Robert S Siegler

List of Publications by Citations

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The third column is the impact factor (IF) of the journal, and the fourth column is the number of citations of the article.

145 papers	13,914 citations	59 h-index	117 g-index
159 ext. papers	15,263 ext. citations	4.3 avg, IF	7.06 L-index

#	Paper	IF	Citations
145	The development of numerical estimation: evidence for multiple representations of numerical quantity. *Psychological Science*, **2003**, 14, 237-43	7.9	769
144	Development of numerical estimation in young children. *Child Development*, **2004**, 75, 428-44	4.9	672
143	Three aspects of cognitive development. *Cognitive Psychology*, **1976**, 8, 481-520	3.1	559
142	Developing conceptual understanding and procedural skill in mathematics: An iterative process.. *Journal of Educational Psychology*, **2001**, 93, 346-362	5.3	548
141	Rethinking infant knowledge: toward an adaptive process account of successes and failures in object permanence tasks. *Psychological Review*, **1997**, 104, 686-713	6.3	479
140	Developmental and individual differences in pure numerical estimation. *Developmental Psychology*, **2006**, 42, 189-201	3.7	461
139	The perils of averaging data over strategies: An example from children’s addition.. *Journal of Experimental Psychology: General*, **1987**, 116, 250-264	4.7	457
138	Promoting broad and stable improvements in low-income children’s numerical knowledge through playing number board games. *Child Development*, **2008**, 79, 375-94	4.9	446
137	Numerical magnitude representations influence arithmetic learning. *Child Development*, **2008**, 79, 1016-31	4.9	430
136	An integrated theory of whole number and fractions development. *Cognitive Psychology*, **2011**, 62, 273-96	3.1	384
135	Strategy choice procedures and the development of multiplication skill.. *Journal of Experimental Psychology: General*, **1988**, 117, 258-275	4.7	375
134	Early predictors of high school mathematics achievement. *Psychological Science*, **2012**, 23, 691-7	7.9	367
133	Playing linear number board games—but not circular ones—improves low-income preschoolers’ numerical understanding.. *Journal of Educational Psychology*, **2009**, 101, 545-560	5.3	366
132	Relations of different types of numerical magnitude representations to each other and to mathematics achievement. *Journal of Experimental Child Psychology*, **2014**, 123, 53-72	2.3	308
131	Cognitive Variability: A Key to Understanding Cognitive Development. *Current Directions in Psychological Science*, **1994**, 3, 1-5	6.5	275
130	What’s Past is Prologue: Relations Between Early Mathematics Knowledge and High School Achievement. *Educational Researcher*, **2014**, 43, 352-360	4.8	239
129	Playing linear numerical board games promotes low-income children’s numerical development. *Developmental Science*, **2008**, 11, 655-61	4.5	238

128	Cognitive variability. *Developmental Science*, **2007**, 10, 104-9	4.5	207
127	A featural analysis of preschoolers’ counting knowledge.. *Developmental Psychology*, **1984**, 20, 607-618	3.7	205
126	Representational change and children’s numerical estimation. *Cognitive Psychology*, **2007**, 55, 169-95	3.1	200
125	Is 27 a big number? Correlational and causal connections among numerical categorization, number line estimation, and numerical magnitude comparison. *Child Development*, **2007**, 78, 1723-43	4.9	196
124	Developmental predictors of fraction concepts and procedures. *Journal of Experimental Child Psychology*, **2013**, 116, 45-58	2.3	171
123	Developmental differences in rule learning: a microgenetic analysis. *Cognitive Psychology*, **1998**, 36, 273-310	3.1	165
122	Fractions: the new frontier for theories of numerical development. *Trends in Cognitive Sciences*, **2013**, 17, 13-9	14	163
121	Revisiting preschoolers’ living things concept: a microgenetic analysis of conceptual change in basic biology. *Cognitive Psychology*, **2004**, 49, 301-32	3.1	161
120	Improving at-risk learners’understanding of fractions.. *Journal of Educational Psychology*, **2013**, 105, 683-700	5.3	160
119	The rebirth of children’s learning. *Child Development*, **2000**, 71, 26-35	4.9	149
118	Learning to spell: variability, choice, and change in children’s strategy use. *Child Development*, **1999**, 70, 332-48	4.9	145
117	Reducing the gap in numerical knowledge between low- and middle-income preschoolers. *Journal of Applied Developmental Psychology*, **2011**, 32, 146-159	2.5	126
116	Developmental and individual differences in understanding of fractions. *Developmental Psychology*, **2013**, 49, 1994-2004	3.7	122
115	A microgenetic/cross-sectional study of matrix completion: comparing short-term and long-term change. *Child Development*, **2002**, 73, 793-809	4.9	121
114	Microgenetic studies of self-explanation **2002**, 31-58		118
113	An Integrative Theory of Numerical Development. *Child Development Perspectives*, **2014**, 8, 144-150	5.5	112
112	Taking it to the classroom: Number board games as a small group learning activity.. *Journal of Educational Psychology*, **2012**, 104, 661-672	5.3	109
111	The Logarithmic-To-Linear Shift: One Learning Sequence, Many Tasks, Many Time Scales. *Mind, Brain, and Education*, **2009**, 3, 143-150	1.8	106

