

Fredric B. Shaffer

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Education

Oklahoma State University, Department of Psychology  
PhD, Social-Personality Psychology, 1975  
MS, Clinical Psychology, 1973

Claremont Men's College  
BA, Psychology and Political Science, 1971

Certification

Biofeedback Certification Institute of America Fellow:  
General Biofeedback, 1982

Professional Experience

Truman State University  
Professor of Psychology, 1991 – present  
Associate Professor of Psychology, 1981 – 1991  
Tenure, 1979  
Assistant Professor of Psychology, 1975 – 1981

Bi-State Mental Health Clinic, Stillwater, Oklahoma, Third-Year Clinical Student, 1973-1974

Stillwater Municipal Hospital, Stillwater, Oklahoma, Psychiatric Aide, 1973

Veterans Administration Hospital, Oklahoma City, Oklahoma, Clinical Trainee, 1971-1972

Classroom Instruction

Abnormal Psychology  
Applied Psychophysiology  
Biofeedback Practicum  
Community Psychology  
Crisis Intervention

Experimental Psychology  
General Psychology (also taught on line)  
Introduction to Clinical Psychology  
Personality Psychology  
Physiological Psychology  
Psychological Research (senior capstone)  
Psychology Proseminar  
Psychopharmacology  
Research Practicum: Psychology  
Sensation and Perception  
Social Psychology

Professional Memberships

Association for Applied Psychophysiology and Biofeedback (AAPB)

External Service

AAPB Website News Editor Fall 2007 – present

AAPB Program Chair for planning the 2007 and 2008 Annual Meetings

Consulting Editor for *Applied Psychophysiology and Biofeedback*,  
AAPB's professional journal, Spring 2006 – present

Chair of the BCIA Certification Review Committee, Spring 2007 –  
present

BCIA Marketing Committee, Spring 2007 – present

BCIA Board Executive Committee (Secretary-Treasurer) Spring 2006 –  
present

BCIA Exam Committee, Fall 2005 – present

Chair of the BCIA University Initiative Committee, Fall 2005 – present

Chair of the AAPB Graduate Curriculum Committee, Fall 2005 – Spring  
2006

Contributing Editor for *Biofeedback*, AAPB's quarterly newsmagazine,  
Fall 2005 – present

Re-appointed to AAPB Education Committee, Spring 2004

Chair of the AAPB Education Committee Fall 2001 – Spring 2003

AAPB Board, Spring 2002 - Spring 2005

Consultant to the St. Louis Behavioral Medicine Institute, January, 2002

AAPB Program Committee and Student Committee, Spring 2001 – Spring 2003

Consultant to St. Louis University, Psychiatry Department, Spring 1984

Consultant to Missouri State Highway Patrol, Preventing New Recruit and Spouse Burnout, Spring 1982.

President of the Missouri Biofeedback Society, 1981 – 1983

Vice-President of Transition Care Corporation, 1979 – 1980

Behavioral Medicine Faculty for Rehabilitation and Family Medical Residents, Kirksville College of Osteopathic Medicine, 1978 – 1980

Internal Service

Chair, Cope Scholarship Committee, 1999 – 2007

Undergraduate Research Symposium Committee, 1999 – 2000

Faculty mentor for Frederick Franken, Summer 1999 Undergraduate Research Stipend

Faculty mentor for Joseph Dougherty, Summer 1998 Undergraduate Research Stipend

Psychology convenor, Fall 1996 – Summer 1999, Spring 2001

Advisor, Lambda Chi Alpha fraternity, 1993 – 1997

Advisor, Tau Kappa Epsilon fraternity, 1985 – 1989

Co-chair Community Psychology MA program, 1979 – 1985

Mentor, Applied Psychophysiology Research Team, 1977 – present

Advisor, Alpha Tau Omega fraternity, 1976 – 1977

Advisor, Association of Black Collegians, 1975 – 1976

#### Professional Presentations

"Neurons and Neurofeedback" short course, AAPB annual meeting, Monterey, CA, Spring 2007.

