

## VITA

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#### Academic Training

B.E.E. Electrical Engineering, June 1963 - Union College, Schenectady, New York  
B.S. Psychology, June 1963 - Union College, Schenectady, New York  
Ph.D. Psychology, Aug 1969 - University of California, Berkeley, California

#### Positions Held

Sept 1969 - Dec 1975: Assistant Professor, University of Pittsburgh  
Jan 1976 - June 1977: Assistant Professor, University of Kentucky  
July 1977 - July 1982: Associate Professor, University of Kentucky  
July 1982 - Present: Professor, University of Kentucky  
Sept 1982 - May 1983: Visiting Professor, Purdue University  
Aug 2006 - Dec 2006 : Visiting Professor, Université de Lille III, France  
June 2007 Visiting Professor, Universidad de Sevilla, Spain  
July 2009 Visiting Professor, Keio University, Tokyo, Japan

#### Extramural Awards and Grants

NIMH Grant MH 19757, Concept learning in the pigeon, 1972-1973, \$5,834  
NIMH Grant MH 24092, Imitative behavior in animals, 1974-1975, \$5,633  
NIMH Grant MH 35378, Conditional discrimination learning, 1980-1982, \$7,025  
NSF Grant BNS 8418275, Determinants of animal memory strategies, 1985-1990, \$73,998  
NSF Grant R11 8902792, Sponsor, Visiting Prof. for Women, to Dr. Janice Steirn, 1989-1990, \$60,000  
NSF Grant BNS 9019080, Stimulus equivalences and stimulus class formation, 1990-1993, \$114,510  
NSF Grant BNS 9019080, Research Opportunities Award, 1990-1991, \$10,000,  
Research Experiences for Undergraduates, 1990-1991, \$3,997; 1991-1992, \$3,200  
NIMH Grant R01 MH45979, Anticipation effects in animal memory, 1991-1994, \$324,001  
NSF Grant IBN 9414589, Transfer of value in simultaneous discriminations, 1995-1998, \$150,000  
NIMH Grant R01 MH55118, Coding processes in animal memory, 1996-2000, \$244,670  
NIMH Grant F31 MH11754, Sponsor, NRSA to Daren Kaiser, 1997-1998, \$13,167  
NIMH Minority Supplement to Grant R01 MH55118, 1997-1999, \$41,048  
NIMH Grant R01 MH59194, Single-code/default strategy use by animals, 1998-2002, \$282,349  
NIMH Grant F31 MH12046, Sponsor, NRSA to Brigitte Dorrance, 1998-2000, \$39,084  
NIMH Grant R01 MH63726, Effect of prior effort on reward value, 2002-2007, \$832,600  
NIMH Grant F31 MH72065, Sponsor, NRSA to Kelly DiGian, 2004-2006, \$56,338  
NIMH Grant F31 DA018476, Co-Sponsor, NRSA to Emily Klein, 2004-2006, \$47,044  
Fulbright-Hayes Fellowship, Université de Lille III, France, 2006, \$24,393  
NIMH Grant F31 MH077450, sponsor, NRSA to Rebecca Singer, 2006-2008, \$65,180  
NICHD Grant RO1 HD060996, Effect of prior event on reward value, 2009- 2012, \$428,622

## **Honors**

Fellow Society of Experimental Psychologists, Awarded 2009  
President Midwestern Psychological Association, 2002-2003  
President Eastern Psychological Association, 2013-2014  
Chair of the Governing Board, Psychonomic Society 2006-2007  
President Comparative Cognition Society, 2004-2006  
President Division 3 (Experimental Psychology) American Psychological Association, 2005-2006  
President Division 6 (Behavioral Neuroscience and Comparative Psychology) Am. Psych. Assn, 2005-2006  
Endowed Professorship (Di Silvestro) Arts and Sciences, 2008  
Fulbright-Hayes Fellowship, Université de Lille III, France, 2006  
Professional and Scholarly Publishing Division of the Association of American Publishers:  
    Outstanding Scholarly Work of 2006 in Psychology & Cognitive Science  
Fred Keller Distinguished Lecture: Eastern Psychological Association, New York, March 12, 2010  
D. O. Hebb Distinguished Scientific Contributions Award: Division 6 APA, Honolulu, August 1, 2013  
Comparative Cognition Society Distinguished Research Award, Melbourne, FL, March 28, 2014  
Distinguished Contributions to Basic Research Award: Division 25 APA, August, 2014  
William B. Sturgill Award: Outstanding Contributions to Graduate Education, University of Kentucky, 2015  
University Research Professorship: 2016-2017

