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Factors Impacting Age of Diagnosis of Autism Spectrum Disorder

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Binghamton University Autism Lab - Institute for Child Development



Factors Impacting Age of Diagnosis of Autism Spectrum Disorder

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Introduction

Background

- The average age of diagnosis for Autism Spectrum Disorder (ASD) is around 2 years of age (Chawarska, Klin, Paul, & Volkmar, 2007).
- Age of diagnosis of ASD is impacted by demographic variables such as parental income, gender, and race (Fountain, King, & Bearman, 2011).
- Research lacks information on how system-level factors impact the age of ASD diagnosis.

Study Aim

- Examine the impact of demographic variables and system-level factors on the age of ASD diagnosis

Method

Materials and Procedures

- Online parent report survey about their children ages 6-17
- Data taken from a larger parent report study on bullying

Table 1 Demographics

Demographics (n=105)	Sample Size
Race	
White	77
American Indian	2
Asian	2
Black	4
Hispanic	12
Multiracial	8
Gender	
Male	83
Female	22
Had developmental services	87

Results

Significant Findings:

- Children receive a later ASD diagnosis if they live in the Midwest United States ($\beta=2.24$, $p<.05$) or another country ($\beta=4.08$, $p<.05$) compared to the Northeast.
- Age of diagnosis was later for diagnoses by psychologists compared to pediatricians ($\beta=1.54$, $p<.05$), or in cases of co-occurring mood disorders ($\beta=3.02$, $p<.01$).
- Children who received developmental services (Occupational Therapy, Physical Therapy, Speech Therapy) were diagnosed earlier ($\beta=-1.93$, $p<.05$)

Results Continued

Table II Regression Analysis Table

Factor	Coef.	SE	t	p	95% CI
Diagnostician					
Psychologist	1.54	0.79	1.96	0.05	-.02, 3.10
Geographic location					
South	-0.24	0.85	-0.29	0.78	-1.92, 1.44
West	-0.07	0.93	-0.08	0.94	-1.93, 1.77
Another country	4.07	1.57	2.60	0.01	.96, 7.19
Midwest	2.24	0.96	2.32	0.02	.32, 4.15
Child Demographics					
Female	0.36	0.82	0.40	0.69	-1.30, 1.96
SRS	0.01	0.02	0.26	0.80	-.03, .04
Adaptive	-0.01	0.08	-0.09	0.93	-.16, .15
Race Condensed	0.75	0.72	1.05	0.29	-.68, 2.19
Mood disorders	3.02	0.99	3.04	0.01	1.04, 5.01
Developmental services	-1.93	0.88	-2.20	0.03	-3.68, -.18

Note: Final model also controls for nonsignificant predictors, anxiety disorders, eating disorders, externalizing disorders, intellectual disorders, learning disorders, PTSD, schizophrenia, Tourettes, race/ethnicity, income level, physician diagnostician, psychiatrist diagnostician, other diagnostician, parent education level, parent income level