"AAPB Foundations of Biofeedback" workshop, Battle Creek, MI, Spring 2007.

"AAPB Foundations of Biofeedback" workshop, Hong Kong, Fall 2006.

"AAPB Foundations of Biofeedback" workshop, AAPB annual meeting, Portland, OR, Spring 2006.

"AAPB Foundations of Biofeedback" workshop, AAPB annual meeting, Austin, TX, Spring 2005.

"AAPB Foundations of Biofeedback" workshop, AAPB annual meeting, Colorado Springs, CO, Spring 2004.

"AAPB Foundations of Biofeedback" workshop, AAPB annual meeting, Jacksonville, FL, Spring 2003.

"Basic review of neurons" (with Frederick Franken), AAPB annual meeting, Raleigh, NC, Spring 2001.

"Teaching stress management and self-regulation to university students for personal health and professional development," AAPB annual meeting, Cincinnati, OH, Spring 1995.

Chair, Education Symposium, AAPB annual meeting, Atlanta, GA, Spring 1994.

"Scientists or Gofers? Developing Student Researchers," AAPB annual meeting, Colorado Springs, CO, Spring 1992.

"Biofeedback instrumentation" workshop, Biofeedback Society of Kansas, Topeka, KS, Spring 1991.

"Efficacy of biofeedback." St. Louis University, Department of Psychiatry, Grand Rounds, Spring, 1987.

#### Awards

Chair of the 2007 Program Committee from the Association for Applied

Psychophysiology and Biofeedback (AAPB), Spring 2007.

Presidential Recognition Award from the Association for Applied Psychophysiology and Biofeedback (AAPB), Spring 2006.

Best Student Paper Award from the Association for Applied Psychophysiology and Biofeedback (AAPB), Spring 2006.

Sheila Adler Award for Distinguished Service from the Association for Applied Psychophysiology and Biofeedback (AAPB,) Spring 2005

Truman Technology Challenge, Spring 2005.

Recognition of three years of AAPB Board service, Spring 2005.

Kabins, A., Brenner, T., Pacanowski, R., & Shaffer, F. (Faculty mentor). Validation of a heart rate variability tracking test (citation paper), AAPB annual meeting, Monterey, CA, Spring 2007.

Bax, A., Robinson, T., Goedde, J., & Shaffer, F. (Faculty mentor). The Cousins relaxation exercise increases heart rate variability (citation paper), AAPB annual meeting, Portland, OR, Spring 2006.

Shaffer, F., Malone, E., Sippely, T., & Callahan, C. The comparative effects of book bags and carrying styles on upper trapezius and cervical paraspinal surface EMG (citation paper), AAPB annual meeting, Denver, CO, Spring 2000.

Shaffer, F., Bergman, S., & Yochim, B. Subjective indicators warn against breathing effort (citation paper), AAPB annual meeting, Orlando, FL, Spring 1998.

Shaffer, F., Greve, E., & Reinagal, K. Predictors of inhalation volume (citation paper), AAPB annual meeting, Albuquerque, NM, Spring 1996.

Shaffer, F., Greve, E., & Teskey, J. The autonomic effects of diaphragmatic and thoracic breathing (citation paper), AAPB annual meeting, Albuquerque, NM, Spring 1996.

Shaffer, F., Knight, D., & Greve, E. Autocorrelation discriminates between diaphragmatic and thoracic breathing (citation paper), AAPB annual meeting, Albuquerque, NM, Spring 1996.

### Research Interests

Heart Rate Variability

Hypertension

Stress

### Publications

Moss, D., Shaffer, F., & White, P. (2007). *Heart rate variability suite*. Amersfoot, The Netherlands: BFE.

Goedde, J., Kabins, A., Koenig, R., & Shaffer, F. (Faculty mentor) (2007). Patient speech alters respiration rate, blood pressure, and heart rate [Abstract]. *Applied Psychophysiology and Biofeedback*, 32(2), 127.

