

Participation in physical activity by Australian adults with a disability: findings from the *AusPlay* Australian national survey 2015-2018

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Executive Summary

Physical activity is defined as any voluntary movement produced by skeletal muscles that results in energy expenditure. There is compelling evidence that low levels of physical activity lead to an increase risk of death and development of chronic health conditions and are costly to the economy. Sport, exercise and physical recreation are types of physical activities that many people might choose to participate in as one or more of their leisure time activities. The *AusPlay* survey, led by *Sport Australia*, provides a population level picture of participation in sport, exercise and physical recreation of people living in Australia. This report focuses on data from the 2015-2018 *AusPlay* survey of participation in sport, exercise and physical recreation by adults with a disability and also compares this to adults without a disability.

This report confirms adults with a disability are less likely to meet physical activity guidelines and a greater percentage report being inactive (defined as no participation in sport, exercise or physical recreation over the past 12 months) compared with adults without a disability. An important finding was the low participation rates in sport and higher participation rates in physical recreation for adults with a disability across most of the adult lifespan. This raises key questions around access, opportunities and preferences between sport and physical recreation for adults with a disability and requires further investigation when planning future sport and physical recreation policies and programs.

There were a number of similarities found between adults with and without a disability. For example, many of the sports and physical recreation activities with the highest participation were the same in both groups. Walking for recreation and exercising at a fitness centre were the two activities with the highest participation for adults with and without a disability. Similarly, both adults with and without a disability who were currently inactive, were motivated to start a new sport or physical recreation activity for physical health or fitness benefits. However, there were differences in the barriers to participation reported between the groups. Poor health or injury were reported as the most common barrier for inactive adults with a disability whereas time was the most common barrier reported by inactive adults without a disability. This suggests an important role for health professionals in assisting and advising adults with a disability to safely participate in physical activity opportunities. It also highlights the importance of greater cross-sectorial links between health, community and disability services to better support the needs of adults with a disability to maximise their health and wellbeing.

Key Findings

- 15% of adults surveyed reported having a disability for longer than 6 months.
- More than 1 in 5 adults with a disability participated in **NO** sport, exercise or physical recreation over the past 12 months.
- Fewer adults with a disability reported participating in sport, exercise or physical recreation at least once over the past 12 months compared to adults without a disability (78% vs. 91%; odds ratio: 0.36 95%CI, 0.34 to 0.39; adjusted¹ odds ratio: 0.43, 95%CI 0.40 to 0.46).
- Fewer adults with a disability reported meeting physical activity guidelines compared to adults without a disability (*AusPlay* recommended calculation²: 10% vs. 18%; odds ratio: 0.51, 95%CI 0.46 to 0.55; adjusted¹ odds ratio: 0.63, 95%CI 0.57 to 0.70. Average weekly duration calculation³: 46% vs. 62%; odds ratio: 0.53, 95%CI 0.51 to 0.57; adjusted¹ odds ratio: 0.55, 95%CI 0.51 to 0.58).
- Fewer adults with a disability reported paying to participate in sport, exercise or physical recreation over the past 12 months compared to adults without a disability (42% vs. 58%; odds ratio: 0.51, 95%CI 0.47 to 0.54; adjusted¹ odds ratio: 0.67, 95%CI 0.62 to 0.71).
- Fewer adults with a disability reported participating in more than one type of physical activity compared to adults without a disability (2 or more activities: 40% vs. 61%; 3 or more activities: 17% vs. 30%).
- Walking for recreation and attending a fitness centre were the two highest participated in activities for adults with and without a disability (walking: 43% and 27% and attending a fitness centre: 20% and 22% for adults with and without a disability respectively).
- Sport participation reduced with increasing age and was always lower for adults with a disability.
- Physical recreation participation increased with increasing age and was always a higher for adults with a disability up until 70 years of age compared to adults without a disability.
- Inactive adults with and without a disability reported similar motivations for wanting to try a new sport or physical recreation with physical health or fitness benefits being the most commonly reported reason for both groups (56% and 52% of adults with and without a disability respectively).
- The biggest reported barrier for inactive adults with a disability was poor health or injury (62%) whereas for adults without a disability it was time (43%).
- Fewer adults with a disability reported participating in non-player roles such as coach or administrator compared to adults without a disability (10% vs. 17%; p<0.001).

¹Odds ratio adjusted for: age, sex, education, work, state of Australia where residing, Indigenous, English language not spoken at home.

² Adults 18-64 years meeting guidelines defined as: ≥ 150 mins per week and a frequency of 260 times per year; adults 65+ years meeting guidelines defined as: ≥ 210 mins per week and a frequency of 364 times per year.

³ Adults 18+ meeting guidelines defined as: ≥ 150 mins per week.

Background

International and national evidence-based guidelines specify the amount of physical activity required for health benefits for all adults [1-4]. The Australian Physical Activity Guidelines state that adults 18 to 64 years old should accumulate 150 to 300 minutes of moderate intensity physical activity or 75 to 150 minutes of vigorous physical activity each week and minimise the amount of sedentary activities such as prolonged sitting.[4] These guidelines are based on rigorous evidence that clearly shows the link between physical inactivity and morbidity and mortality.[5, 6] Unfortunately, many adults fail to meet these guidelines with estimates of 31% of adults not meeting the guidelines globally.[7] Studies conducted in the USA and the UK have found that adults with a disability are twice as likely as adults without a disability not to meet recommended physical activity guidelines.[8, 9]

In Australia, almost one in five people report living with a disability (18.3%, 4.3 million Australians).[10] Disability is defined as “..having a limitation, restriction or impairment, which has lasted, or is likely to last, for at least six months and restricts everyday activities”.[10] Reasons why people with a disability are less physically active are multifactorial and include barriers such as access, opportunity, knowledge and support.[11-16] Despite these barriers and lower participation rates, we know that many people with a disability would like to be more physically active. In a 2010 report commissioned by the Australian Sports Commission (now *Sport Australia*) 75% of 1050 people with a disability surveyed indicated they would like to participate in more sport and active recreation.[17] To address this discrepancy, we need to better understand how people with a disability in Australia currently participate in physical activity and their reported barriers and facilitators.

AusPlay is a national survey conducted since 2015 with the aim to get a population level understanding of sport and physical recreation participation of people living in Australia to help guide policy and service development. Within this survey there is a question where people can identify as having a disability for at least 6 months. This question enabled a comparative analysis of sport, exercise and physical recreation participation for adults in Australia with and without a disability. This information is vital to ensure that future sport and physical recreation planning incorporates the needs of people with a disability to maximise their participation and increase overall physical activity for better health and quality of life.

Research Questions

The overall aim of this project was to describe and compare physical activity participation by Australian adults with and without a disability sampled within the *AusPlay* survey between October 2015 to June 2018.

For the purpose of the study, disability was defined as those who self-report a disability or physical condition that restricts their life in some way and has lasted or is likely to last for at least 6 months. Physical activity was defined as participation in sport, exercise, or recreation. This includes activities organised by a club, association or other type of organisation, and activities that were not organised in this way. It excludes activities that were part of work, transport and household duties.

The specific research aims were:

1. To determine the percentage of adults (18+ years) who self-report a disability.
2. To describe and compare the demographics of adults with and without a disability within the *AusPlay* survey.
3. To describe and compare current physical activity participation for adults with and without a disability.
4. To explore physical activity participation and non-participation profiles for adults with and without a disability based on demographic factors.
5. To describe and compare planned future physical activity participation and motivations for participation for adults with and without a disability.
6. To describe and compare motivations and barriers for physical activity participation for Australian adults with and without a disability who are currently inactive.
7. To describe and compare non-player role participation in physical activity for adults with and without a disability.

Methods

Design: cross-sectional study of the *AusPlay* Australian national survey.

Procedure: Data were collected between 01/10/2015 to 30/06/2018 as part of the *AusPlay* Australian national survey. *AusPlay* aims to survey 20,000 adults aged 15 years and over spread evenly throughout each year. *AusPlay* is led by *Sport Australia* and the data are collected by ENGINE (formerly known as ORC International). ENGINE is a member of the Association of Market and Social Research Organisations (AMSRO) and as such, its staff and interviewers abide by the Australian Market and Social Research Society (AMSRS) Code of Professional Behaviour.

AusPlay is conducted by computer assisted telephone interviewing (CATI) from Engine's CATI facility in Melbourne, Australia. *AusPlay* aims to gather data on a sample of Australian residents and uses an overlapping dual frame design using two sample sources; a random sample of landline phone numbers and a random sample of mobile phone numbers. Special weighting techniques are used in *AusPlay* to address the potential bias of over-representation from the overlapping dual frame design.

The *AusPlay* survey was developed by *Sport Australia* in collaboration with the sport sector utilising previous national surveys and a co-design workshop. Further details of *AusPlay* methods can be found at <https://www.clearinghouseforsport.gov.au/research/smi/ausplay/method>. The survey is estimated to take 10-12 minutes to complete. It consists of an introductory module to screen survey responders to ensure a good cross-section of ages and a mix of males and females. The survey is then split into a demographics module, a player participation module (those who are currently participating in sport, exercise or physical recreation), non-participant module (those who are not currently participating in sport, exercise or physical recreation), non-player module (those involved in non-playing roles within sport, exercise or physical recreation in the past 12 months e.g. referee, coach) and child modules (collected from the adult about one of their children < 15 years old). For the purpose of this report we did not include the child modules.

Analysis: De-identified data collected between 01/10/2015 to 30/06/2018 were provided in SPSS files to the investigators from *Sport Australia* in November 2018 to analyse the data for Australian adults with and without a disability. SPSS data were exported into STATA 14 for analysis. Files that were in "long" format were transformed to "wide" format and combined into one file. Variables were created to identify adults (18+ years) and adults who reported a disability for more than 6 months. Variables were created to determine average weekly duration and total frequency over 12

months of sport, exercise and physical recreation to determine if participants met Australian physical activity guidelines (1. *AusPlay* recommended calculation: Adults 18-64 years defined as: ≥ 150 mins per week and a frequency of 260 times per year; adults 65+ years defined as: ≥ 210 mins per week and a frequency of 364 times per year; 2. Average weekly duration calculation: Adults 18+ defined as: ≥ 150 mins per week). *AusPlay* weightings were applied to the analysis to account for the recruitment strategy. Descriptive statistics were used to describe the sample of adults with and without a disability. Chi-squared and logistic regression analysis were used to compare binary variables between adults with and without disability. Linear regression analysis was used to compare continuous variables between adults with and without a disability. The odds of participants reporting sport, exercise or physical recreation participation in the past 12 months, meeting national physical activity guidelines and paying to participate in sport, exercise or recreation in the past 12 months were determined using logistic regression, with and without adjustment for key demographic variables.

Results

Research aim 1: Adults who self-report a disability

Between 01/10/2015 to 30/06/2018, 56,041 Australians were surveyed as part of the *AusPlay* national survey. Of those surveyed, 54,564 were adults (18+ years); 10,235 adult participants reported having a disability for longer than 6 months and 44,108 adult participants reported they did not have a disability for longer than 6 months (221 adults didn't know or refused to answer if they had a disability for longer than 6 months). This equates to a weighted percentage of 15% of adults surveyed reported having a disability for longer than 6 months.

Research aim 2: Demographics

Adults with a disability were surveyed from all states of Australia with a similar distribution as adults without a disability, with the largest percentage from New South Wales (Table 1). Just over half of the sample were female (Table 2). Adults with a disability were distributed within all age brackets, with a greater percentage in older age brackets compared to adults without a disability (Table 3).

Tables 4-7 display the education, employment status and yearly income of adults sampled in the *AusPlay* survey. A smaller percentage of adults with a disability reported having a University degree (24% vs. 40%) and more than twice as many adults with a disability had not completed year 12 (26% vs. 12%). Similarly, a smaller percentage of adults with a disability reported having fulltime, part-time or casual employment (36% vs. 69%), with a large percentage of adults with a disability reporting being retired or on a pension (48%). Further exploration of employment status by age bracket showed the same pattern with lower levels of employment for those with a disability across all age groups (Table 6). Income status was considerably different between adults with and without a disability, with 34% of adults with a disability reporting a yearly income below \$55,000 compared to only 15% of adults without a disability.

Tables 8-11 display the Culturally and Linguistic Diverse (CALD) data for adults sampled in the *AusPlay* survey. Eleven percent of adults with a disability reported speaking a language other than English at home, 21% reported being born in a country other than Australia and 39% reported a parent being born in a country other than Australia. Four percent of adults with a disability identified as Indigenous or Torres Strait Islander.