110	Does working memory moderate the effects of fraction intervention? An aptitude treatment interaction.. *Journal of Educational Psychology*, **2014**, 106, 499-514	5.3	105
109	Explanation and generalization in young children's strategy learning. *Child Development*, **1999**, 70, 304-16	4.9	98
108	Hazards of mental chronometry: An example from children's subtraction.. *Journal of Educational Psychology*, **1989**, 81, 497-506	5.3	97
107	Even before formal instruction, Chinese children outperform American children in mental addition. *Cognitive Development*, **1993**, 8, 517-529	1.7	96
106	Chinese children excel on novel mathematics problems even before elementary school. *Psychological Science*, **2008**, 19, 759-63	7.9	95
105	Why is learning fraction and decimal arithmetic so difficult?. *Developmental Review*, **2015**, 38, 201-221	7.4	92
104	Early predictors of middle school fraction knowledge. *Developmental Science*, **2014**, 17, 775-85	4.5	91
103	The development of biological knowledge: A multi-national study. *Cognitive Development*, **1993**, 8, 47-62	1.7	90
102	General and math-specific predictors of sixth-graders knowledge of fractions. *Cognitive Development*, **2015**, 35, 34-49	1.7	89
101	Children's learning. *American Psychologist*, **2005**, 60, 769-78	9.5	87
100	Magnitude knowledge: the common core of numerical development. *Developmental Science*, **2016**, 19, 341-61	4.5	87
99	Metrics and mappings: a framework for understanding real-world quantitative estimation. *Psychological Review*, **1993**, 100, 511-34	6.3	82
98	Bridging the gap: Fraction understanding is central to mathematics achievement in students from three different continents. *Learning and Instruction*, **2015**, 37, 5-13	5.8	81
97	Improving the Numerical Understanding of Children From Low-Income Families. *Child Development Perspectives*, **2009**, 3, 118-124	5.5	77
96	Development of time, speed, and distance concepts.. *Developmental Psychology*, **1979**, 15, 288-298	3.7	77
95	Learning from number board games: you learn what you encode. *Developmental Psychology*, **2014**, 50, 853-64	3.7	73
94	The development of numerical understanding. *Advances in Child Development and Behavior*, **1982**, 16, 241-312	2.9	73
93	Strategy Discovery as a Competitive Negotiation between Metacognitive and Associative Mechanisms. *Developmental Review*, **1997**, 17, 462-489	7.4	71

