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The Working Mind

Meaning and Mental Attention in Human Development

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References

- Adey, P., & Shayer, M. (1993). An exploration of long-term far-transfer effects following an extended intervention program in the high school science curriculum. *Cognition and Instruction, 11*(1), 1–29.
- Adey, P., & Shayer, M. (1994). *Really raising standards: Cognitive intervention and academic achievement*. London: Routledge.
- Agostino, A., Johnson, J., & Pascual-Leone, J. (2010). Executive functions underlying multiplicative reasoning: Problem type matters. *Journal of Experimental Child Psychology, 105*(4), 286–305.
- Albright, T. D., Jessell, T. M., Kandel, E. R., & Posner, M. I. (2001). Progress in the neural sciences in the century after Cajal (and the mysteries that remain). In P. C. Marijuán (Ed.), *Cajal and consciousness: Scientific approaches on the centennial of Ramón y Cajal's Textura* (pp. 11–40). New York: New York Academy of Sciences.
- Alexander, H. G. (Ed.). (1976). *The Leibniz-Clarke correspondence*. New York: Barnes & Noble.
- Allman, J. M., Hakeem, A., Erwin, J. M., Nimchinsky, E., & Hop, P. (2001). The anterior cingulate cortex: The evolution of an interface between emotion and cognition. In A. R. Damasio, A. Harrington, J. Kagan, B. S. McEwen, H. Moss, & R. Shaikh (Eds.), *Unity of knowledge: The convergence of natural and human science* (pp. 107–117). New York: The New York Academy of Sciences.
- Alp, I. E. (1988). "Mental capacity and working memory in 1 to 3 year olds" [Unpublished doctoral dissertation]. York University.
- Alp, I. E. (1994). Measuring the size of working memory in very young children: The Imitation Sorting Task. *International Journal of Behavioral Development, 17*(1), 125–141.
- Anderson, A. K., & Phelps, E. A. (2001). Lesions of the human amygdala impair enhanced perception of emotionally salient events. *Nature, 411*(6835), 305–309.
- Anderson, N. H. (1981). *Foundations of information integration theory*. New York: Academic Press.
- Andrews, G., & Halford, G. S. (2011). Recent advances in relational complexity theory and its application to cognitive development. In P. Barrouillet & V. Gaillard (Eds.), *Cognitive development and working memory: A dialogue between neo-Piagetian and cognitive approaches* (pp. 47–68). New York: Psychology Press.

- Anglin, J. (1977). *Word, object, and conceptual development*. New York: Norton.
- Apel, K-O. (1995). *Charles S. Peirce: From pragmatism to pragmaticism*. Atlantic Highlands, NJ: Humanities Press.
- Apostel, L. (1967). Syntaxe, sémantique et pragmatique [Syntax, semantics, and pragmatics]. In J. Piaget (Ed.), *Logique et connaissance scientifique* (pp. 290–311). Paris: Editions Gallimard.
- Apostel, L., Mays, W., Morf, A., & Piaget, J. (1957). *Les liaisons analytiques et synthétiques dans les comportements du sujet* [Analytic and synthetic connections in the subject's behavior]. Paris: Presses Universitaires de France.
- Arbib, M. A. (2005). From monkey-like action recognition to human language: An evolutionary framework for neurolinguistics. *Behavioral and Brain Sciences*, *28*(2), 125–167.
- Arbib, M. A., Érdi, P., Szentágothai, J. (1998). *Neural organization: Structure, function, and dynamics*. Cambridge, MA: MIT Press.
- Aron, A. R., Robbins, T. W., & Poldrack, R. A. (2004). Inhibition and the right inferior frontal cortex. *Trends in Cognitive Sciences*, *8*(4), 170–177.
- Aronson, R. (1987). *Sartre's second critique*. Chicago: University of Chicago Press.
- Arsalidou, M. (2013). Working memory capacity: The need for process task-analysis. *Frontiers in Psychology*, *4*, 257. <https://doi.org/10.3389/fpsyg.2013.00257>
- Arsalidou, M., & Im-Bolter, N. (2017). Why parametric measures are critical for understanding typical and atypical cognitive development. *Brain Imaging and Behavior*, *11*(4), 1214–1224.
- Arsalidou, M., & Pascual-Leone, J. (2016). Constructivist developmental theory is needed in developmental neuroscience. *npj Science of Learning*, *1*, 16016. <https://www.nature.com/articles/npjscilearn201616>
- Arsalidou, M., Pascual-Leone, J., & Johnson, J. (2010). Misleading cues improve developmental assessment of working memory capacity: The color matching task. *Cognitive Development*, *25*(3), 262–277.
- Arsalidou, M., Pascual-Leone, J., Johnson, J., Morris, D., & Taylor, M. J. (2013). A balancing act of the brain: Activations and deactivations as a function of cognitive load. *Brain and Behavior*, *3*(3), 273–285.
- Arsalidou, M., Pawliw-Levac, M., Sadeghi, M., & Pascual-Leone, J. (2018). Brain areas associated with numbers and calculations in children: Meta-analyses of fMRI studies. *Developmental Cognitive Neuroscience*, *30*, 239–250.
- Atkinson, J., & Braddick, O. (2003). Neurobiological models of normal and abnormal visual development. In M. de Haan & M. H. Johnson (Eds.), *The cognitive neurosciences of development* (pp. 43–71). New York: Psychology Press.
- Attneave, F. (1959). *Applications of information theory to psychology*. New York: Holt, Rinehart & Winston.

- Audi, R. (Ed.). (1995). *The Cambridge dictionary of philosophy*. Cambridge, UK: Cambridge University Press.
- Austin, J. H. (2009). *Selfless insight: Zen and the meditative transformations of consciousness*. Cambridge, MA: MIT Press.
- Austin, J. H. (2010). The thalamic gateway: How the meditative training of attention evolves toward selfless transformations of consciousness. In B. Bruya (Ed.), *Effortless attention: A new perspective in the cognitive science of attention and action* (pp. 373–407). Cambridge, MA: MIT Press.
- Bachelard, G. (1975). *Le rationalisme applique* [Applied rationalism]. Paris: Presses Universitaires de France. (Original work published 1949)
- Bachelard, G. (1980). *Le matérialisme rationnel* [Rational materialism]. Paris: Presses Universitaires de France.
- Bachelard, G. (1981). *La philosophie du non* [The philosophy of no]. Paris: Presses Universitaires de France.
- Bachelard, G. (1987). *Le nouvel esprit scientifique* [The new scientific spirit]. Paris: Presses Universitaires de France. (Original work published 1934)
- Bacon, F. (2004). *The new organon* (L. Jardín & M. Silverthorne, Eds.). Cambridge, UK: Cambridge University Press. (Original work published 1620)
- Badre, D. (2008). Cognitive control, hierarchy, and the rostro-caudal organization of the frontal lobes. *Trends in Cognitive Sciences*, 12(5), 193–200.
- Baillargeon, R. [Raymond], Pascual-Leone, J., & Roncadin, C. (1998). Mental-attentional capacity: Does cognitive style make a difference? *Journal of Experimental Child Psychology*, 70(3), 143–166.
- Baillargeon, R. [Renée]. (1987). Object permanence in 3½- and 4½-month-old infants. *Developmental Psychology*, 23(5), 655–664.
- Baillargeon, R. [Renée]. (2008). Innate ideas revisited: For a principle of persistence in infants' physical reasoning. *Perspectives on Psychological Science*, 3(1), 2–13.
- Baillargeon, R. [Renée], Scott, R. M., & Bian, L. (2016). Psychological reasoning in infancy. *Annual Review of Psychology*, 67, 159–186.
- Baillargeon, R. [Renée], Spelke, E. S., & Wasserman, S. (1985). Object permanence in five-month-old infants. *Cognition*, 20(3), 191–208.
- Bakchine, S. (2000). Temporal lobe behavioral syndromes. In J. Bogousslavsky & J. L. Cummings (Eds.), *Behavior and mood disorders in focal brain lesions* (pp. 369–398). New York: Cambridge University Press.
- Baldwin, J. M. (1968). *Mental development in the child and the race: Method and processes*. New York: Augustus M. Kelley. (Original work published 1894)

- Balioussis, C., Johnson, J., & Pascual-Leone, J. (2012). Fluency and complexity in children's writing: The role of mental attention and executive function. *Rivista di Psicolinguistica Applicata / Journal of Applied Psycholinguistics*, *12*(3), 33–45.
- Baltes, P. B., Lindenberger, U., & Staudinger, U. M. (2006). Life span theory in developmental psychology. In W. Damon, & R. M. Lerner (Eds.), *Handbook of child development: Theoretical models of human development* (pp. 569–664). New York: Wiley.
- Barrouillet, P., & Gaillard, V. (Eds.). (2011). *Cognitive development and working memory: A dialogue between neo-Piagetian and cognitive approaches*. New York: Psychology Press.
- Barsalou, L. W. (2008). Grounded cognition. *Annual Review of Psychology*, *59*, 617–645.
- Barth, J., & Call, J. (2006). Tracking the displacement of objects: A series of tasks with great apes (Pan troglodytes, Pan paniscus, Gorilla gorilla, and Pongo pygmaeus) and young children (Homo sapiens). *Journal of Experimental Psychology: Animal Behavior Processes*, *32*(3), 239–252.
- Bear, M. F., Connors, B. W., & Paradiso, M. A. (2001). *Neuroscience: Exploring the brain* (2nd ed.). Baltimore: Lippincott Williams & Wilkins.
- Bechara, A., Tranel, D., & Damasio, H. (2000). Characterization of the decision-making deficit of patients with ventromedial prefrontal cortex lesions. *Brain*, *123*(11), 2189–2202.
- Beiser, F. C. (1993). Introduction: Hegel and the problem of metaphysics. In F. C. Beiser (Ed.), *The Cambridge companion to Hegel* (pp. 1–24). Cambridge, UK: Cambridge University Press.
- Benes, F. M. (1994). Development of the corticolimbic system. In G. Dawson & K. W. Fischer (Eds.), *Human behavior and the developing brain* (pp. 176–206). New York: Guilford.
- Benes, F. M. (2001). The development of prefrontal cortex: The maturation of neurotransmitter systems and their interactions. In C. A. Nelson & M. Luciana (Eds.), *Handbook of developmental cognitive neuroscience* (pp. 79–92). Cambridge, MA: MIT Press.
- Bennett, M. R., & Hacker, P. M. S. (2003). *Philosophical foundations of neuroscience*. Malden, MA: Blackwell.
- Benson, N. (1989). "Mental capacity constraints on early symbolic processing: The origin of language from a cognitive perspective" [Unpublished doctoral dissertation]. York University.
- Benson, N., & Pascual-Leone, J. (1997). "Mental capacity constraints on early symbolic processing" [Unpublished manuscript]. Department of Psychology, York University, Toronto, Canada.
- Bereiter, C. (1985). Toward a solution of the learning paradox. *Review of Educational Research*, *55*(2), 201–226.
- Berthoz, A. (2003). *La decisión* [The decision]. Paris: Odile Jacob.
- Berthoz, A. (2012). *Simplexity: Simplifying principles for a complex world*. New Haven, CT: Yale University Press.
- Beth, E. W., & Piaget, J. (1961). *Epistémologie mathématique et psychologie* [Mathematical epistemology and psychology]. Paris: Presses Universitaires de France.

- Bever, T., & Chiarello, R. J. (1974). Cerebral dominance in musicians and non-musicians. *Science*, *185*(4150), 537–539.
- Bickhard, M. H. (2015a). Toward a model of functional brain processes I: Central nervous system functional micro-architecture. *Axiomathes*, *25*, 217–238.
- Bickhard, M. H. (2015b). What could cognition be, if not computation...or connectionism, or dynamic systems? *Journal of Theoretical and Philosophical Psychology*, *35*(1), 53–66.
- Bloom, L. (1973). *One word at a time: The use of single word utterances before syntax*. The Hague: Mouton.
- Bohm, D. (1980). *Wholeness and the implicate order*. New York: Routledge.
- Borsboom, D., Mellenbergh, G. J., & van Heerden, J. (2004). The concept of validity. *Psychological Review*, *111*(4), 1061–1071.
- Bower, T. G. R. (1974). *Development in infancy*. San Francisco: Freeman.
- Broadbent, N. J., Clark, R. E., Zola, S., & Squire, L. R. (2002). The medial temporal lobe and memory. In L. R. Squire & D. L. Schacter (Eds.), *Neuropsychology of memory* (3rd ed.) (pp. 3–23). New York: Guilford.
- Bruner, J. (1964). The course of cognitive growth. *American Psychologist*, *19*(1), 1–15.
- Bruya, B. (Ed.). (2010). *Effortless attention*. Cambridge, MA: MIT Press.
- Buchler, J. (1955). *Philosophical writings of Peirce*. New York: Dover.
- Bunge, S. A., Hazeltine, E., Scanlon, M. D., Rosen, A. C., & Gabrieli, D. E. (2002). Dissociable contributions of prefrontal and parietal cortices to response selection. *NeuroImage*, *17*(3), 1562–1571.
- Burtis, P. J. (1982). Capacity increase and chunking in the development of short term memory. *Journal of Experimental Child Psychology*, *34*(3), 387–413.
- Bush, G., Luu, P., & Posner, M. (2000). Cognitive and emotional influences in anterior cingulate cortex. *Trends in Cognitive Neurosciences*, *4*(6), 215–222.
- Buss, A. T., & Spencer, J. P. (2014). The emergent executive: A dynamic field theory of the development of executive function. *Monographs of the Society for Research in Child Development*, *79* (Serial No. 313).
- Buzsaki, G. (2006). *Rhythms of the brain*. New York: Oxford University Press.
- Cabeza, R., Anderson, N. D., Locantore, J. K., & McIntosh, A. R. (2002). Aging gracefully: Compensatory brain activity in high-performing older adults. *NeuroImage*, *17*(3), 1394–1402.
- Callari, A., & Ruccio, D. F. (Eds.). (1996). *Postmodern materialism and the future of Marxist theory*. Hanover, NH: University Press of New England.
- Calvo, A. (2004). "Detection of latent giftedness by means of mental capacity testing" [Unpublished master's thesis]. York University.