Kabins, A., Brenner, T., Pacanowski, R., & Shaffer, F. (Faculty mentor) (2007). Validation of a heart rate variability tracking test [Abstract]. *Applied Psychophysiology and Biofeedback*, 32(2), 124.

Bax, A., Robinson, T., Goedde, J., & Shaffer, F. (Faculty mentor) (2007). The Cousins relaxation exercise increases heart rate variability [Abstract]. *Applied Psychophysiology and Biofeedback*, 32(1), 52.

Sappington, B., Whipple, J., Pacanowski, R., & Shaffer, F. (Faculty mentor) (2007). Patient conversation raises blood pressure and heart rate [Abstract]. *Applied Psychophysiology and Biofeedback*, 32(1), 59-60.

Shaffer, F. (2007). *Biofeedback tutor CD*. Kirksville, MO: Biosource Software.

Shaffer, F. (2006). Biofeedback Certification Institute of America: The University Initiative. *Biofeedback*, 34(2), 48-50.

Shaffer, F. (2006). Biofeedback Certification Institute of America: The University Initiative. *Biofeedback*, 34(4), 127-130.

- Shaffer, F., & Moss, D. (2006). Biofeedback. In Y. Chun-Su, E. J. Bieber, & B. Bauer (Eds.). *Textbook of complementary and alternative medicine (2nd ed.)*. Abingdon, Oxfordshire, UK: Informa Healthcare.
- Tigner, R., & Shaffer, F. (2006). *Instructor's manual and test bank for Myers and Hanson's experimental psychology (6th ed.)*.
- Tigner, R., & Shaffer, F. (2006). "Join In" questions for use with the Turning Point interactive classroom software for Myers and Hanson's Experimental Psychology (6th ed.).
- Brotman, J., Lecure, J., & Shaffer, F. (Faculty mentor) (2005). The comparative effects of Autogenics and Cousins relaxation scripts on web dorsum temperature [Abstract]. *Applied Psychophysiology and Biofeedback, 30(4)*, 412-413.
- Copeman, B., Fink, K., Costello, K., & Shaffer, F. (Faculty mentor) (2005). Music can lower heart rate [Abstract]. *Applied Psychophysiology and Biofeedback, 30(4)*, 414.
- White, C., Meltzer, M., & Shaffer, F. (Faculty mentor) (2005). Comparison of three tracking tests for BVP and SCL [Abstract]. *Applied Psychophysiology and Biofeedback, 30(4)*, 414-415.
- Shaffer, F. (2004). Review of A. Crider and D. Montgomery (2004), Introduction to Biofeedback: An AAPB Independent Study Program. *Biofeedback, 32(4)*, 36-37.
- Copeman, B., Lynam, I., Brotman, J., Shaffer, F. (Faculty mentor) (2004). Validation of infrared temperature comparisons between sites on the left and right hands [Abstract]. *Applied Psychophysiology and Biofeedback, 29(4)*, 307.
- White, C., Lammy, D., & Shaffer, F. (Faculty mentor) (2004). Infrared hand temperature mapping [Abstract]. *Applied Psychophysiology and Biofeedback, 29(4)*, 306.
- Shaffer, F. (2003). PowerPoint slides to accompany Josephine Wilson's *Biological foundations of human behavior*. Belmont, CA: Wadsworth.
- Shaffer, F., Banks, A., Lipps, A., Franken, F., Giddings, L., Burden, A., & Schwyhart, J. (2003). The comparative effects of position and

cordless phone equipment on upper trapezius and cervical paraspinal surface EMG [Abstract]. *Applied Psychophysiology and Biofeedback*, 28(4), 311.