92	Children's understandings of the attributes of life. *Journal of Experimental Child Psychology*, **1986**, 42, 1-22	2.3	70
91	Differentiation and integration: guiding principles for analyzing cognitive change. *Developmental Science*, **2008**, 11, 433-48	4.5	69
90	Sources of individual differences in children's understanding of fractions. *Child Development*, **2014**, 85, 1461-76	4.9	65
89	Strategic development. *Trends in Cognitive Sciences*, **1999**, 3, 430-435	14	65
88	A computational model of conscious and unconscious strategy discovery. *Advances in Child Development and Behavior*, **2005**, 33, 1-42	2.9	63
87	Five generalizations about cognitive development.. *American Psychologist*, **1983**, 38, 263-277	9.5	59
86	Conceptual knowledge of fraction arithmetic.. *Journal of Educational Psychology*, **2015**, 107, 909-918	5.3	58
85	Acquisition of formal scientific reasoning by 10- and 13-year-olds: Designing a factorial experiment.. *Developmental Psychology*, **1975**, 11, 401-402	3.7	56
84	The powers of noise-fitting: reply to Barth and Paladino. *Developmental Science*, **2011**, 14, 1194-204; discussion 1205-6	4.5	54
83	Strategy use and strategy choice in fraction magnitude comparison. *Journal of Experimental Psychology: Learning Memory and Cognition*, **2016**, 42, 1-16	2.2	53
82	What leads children to adopt new strategies? A microgenetic/cross-sectional study of class inclusion. *Child Development*, **2006**, 77, 997-1015	4.9	51
81	The other Alfred Binet.. *Developmental Psychology*, **1992**, 28, 179-190	3.7	49
80	Effects of contiguity, regularity, and age on children's causal inferences.. *Developmental Psychology*, **1974**, 10, 574-579	3.7	49
79	Defining the locus of developmental differences in children's causal reasoning. *Journal of Experimental Child Psychology*, **1975**, 20, 512-525	2.3	49
78	Numerical Development. *Annual Review of Psychology*, **2017**, 68, 187-213	26.1	47
77	The development of a proportionality concept: Judging relative fullness. *Journal of Experimental Child Psychology*, **1978**, 25, 371-395	2.3	47
76	Inhelder and Piaget's pendulum problem: Teaching preadolescents to act as scientists.. *Developmental Psychology*, **1973**, 9, 97-101	3.7	47
75	U-Shaped Interest in U-Shaped Development-and What It Means. *Journal of Cognition and Development*, **2004**, 5, 1-10	2.5	46

74	Developmental growth trajectories in understanding of fraction magnitude from fourth through sixth grade. *Developmental Psychology*, **2016**, 52, 746-57	3.7	46
73	Supported self-explaining during fraction intervention.. *Journal of Educational Psychology*, **2016**, 108, 493-508	5.3	46
72	Development of rules and strategies: balancing the old and the new. *Journal of Experimental Child Psychology*, **2002**, 81, 446-57	2.3	44
71	Development of fraction concepts and procedures in U.S. and Chinese children. *Journal of Experimental Child Psychology*, **2015**, 129, 68-83	2.3	43
70	Strategies for the use of base-rate information. *Organizational Behavior and Human Performance*, **1977**, 19, 392-402		42
69	Flexible Strategy Use in Young Children’s Tic-Tac-Toe. *Cognitive Science*, **1993**, 17, 531-561	2.2	39
68	The influence of encoding and strategic knowledge on children’s choices among serial recall strategies.. *Developmental Psychology*, **1990**, 26, 931-941	3.7	39
67	Effects of Intervention to Improve At-Risk Fourth Graders’Understanding, Calculations, and Word Problems with Fractions. *Elementary School Journal*, **2016**, 116, 625-651	1.1	37
66	Unconscious Insights. *Current Directions in Psychological Science*, **2000**, 9, 79-83	6.5	36
65	Overlapping and distinct brain regions involved in estimating the spatial position of numerical and non-numerical magnitudes: an fMRI study. *Neuropsychologia*, **2013**, 51, 979-89	3.2	35
64	The Role of Mediators in the Development of Longitudinal Mathematics Achievement Associations. *Child Development*, **2015**, 86, 1892-907	4.9	35
63	Strategy choice and strategy discovery. *Learning and Instruction*, **1991**, 1, 89-102	5.8	35
62	Stereotypes of Males’ and Females’ Speech. *Psychological Reports*, **1976**, 39, 167-170	1.6	34
61	Numerical landmarks are useful--except when they’re not. *Journal of Experimental Child Psychology*, **2014**, 120, 39-58	2.3	33
60	DavidConceptual competition in physics learning. *International Journal of Science Education*, **1993**, 15, 283-295	2.2	32
59	Improving Children’s Knowledge of Fraction Magnitudes. *PLoS ONE*, **2016**, 11, e0165243	3.7	32
58	In young children’s counting, procedures precede principles. *Educational Psychology Review*, **1991**, 3, 127-135	7.1	31
57	Fractions Learning in Children With Mathematics Difficulties. *Journal of Learning Disabilities*, **2017**, 50, 614-620	2.7	29