- Camba, R. (2014). La conservazione del numero secondo la teoria della catastrofe [Number conservation according to catastrophe theory]. *Giornale Italiano di Psicologia*, *XLI*(3), 555–571.
- Campbell, J. (Ed.). (1971). *The portable Jung*. New York: Viking.
- Carey, S., Zaitchik, D., & Bascandziev, I. (2015). Theories of development: In dialog with Jean Piaget. *Developmental Review*, *38*, 36–54.
- Case, R. (1975). Gearing the demands of instruction to the developmental capacities of the learner. *Review of Educational Research*, *45*(1), 59–87.
- Case, R. (1985). *Intellectual development: Birth to adulthood*. New York: Academic Press.
- Case, R. (1992). *The mind's staircase*. Hillsdale, NJ: Erlbaum.
- Case, R. (1998). The development of conceptual structures. In W. Damon (Series Ed.) & D. Kuhn & R. S. Siegler (Vol. Eds.), *Handbook of child psychology: Vol. 2. Cognition, perception, and language* (5th ed., pp. 745–800). New York: Wiley.
- Case, R., Demetriou, A., Platsidou, M., & Kazi, S. (2001). Integrating concepts and tests of intelligence from the differential and developmental traditions. *Intelligence*, *29*(4), 307–336.
- Case, R. & Edelman, W. (1993). Introduction: Structural approaches to individual differences. In R. Case & W. Edelman (Eds.), *The new structuralism in cognitive development: Theory and research on individual pathways* (pp. 1–10). Basel, CH: Karger.
- Case, R., & Okamoto, Y. (1996). The role of conceptual structures in the development of children's thought. *Monographs of the Society for Research in Child Development*, *61* (Serial No. 246).
- Case, R., Okamoto, Y., Henderson, B., & McKeough, A. (1993). Individual variability and consistency in cognitive development: New evidence for the existence of central conceptual structures. In R. Case & W. Edelman (Eds.), *The new structuralism in cognitive development: Theory and research on individual pathways* (pp. 71–100). Basel, CH: Karger.
- Casasanto, D. (2003). Hemispheric specialization in prefrontal cortex: Effects of verbalizability, imageability and meaning. *Journal of Neurolinguistics*, *16*(4–5), 361–382.
- Cassirer, E. (1938). Le concept de groupe et la theorie de la perception [The group concept and the theory of perception]. *Journal de Psychologie Normale et Pathologique*, *XXXV*, 368–383.
- Cassirer, E. (1953). *Substance and function* (W. C. Swabey & M. C. Swabey, Trans.). New York: Dover. (Original work published 1923)
- Cassirer, E. (1957). *The philosophy of symbolic forms, Vol. 3: The phenomenology of knowledge*. New Haven, CT: Yale University Press. (Original work published 1929)
- Cassirer, E. (1966). *An essay on man*. New Haven, CT: Yale University Press. (Original work published 1944)
- Cassirer, E. (1996). *The philosophy of symbolic forms, Vol. 4: The metaphysics of symbolic forms*. New Haven, CT: Yale University Press. (Original work published 1940)

- Castro-Alamancos, M. A., & Gulati, T. (2014). Neuromodulators produce distinct activated states in neocortex. *The Journal of Neuroscience*, *34*(37), 12353–12367.
- Catania, A. C., & Harnad, S. (Eds.). (1988). *The selection of behavior: The operant behaviorism of B. F. Skinner*. Cambridge, UK: Cambridge University Press.
- Christoff, K., & Gabrieli, J. D. E. (2000). The frontopolar cortex and human cognition: Evidence for a rostrocaudal hierarchical organization within the human prefrontal cortex. *Psychobiology*, *28*(2), 168–186.
- Christoff, K., Keramatian, K., Gordon, A. M., Smith, R., Mädler, B. (2009). Prefrontal organization of cognitive control according to levels of abstraction. *Brain Research*, *1286*, 94–105.
- Claparede, E. (1946). *Psychologie de l'enfant et pédagogie expérimentale: I. Le développement mental* [Child psychology and experimental pedagogy: Mental development]. Neuchâtel, CH: Delachaux et Niestlé. (Original work published 1915)
- Cockburn, J., & Frank, M. (2011). Reinforcement learning, conflict monitoring, and cognitive control: An integrative model of cingulate-striatal interactions and the ERN. In R. B. Mars, J. Sallet, M. F. S. Rushworth, & N. Yeung (Eds.), *Neural basis of motivational and cognitive control* (pp. 311–331). Cambridge, MA: MIT Press.
- Collette, F., Germain, S., Hogge, M., & van der Linden, M. (2009). Inhibitory control of memory in normal ageing: Dissociation between impaired intentional and preserved unintentional processes. *Memory*, *17*(1), 104–122.
- Conway, A. R. A., Kane, M. J., Bunting, M. F., Hambrick, D. Z., Wilhelm, O., & Engle, R. W. (2005). Working memory span tasks: A review and a user's guide. *Psychonomic Bulletin and Review*, *12*(5), 769–786.
- Corbetta, M., Patel, G., & Shulman, G. L. (2008). The reorienting system of the human brain: From environment to theory of mind. *Neuron*, *58*(3), 306–324.
- Corbetta, M., & Shulman, G. L. (2002). Control of goal-directed and stimulus-driven attention in the brain. *Nature Reviews Neuroscience*, *3*(3), 201–215.
- Cotterill, R. M. J. (2001). Cooperation of the basal ganglia, cerebellum, sensory cerebrum and hippocampus: Possible implications for cognition, consciousness, intelligence and creativity. *Progress in Neurobiology*, *64*(1), 1–33.
- Cowan, N. (2005). *Working memory capacity*. New York: Psychology Press.
- Cowan, N. (2016). Working memory maturation: Can we get at the essence of cognitive growth? *Perspectives on Psychological Science*, *11*(2), 239–264.
- Cowan, N., AuBuchon, A. M., Gilchrist, A. L., Ricker, T. J., & Saults, J. S. (2011). Age differences in visual working memory capacity: Not based on encoding limitations. *Developmental Science*, *14*(5), 1066–1074.
- Cowan, N., Ricker, T. J., Clark, K. M., Hinrichs, G. A., & Glass, B. A. (2015). Knowledge cannot explain the developmental growth of working memory capacity. *Developmental Science*, *18*(1), 132–145.

- Csikszentmihalyi, M., & Nakamura, J. (2010). Effortless attention in everyday life: A systematic phenomenology. In B. Bruya (Ed.), *Effortless attention: A new perspective in the cognitive science of attention and action* (pp. 179–189). Cambridge, MA: MIT Press.
- Cullenberg, S. (1996). Althusser and the decentering of the Marxist totality. In A. Callari & D. F. Ruccio (Eds.), *Postmodern materialism and the future of Marxist theory* (pp. 120–149). Hanover, NH: University Press of New England.
- Cunning, S. (2003). "The direction-following task: Assessing mental capacity in the linguistic domain" [Unpublished doctoral dissertation]. York University.
- Dalley, J. W., & Roiser, J. P. (2012). Dopamine, serotonin and impulsivity. *Neuroscience*, *215*, 42–58.
- Damasio, A. R. (1999). *The feeling of what happens*. San Diego, CA: Harcourt.
- Damasio, A. R. (2012). *Self comes to mind: Constructing the conscious mind*. New York: Vintage.
- Damasio, A. R., & Damasio, H. (1994). Cortical systems for retrieval of concrete knowledge: The convergence zone framework. In C. Koch & J. L. Davis (Eds.), *Large-scale neuronal theories of the brain* (pp. 61–74). Cambridge, MA: MIT Press.
- Davis, S. W., Dennis, N. A., Daselaar, S. M., Fleck, M. S., & Cabeza, R. (2008). Que PASA? The posterior-anterior shift in aging. *Cerebral Cortex*, *18*(5), 1201–1209.
- da Vinci, L. (1959). *Selections from notebooks of Leonardo da Vinci* (I. A. Richter, Ed.). London: Oxford University Press.
- Deary, I. J. (2000). *Looking down on human intelligence: From psychometrics to the brain*. New York: Oxford University Press.
- Dehaene, S. (2014). *Consciousness and the brain: Deciphering how the brain codes our thoughts*. New York: Viking.
- de Hevia, M. D., Izard, V., Coubart, A., Spelke, E. S., & Streri, A. (2014). Representations of space, time, and number in neonates. *Proceedings of the National Academy of Sciences of the USA*, *111*(13), 4809–4813.
- De Houwer, J., Barnes-Holmes, D., & Moors, A. (2013). What is learning? On the nature and merits of a functional definition of learning. *Psychonomic Bulletin & Review*, *20*(4), 631–642.
- DeLoache, J. S. (1989). Young children's understanding of the correspondence between a scale model and a larger space. *Cognitive Development*, *4*(2), 121–139.
- Demetriou, A., Makris, N., Spanoudis, G., Kazi, S., Shayer, M., & Kazali, E. (2018). Mapping the dimensions of general intelligence: An integrated differential-developmental theory. *Human Development*, *61*(1), 4–42.
- Demetriou, A., & Spanoudis, G. (2018). *Growing minds: A developmental theory of intelligence, brain, and education*. New York: Routledge.

Demetriou, A., Spanoudis, G., & Shayer, M. (2014). Inference, reconceptualization, insight, and efficiency along intellectual growth: A general theory. *Enfance*, 3(3), 365–396.

de Ribaupierre, A., & Bailleux, C. (2000). The development of working memory: Further note on the comparability of two models of working memory. *Journal of Experimental Child Psychology*, 77(2), 110–127.

de Ribaupierre, A., Fagot, D., & Lecerf, T. (2011). Working memory capacity and its role in cognitive development. In P. Barrouillet & V. Gaillard (Eds.), *Cognitive development and working memory: A dialogue between neo-Piagetian and cognitive approaches* (pp. 105–133). New York: Psychology Press.

de Ribaupierre, A., & Lecerf, T. (2006). Relationships between working memory and intelligence from a developmental perspective: Convergent evidence from a neo-Piagetian and a psychometric approach. *European Journal of Cognitive Psychology*, 18(1), 109–137.

de Ribaupierre, A., & Lecerf, T. (2017). Intelligence and cognitive development: Three sides of the same coin. *Journal of Intelligence*, 5(2), 14. doi:10.3390/jintelligence5020014

Diamond, A. (2001). A model system for studying the role of dopamine in the prefrontal cortex during early development in humans: Early and continuously treated phenylketonuria. In C. A. Nelson & M. Luciana (Eds.), *Handbook of developmental cognitive neuroscience* (pp. 433–472). Cambridge, MA: MIT Press.

Dormashev, Y. (2010). Flow experience explained on the grounds of an active approach to attention. In B. Bruya (Ed.), *Effortless attention* (pp. 287–333). Cambridge, MA: MIT Press.

Drescher, G. L. (2003). *Made-up minds. A constructivist approach to artificial intelligence*. Cambridge, MA: MIT Press.

Drevets, W. C. (1999). Prefrontal cortical-amygdalar metabolism in major depression. *Annals of the New York Academy of Sciences*, 877, 614–637.

Dunnett, S. B., & Robbins, T. W. (1992). The functional role of the mesotelencephalic dopamine systems. *Biological Reviews of the Cambridge Philosophical Society*, 67(4), 491–518.

Eccles, J. C. (1980). *The human psyche*. Berlin: Springer.

Edelman, G. M. (1987). *Neural Darwinism*. New York: Basic Books.

Edelman, G. M. (1989). *Remembered present: A biological theory of consciousness*. New York: Basic Books.

Edelman, G. M., & Mountcastle, V. B. (1978). *The mindful brain: Cortical organization and the group-selective theory of higher brain function*. Cambridge, MA: MIT Press.

Edelman, G. M., & Tononi, G. (2000). *A universe of consciousness*. New York: Basic Books.

Ekman, P., & Davidson, R. J. (Eds.). (1994). *The nature of emotion*. New York: Oxford University Press.