## **Professional Affiliations and Service**

### **American Psychological Association: Fellow**

Committee on Divisions/APA Relations, 2004-2006  
Chair: F. J. McGuigan Young Investigator Prize Committee 2004, 2006, 2008, 2010  
Chair: F. J. McGuigan Dissertation Award Review Committee 2009  
Council of Representatives (Division 3) 2007-2009, 2011-2013  
    **Division 1** (General), Fellow  
    **Division 3** (Experimental Psychology), Fellow  
        President, 2005-2006  
        Secretary-Treasurer, 1991-1994  
    **Division 6** (Behavioral Neuroscience and Comparative Psychology), Fellow  
        President, 2005-2006  
    **Division 25** (Experimental Analysis of Behavior), Fellow  
        Member of the Executive Committee, 2006-2009  
    **Division 52** (International Psychology), Fellow

### **Psychonomic Society:**

Chair of the Governing Board 2006-2007  
Member of the Governing Board 2002-2007

### **American Psychological Society: Fellow**

### **Comparative Cognition Society:**

President 2004-2006  
Comparative Cognition Society Distinguished Research Award (Master Lecture) 2014

### **Midwestern Psychological Association: Fellow**

Secretary-Treasurer, 1998-2001  
President, 2002-2003

### **Eastern Psychological Association:**

Member of the Board of Directors 2008-2010  
President, 2013-2014

### **Association for Behavior Analysis International: Member of the Science Board 2015-2018**

### **Journal Editorships:**

**Editor:** Comparative Cognition and Behavior Reviews, 2011-2014

### **Associate (Action) Editor:**

Psychonomic Bulletin & Review, 1998-2002

Learning & Behavior, 2002-2006

Journal of the Experimental Analysis of Behavior 2011-2015

Journal of the Experimental Analysis of Behavior (Special Issue) 2001-2002

Behavioural Processes (Special Issue) 2005-2006

International Journal of Psychology and Psychological Therapy (Special Issue) 2005-2006

Behavioural Processes (Special Issue) 2010-2011

Current Directions in Psychological Science (Special Issue) 2016

### **Consulting Editor:**

Journal of Experimental Psychology: Animal Behavior Processes, 1986-1997; 2013-2016

Psychonomic Bulletin & Review, 1993-1998; 2002-2010

Journal of the Experimental Analysis of Behavior, 1993-1998; 2001-2005

Animal Learning & Behavior, 1998-2002

Comparative Cognition and Behavior Review, 2004-2011

The Journal of General Psychology, 1998-present

International Journal of Psychology and Psychological Therapy, 2001-present

Learning & Behavior, 2008-present

The Psychological Record, 2009-present

Behavioral Processes, 2012-present

International Journal of Comparative Psychology, 2014-present

Animal Cognition, 2014 - present

Frontiers in Psychology, 2015 – present

Learning and Motivation, 2018 - present

### **Grant Review Panel:**

NIMH Basic Behavioral Processes Study Section, 1988-1989

NIH Cognition, Perception and Language Fellowship Study Section, 2006

NSF Integrative Organismal Biology: Animal Behavior Panel, 2004, 2006

NICHHD Human-Animal Interaction Study Section, 2011

NIH Behavioral Regulation, Learning, and Ethology Study Section, 2016

### **Administrative Experience**

Acting Chair, Department of Psychology, Univ. of Kentucky, 1/82-7/82

Chair, Arts and Sciences Tenure & Promotion Com: Soc. Sciences, Univ. of Kentucky, 1980-81; 1985-86

Director of Graduate Studies, Department of Psychology, Univ. of Kentucky, 7/92-6/97

Coordinator, Behavioral and Neural Studies Area, Univ. of Kentucky, 7/83-6/89

Chair, Faculty Summer Research Fellowship Committee, Univ. of Kentucky, 7/80-6/81

Chair, Review Committee, University of Kentucky, Department of History, 11/84

Chair, Review Committee, Indiana University Purdue University at Indianapolis, Dept. of Psychology, 4/97