Table 1: Distribution of adult sample by Australian states

State	Non-disability adult sample (n=44,108)	% total non-disability adult sample	Disability adult sample (n=10,235)	% total disability adult sample
NSW	11,285	31.6	2483	31.8
VIC	10,391	25.2	1965	23.1
QLD	7,669	19.8	1872	21.7
SA	3,988	7.1	1130	7.9
WA	5,425	11.6	1253	10.1
ACT	1,939	1.7	446	1.7
NT	1,177	1.0	258	0.8
TAS	2,234	2.0	828	2.9

n are unweighted, % are weighted

Table 2: Distribution of adult sample by sex

Sex	Non-disability adult sample (n=44,108)	% total non-disability adult sample	Disability adult sample (n=10,235)	% total disability adult sample
Male	21,295	49.4	4,544	48.0
Female	22,813	50.6	5,691	52.0

n are unweighted, % are weighted

Table 3: Distribution of adult sample by age bracket

Age bracket	Non-disability adult sample (n=44,108)	% total non-disability adult sample	Disability adult sample (n=10,235)	% total disability adult sample
18-19	1,350	4.2	70	1.4
20-24	2,943	9.1	255	4.6
25-29	2,820	10.5	219	4.6
30-34	2,893	10.5	207	4.2
35-39	3,156	8.7	268	4.3
40-44	3,539	10.0	369	5.7
45-49	3,770	8.1	581	6.7
50-54	3,904	8.8	826	9.6
55-59	4,043	7.1	1034	9.9
60-64	4,080	6.5	1349	11.7
65-69	4,020	6.5	1414	12.1
70-74	3,430	5.1	1348	10.8
75-79	2,171	2.9	1021	6.9
80+	1,989	2.0	1274	7.5

n are unweighted, % are weighted

Table 4: Distribution of adult sample by education level

Category	Non-disability adult sample (n=44,108)	% total non-disability adult sample	Disability adult sample (n=10,235)	% total disability adult sample
University degree or higher	16,850	40.0	2,357	23.7
Diploma	4,975	11.5	979	10.5
Certificate	6,558	15.2	1,865	19.4
Year 12	8,196	19.3	1,816	18.2
Did not complete Y12	6,789	12.4	2,984	26.3
Never went to school	56	0.1	42	0.4
Secondary school	99	0.4	10	0.1
Other	185	0.3	93	0.8
Refused	253	0.5	29	0.3
Don't know	147	0.2	60	0.4

n are unweighted, % are weighted

Table 5: Distribution of adult sample by employment status

Category	Non-disability adult sample (n=44,108)	% total non-disability adult sample	Disability adult sample (n=10,235)	% total disability adult sample
Full time	18,649	47.3	1,638	20.4
Part time	5,812	13.7	795	9.1
Casual	3,019	8.1	460	6.0
Unemployed	1,297	3.6	523	7.0
Retired/pension	11,370	16.1	6,089	47.8
FT student	1,685	5.4	179	3.2
Home duties	1,316	3.7	284	3.5
Other	730	1.8	238	2.8
Refused	205	0.5	22	0.3
Don't know	25	0.0	7	0.0

n are unweighted, % are weighted

Table 6: Exploration of employment status by age bracket

Category		Employed		Unemployed		Retired/Pension		FT Student		Home duties		Other/Refused/ don't know	
		N	% per age group	N	%per age group	N	%per age group	N	%per age group	N	%per age group	N	%per age group
18-19	ND	661	47.5	135	9.9	0	0	520	39.8	5	0.4	29	2.5
	D	35	42.1	9	14.3	0	0	25	43.1	0	0	1	0.6
20-24	ND	1,951	65.3	189	6.3	6	0.2	723	25.7	32	1.2	42	1.3
	D	122	46.0	39	18.3	8	2.8	71	26.7	7	2.1	8	4.0
25-29	ND	2,322	81.0	136	5.5	4	0.1	195	6.8	105	4.2	58	2.4
	D	125	54.9	35	17.0	17	9.1	23	10.7	11	5.2	8	3.1
30-34	ND	2,445	83.4	89	3.1	6	0.2	79	2.7	207	8.2	67	2.4
	D	132	63.5	19	7.4	21	11.0	9	4.3	16	10.1	10	3.7
35-39	ND	2,681	84.9	102	3.4	11	0.5	59	1.9	238	7.3	65	1.9
	D	159	60.1	30	12.1	37	12.9	6	2.0	26	9.0	10	4.0
40-44	ND	3,093	86.8	89	2.7	22	0.6	45	1.3	200	5.6	90	3.0
	D	218	60.1	45	11.6	44	11.5	14	3.9	30	7.6	18	5.3
45-49	ND	3,370	89.2	107	2.8	32	0.9	26	0.7	154	4.2	81	2.1
	D	324	54.9	64	11.5	113	19.0	12	2.4	44	7.7	24	4.6
50-54	ND	3,406	87.5	137	3.6	112	2.4	12	0.3	122	3.4	115	2.7
	D	449	57.3	80	9.3	206	21.9	10	1.3	39	4.6	42	5.5
55-59	ND	3,240	80.7	142	3.6	466	10.8	8	0.2	95	2.5	92	2.3
	D	484	47.5	93	10.1	367	34.4	4	0.3	47	4.5	39	3.3
60-64	ND	2,415	60.1	134	3.6	1,345	31.4	6	0.2	66	1.7	114	3.0
	D	444	33.9	88	7.2	751	53.5	2	0.2	21	1.7	43	3.5
	ND	1,174	31.2	20	0.6	2,714	65.7	4	0	35	0.7	73	1.7

65-69	D	221	16.4	13	1.1	1,137	79.3	2	0	13	0.9	28	2.1
70-74	ND	459	15.8	6	0	2,868	81.6	6	0.4	27	0.6	64	1.5
	D	114	10.3	4	0.4	1,207	86.7	1	0	7	0.9	15	1.7
75-79	ND	195	10.1	4	0.2	1,913	86.6	1	0	15	0.9	43	2.1
	D	42	4.5	1	0	956	93.6	0	0	11	1.1	11	0.9
80+	ND	68	4.6	7	0.3	1,871	92.6	1	0	15	0.9	27	1.6
	D	24	3.4	3	0.3	1,225	94.8	0	0	12	0.8	10	0.6

Key: ND: adults who do not report disability, D: adults who report disability, FT: fulltime; n are unweighted, % are weighted

Table 7: Distribution of adult sample by yearly income

Yearly income	Non-disability adult sample (n=44,108)	% total non-disability adult sample	Disability adult sample (n=10,235)	% total disability adult sample
\$0	289	0.6	74	0.7
\$1-54,999	7,897	14.5	4,020	34.1
\$55,000-99,999	6,681	15.4	1,174	12.8
≥\$100,000	12,180	29.9	1,150	14.5
Refused/don't know	17,061	39.6	3,817	38.0

*Median yearly income for Australians= \$52,988 per year (ABS 2017); n are unweighted, % are weighted

Table 8: Distribution of adult sample by language other than English spoken at home

Speak a language other than English at home	Non-disability adult sample (n=44,108)	% total non-disability adult sample	Disability adult sample (n=10,235)	% total disability adult sample
Yes	7,072	18.9	984	10.8
No	36,759	80.6	9,243	89.1
Refused/don't know	277	0.5	8	0.1

n are unweighted, % are weighted

Table 9: Distribution of adult sample by country of birth

Born in Australia	Non-disability adult sample (n=44,108)	% total non-disability adult sample	Disability adult sample (n=10,235)	% total disability adult sample
Yes	31,484	70.8	7,956	79.0
No	12,146	28.1	2,254	20.8
Refused/don't know	478	1.1	25	0.2

n are unweighted, % are weighted

Table 10: Distribution of adult sample by parent's country of birth

Parents born overseas	Non-disability adult sample (n=44,108)	% total non-disability adult sample	Disability adult sample (n=10,235)	% total disability adult sample
Yes	20,085	47.5	3,964	39.0
No	23,559	51.5	6,207	60.4
Refused/don't know	464	1.0	64	0.6

n are unweighted, % are weighted

Table 11: Distribution of adult sample by those who identify as Indigenous or Torres Strait Islander

Indigenous/ Torres Strait	Non-disability adult sample (n=44,108)	% total non-disability adult sample	Disability adult sample (n=10,235)	% total disability adult sample
Yes	768	2.0	310	3.5
No	42,926	97.2	9,852	95.7
Refused/don't know	414	0.8	73	0.9

n are unweighted, % are weighted

Research aim 3: Current physical activity participation

For adults with a disability, only 78% reported participating in physical activity for sport, exercise or recreation at least once during the past 12 months. Just over 90% of adults without a disability reported this level of participation (Table 12). The breakdown of types of physical activity also varied between adults with and without a disability. A greater percentage of adults with a disability participated in physical recreation only and a greater percentage of adults without a disability participated in sport only. Fewer adults with a disability reported paying for physical activities (41% vs. 58%). Adults with and without a disability identified themselves as most strongly associating with similar sports and physical recreation with walking, swimming and football (soccer) being in the top five for both groups (Table 12).

There were obvious differences in the volume of physical activity between those with and without a disability. For meeting physical activity guidelines, there was a significant difference in the percentage being sufficiently active to meet these guidelines between adults with and without a disability. When calculated using the *AusPlay* recommended calculation (Adults 18-64 years defined as: ≥ 150 mins per week and a frequency of 260 times per year; adults 65+ years defined as: ≥ 210 mins per week and a frequency of 364 times per year) only 10% of adults with a disability met this level compared to 18% for adults without a disability. When calculated only taking the average weekly duration into account (Adults 18+ defined as: ≥ 150 mins per week), only 46% of adults with a disability met this level compared to 62% for adults without a disability (Table 13). When exploring the duration and frequency of physical activity participation per week for the activity they reported spending most time doing, adults with a disability had on average significantly shorter duration sessions but similar frequency of sessions per week than adults without a disability (Table 13). The number of different physical activities participated in over the last 12 months also varied between adults with and without a disability. Sixty-one per cent of adults without a disability reported participating in two or more different physical activities versus only 40% of adults with a disability. For three or more activities it was 30% vs. 17% (Table 14). Eight of the ten top activities reported by participants as spending most of their time doing were the same for adults with and without a disability, with walking for recreation and attending a fitness centre/gym being the top two for both (Table 15).

Some adults with and without a disability reported using technology, electronic equipment, or websites and social media sites for sport or physical recreation activities with a greater percentage of adults without a disability reporting usage than adults with a disability (43% vs. 30%, Table 16). The top three reported technologies by those who used them were Apps for tracking physical activity (40% adults without a disability vs. 34% adults with a disability), wearable devices such as *Fitbit* (36% vs. 34%) and websites and online tools (not including social media) (20% for both). When exploring technology use between adults with and without a disability for different age categories, the biggest discrepancy was for adults between ages 40-74 years old (Table 17).

Table 12: Physical activity participation for adults with and without a disability over the past 12 months

Participating in physical activity	Non-disability adult sample (n=44,108)	% total non-disability adult sample	Disability adult sample (n=10,235)	% total disability adult sample
Yes*	39,928	90.6	7,763	77.7
-Sports only	7,599	19.5	1,011	11.7
-Physical recreation only	15,277	30.8	4,370	39.8
-Mix sport & physical recreation	17,052	40.3	2,382	26.1
No*	4,180	9.4	2,472	22.3
-Did but stopped	826	2.1	404	4.0
-None at all	3,330	7.3	2,059	18.2
-Don't know	24	0.1	9	0.1
	Non-disability active adult sample (n=39,928)	% total non-disability active adult sample	Disability active adult sample (n=7,763)	% total disability active adult sample
Frequency*				
-≥ 2x per week	36,735	91.5	6,946	88.6
-≤ 1x per week	3,193	8.5	817	11.4
Paid to participate*				
-Yes	21,814	58.1	2,969	41.2
-No	18,114	41.9	4,794	58.8
Top 5 sport/PR most identify with over lifetime#	(n=44,108)		(n=10,235)	
	Walking (recreational) 4,169	8.2	Walking (recreational) 974	8.7
	Fitness/gym 2,381	6.0	Swimming 788	7.8
	Football (soccer) 2,240	6.0	Tennis 680	5.5
	Swimming 2,599	5.8	Football (soccer) 334	4.2
	Athletics track & field 2,321	5.6	Netball 408	4.1
	None 2,406	5.2	None 678	6.0
	Can't choose 1,169	2.6	Can't choose 287	2.8
	Missing 1,386	3.0	Missing 740	6.7

thinking of all the sports or physical activities you have EVER done throughout your life, which would you say is the ONE that you most strongly associate yourself with? All adults surveyed asked this question. n are unweighted, % are weighted; * significant (p<0.05) difference between groups for weighted percentages (chi2 analysis)

Table 13: Volume of physical activity participated in by adults with and without a disability