- Shaffer, F., Banks, L., Lipps, A., Lynam, I., Jacobsmeyer, S., & Rumora, K. (2003). The effects of instructions, sitting position, and task on baseline measurements [Abstract]. *Applied Psychophysiology and Biofeedback*, 28(4), 322.
- Shaffer, F., Jacobsmeyer, S., Giddings, L., Sasfai, S., Luebbering, B., & Schlereth, M. (2003) Validation of an infrared temperature scanning procedure for the hands [Abstract]. *Applied Psychophysiology and Biofeedback*, 28(4), 324.
- Shaffer, F., Banks, L., Lipps, A., Franken, F., & Steinman, S. (2002). Ergonomic skin-electrode impedance testing [Abstract]. *Applied Psychophysiology and Biofeedback*, 27(4), 314.
- Shaffer, F., Lipps, A., Banks, A., Franken, F., & Stokes, C. (2002). Comparison of three surface EMG placements during a psychophysiological profile [Abstract]. *Applied Psychophysiology and Biofeedback*, 27(4), 314.
- Shaffer, F., Lipps, A., Banks, L., & Schneider, B. (2002). Effort threatens relaxation training success [Abstract]. *Applied Psychophysiology and Biofeedback*, 27(4), 304.
- Shaffer, F., & Tigner, R. (2002). *Instructor's manual and test bank for Myers and Hanson's experimental psychology (5th ed.)*.
- Shaffer, F., Malone, E., Callahan, C., & Lipps, A. (2001). Is prayer relaxing? [Abstract]. *Applied Psychophysiology and Biofeedback*, 26(3), 246.
- Shaffer, F., Malone, E., & Krebill, R. (2001). Magnitude statistics can quantify the results of inferential tests [Abstract]. *Applied Psychophysiology and Biofeedback*, 26(3), 230-231.
- Shaffer, F., Malone, E., Sippely, T., Jos, A. (2001). A revised Truman breathing protocol [Abstract]. *Applied Psychophysiology and Biofeedback*, 26(3), 231.

- Shaffer, F., Malone, E., & Krebill, R. (2000). How to select the best transformation for psychophysiological data [Abstract]. *Applied Psychophysiology and Biofeedback, 25*(4), 256.
- Shaffer, F., Malone, E., Sippely, T., & Callahan, C. (2000). The comparative effects of book bags and carrying styles on upper trapezius and cervical paraspinal surface EMG [Abstract]. *Applied Psychophysiology and Biofeedback, 25*(4), 248.
- Shaffer, F., Mayhew, J. L., Malone, E., & Hall, J. (2000). A revised survey of undergraduate breathing knowledge [Abstract]. *Applied Psychophysiology and Biofeedback, 25*(4), 256.
- Shaffer, F., Mayhew, J. L., Malone, E., & Miller, K. (2000). Dysfunctional breathing patterns in undergraduates [Abstract]. *Applied Psychophysiology and Biofeedback, 25*(4), 258.
- Dougherty, J. D., & Shaffer, F. (Faculty mentor) (1999). Sleep and personality: Relating the Temperament and Character Inventory (TCI) and a sleep quality survey [Abstract]. *Applied Psychophysiology and Biofeedback, 24*(2), 129.
- Shaffer, F., Dougherty, J., & Bradley, J. (1999). A survey of undergraduate breathing knowledge [Abstract]. *Applied Psychophysiology and Biofeedback, 24*(2), 135.
- Shaffer, F., Mayhew, J. L., Bergman, S., Dougherty, J., & Irwin, D. (1999). Designer jeans increase breathing effort [Abstract]. *Applied Psychophysiology and Biofeedback, 24*(2), 124-125.
- Shaffer, F., Mayhew, J. L., Bergman, S., Dougherty, J., Koester, A. (1999). Effortful breathing may lower end-tidal CO<sub>2</sub> through increased tidal volume [Abstract]. *Applied Psychophysiology and Biofeedback, 24*(2), 124.
- Shaffer, F., Bergman, S., & Dougherty, J. (1998). End-tidal CO<sub>2</sub> is the best indicator of breathing effort [Abstract]. *Applied Psychophysiology and Biofeedback, 23*(2), 127.
- Shaffer, F., Bergman, S., & Gannon, L. (1998). Breathing effort depresses end-tidal CO<sub>2</sub> [Abstract]. *Applied Psychophysiology and Biofeedback, 23*(2), 128.

