Autism Knowledge Survey-Revised:

Comparison of Knowledge across Role and Experience

Erin Ables, Iryna Ashby, and Naomi Swiezy

HANDS in Autism Program, Indiana University School of Medicine

INDIANA UNIVERSITY
DEPARTMENT OF PSYCHIATRY
School of Medicine

Riley Hospital for Children
Christian Sarkine Autism Treatment Center

Introduction

Approximately one in every 110 children in the United States has an autism spectrum disorder (ASD), and the prevalence rate continues to increase nationwide (1). Due to this increased prevalence, there exists a growing need to ensure that individuals working with autism are knowledgeable about the causes, characteristics, treatments, and outcomes of the condition. In particular, caregivers (2), medical professionals (3), educators (2), and licensed therapists (4) need to stay apprised of current developments in the field to best facilitate diagnosis, treatment planning, collaboration, and overall outcomes for individuals with an ASD.

The current study aims to examine differences in knowledge of ASDs across disciplines and years of experience. The Autism Knowledge Survey-Revised (AKS-R) was developed as a revision based on Stone's 1987 Autism Survey (4). The AKS-R is updated to reflect the current state of the field and assesses participants' general knowledge of ASDs. By assessing and comparing understanding of ASDs across groups, common misconceptions can be identified and trainings that target these knowledge gaps can be developed and implemented, likely resulting in better outcomes for individuals with ASDs.

Hypotheses

- Individuals with more years of experience with ASDs will score higher on the AKS-R.
- Although findings regarding differences across disciplines is largely exploratory, it was hypothesized that licensed therapists would score higher on the AKS-R than medical professionals, educational personnel, and caregivers due to their background and experience in diagnoses and symptom presentation.

Method

Participants

- 697 participants (average age: 38.67 ± 10.51 years) completed the AKS-R survey
- Participants' roles
  - 329 caregivers of individuals with an ASD
  - 217 educational personnel
  - 100 medical professionals
  - 51 licensed therapists
- Participants' years of experience working with individuals with an ASD
  - 29 with no experience
  - 117 with less than two years of experience
  - 193 with two to five years of experience
  - 358 with five or more years of experience

Measure and Procedure

- Participants were recruited through conferences, awareness events, email listservs, online announcements, and paper copies distributed at an autism specialty clinic.
- Participants completed either a hard copy or electronic version of the AKS-R, a 20-item survey consisting of statements regarding ASDs, including etiology, diagnosis, interventions, treatments, and outcomes (see Table 1).
- Participants rated their agreement with each statement on a 6-point scale of Fully Agree, Mostly Agree, Somewhat Agree, Somewhat Disagree, Mostly Disagree, and Fully Disagree.
- Responses were coded with lower numbers (1 – 3) reflecting agreement with the statement and higher numbers (4 – 6) reflecting disagreement.
- Participant responses were compared to the model/ideal responses as determined by specialists at the Christian Sarkine Autism Treatment Center (n = 7).

Figures and Graphs

Table 1. Comparison of average ratings by survey item across participant roles and years of experience.

			Comparison across roles					Comparison across years of experience				
		Ideal	Caregiver (n=329)	Medical (n=100)	Educator (n=217)	Therapist (n=51)	χ^2	None (n=29)	< 2 yrs (n=117)	2-5 yrs (n=193)	5+ yrs (n=358)	χ^2
1	Autism is an emotional disorder.	6	3.94	4.19	4.42	4.76	17.51**	4.14	3.93	4.14	4.30	5.02
2	Early intervention can lead to significant gains in children's social and communication skills.	1	1.36	1.50	1.40	1.24	9.50*	1.28	1.38	1.32	1.43	2.89
3	All children with autism display poor eye contact.	6	3.90	4.05	4.30	4.37	11.91**	4.17	4.04	4.19	4.03	1.71
4	Children with autism typically perform better when tasks are presented visually than when tasks are presented verbally.	1	2.03	2.24	2.09	2.14	3.88	2.52	2.09	2.05	2.07	7.67
5	Problems with social relatedness that are present in autism are different from social problems seen in other psychiatric conditions.	1	2.42	2.43	2.84	2.37	20.23***	2.69	2.79	2.50	2.54	7.47
6	Autism is more frequently diagnosed in males than in females.	1	1.52	2.25	2.10	1.49	71.98***	2.34	1.92	1.72	1.76	16.81***
7	Children with autism do not show attachments, even to parents/caregivers.	6	4.91	4.16	4.74	4.75	29.31***	4.10	4.59	4.87	4.77	8.19*
8	Research indicates that sensory integration therapy is an effective treatment for autism and its symptoms.	1	2.26	2.73	2.27	2.92	22.16***	2.34	2.20	2.31	2.48	2.78
9	Children with autism are deliberately uncooperative.	6	5.47	5.41	5.29	5.53	9.37*	5.21	5.34	5.48	5.41	5.65
10	Most parents/caregivers of children with autism report their first concerns were related to the child's social behavior.	6	3.03	2.93	2.86	3.00	2.16	2.59	2.89	2.98	3.00	2.15
11	Autism tends to run in families.	1	3.10	2.84	3.12	2.61	7.48	3.66	3.32	3.06	2.87	16.80***
12	We now have treatments that can cure autism.	6	5.18	5.43	5.45	5.69	12.96**	5.07	5.20	5.18	5.49	10.10*
13	Children with autism can grow up to live independently.	1	2.22	2.53	1.84	1.96	31.33***	2.17	2.06	2.02	2.20	4.50
14	There is one approach/program that works for all children with autism.	6	5.67	5.49	5.59	5.55	11.01*	5.52	5.52	5.59	5.66	5.95
15	It is important that all children diagnosed with autism receive some form of special education services at school.	1	1.88	1.79	2.48	2.35	41.94***	2.10	2.09	2.23	2.01	4.51
16	Autism occurs more commonly among higher socioeconomic and educational levels.	6	5.07	4.27	5.01	4.98	41.56***	4.59	4.92	4.86	5.00	6.07
17	Autism can be diagnosed as early as 18 months.	1	2.06	2.18	2.38	2.04	9.57*	2.34	2.25	2.29	2.08	7.45
18	With the proper treatment, most children diagnosed with autism eventually outgrow the disorder.	6	4.84	5.25	5.34	5.45	27.09***	4.83	4.78	4.91	5.32	34.36***
19	Children with autism do not show affection.	6	5.28	4.65	5.18	5.16	38.13***	4.66	5.01	5.20	5.21	11.29*
20	The need for routines and sameness is one of the earliest behavioral features of autism.	1	2.42	2.18	2.23	2.37	4.53	2.31	2.45	2.41	2.23	5.94