	Non-disability adult sample	Disability adult sample
Percentage of participants meeting physical activity guidelines*	18% ⁴	10% ⁴
Average frequency per week of primary physical activity reported by participants, mean(95%CI)	62% ⁵	46% ⁵
average duration of primary physical activity reported by participants, min, mean(95%CI)#	2.5 sessions/pw (2.5 to 2.6)	2.5 sessions/pw (2.4 to 2.6)
	122 (114 to 131)	88 (76 to 100)

* significant (p<0.05) difference between groups for weighted percentages (chi2 analysis); # significant (p<0.05) difference between groups using regression analysis taking weighting variable into account

Table 14: Adults with and without a disability who reported different number of physical activities participated in during the previous year

Number of activities	N (%) of adults without disability (n=44,108)	Cumulative % for adults without disability	N (%) of adults with disability (n=10,235)	Cumulative % for adults with disability
≥10 different activities	11 (<0.01)	10 activities <0.01	0 (0)	10 activities 0.0
≥9 different activities	20 (<0.01)	≥9 activities <0.01	1 (<0.01)	≥9 activities <0.01
≥8 different activities	42 (0.2)	≥8 activities 0.2	7 (<0.01)	≥8 activities <0.01
≥7 different activities	111 (0.3)	≥7 activities 0.5	5 (<0.01)	≥7 activities <0.01
≥6 different activities	385 (1.0)	≥6 activities 1.5	34 (0.5)	≥6 activities 0.5
≥5 different activities	1,117 (2.9)	≥5 activities 4.4	128 (1.6)	≥5 activities 2.1
≥4 different activities	3,235 (8.1)	≥4 activities 12.5	303 (4.0)	≥4 activities 6.1
≥3 different activities	7,690 (17.9)	≥3 activities 30.4	936 (10.6)	≥3 activities 16.7
≥2 different activities	13,406 (30.2)	≥2 activities 60.6	2,436 (23.6)	≥2 activities 40.3
≥1 different activity	13,905 (29.5)	≥1 activity 90.1	3,912 (36.5)	≥1 activity 76.8
0 different activities	4,186 (9.9)	0 activities 9.9	2,473 (23.2)	0 activities 23.2

n are unweighted, % are weighted

⁴ Adults 18-64 years meeting guidelines defined as: ≥ 150 mins per week and a frequency of 260 times per year; adults 65+ years meeting guidelines defined as: ≥ 210 mins per week and a frequency of 364 times per year.

⁵ Adults 18+ meeting guidelines defined as: ≥ 150 mins per week.

Table 15: The top 10 activities adults with and without a disability reported spending the most time participating in over the past 12 months

Activities	N (%) of adults without disability (n=39,922)	Activities	N (%) of adults with disability (n=7,762)
Walking (recreation)	12,739 (26.7)	Walking (recreation)	3,606 (42.7)
Fitness/gym	8,102 (21.8)	Fitness/gym	1,592 (20.4)
Athletics	2,484 (7.4)	Swimming	457 (5.8)
Cycling	1,946 (4.8)	Cycling	272 (3.7)
Swimming	1,706 (4.3)	Golf	246 (3.2)
Football (soccer)	949 (3.2)	Athletics	138 (2.6)
Golf	1,432 (2.9)	Bowls	161 (1.8)
Tennis	859 (2.1)	Bushwalking	115 (1.6)
Bushwalking	734 (1.7)	Yoga	90 (1.3)
Yoga	729 (1.9)	Fishing (recreation)	82 (1.1)

n are unweighted, % are weighted

Table 16: Use of technology, electronic equipment, or websites, social media sites, for any sport, exercise or physical recreation activities by adults with and without a disability

	Non-disability active adult sample (n=39,928)	% total non-disability active adult sample	Disability active adult sample (n=7,763)	% total disability active adult sample
Yes*	15,452	43.2	1,922	29.8
No	24,441	56.7	5,836	70.2
Prefer not to answer/don't know	35	0.1	5	0.0
n are unweighted, % are weighted				
Technologies used	N (%weighted) non-disability active adult sample who report using technologies (n=15,452)	%unweighted total non-disability active adult sample (n=39,928)	N (%weighted) disability active adult sample who report using technologies (n=1,922)	%unweighted total disability active adult sample who report using technologies (n=7,763)
-Apps for tracking activity*	6,027 (40.4)	15.1	592 (34.3)	7.6
-Wearable technology (e.g. Fitbit)	5,634 (36.1)	14.1	665 (34.4)	8.6
-motion sensing Virtual reality (e.g. Xbox)	94 (0.6)	0.2	13 (0.7)	0.2
-Free social media sites (e.g. running mums Aust)	1,303 (9.4)	3.3	147 (8.2)	1.9
-Websites (not including social media) & online tools	3,259 (19.9)	8.2	412 (20.1)	5.3
-Online programs requiring payment (e.g. Michelle Bridges)	158 (1.0)	0.4	14 (0.9)	0.2
-Watching accompanying video sessions of physical activity etc.	643 (4.3)	1.6	86 (4.5)	1.1
-Play music/ listen headphones	2,352 (16.9)	5.9	259 (15.5)	3.3
-Apps for maps & GPS technology*	1,380 (8.8)	3.5	134 (7.0)	1.7
- Apps for music	967 (7.3)	2.4	102 (7.0)	1.3

-Bike computers/ speedometers	311 (2.6)	0.8	40 (3.4)	0.5
-Cameras/Go Pros	76 (0.7)	0.2	11 (0.9)	0.1

* significant (p<0.05) difference between groups for weighted percentages (chi2 analysis)

Table 17: Adults with and without a disability technology users categorised by age group

Age bracket	Non-disability adult sample using technology (n=15,452)	% total active non-disability adult sample (n=39,928) for each age group	Disability adult sample using technology (n=1,922)	% total active disability adult sample (n=7,763) for each age group
18-19	529	44.9	32	50.9
20-24	1356	52.0	111	48.6
25-29	1345	52.1	95	51.9
30-34	1356	52.2	86	53.4
35-39	1478	51.4	106	49.4
40-44*	1662	51.5	132	40.1
45-49*	1676	49.3	182	37.7
50-54*	1526	42.8	210	33.1
55-59*	1322	36.6	228	29.1
60-64*	1186	32.8	243	25.2
65-69*	998	27.6	208	20.4
70-74*	613	20.5	157	14.3
75-79	277	14.3	73	12.4
80+	128	7.8	59	7.8

n are unweighted, % are weighted; * significant (p<0.05) difference between groups for weighted percentages (chi2 analysis)

Research aim 4: Exploration of physical activity participation by demographics

Regardless of state or territory, the same differences in the pattern of sport and physical recreation participation and inactivity was found between adults with and without a disability (Figure 1). Typically, a lower percentage of adults with a disability participated in sport only (except in the Northern Territory), a greater percentage participated in physical recreation only and a greater percentage did not participate in any sport or physical recreation compared to adults without a disability.

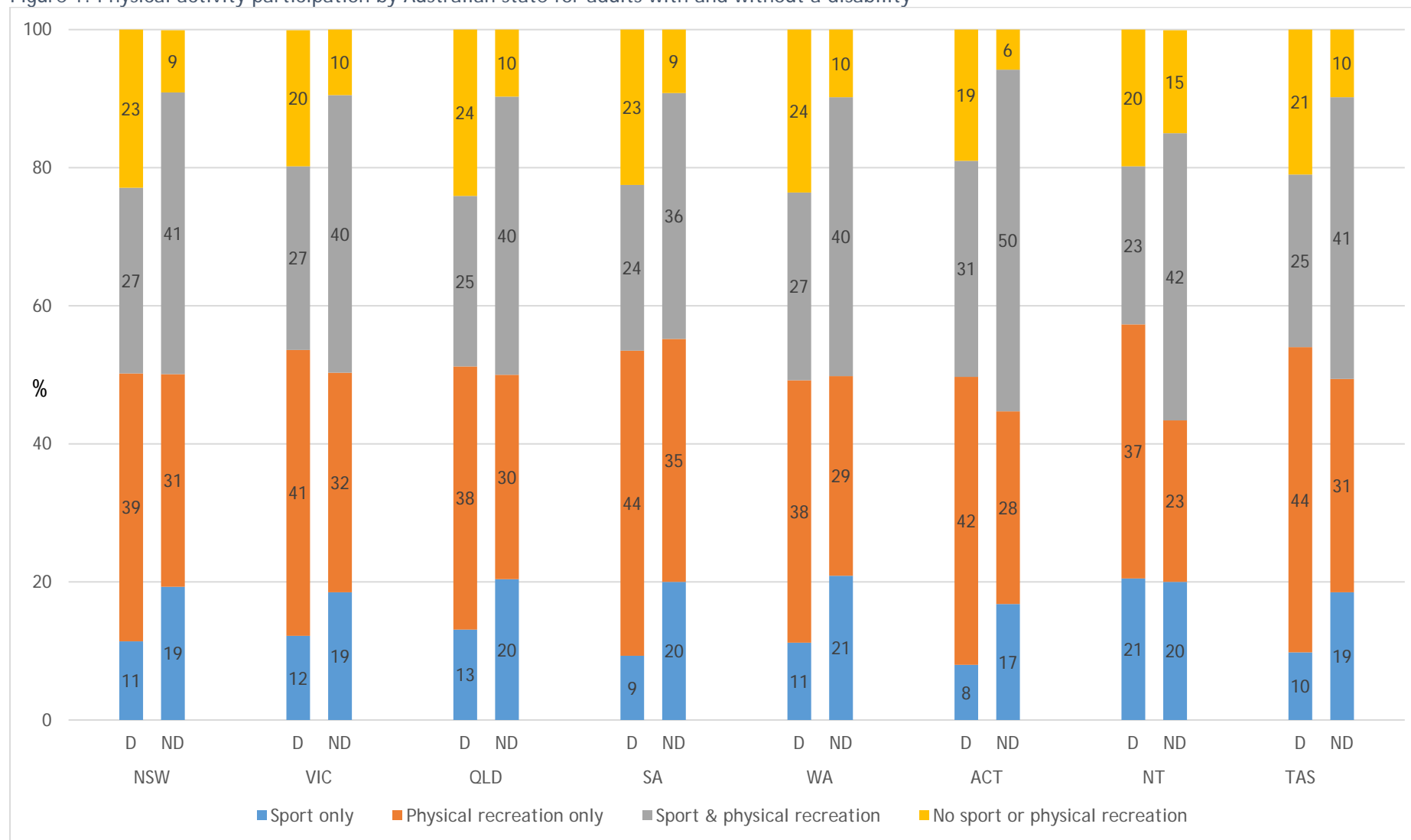
Sex and age comparisons are presented in Figures 2 to 5. A larger percentage of males participated in sport only regardless of disability status; however, there was still a substantially greater percentage of males without a disability participating in sport only compared to males with a disability (30% vs. 18%; Figure 2). A greater percentage of females participated in recreation only regardless of disability and a greater percentage of males and females without a disability participated in sport and recreation combined compared to males and females with a disability. For adults with a disability compared to adults without a disability, lower participation rates were the case for all age brackets except those aged 18-19, with > 20% of adults older than 45 years consistently not participating (Figure 3). The percentage of adults meeting physical activity guidelines was always less for adults with a disability except in the age brackets 18-19 (Figures 4 and 5) and 25-29 (Figure 4). Sport only participation reduced with increasing age and was always lower for adults with a disability. Physical recreation only participation increased with increasing age and was always a higher percentage for adults with a disability up until 70 years of age.

Physical activity participation by education level for adults with and without a disability is presented in Figure 6. As anticipated, those who never went to school or did not complete year 12 had a lower level of sport and/or physical recreation than those with a higher education level. This discrepancy was greater for those with a disability compared to those without.

Figures 7-9 display physical activity with other demographic variables known to influence physical activity participation; employment status (Figure 5), yearly income (Figure 6), non-English background and identifying as Aboriginal or Torres Strait Islander (Figure 7). For these variables, adults with a disability participated to a lesser extent in sport and/or physical recreation compared to adults without a disability.