- Elman, J. L. (1993). Learning and development in neural networks: The importance of starting small. *Cognition*, 48(1), 71–99.
- Elman, J. L., Bates, E. A., Johnson, M. H., Karmiloff-Smith, A., Parisi, D., & Plunkett, K. (1996). *Rethinking innateness: A connectionist perspective on development*. Cambridge, MA: MIT Press.
- Engle, R. W. (2002). Working memory capacity as executive attention. *Current Directions in Psychological Science*, 11(1), 19–23.
- Engle, R. W. (2018). Working memory and executive attention: A revisit. *Perspectives on Psychological Science*, 13(2), 190–193.
- Engle, R. W., Tuholski, S. W., Laughlin, J. E., & Conway, A. R. A. (1999). Working memory, short-term memory and general fluid intelligence: A latent variable approach. *Journal of Experimental Psychology: General*, 128(3), 309–331.
- Espy, K. A. (Ed.). (2016). The changing nature of executive control in preschool. *Monographs of the Society for Research in Child Development*, 81 (Serial No. 323).
- Evans, B. T., & Stanovich, K. E. (2013). Dual-process theories of higher cognition: Advancing the debate. *Perspectives on Psychological Science*, 8(3), 223–242.
- Feyerabend, P. (1978). *Science in a free society*. London: New Left Books.
- Fillmore, C. J. (1968). The case for case. In E. Bach & R. T. Harms (Eds.), *Universals in linguistic theory* (pp. 1–90). New York: Holt, Rinehart, & Winston.
- Fischer, H., Nyberg, L., Karlsson, S., Karlsson, P., Brehmer, Y., Rieckmann, A., MacDonald, S. W. S., Farde, L., & Bäckman, L. (2010). Simulating neurocognitive aging: Effects of a dopaminergic antagonist on brain activity during working memory. *Biological Psychiatry*, 67(6), 575–580.
- Fischer, K. W. (1980). A theory of cognitive development: The control and construction of hierarchies of skills. *Psychological Review*, 87(6), 477–531.
- Flavell, J. H. (1963). *The developmental psychology of Jean Piaget*. New York: Van Nostrand Reinhold.
- Fodor, J. A. (1981). The present status of the innateness controversy. In J. Fodor (Ed.), *RePresentations: Philosophical essays on the foundations of cognitive science* (pp. 257–316). Cambridge, MA: MIT Press.
- Ford, R. M., Keating, S., & Patel, R. (2004). Retrieval-induced forgetting: A developmental study. *British Journal of Developmental Psychology*, 22(4), 585–603.
- Fraisse, P. (1963). Les émotions [Emotions]. In J. Nuttin, P. Fraisse, R. Meili, & P. Roubertoux, *Traite de psychologie experimentale. V. Motivation, emotion et personnalite* (pp. V-83–V-153). Paris: Presses Universitaires de France.
- Fredrickson, B. L. (2001). The role of positive emotions in positive psychology. *American Psychologist*, 56(3), 218–226.
- Frege, G. (1980). *The foundations of arithmetic: A logico-mathematical enquiry into the concept of number* (J. L. Austin, Trans.). Evanston, IL: Northwestern University Press.

- Frijda, N. H. (1987). Emotions, cognitive structure, and action tendency. *Cognition and Emotion*, *1*(2), 115–144.
- Friston, K. (2010). The free-energy principle: A unified brain theory? *Nature Reviews Neuroscience*, *11*(2), 127–138.
- Fuller, P. M., Sherman, D., Pedersen, N. P., Saper, C. B., & Lu, J. (2011). Reassessment of the structural basis of the ascending arousal system. *The Journal of Comparative Neurology*, *519*(5), 933–956.
- Fuster, J. M. (1995). *Memory in the cerebral cortex*. Cambridge, MA: MIT Press.
- Fuster, J. M. (2004). Upper processing stages of the perception-action cycle. *Trends in Cognitive Sciences*, *8*(4), 143–145.
- Fuster, J. M., & Alexander, G. E. (1971). Neuron activity related to short-term memory. *Science*, *173*(3997), 652–654.
- Gadamer, H.-G. (1971). *Hegel's dialectic*. New Haven, CT: Yale University Press.
- Gallistel, C. R., & Matzel, L. D. (2013). The neuroscience of learning: Beyond Hebbian synapse. *Annual Review of Psychology*, *64*, 169–200.
- Gallup, G. G. (1982). Self-awareness and the emergence of mind in primates. *American Journal of Primatology*, *2*(3), 237–248.
- Garcia, R. (1980). Postface: Dialectique, psychogenèse et histoire des sciences [Postscript: Dialectics, psychogenesis and the history of science]. In J. Piaget, *Les formes élémentaires de la dialectique* (pp. 229–246). Paris: Gallimard.
- Gazzaniga, M. S., Ivry, R. B., & Mangun, G. R. (1998). *Cognitive neuroscience: The biology of the mind*. New York: Norton.
- Gell-Mann, M. (1994). *The quark and the jaguar: Adventures in the simple and the complex*. New York: Freeman.
- Gershman, S. J., Horvitz, E. J., & Tenenbaum, J. B. (2015). Computational rationality: A converging paradigm for intelligence in brains, minds, and machines. *Science*, *349*(6247), 273–270.
- Gibson, J. J. (1979). *The ecological approach to visual perception*. Boston: Houghton Mifflin.
- Giuliano, M., Johnson, J., & Pascual-Leone, J. (2015, June 4–6). *Does Spanish word order enhance performance on a direction following task?* [Poster presentation]. Jean Piaget Society Annual Conference, Toronto, ON, Canada.
- Goel, V. (2015). Indeterminacy tolerance as a basis of hemispheric asymmetry within prefrontal cortex. *Frontiers in Human Neuroscience*, *9*, 326. doi: <https://dx.doi.org/10.3389%2Ffnhum.2015.00326>
- Goel, V. (2019). Hemispheric asymmetry in prefrontal cortex for complex cognition. In M. D'Esposito & J. H. (Eds.), *Handbook of Clinical Neurology: Vol. 163. The frontal lobes* (pp. 179–196). Amsterdam: Elsevier.

- Goel, V., & Grafman, J. (2000). The role of the right prefrontal cortex in ill-defined problem solving. *Cognitive Neuropsychology*, *17*(5), 415-436.
- Goel, V., Shuren, J., Sheesley, L., & Grafman, J. (2004). Asymmetrical involvement of frontal lobes in social reasoning. *Brain*, *127*, 783-790.
- Goel, V., & Vartanian, O. (2005). Dissociating the roles of right ventral lateral and dorsal lateral prefrontal cortex in generation and maintenance of hypotheses in set-shift problems. *Cerebral Cortex* *15*(8), 1170-1177.
- Gogtay, N., Giedd, J. N., Lusk, L., Hayashi, K. M., Greenstein, D., Vaituzis, A. C., Nugent, T. F., Herman, D. H., Clasen, L. S., Toga, A. W., Rapoport, K., & Thompson, P. M. (2004). Dynamic mapping of human cortical development during childhood through early adulthood. *Proceedings of the National Academy of Sciences of the USA*, *101*(21), 8174-8179.
- Goldberg, G. (1985). Supplementary motor area structure and function: Review and hypotheses. *Behavioral and Brain Sciences*, *8*(4), 567-616.
- Goldstein, K. (2000). *The organism*. New York: Zone Books. (Original work published 1934)
- Goldstein, K., & Sheerer, M. (1941). Abstract and concrete behavior: An experimental study with special tests. *Psychological Monographs*, *53*(2, Whole No. 239).
- Gonseth, F. (1974). *Les mathématiques et la réalité* [Mathematics and reality]. Paris: Albert Blanchard. (Original work published 1936)
- Goode, P. E., Goddard, P. H., & Pascual-Leone, J. (2002). Event-related potentials index cognitive style differences during a serial-order recall task. *International Journal of Psychophysiology*, *43*(2), 123-140.
- Goodman, D. R. (1971). "Cognitive style factors in linguistic performance with ambiguous sentences" [Unpublished master's thesis]. York University.
- Gopnik, A., & Meltzoff, A. N. (1992). Categorization and naming: Basic-level sorting in eighteen-month-olds and its relation to language. *Child Development*, *63*(5), 1091-1103.
- Gordon, A. C. L., & Olson, D. R. (1998). The relation between acquisition of a theory of mind and the capacity to hold in mind. *Journal of Experimental Child Psychology*, *68*(1), 70-83.
- Gottfredson, L. S. (2016). A g theorist on why Kovacs and Conway's process-overlap theory amplifies, not opposes, g theory. *Psychological Inquiry*, *27*(3), 210-217.
- Gotts, S. J., Jo, H. J., Wallace, G. L., Saad, Z. S., Cox, R. W., & Martin, A. (2013). Two distinct forms of functional lateralization in the human brain. *Proceedings of the National Academy of Sciences of the USA*, *110*(36), E3435-E3444.
- Gould, S. J. (2002). *The structure of evolutionary theory*. Cambridge, MA: Harvard University Press.
- Granott, N., & Parziale, J. (Eds.). (2002). *Microdevelopment: Transition processes in development and learning*. New York: Cambridge University Press.

- Greenberg, L. S., & Goldman, R. N. (2019). *Clinical handbook of emotion focused therapy*. Washington, DC: American Psychological Association.
- Greenberg, L. S., & Pascual-Leone, J. (1995). A dialectical constructivist approach to experiential change. In R. A. Neimeyer & M. J. Mahoney (Eds.), *Constructivism in psychotherapy* (pp. 169–191). Washington, DC: American Psychological Association.
- Greenberg, L. S., & Pascual-Leone, J. (2001). A dialectical constructivist view of the creation of personal meaning. *Journal of Constructivist Psychology, 14*(3), 165–186.
- Greenberg, L. S., Rice, L. N., & Elliott, R. (1993). *Facilitating emotional change: The moment-by-moment process*. New York: Guilford.
- Greenhouse, I., Swann, N., & Aron, A. R. (2011). Fronto-basal ganglia circuits for stopping action. In R. B. Mars, J. Sallet, M. F. S. Rushworth, & N. Yeung (Eds.), *Neural basis of motivational and cognitive control* (pp. 189–207). Cambridge, MA: MIT Press.
- Guevara, M. A., Arsalidou, M., Pascual-Leone, J., & Stevens, W. D. (2019, March 23–26). *Neural underpinnings of mental attentional capacity* [Poster presentation]. Cognitive Neuroscience Society Annual Meeting, San Francisco, CA, United States.
- Guilford, J. P. (1967). *The nature of intelligence*. New York: McGraw-Hill.
- Halford, G. S., Cowan, N., & Andrews, G. (2007). Separating cognitive capacity from knowledge: A new hypothesis. *Trends in Cognitive Sciences, 11*(6), 236–241.
- Halford, G. S., Wilson, W. H., Andrews, G., & Phillips, S. (2014). *Categorizing cognition: Toward conceptual coherence in the foundations of psychology*. Cambridge, MA: MIT Press.
- Hansell, N. K., Halford, G. S., Andrews, G., Shum, D. H. K., Harris, S. E., Davies, G., Franic, S., Christoforou, A., Zietsch, B., Painter, J., Medland, S. E., Ehli, E. A., Davies, G. E., Steen, V. M., Lundervold, A. J., Reinvang, I., Montgomery, G. W., Espeseth, T., Pol, H. E. H., ... Wright, M. J. (2015). Genetic basis of a cognitive complexity metric. *PLoS ONE, 10*(4), e0123886. <https://doi.org/10.1371/journal.pone.0123886>
- Harlow, H. F. (1959). Learning set and error factor theory. In S. Koch (Ed.), *Psychology: A study of a science* (Vol. 2, pp. 492–537). New York: McGraw-Hill.
- Hebb, D. O. (1961). *Organization of behavior*. New York: Wiley. (Original work published 1949)
- Hederich-Martínez, C., & Camargo-Uribe, A. (2016). Cognitive style and educational performance. The case of public schools in Bogotá, Colombia. *Educational Psychology, 36*(4), 719–737.
- Heitz, R. P., Unsworth, N., & Engle, R. W. (2005). Working memory capacity, attention control, and fluid intelligence. In O. Wilhelm & R. W. Engle (Eds.), *Handbook of understanding and measuring intelligence* (pp. 61–77). Thousand Oaks, CA: Sage.
- Hermans, E. J., van Marle, H. J. F., Ossewaarde, L., Henckens, M. J. A. G., Qin, S., van Kesteren, M. T. R., Schoots, V. C., Cousjin, H., Rijpkema, M., Oostenveld, R., & Fernández, G. (2011). Stress-related noradrenergic activity prompts large-scale neural network reconfiguration. *Science, 334*(6059), 1151–1153.

- Heraclitus. (2001). *Fragments: The collected wisdom of Heraclitus* (B. Haxton, Trans.). New York: Viking.
- Hickok, G. (2014). *The myth of mirror neurons: The real neuroscience of communication and cognition*. New York: Norton.
- Hildebrand, D. K., Laing, J. D., & Rosenthal, H. (1977). *Analysis of ordinal data*. Newbury Park, CA: Sage.
- Hintikka, J., & Remes, U. (1974). *The method of analysis*. Dordrech, NL: D. Reidel.
- Hochberg, J. E. (1964). *Perception*. Englewood Cliffs, NJ: Prentice-Hall.
- Holroyd, C. B., & Yeung, N. (2012). Motivation of extended behaviors by anterior cingulate cortex. *Trends in Cognitive Sciences*, 16(2), 122–128.
- Holyoak, K., & Cheng, P. W. (2011). Causal learning and inference as rational process: The new synthesis. *Annual Review of Psychology*, 62, 135–163.
- Hommel, B., Colzato, L. S., & van den Wildenberg, W. P. M. (2009). How social are task representations? *Psychological Science*, 20(7), 794–798.
- Horn, J. L. (1998). A basis for research on age differences in cognitive capabilities. In J. J. McArdle & R. W. Woodcock (Eds.), *Human cognitive abilities in theory and practice* (pp. 57–91). Mahwah, NJ: Erlbaum.
- Horn, J. L., & Hofer, S. M. (1992). Major abilities and development in the adult period. In R. J. Sternberg & C. A. Berg (Eds.), *Intellectual development* (pp. 44–99). New York: Cambridge University Press.
- Horn, J. L., & Noll, J. (1994). A system for understanding cognitive capabilities: A theory and the evidence on which it is based. In D. K. Detterman (Ed.), *Current topics in human intelligence: Vol. 4. Theories of intelligence* (pp. 151–203). Norwood, NJ: Ablex.
- Houdé, O. (1995). *Rationalité, développement et inhibition: Un nouveau cadre d'analyse* [Rationality, development, and inhibition: A new frame of analysis]. Paris: Presses Universitaires de France.
- Houdé, O., Pineau, A., Leroux, G., Poirel, N., Perchey, G., Lanoë, C., Lubin, A., Turbelin, M.-R., Rossi, S., Simon, G., Delcroix, N., Lamberton, F., Vigneau, M., Wisniewski, G., Vicet, J.-R., & Mazoyer, B. (2011). Functional MRI study of Piaget's conservation-of-number task in preschool and school-age children: A neo-Piagetian approach. *Journal of Experimental Child Psychology*, 110(3), 332–346.
- Howard, S. J. (2009). "Factors underlying cognitive giftedness: Mental vs. perceptual attention" [Unpublished master's thesis]. York University.
- Howard S. J., Johnson J., & Pascual-Leone J. (2014). Clarifying inhibitory control: Diversity and development of attentional inhibition. *Cognitive Development*, 31, 1–21.
- Howells, F. M., Stein, D. J., & Russell, V. A. (2010). Perceived mental effort correlates with changes in tonic arousal during attentional tasks. *Behavioral and Brain Functions*, 6, Article 39. <https://doi.org/10.1186/1744-9081-6-39>

