

Leisure Participation among Children with Autism Spectrum Disorders from Childhood through Adolescence

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Recreation & Leisure

- ▶ Participation in leisure activities is important for physical health, mental health and well-being (Potvin, Snider, Prelock, Kehayia, & Wood-Dauphinee, 2013)
- ▶ **Leisure** = time spent without demands of survival activities, outside of school and sleep



Leisure & Quality of Life

- ▶ Engagement in leisure activities is significantly correlated with quality of life (QOL) in individuals with autism spectrum disorders (ASD; Billstedt et al., 2011)
 - ▶ QOL among individuals with ASD has been consistently found to be lower than that of typically developing individuals in studies across the age span from childhood to adulthood (Barneveld, Swaab, Fagel, Van Engeland, & Sonnevile, 2014; Ikeda, Hinckson, & Krageloh, 2014; Potvin, Snider, Prelock, Wood-Dauphinee, & Kehayia, 2015)
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Previous Participation Studies

- ▶ Lower participation in leisure in children, adolescents and adults with ASD
- ▶ Various strategies for categorizing leisure activities among studies
- ▶ No studies examined participation changes across the age range from elementary school through high school
- ▶ No studies examine a database as large or as broad as in this study



Research Question

- ▶ How does the trajectory of leisure participation from age 5 to 17 compare between children with and without autism spectrum disorders?



National Survey of Children's Health 2016 (NSCH)

- ▶ Parent/caregiver responses
- ▶ United States population (all 50 states) of non-institutionalized children ages 0-17 years
- ▶ Data collected June 2016 through February 2017



Study Sample

- ▶ Age 5-17 without intellectual disability
- ▶ 5 age groups: 6-8, 9-11, 12-13, 14-15, 16-17
- ▶ Sample size = 35,280
 - ▶ ASD sample was 823 (2.33%)
 - ▶ Control was 34,457
- ▶ Data were weighted to reflect US population
 - ▶ US population ASD prevalence rate was estimated as 2.14% ($n=1,051,666$ children)
 - ▶ Boy prevalence rate = 1.79%, $n=880,938$
 - ▶ Girl prevalence rate = 0.34%, $n=170,728$



Leisure Activity Categories

9 survey items, 5 categories

- ▶ **Physical (1)** – days in past week exercised, played a sport, or participated in physical activity for at least 60 minutes
- ▶ **Recreational (2)** – average weekday time spent in front of a TV watching TV programs, videos, or playing video games, computers, cell phones, handheld video games, and other electronic devices, doing things other than schoolwork



Leisure Activity Categories

- ▶ **Social (2)** - ate a meal together with family, participated in clubs or organizations after school or on weekends
- ▶ **Skill (2)** – participated in organized activities or lessons, such as music, dance, language, or other arts, sports team or take sports lessons
- ▶ **Jobs/Chores (2)** – participated in paid work, community service or volunteer work at school, church, or in the community



Covariates

- ▶ **Sex** (boy, girl)
- ▶ **Race/ethnicity** (non-Hispanic white, non-Hispanic black, Hispanic, and other)
- ▶ Having **Attention Deficit Disorder (ADD)** or **Attention Deficit/Hyperactivity Disorder (ADHD)** (yes, no)
- ▶ Current **health insurance** (yes, no)
- ▶ Living in **working poor family** defined by incomes less than 100% of the federal poverty level (yes, no)
- ▶ Highest **level of educational** attainment of adult in household (1=less than high school to 4=college degree or higher)



Covariates (cont)

