

Objective

The most recent report from the CDC shows that prevalence rates for autism spectrum disorder (ASD) have increased by 23% since their last report in 2009 (Centers for Disease Control, 2014). Given this increase in prevalence, information regarding the outcomes of ASD treatment is timely. Therefore, we sought to examine the effect early intervention has on educational outcomes.

Efficacy Rates

Given our interest in the effect of early intervention on costs and outcomes, we narrowed our review to articles specifically focused on birth to age 8. Using the existing literature as a guide, we centered our estimations on the efficacy of treatment on children's placement in school as a main outcome of interest. This outcome serves as a representative proxy for a variety of outcomes that are meaningful to individuals, families, and society. The following section details how we used school placement efficacy rates.

Peters-Scheffer et al (2012) collected articles containing efficacy rates associated with ABA-based interventions (EIBI specifically) from the literature, and separated groups of children into three categories: 1.) successfully included in regular education, 2.) placed in special education with limited support, placed in regular education with full-time or part-time support, went to private school that had small class sizes, or received a mixture of regular and special education, 3.) received special education and/or one-on-one support (Peters-Scheffer et al., 2012). Building on this work, we examined the articles included in their review and assessed them for quality and completeness of information, keeping the three categories they established and included information regarding average age of participants, and the duration and intensity of intervention.

Efficacy rates from articles scoring moderate to high on quality were used to estimate average efficacy rates by age. We also searched for articles with efficacy rates not included in Peters-Scheffer's (2012) articles, but did not find any additional articles with complete data in the time frame of this project (articles published from 2003 - 2014). ABA-intervention efficacy rates were available for ages 2-6 years; we divided all rates by age and used a weighted average across studies (when applicable), seen in Table 1 below. The three categories in the table are the same as Peters-Scheffer et al (2012) described above. Like other researchers (Jacobson et al., 1998; Peters-Scheffer et al., 2012), we assumed that members of group 1 would sustain a level of independence through adulthood that would allow them to live independently and have a job. Group 2 was assumed to remain semi-dependent into adulthood, while group 3 was assumed to be completely dependent, requiring intensive community services.

Table 1: Efficacy Rates from Ages 2-6

Age range	Reference	N	Age	Duration		Outcome		
				Hours	Months	1	2	3
2-3 years old	(Cohen, Amerine-Dickens, & Smith, 2006)	21	30.2	35-40	36	48%	33%	19%
	(Lovaas, 1987)		34.6	40	24+	47%	42%	11%
	(Sallows & Graupner, 2005)	23	35	37.58	48	48%	43%	9%
	(Sheinkopf & Siegel, 1998)	11	33.8	27.02	16	27%	18%	55%
Weighted Average						45%	36%	19%
3-4 years old	(Weiss, 1999)	20	41.5	40	24	50%	25%	25%
	(Smith, Groen, & Wynn, 2000)	15	36.07	24.52	33	27%	13%	60%
	(Magiati, Charman, & Howlin, 2007)	28	38	32.8	24	0%	82%	18%
	(Boyd & Corley, 2001)	22	41.3	30-40	23	0%	41%	59%
	(Bibby, Eikeseth, Martin, Mudford, & Reeves, 2002)	66	45	30.3	32	5%	53%	42%
	(Remington et al., 2007)	23	35.7	25.6	24	74%	0%	26%
	(Anderson, Avery, DiPietro, Edwards, & Christian, 1987)	14	42.79	15-25	12-24	0%	31%	69%
Weighted Average						18%	42%	40%
4-5 years old	(Harris & Handleman, 2000)	27	49	35-45		11%	30%	59%
Weighted Average						11%	30%	59%
5-6 years old	(Eikeseth, Smith, Jahr, & Eldevik, 2002, 2007)	13	66.31	28	31.4	0%	38%	62%
Weighted Average						0%	38%	62%

* Months were rounded up to the nearest month to categorize into an age group

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