



Supplementary information

Table S1. Timeline of COVID-19 restrictions in England 2020 [50], [51].

Date	COVID-19 restriction
Mid-March to mid-May (Full lockdown)	National restrictions (lockdown 1). Sports facilities closed, restrictions applied to all indoor activity and organised outdoor activity. Single daily allowance of activity allowed.
Mid-May	Unlimited outdoor exercise is permitted. Meeting one person outside your household outdoors allowed. Activity choice extended to include water sports
June	Schools reopened (year 1 to year 6). Groups of 6 people allowed to meet outdoors (rule of 6). Indoor gatherings of two people from different households permitted. Outdoor training sessions allowed.
Early July	Local Lockdown regulations introduced and used
Mid-July	Playgrounds & outdoor pools reopened. Organised sports restarted
End- July	Gyms, indoor pools & leisure centres reopened
Sept	Schools reopened to all age groups
Mid-Sept to Oct*	Restrictions reintroduced for indoor team sports. Reintroduction of maximum of 6 people allowed to meet outdoors (rule of 6)
November	National restrictions (lockdown 2). Restrictions applied to all indoor activity and organised outdoor activity
December	New tiered system of restrictions based on location

*Wales had an additional ‘fire-break’ lockdown 23/10/20 and 09/11/20.

Table S2. Physical activity words.

Letter	Physical activity related word
A	activities act4ivity activates active active_ actively actives activiites activites activities activities
B	badminton ball ballet ballets ballroom balls basketball bicycle bicycles bike bikes biking bikr boat boating bodybuilder bodyweight bowling bowls breathlessness brisk briskly
C	canoe canoeing cardiac cardiac cardio chi class classes club clubs club's coach coached coaches coaching competing competition competitions competitive competitively competitiveness couch2 courts cricket crossfit crosstrainer curcuit curling cycle cycled cycles cycling cyclist cyclists
D	dance dancefit danceing dancer dancers dances dancesing dancing diving dogwalkers dogwalking
E	ecercise endurance energetic energy excercies excercise excercises excercising

	excerise excersise excersising excersize excise excise excising excercise exercise exercis exercise.eating exercised exerciser exercises exercising exercise exercrise excersize exercise
F	fatter fit fitbits fitbut fitness fitter fittest football footballer footballers footie footing
G	gardened gardener gardening garmin golf golfer golfers golfing gym gymnastics gyms gym's
H/I	hike hiked hikes hiking horse horsemen horseracing horses inactive inactivity
J	joe joes jog jogged jogger joggers jogging juggle juggled juggling
K/L	kayak kayaking kettlebells kick kickboxing kicked kicking lido
M/O	marathon marathons member members member's membership memberships mileage miles mountain mountaineering mountains outdoorsy
P	padding paddle paddling padel parkrun parkruns parkrun's physical physcial physcial physical physically pilates play players playground playgrounds playing plod plodded plodding plods ponies pony pool pools powerlifting
R	race races race's racing racket racketball ramble Rambler ramblers rambling riding rugby runner runners running runs
S	scuba sculling shoot shooting shoots skate skated skating ski skiing skip skipping skips snowboarding soccer sport sportcentre sporting sports sportsmen sporty sprint sprints strava stretch stretched stretches stretching stroll strolls sweat sweating sweats sweaty swim swim2 swimmer swimmers swimmin swimming swimminh swimmg swims
T	train trainer trainers training trampoline trampolining
U/V	ultra ultras vegetate vegetating vegging
W/Y/Z	walker walkers walking walking.exercising walks watersports weight weightlifting weights workout workouts yoga yoga's zumba
Numbers	10,000 10000 _outdoor 10,000s 10000s 10k 10km 11k 12k 1k 1km 20k 20km 21k 2kms 2miles 5km 5ks 5miles

Table S3. Example Excel coding.

First order	PA	Change	Barrier (1)	Barrier (2)	Facilitator (1)	Facilitator (2)	Impact	ID	Quote
1	gardening	increase			garden			1234	Lots of gardening has kept me going
1	exercise	not clear			nature	outdoors	mental	1345	Exercise- getting out into nature has kept me sane
1	walk	same			dog	social contact		1456	Having a dog is a fantastic outlet for me. From chatting to her and walking every day to meeting other dog walkers whilst out walking and I've been able to have socially distanced chat with them
1	exercise	increase			weather			1567	Trying to do more exercise but only achieve when weather was good
1	exercise	increase			time			1678	Working from home means I don't need to spend time travelling to work. I can use this extra time for other activities such as exercise
2	walk	decrease	active commute				physical	1789	Not walking to work every day has had a big impact on my physical health – I have become a couch potato

2	exercise	de-crease	time			2234	My exercise is really low as I can't get out to do things with children at home
2	gym	de-crease	closure		mental	2245	Not being able to go to the gym during lockdowns had an impact on mental health
2	walk	de-crease	gov restriction		well-being	2256	I have had fewer opportunities to go walking with friends in the mountains which I normally do each week. This has led to reduced fitness and loneliness
2	classes	de-crease	covid	safety	well-being	2267	I have stopped going to my exercise classes and I miss that, but when they did start up again, I didn't want to go back due to the worry of catching the virus
2	walk	de-crease	weather	safety		2278	I don't like going out on my own for walks and now its darker much earlier I'm not walking on an evening with my husband so rarely leave the house
1	exercise	in-crease		health	well-being	2289	I have made my health a priority now so that if I did catch Covid I am in better shape to tackle it. I now exercise far more and am losing weight, this has had a positive impact on how I feel about myself
1	yo-ga/pilates	in-crease		tech	time	3345	Positive impact has been an increase in exercise as zoom has enabled me to practice yoga and Pilates at times that suit me better from my spare room
3	yo-ga/pilates	not clear		tech		3356	I do yoga online but miss being able to do it in a studio with other people
1	exercise	in-creased		health	mental	3367	I started exercising every day during the first lockdown and although I now only do 3-4 days a week, I think it helped my mental health