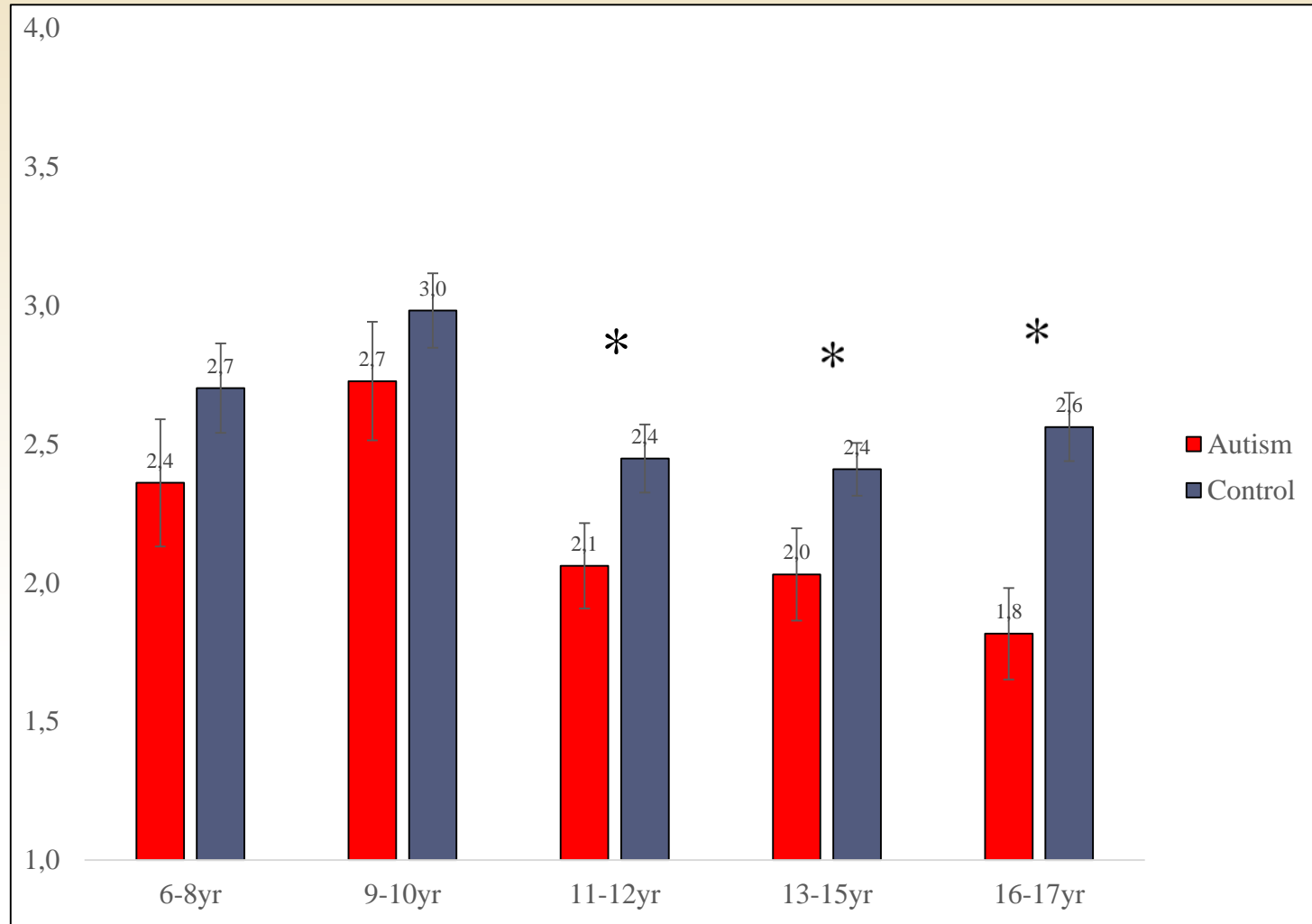
- ▶ Overall **health status of mother** (excellent/very good, not)
- ▶ Overall **health status of father** (excellent/very good, not)
- ▶ **Supportive neighborhood** (yes, no)
- ▶ **Safe neighborhood** (1=definitely agree to 4=definitely disagree)



