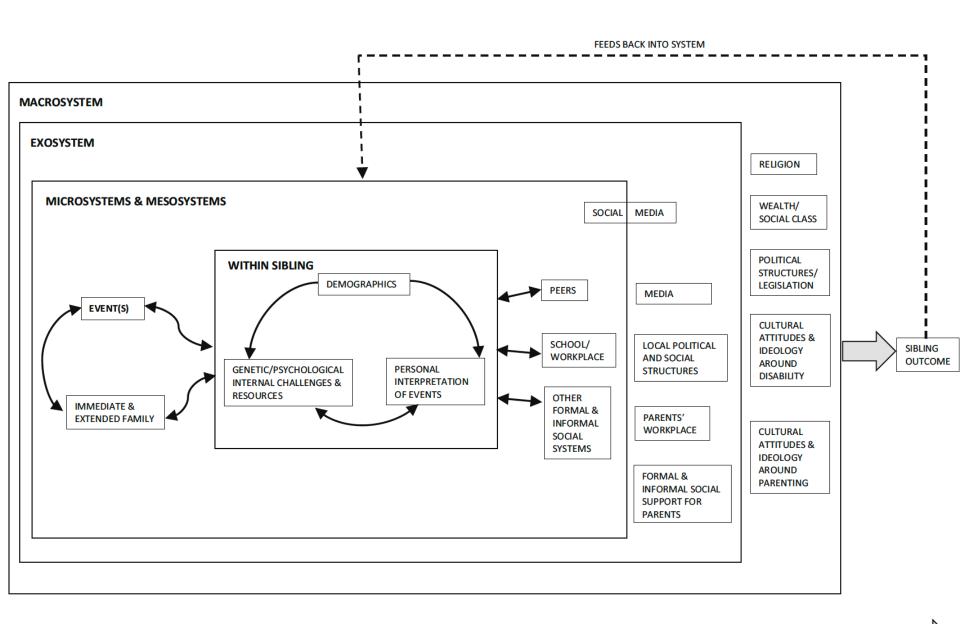
FROM THE LAB TO THE LIVING ROOM: INVOLVING SIBLINGS OF INDIVIDUALS WITH AUTISM SPECTRUM DISORDER

CAROLYN M. SHIVERS, PH.D.

AGENDA

- Models
- Research
 - Overall research
 - Stress among siblings
 - Siblings as interventionists
- Examples and tips



TIME

EXISTING SIBLING RESEARCH

- Many studies of "baby sibs"
- Multiple outcomes studied
- "Findings are mixed"



Clinical Child and Family Psychology Review https://doi.org/10.1007/s10567-018-0269-2



Functioning Among Typically Developing Siblings of Individuals with Autism Spectrum Disorder: A Meta-Analysis

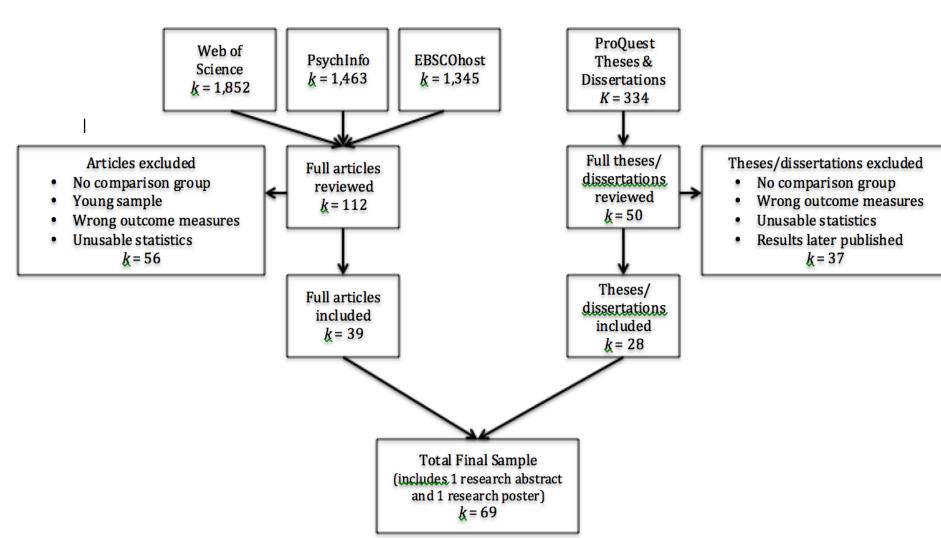
Carolyn M. Shivers¹ • Jeffrey B. Jackson² • Casey M. McGregor³

META-ANALYSIS

• Are typically-developing siblings of individuals with ASD more likely to have poor social, emotional, psychological, or behavioral outcomes than other neurotypical populations?

