

Adults with autism

Observational study of general health status
in a whole country population

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- Existing research
- Scotland's Census 2011
- Main findings
- Conclusions

General health status in adults:

- most health evidence relates to children and young people;
 - only 2 published studies investigating general health status in adults with autism;
1. small Taiwanese study of 30 men and 11 women with autism without ID aged 20-37 years:
 - adults with autism:
12.2% extremely bad health, 14.6% bad, 39.0% not bad/not good, 17.1% good, 17.1% as extremely good;
 - non-autism gender matched control group:
0% extremely bad health, 7.3% bad, 31.7% not bad/not good, 46.3% good, 14.6% extremely good;¹
 2. USA longitudinal study of 180/406 adults with autism aged 23-60 years, 52% of whom also had ID:
 - data collected from mothers in 2011-2012;
 - 144 (80.0%) reported good/very good physical health, but no general population comparison.²

1. Lin, L.-Y. (2014). Quality of Life of Taiwanese Adults with Autism Spectrum Disorder. *PLoS ONE* 9(10): e109567.
2. Bishop-Fitzpatrick, L., Hong, J., Smith, L. E., Makuch, R. A., Greenberg, J. S., & Mailick, M. R. (2016). Characterizing Objective Quality of Life and Normative Outcomes in Adults with Autism Spectrum Disorder: An Exploratory Latent Class Analysis. *Journal of Autism and Developmental Disorders*, 46, 2707-2719.

About the Census

- held once every 10 years by the National Records of Scotland
- a snapshot of all people in Scotland on one night
- Scotland's Census 2011 was held on 27th March 2011
- autism was self/proxy-reported
- 94% response rate with remaining 6% imputed

Analysis

- descriptive statistics for the population with and without autism
- logistic regressions with odds ratios (OR; with 95% confidence intervals) of autism predicting poor health in the whole population, adjusted for age and gender
- ORs for age and gender predicting poor health within the population with autism
- five age groups of 25-34, 35-44, 45-54, 55-64 and 65+, with 25-34-year olds as the reference group
- gender was a binary variable, with males as the reference group
- SPSS software version 22

How is your health in general?

- Very good
- Good
- Fair
- Bad
- Very bad



Poor health

Study population:

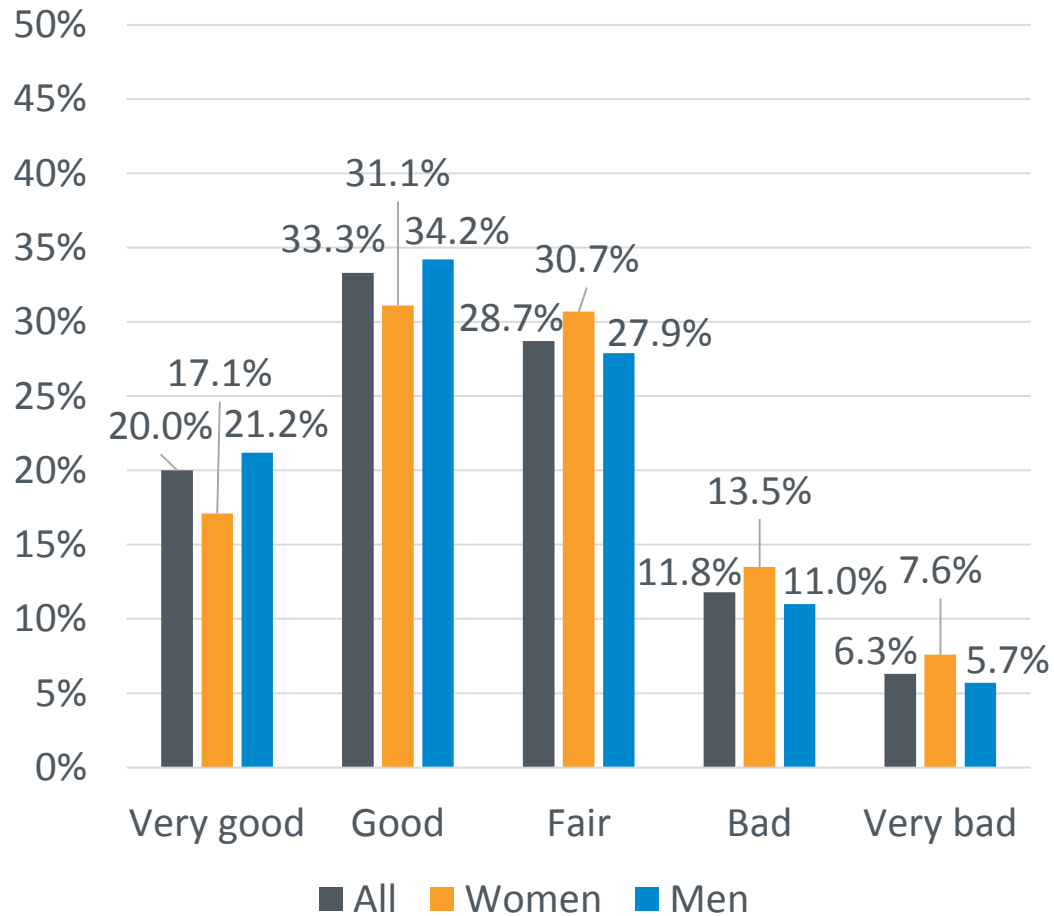
- 5,295,403 people;
- 3,746,584 adults aged 25+:
 - 6,649 (0.2%) with autism;
- 1,776,845 (47.5%) males and 1,963,090 (52.5%) females without autism;
- 4,610 (69.3%) males and 2,039 (30.7%) females with autism.

Prevalence of autism in adults aged 25+

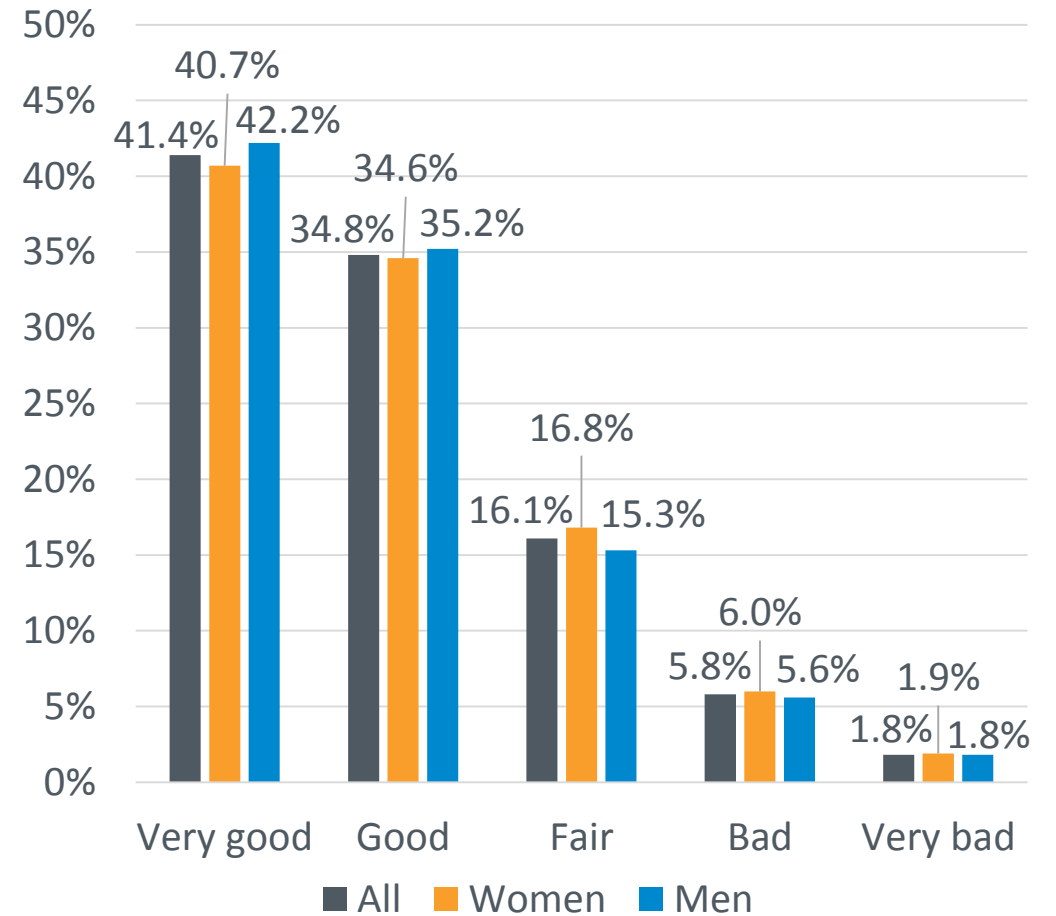
Age group	All adults			Adults with autism		
	Total N=3,746,584	Women N=1,965,129	Men N=1,781,455	Total N=6,649	Women N=2,039	Men N=4,610
25-34y	667,327	338,720	328,607	2,389 (0.36%)	636 (0.19%)	1,753 (0.53%)
35-44y	734,754	377,084	357,670	1,588 (0.22%)	471 (0.12%)	1,117 (0.31%)
45-54y	786,756	402,239	384,517	1,267 (0.16%)	377 (0.09%)	890 (0.23%)
55-64y	667,413	340,491	326,922	707 (0.11%)	233 (0.07%)	474 (0.14%)
65+y	890,334	506,595	383,739	698 (0.08%)	322 (0.06%)	376 (0.10%)