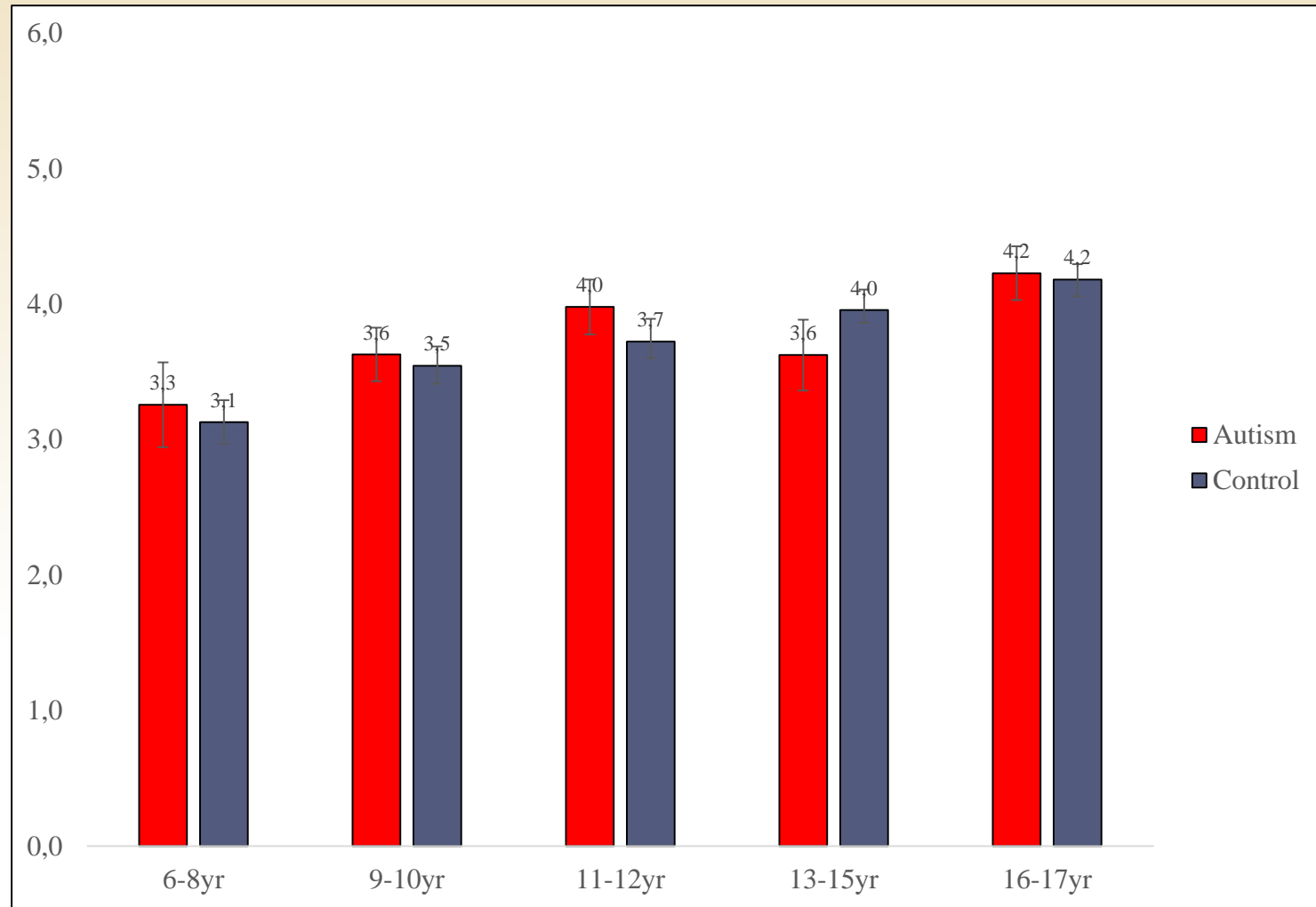


Results

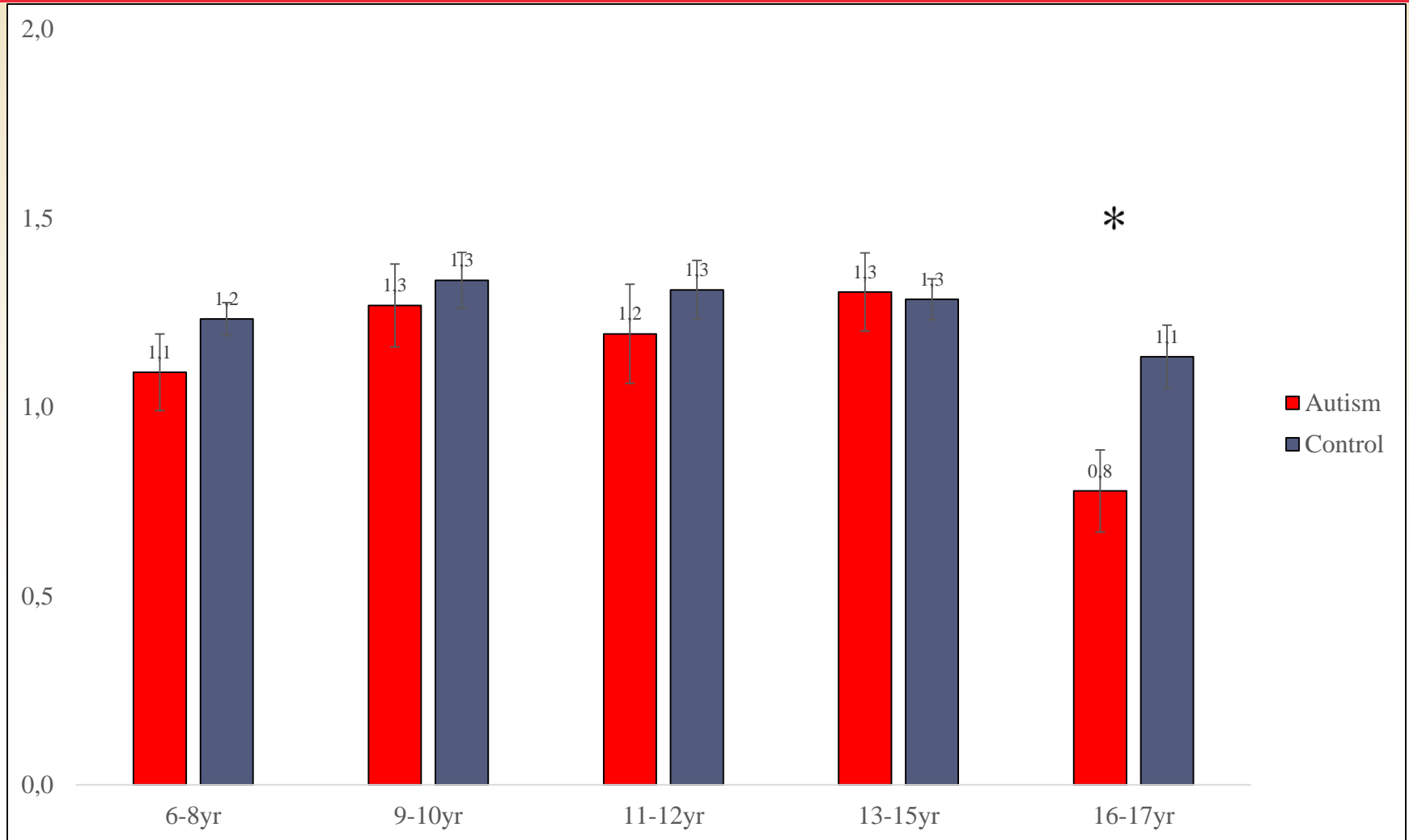
Physical Activities



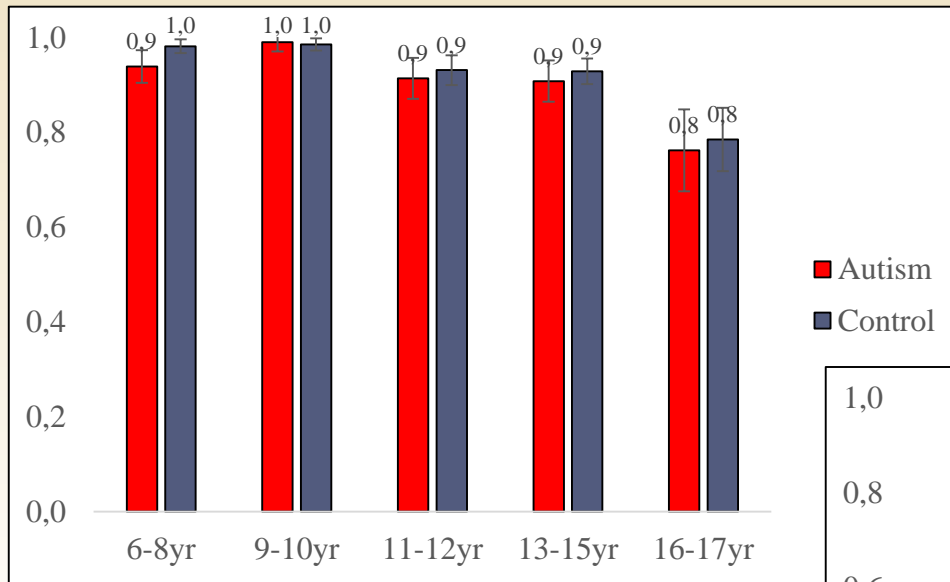
Recreational Activities



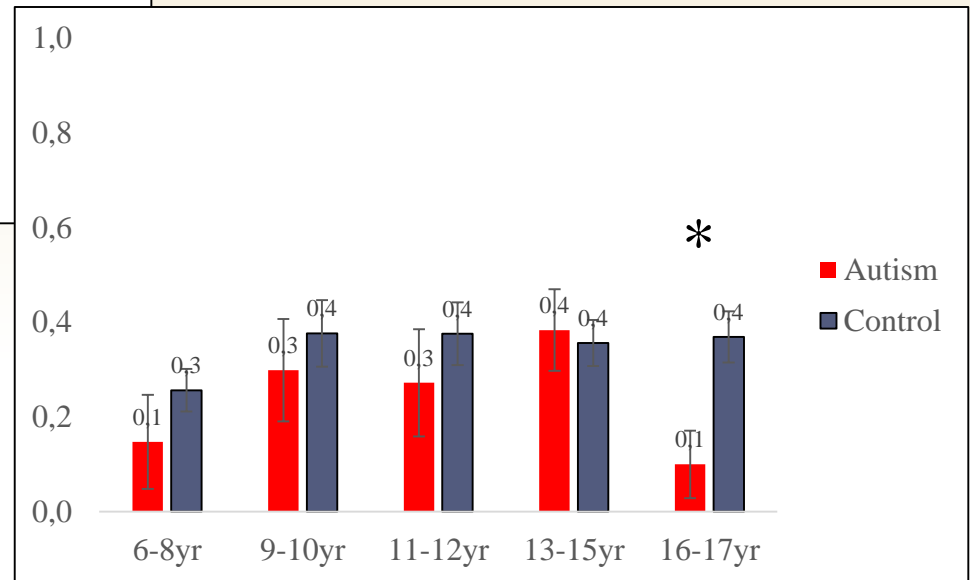
Social Activities



Social Activities

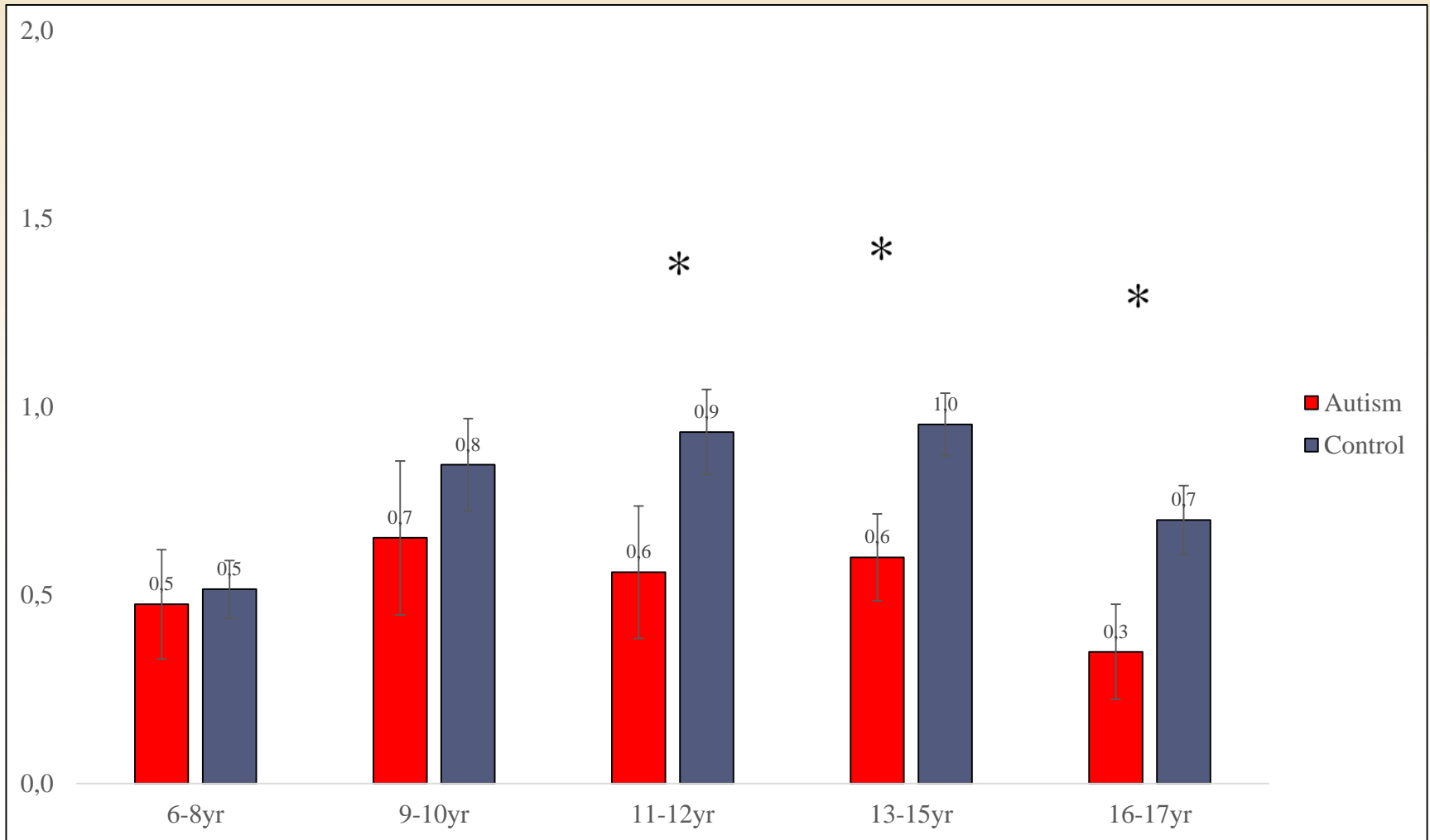


Eat Meal Together

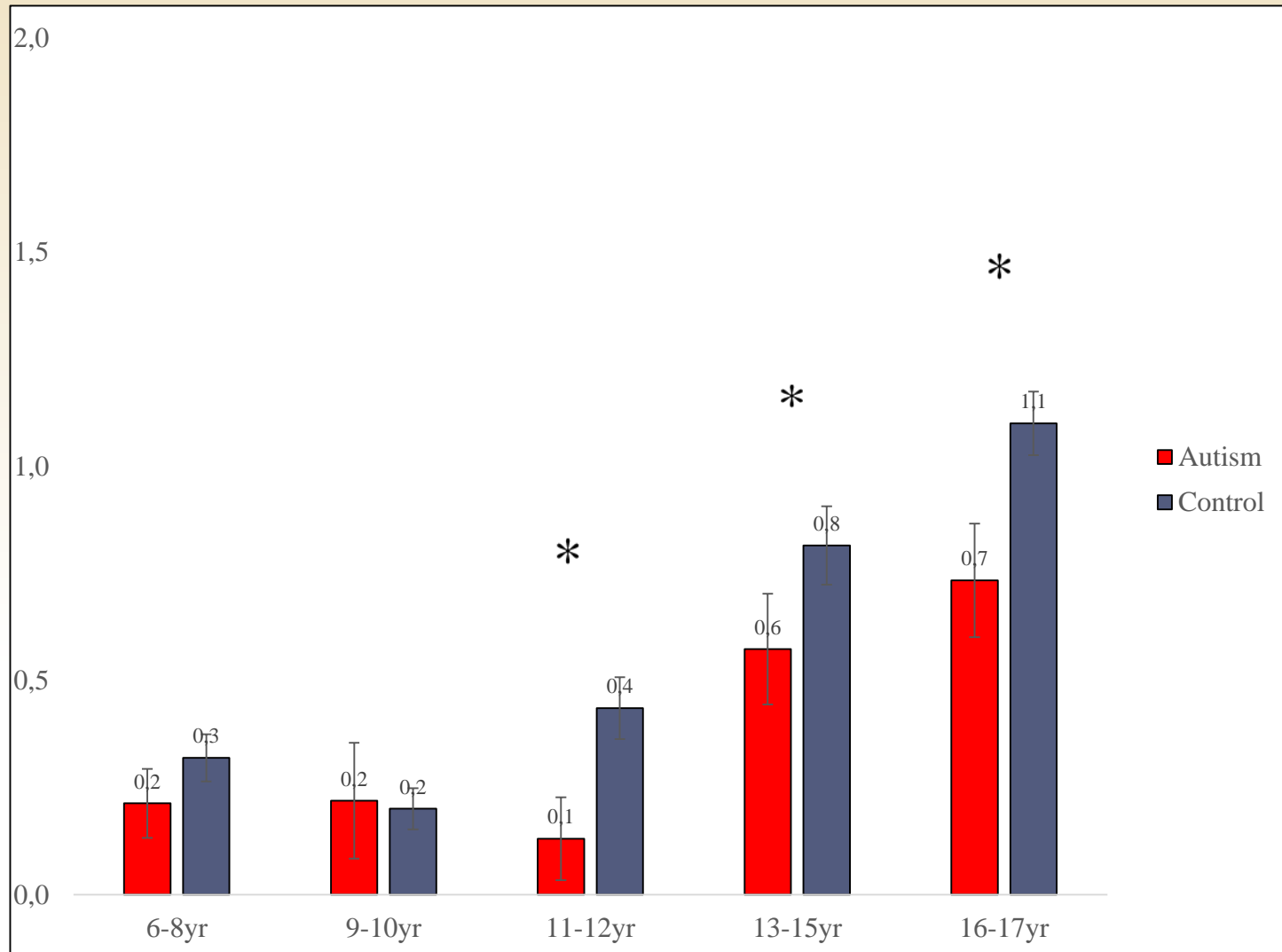


Clubs/Organizations after School

Skill Activities



Jobs / Chores



Discussion

▶ Physical

- ▶ Possibly younger ages were not significantly different because all of the children participated in some type of