Chair, University Social Sciences Area Advisory Com. for Tenure & Promotion, Univ. Kentucky 7/03-7/04

Chair, University Senate Research Committee, Univ. of Kentucky 9/08 – 8/11

### **Other University Service**

Member of the University Senate 9/81-6/84, 9/98-6/01, 9/03-6/06, 9/08-6/11

Member of the Graduate Council 9/01-6/04

University Social Sciences Area Advisory Com. for Tenure & Promotion, 9/95-8/97

College Natural Sciences Area Advisory Com. for Tenure & Promotion, 9/90-8/91

College Humanities Area Advisory Com. for Tenure & Promotion, 9/11-8/14

**Graduate Student Masters Degrees (current affiliation):**

David Hogan, Northern Kentucky University  
Charles Edwards, Edinboro University of Pennsylvania  
James Henning, unknown  
Joyce Jagielo, Edinboro University of Pennsylvania  
Lou Sherburne, Indiana University of Pennsylvania  
Christopher Randall, Kenesaw State University  
Karen Roper, Centre College  
Zhongbiao Zhang, Marlboro, NJ  
Tricia Clement, Marketing consultant  
Brigette Dorrance, Saint Ambrose University  
Andrea Lonon, Bastrop, TX  
Emily Neiman, Certified Nurse-Midwife, Columbus, OH  
Emily Klein, Gwinnett County Public Schools  
Andrea Friedrich, University of Kentucky  
Rebecca Singer, Georgetown College  
Tracy Martin, Texas A&M  
Benjamin Abroms, Clinical Research Associate PPD  
Holly Miller, KU Leuven, Leuven, Belgium  
Cassandra Gipson, Faculty Member University of Kentucky  
Jessica Stagner, Faculty Member Georgia Southern University  
Kristina Pattison, Instructor University of Kentucky  
Jennifer Laude, Stanford University  
Danielle Andrews, Staff Michigan State University  
Megan Halloran, University of Kentucky, Graduate Student

**Graduate Student Doctoral Degrees (current affiliation):**

David Hogan, Faculty Member Northern Kentucky University  
Charles Edwards, Faculty Member Edinboro University of Pennsylvania  
Joyce Jagielo, Faculty Member Edinboro University of Pennsylvania  
Pamela Jackson, Faculty Member Radford University  
Vernon Strength, Boeing Aircraft  
Lou Sherburne, Faculty Member Indiana University of Pennsylvania  
Karen Roper, Faculty Member University of Kentucky  
Janice Weaver, Faculty Member Ferris State University  
Daren Kaiser, Faculty Member Indiana-Purdue University Fort Wayne  
Tricia Clement, Marketing consultant  
Brigette Dorrance, Instructor Saint Ambrose University  
Emily Klein, Gwinnett County Public Schools  
Andrea Friedrich, Faculty Member University of Kentucky  
Rebecca Singer, Faculty Member Georgetown College  
Kelly DiGian, Sanofi-Aventis  
Jerome Alessandri, Maitre de Conference Université de la Nord de France, Lille, France  
Holly Miller, General Mills, Minneapolis, MN  
Rebecca Rayburn-Reeves, Faculty Member Armstrong Atlantic University  
Jessica Stagner, Faculty Member Georgia Southern University

## **Books:**

- Zentall, T. R. & Galef, B. G. Jr. (Eds.). (1988). *Social learning: Psychological and biological perspectives*. Hillsdale, NJ: Erlbaum.
- Zentall, T. R. (Ed.). (1993). *Animal cognition: A tribute to Donald A. Riley*. Hillsdale, NJ: Erlbaum.
- Zentall, T. R., & Smeets, P. M. (Eds.). (1996). *Stimulus class formation in humans and animals*. Amsterdam: North Holland.
- Wasserman, E. A., & Zentall, T. R. (Eds.). (2006). *Comparative Cognition: Experimental Explorations of Animal Intelligence*. New York: Oxford University Press.  
\*Professional and Scholarly Publishing Division of the Association of American Publishers  
Outstanding Professional, Reference or Scholarly Work of 2006 in Psychology & Cognitive Science (Honorable Mention).
- Zentall, T. R. & Wasserman, E. A. (Eds.). (2012). *Oxford Handbook of Comparative Cognition*. New York: Oxford University Press.
- Crowley, P. H., & Zentall, T. R. (Eds.). (2013). *Comparative Decision Making*. New York: Oxford University Press.
- Call, J., Burghardt, G., Pepperberg, I., Snowdon, C., & Zentall, T. (Eds.). (2017). *APA Handbook of Comparative Psychology*. Washington, DC: American Psychological Association.