General health status in the population of adults aged 25+

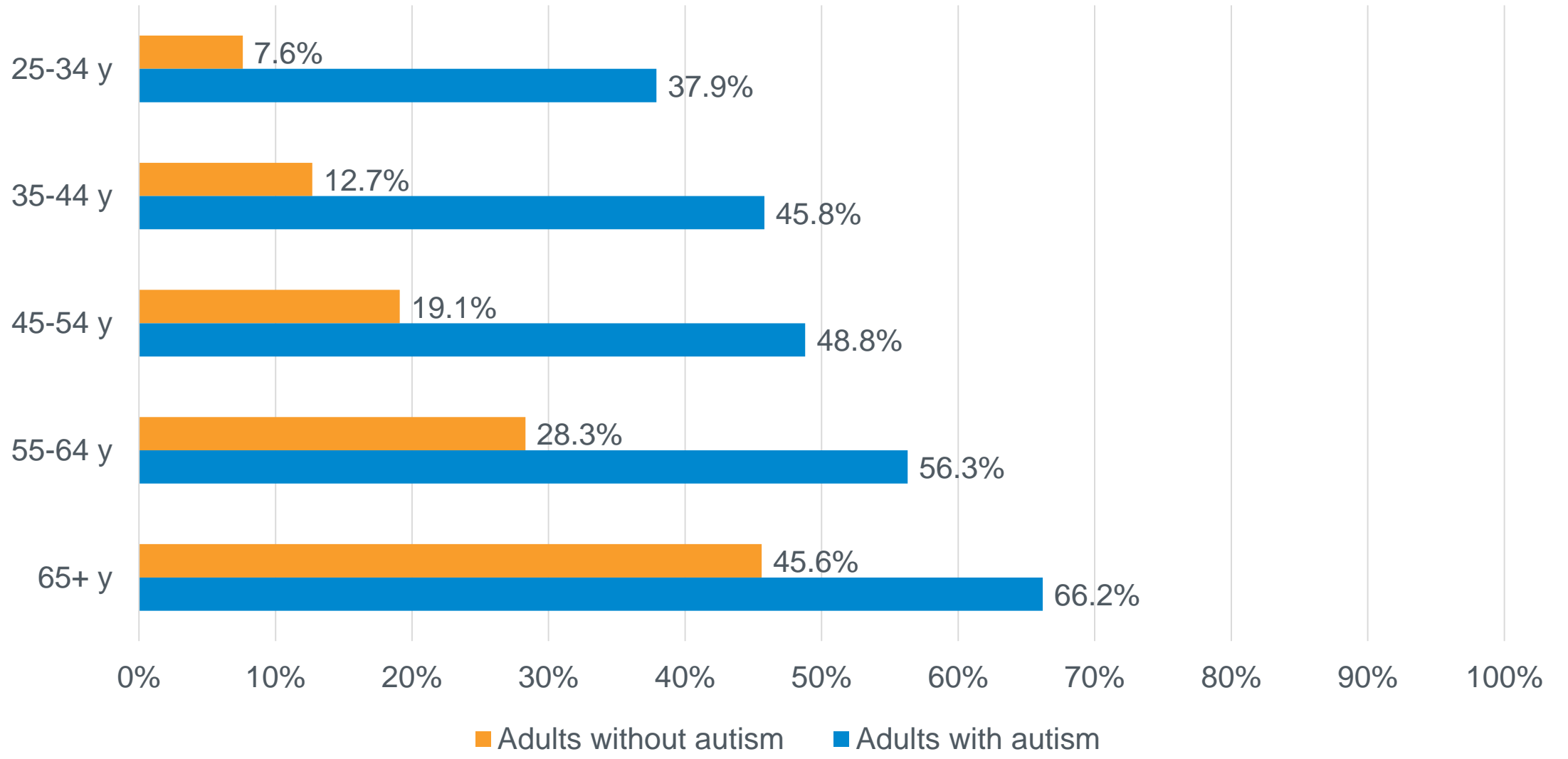
