

Texas A&M University Study--2003

In Dr. Ulrich's study, both productivity *and* creativity increased when tasks were performed in the presence of fresh flowers and plants.

During this eight-month study (conducted in cooperation with Dr. James Varni and the Society of American Florists), 101 participants performed creative problem-solving tasks in settings that were similar to many office workplaces. Tasks were performed in one of three randomly selected, simulated office settings: one that included fresh flowers and plants; one that included abstract sculpture; and one that included no flowers, plants or sculptures. Participants were required to rate their own moods four times, complete two creativity tasks, and complete one attentional demand test.

The study showed that both men and women exhibited more innovative thinking (generating more ideas and original solutions) in the workplace setting that included fresh flowers and plants. In the same setting, men generated 15% more ideas, while women came up with more flexible, creative solutions to problems.

"Our research shows that a change as simple as adding flowers and plants can be important in the most meaningful way to businesses in the modern economy," said Dr. Ulrich. "People's productivity, in the form of innovation and creative problem solving, improved...which in certain circumstances could mean the difference between mild and great business success."



Biosketch: Roger S. Ulrich, Ph.D.

Dr. Roger Ulrich is a professor both in the Department of Architecture and the Department of Landscape Architecture and Urban Planning, and serves as Director of the Center for Health Systems and Design. A behavioral scientist, he teaches courses in the area of evidence-based design, and conducts research on the effects of healthcare facilities and nature on medical outcomes. He and his associates have researched, for example, the effects of hospital window views on recovery from surgery, beneficial influences of healthcare gardens and art on patients and hospital staff, and how attractive versus blighted urban roadsides affect auto commuters' stress levels. Dr. Ulrich has published widely in both scientific and design journals, and is probably the most frequently cited researcher internationally in the area of evidence-based healthcare design. His work has influenced the architecture, interior design, and site planning of scores of major hospitals in different countries. His research has also examined public health benefits of landscape architecture and urban nature, and has proven useful for professionals in such areas of urban planning and urban forestry.

Roger Ulrich has worked extensively in Scandinavia, where he has carried out research at Lund Institute of Technology, Uppsala University, and the Karolinska Institute of Medicine. He has also been Visiting Research Professor in Healthcare Architecture at the University of Florence, Italy, and served as Invitation Research Fellow of the Japan Society for the Promotion of Science. He is a member of the Board of Directors of The Center for Health Design, California, and serves as co-chair of its national Research Committee.

Ph.D., 1973,

(Human/Behavioral Geography) University of Michigan, Ann Arbor

MA, 1971

(Human/Behavioral Geography) University of Michigan, Ann Arbor

B.A., 1968,

(Economics) University of Michigan, Ann Arbor

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Name: Ulrich, Roger S.

Title: Professor; Center for Health Systems & Design

Education: Ph.D., University of Michigan, 1973
M.A., University of Michigan, 1971
B.A., University of Michigan, 1968.

Area of Interest: Dr. Ulrich's interests concern applications of environment-behavior and evidence-based design knowledge to healthcare buildings, landscape architecture and urban design. His research has addressed the effects of people's experiences with built and natural environments on psychological well-being, stress and health outcomes.

Office Address: A341, Langford A
Department of Architecture
College of Architecture
College Station, TX 77843-3137

Office Phone: (979) 845-7009

Office Fax: (979) 845-4491

Email: ulrich@archone.tamu.edu

Office Hours: Not available

Web site: taz.tamu.edu/architecture/faculty/ulrich/mainframe.html

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Selected Citations of Research in Media and Professional Journals

Los Angeles Times, March 15, 1983, Section I, pp. 1,20-21. Quoted in front page article by Joan Sweeney on effects of prolonged bad weather on human behavior and psychological well-being.

Industry Week, May 16, 1983, pp.23-24. Quoted extensively in article by Bruce Horovitz on stress reducing benefits of plants and nature in workplaces.

USA Today, April 25, 1984. Front page article (p. A1) on research (with R. Davis) on rainy weather and behavior: "Rainy Days Dampen Our Wills to Work."