## **Research Publications and Book Chapters:**

- Lee, W., & Zentall, T. R. (1966). Factorial effects in the categorization of externally distributed stimulus samples. *Perception and Psychophysics, 1*, 120-124.
- Singer, B., Zentall, T. R., & Riley, D. A. (1969). Stimulus generalization and the easy-to-hard effect. *Journal of Comparative and Physiological Psychology, 69*, 528-535.
- Zentall, T. R. (1970). Effects of context change on forgetting in rats. *Journal of Experimental Psychology, 86*, 440-448.
- Zentall, T. R., Collins, N., & Hearst, E. (1971). Generalization gradients around a formerly positive S-. *Psychonomic Science, 22*, 257-259.
- Zentall, T. R. (1972). Attention in the pigeon: Novelty effects and testing with compounds. *Psychonomic Science, 27*, 31-32.
- Zentall, T. R., & Levine, J. M. (1972). Observational learning and social facilitation in the rat. *Science, 178*, 1220-1221.
- Zentall, T. R. (1973). Memory in the pigeon: Retroactive inhibition in a delayed matching task. *Bulletin of the Psychonomic Society, 1*, 126-128.

- Zentall, T. R., & Hogan, D. E. (1974). Abstract concept learning in the pigeon. *Journal of Experimental Psychology*, *102*, 393-398.
- Zentall, T. R., Hogan, D. E., & Holder, J. (1974). Comparison of two oddity tasks with pigeons. *Learning and Motivation*, *5*, 106-117.
- Levine, J. M., & Zentall, T. R. (1974). Effect of conspecific's presence on deprived rats' performance: Social facilitation vs. distraction/imitation. *Animal Learning & Behavior*, *2*, 119-122.
- Zentall, T. R., & Hogan, D. E. (1974). Memory in the pigeon: Proactive inhibition in a delayed matching task. *Bulletin of the Psychonomic Society*, *4*, 109-112.
- Zentall, T. R., & Hogan, D. E. (1975). Key pecking in pigeons produced by pairing key light with inaccessible grain. *Journal of the Experimental Analysis of Behavior*, *23*, 199-206.
- Zentall, T. R., & Hogan, D. E. (1975). Concept learning in the pigeon: Transfer of matching and nonmatching to new stimuli. *American Journal of Psychology*, *88*, 233-244.
- Zentall, T. R., & Hogan, D. E. (1976). Pigeons can learn identity, difference, or both. *Science*, *191*, 408-409.
- Zentall, T. R., Hogan, D. E., Compomizzi, K., & Compomizzi, C. (1976). Responding to a positive stimulus by "satiated" pigeons. *Learning and Motivation*, *7*, 141-159.
- Zentall, S. S., & Zentall, T. R. (1976). Activity and task performance of hyperactive children as a function of manipulated environmental stimulation. *Journal of Consulting and Clinical Psychology*, *44*, 693-697.
- Zentall, S. S., & Zentall, T. R. (1976). Amphetamine's effects may be predictable. *Journal of Learning Disabilities*, *9*, 188-189.
- Zentall, T. R., & Hogan, D. E. (1976). Imitation and social facilitation in the pigeon. *Animal Learning & Behavior*, *4*, 427-430.
- Hogan, D. E., & Zentall, T. R. (1977). Backward associative learning in the pigeon. *American Journal of Psychology*, *90*, 3-15.
- Zentall, T. R., & Hogan, D. E. (1977). Short-term proactive inhibition in the pigeon. *Learning and Motivation*, *8*, 367-386.
- Zentall, T. R., Hogan, D. E., Howard, M. M., & Moore, B. S. (1978). Delayed matching in the pigeon: Effect on performance of sample-specific observing responses and differential delay behavior. *Learning and Motivation*, *9*, 202-218.
- Zentall, T. R., & Hogan, D. E. (1978). Same/different concept learning in the pigeon: The effect of negative instances and prior adaptation to the transfer stimuli. *Journal of the Experimental Analysis of Behavior*, *30*, 177-186.