Health of adults with autism



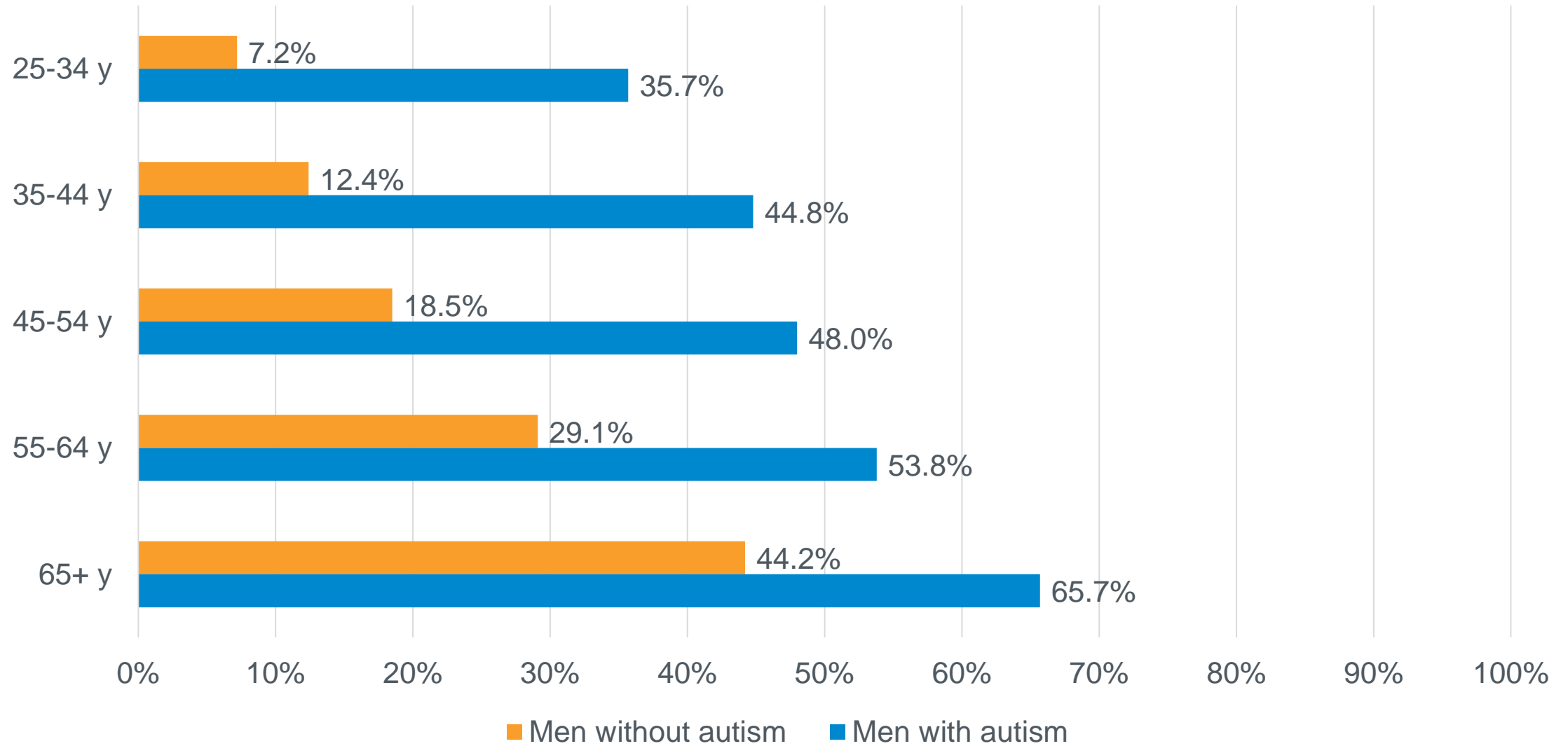
Health of adults without autism