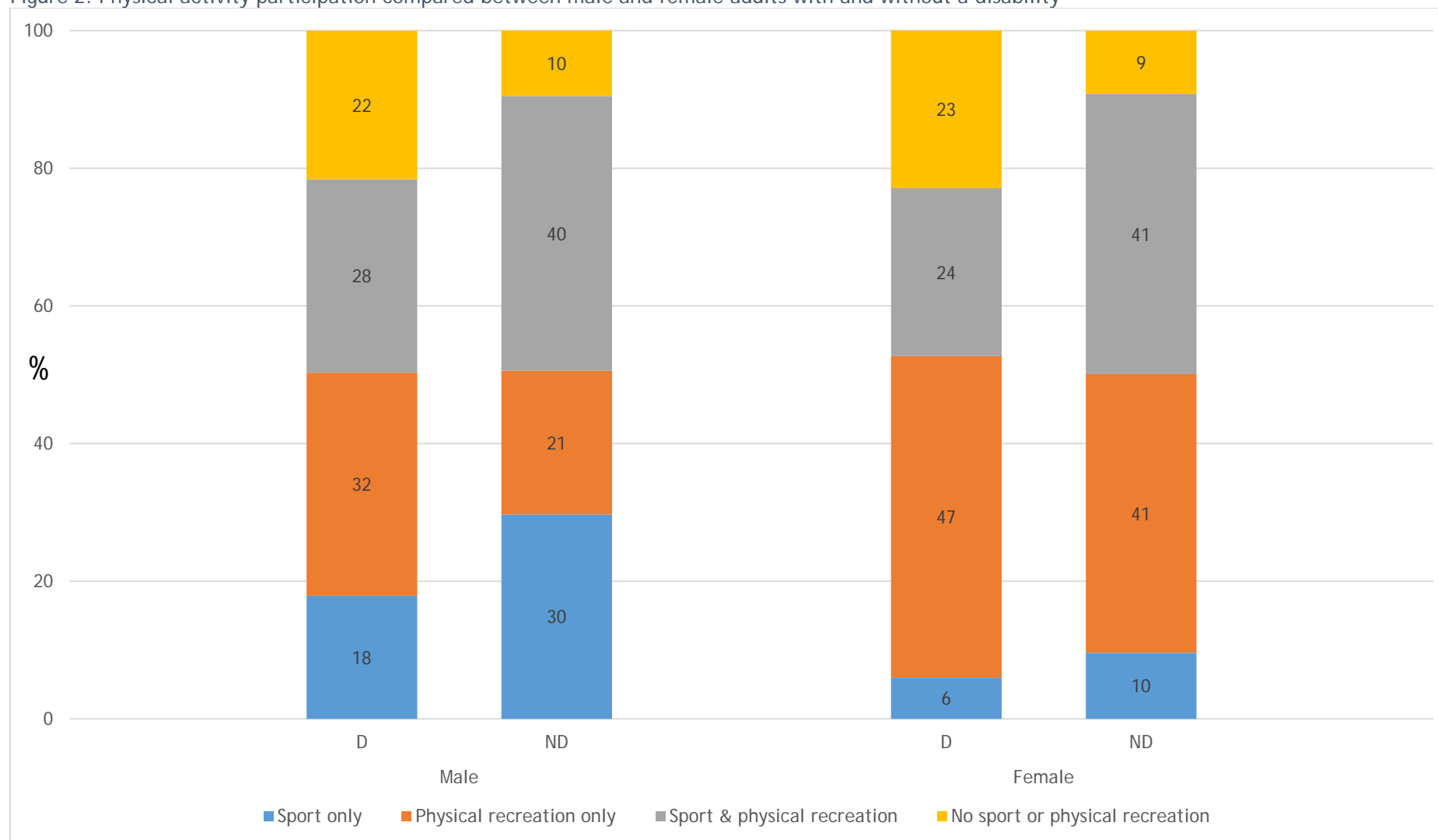
Adults with a disability had lower odds of participating in sport, exercise or recreation at least once in the last 12 months, meeting physical activity guidelines and paying for sport, exercise or recreation compared to adults without a disability. This remained the case even when accounting for age, sex, education, work, state of residence, Indigenous and English language not spoken at home (Table 18).

Figure 1: Physical activity participation by Australian state for adults with and without a disability



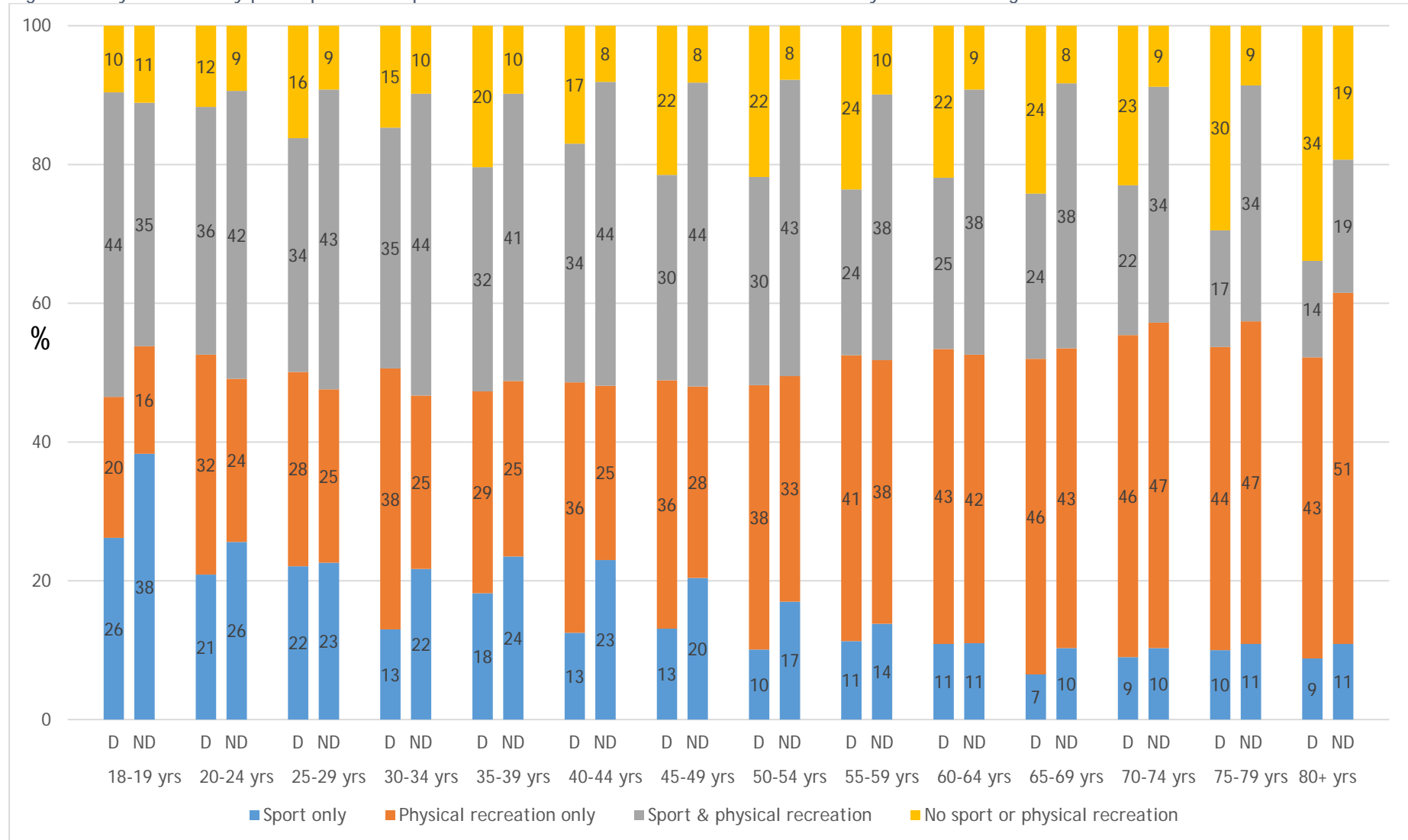
Key: D: adults with a disability \geq 6 months (n=10,235); ND: adults without a disability (n=44,108); weighted percentages

Figure 2: Physical activity participation compared between male and female adults with and without a disability



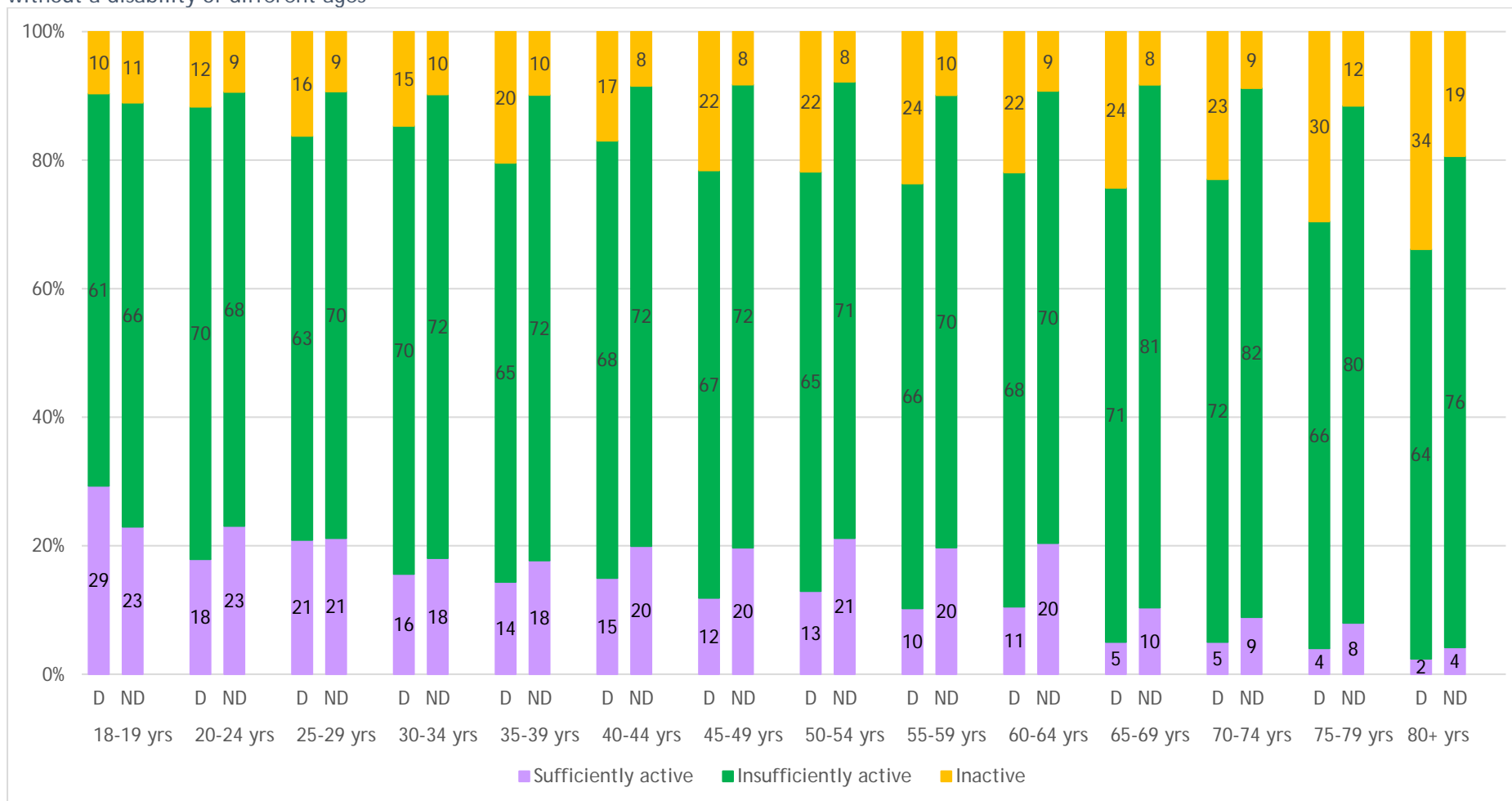
Key: D: adults with a disability \geq 6 months (n=10,235); ND: adults without a disability (n=44,108); weighted percentages

Figure 3: Physical activity participation compared between adults with and without a disability of different ages