- Huddy, V. C., Aron, A. R., Harrison, M., Barnes, T. R. E., Robbins, T. W., & Joyce, E. M. (2009). Impaired conscious and preserved unconscious inhibitory processing in recent onset schizophrenia. *Psychological Medicine: A Journal of Research in Psychiatry and the Allied Sciences*, 39(6), 907–916.
- Husserl, E. (1970). *The crisis of European science and transcendental phenomenology*. Evanston, IL: Northwestern University Press.
- Husserl, E. (1973). *Experience and judgment: Investigations in a genealogy of logic*. Evanston, IL: Northwestern University Press.
- Im-Bolter, N., Johnson, J., Ling, D., & Pascual-Leone, J. (2015). Inhibition: Mental control process or mental resource? *Journal of Cognition and Development*, 16(4), 666–681.
- Im-Bolter, N., Johnson, J., & Pascual-Leone, J. (2006). Processing limitation in children with specific language impairment: The role of executive function. *Child Development*, 77(6), 1822–1841.
- Inhelder, B., Garcia, R., & Voneche, J. (Eds.). (1977). *Epistémologie génétique et équilibration* [Genetic epistemology and equilibration]. Neuchatel, CH: Delachaux et Niestlé.
- Jackson, J. H. (1915). On the nature of the duality of the brain. *Brain*, 38, 80–103.
- James, W. (1961). *Psychology: The briefer course* (G. Allport, Ed.). New York: Harper Torchbook. (Original work published 1892)
- Janet, P. (1889). *L'Automatisme psychologique* [Psychological automatism]. Paris: Felix Alcan.
- Jaspers, K. (1959). *Truth and symbol*. New Haven, CT: College and University Press.
- Jaspers, K. (1962). Kant. In *The great philosophers: Vol 1. The foundations*. New York: Harcourt.
- Jaspers, K. (1970). *Philosophy* (Vol. 2). Chicago: University of Chicago Press.
- Jennings, F. G. (1967). Education in America, Jean Piaget: Notes on learning. *The Saturday Review*, May 20, 81–83.
- Jedrkiewicz, J. A. (1983). "Adult development and mental effort: A neo-Piagetian developmental analysis" [Unpublished master's thesis]. York University.
- Jiang, J., Brashier, N. M., & Egner, T. (2015). Memory meets control in hippocampal and striatal binding of stimuli, responses, and attentional control states. *The Journal of Neuroscience*, 35(44), 14885–14895.
- Johansen, J. (1993). *Dialogic semiosis: An essay on signs and meaning*. Bloomington: Indiana University Press.
- Johnson, J., Fabian, V., & Pascual-Leone, J. (1989). Quantitative hardware-stages that constrain language development. *Human Development*, 32(5), 245–271.
- Johnson, J., Howard, S., & Pascual-Leone, J. (2009, April 2-4). *Factors underlying cognitive giftedness: Mental vs. perceptual attention* [Poster presentation]. Society for Research in Child Development Biennial Meeting, Denver, CO, United States.

- Johnson, J., Im-Bolter, N., & Pascual-Leone, J. (2003). Development of mental attention in gifted and mainstream children: The role of mental capacity, inhibition, and speed of processing. *Child Development, 74*(6), 1594–1614.
- Johnson, J., & Pascual-Leone, J. (1989). Reply to A. Karmiloff-Smith. *Human Development, 32*(5), 276–278.
- Johnson, J., Pascual-Leone, J., Im-Bolter, N., & Verrilli, E. (2004, July 11–15). *Executive functions and mental attention in cognitively gifted children* [Poster presentation]. International Society for the Study of Behavioral Development Biennial Meeting, Ghent, Belgium.
- Johnson, J., Prior, S., & Artuso, M. (2000). Field dependence as a factor in second language communicative production. *Language Learning, 50*(3), 529–567.
- Johnson, J., & Rosano, T. (1993). Relation of cognitive style to metaphor interpretation and second language proficiency. *Applied Psycholinguistics, 14*(2), 159–175.
- Johnson, J., Tsvetkov Kristen, I., & Pascual-Leone, J. (2014, May 29-31). *Language factors in measurement of working memory capacity* [Poster presentation]. Jean Piaget Society Annual Meeting, San Francisco, CA, United States.
- Johnson-Laird, P. N. (2010). Mental models and human reasoning. *Proceedings of the National Academy of Sciences of the USA, 107*(43), 18243–18250.
- Johnstone, A. H., & Al-Naeme, F. F. (1991). Room for scientific thought? *International Journal of Science Education, 13*(2), 187–192.
- Johnstone, A. H., & El-Banna, H. (1986). Capacities, demands and processes—a predictive model for science education. *Education in Chemistry, 23*(3), 80–84.
- Johnstone, A. H., & El-Banna, H. (1989). Understanding learning difficulties—a predictive research model. *Studies in Higher Education, 14*(2), 159–168.
- Jonckheere, A., Mandelbrot, B., & Piaget, J. (1958). *La lecture de l'expérience* [The reading of experience]. Paris: Presses Universitaires de France.
- Jorna, R. J. (1995). The semiotic (sign-oriented) aspects of connectionism. In I. Lubek, R. van Hezewijk, G. Pheterson, & C. W. Tolman (Eds.), *Trends and issues in theoretical psychology* (pp. 233–238). New York: Springer.
- Juckles, T. J. (1991). Equilibration and the learning paradox. *Human Development, 34*(5), 261–272.
- Kagan, J. (2002). *Surprise, uncertainty, and mental structures*. Cambridge, MA: Harvard University Press.
- Kagan, J. (2008). In defense of qualitative changes in development. *Child Development, 79*(6), 1606–1624.
- Kahneman, D. (1973). *Attention and effort*. Englewood Cliffs, NJ: Prentice-Hall.
- Kahneman, D. (2011). *Thinking, fast and slow*. New York: Farrar, Straus and Giroux.

- Kanizsa, G. (1955). Margini quasi-percettivi in campi con stimolazione omogenea [Quasi-perceptual margins in homogeneously stimulated fields]. *Rivista di Psicologia*, *49*, 7–30.
- Kant, I. (1965). *Critique of pure reason* (N. K. Smith, Trans.). New York: St. Martin's Press. (Original work published 1929)
- Karmiloff-Smith, A. (1992). *Beyond modularity: A developmental perspective on cognitive science*. Cambridge, MA: MIT Press.
- Kelso, J. A. S. (2016). On the self-organizing origins of agency. *Trends in Cognitive Sciences*, *20*(7), 490–499.
- Kerns, J. G., Cohen, J. D., MacDonald, A. W., Cho, R. Y., Stenger, V. A., & Carter, C. S. (2004). Anterior cingulate conflict monitoring and adjustments in control. *Science*, *303*(5660), 1023–1026.
- Kim, T. H., Pascual-Leone, J., Johnson, J., & Tamim, H. (2016). The mental-attention Tai Chi effect with older adults. *BMC Psychology*, *4*, 29. doi: 10.1186/s40359-016-0137-0
- Kitterle, F. L., Christman, S., & Hellige, J. B. (1990). Hemispheric differences are found in the identification, but not the detection, of low versus high spatial frequencies. *Perception and Psychophysics*, *48*(4), 297–306.
- Klein, S. B. (1987). *Learning*. New York: McGraw-Hill.
- Koch, C., & Crick, F. (1994). Some further ideas regarding the neuronal basis of awareness. In C. Koch & J. L. Davis (Eds.), *Large-scale neuronal theories of the brain* (pp. 93–110). Cambridge, MA: MIT Press.
- Koffka, K. (1963). *Principles of Gestalt psychology*. New York: Harcourt. (Original work published 1935)
- Kolb, B., & Whishaw, I. Q. (2003). *Fundamentals of human neuropsychology* (5th ed.). New York: Worth.
- Kosslyn, S. M. (1994). *Image and brain: The resolution of the imagery debate*. Cambridge, MA: MIT Press.
- Kozulin, A. (1990). *Vygotsky's psychology*. Cambridge, MA: Harvard University Press.
- Krantz, D. H., Luce, R. D., Suppes, P., & Tversky, A. (1971). *Foundations of measurement: Vol. I. Additive and polynomial representations*. New York: Academic Press.
- Lechuga, M. T., Moreno, V., Pelegrina, S., Gomez-Ariza, C. J., & Bajo, M. T. (2006). Age differences in memory control: Evidence from updating and retrieval-practice tasks. *Acta Psychologica*, *123*(3), 279–298.
- Lefever, M. M., & Ehri, L. C. (1976). The relationship between field independence and sentence disambiguation ability. *Journal of Psycholinguistic Research*, *5*, 99–106.
- Legerstee, M. (1991). The role of person and object in eliciting early imitation. *Journal of Experimental Child Psychology*, *51*(3), 423–433.
- Legerstee, M. (1998). Mental and bodily awareness in infancy: Consciousness of self-existence. *Journal of Consciousness Studies*, *5*(5–6), 627–644.

- Leibniz, G. W. (1966). *Nouveaux essais sur l'entendement humain* [New essays on human understanding]. Paris: Garnier-Flammarion.
- Leonard, C. M. (2003). Neural substrate of speech and language development. In M. de Haan & M. H. Johnson (Eds.), *The cognitive neurosciences of development* (pp.127–155). New York: Psychology Press.
- Levy, B. J., & Wagner, A. D. (2011). Cognitive control and right ventrolateral prefrontal cortex: Reflexive reorienting, motor inhibition, and action updating. *Annals of the New York Academy of Science*, 1224, 40–62.
- Levy, J. (1980). Cerebral asymmetry and the psychology of man. In M. C. Wittrock (Ed.), *The brain and psychology* (pp. 245–321). New York: Academic Press.
- Levy, J. (1983). Individual differences in cerebral hemisphere asymmetry: Theoretical and experimental considerations. In J. Hellige (Ed.), *Cerebral hemisphere asymmetry: Method, theory, and application* (pp. 465–497). New York: Praeger.
- Lewis, C. I. (1960). *A survey of symbolic logic*. New York: Dover.
- Li, S.-C. (2012). Neuromodulation of behavioral and cognitive development across the life span. *Developmental Psychology*, 48(3), 810–814.
- Li, Y., Wu, S., Zhu, J. & O'Boyle, M. W. (2014). Sex and ability differences in neural activation for disembedding figures: An EEG Investigation. *Learning and Individual Differences*, 35, 142–146.
- Liljeholm, M., & O'Doherty, J. P. (2011). Subcortical contributions to the motivational and cognitive control of instrumental performance by Pavlovian and discriminative stimuli. In R. B. Mars, J. Sallet, M. F. S. Rushworth, & N. Yeung (Eds.), *Neural basis of motivational and cognitive control* (pp. 149–162). Cambridge, MA: MIT Press.
- Lisman, J. E., & Jensen, O. (2013). The theta-gamma neural code. *Neuron*, 77(6), 1002–1016.
- Llinás, R., & Ribary, U. (2001). Consciousness and the brain: The thalamocortical dialogue in health and disease. In P. C. Marijuán (Ed.), *Cajal and consciousness: Scientific approaches on the centennial of Ramón y Cajal's Textura* (pp. 166–175). New York: New York Academy of Sciences.
- Lövdén, M., & Lindenberger, U. (2005). Development of intellectual abilities in old age: From age gradients to individuals. In O. Wilhelm & R.W. Engle (Eds.), *Handbook of understanding and measuring intelligence* (pp. 203–221). Thousand Oaks, CA: Sage.
- Lukacs, G. (1978). *The ontology of social beings: 1. Hegel*. London: Merlin Press.
- Luria, A. R. (1973). *The working brain*. New York: Penguin.
- Luria, A. R. (1979). *The making of the mind*. Cambridge, MA: Harvard University Press.
- Luria, A. R. (1980). *Higher cortical functions in man* (2nd ed.). New York: Basic Books. (Original work published 1962)