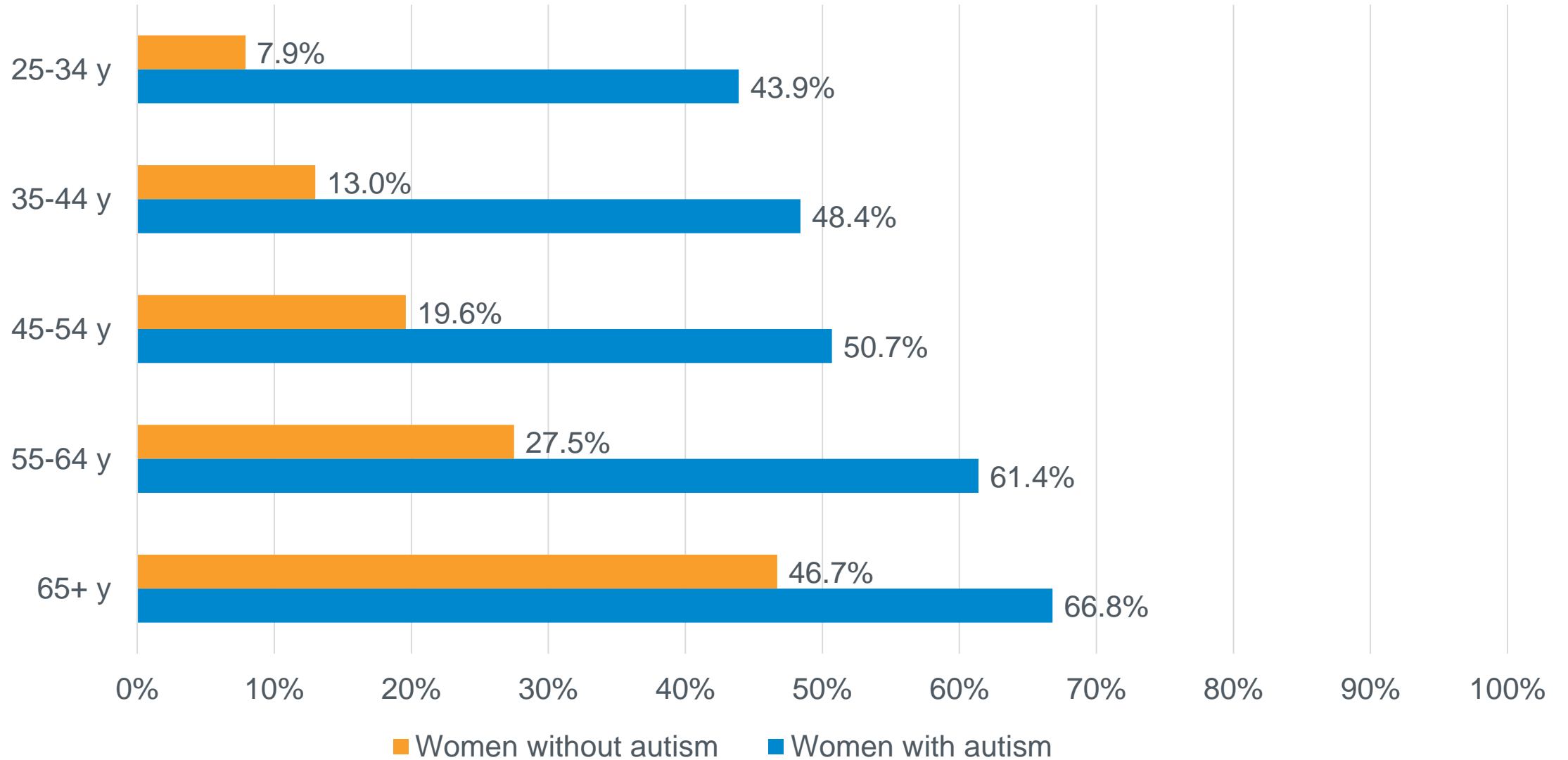
Proportion of adults aged 25+ with and without autism reporting poor health by age