Ratings range from 1 to 6, with lower numbers reflecting greater agreement.
*p < 0.05, **p < 0.01, ***p < 0.001

Figure 1. Comparison of overall AKS-R scores across participant roles.

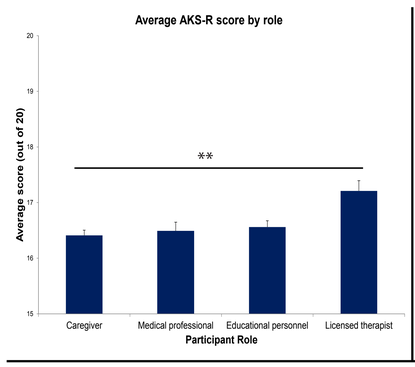
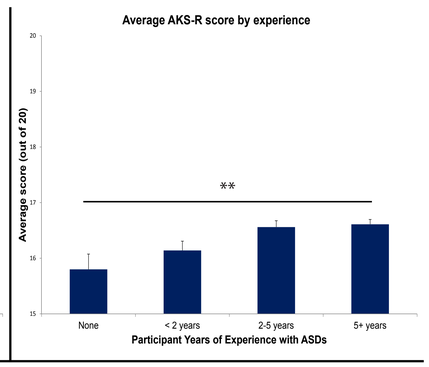


Figure 2. Comparison of overall AKS-R scores across participant years of experience.



** p < 0.008

Results

Due to the non-normality of the data, Kruskal-Wallis one-way analyses of variance were used for all comparisons of means. Follow-up Mann-Whitney U tests with Bonferonni corrections were used for all post-hoc comparisons (α= 0.008).

Comparison of average ratings by survey item

Participant level of agreement significantly differed across roles for sixteen out of twenty items and significantly differed across years of experience for six out of twenty items (see Table 1).

Comparison of overall scores

Across Roles (see Figure 1)

The mean ranks of scores were significantly different across the four roles (Kruskal-Wallis, χ^2 = 10.45, df = 3, p = 0.015), with licensed therapists scoring significantly higher than parents (licensed therapists: 17.21 ± 1.39, parents: 16.51 ± 1.74, $U(1)$ = 7313.50, Z = -3.10, p = 0.002). No significant differences existed between the other pairs (all p > 0.008).

Across Years of Experience (see Figure 2)

The mean ranks of scores were significantly different across the categories for years of experience with autism (Kruskal-Wallis, χ^2 = 11.94 df = 3, p = 0.008), with individuals with 5 or more years of experience scoring significantly higher than those with no experience (no experience: 15.80 ± 1.89, 5+ years experience: 16.61 ± 1.75, $U(1)$ = 7144.50, Z = -2.74, p = 0.006). No significant differences existed between the other pairs (all p > 0.008).

Conclusions & Discussion

As hypothesized, overall scores on the AKS-R significantly differed across participants' roles and years of experience with ASDs, with licensed therapists scoring significantly higher than caregivers and individuals with five or more years of experience scoring significantly higher than those with no experience. However, there were no significant differences in scores for any other group comparisons. In addition, participant level of agreement with the AKS-R statements significantly differed across roles for 80% of the items and differed across years of experience for 30% of the items. These findings indicate that there may be greater disagreement regarding ASDs across disciplines than across varying levels of experience, highlighting the need to provide consistent training and encourage collaboration across all types of care providers. Autism knowledge assessments should continue to be developed and refined to further explore knowledge gaps and to assist in informing targeted and effective education and training plans.

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