56	Measuring change: current trends and future directions in microgenetic research. *Infant and Child Development*, **2007**, 16, 135-149	1.4	28
55	Continuity and Change in the Field of Cognitive Development and in the Perspectives of One Cognitive Developmentalist. *Child Development Perspectives*, **2016**, 10, 128-133	5.5	28
54	Developmental changes in the whole number bias. *Developmental Science*, **2018**, 21, e12541	4.5	27
53	A computational model of fraction arithmetic. *Psychological Review*, **2017**, 124, 603-625	6.3	27
52	Buy low, sell high: the development of an informal theory of economics. *Child Development*, **2000**, 71, 660-77	4.9	26
51	Individual differences and adaptive flexibility in lower-income children's strategy choices. *Learning and Individual Differences*, **1993**, 5, 113-136	3.1	26
50	Beyond competence toward development. *Cognitive Development*, **1997**, 12, 323-332	1.7	25
49	Hard Lessons: Why Rational Number Arithmetic Is So Difficult for So Many People. *Current Directions in Psychological Science*, **2017**, 26, 346-351	6.5	23
48	Effects of presenting relevant rules and complete feedback on the conservation of liquid quantity task.. *Developmental Psychology*, **1972**, 7, 133-138	3.7	23
47	Microgenetic Analyses of Learning **2007**,		20
46	Conditions of applicability of a strategy choice model. *Cognitive Development*, **1986**, 1, 31-51	1.7	20
45	The representation of children's knowledge. *Advances in Child Development and Behavior*, **1978**, 12, 61-116	2.9	20
44	Long-term benefits of seeding the knowledge base. *Psychonomic Bulletin and Review*, **1996**, 3, 385-8	4.1	18
43	Which Type of Rational Numbers Should Students Learn First?. *Educational Psychology Review*, **2018**, 30, 351-372	7.1	17
42	The role of availability in the estimation of national populations. *Memory and Cognition*, **1992**, 20, 406-12	2.2	17
41	Measuring individual differences in children's addition strategy choices. *Learning and Individual Differences*, **1997**, 9, 1-18	3.1	16
40	"Hey, would you like a nice cold cup of lemonade on this hot day?": children's understanding of economic causation. *Developmental Psychology*, **1998**, 34, 146-60	3.7	16
39	Manifesto for new directions in developmental science. *New Directions for Child and Adolescent Development*, **2020**, 2020, 135-149	1.3	13

38	Putting fractions together.. *Journal of Educational Psychology*, **2021**, 113, 556-571	5.3	13
37	Do children understand fraction addition?. *Developmental Science*, **2018**, 21, e12601	4.5	13
36	SOME GENERAL CONCLUSIONS ABOUT CHILDREN'S STRATEGY CHOICE PROCEDURES. *International Journal of Psychology*, **1987**, 22, 729-749	1.9	12
35	A microgenetic study of insightful problem solving. *Journal of Experimental Child Psychology*, **2008**, 99, 210-32	2.3	11
34	Everyday and curriculum-based physics concepts: When does short-term training bring change where years of schooling have failed to do so?. *British Journal of Developmental Psychology*, **1990**, 8, 269-279	2	10
33	Distinguishing adaptive from routine expertise with rational number arithmetic. *Learning and Instruction*, **2020**, 68, 101347	5.8	9
32	Young children's analogical problem solving: gaining insights from video displays. *Journal of Experimental Child Psychology*, **2013**, 116, 904-13	2.3	9
31	Turning memory development inside out. *Developmental Review*, **2004**, 24, 469-475	7.4	9
30	Seeds aren't anchors. *Memory and Cognition*, **2001**, 29, 405-12	2.2	9
29	II. Overlapping Waves Theory. *Monographs of the Society for Research in Child Development*, **2000**, 65, 7-11	6.6	9
28	Individual differences in fraction arithmetic learning. *Cognitive Psychology*, **2019**, 112, 81-98	3.1	7
27	Representations of and translation between common fractions and decimal fractions. *Science Bulletin*, **2013**, 58, 4630-4640		7
26	IX. How Changes Occur in Toddlers' Thinking. *Monographs of the Society for Research in Child Development*, **2000**, 65, 67-79	6.6	7
25	Children learn spurious associations in their math textbooks: Examples from fraction arithmetic. *Journal of Experimental Psychology: Learning Memory and Cognition*, **2018**, 44, 1765-1777	2.2	7
24	Acquisition of formal scientific reasoning by 10- and 13-year-olds: Detecting interactive patterns in data.. *Journal of Educational Psychology*, **1976**, 68, 360-370	5.3	7
23	Conceptual knowledge of decimal arithmetic.. *Journal of Educational Psychology*, **2017**, 109, 374-386	5.3	7
22	Middle temporal cortex is involved in processing fractions. *Neuroscience Letters*, **2020**, 725, 134901	3.3	6
21	The rule-assessment approach and education. *Contemporary Educational Psychology*, **1982**, 7, 272-288	5.6	6