Figure 1: Mean Age of Diagnosis of ASD by U.S. geographic region

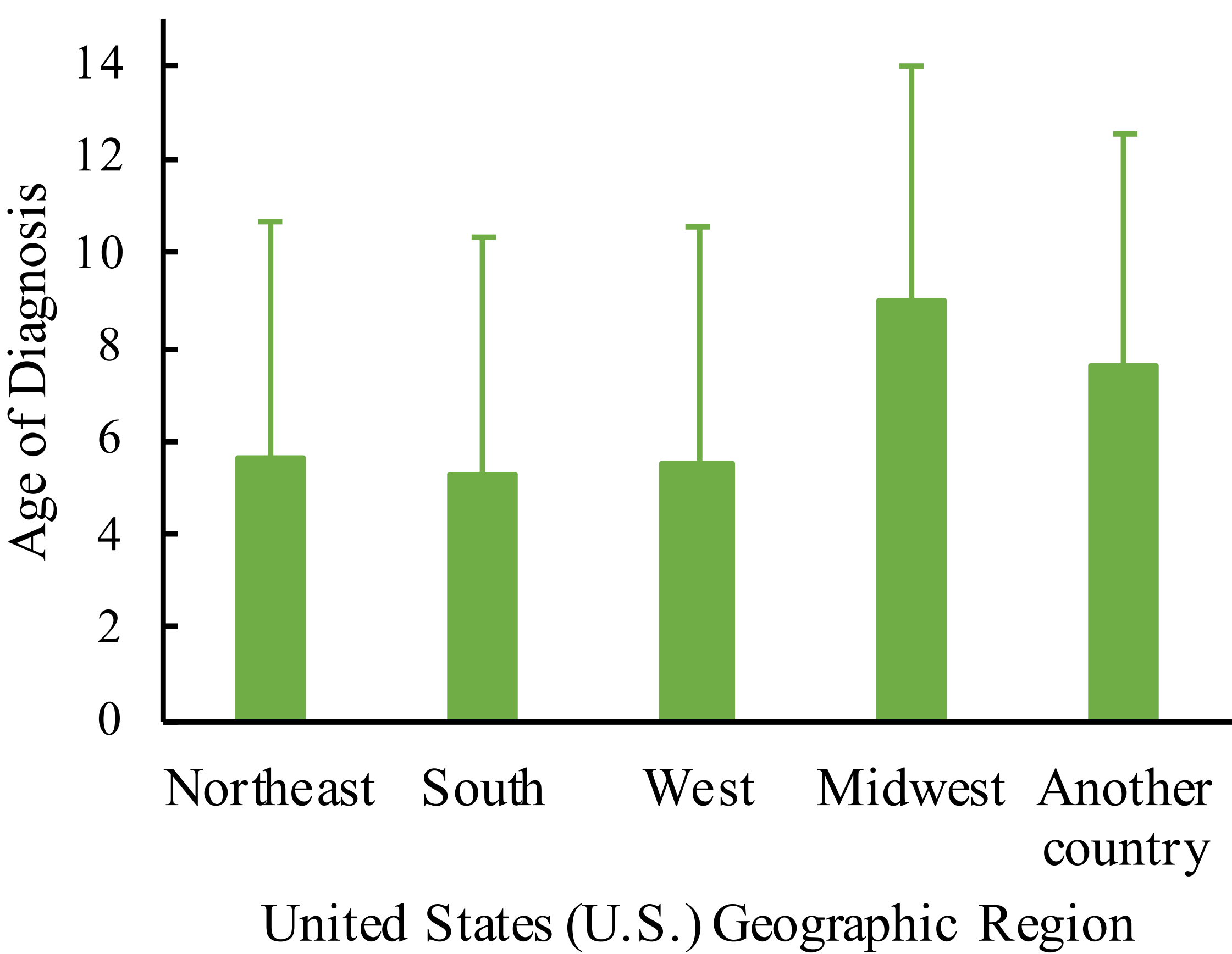
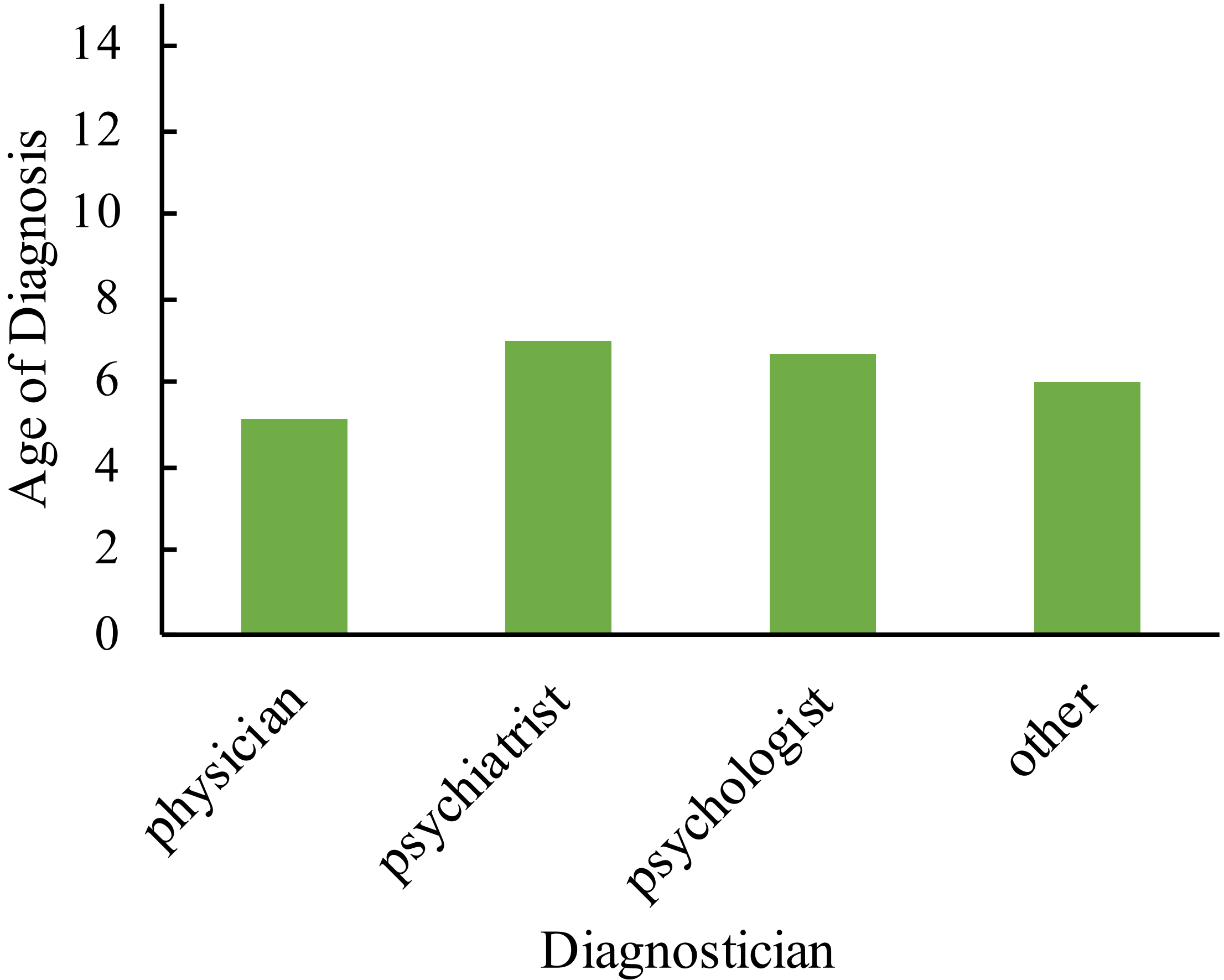


Figure 2: Mean Age of Diagnosis of ASD by Diagnostician



Discussion

- Contrary to past research, demographic factors, ASD symptom severity, and adaptive functioning level did not predict variance in child age of diagnosis (Sheldrick, Maye, & Carter, 2017; Nowell, Brewton, Allain, & Mire, 2015), suggesting that studies may have overlooked the system-level factors resulting in an attribution to demographics.
- Children who live in another country or the Midwest are diagnosed later, suggesting there are geographic trends in the age of diagnosis of ASD (Adelman & Kubiszyn, 2017).
- Since the diagnostician, developmental services, and geographical location affect age of diagnosis, it is imperative to look at the steps taken to diagnosis a child, not just their demographics.
- Children with a mood disorder diagnosis are diagnosed with ASD on average 3.17 years later than children with no co-occurring DSM-5 diagnoses, suggesting a diagnostic overshadowing (Rosen, Mazefsky, Vasa, & Lerner, 2018).

Limitations

- Parent reports may omit relevant information relevant to diagnosis.
- State requirements for developmental services before ASD diagnosis vary.

Future Research

- Investigate the relation between having developmental services and ASD diagnosis depending on the state in the United States.

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