META-ANALYSIS

- Statistical synthesis of existing quantitative results
 - Effect size-based
 - Studies must have a comparison group
 - Must provide sufficient data (sample size, statistical results, etc.)
 - Effect size (Hedges'g) is calculated for each study based on sample size, spread of data, and strength of original result



OUTCOMES AND MODERATORS

Outcomes

- Adjustment
- Behavior problems*
- Beliefs
- Coping
- Family functioning
- Psychological functioning*
- Sibling relationship
- Social functioning

Moderators

- Comparison group
- Reporter
- Sample age
- Nationality
- Report status
- Measure type

OUTCOMES

- Behavior problems
 - Measured continuously
 - Internalizing
 - Externalizing
 - ADHD/hyperactivity

- Psychological functioning
 - Measured diagnostically (often Yes/No)
 - ADHD
 - Anxiety/depression
 - Behavior problems

Study name		Statistics for each study				Sam	ole size	H <u>edges's g and 95%</u> C	
	ges's g	Standard error	Lower limit	Upper limit	p-Value	ASD-SIRS	Comparison		
Eyuboglu, 2015	9 -1.98	0.26	-2.50	-1.46	0.000	41	43	I ————————————————————————————————————	
	-1.63	0.29	-2.20	-1.06	0.000	31	30	 -	
Trubia, 2016	-1.11	0.34	-1.77	-0.46	0.001	31	31		
Zomick, 2009	-0.93	0.40	-1.71	-0.15	0.019	14	13		
Abdallah, 2015	-0.83	0.31	-1.44	-0.23	0.007				
Martins, 2007	-0.82	0.30	-1.41	-0.23	0.006	25	25		
Schwartz, 2003	-0.78 -0.66	0.32 0.24	-1.41 -1.13	-0.15 -0.19	0.016 0.006	28 40	16 44		
Smith, 2006* Meyer, 2011*	-0.66	0.24	-0.97	-0.19	0.000	70	99		
Rosa, 2016	-0.61	0.16	-2.48	1.27	0.527	24	22		
Smith, 2000*	-0.60	0.25	-1.10	-0.10	0.018	31	53		
Belkin, 2013	-0.60	0.23	-1.05	-0.15	0.009	31	54		
Lovell, 2016	-0.60	0.32	-1.22	0.03	0.061	22	18		
Pollard, 2013	-0.59	0.20	-0.99	-0.19	0.004	81	38		
	-0.56	0.07	-0.71	-0.42	0.000	3115	10235	+	
Prystalski, 1997	-0.55	0.26	-1.07	-0.04	0.034	30	60		
De Caroli, 2013	-0.54	0.21	-0.96	-0.12	0.012	46	94		
ranat, 2012 tampoltzis, 2014*	-0.50 -0.50	0.37 0.28	-1.23 -1.05	0.23 0.05	0.180 0.077	13 22	17 64		
tampoitzis, 2014" liller, 2016	-0.50 -0.47	0.28	-1.05 -0.81	-0.13	0.006	79	6 4 60		
	-0.47	0.21	-0.88	-0.15	0.028	463	1540		
odrigue, 1993	-0.40	0.36	-1.11	0.30	0.261	19	20		
omeny, 2012	-0.39	0.22	-0.82	0.03	0.072	42	42		
odapp, 2007	-0.39	0.10	-0.58	-0.20	0.000	176	284	+	
arber, 2010	-0.35	0.38	-1.10	0.40	0.358	14	13	+-	
Rao, 2009	-0.35	0.51	-1.34	0.65	0.495	7	8		
anecek, 2015	-0.34	0.16	-0.66	-0.03	0.031	140	342		
old, 1993	-0.33	0.38	-1.08	0.41	0.380	11	17		
smond, 2007	-0.32	0.16	-0.64	-0.00	0.049	77	77 13		
ong, 2007 ian, 2016*	-0.30 -0.28	0.35 0.19	-0.99 -0.66	0.39	0.390 0.143	21 116	116		