20	Distributions of textbook problems predict student learning: Data from decimal arithmetic.. *Journal of Educational Psychology*, **2021**, 113, 516-529	5.3	5
19	When do children learn? The relationship between existing knowledge and learning. *Educational Psychologist*, **1980**, 15, 135-150	6.8	4
18	VII. Components of Strategic Change. *Monographs of the Society for Research in Child Development*, **2000**, 65, 43-58	6.6	3
17	Inducing a General Conservation of Liquid Quantity Concept in Young Children: Use of a Basic Rule and Feedback. *Perceptual and Motor Skills*, **1973**, 37, 443-452	2.2	3
16	How do people choose among rational number notations?. *Cognitive Psychology*, **2020**, 123, 101333	3.1	3
15	III. Microgenetic Methods. *Monographs of the Society for Research in Child Development*, **2000**, 65, 12-16	6.6	1
14	IV. The Present Study. *Monographs of the Society for Research in Child Development*, **2000**, 65, 17-24	6.6	1
13	VI. Overview of Toddlers' Problem Solving. *Monographs of the Society for Research in Child Development*, **2000**, 65, 32-42	6.6	1
12	Reply to Comment on Three Aspects of Cognitive Development *Perceptual and Motor Skills*, **1978**, 46, 226-226	2.2	1
11	Understanding development requires assessing the relevant environment: Examples from mathematics learning. *New Directions for Child and Adolescent Development*, **2020**, 2020, 83-100	1.3	1
10	Cognitive mediators of US-China differences in early symbolic arithmetic. *PLoS ONE*, **2021**, 16, e0255283	3.7	1
9	Biased problem distributions in assignments parallel those in textbooks: Evidence from fraction and decimal arithmetic. *Journal of Numerical Cognition*, **2022**, 8, 73-88	1.6	1
8	Missing Input: How Imbalanced Distributions of Textbook Problems Affect Mathematics Learning. *Child Development Perspectives*, **2021**, 15, 76-82	5.5	0
7	Corrigendum to "Overlapping and distinct brain regions involved in estimating the spatial position of numerical and non-numerical magnitudes: An fMRI study" [Neuropsychologia 51 (2013) 979-989]. *Neuropsychologia*, **2017**, 94, 139	3.2	
6	VIII. Individual Differences in Learning. *Monographs of the Society for Research in Child Development*, **2000**, 65, 59-66	6.6	
5	X. Implications for Older Children's Cognitive Development. *Monographs of the Society for Research in Child Development*, **2000**, 65, 80-86	6.6	
4	XI: Conclusions: Bridging the Gap. *Monographs of the Society for Research in Child Development*, **2000**, 65, 87-88	6.6	
3	Strategy Diversity and Cognitive Assessment. *Educational Researcher*, **1989**, 18, 15	4.8	

2	Is Piaget a Pied Piper?. *Behavioral and Brain Sciences*, **1978**, 1, 202-203	0.9
1	Spontaneous focusing on multiplicative relations and fraction magnitude knowledge. *Mathematical Thinking and Learning*, **2020**, 22, 351-359	0.8