- Zentall, S. S., Zentall, T. R., & Booth, M. (1978). Within-task stimulation: Effects on activity and spelling performance of hyperactive and normal children. *Journal of Educational Research, 71*, 222-230.
- Zentall, S. S., Zentall, T. R., & Barack, R. S. (1978). Distraction as a function of within-task stimulation for hyperactive and normal children. *Journal of Learning Disabilities, 11*, 540-548.
- Nallan, G. B., Pace, G. M., McCoy, D. F., & Zentall, T. R. (1979). Temporal parameters of the feature positive effect. *American Journal of Psychology, 92*, 703-710.
- Zentall, T. R., Hogan, D. E., Edwards, C. A., & Hearst, E. (1980). Oddity learning in the pigeon as a function of the number of incorrect alternatives. *Journal of Experimental Psychology: Animal Behavior Processes, 6*, 278-299.
- Edwards, C. A., Hogan, D. E., & Zentall, T. R. (1980). Imitation of an appetitive discriminatory task by pigeons. *Bird Behaviour, 2*, 87-91.
- Martorano, S. H., & Zentall, T. R. (1980). Children's knowledge of the separation of variables concept. *Journal of Experimental Child Psychology, 30*, 513-526.
- Bunch, G. B., & Zentall, T. R. (1980). Imitation of a passive avoidance response in the rat. *Bulletin of the Psychonomic Society, 15*, 73-75.
- Zentall, T. R., Hogan, D. E., & Edwards, C. A. (1980). Oddity learning in the pigeon: Effect of negative instances, correction, and number of incorrect alternatives. *Animal Learning & Behavior, 8*, 621-629.
- Henning, J. M., & Zentall, T. R. (1981). Imitation, social facilitation, and the effects of ACTH 4-10 on rats' barpress behavior. *American Journal of Psychology, 94*, 125-134.
- Zentall, T. R., Edwards, C. A., Moore, B. S., & Hogan, D. E. (1981). Identity: The basis for both matching and oddity learning in pigeons. *Journal of Experimental Psychology: Animal Behavior Processes, 7*, 70-86.
- Hogan, D. E., Edwards, C. A., & Zentall, T. R. (1981). The role of identity in learning and memory of matching-to-sample by pigeons. *Bird Behaviour, 3*, 27-36.
- Hogan, D. E., Edwards, C. A., & Zentall, T. R. (1981). Delayed matching in the pigeon: Interference produced by a prior delayed matching trial. *Animal Learning & Behavior, 9*, 395-400.
- Edwards, C. A., Jagielo, J. A., Zentall, T. R., & Hogan, D. E. (1982). Acquired equivalence and distinctiveness in matching-to-sample by pigeons: Mediation by reinforcer-specific expectancies. *Journal of Experimental Psychology: Animal Behavior Processes, 8*, 244-259.
- Zentall, T. R. (1982). The heuristic value of representation. *The Behavioral and Brain Sciences, 5*, 393-394.
- Hogan, D. E., Pace, G. M., & Zentall, T. R. (1983). Control of pigeons' matching-to-sample performance by differential sample response requirements. *American Journal of Psychology, 96*, 37-49.