meny, 2017	-0.27	0.13	-0.70	0.17	0.226	45	37		
au, 2010	-0.27	0.13	-0.53	-0.01	0.044	120	109		
Neill, 2016	-0.25	0.25	-0.74	0.24	0.311	31	233	│	
epard, 1992	-0.24	0.32	-0.87	0.39	0.457	19	19		
rté, 2003	-0.20	0.57	-1.32	0.92	0.727	29	29		
Kelley, 2006	-0.17	0.19	-0.54	0.20	0.375	57	53		
emister, 2012	-0.16	0.24	-0.64	0.32	0.508	31	79		
etalas, 2009	-0.16	0.28	-0.71	0.40	0.579	25	24	-!-	
iff, 2006	-0.14	0.45	-1.02	0.73	0.748	19	19		
uintero, 2010 epa, 2013	-0.13 -0.13	0.30 0.35	-0.72 -0.81	0.46 0.55	0.667 0.713	20 15	23 18		
arren, 2012	-0.13	0.35	-0.81	0.55	0.699	39	22		
astings, 2014*	-0.12	0.13	-0.36	0.14	0.397	60	4228		
illet, 2013	-0.10	0.16	-0.42	0.21	0.510	55	144	-	
ss, 2006*	-0.07	0.28	-0.62	0.49	0.816	25	24		
minsky, 2001 + 2002	-0.04	0.26	-0.54	0.47	0.886	30	30	-	
ırk, 2012	-0.04	0.24	-0.51	0.44	0.883	98	51	-	
odgers, 2016	-0.03	0.22	-0.45	0.39	0.888	42	42	-	
ao, 2009	-0.01	0.22	-0.44	0.41	0.950	50	72		
ıkherjee, 2010	0.02	0.44	-0.85	0.89	0.962	21	20		
alton, 2015 ppe, 1987*	0.03	0.16 0.31	-0.28 -0.58	0.34 0.63	0.871 0.928	69 17	93 64		
ope, 1987" anders, 1993	0.03	0.46	-0.58 -0.85	0.63	0.928	18	37		
ons-Sjostrom, 2003	-0.05	0.38	-0.79	0.69	0.892	14	43	———	
alafox, 2004*	0.06	0.24	-0.41	0.53	0.793	37	66	—	
reno, 2010	0.07	0.36	-0.63	0.76	0.853	15	15		
owsky, 2004	0.07	0.31	-0.54	0.68	0.822	30	58		
llerton, 2017	0.17	0.25	-0.32	0.66	0.490	32	32	-	
asberg, 1998*	0.18	0.21	-0.23	0.58	0.391	63	38	+-	
larsh, 2016*	0.19	0.28	-0.35	0.74	0.483	53	50	-+	
empsey, 2012*	0.26	0.05	0.16	0.36	0.000	486	1753		
arak-Levy, 2010	0.29	0.49	-0.68	1.25	0.560	27	27		
mpert, 2007	0.33	0.32	-0.30	0.96	0.298	20	100		
Call, 2013	0.47	0.34 0.32	-0.19 -0.12	1.14	0.164	20	20 20		
oeyers, 1995 ryce, 1983	0.51 0.63	0.32	-0.12 -0.49	1.14 1.75	0.111 0.272	20 7	20 7		
urfas, 2005*	0.63	0.57	0.49	1.75	0.003	40	31		
		0.41	0.23	1.84	0.003	20	45		
	1.04								
erger, 1980*	1.04 -0.26	0.06	-0.37	-0.15	0.000				

RESULTS

- Overall, ASD-Sibs had:
 - More internalizing problems
 - More negative beliefs about disability
 - Higher levels of ADHD, anxiety/depression, and externalizing behavior symptoms
 - Poorer sibling relationships
 - Poorer social skills

NOTES

- On average" does not mean "for everyone"
- Many studies did not include information on age, gender, or other potentially meaningful characteristics
- Studies did not examine causes of these outcomes

Original Article



Self-reported stress among adolescent siblings of individuals with autism spectrum disorder and Down syndrome

Autism
I-II
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DOI: 10.1177/1362361317722432