- Luu, P., Tucker, D. M., Derryberry, D., Reed, M., & Poulsen, C. (2003). Electrophysiological responses to errors and feedback in the process of action regulation. *Psychological Science, 14*(1), 47–53.
- Marinsek, N., Turner, B. O., Gazzaniga, M., & Miller, M. B. (2014). Divergent hemispheric reasoning strategies: Reducing uncertainty versus resolving inconsistency. *Frontiers in Human Neuroscience, 8*, 839. doi: <https://dx.doi.org/10.3389%2Ffnhum.2014.00839>
- Mars, R. B., Sallet, J., Rushworth, M. F. S., & Yeung, N. (Eds.). (2011). *Neural basis of motivational and cognitive control*. Cambridge, MA: MIT Press.
- Martí, E. (2012). Thinking with signs: From symbolic actions to external systems of representation. In E. Martí & C. Rodríguez (Eds.), *After Piaget* (pp. 151–169). New Brunswick, NJ: Transaction Publishers.
- Marx, K., Engels, F., & Lenin, V. (1977). *On dialectical materialism*. Moscow: Progress Publishers.
- Matsuzawa, T. & Yamakoshi, G. (1996). Comparison of chimpanzee material culture between Bossou and Nimba, West Africa. In A. E. Russon, K. A. Bard, & S. Taylor Parker (Eds.), *Reaching into thought: The mind of the great apes* (pp. 211–232). Cambridge, UK: Cambridge University Press.
- McClure, E. R., Chentsova-Dutton, Y. E., Holochwost, S. J., Parrott, W. G., & Barr, R. (2018). Look at that! Video chat and joint visual attention development among babies and toddlers. *Child Development, 89*(1), 27–36.
- McFarland, D. J., & Sibly, R. M. (1975). The behavioural final common path. *Philosophical Transactions of the Royal Society of London, Biology, 270*(907), 265–293.
- Meltzoff, A. N. (1990). Foundations for developing a concept of self: The role of imitation in relating self to other and the value of social mirroring, social modeling, and self practice in infancy. In D. Cicchetti & M. Beeghly (Eds.), *The John D. and Catherine T. MacArthur foundation series on mental health and development. The self in transition: Infancy to childhood* (pp. 139–164). Chicago: University of Chicago Press.
- Meltzoff, A. N., & Moore, M. K. (1999). Persons and representation: Why infant imitation is important for theories of human development. In J. B. G. Nadel (Ed.), *Imitation in infancy: Cambridge studies in cognitive perceptual development* (pp. 9–35). New York: Cambridge University Press.
- Mendonça Filho, E. J. (2017). “Evidências de validade relacionadas à estrutura interna da escala cognitiva do Inventário Dimensional de Avaliação do Desenvolvimento Infantil” [Validity evidence based on internal structure of the cognitive scale of the Dimensional Inventory for Child Development Assessment] [Unpublished master’s thesis]. Universidade Federal do Rio Grande do Sul.
- Merleau-Ponty, M. (1968). *The visible and the invisible*. Evanston, IL: Northwestern University Press.
- Mesulam, M.-M. (2003). Some anatomical principles related to behavioral neurology and neuropsychology. In T. E. Feinberg & M. J. Farah (Eds.), *Behavioral neurology and neuropsychology* (pp. 45–56). New York: McGraw-Hill.

- Messick, S. (1994). The matter of style: Manifestations of personality in cognition, learning, and teaching. *Educational Psychologist, 29*(3), 121–136.
- Mieville, D., & Vernant, D. (Eds.). (1996). *Stanislaw Lesniewski aujourd'hui: No. 16. Recherches sur la Philosophie et le Langage* [Stanislaw Lesniewski today: Research on philosophy and language]. Paris: Librairie Philosophique Vrin.
- Mihalits, D. S., & Valsiner, J. (2020). Dialectics of influence: How agency works. *Human Arenas*. doi: <https://doi.org/10.1007/s42087-020-00126-6>
- Miller, E. K., & Cohen, J. D. (2001). An integrative theory of prefrontal cortex function. *Annual Review of Neuroscience, 24*, 167–202.
- Miller, G. A. (1956). The magical number seven, plus or minus two: Some limits on our capacity for processing information. *Psychological Review, 63*(2), 81–97.
- Miller, G. A., Galanter, E., & Pribram, K. H. (1960). *Plans and the structure of behavior*. New York: Henry Holt.
- Miller, J. F., Chapman, R. S., Branston, M. B., & Reichle, J. (1980). Language comprehension in sensorimotor stages V and VI. *Journal of Speech and Hearing Research, 23*, 284–311.
- Miller, R. (2011). *Vygotsky in perspective*. Cambridge, UK: Cambridge University Press.
- Milner, A. D., & Goodale, M. A. (1995). *The visual brain in action*. Oxford, UK: Oxford University Press.
- Mills, D. L., Coffey-Corina, S. A., & Neville, H. J. (1993). Language acquisition and cerebral specialization in 20-month-old infants. *Journal of Cognitive Neuroscience, 5*(3), 317–334.
- Miyake, A., Friedman, N. P., Emerson, M. J., Witzki, A. H., & Howerter, A. (2000). The unity and diversity of executive functions and their contributions to complex “frontal lobe” tasks: A latent variable analysis. *Cognitive Psychology, 41*(1), 49–100.
- Molenaar, P. C., & van der Maas, H. L. J. (1994). Commentary. *Human Development, 37*(3), 177–189.
- Molfese, D. L., Wetzel, W. F., & Gill, L. A. (1993). Known versus unknown word discriminations in 12-month-old human infants: Electrophysiological correlates. *Developmental Neuropsychology, 9*(3-4), 241–258.
- Morra, S. (2000). A new model of verbal short-term memory. *Journal of Experimental Child Psychology, 75*(3), 191–227.
- Morra, S. (2008). A test of a neo-Piagetian model of the water-level task. *European Journal of Developmental Psychology, 5*(3), 369–400.
- Morra, S. & Borella, E. (2015). Working memory training: From metaphors to models. *Frontiers in Psychology, 6*, 1097. doi: [10.3389/fpsyg.2015.01097](https://doi.org/10.3389/fpsyg.2015.01097)

- Morra, S., Camba, R., Calvini, G., & Bracco, F. (2013). Italians do it better? M-capacity measurement and cross-linguistic differences in the direction following task (DFT). *Rivista Di Psicolinguistica Applicata/Journal of Applied Psycholinguistics*, 13(1), 9–24.
- Morra, S., Gobbo, C., Marini, Z., & Sheese, R. (2008). *Cognitive development: Neo-Piagetian perspectives*. New York: Erlbaum.
- Morra, S., & Panesi, S. (2017). From scribbling to drawing: The role of working memory. *Cognitive Development*, 43, 142–158.
- Morris, C. W. (1946). *Signs, language, and behavior*. New York: G. Braziller.
- Moscovitch, M. (1992). Memory and working-with memory: A component process model based on modules and central systems. *Journal of Cognitive Neuroscience*, 4(3), 257–267.
- Moscovitch M., Cabeza, R., Winocur, G., & Nadel, L. (2016). Episodic memory and beyond: The hippocampus and neocortex in transformation. *Annual Review of Psychology*, 67, 105–134.
- Munakata, Y., Herd, S. A., Chatham, C. H., Depue, B. E., Banich, M. T., & O'Reilly, R. C. (2011). A unified framework for inhibitory control. *Trends in Cognitive Sciences*, 15(10), 453–459.
- Munakata, Y., & Stedron, J. M. (2001). Neural network models of cognitive development. In C. A. Nelson & M. Luciana (Eds.), *Handbook of developmental cognitive neuroscience* (pp. 159–171). Cambridge, MA: MIT Press.
- Nadel, J., Guerini, C., Peze, A., & Rivet, C. (1999). The evolving nature of imitation as a format for communication. In J. Nadel & G. Butterworth, G. (Eds.), *Imitation in infancy* (pp. 209–234). Cambridge, UK: Cambridge University Press.
- Naglieri, J. (1985). *Matrix Analogies Test (Short Form): Examiner's manual*. San Antonio, TX: Psychological Corporation.
- Nauta, W. J. H., & Feirtag, M. (1986). *Fundamental neuroanatomy*. New York: W.H. Freeman.
- Nelson, C. A., & Webb, S. J. (2003). A cognitive neuroscience perspective on early memory development. In M. de Haan & M. H. Johnson (Eds.), *The cognitive neurosciences of development* (pp. 99–125). New York: Psychology Press.
- Nelson, K. (1974). Concept, word, and sentence: Interrelations in acquisition and development. *Psychological Review*, 81(4), 267–285.
- Newton, I. (1974). *Newton's philosophy of nature. Selections from his writings* (H. S. Thayer, Ed.). New York: Hafner Press.
- Niaz, M. (1992). From Piaget's epistemic subject to Pascual-Leone's metasubject: Epistemic transition in the constructivist-rationalist theory of cognitive development. *International Journal of Psychology*, 27(6), 443–457.
- Niaz, M. (1995). Cognitive conflict as a teaching strategy in solving chemistry problems: A dialectic-constructivist perspective. *Journal of Research in Science Teaching*, 32(9), 959–970.

- Niaz, M. (2006). Can the study of thermochemistry facilitate students' differentiation between heat energy and temperature? *Journal of Science Education and Technology*, 15(3), 269–276.
- Niaz, M., & Robinson, W. R. (1992). From “algorithmic mode” to “conceptual Gestalt” in understanding the behavior of gases: An epistemological perspective. *Research in Science and Technological Education*, 10(1), 53–64.
- Noll, J. G., & Horn, J. L. (1998). Age differences in processes of fluid and crystallized intelligence. In J. J. McArdle & R. W. Woodcock (Eds.), *Human cognitive abilities in theory and practice* (pp. 263–281). Mahwah, NJ: Erlbaum.
- Nöth, W. (1990). *Handbook of semiotics*. Bloomington: Indiana University Press.
- Nozick, R. (2001). *Invariances: The structure of the objective world*. Cambridge, MA: Belknap.
- Ochsner, K. N., Bunge, S. A., Gross, J. J., & Gabrieli, J. D. E. (2002). Rethinking feeling: An fMRI study of the cognitive regulation of emotion. *Journal of Cognitive Neuroscience*, 14(8), 1215–1229.
- Oerter, R. (2000). Activity and motivation: A plea for a human frame motivation. *Advances in Psychology*, 131, 57–78.
- Ohnishi, T., Matsuda, H., Asada, T., Aruga, M., Hirakata, M., Nishikawa, M., Katoh, A., & Imabayashi, E. (2001). Functional anatomy of musical perception in musicians. *Cerebral Cortex*, 11(8), 754–760.
- Olsen, R. K., Lee, Y., Kube, J., Rosenbaum, R. S., Grady, C. L., Moscovitch, M., & Ryan, J. D. (2015). The role of relational binding in item memory: Evidence from face recognition in a case of developmental amnesia. *Journal of Neuroscience*, 35(13), 5342–5350.
- Ortega, J. (1980). *El hombre y la gente* [Man and people]. Madrid, ES: Revista de Occidente en Alianza Editorial. (Original work published 1935)
- Owen, A. M., Evans, A. C., & Petrides, M. (1996). Evidence for a two-stage model of spatial working memory processing within the lateral frontal cortex: A positron emission tomography study. *Cerebral Cortex*, 6(1), 31–38.
- Owen, A. M., McMillan, K. M., Laird, A. R., & Bullmore, E. (2005). N-back working memory paradigm: A meta-analysis of normative functional neuroimaging studies. *Human Brain Mapping*, 25(1), 46–59.
- Panksepp, J., & Biven, L. (2012). *The Norton series on interpersonal neurobiology. The archaeology of mind: Neuroevolutionary origins of human emotion*. New York: Norton.
- Pascual-Leone, A. [Alvaro], Grafman, J., & Hallett, M. (1994). Modulation of cortical motor output maps during the development of implicit and explicit knowledge. *Science*, 263(5151), 1287–1289.
- Pascual-Leone, A. [Alvaro], & Hamilton, R. (2001). The metamodal organization of the brain. *Progress in Brain Research*, 134, 427–445.

- Pascual-Leone, A. [Alvaro], Freitas, C., Oberman, L., Horvath, J. C., Halko, M., Eldaief, M., Bashir, S., Vernet, M., Shafi, M., Westover, B., Vahabzadeh-Hagh, A. M., & Rotenberg, A. (2011). Characterizing brain cortical plasticity and network dynamics across the age-span in health and disease with TMS-EEG and TMS-fMRI. *Brain Topography*, *24*(3-4), 302–315.
- Pascual-Leone, A. [Antonio], Greenberg, L. S., & Pascual-Leone, J. (2009). Developments in task analysis: New methods to study change. *Psychotherapy Research*, *19*(4-5), 527–542.
- Pascual-Leone, A. [Antonio], Greenberg, L. S., & Pascual-Leone, J. (2014). Task analysis: New developments for programmatic research on the process of change. In W. Lutz & S. Knox (Eds.), *Quantitative and qualitative methods in psychotherapy research* (pp. 249–273). New York: Routledge.
- Pascual-Leone, J. (1969). "Cognitive development and cognitive style: A general psychological integration" [Unpublished doctoral dissertation]. University of Geneva.
- Pascual-Leone, J. (1970). A mathematical model for the transition rule in Piaget's developmental stages. *Acta Psychologica*, *32*(4), 301–345.
- Pascual-Leone, J. (1976a). A view of cognition from a formalist's perspective. In K. F. Riegel & J. Meacham (Eds.), *The developing individual in a changing world* (pp. 89–100). The Hague: Mouton.
- Pascual-Leone, J. (1976b). Metasubjective problems of constructive cognition: Forms of knowing and their psychological mechanism. *Canadian Psychological Review*, *17*(2), 110–125.
- Pascual-Leone, J. (1978). Compounds, confounds and models in developmental information processing: A reply to Trabasso and Foellinger. *Journal of Experimental Child Psychology*, *26*(1), 18–40.
- Pascual-Leone, J. (1983). Growing into human maturity: Toward a metasubjective theory of adulthood stages. In P. B. Baltes & O. G. Brim (Eds.), *Life-span development and behavior* (Vol. 5, pp. 117–156). New York: Academic Press.
- Pascual-Leone, J. (1984). Attention, dialectic, and mental effort: Toward an organismic theory of life stages. In M. Commons, E. Richards, & C. Armon (Eds.), *Beyond formal operations: Late adolescent and adult cognitive development* (pp. 182–215). New York: Praeger.
- Pascual-Leone, J. (1987). Organismic processes for neo-Piagetian theories: A dialectical causal account of cognitive development. *International Journal of Psychology*, *22*(5–6), 531–569.
- Pascual-Leone, J. (1988). Affirmations and negations, disturbances and contractions in understanding Piaget: Is his later theory causal? *Contemporary Psychology*, *33*(5), 420–421.
- Pascual-Leone, J. (1989). An organismic process model of Witkin's Field-Dependence-Independence. In T. Globerson & T. Zelniker (Eds.), *Cognitive development and cognitive style* (pp. 36–85). Norwood, NJ: Ablex.
- Pascual-Leone, J. (1990a). An essay on wisdom: Toward organismic processes that make it possible. In R. J. Sternberg (Ed.), *Wisdom: Its nature, origins, and development* (pp. 244–278). New York: Cambridge University Press.