- Shaffer, F., Bergman, S., & Henson, M. (1998). Description of the Truman breathing assessment protocol [Abstract]. *Applied Psychophysiology and Biofeedback, 23*(2), 127.
- Shaffer, F., Bergman, S., & Yochim, B. (1998). Subjective indicators warn against breathing effort [Abstract]. *Applied Psychophysiology and Biofeedback, 23*(2), 108.
- Shaffer, F. (1998). Review of *Creating wholeness: A self-healing workbook using dynamic relaxation, images, and thoughts* by Erik Peper and Catherine F. Holt, *Biofeedback, 26*(2), 17.
- Shaffer, F., Bergman, S., & Hopkins, B. (1997). Breathing effort disrupts diaphragmatic breathing [Abstract]. *Applied Psychophysiology and Biofeedback, 22*(2), 144.
- Shaffer, F., Bergman, S., & White, K. (1997). Indicators of diaphragmatic breathing effort [Abstract]. *Applied Psychophysiology and Biofeedback, 22*(2), 145.
- Shaffer, F., Mayhew, J. L., Bergman, S., & Gannon, L. (1997). The effect of diaphragmatic training on respiratory homeostasis [Abstract]. *Applied Psychophysiology and Biofeedback, 22*(2), 144.
- Shaffer, F., Mayhew, J. L., Bergman, S., & Wheelahan, J. R. (1997). Does inhalation-to-exhalation ratio affect diaphragmatic training outcome? [Abstract]. *Applied Psychophysiology and Biofeedback, 22*(2), 145.
- Shaffer, F., Greve, E., & Parmenter, R. (1996). Validation of a two-session diaphragmatic breathing protocol [Abstract]. *Biofeedback and Self-Regulation, 21*(4), 383.
- Shaffer, F., Greve, E., & Reinagal, K. (1996). Predictors of inhalation volume [Abstract]. *Biofeedback and Self-Regulation, 21*(4), 352.
- Shaffer, F., Greve, E., & Teskey, J. (1996). The autonomic effects of diaphragmatic and thoracic breathing [Abstract]. *Biofeedback and Self-Regulation, 21*(4), 350-351.
- Shaffer, F., Knight, D., & Greve, E. (1996). Autocorrelation discriminates between diaphragmatic and thoracic breathing [Abstract]. *Biofeedback and Self-Regulation, 21*(4), 351.

- Shaffer, F., Simmons, J., Rever, C., Knight, D., & Rever, A. (1995). An evaluation of nasal and mouth effortless breathing protocols [Abstract]. *Biofeedback and Self-Regulation*, 20(3), 300.
- Shaffer, F., Simmons, J., Rever, C., Knight, D., & Rever, A. (1995). Assessment of a two-Session effortless breathing protocol [Abstract]. *Biofeedback and Self-Regulation*, 20(3), 301.
- Shaffer, F., Knight, D., Lubbe, C., Wehmeyer, T., Stratmann, J., et al. (1994). Diaphragmatic training reduces the disruptive effects of common activities on respiration [Abstract]. *Biofeedback and Self-Regulation*, 19(3), 271-272.
- Shaffer, F., Knight, D., Lubbe, C., Wehmeyer, T., Stratmann, J., et al. (1994). The effects of preferred music and volume on undergraduate psychophysiological responses [Abstract]. *Biofeedback and Self-Regulation*, 19(3), 272-273.
- Shaffer, F., Knight, D., Lubbe, C., Wehmeyer, T., Stratmann, J., et al. (1994). Validation of two diaphragmatic breathing protocols with healthy undergraduates [Abstract]. *Biofeedback and Self-Regulation*, 19(3), 271.
- Shaffer, F., Knight, D., Lubbe, C., Wehmeyer, T., Stratmann, J., et al. (1994). Comparison of diaphragmatic training methods [Abstract]. *Biofeedback and Self-Regulation*, 19(3), 270.
- Shaffer, F., Knight, D., Sponsel, M., Belcher, J., Stratmann, J., et al. (1993). Vigilance reduces inhalation volume: Nintendo play may reinforce dysfunctional breathing [Abstract]. *Biofeedback and Self-Regulation*, 18(3), 198.
- Shaffer, F., Krebill, R., & Kice, J. (1993). Double-blind evaluation of a subliminal relaxation audiotape [Abstract]. *Biofeedback and Self-Regulation*, 18(3), 195-196.
- Shaffer, F., Sponsel, M., Knight, D., Belcher, J., Stratmann, J., et al. (1993). Attention to the abdomen promotes diaphragmatic breathing [Abstract]. *Biofeedback and Self-Regulation*, 18(3), 197.
- Shaffer, F., Sponsel, M., Knight, D., Belcher, J., Stratmann, J., et al. (1993). A Double-blind test of brain-wave synchronizer