physical activity, but was not captured in this analysis because of the limited number of items in the survey

▶ Recreational

- ▶ No differences in these sedentary activities is consistent with previous studies, with them being among the most popular for both groups



▶ Social

- ▶ Limited number of items may not have captured the differences at younger ages

▶ Skill

- ▶ Parents may have more control in younger children

▶ Jobs/chores

- ▶ Suggests that disparities start at age 11 that contribute to greater disparities into adulthood



Overall

- ▶ Children with ASD generally do less than controls in most non-sedentary leisure activities
- ▶ Disparity increases among physical, social, skill, and jobs/chores leisure participation for children and youth with ASD in adolescence
- ▶ Eventually leads to limited participation in adult activities, such as employment, living independently, and attending college.



Study Limitations

- ▶ Use of a large data set limited the number of participation items that were included in the analysis
- ▶ Questions were answered by parent report, so had the potential for misunderstanding or bias
- ▶ Survey data did not allow for respondents to ask questions to clarify their understanding of items



Study Strengths

- ▶ Data were gathered about children from age 5 to 17, so allowed for examination of the trajectory of leisure participation across this age span for children with ASD
- ▶ Use of a large data set represented children's behavior from the whole country increasing its generalizability
- ▶ Data were weighted to represent the population of the country
- ▶ A large number of respondents increase the generalizability of the study results
- ▶ Many potential covariates were controlled for in the analysis



Implications for Occupational Therapy

- ▶ Participating in a range of leisure occupations is important for well-being.
- ▶ Children with ASD participate less in most leisure activities than children without ASD.
- ▶ The gap becomes greater in adolescence.
- ▶ Intervention at an early age is important to facilitate participation in physical, social, skill-based, and jobs/chores activities for overall well-being and to promote development of skills that contribute to adult competencies.



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