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Carolyn M Shivers, Casey McGregor and Ashlea Hough

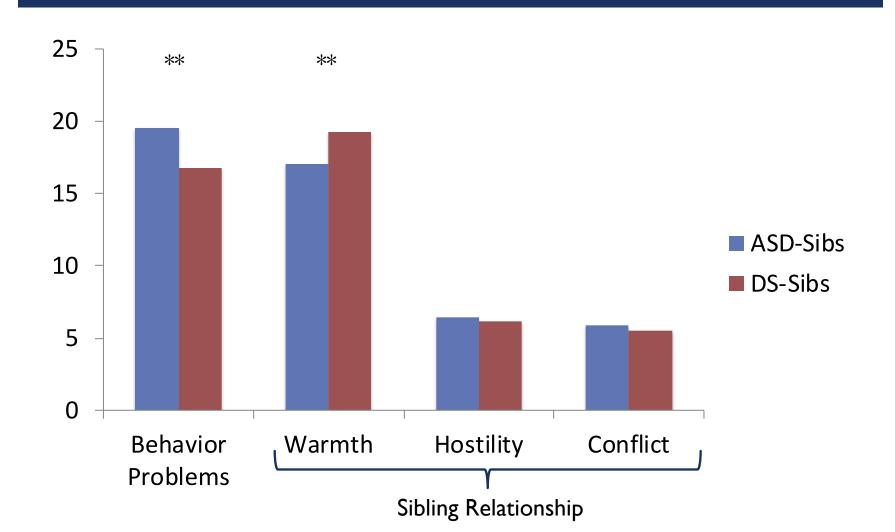
METHODS

- Online survey
 - Overall stress
 - Specific sources of stress
 - Academics, extracurricular activities, social life, significant other, family, brother/sister, general environment, personal health
 - Perceived social support
 - Sibling relationship
 - Behavior problems of the child with ASD

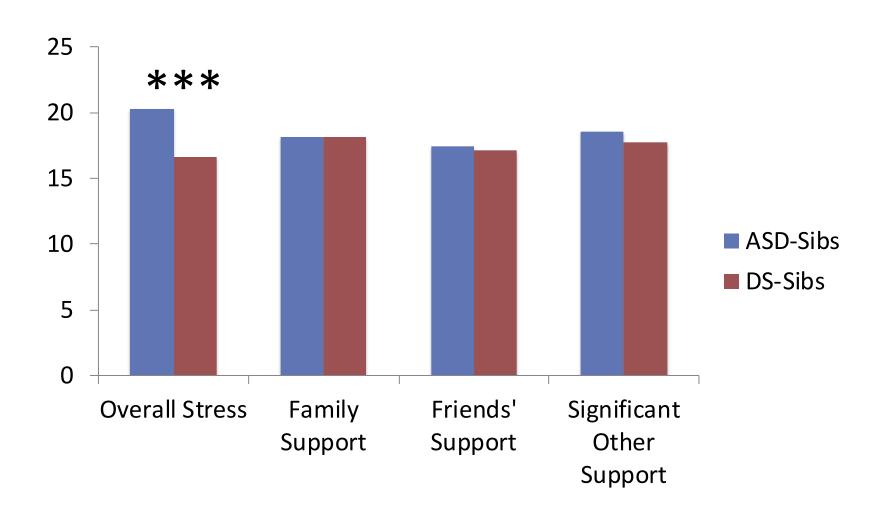
SAMPLE

- Adolescents aged 12-18
 - I 16 ASD Sibs (mean age = 15.00)
 - Brother/sister mean age = 14.78
 - 99 Down syndrome Sibs (mean age = 14.87)
 - Brother/sister mean age = 11.82

