

THE USE OF ACTIVITY TRACKERS DEVICES AND PHYSICAL ACTIVITY LEVELS IN ADOLESCENTS AND ADULTS

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AIM

This study aimed to examine the use of PA trackers in Portuguese adolescents and adults, including differences by demographic factors and PA levels.

METHODS

PARTICIPANTS

Participants were N = 1498, of both sexes (N = 841 females) with ages between 14 and 85 years.

PHYSICAL ACTIVITY

PA was measured using the short version of the International Physical Activity Questionnaire (IPAQ) ^(1,2).

USE OF ACTIVITY TRACKERS

Participants were asked if they use, have used or never have used an activity tracker assessed activity tracker use. Participants who had used activity trackers were further asked for how long they have been using the activity tracker regularly at least once a week (less than a month, between 3 and 4 months, between 6 and 12 month, between 1 and 2 years, and more than 2 years), and how often they used the tracker (only during exercise, during waking hours, only at night, always all day and all night).

DATA ANALYSIS

Frequencies were calculated for each of the questions of the questionnaire about interest, use and preferences for activity trackers. Median and interquartile range (IQR) were used as descriptive statistics for PA variables.

Kruskal-Wallis Test was used to test the differences in PA levels between participants who used, had used and never used PA trackers. Post-hoc pairwise comparisons were done with Steel-Dwass-Critchlow-Fligner test. The level of significance was set at P<0.05.

RESULTS

Table 1: Median and interquartile range (IQR) for physical activity by sex and age, and Kruskal-Wallis test results for the difference in PA between the participants who use, had used and never used PA trackers.

		Yes (Y)		Had used (H)		Never used (N)		Kruskal-Wallis P values	Significant pairwise comparisons
		Median	IQR	Median	IQR	Median	IQR		
Females									
Adolescents (N=75)	Walking	594	297	578	990	495	1056	NS	
	Moderate	720	800	300	1030	480	1440	NS	
	Vigorous	2880	1440	720	2460	960	4320	NS	
	Total week	4314	1440	2624	2988	2772	5632	NS	
Young adults (N=607)	Walking	495	627	479	776	396	792	NS	
	Moderate	480	920	40	720	60	480	<0.001	Y>N>H
	Vigorous	1200	2040	200	1920	80	1440	<0.001	Y>H>N
	Total week	2540	3291	1683	3192	1386	2778	<0.001	Y>H>N
Middle-aged adults (N=143)	Walking	371	512	248	248	297	660	NS	
	Moderate	420	680	300	240	120	480	0.05	Y>H>N
	Vigorous	1440	960	—	—	0	960	<0.001	Y>N
	Total week	2060	2160	618	629	1035	1689	0.002	Y>N>H
Older adults (N=16)	Walking	—	—	—	—	198	627	—	
	Moderate	—	—	—	—	720	720	—	
	Vigorous	—	—	—	—	0	240	—	
	Total week	—	—	—	—	1413	1460	—	
Males									
Adolescents (N=60)	Walking	462	1056	396	660	330	396	NS	
	Moderate	720	1440	160	1260	360	1080	NS	
	Vigorous	3600	2160	2880	3240	2880	3600	0.04	Y>H>N
	Total week	4142	4200	4572	2741	3488	3040,5	NS	
Young adults (n=440)	Walking	462	842	396	660	396	660	NS	
	Moderate	720	1200	480	960	240	960	<0.001	Y>H>N
	Vigorous	2160	2880	1920	2400	1440	2880	0.001	Y>H>N
	Total week	3573	3798	2880	3657	2550	3212	<0.001	Y>H>N
Middle-aged adults (N=128)	Walking	347	574	149	50	182	792	0.007	Y>H; Y=N; H<N
	Moderate	600	1020	240	120	100	480	0.006	Y>H; Y=N; H<N
	Vigorous	1920	2400	480	960	840	1800	<0.001	Y>H; Y>N; H<N
	Total week	2997	3104	869	1066	1396	2195	<0.001	Y>H; Y=N; H<N
Older adults (N=29)	Walking	792	1733	—	—	594	693	NS	
	Moderate	0	1680	—	—	720	840	NS	
	Vigorous	1920	1280	—	—	0	1080	0.04	Y>N
	Total week	2712	4693	—	—	2120	2646	NS	

Table 2: Median and interquartile range (IQR) for sedentary time by sex and age, and Kruskal-Wallis test results for the difference in sedentary time between the participants who use, had used and never used PA trackers.

	Yes (Y)		Had used (H)		Never used (N)		Kruskal-Wallis p values	Significant pairwise comparisons
	Median	IQR	Median	IQR	Median	IQR		
Females								
Adolescents (N=75)	4.0	5.0	9.5	4.0	6.0	4.0	0.01	H>N>Y
Young adults (N=607)	6.0	4.0	8.0	6.0	7.0	6.0	0.01	H>N>Y
Middle-aged adults (N=143)	7.5	6.0	6.5	4.3	7.0	6.0	NS	
Older adults (N=16)	—	—	—	—	3.0	5.0	—	
Males								
Adolescents (N=60)	6.0	2.5	7.0	8.0	6.0	3.5	NS	
Young adults (n=440)	5.0	5.0	5.0	4.0	6.0	6.0	NS	
Middle-aged adults (N=128)	6.0	3.0	9.8	5.5	6.0	4.0	0.04	H>N>Y
Older adults (N=29)	2.0	3.0	—	0.0	4.0	3.0	NS	

CONCLUSIONS

Participants that used PA trackers have a higher PA level than the participants that have used. It seems that **PA trackers could be a motivation tool to improve PA levels.**

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