- Edwards, C. A., Jagielo, J. A., & Zentall, T. R. (1983). Same/different symbol use by pigeons. *Animal Learning & Behavior*, *11*, 349-355.
- Zentall, S. S., & Zentall, T. R. (1983). Optimal stimulation: A model of disordered activity and performance in normal and deviant children. *Psychological Bulletin*, *94*, 446-471.
- Nallan, G. B., Pace, G. M., McCoy, D. F., & Zentall, T. R. (1983). The role of elicited responding in the feature-positive effect. *American Journal of Psychology*, *93*, 377-390.
- Zentall, T. R., Edwards, C. A., & Hogan, D. E. (1983). Pigeons' use of identity. In M. L. Commons, R. J. Herrnstein, & A. Wagner (Eds.), *The quantitative analyses of behavior: Vol. 4. Discrimination processes* (pp. 273-293). Cambridge, MA: Ballinger.
- Zentall, T. R. (1983). Abstract codes are not just for chimpanzees. *The Behavioral and Brain Sciences*, *6*, 157-158.
- Zentall, T. R., & Edwards, C. A. (1984). Categorical color coding by pigeons. *Animal Learning & Behavior*, *12*, 249-255.
- Zentall, T. R., Hogan, D. E., & Edwards, C. A. (1984). Cognitive factors in conditional learning by pigeons. In H. L. Roitblat, T. G. Bever, & H. S. Terrace, (Eds.), *Animal cognition* (pp. 389-405). Hillsdale, NJ: Erlbaum.
- Zentall, T. R. (1984). In support of cognitive theories. *The Behavioral and Brain Sciences*, *7*, 654-655.
- Edwards, C. A., Miller, J. S., & Zentall, T. R. (1985). Control of pigeons' matching and mismatching performance by instructional cues. *Animal Learning & Behavior*, *13*, 383-391.
- Zentall, S. S., & Zentall, T. R. (1986). Hyperactivity ratings: Statistical regression provides an insufficient explanation of practice effects. *Journal of Pediatric Psychology*, *11*, 393-396.
- Urcuioli, P. J., & Zentall, T. R. (1986). Retrospective memory in pigeons' delayed matching-to-sample. *Journal of Experimental Psychology: Animal Behavior Processes*, *12*, 69-77.
- Zentall, T. R., Jackson-Smith, P., Jagielo, J. A., & Nallan, G. B. (1986). Categorical shape and color coding by pigeons. *Journal of Experimental Psychology: Animal Behavior Processes*, *12*, 153-159.
- Jagiello, J. A., & Zentall, T. R. (1986). Predictable long-delay matching-to-sample trials results in long-latency sample responding by pigeons. *Learning and Motivation*, *17*, 269-286.
- Edwards, C. A., Miller, J. S., Zentall, T. R., & Jagielo, J. A. (1987). Effects of stimulus dimension and of trial and intertrial illumination on acquisition of a match/mismatch task by pigeons. *Animal Learning & Behavior*, *15*, 25-34.
- Zentall, T. R., Jagielo, J. A., Jackson-Smith, P., & Urcuioli, P. J. (1987). Memory codes in pigeon short-term memory: Effect of varying number of sample and comparison stimuli. *Learning and Motivation*, *18*, 21-33.



- Zentall, T. R. (1988). Experimentally manipulated imitative behavior in rats and pigeons. In T. R. Zentall & B. G. Galef, Jr. (Eds.), *Social learning: Psychological and biological perspectives* (pp. 191-206). Hillsdale, NJ: Erlbaum.
- Zentall, T. R., Urcuioli, P. J., Jagielo, J. A., & Jackson-Smith, P. (1989). Interaction of sample dimension and sample-comparison mapping on pigeons' performance of delayed conditional discriminations. *Animal Learning & Behavior*, *17*, 172-178.
- Urcuioli, P. J., Zentall, T. R., Jackson-Smith, P., & Steirn, J. N. (1989). Evidence for common coding in many-to-one matching: Retention, intertrial interference, and transfer. *Journal of Experimental Psychology: Animal Behavior Processes*, *15*, 264-273.
- Urcuioli, P. J., & Zentall, T. R. (1990). On the role of trial outcomes in delayed discriminations. *Animal Learning & Behavior*, *18*, 141-150.
- Zentall, T. R., Steirn, J. N., & Jackson-Smith, P. (1990). Memory strategies in pigeons' performance of a radial-arm-maze analog task. *Journal of Experimental Psychology: Animal Behavior Processes*, *16*, 358-371.
- Zentall, T. R., Jackson-Smith, P., & Jagielo, J. A. (1990). Categorical color and shape coding by pigeons. In M. L. Commons, R. J. Herrnstein, & S. Kosslyn (Eds.), *The quantitative analyses of behavior: Vol. 8. Pattern recognition and concepts in animals, people, and machines* (pp. 3-21). Hillsdale, NJ: Erlbaum.
- Zentall, T. R. (1990). Not so elementary, my dear Watson. [Review of *Mechanical man*]. *Contemporary Psychology*, *35*, 841-842.
- Strength, V., & Zentall, T. R. (1991). Matching and oddity learning in pigeons: Effects of penalty time for incorrect responding. *Animal Learning & Behavior*, *19*, 49-57.
- Zentall, T. R., Steirn, J. N., Sherburne, L. M., & Urcuioli, P. J. (1991). Common coding in pigeons assessed through partial versus total reversals of many-to-one conditional and simple discriminations. *Journal of Experimental Psychology: Animal Behavior Processes*, *17*, 194-201.
- Steirn, J. N., Jackson-Smith, P., & Zentall, T. R. (1991). Mediation use of internal representations of food and no-food events by pigeons. *Learning and Motivation*, *22*, 353-365.
- Zentall, T. R., Urcuioli, P. J., Jackson-Smith, P., & Steirn, J. N. (1991). Memory strategies in pigeons. In L. Dachowski & C. F. Flaherty (Eds.), *Current topics in animal learning: Brain, emotion, and cognition* (pp. 119-139). Hillsdale, NJ: Erlbaum.
- Zentall, T. R. (1991). What to do about peer review: Is the cure worse than the disease? *The Behavioral and Brain Sciences*, *14*, 166-167.
- Zentall, T. R. (1991). "Bouncing back" from a loss: A statistical artifact. *Bulletin of the Psychonomic Society*, *29*, 384-386.
- Steirn, J. N., Zentall, T. R., & Sherburne, L. M. (1992). Pigeons' performances of a radial-arm-maze analog task: Effect of spatial distinctiveness. *Psychological Record*, *42*, 255-272.