RESULTS



RESULTS



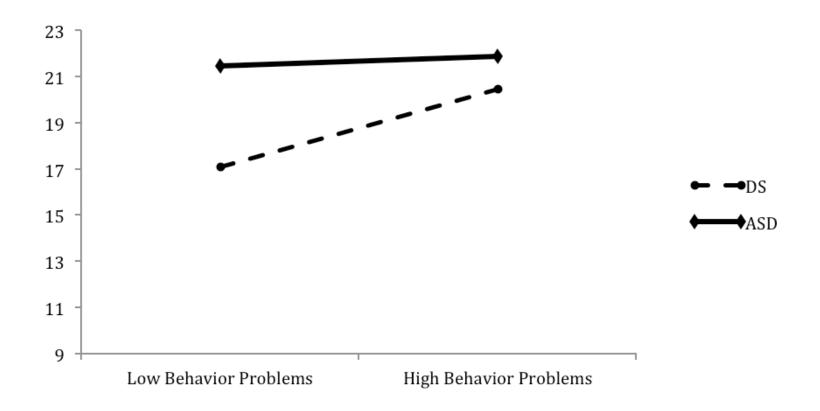
INDIVIDUAL STRESSORS

- ASD-Sibs reported more stress due to their brother/sister
- DS-Sibs reported more stress due to extracurricular activities
- Both groups reported the highest levels of stress due to academics

TOTAL MODEL

- Brother/sister behavior problems were related to higher stress
- Family support was related to lower stress
- **Group membership was related to stress

STRESS BY BEHAVIOR PROBLEMS



J Autism Dev Disord DOI 10.1007/s10803-014-2222-7

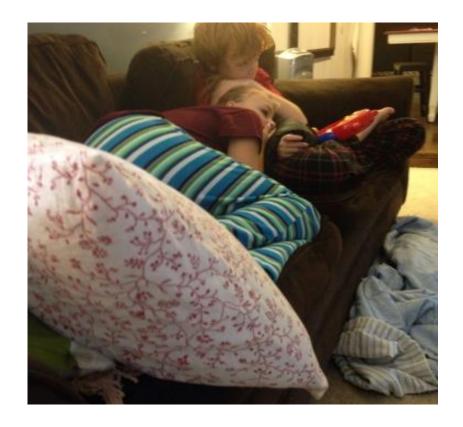
ORIGINAL PAPER

Sibling Involvement in Interventions for Individuals with Autism Spectrum Disorders: A Systematic Review

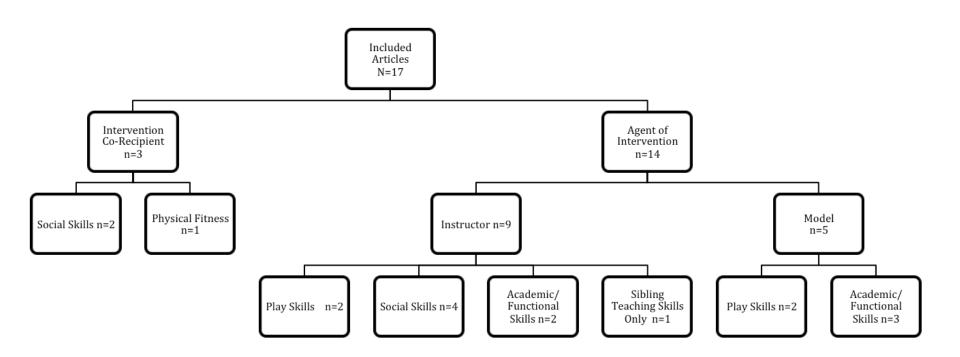
Carolyn M. Shivers · Joshua B. Plavnick

SIBLING INVOLVEMENT IN INTERVENTIONS

- Interventions for the sibling
 - Not rigorously studied
- Interventions for the child with ASD
 - 17 peer-reviewed studies since 1977



SIBLING INVOLVEMENT IN INTERVENTIONS



SIBLING INVOLVEMENT IN INTERVENTIONS

- Outcomes for individuals with ASD
 - I5 out of I7 reported improvements in the targeted skills
- Outcomes for the sibling
 - 9 reported sibling outcomes
 - Only 3 reported non-procedural outcomes
- No replication



EXAMPLES AND TIPS

EXAMPLES

- Younger brother, age 7
 - "You're still gonna hang out with me, right?"
- Younger brother, age 15
 - "The way our family functions...is more tailored to her"
- Mom (older son, age 10)
 - "We wanted his life to be as normal as possible"

SUGGESTIONS

- Talk!
 - Don't assume you know what the sibs want
- Plan ahead
 - All transitions for everyone can be challenging make sure you discuss expectations
- Take care of yourself
 - Parent-focused parentification can be challenging (Tomeny, Barry, Fair, & Riley, 2017)

THANK YOU

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QUESTIONS?