- Pascual-Leone, J. (1990b). Reflections on life-span intelligence, consciousness and ego development. In C. Alexander & E. Langer (Eds.), *Higher stages of human development: Perspectives on adult growth* (pp. 258–285). New York: Oxford University Press.
- Pascual-Leone, J. (1991a). A commentary on Boom and Juckes' on the learning paradox. *Human Development*, 34(5), 288–293.
- Pascual-Leone, J. (1991b). Emotions, development and psychotherapy: A dialectical constructivist perspective. In J. Safran & L. Greenberg (Eds.), *Emotion, psychotherapy and change* (pp. 302–335). New York: Guilford.
- Pascual-Leone, J. (1995). Learning and development as dialectical factors in cognitive growth. *Human Development*, 38(6), 338–348.
- Pascual-Leone, J. (1996a). Piaget, Vygotski, y la función del símbolo [Piaget, Vygotsky and the symbolic function]. *Substratum*, III (8–9), 63–87.
- Pascual-Leone, J. (1996b). Vygotsky, Piaget, and the problems of Plato. *Swiss Journal of Psychology*, 55(2-3), 84–92.
- Pascual-Leone, J. (1998). To appraise developmental difficulty, or mental demand, relational complexity is not enough. *Behavioral and Brain Sciences*, 21(6), 843–844.
- Pascual-Leone, J. (2000a). Mental attention, consciousness, and the progressive emergence of wisdom. *Journal of Adult Development*, 7(4), 241–254.
- Pascual-Leone, J. (2000b). Reflections on working memory: Are the two models complementary? *Journal of Experimental Child Psychology*, 77(2), 138–154.
- Pascual-Leone, J. (2006). Mental attention, not language, may explain evolutionary growth of human intelligence and brain size. *Behavioral and Brain Sciences*, 29(1), 19.
- Pascual-Leone, J. (2012a). Piaget as a pioneer of dialectical constructivism: Seeking dynamic processes for human science. In E. Martí & C. Rodríguez (Eds.), *After Piaget* (pp. 15–41). New Brunswick, NJ: Transaction Publishers.
- Pascual-Leone, J. (2012b). What is the *M*-capacity demand of car driving? A small essay on constructivist process/task analysis. In J. A. García Madruga, R. Kohen, C. del Barrio, I. Enesco, & J. Linaza, J. (Eds.), *Construyendo mentes. Ensayos en homenaje a Juan Delval* (pp. 69–84). Madrid, ES: UNED.
- Pascual-Leone, J. (2013). Can we model organismic causes of working memory, efficiency and fluid intelligence? A meta-subjective perspective. *Intelligence*, 41(5), 738–743.
- Pascual-Leone, J. (2014). Dialectics. In T. Teo (Ed.), *Encyclopedia of critical psychology* (pp. 421–428). New York: SpringerReference.
- Pascual-Leone, J. (2015). Prólogo: Principios de constructivismo psicogenético [Prologue: Principles of psychogenetic constructivism]. In L. M. Rodríguez-Salazar & Z. Monroy Nasr (Eds.),

Psicología para epistemólogos, epistemología para psicólogos (pp. xi–xv). Mexico City: Corinter y Editorial Gedisa Mexicana.

Pascual-Leone, J. (2019). Growing minds have a maturing mental attention: A review of Demetriou and Spanoudis (2018). *Intelligence*, *72*, 59–65.

Pascual-Leone, J., & Baillargeon, R. (1994). Developmental measurement of mental attention. *International Journal of Behavioral Development*, *17*(1), 161–200.

Pascual-Leone, J., Escobar, E. M. R., & Johnson, J. (2012). Logic: Development of logical operations. In W. Hirstein (Ed.), *Encyclopedia of human behavior* (2nd ed., pp. 538–549). New York: Elsevier.

Pascual-Leone, J., & Goodman, D. (1979). Intelligence and experience: A neo-Piagetian approach. *Instructional Science*, *8*(4), 301–367.

Pascual-Leone, J., Goodman, D. R., Ammon, P., & Subelman, I. (1978). Piagetian theory and neoPiagetian analysis as psychological guides in education. In J. M. Gallagher & J. Easley (Eds.), *Knowledge and development (Vol. 2): Piaget and education* (pp. 243–289). NY: Plenum.

Pascual-Leone, J., & Irwin, R. R. (1998). Abstraction, the will, the self, and modes of learning in adulthood. In M. C. Smith & T. Pourchot (Eds.), *Adult learning and development: Perspectives from educational psychology* (pp. 35–66). Hillsdale, NJ: Erlbaum.

Pascual-Leone, J. & Johnson, J. (1991). The psychological unit and its role in task analysis. A reinterpretation of object permanence. In M. Chandler & M. Chapman (Eds.), *Criteria for competence: Controversies in the assessment of children's abilities* (pp. 153–187). Hillsdale, NJ: Erlbaum.

Pascual-Leone, J., & Johnson, J. (1999). A dialectical constructivist view of representation: Role of mental attention, executives, and symbols. In I. E. Sigel (Ed.), *Development of mental representation: Theories and applications* (pp. 169–200). Mahwah, NJ: Erlbaum.

Pascual-Leone J., & Johnson, J. (2004). Affect, self-motivation, and cognitive development: A dialectical constructivist view. In D. Y. Dai & R. J. Sternberg (Eds.), *Motivation, emotion, and cognition* (pp. 197–235). Mahwah, NJ: Erlbaum.

Pascual-Leone, J., & Johnson, J. (2005). A dialectical constructivist view of developmental intelligence. In O. Wilhelm & R. W. Engle (Eds.), *Handbook of understanding and measuring intelligence* (pp. 177–201). Thousand Oaks, CA: Sage.

Pascual-Leone, J. & Johnson, J. (2011). A developmental theory of mental attention: Its application to measurement and task analysis. In P. Barrouillet & V. Gaillard (Eds.), *Cognitive development and working memory: A dialogue between neo-Piagetian and cognitive approaches* (pp. 13–46). New York: Psychology Press.

Pascual-Leone, J. & Johnson, J. (2017). Organismic causal models “from within” clarify developmental change and stages. In N. Budwig, E. Turiel, & P. Zelazo (Eds.), *New perspectives on human development* (pp. 67–87). Cambridge, UK: Cambridge University Press.

- Pascual-Leone, J., Johnson, J., & Agostino, A. (2010). Mental attention, multiplicative structures, and the causal problems of cognitive development. In M. Ferrari & L. Vuletic (Eds.), *The developmental relations among mind, brain and education* (pp. 49–82). New York: Springer.
- Pascual-Leone, J., Johnson, J., Baskind, S., Dworsky, S., & Severtston, E. (2000). Culture-fair assessment and the processes of mental attention. In A. Kozulin & Y. Rand (Eds.), *Experience of mediated learning: An Impact of Feuerstein's theory in education and psychology* (pp. 191–214). New York: Pergamon.
- Pascual-Leone, J., Johnson, J., & Calvo, A. (2004, June 3–5). *Can mental attentional capacity predict the Canadian Cognitive Abilities score of school children?* [Poster presentation]. Jean Piaget Society Annual Conference, Toronto, ON, Canada.
- Pascual-Leone, J., Johnson, J., Calvo, A., & Verrilli, E. (2005, August 3–7). *Can latent giftedness be indexed by mental-attentional capacity?* [Poster presentation]. 16th Biennial World Conference of the World Council for Gifted and Talented Children, New Orleans, LA, United States.
- Pascual-Leone, J., & Morra, S. (1991). Horizontality of water level: A neo-Piagetian developmental review. In H. W. Reese (Ed.), *Advances in child development and behavior* (pp. 231–276). New York: Academic Press.
- Pascual-Leone, J., Pascual-Leone, A., & Arsalidou, M. (2015). Neuropsychology still needs to model organismic processes “from within.” *Behavioral and Brain Sciences*, 38, e83.
- Pascual-Leone, J., & Smith, J. (1969). The encoding and decoding of symbols by children: A new experimental paradigm and a neo-Piagetian model. *Journal of Experimental Child Psychology*, 8(2), 328–355.
- Pascual-Leone, J., & Sparkman, E. (1980). The dialectics of empiricism and rationalism: A last methodological reply to Trabasso. *Journal of Experimental Child Psychology*, 29(1), 88–101.
- Pepper, S. C. (1942). *World hypotheses: A study of evidence*. Berkeley: University of California Press.
- Pessoa, L. (2013). *The cognitive-emotional brain: From interactions to integration*. Cambridge, MA: MIT Press.
- Petersen, S. E., & Posner, M. I. (2012). The attention system of the human brain: 20 years after. *Annual Review Neuroscience*, 35, 73–89.
- Petrides, M. (1994). Frontal lobes and behavior. *Current Opinion in Neurobiology*, 4(2), 207–211.
- Petrides, M. (2000). Dissociable roles of mid-dorsolateral prefrontal and anterior inferotemporal cortex in visual working memory. *The Journal of Neuroscience*, 20(19), 7496–7503.
- Petrides, M., Alivisatos, B., Evans, A. C., & Meyer, E. (1993). Dissociation of human mid-dorsolateral from posterior dorsolateral frontal cortex in memory processing. *Proceedings of the National Academy of Sciences of the USA*, 90(3), 873–877.
- Piaget, J. (1954). *The construction of reality in the child* (M. Cook, Trans.). New York: Basic Books.

- Piaget, J. (1956). Discussion entre les rapporteurs [Discussion among participants]. In P. Osterrieth, J. Piaget, R. de Saussure, J. M. Tanner, H. Walon, R. Zazzo, B. Inhelder, & A. Rey, *Le problème des stades en psychologie de l'enfant* (p. 57). Paris: Presses Universitaires de France.
- Piaget, J. (1958). Assimilation et connaissance [Assimilation and knowledge]. In A. Jonckheere, B. Mandelbrot, & J. Piaget, *La lecture de l'expérience* (pp. 49–108). Paris: Presses Universitaires de France.
- Piaget, J. (1959). Apprentissage et connaissance [Learning and knowledge]. In P. Greco & J. Piaget, *Apprentissage et connaissance* (pp. 21–67). Paris: Presses Universitaires de France.
- Piaget, J. (1963). *Origins of intelligence in children* (M. Cook, Trans.). New York: Norton. (Original work published 1948)
- Piaget, J. (Ed.). (1967). *Logique et connaissance scientifique* [Logic and scientific knowledge]. Paris: Gallimard.
- Piaget, J. (1970). *Structuralism* (C. Mashler, Trans.). New York: Basic Books.
- Piaget, J. (Ed.). (1974). *Recherches sur la contradiction. 2: Les relations entre affirmations et négations* [Research on contradiction: Relations among affirmations and negations]. Paris: Presses Universitaires de France.
- Piaget, J. (1980). *Les formes élémentaires de la dialectique* [Elementary forms of dialectics]. Paris: Gallimard.
- Piaget, J. (1985). *The equilibration of cognitive structures: The central problem of intellectual development* (T. Brown, Trans.). Chicago: University of Chicago Press. (Original work published 1975)
- Piaget, J., & Garcia, R. (1983). *Psychogenèse et histoire des science* [Psychogenesis and the history of science]. Paris: Flammarion.
- Piaget, J., & Garcia, R. (1987). *Vers une logique des significations* [Toward a logic of meaning]. Geneva, CH: Murionde, Science Nouvelle.
- Piaget, J., & Inhelder, B. (1969). *The psychology of the child* (H. Weaver, Trans.). New York: Basic Books.
- Piaget, J., & Morf, A. (1958). Les isomorphismes partiels entre les structures logiques et les structures perceptives [The partial isomorphisms between logical and perceptual structures]. In J. S. Bruner, F. Bresson, A. Morf, & J. Piaget (Eds.), *Logique et perception* (pp. 49–116). Paris: Presses Universitaires de France.
- Piazza, E. A. & Silver, M. A. (2017). Relative spatial frequency processing drives hemispheric asymmetry in conscious awareness. *Frontiers in Psychology*, 8, 559. <https://doi.org/10.3389/fpsyg.2017.00559>
- Platt, B., & Riedel, G. (2011). The cholinergic system, EEG and sleep. *Behavioural Brain Research*, 221(2), 499–504.