- effectiveness in inducing relaxation or alertness [Abstract]. *Biofeedback and Self-Regulation*, 18(3), 196.
- Krebill, R., Sponsel, M., Shaffer, F., Duckro, P. N., Schultz, K. T., Belcher, Lewis, M., Hollensbe, J., & Soleman, T. (1992). The Impact of EMG transformation on inferential test sensitivity [Abstract]. *Biofeedback and Self-Regulation*, 17(4), 336-337.
- Shaffer, F., Sponsel, M., Belcher, J., Hollensbe, J., Hart, D., et al. (1992). The chewing gum effect: Imagery disrupts diaphragmatic breathing [Abstract]. *Biofeedback and Self-Regulation*, 17(4), 343.
- Shaffer, F., Sponsel, M., Hollensbe, J., Belcher, J., Knight, D., Sauder, M., & Lewis, M. (1992). Tight shoulders and designer jeans prevent diaphragmatic breathing [Abstract]. *Biofeedback and Self-Regulation*, 17(4), 309-310.
- Shaffer, F., Sponsel, M., Johnson, D., Schenck, C., Wehmeyer, T., et al. (1992). The sit-up effect: Acute sitting angles produce thoracic breathing [Abstract]. *Biofeedback and Self-Regulation*, 17(4), 344.
- Shaffer, F., Sponsel, M., Hollensbe, J., Belcher, J., Lewis, M., & Solomon, T. (1991). Maintenance of diaphragmatic breathing during experimental pain [Abstract]. *Biofeedback and Self-Regulation*, 16(3), 287-288.
- Shaffer, F., Sponsel, M., Kice, J., & Hollensbe, J. (1991). The Effect of auditory feedback on diaphragmatic breathing [Abstract]. *Biofeedback and Self-Regulation*, 16(3), 317.
- Shaffer, F., Sponsel, M., Kice, J., & Hollensbe, J. (1991). Test-retest reliability of resting baseline measurements [Abstract]. *Biofeedback and Self-Regulation*, 16(3), 317-318.
- Duckro, P. N., Schultz, K., & Shaffer, F. (1986). Compatibility of skin temperatures for three sectors on the hand," *Biofeedback and Self-Regulation*, 11(4), 293-298.
- Hoyt, W. H., Hunt, H. H., De Pauw, M. A., Bard, D., Shaffer, F., Passias, J. N., Robbins, D. H., Runyon, D. G., Semrad, S. E., Symonds, J. T., & Watt, J. (1981). Electromyographic assessment

of chronic low-back pain syndrome. *J Am Osteopath Assoc*, 80, 728.

Hoyt, W. H., Bard, D. A., & Shaffer, F. (1981). Experience with an antigravity leverage device for chronic low back pain: A clinical study. *J Am Osteopath Assoc*, 80, 474.

Hoyt, W. H., Shaffer, F., Bard, D. A., Benesler, J. S., Blankenhorn, G. D., Gray, J. H., Hartman, W. T., & Hughes, L. C. (1979). Osteopathic manipulation in the treatment of muscle-contraction headache, *J Am Osteopath Assoc*, 78, 322.