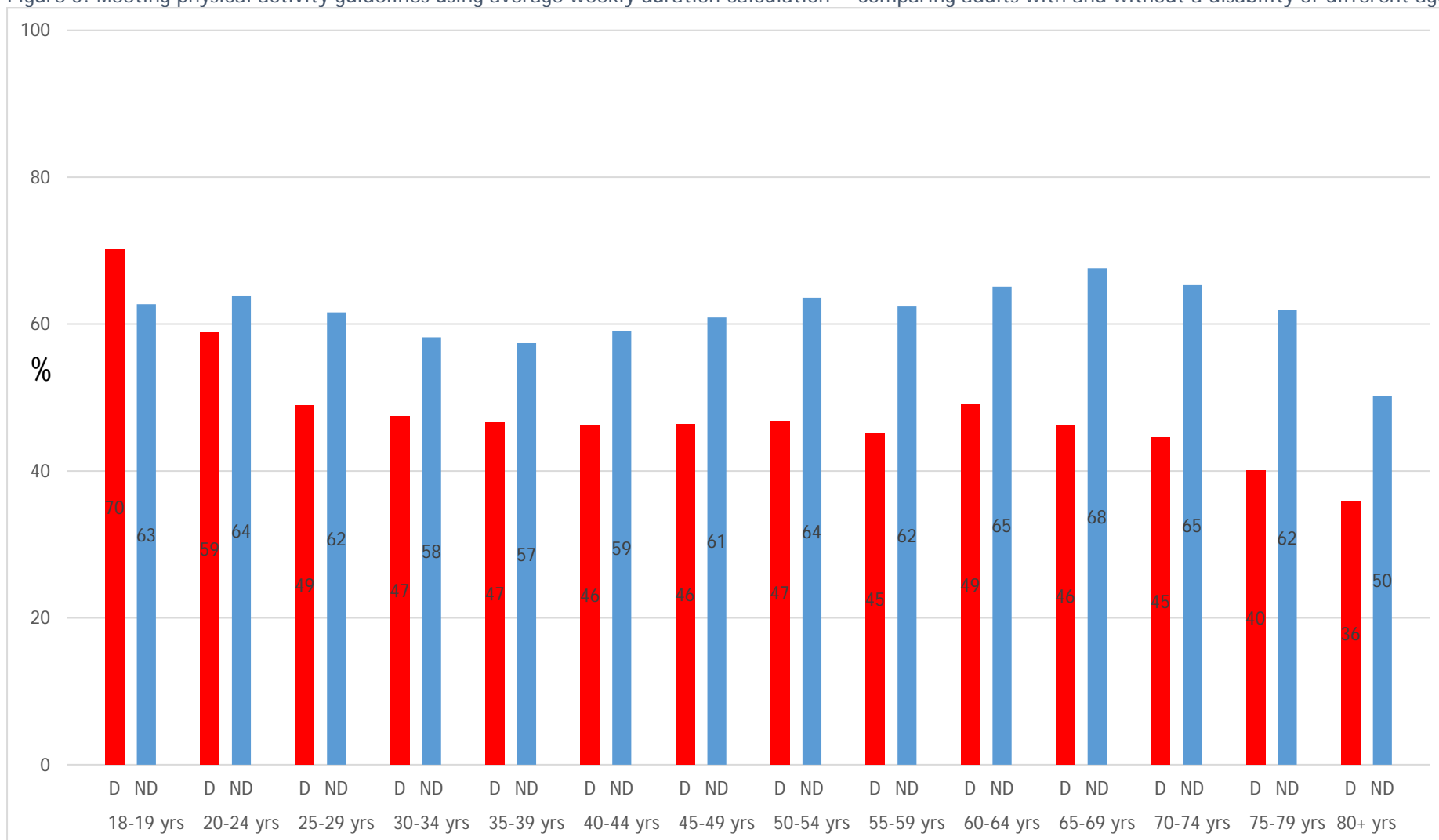
Key: D: adults with a disability ≥ 6 months (n=10,235); ND: adults without a disability (n=44,108); weighted percentage

Figure 4: Meeting physical activity guidelines (sufficiently active), insufficiently active and inactive using *AusPlay* calculation* - comparing adults with and without a disability of different ages



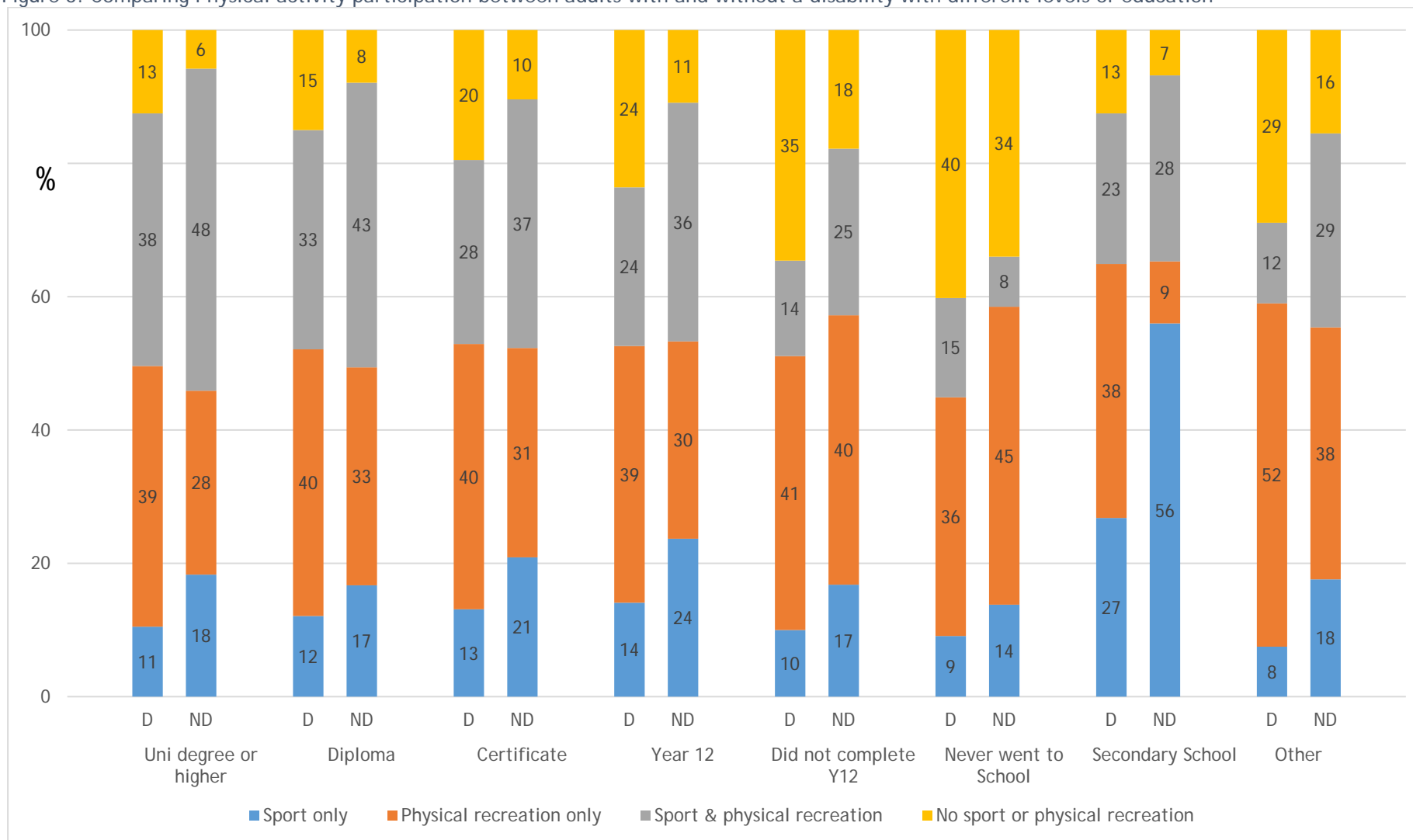
Key: D: adults with a disability ≥ 6 months n=10,235; ND: Adults without a disability n=44,108; weighted percentages; **AusPlay* calculation: Adults 18-64 years meeting guidelines defined as: ≥ 150 mins per week and a frequency of 260 times per year; adults 65+ years meeting guidelines defined as: ≥ 210 mins per week and a frequency of 364 times per year. Insufficiently active defined as some physical activity below guideline levels in past 12 months. Inactive defined as no physical activity (sport, exercise, recreation) in past 12 months.

Figure 5: Meeting physical activity guidelines using average weekly duration calculation* - comparing adults with and without a disability of different ages



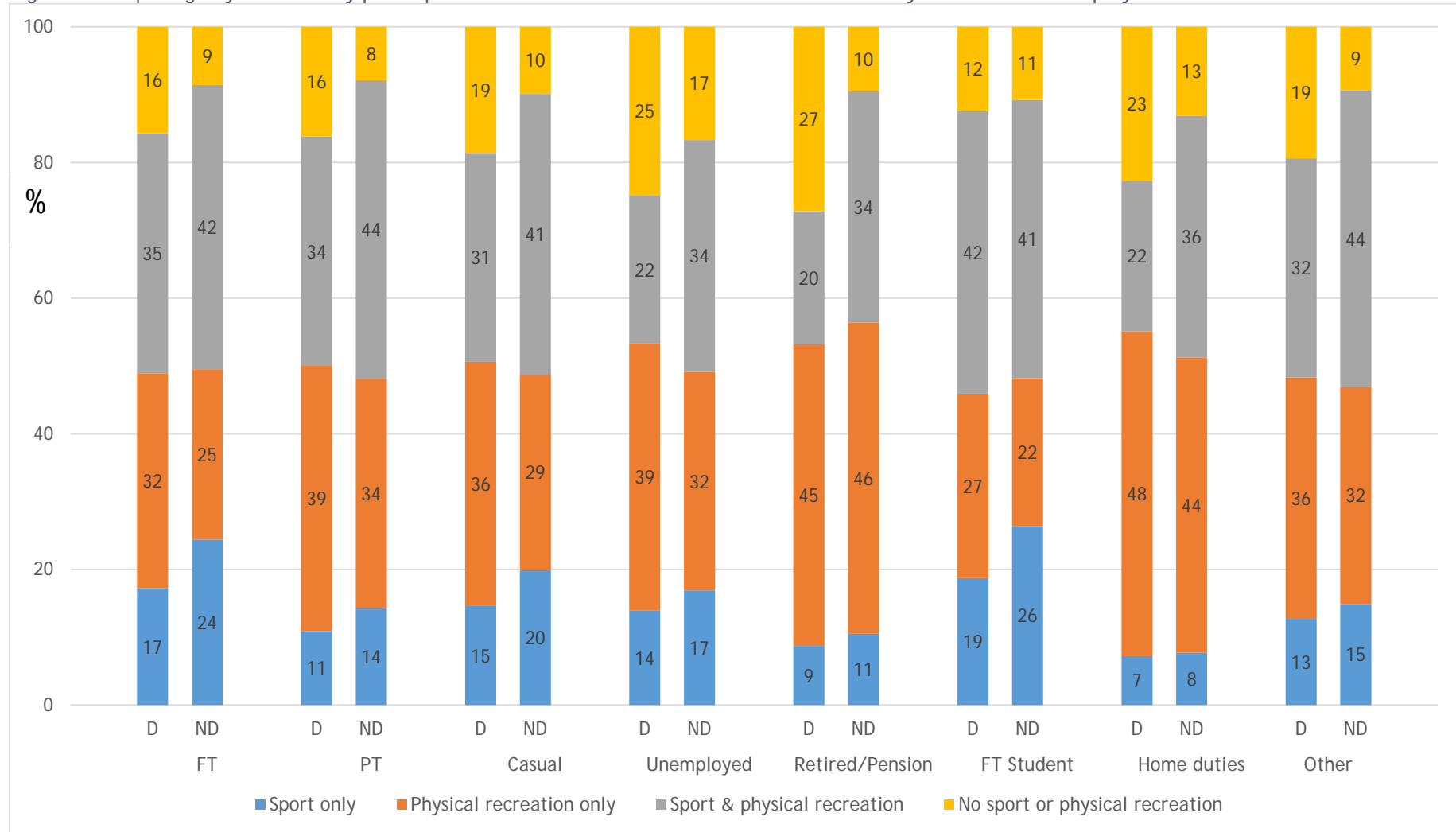
Key: D: adults with a disability ≥ 6 months n=10,235; ND: Adults without a disability n=44,108; weighted percentages; *average weekly duration calculation: Adults 18+ meeting guidelines defined as: ≥ 150 mins per week

Figure 6: Comparing Physical activity participation between adults with and without a disability with different levels of education