- Urcuioli, P. J., & Zentall, T. R. (1992). Transfer across delayed discriminations: Evidence regarding the nature of prospective working memory. *Journal of Experimental Psychology: Animal Behavior Processes*, *18*, 154-173.
- Zentall, T. R., Sherburne, L. M., Steirn, J. N., Randall, C. K., Roper, K. L., & Urcuioli, P. J. (1992). Common coding in pigeons: Partial versus total reversals of one-to-many conditional discriminations. *Animal Learning & Behavior*, *20*, 373-381.
- Zentall, T. R., Sherburne, L. M., & Steirn, J. N. (1992). Development of excitatory backward associations during the establishment of forward associations in a delayed conditional discrimination by pigeons. *Animal Learning & Behavior*, *20*, 199-206.
- Jackson-Smith, P. A., Zentall, T. R., & Steirn, J. N. (1993). Prospective and retrospective memory processes in pigeons' performances on a successive delayed matching-to-sample task. *Learning and Motivation*, *24*, 1-22.
- Sherburne, L. M., & Zentall, T. R. (1993). Coding of feature and no-feature events by pigeons in a delayed conditional discrimination. *Animal Learning & Behavior*, *21*, 92-100.
- Steirn, J. N., Zentall, T. R., & Sherburne, L. M. (1993). Representation strength in pigeon short-term memory: Effect of delay training. *Animal Learning & Behavior*, *21*, 113-119.
- Roper, K. L., & Zentall, T. R. (1993). Directed forgetting in animals. *Psychological Bulletin*, *113*, 513-532.
- Sherburne, L. M., & Zentall, T. R. (1993). Asymmetrical coding of food and no-food events by pigeons: Sample pecking versus food as the basis of the sample code. *Learning and Motivation*, *24*, 141-155.
- Zentall, T. R., Sherburne, L. M., & Urcuioli, P. J. (1993). Common coding in a many-to-one delayed matching task as evidenced by facilitation and interference effects. *Animal Learning & Behavior*, *21*, 233-237.
- Zentall, T. R., & Urcuioli, P. J. (1993). Emergent relations in the formation of stimulus classes by pigeons. *Psychological Record*, *43*, 795-810.
- Urcuioli, P. J., & Zentall, T. R. (1993). A test of comparison-stimulus substitutability following one-to-many matching by pigeons. *Psychological Record*, *43*, 725-744.
- Zentall, T. R. (1993). Animal cognition: An approach to the study of animal behavior. In T. R. Zentall (Ed.), *Animal cognition: A tribute to Donald A. Riley* (pp. 3-15). Hillsdale, NJ: Erlbaum.
- Zentall, T. R., Sherburne, L. M., & Steirn, J. N. (1993). Common coding and stimulus class formation in pigeons. In T. R. Zentall (Ed.), *Animal cognition: A tribute to Donald A. Riley* (pp. 217-236). Hillsdale, NJ: Erlbaum.
- Zentall, T. R. (1993). Mechanisms of Learning [Review of *Perceptual and associative learning*, by G. Hall]. *Science*, *360*, 834.
- Zentall, T. R. (1993). The assessment of intentionality in animals. *Behavioral and Brain Sciences*, *16*, 663.

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