Proportion of men aged 25+ with and without autism reporting poor health by age



Proportion of women aged 25+ with and without autism reporting poor health by age



Odds ratio of autism, age, and gender in predicting poor health in the whole population of adults aged 25+

Variable	Regression 1		Regression 2 (including the interaction term: age x autism)	
	OR	95% CI	OR	95% CI
Autism	5.149	4.891-5.420	7.537	6.935-8.190
Aged 35-44	1.775	1.755-1.796	1.782	1.762-1.802
Aged 45-54	2.859	2.829-2.890	2.873	2.843-2.904
Aged 55-64	4.788	4.738-4.839	4.811	4.761-4.862
Aged 65+	10.167	10.067-10.269	10.216	10.114-10.318
Female gender	1.051	1.046-1.057	1.052	1.046-1.057
Age x autism Aged 35-44	-	-	.778	.684-.885
Age x autism Aged 45-54	-	-	.543	.473-.623
Age x autism Aged 55-64	-	-	.438	.369-.519
Age x autism Aged 65+	-	-	.311	.261-.372

CI: confidence intervals; OR: odds ratio

Odds ratio of age and gender in predicting poor health
in the population of adults with autism aged 25+

Variable	Odds ratio	95% confidence interval
Aged 35-44	1.380	1.213-1.570
Aged 45-54	1.553	1.353-1.782
Aged 55-64	2.088	1.761-2.475
Aged 65+	3.089	2.585-3.693
Female gender	1.235	1.110-1.374

Conclusions

- only one existing study on general health of adults with autism drew comparisons with the general population but was small scale, with a non-representative sample (only young adults and without ID);¹
- poor health more than 5 times more likely in adults with autism;
- influence of autism on poor health is even greater than that of older age in the whole population (OR=7.5);
- women had poorer health status than men, particularly women with autism.

1. Lin, L.-Y. (2014). Quality of Life of Taiwanese Adults with Autism Spectrum Disorder. *PLoS ONE* 9(10): e109567.

**Thank
You.**



If you would like to find out more, please email
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