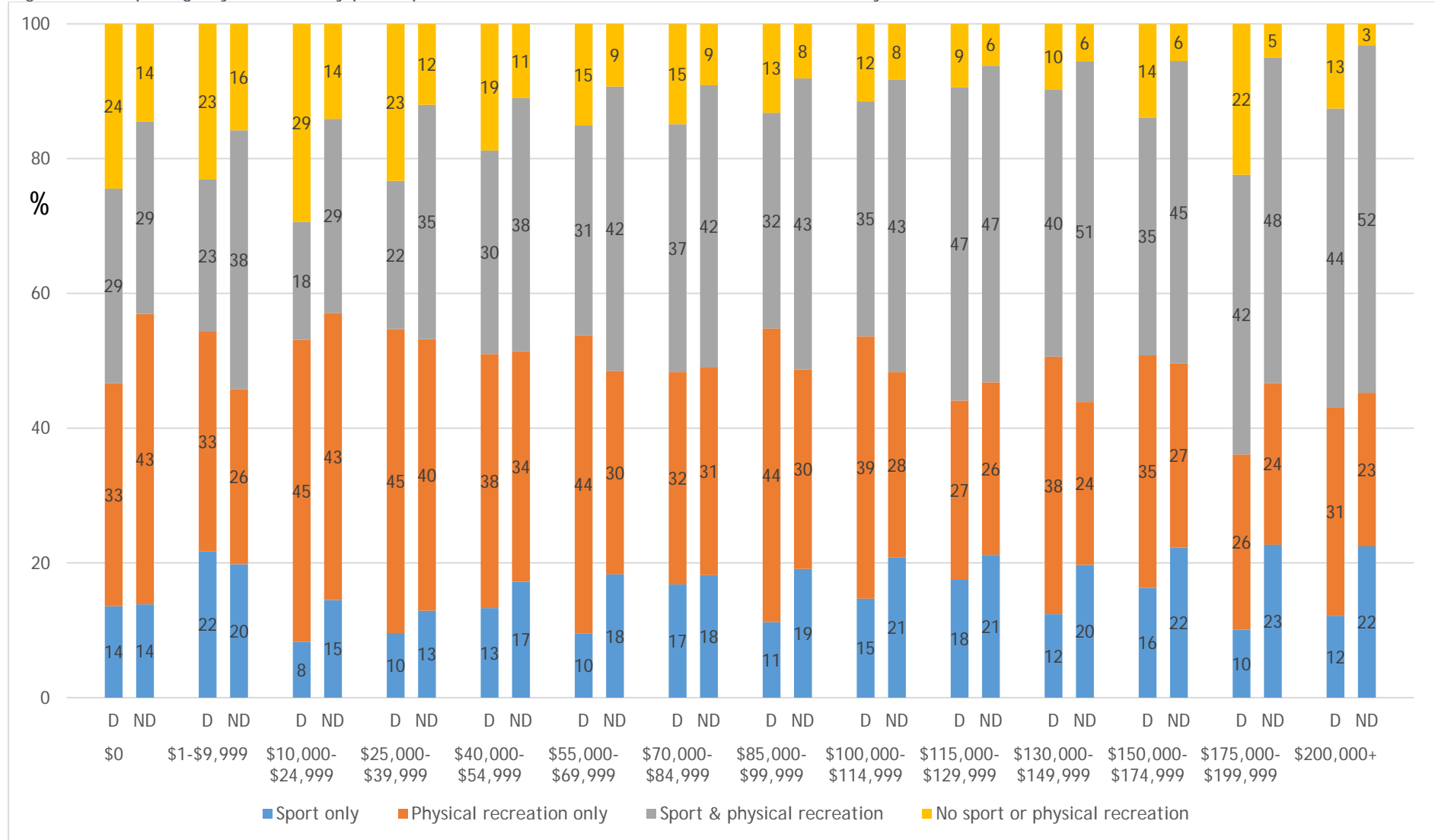
Key: D: adults with a disability ≥ 6 months (n=10,146, 89 refused/don't know); ND: adults without a disability (n=43,708, 400 refused/don't know); weighted percentages

Figure 7: Comparing Physical activity participation between adults with and without a disability with different employment status



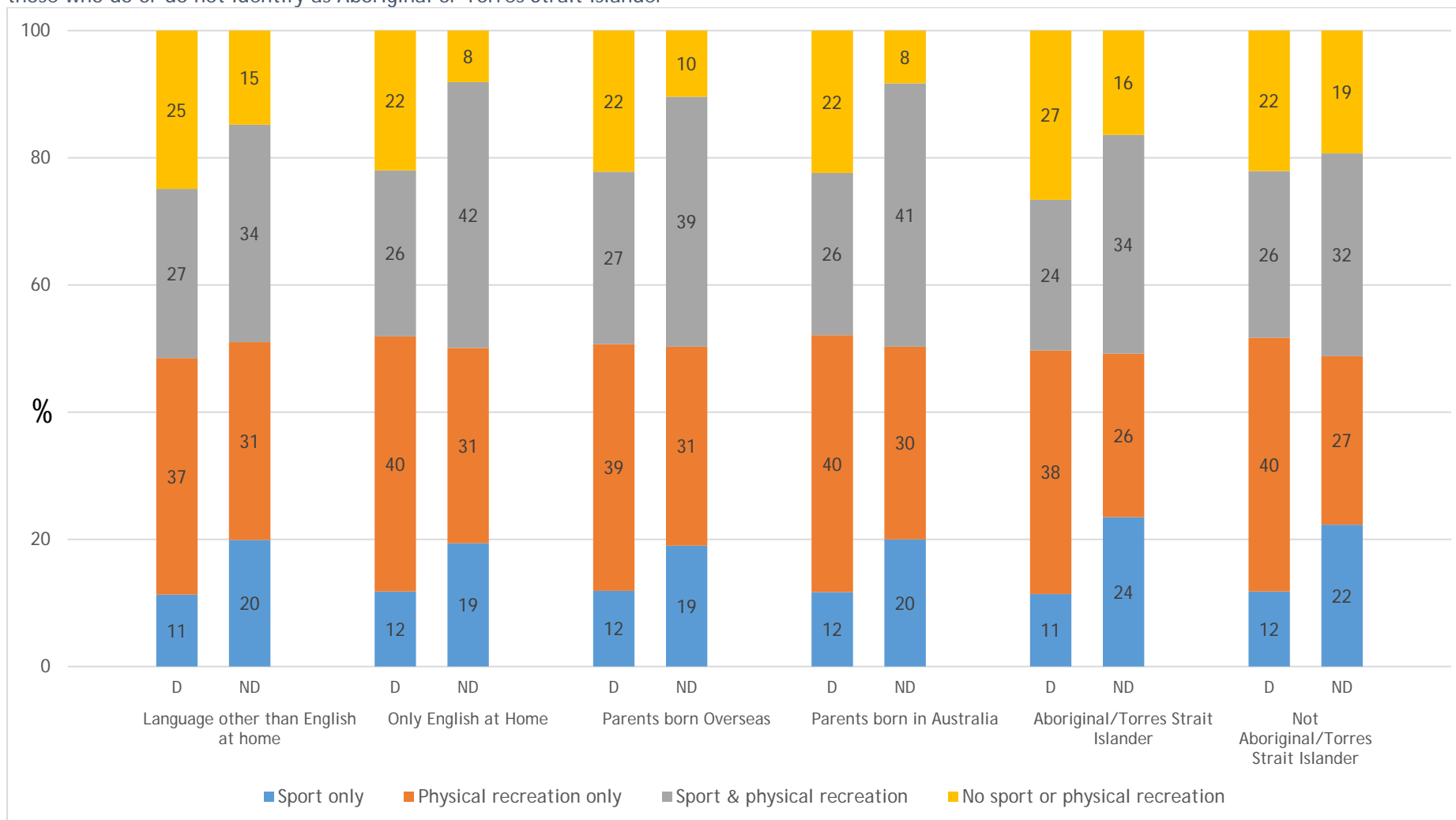
Key: D: adults with a disability ≥ 6 months (n=10,206, 29 refused/don't know); ND: adults without a disability (n=43,878, 230 refused/don't know); FT: fulltime employment, PT: part time employment; weighted percentages

Figure 8: Comparing Physical activity participation between adults with and without a disability with different financial status



Key: D: adults with a disability ≥ 6 months n=10,235; ND: Adults without a disability n=44,108; weighted percentages

Figure 9: Comparing Physical activity participation between adults with and without a disability with language spoken at home, parent's birthplace and those who do or do not identify as Aboriginal or Torres Strait Islander



Key: D: adults with a disability \geq 6 months n=10,235 (excluding refused/don't know n=8 language other than English at home, n=64 parents born overseas, n=73 Indigenous); ND: adults without a disability n=44,108 (excluding refused/don't know n=277 language other than English at home, n=464 parents born overseas, n=414 Indigenous); weighted percentages

Table 18: Statistical comparison of participation in sport and physical recreation for adults with and without a disability

	Model 1*			Model 2**				
	Adults with disability	Adults without disability	Odds ratio	95% CI lower limit	95% CI upper limit	Odds ratio	95% CI lower limit	95% CI upper limit
Participating in sport or physical recreation at least once in the past 12 months	78%	91%	0.36	0.34	0.39	0.43	0.40	0.46
Meeting physical activity guidelines (<i>AusPlay</i> calculation) [#]	10%	18%	0.51	0.46	0.55	0.63	0.57	0.70
Meeting physical activity guidelines (average duration calculation) ^{##}	46%	62%	0.53	0.51	0.57	0.55	0.51	0.58
Paid to participate in sport or physical recreation in the past 12 months	41%	58%	0.51	0.47	0.54	0.67	0.62	0.71

* no adjustment to the model

** model adjusted for age, sex, education, work, state of Australia where residing, Indigenous, English language not spoken at home. # adults 18-64 years meeting guidelines defined as: ≥ 150 mins per week and a frequency of 260 times per year; adults 65+ years meeting guidelines defined as: ≥ 210 mins per week and a frequency of 364 times per year.

adults 18+ meeting guidelines defined as: ≥ 150 mins per week.

Research aim 5: Future physical activity participation for those already active

When asked about the physical activities participated in during the past 12 months, approximately 6% of adults with and without a disability reported that they had already dropped at least one of these activities and about 5% were considering dropping an activity (Table 19). When asked about starting up new activities, 36% of adults without a disability and 33% of adults with a disability reported considering a new physical activity in the next 12 months (Table 20). Four of the five top planned new activities were the same between adults with and without a disability (swimming, fitness/gym, cycling and yoga), with adults with a disability also planning walking and adults without a disability planning tennis as their top five choice of new physical activities (Table 20). Again, there were similarities between adults with and without a disability in the structure they were considering trying these new activities (~ 50% through organisation or venue and ~ 40% informal) and in their motivations for wanting to try these new activities (top four: physical health or fitness, fun/enjoyment, other, social reason) although a greater percentage of adults with a disability were motivated by physical health or fitness (55% vs. 46%; $p < 0.001$) and a greater percentage of adults without a disability were motivated by social reasons (18% vs. 13%; $p < 0.001$) (Table 20).

Table 19: Planning to drop activities over the next 12 months for adults who are currently active

	Non-disability active adult sample (n=39,928)	% total non-disability active adult sample (n=39,928)	Disability active adult sample (n=7,763)	% total disability active adult sample (n=7,763)
Already dropped	1,877	5.6	396	5.8
Considering dropping	1,808	5.3	294	4.5
Not considering dropping	36,024	88.5	6,976	88.6
Prefer not to answer	2	0.0	1	0.0
Don't know	228	0.6	96	1.2

n are unweighted, % are weighted

Table 20: Future new physical activity in the next 12 months for adults who are currently active

Consider future new activity next 12mths	Non-disability adult sample (n=39,928)	% total non-disability adult sample (n=39,928)	Disability adult sample (n=7,763)	% total disability adult sample (n=7,763)
-Yes	13,345	36.1	2,299	33.4
-No	25,473	60.9	5,247	63.5
-Prefer not to answer	10	0.0	1	0.0
-Don't know	1,100	3.0	216	3.1

n are unweighted, % are weighted

Of those considering trying a new activity in the next 12 months	N (%weighted) non-disability active adult sample considering participation (n=13,345)	%unweighted total non-disability active adult sample (n=39,928)	N (%weighted) disability active adult sample considering participation (n=2,299)	%unweighted total disability active adult sample (n=7,763)
Top 5 activities considering next 12 months that don't currently participate in	1. Fitness/gym 1,859 (13.0)	4.7	1. Swimming 398 (16.2)	5.1
	2. Swimming 1,604 (11.7)	4.0	2. Fitness/gym 376 (14.5)	4.8
	3. Cycling 934 (6.0)	2.3	3. Cycling 156 (7.3)	2.0
	4. Yoga 859 (6.3)	2.2	4. Yoga 121 (5.8)	1.6
	5. Tennis 714 (5.8)	1.8	5. Walking 94 (3.4)	1.2
Of those who answered the venue where they plan to try new activity	N (%weighted) non-disability active adult sample considering	%unweighted total non-disability active adult sample (n=39,928)	N (%weighted) disability active adult sample considering	%unweighted total disability active adult sample (n=7,763)

	participation (n=9,388)		participation (n=1,525)	
Venue trying new activity				
-all through organisation or venue	4,674 (51.3)	11.7	764 (49.6)	9.8
-some through organisation or venue	508 (5.6)	1.3	92 (6.3)	1.2
-all informal	3,846 (39.4)	9.6	608 (39.6)	7.8
-Don't know	360 (3.8)	0.9	61 (4.5)	0.8
Of those considering trying a new activity in the next 12 months, reasons (motivations) for trying new activity	N (%weighted) non-disability active adult sample considering participation (n=13,345)	%unweighted total non-disability active adult sample (n=39,928)	N (%weighted) disability active adult sample considering participation (n=2,299)	%unweighted total disability active adult sample (n=7,763)
-Part of my job	31 (0.3)	0.1	5 (0.4)	0.1
-For the money	7 (0.0)	0.0	0 (0)	0.0
-Performance or competition	324 (2.5)	0.8	51 (2.2)	0.7
-Fun/enjoyment	4,470 (34.0)	11.2	728 (33.8)	9.4
-Physical health or fitness*	6,411 (46.0)	16.1	1,264 (54.5)	16.3
-Psychological/mental health	890 (6.3)	2.2	162 (6.3)	2.1
-To lose weight/keep weight off*	899 (6.7)	2.3	184 (8.5)	2.4
-Sense of achievement	271 (2.2)	0.7	29 (1.5)	0.4
-Training purposes*	224 (1.8)	0.6	24 (1.0)	0.3
-Way of getting around	130 (0.8)	0.3	31 (1.5)	0.4
-Learn a new skill*	820 (6.9)	2.1	96 (4.0)	1.2
-Hobby*	649 (5.1)	1.6	87 (3.7)	1.1
-Coaching	8 (0.0)	0.0	2 (0.0)	0.0