- Polya, G. (1973). *How to solve it: A new aspect of mathematical method* (2nd ed.). Princeton, NJ: Princeton University Press.
- Pribram, K. H. (1971). *Languages of the brain*. Englewood Cliffs, NJ: Prentice-Hall.
- Pribram, K. H. (1991). *Brain and perception*. Hillsdale, NJ: Erlbaum.
- Prigogine, I., Allen, P. M., & Herman, R. (1977). The evolution of complexity and the laws of nature. In E. Laszlo & J. Bierman (Eds.), *Goals in a global community. A report to the Club of Rome: Volume I. Studies on the conceptual foundations* (pp. 1–63). New York: Pergamon.
- Proctor, R. W., & Reeve, T. G. (1990). *Stimulus-response compatibility*. Amsterdam: North-Holland.
- Rapaport, D. (1960). *The structure of psychoanalytical theory: A systematizing attempt*. New York: International Universities Press.
- Rebotier, T. P., & Elman, J. L. (1996). Explorations with the dynamic wave model. In D. Touretzky, M. Mozer, & M. Haselmo (Eds.), *Advances in neural information processing systems 8* (pp. 549–556). Cambridge, MA: MIT Press.
- Reinecke, M. & Fogel, A. (1994). The development of referential offering in the first year. *Early Development and Parenting*, 3(3), 181–186.
- Rescorla, R. A., & Solomon, R. L. (1967). Two-process learning theory: Relationships between Pavlovian conditioning and instrumental learning. *Psychological Review*, 74(3), 151–182.
- Reuchlin, M. (1962). *Les méthodes quantitatives en psychologie* [Quantitative methods in psychology]. Paris: Presses Universitaires de France.
- Reuchlin, M. (1964). L'intelligence: Conception génétique opératoire et conception factorielle [Intelligence: Operational genetic and factorial conceptions]. *Revue Swiss de Psychologie*, 23(2), 113–134.
- Rice, L. N. (1974). The evocative function of the therapist. In D. A. Wexler & L. N. Rice *Innovations in client centered therapy* (pp. 289–318). New York: Wiley.
- Richards, J. E. (2002). Attention in young infants: A developmental psychophysiological perspective. In C. A. Nelson & M. Luciana (Eds.), *Handbook of developmental cognitive neuroscience* (pp. 321–338). Cambridge, MA: MIT Press.
- Richards, J. E. (2003). The development of visual attention and the brain. In M. de Haan & M. H. Johnson (Eds.), *The cognitive neurosciences of development* (pp. 73–98). New York: Psychology Press.
- Robbins, T. W., & Everitt, B. J. (1995). Arousal systems and attention. In M. S. Gazzaniga (Ed.), *The cognitive neurosciences* (pp. 703–720). Cambridge, MA: MIT Press.
- Rock, I. (1983). *The logic of perception*. Cambridge, MA: MIT Press.
- Rolls, E. T. (1999). The functions of the orbitofrontal cortex. *Neurocase*, 5(4), 301–312.
- Romero Escobar, E. M. (2006). "A model of free recall using the mental-attention memory task" [Unpublished master's thesis]. York University.

- Rothbart, M. K., & Posner, M. I. (2001). Mechanisms and variation in the development of attention. In C. A. Nelson & M. Luciana (Eds.), *Handbook of developmental cognitive neuroscience* (pp. 353–363). Cambridge, MA: MIT Press.
- Rouse Ball, W. W. (1905). *Mathematical recreations and essays* (4th ed). New York: Macmillan.
- Ruchkin, D. S., Grafman, J., Cameron, K., & Berndt, R. S. (2003). Working memory retention systems: A state of activated long-term memory. *Behavioral and Brain Sciences*, *26*(6), 709–728.
- Ruediger, S., Spirig D., Donato F., & Caroni, P. (2012). Goal-oriented searching mediated by ventral hippocampus early in trial-and-error learning. *Nature Neuroscience*, *15*(11), 1563–1571.
- Russell, J., & Hanna, R. (2012). A minimalist approach to the development of episodic memory. *Mind & Language*, *27*(1), 29–54.
- Russon, A. E., Bard, K. A., & Taylor Parker, S. (1996). *Reaching into thought: The minds of great apes*. Cambridge, UK: Cambridge University Press.
- Saby, J. N., Bouquet, C. A., & Marshall, P. J. (2014). Young children co-represent a partner's task: Evidence for a joint Simon effect in five-year-olds. *Cognitive Development*, *32*, 38–45.
- Safran, J. (2003). *Psychoanalysis and Buddhism*. Somerville, MA: Wisdom Publications.
- Sagvolden, T., Johansen, E. B., Aase, H., Russell, V. A. (2005). A dynamic developmental theory of attention-deficit/hyperactivity disorder (ADHD) predominantly hyperactive/impulsive and combined subtypes. *Behavioral and Brain Sciences*, *28*(3), 397–419.
- Sander, D., Grafman, J., & Zalla, T. (2003). The human amygdala: An evolved system for relevance detection. *Reviews in the Neurosciences*, *14*(4), 303–16.
- Sanides, F. (1970). Functional architecture of motor and sensory cortices in primates in the light of a new concept of neocortex evolution. In C. Noback & W. Montagna (Eds.), *The primate brain: Advances in primatology* (pp. 137–208). New York: Appleton-Century-Crofts.
- Saper, C. B., & Fuller, P. M. (2017). Wake-sleep circuitry: An overview. *Current Opinion in Neurobiology*, *44*, 186–192.
- Sara, S. J., & Bouret, S. (2012). Orienting and reorienting: The locus coeruleus mediates cognition through arousal. *Neuron*, *76*(1), 130–140.
- Schaefer, S. M., Jackson, D. C., Davidson, R. J., Aguirre, G. K., Kimberg, D. Y., & Thompson-Schill, S. L. (2002). Modulation of amigdalar activity by the conscious regulation of negative emotion. *Journal of Cognitive Neuroscience*, *14*(6), 913–921.
- Scheler, M. (1961). *Man's place in nature* (H. Meyerhoff, Trans.). Boston: Beacon Press.
- Schöner, G. (2014). Dynamical systems thinking. In P. C. M. Molenaar, R. N. Lerner, & K. N. Newell (Eds.), *Handbook of developmental systems theory and methodology* (pp. 188–217). New York: Guilford.
- Searle, J. R. (1983). *Intentionality: An essay in the philosophy of mind*. New York: Cambridge University Press.

- Seeley, W. W., Menon, V., Schatzberg, A. F., Keller, J., Glover, G. H., Kenna, H., Reiss, A. L., & Greicius, M. D. (2007). Dissociable intrinsic connectivity networks for salience processing and executive control. *The Journal of Neuroscience*, *27*(9), 2349–2356.
- Sescousse, G., Caldú, X., Segura, B., & Dreher, J.-C. (2013). Processing of primary and secondary rewards: A quantitative meta-analysis and review of human functional neuroimaging studies. *Neuroscience and Biobehavioral Reviews*, *37*(4), 681–96.
- Shanks, D. (2010). Learning: From association to cognition. *Annual Review of Psychology*, *61*, 273–301.
- Shapiro, K. A., Pascual-Leone, A., Mottaghy, F. M., Gangitand, M., & Caramazza, A. (2001). Grammatical distinctions in the left-frontal cortex. *Journal of Cognitive Neuroscience*, *13*(6), 713–720.
- Shayer, M., Demetriou, A., & Pervez, M. (1988). The structure and scaling of concrete operational thought: Three studies in four countries. *Genetic, Social, and General Psychology Monographs*, *114*(3), 307–375.
- Sherman, M. T., Seth, A. K., & Kanai, R. (2016). Predictions shape confidence in right inferior frontal gyrus. *Journal of Neuroscience*, *36*(40), 10323–10366.
- Sherrington, C. S. (1906). *The integrative action of the nervous system*. New York: Scribner's.
- Sherrington, C. S. (1940). *Man on his nature*. London: Cambridge University Press.
- Shimamura, A. P. (2002). Relational binding theory and the role of consolidation in memory retrieval. In L. R. Squire & D. L. Schacter (Eds.), *Neuropsychology of memory* (3rd ed., pp. 61–72). New York: Guilford.
- Shipstead, Z., Lindsey, D. R. B., Marshall, R. L., & Engle, R. W. (2014). The mechanisms of working memory capacity: Primary memory, secondary memory, and attention control. *Journal of Memory and Language*, *72*(1), 116–141.
- Shirer, W. R., Ryali, S., Rykhlevskaia, E., Menon, W., & Greicius, M. D. (2012). Decoding subject-driven cognitive states with whole-brain connectivity patterns. *Cerebral Cortex*, *22*(1), 158–165.
- Shrager, J., & Johnson, M. H. (1996). Dynamic plasticity influences the emergence of function in a simple cortical array. *Neural Networks*, *9*(7), 1119–1129.
- Sigel, I. E. (1993). The centrality of a distancing model for the development of representational competence. In R. R. Cocking & K. A. Renninger (Eds.), *The development and meaning of psychological distance* (pp. 141–156). Hillsdale, NJ: Erlbaum.
- Silva, M. A., Mendonça Filho, E. J., & Bandeira, D. R. (2019). Development of the Dimensional Inventory of Child Development Assessment (IDADI). *Psico-USF*, *24*(1), 11–26. http://www.scielo.br/scielo.php?script=sci_arttext&pid=S1413-82712019000100011&tlng=en
- Silva, M. A., de Mendonça Filho, E. J. & Bandeira, D. R. (in press). *Inventário Dimensional de Avaliação do Desenvolvimento Infantil* [Dimensional Inventory for Child Development Assessment]. São Paulo, BR: Vetor Editora.

- Simon, T. J. (1997). Reconceptualizing the origins of number knowledge: A “non-numerical” account. *Cognitive Development, 12*(3), 349–372.
- Singer, W. (2001). Consciousness and the binding process. In P. Marijuan (Ed.), *Cajal and consciousness* (pp. 123–146). New York: New York Academy of Sciences.
- Skinner, B. F. (1971). *Beyond freedom and dignity*. New York: Bantam Books.
- Skinner, J. E., & Yingling, C. D. (1977). Central gating mechanisms that regulate event-related potentials and behavior. In J. E. Desmedt (Ed.), *Progress in clinical neurophysiology: Attention, voluntary contraction and event-related cerebral potentials* (Vol. 1, pp. 30–69). Basel, CH: Karger.
- Skuy, M., Gewer, A., Osrin, Y., Knunou, D., Fridjhon, P., & Rushton, J. P. (2002). Effects of mediated learning on Raven’s matrices scores of African and non-African university students in South Africa. *Intelligence, 30*(3), 221–232.
- Spanoudis, G., Demetriou, A., Kazi, S., Giorgala, K., & Zenonos, V. (2015). Embedding cognizance in intellectual development. *Journal of Experimental Child Psychology, 132*, 32–50.
- Spearman, C. (1927). *The abilities of man*. Oxford, UK: Macmillan.
- Spelke, E. (1994). Initial knowledge: Six suggestions. *Cognition, 50*(1–3), 431–445.
- Spencer, J. P., Perone, S., & Buss, A. (2011). Twenty years and going strong: A dynamic systems revolution in motor and cognitive development. *Child Development Perspectives, 5*(4), 200–266.
- Stahl, S. M. (2000). *Essential psychopharmacology*. Cambridge, UK: Cambridge University Press.
- Stamovlasis, D. & Tsaparlis, G. (2012). Applying catastrophe theory to an information-processing model of problem solving in science education. *Science Education, 96*(3), 392–410.
- Stankov, L. (2002). g: A diminutive general. In R. J. Sternberg & E. L. Grigorenko (Eds.), *The general factor of intelligence: How general is it?* (pp. 19–37). Mahwah, NJ: Erlbaum.
- Stephan, K. E., Marshall, J. C., Friston, K. J., Rowe, J. B., Ritzl, A., Zilles, K., & Fink, G. R. (2003). Lateralized cognitive processes and lateralized task control in the human brain. *Science, 301*(5631), 384–386.
- Steriade, M. (1996). Arousal: Revisiting the reticular activating system. *Science, 272*(5259), 225–226.
- Stern, W. (1977). The psychological methods of testing intelligence (G. M. Whipple, Trans.). In D. N. Robinson (Ed.), *Significant contributions to the history of psychology 1750–1920* (Series B, 4[4]). Washington, DC: University Publications of America. (Original work published 1914)
- Stevens, W. D., Kahn, I., Wig, G. S., & Schacter, D. L. (2012). Hemispheric asymmetry of visual scene processing in the human brain: Evidence from repetition priming and intrinsic activity. *Cerebral Cortex, 22*(8), 1935–1949.
- Stevens, W. D., Kravitz, D. J., Peng, C. S., Tessler, M. H., & Martin, A. (2017). Privileged functional connectivity between the visual word form area and the language system. *Journal of Neuroscience, 37*, 5288–5297.

