = 0.10 (small)		
People with KOA who continue to run will _____ their risk of getting more knee pain.						
Increase (greatly, somewhat)	48.2%	26.3%	<0.001	37.6%	38.8%	0.497
Not change	16.4%	29.6%	<0.001	26.4%	21.0%	<0.001
Decrease (somewhat, greatly)	19.9%	40.4%	<0.001	30.7%	28.4%	0.158
I don't know	15.4%	3.6%	<0.001	5.2%	11.7%	<0.001
	χ^2 (3, n=4,521) = 541.21		<0.001	χ^2 (3, n=4,521) = 45.50		<0.001
	Cramer's V = 0.35 (large)			Cramer's V = 0.10 (small)		
People with KOA who keep running regularly will _____ the need for joint replacement surgery.						
Increase (greatly, somewhat)	38.3%	16.7%	<0.001	26.4%	29.4%	0.059
Not change	21.2%	31.9%	<0.001	29.8%	24.8%	0.001
Decrease (somewhat, greatly)	20.2%	46.1%	<0.001	36.3%	30.2%	<0.001
I don't know	20.4%	5.3%	<0.001	7.4%	15.6%	<0.001
	χ^2 (3, n=4,521) = 650.40		<0.001	χ^2 (3, n=4,521) = 59.35		<0.001
	Cramer's V = 0.38 (large)			Cramer's V = 0.12 (small)		

continued

	PUB	HCP	P-value	Runner	Nonrunner	P-value
It is _____ for runners who have KOA to continue if they don't have symptoms before or after they go running.						
Appropriate (very, somewhat)	59.1%	85.7%	<0.001	77.0%	69.1%	<0.001
Neither appropriate nor inappropriate	14.4%	7.9%	<0.001	11.1%	11.6%	0.653
Inappropriate (somewhat, very)	12.1%	4.4%	<0.001	8.5%	8.7%	0.776
I don't know	14.4%	1.9%	<0.001	3.4%	10.6%	<0.001
	χ^2 (3, n=4,521) = 425.11		<0.001	χ^2 (3, n=4,521) = 53.61		<0.001
	Cramer's V = 0.31 (large)			Cramer's V = 0.11 (small)		
People with KOA who continue to run should choose shoes with _____.						
High-moderate cushioning	61.8%	39.8%	<0.001	51.0%	52.4%	0.411
Low-no cushioning	7.1%	14.5%	<0.001	10.2%	10.4%	0.799
It doesn't matter	14.3%	37.1%	<0.001	27.6%	23.5%	0.007
I don't know	16.8%	8.6%	<0.001	11.3%	13.7%	0.044
	χ^2 (3, n=4,521) = 456.50		<0.001	χ^2 (3, n=4,521) = 9.48		0.024
	Cramer's V = 0.32 (large)			Cramer's V = 0.05 (negligible)		
People with KOA who continue to run should _____.						
Use a running technique with greater impact on the ground	2.5%	1.9%	0.001	1.5%	2.0%	0.326
Run whatever way they want	14.9%	23.1%	<0.001	27.6%	21.7%	<0.001
Use a running technique with less impact on the ground	66.7%	62.8%	<0.001	59.9%	63.7%	0.024
I don't know	16.0%	12.2%	<0.001	11.0%	12.6%	0.186
	χ^2 (3, n=4,521) = 256.03		<0.001	χ^2 (3, n=4,521) = 16.31		0.001
	Cramer's V = 0.24 (moderate)			Cramer's V = 0.06 (small)		
(PUB who are runners) If I were to develop knee pain (but without a diagnosis of KOA), I would... (check all that apply)						
Stop completely	1.1%					
Stop temporarily	33.8%					
Reduce frequency	39.9%					
Reduce distance	42.8%					
Reduce speed	24.9%					
Not change anything	9.6%					

continued

	PUB	HCP	P-value	Runner	Nonrunner	P-value
(PUB who are runners) If I was diagnosed with KOA by a doctor, I would... (check all that apply)						
Stop completely	3.1%					
Stop temporarily	20.4%					
Reduce frequency	35.2%					
Reduce distance	38.9%					
Reduce speed	19.2%					
Not change anything	20.4%					
What percentage of your patients who are runners with KOA have you recommended that they modify their running habits?						
0%		10.0%				
1-25%		31.7%				
26-50%		23.2%				
51-75%		17.2%				
76-99 %		10.2%				
100%		7.7%				
What percentage of your patients who are runners with KOA have you recommended that they quit running?						
0%		64.0%				
1-25%		29.3%				
26-50%		3.3%				
51-75%		1.9%				
76-99 %		0.6%				
100%		0.9%				
If a patient presents to you following a total knee joint replacement and wants to continue running, how likely are you to recommend that person to continue running?						
Not at all		7.2%				
Unlikely		40.6%				
Uncertain		35.6%				
Likely		13.8%				
Definitely		2.7%				

HCP, health care professional; KOA, knee osteoarthritis; PUB, general public.