-Social reason*	2,277 (17.9)	5.7	321 (12.8)	4.1
-Walk the dog	19 (0.1)	0.0	8 (0.3)	0.1
-Physio/ rehab/ postop*	276 (1.8)	0.7	195 (7.7)	2.5
-To be outdoors/ enjoy nature	639 (4.5)	1.6	124 (5.5)	1.6
-Other	3,462 (26.3)	8.7	577 (28.0)	7.4
-No reason in particular*	90 (0.7)	0.2	8 (0.3)	0.1
-Don't know	20 (0.2)	0.1	4 (0.0)	0.1
Type venue or organisation for those considering new activities in a structured venue or organisation	N (%weighted) non- disability active adult sample considering participation in venue/ organisation (n=5,182)	%unweighted total non- disability active adult sample (n=39,928)	N (%weighted) disability active adult sample considering participation in venue/ organisation (n=856)	%unweighted total disability active adult sample (7,763)
-Sports club or association*	2,613 (51.3)	6.5	354 (43.0)	4.6
-Recreation club or association	542 (9.7)	1.4	102 (9.2)	1.3
-Gym/ fitness centre/ leisure centre*	796 (15.4)	2.0	165 (18.7)	2.1
-Private studio e.g. dance, martial arts	391 (7.7)	1.0	52 (7.9)	0.7
-Individual personal trainer or coach	66 (1.3)	0.2	11 (1.4)	0.1
-Events/ fun runs e.g. Parkrun	56 (1.0)	0.1	6 (1.0)	0.1
-Work	15 (0.3)	0.0	4 (0.6)	0.1
-Educational institution	95 (2.1)	0.2	13 (2.0)	0.2
-Community run program*	143 (2.7)	0.4	49 (4.9)	0.6
-Oval/ other public space	199 (3.6)	0.5	41 (4.7)	0.5
-Other*	277 (5.1)	0.7	66 (7.4)	0.9

* significant (p<0.05) difference between groups for weighted percentages (chi2 analysis)

Research aim 6: Barriers and motivations for physical activity participation for currently inactive adults

For adults who were currently not participating in any physical activity for sport, exercise or physical recreation (22% of adults with a disability, 9% of adults without a disability; Table 12), questions were asked to understand what was stopping them from participating and what activities they might like to try in the future. For adults with a disability, 404 indicated they were active in the past 12 months but had stopped (4% of total adults with a disability sample, Table 12). For adults without a disability this number was 826 (2.1% of total adults without a disability sample, Table 12). The main reasons for no longer participating were the same for adults with and without a disability, but the percentage reporting each one was different (Table 21). For adults with a disability the top three reasons were poor health or injury (67%) other reasons (12%) and not enough time (8%). For adults without a disability the top three reasons were not enough time (44%), poor health/injury (19%), and other (18%).

For adults who hadn't participated in any physical activity for sport, exercise or physical recreation in the past 12 months the barriers were different between adults with and without a disability (Table 21). For adults with a disability the top five barriers were poor health or injury (62%), disability (19%), other (10%), increasing age/too old (9%) and not enough time/too many other commitments (9%). For adults without a disability the top five barriers were not enough time/too many other commitments (43%), physical job (17%), other (15%), poor health or injury (11%) and don't like sport/physical activity (8%). Overall for inactive adults with a disability poor injury or health was the number one barrier and for inactive adults without a disability not enough time was the number one barrier to not participating in sport, exercise or recreation (Tables 21 and 22).

For adults with a disability currently not participating in sport, exercise or physical recreation, 608 (29%) indicated they were considering a new physical activity for sport, exercise or physical recreation in the next 12 months. For non-participating adults without a disability, this number was 1,347 (38%) (Table 23). Three of the five top physical activities being considered for both adults with and without a disability were the same (walking, fitness/gym, swimming), with adults with a disability also considering cycling and yoga and adults without a disability also considering athletics and football/soccer. Motivations to start up these new activities were similar between adults with and without a disability with physical health and fitness being the top reason for both groups and fun/enjoyment, other and losing/maintaining weight also being in the top five motivations for both groups (Table 23). Adults without a disability were more likely to indicate social reasons as motivation to become active (12% vs. 8%) and adults with a disability were more likely to indicate physiotherapy/rehabilitation/post-operative recovery and walking the dog as motivations to becoming active (12% vs. 3% and 3% vs. 1% respectively).

Table 21: Previous physical activities and barriers to not doing activities for currently inactive adults who had been active in the past 12 months

	N (%weighted) non-disability inactive adult sample who stopped participation (n=826)	%unweighted total non-disability inactive adult sample (4,180)	N (%weighted) disability inactive adult sample who stopped participation (n=404)	%unweighted total disability inactive adult sample (2,472)
Top 5 answers of main sport or physical recreation that they were doing in the previous year	1. Fitness/gym 200 (25.5)	4.8	1. Walking 161 (37.4)	6.5
	2. Walking 216 (21.6)	5.2	2. Fitness/gym 87 (19.5)	3.5
	3. Athletics 43 (6.9)	1.0	3. Swimming 31 (8.0)	1.3
	4. Football/ soccer 36 (5.5)	0.9	4. Fishing 11 (2.9)	0.4
	5. Swimming 38 (4.6)	0.9	5. Bowls 13 (2.5)	0.5
Reasons (barriers) no longer doing that main activity				
-Not a priority (anymore)*	69 (9.2)	1.7	13 (4.0)	0.5
-Too lazy	39 (5.3)	0.9	15 (3.1)	0.6
-Don't like sport/ physical activity	7 (0.8)	0.2	2 (0.5)	0.1
-Not good enough	0 (0)	0 (0)	0 (0)	0.0
-Disability*	11 (0.9)	0.3	31 (6.8)	1.3
-Poor health/ injury*	195 (19.3)	4.7	276 (66.7)	11.2
-Fear of injury*	11 (0.8)	0.3	2 (0.1)	0.1
-Too competitive	0 (0)	0.0	1 (0.0)	0.0
-Increasing age/ too old	28 (2.2)	0.7	19 (3.7)	0.8
-Not enough time/ too many other commitments*	329 (43.5)	7.9	29 (8.1)	1.2
-No opportunities facilities/clubs in my area	18 (2.3)	0.4	9 (2.2)	0.4
-No transportation/ can't get there	11 (1.0)	0.3	5 (0.6)	0.2
-Pregnancy*	19 (3.1)	0.5	1 (0.3)	0.0
-Looking after child/ infant*	18 (2.4)	0.4	0 (0)	0.0
-Too busy doing child's activities instead of mine*	11 (1.4)	0.3	2 (0.2)	0.1
-Weather	10 (0.9)	0.2	1 (0.7)	0.0
-Can't afford it, can't afford transport	26 (3.6)	0.6	9 (3.1)	0.4

-Not value for money/ not worth it	3 (0.4)	0.1	1 (0.3)	0.0
-Nobody to do it with	4 (0.3)	0.1	1 (0.5)	0.0
-Fear of discrimination	1 (0.5)	0.0	0 (0)	0.0
-Not familiar with activity/ rules	1 (0.2)	0.0	0 (0)	0.0
-No longer interested/ don't like it anymore	19 (2.5)	0.5	5 (2.3)	0.2
-Physical job	19 (3.9)	0.5	5 (2.6)	0.2
-Other*	141(18.1)	3.4	56 (12.4)	2.3
-No reason in particular	14 (1.7)	0.3	4 (1.3)	0.2
-Don't know*	2 (0.0)	0.0	2 (0.7)	0.1

* significant (p<0.05) difference between groups for weighted percentages (chi2 analysis)

Table 22: Barriers to not doing activities for currently inactive adults who had not been active in the past 12 months

Reasons (barriers) why they haven't done any sport, physical recreation or exercise in the past 12 months	N (%) non-disability inactive adult sample who did no recreation PA past 12 months (n=3,355)	% total non-disability inactive adult sample (4,180)	Disability inactive adult sample who did no recreation PA past 12 months (n=2,068)	% total disability inactive adult sample (2,472)
-Not a priority (anymore)*	243 (7.2)	5.8	51 (2.1)	2.1
-Too lazy*	214 (6.7)	5.1	63 (3.1)	2.5
-Don't like sport/ physical activity*	234 (7.5)	5.6	74 (3.6)	3.0
-Not good enough*	10 (0.2)	0.2	1 (0.0)	0.0
-Disability*	45 (1.1)	1.1	416 (18.8)	16.8
-Poor health or injury*	459 (11.2)	11.0	1,315 (61.8)	53.2
-Fear of injury	29 (0.9)	0.7	27 (1.1)	1.1
-Too competitive	0 (0.0)	0.0	1 (0.0)	0.0
-Increasing age/ too old*	322 (6.3)	7.7	267 (9.3)	10.8
-Not enough time, too many other commitments*	1,286 (43.2)	30.8	160 (9.2)	6.5
-No opportunities/ facilities/ clubs in my area	36 (1.0)	0.9	15 (0.9)	0.6

-No transport/ can't get there*	10 (0.3)	0.2	2 (0.0)	0.1
-Pregnancy*	36 (1.9)	0.9	1 (0.1)	0.0
-Looking after child/ infant*	110 (4.3)	2.6	9 (0.3)	0.4
-Too busy doing child's activities to do my own*	73 (2.8)	1.7	9 (0.5)	0.4
-Weather	9 (0.1)	0.2	2 (0.0)	0.1
-Can't afford it/ can't afford transport	35 (1.3)	0.8	14 (0.7)	0.6
-Not value for money/ not worth it	3 (0.0)	0.1	5 (0.2)	0.2
-Nobody to do it with	6 (0.0)	0.1	0 (0.0)	0.0
-Fear of discrimination	0 (0.0)	0.0	0 (0.0)	0.0
-Not culturally appropriate	4 (0.0)	0.1	1 (0.0)	0.0
-Not familiar with activity/ rules	6 (0.2)	0.1	2 (0.1)	0.1
-Physical job*	316 (16.8)	7.6	67 (6.8)	2.7
-Other*	510 (14.9)	12.2	181 (9.8)	7.3
-No particular reason*	237 (6.9)	5.7	38 (1.8)	1.5
-Don't know	9 (0.2)	0.2	2 (0.0)	0.1

* significant (p<0.05) difference between groups for weighted percentages (chi2 analysis)

Table 23: Future physical activity participation for currently non-participating adults

Consider future new activity next 12mths	Non-disability inactive adult sample who answered question (n=3,937)	%weighted non-disability inactive adult sample who answered question	Disability inactive adult sample who answered question (n=2,421)	%weighted disability inactive adult sample who answered question
-Yes	1,347	37.5	608	28.5
-No	2,443	58.1	1,727	67.7
-Prefer not to answer	2	0.0	1	0.0
-Don't know	145	4.4	85	4.2
	n (%weighted) Non-disability inactive adult sample who might consider doing a sport or PA in next 12 months (n=1,347)	%unweighted total non-disability inactive adult sample (4,180)	n (%weighted) Disability inactive adult sample who might consider doing a sport or PA in next 12 months (n=608)	%unweighted total disability inactive adult sample (2,472)
Top 5 answers of main sport or physical activity that they might consider doing	1. Fitness/gym 265 (20.0)	6.3	1. Walking 158 (25.8)	6.4
	2. Walking 271 (17.1)	6.5	2. Fitness/gym 119 (18.8)	4.8
	3. Swimming 153 (12.9)	3.7	3. Swimming 117 (17.8)	4.7
	4. Athletics 69 (5.8)	1.7	4. Cycling 25 (4.0)	1.0
	5. Football/ soccer 45 (4.2)	1.1	5. Yoga 14 (3.4)	0.6
Reasons (motivations) for trying new activity	n (%weighted) Non-disability inactive adult sample who might consider doing a sport or PA in next 12 months (n=1,347)	%unweighted total non-disability inactive adult sample (4,180)	n (%weighted) Disability inactive adult sample who might consider doing a sport or PA in next 12 months (n=608)	%unweighted total disability inactive adult sample (2,472)
-Part of my job	6 (0.6)	0.1	1 (0.3)	0.0
-For the money	1 (0.0)	0.0	0 (0.0)	0.0
-Performance or competition	13 (1.5)	0.3	5 (0.9)	0.2
-Fun/enjoyment	357 (27.2)	8.5	133 (22.2)	5.4
-Physical health or fitness	720 (52.3)	17.2	352 (56.1)	14.2
-Psychological/ mental health	88 (6.4)	2.1	50 (7.9)	2.0

-To lose weight/ keep weight off	181 (14.2)	4.3	87 (11.5)	3.5
-Sense of achievement	13 (0.8)	0.3	8 (1.7)	0.3
-Training purposes	10 (1.0)	0.2	4 (0.4)	0.2
-Way of getting around	8 (0.6)	0.2	8 (1.1)	0.3
-Learn a new skill	18 (1.7)	0.4	9 (1.2)	0.4
-Hobby	50 (4.3)	1.2	19 (3.3)	0.8
-Coaching	0 (0.0)	0.0	0 (0.0)	0.0
-Social reason*	152 (11.8)	3.6	49 (7.9)	2.0
-Walk the dog*	12 (0.6)	0.3	10 (2.8)	0.4
-Physio/ rehab/ postop*	38 (2.7)	0.9	85 (12.1)	3.4
-To be outdoors/ enjoy nature	43 (2.7)	1.0	25 (4.6)	1.0
-Other	289 (20.6)	6.9	137 (24.5)	5.5
-No reason in particular	15 (1.0)	0.4	5 (1.0)	0.2
-Don't know	7 (0.7)	0.2	0 (0.0)	0.0

* significant (p<0.05) difference between groups for weighted percentages (chi2 analysis)

Research aim 7: Non-player roles in sport, exercise and physical recreation.