- Stewart, L., & Pascual-Leone, J. (1992). Mental capacity constraints and the development of moral reasoning. *Journal of Experimental Child Psychology, 54*(3), 251–287.
- Strauss, S. (Ed., 1982) *U-Shaped behavioral growth*. New York: Academic Press.
- Striedter, G. F. (2005). *Principles of brain evolution*. Sunderland, MA: Sinauer.
- Stiles, J. (2001). Spatial cognitive development. In C. A. Nelson & M. Luciana (Eds.), *Handbook of developmental cognitive neuroscience* (pp. 399–414). Cambridge, MA: MIT Press.
- Störmer, V. S., Passow, S., & Biesenack, J. (2012). Dopaminergic and cholinergic modulations of visual-spatial attention and working memory: Insights from molecular genetic research and implications for adult cognitive development. *Developmental Psychology, 48*(3), 875–889.
- Stöttinger, E., Filipowicz, A., Valadao, D., Culham, J. C., Goodale, M. A., Anderson, B., & Danckert, J. (2015). A cortical network that marks the moment when conscious representations are updated. *Neuropsychologia, 79*(Pt A), 113–122.
- Stuss, D. T., Gallup, G. G., & Alexander, M. P. (2001). The frontal lobes are necessary for “theory of mind.” *Brain, 124*(Pt 2), 279–286.
- Stuss, D. T., & Levine, B. (2002). Adult clinical neuropsychology: Lessons from studies of the frontal lobes. *Annual Review of Psychology, 53*, 401–433.
- Suzuki, W. A. (2002). Cortical memory systems in the nonhuman primate: An anatomical and physiological perspective. In L. R. Squire & D. L. Schacter (Eds.), *Neuropsychology of memory* (3rd ed., pp. 289–300). New York: Guilford Press.
- Swanson, L. W. (2003). *Brain architecture: Understanding the basic plan*. New York: Oxford University Press.
- Talmi, D., Seymour, B., Dayan, P., & Dolan, R. J. (2008). Human Pavlovian-instrumental transfer. *The Journal of Neuroscience, 28*(2), 360–368.
- Terwee, S. J. S. (1995). Deconstructing social constructionism. In I. Lubek, R. van Hezewijk, G. Pheterson, & C. W. Tolman (Eds.), *Trends and issues in theoretical psychology* (pp. 189–194). New York: Springer.
- Thal, D. J., Marchman, V., Stiles, Y., Aram, D., Trauner, D., Nass, D., & Bates, E. (1991). Early lexical development in children with focal brain injury. *Brain and Language, 40*(4), 491–527.
- Thatcher, R. W. (1994). Cyclical cortical reorganization: Origins of human cognitive development. In G. Dawson & K. W. Fischer (Eds.), *Human behavior and the developing brain* (pp. 1232–266). New York: Guilford.
- Thatcher, R. W. (1997). Human frontal lobe development: A theory of cyclical cortical reorganization. In N. A. Krasnegor, G. R. Lyon, & P. S. Goldman-Rakic (Eds.), *Development of prefrontal cortex* (pp. 85–113). Baltimore: Paul H. Brooks.
- Thatcher, R. W. (2010). Higher-order network reworking—New findings. In M. Ferrari & L. Vuletic (Eds.), *The developmental relations among mind, brain and education* (pp. 83–104). New York: Springer.

- Thatcher, R. W., North, D. M., & Biver, C. J. (2008). Intelligence and EEG phase reset: A two compartmental model of phase shift and lock. *NeuroImage*, *42*(4), 1639–1653.
- Thelen, E., & Smith, L. B. (1994). *A dynamic systems approach to the development of cognition and action*. Cambridge, MA: MIT Press.
- Thelen, E., & Ulrich, B. D. (1991). Hidden skills: A dynamic systems analysis of treadmill stepping during the first year. *Monographs of the Society for Research in Child Development*, *56* (Serial No. 223).
- Todor, J. (1977). Cognitive development, cognitive style, and motor activity. In B. Kerr (Ed.), *Human performance and behavior. Proceedings of the 9th Canadian Psycho-Motor Learning and Sports Psychology Symposium*, Banff, AB, Canada.
- Todor, J. (1979). Developmental differences in motor task integration: A test of Pascual-Leone's theory of constructive operators. *Journal of Experimental Child Psychology*, *28*(2), 314–322.
- Tolman, E. C. (1938). A reply to Professor Guthrie. *Psychological Review*, *45*(2), 163–164.
- Tolman, E. C. (1945). A stimulus-expectancy need-cathexis psychology. *Science*, *101*(2616), 160–166.
- Tolman, E. C. (1959). Principles of purposive behavior. In S. Koch (Ed.), *Psychology: A study of a science* (Vol. 2, pp. 92–157). New York: McGraw-Hill.
- Tolman, E. C. (1961). *Behavior and psychological man*. Los Angeles: University of California Press.
- Tolman, E. C., & Brunswik, E. (1935). The organism and the causal texture of the environment. *Psychological Review*, *42*(1), 43–77.
- Tomasello, M. (2008). *Origins of human communication*. Cambridge, MA: MIT Press.
- Tomasello, M. (2018). Great apes and human development: A personal history. *Child Development Perspectives*, *12*(3), 189–193.
- Tomasello, M., & Call, J. (1997). *Primate cognition*. New York: Oxford University Press.
- Treadway, M. T., Buckholtz, J. W., Cowan, R. L., Woodward, N. D., Li, R., Ansari, M. S., Baldwin, R. M., Schwartzman, A. N., Kessler, R. M., & Zald, D. H. (2012). Dopaminergic mechanisms of individual differences in human effort-based decision-making. *Journal of Neuroscience*, *32*(18), 6170–6176.
- Trevarthen, C. B. (Ed.). (1990). *Brain circuits and functions of the mind: Essays in honor of Roger W. Sperry*. Cambridge, UK: Cambridge University Press.
- Trevarthen, C., Kokkinaki, T., & Flamenghi, G. A. (1999). What infant imitations communicate: With mothers, with fathers and with peers. In J. Nadel & G. Butterworth (Eds.), *Imitation in children* (pp. 127–185). Cambridge, UK: Cambridge University Press.
- Troade, B., & Martinot, C. (2003). *Le développement cognitif. Théories actuelles de la pensée en contextes* [Cognitive development: Current theories of thinking in context]. Paris: Belin.

- Tsaparlis, G. (1998). Dimensional analysis and predictive models in problem solving. *International Journal of Science Education*, 20(3), 335–350.
- Tsaparlis, G., & Angelopoulos, V. (2000). A model of problem solving: Its operation, validity, and usefulness in the case of organic-synthesis problems. *Science Education*, 84(2), 131–153.
- Tsaparlis, G., Kousathana, M., & Niaz, M. (1998). Molecular-equilibrium problems: Manipulation of logical structure and of M-demand, and their effect in student performance. *Science Education*, 82(4), 437–454.
- Tucker, D. M. (2001). Motivated anatomy: A core-and-shell model of corticolimbic architecture. In G. Gainotti (Ed.), *Handbook of neuropsychology: Vol. 5. Emotional behavior and its disorders* (2nd ed.). Amsterdam: Elsevier.
- Tucker-Drob, E. M. (2009). Differentiation of cognitive abilities across the lifespan. *Developmental Psychology*, 45(4), 1091–1118.
- Uhlhaas, P., Roux, F., Singer, W., Haenschel, C., Sireteanu, R., & Rodriguez, E. (2009). The development of neural synchrony reflects late maturation and restructuring of functional networks in humans. *Proceedings of the National Academy of Sciences of the USA*, 106(24), 9866–9871.
- Ullmo, J. (1958). *La pensée scientifique moderne* [Modern scientific thought]. Paris: Flammarion.
- Ullmo, J. (1967). Les concepts physiques [Physical concepts]. In J. Piaget (Ed.), *Logique et connaissance scientifique* (pp. 623–705). Paris: Gallimard.
- Ullsperger, M. (2011). Neurochemistry of performance monitoring. In R. B. Mars, J. Sallet, M. F. S. Rushworth, & N. Yeung (Eds.), *Neural basis of motivation and cognitive control* (pp. 37–49). Cambridge, MA: MIT Press.
- Unsworth, N., & Engle, R. W. (2005). Working memory capacity and fluid abilities: Examining the correlation between operation span and Raven. *Intelligence*, 33(1), 67–81.
- Uzgiris, I. C., & Hunt, J. McV. (1975). *Assessment in infancy: Ordinal scales of psychological development*. Champaign: University of Illinois Press.
- Valsiner, J. (2006). Developmental epistemology and implications for methodology. In W. Damon & R. M. Lerner (Series Eds.) & R. M. Lerner (Vol. Ed.), *Handbook of child psychology: Vol. 1. Theoretical models of human development* (6th ed., pp. 166–209). New York: Wiley.
- van der Maas, H. (1993). *Catastrophe analysis of stagewise cognitive development*. Amsterdam: University of Amsterdam.
- Van der Veer, R., & Valsiner, J. (Eds.). (1994). *The Vygotsky reader*. Oxford, UK: Blackwell.
- Vartanian, O., & Goel, V. (2005). Task constraints modulate activation in right ventral lateral prefrontal cortex. *NeuroImage*, 27(4), 927–933.
- Vendetti, M. S., Johnson, E. L., Lemos, C. J., & Bunge, S. A. (2015). Hemispheric differences in relational reasoning: Novel insights based on an old technique. *Frontiers in Human Neuroscience*, 9, 55. <https://doi.org/10.3389/fnhum.2015.00055>

- von Stein, A., & Sarnthein, J. (2000). Different frequencies for different scales of cortical integration: From gamma to long range alpha/theta synchronization. *International Journal of Psychophysiology*, 38(3), 301–313.
- von Uexküll, J. (1957). A stroll through the worlds of animals and men: A picture book of invisible worlds. In C. H. Schiller (Ed. & Trans.), *Instinctive behavior* (pp. 5–80). New York: International Universities Press. (Original work published 1934)
- von Uexküll, J. (1982). The theory of meaning. *Semiotica*, 42(1), 25–87.
- von Uexküll, T. (1982). Introduction: Meaning and science in Jakob von Uexküll's concept of biology. *Semiotica*, 42(1), 1–24.
- Vygotsky, L. (1978). *Mind in society: The development of higher mental processes*. Cambridge, MA: Harvard University Press.
- Vygotsky, L., & Luria, A. R. (1994). Tool and symbol in child development. In R. van der Veer & J. Valsiner (Eds.), *The Vygotsky reader* (pp. 99–174). Oxford, UK: Blackwell.
- Walsh, V., & Pascual-Leone, A. (2003). *Transcranial magnetic stimulation: A neurochronometrics of mind*. Cambridge, MA: MIT Press.
- Walton, M. E., Gan, J. O., & Phillips, P. F. M. (2011). The influence of dopamine in generating action from motivation. In R. B. Mars, J. Sallet, M. F. S. Rushworth, & N. Yeung (Eds.), *Neural basis of motivation and cognitive control* (pp. 163–187). Cambridge, MA: MIT Press.
- Wang, X. F., & Chen, G. (2003). Complex networks: Small-world, scale-free and beyond. *IEEE Circuits and Systems Magazine*, 3(1), 6–20.
- Wapner, S., & Demick, J. (Eds.). (1991). *Field dependence-independence*. Hillsdale, NJ: Erlbaum.
- Watanabe, S. (1969). *Knowing and guessing: A quantitative study of inference and information*. New York: Wiley.
- Waters, A., & Tucker, D. (2013). Self-regulation of neural development. In B. Sokol, F. Grouzet, & U. Müller (Eds.), *Self-regulation and autonomy: Social and developmental dimensions of human conduct* (pp. 279–296). Cambridge, UK: Cambridge University Press.
- Watter, S., Geffen, G. M., & Geffen, L. B. (2001). The n-back as a dual task: P300 morphology under divided attention. *Psychophysiology*, 38(6), 998–1003.
- Watts, D. J., & Strogatz, S. H. (1998). Collective dynamics of “small-world” networks. *Nature*, 393(6684), 440–442.
- Wellek, S. (2003). *Testing statistical hypotheses of equivalence*. Boca Raton, FL: Chapman and Hall/CRC.
- Werner, H., & Kaplan, B. (1984). *Symbol formation*. Hillsdale, NJ: Erlbaum.
- Wilhelm, O. & Engle, R. W. (Eds.). (2005). *Handbook of understanding and measuring intelligence*. Thousand Oaks, CA: Sage.

- Wimmer, H., & Perner, J. (1983). Beliefs about beliefs: Representation and constraining function of wrong beliefs in young children's understanding of deception. *Cognition*, *13*(1), 103–28.
- Witkin, H. A., Dyk, R. B., Faterson, H. F., Goodenough, D. R., & Karp, S. A. (1962). *Psychological differentiation: Studies of development*. New York: Wiley.
- Witkin, H. A., & Goodenough, D. R. (1981). *Cognitive styles, essence and origin: Field dependence and field independence*. New York: International Universities Press.
- Wolford, G., Miller, M., & Gazzaniga, M. (2000). The left hemisphere's role in hypothesis formation. *Journal of Neuroscience*, *20*(6), RC64.
- Wynn, K. (1992). Addition and subtraction by human infants. *Nature*, *358*(6389), 749–750.
- Yamakoshi, G. (2004). Evolution of complex feeding techniques in primates: Is this the origin of great ape intelligence? In A. E. Russon & D. R. Begun (Eds.), *The evolution of thought: Evolutionary origins of great ape intelligence* (pp. 140–171). Cambridge, UK: Cambridge University Press.
- Yaple, Z. A., Stevens, W. D., Arsalidou, M. (2019). Meta-analyses of the n-back working memory task: fMRI evidence of age-related changes in prefrontal cortex involvement across the adult lifespan. *NeuroImage*, *196*, 16–31.
- Yaremko, R. M., Harari, H., Harrison, R. C., Lynn, E. (1982). *Reference handbook of research and statistical methods in psychology*. New York: Harper & Row.
- Yuan, Y., & Brown, S. (2015). Drawing and writing: An ALE meta-analysis of sensorimotor activations. *Brain and Cognition*, *98*, 15–26.
- Zajonc, R. B. (1960). The concepts of balance, congruity, and dissonance. *Public Opinion Quarterly*, *24*(2), 280–296.
- Zatorre, R. J., & Peretz, I. (Eds.). (2001). The biological foundations of music. *Annals of the New York Academy of Sciences*, *930*(1).
- Zinchenko, V. P. (1985). Vygotsky's ideas about units for the analysis of mind. In J. V. Wertsch (Ed.), *Culture communication and cognition* (pp. 94–118). London: Cambridge University Press.
- Zubiri, X. (1999). *Sentient intelligence* (T. B. Fowler, Trans). Washington, DC: The Xavier Zubiri Foundation of North America. <https://www.scribd.com/document/57580653/Zubiri-Sentient-Intelligence>
- Zubiri, X. (2001). *Sobre la realidad* [About reality]. Madrid, ES: Alianza Editorial. (Original work published 1966)