Both adults with and without a disability reported non-player roles in sport, exercise and physical recreation with adults without a disability being more likely to participate in one of these roles compared to adults with a disability (17% vs. 10%; $p < 0.001$). The three most common roles were the same for both adults with and without a disability with the most common role being coach/instructor/trainer/teacher followed by official/administrator or committee member (Table 24). Adults without a disability were more likely to have a non-player role as a coach/instructor/trainer/teacher role than adults with a disability (47% vs. 42%; $p < 0.001$) and adults with a disability were more likely have a general miscellaneous ad hoc assistance role than adults without a disability (15% vs. 9%; $p < 0.001$).

Table24: Non-player roles in the past 12 months in up to three different sports for adults participating in the *AusPlay* survey

	Adults without disability (n=6,783 reported non-player roles)			Adults with disability (n=824 reported non-player roles)		
	Sport 1 n (%) n=6,783	Sport 2 (%) n=787	Sport 3 n (%) n=194	Sport 1 n (%) n=824	Sport 2 (%) n=88	Sport 3 n (%) n=22
Coach, instructor, trainer or teacher*	2,923 (47.1)	360 (49.6)	93 (53.3)	315 (41.5)	38 (44.2)	13 (63.7)
Official (including referee/umpire, line judge, scorer, timekeeper, starter etc.)	2,043 (29.5)	225 (28.9)	47 (23.4)	245 (29.1)	28 (31.3)	6 (20.0)
Administrator or committee member	1,355 (17.8)	130 (15.3)	35 (16.1)	179 (19.8)	15 (18.8)	3 (7.6)
Team manager or coordinator	832 (12.2)	106 (12.8)	24 (11.6)	80 (11.0)	10 (12.4)	1 (7.5)
Medical support or health & safety	111 (1.7)	11 (1.0)	6 (2.7)	23 (2.4)	2 (2.4)	0 (0)
General miscellaneous ad hoc assistance (setting up, cleaning up etc.)*	672 (9.1)	87 (10.7)	26 (10.1)	118 (14.8)	16 (17.7)	3 (11.0)
Driving team members to training or matches#	41 (0.6)	3 (0.2)	2 (0.5)	3 (0.4)	1 (1.4)	0 (0)
Other	54 (0.8)	13 (1.4)	3 (1.1)	9 (1.0)	2 (2.6)	0 (0)
Don't know	272 (3.8)	32 (3.6)	8 (3.6)	47 (5.8)	2 (2.1)	1 (8.2)

n are unweighted, % are weighted; * significant (p<0.05) difference between groups for weighted percentages for sport 1, # for sport 2 (chi2 analysis)

Discussion

This report includes data from 54,564 Australian adults, of which 15% reported having a disability (i.e. an impairment or limitation restricting their participation in everyday activities). Adults who self-reported a disability, were less likely to meet physical activity guidelines, more likely to report being inactive (i.e. no participation in sport or physical recreation in the past 12 months) and less likely to report participating in paid physical activities than adults who did not report a disability. Walking for recreation was the most common activity participated in by adults with and without a disability and adults with a disability had lower participation rates in sport and higher participation rates in physical recreation activities than adults without a disability across most of the adult lifespan. Inactive adults with and without a disability had similar motivations for wanting to start a new sport or physical recreation, however their barriers to participation were different. Overall this report provides important insights to guide future research, policy and program development to promote greater participation in physical activity for adults with a disability to achieve greater health benefits, improved quality of life and greater societal participation.

The findings from this report provide important insights about participation in sport and physical recreation across adulthood. In particular is the earlier drop in meeting physical activity guidelines of 150 minutes of physical activity per week and earlier increase in being inactive for adults with a disability. From 35 years of age, at least twice the percentage of adults with a disability reported doing no activity compared to adults without a disability. For meeting physical activity guidelines (\geq 150 minutes of physical activity per week), only half or less than half of adults with a disability were meeting physical activity guidelines from 25 years of age whereas this did not happen for adults without a disability until age 80. The percentage of people meeting physical activity guidelines was much lower for adults with and without a disability when the *AusPlay* criteria was applied that more strictly adhered to the national physical activity guidelines (incorporating both frequency and duration requirements and higher requirements for adults 65 years and older)[4].

The use of technology while participating in sport and physical recreation was also lower in adults with a disability aged between 40 to 75 years of age. Technology such as wearable activity trackers and smartphone physical activity apps can be useful for goal setting and self-monitoring, both of which can assist with motivation to increase physical activity[18]. Given participation in regular physical activity has been shown to reduce development of disability by up to 15 years in older women [19], this would suggest that research, policy and program development should look at targeting people with disability early on in their adulthood to establish routines of sustainable physical activity.

As previous studies have reported, demographic factors such as education status, income, and sex influence how much or in what way physical activity is performed, and our findings matched this for adults with and without a disability. However, the amount of physical inactivity was always greater for adults with a disability regardless of education, income or sex. For example, almost twice as many adults with a disability who did not complete year 12 schooling were inactive compared to adults without a disability (35% vs. 18%; Figure 5). Similarly, the sex difference in sport participation was three-fold for adults with and without a disability (with men having higher participation rates), but a substantially lower percentage of men and women with a disability participated in sport than those without a disability (e.g. 30% males without disability vs. 18% males with disability). Even when our statistical analysis accounted for education, income and sex, there was still a significant difference between adults with and without a disability in their physical activity participation. This suggests specific strategies and programs need to be developed, evaluated and made available for people with a disability to increase physical activity participation rates.

For both adults with and without a disability, walking was the most common physical activity participated in. This is not surprising given it is a free activity, can usually be done close to home and is flexible in its dose (i.e. distance, speed, duration) and structure (e.g. performed alone or in a group or with a pet). However, given fun/enjoyment was the third highest reported motivator in the *AusPlay* survey for inactive adults with a disability to want to try a new physical activity, finding ways for adults with a disability to participate in community walking activities may increase enjoyment and therefore be an effective strategy for increasing sustained physical activity participation. Examples of community walking activities include Heart Foundation Walking groups here in Australia (<https://walking.heartfoundation.org.au/>) and parkrun events all around the world (<https://www.parkrun.com/>). A current project in the United Kingdom called PROVE (parkrun: running or volunteering for everyone) is evaluating strategies to increase participation in parkrun by people with a range of health conditions (e.g. people with diabetes) or impairments (e.g. people with vision or hearing impairments)[20]. Strategies that have been implemented and are being evaluated include introducing 'champion roles' for different health conditions, Facebook support groups and development of resources on inclusiveness. Such strategies are likely to also work here in Australia.

Many of the activities that adults with a disability commonly participate in are commonly performed at community-based facilities (e.g. aquatic centre, golf club, yoga studio). Although most national and state sporting organisations have policies around "inclusion" [21], many local sporting and physical recreation organisations do not offer specific opportunities for people with a disability. A recent mixed methods study conducted by our team evaluated web-based information on sporting opportunities for people with a physical disability at national, state (NSW) and four Sydney local government areas[22]. We found fewer mentions of opportunities for people with

physical disability as the focus moved from national (38/43; 88%) to state (23/33; 70%) to local (31/73; 40%) sporting organisation websites. This confirms previous findings [23] and anecdotal reports about the difficulty of identifying inclusive physical activity opportunities and highlights the need for further work by physical activity providers and government organisations to ensure appropriate physical activity opportunities are offered and promoted.

The final point to discuss from the findings of this report is in relation to the barriers to physical activity participation for adults with a disability. Unlike adults without a disability who reported time as their number one barrier to being physically active, adults with a disability reported injury or poor health as their number one barrier with 62% of inactive adults with a disability reporting this barrier. One strategy to help overcome this barrier may be for health professionals such as physiotherapists to play a greater role in education and in prescribing appropriate community-based physical activity for people with a disability. Physiotherapists are experts in movement science, have detailed knowledge of the pathologies of a range of health conditions and are experienced working with people with a disability. Physiotherapists are therefore well positioned to provide education about how physical activity can help rather than worsen their health condition, and also provide recommendations of appropriate physical activity opportunities or how to adapt other less suitable opportunities so that people with a disability can participate safely without exacerbating their health condition. This strategy requires effective partnerships and communication across health, disability and community sectors with frameworks such as the Transformative Exercise Framework [24, 25] useful as a starting point for considering how this could work.

A few limitations of this report should also be acknowledged. Most importantly, there are no data on the type of disability experienced by people in this survey who identified as having a disability. As such, the interpretation of the results is limited to broadly considering adults with a disability and lacks the fine grain of better understanding participation rates, patterns and motivators and barriers to participation of people with different types of disability and levels of support needs. Related to this, adults with a disability who could not verbally communicate would have been excluded from the *AusPlay* survey and also this analysis and therefore the results cannot be generalised to adults with this type of disability. The other limitation to note is that these data only reflect participation in physical activity within the leisure domain and as such a full picture of physical activity participation (including physical activity undertaken for transport, household activities and work-related activities) is not possible. Despite these limitations, this report provides data on over 10,000 adults reporting a disability living throughout Australia and thus provides strong evidence to confirm adults with a disability are more inactive than adults without a disability and therefore requires action at all levels to address this discrepancy.

Conclusion

In summary adults with a disability are less active and are less likely to participate in physical activity to a level that maximises their health. Their pattern of participation in sport and physical recreation is different from adults without a disability and further research is required to better understand these differences and whether they are due to preferences for physical recreation over sport or due to a lack of access and local sporting opportunities. We therefore make the following recommendations for ongoing research and policy and program development to better support adults with a disability to be more physically active.

Research recommendations:

- We recommend the addition of two questions to the *AusPlay* national survey if the responder answers yes to the “disability for greater than 6 months” question on the type of disability (e.g. physical, intellectual, hearing, vision) and support level required. These two factors have been shown in previous research to impact on physical activity participation and would add better understanding of the participation rates and needs of people with different disability types and levels.
- Quantitative and qualitative studies are needed to better understand adults with a disability preferences and experiences for participating in sport and/or physical recreation activities. This will help to ensure that new programs that are funded meet the preferences of adults with a disability.
- Rigorous methodologies are needed to evaluate interventions aimed to support adults with a disability to increase physical activity. Such interventions may include the use of peer support, volunteer programs, health professional advice and support, and health coaching.

Policy and program implications & Recommendations:

- Given the early drop off in leisure-time physical activity participation by adults with a disability compared to adults without a disability, disability and physical activity organisations should ensure they are offering programs suitable and of interest to younger adults in their 20’s, 30’s and 40’s. This earlier engagement in physical activity may help to establish routines of sustainable physical activity and therefore lead to improved health into older age.
- Similarly, given the low participation rates of women in sport, it is likely sporting organisations are looking for ways to better include women in sport. As part of this work, specific approaches should contain strategies for how to include women with a disability.
- Successful inclusive and disability-specific programs exist in Australia and internationally. These programs should be evaluated to understand what has made them successful and

then funding should be available to replicate and evaluate these programs to determine suitability for broader roll-out.

- Effective partnerships between health, the disability sector and community physical activity providers (including national, state and local sporting organisations) should be encouraged to ensure safe, affordable and effective inclusive programs and/or disability specific programs are on offer for people with different types of disability and support needs.

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