Associated Press story by Warren E. Leary about article in *Science* (April 27, 1984) carried worldwide (April-May, 1984). Leary's AP story was printed in hundreds of newspapers, often on front page. E.g., *The Philadelphia Inquirer*, April 20, 1984, A1.

NPR's *All Things Considered*, April, 1984. Interviewed by Noah Adams concerning research on effects of nature window view quality on patient health outcomes.

Interviewed on network (national, international) radio news on ABC, CBS, NBC, RKO, and Canadian National Radio. April - May, 1984.

ABC's *World News Tonight*, May 1984. Story about research on hospital window views. (Max Robinson, reporter.)

U.S. News & World Report, May 7, 1984, pp.53-54. Article about research (with R. Davis) on impacts of hot temperatures and rain on employee absenteeism.

Associated Press story by Randolph E. Schmid about work (with R. Davis) on impacts of weather on employee absenteeism carried internationally, resulting in scores of articles in major newspapers. (June - August, 1984).

Modern Healthcare, June, 1984, pp.125-126. Article about study of effects of nature window views, with quotes from interview: "A room with a view could cut a hospital patient's stay."

Health Magazine, September, 1984, p.10. Article by Randolph Blake on my healthcare research.

Adresseavisen (daily newspaper in Norway), February 22, 1985, pp. A1, A19. Front page article, with interview, by Gerd Isern about my work in Sweden on effects of art on hospital patients: "Abstract Art Can Make You Sick."

Wall Street Journal, April 30, 1985, A1. Short article on front page about research on winter weather and absenteeism (with R. Davis and G. Tan).

United Press International (UPI) and Associated Press carried stories about work (with R. Davis and G. Tan) on effects of winter weather on absenteeism among federal employees (April, 1985).

The Chronicle of Higher Education, May 8, 1985, pp.7, 10. Research on weather and absenteeism described in article.

Uppsala Nya Tidning (Uppsala, Sweden), May 24, 1985, p. B1. Feature article by Soulmeren Winge about research on healthcare design: "Miljoulmeren omkring oss viktig

foulm;r varing; haulm;lsa" (The environment around us important for our health)

Gefle Dagblad (Gaulm;vie, Sweden), June7, 1985, p. A1 - A2. Front page article by Niclas Carron (with excerpts from interview) about work on the effects on patients of hospital window views of cemeteries (common in older hospitals): "Sjukhusutsik mot kyrkogaring;rd into bra foulm;r patienterna."

Minneapolis Star and Tribune, May 10, 1986, pp. 1C-2C. Feature article by Lewis Cole about my research on stressful effects of viewing congested city streets, "Heavy foot-traffic stressful, study finds."

Wilmington News-Journal, (Wilmington, DE), June 5, 1986. Feature article by Edward L. Kenney about studies on nature: "Nature Lends Helping Hand," pp. D1, D10.

Interiorscape, November/December, 1986. Research on human benefits of viewing nature discussed prominently in article by John R. Piersol, "What is the Value of Interiorscaping?", pp.44, 52.

Prevention Magazine, January, 1987, pp.59-63. Research described prominently; also interviewed and quoted, in feature article by Jeff Meade: "Why Gardening Is Good for Your Health."

American Forests, July/August, 1988, pp.31, 64-65. Research on stress reducing effects of viewing nature described prominently (and interview quoted) in feature article by Sara Ebenreck: "Measuring the Value of Trees."

Houston Chronicle, January 23, 1989, pp. B6-7. Feature story by Rebecca Trounson on my research in *Discovery: Science & Medicine* section, "Health By Design."

The Buffalo News (Buffalo, NY), January 31, 1989, C1,C2. Research on healthcare interior design discussed prominently (and interview remarks quoted) in feature article by Paula Voell, "Giving Hospitals A Human Touch: Surroundings May Enhance Healing."

National Geographic, April, 1989, p.9. Short article about study (with T. Cosgrove) showing that conservatives and liberals plant and maintain their front yards in different ways: "Lawn Study Offers Political Fodder." (Also, *National Geographic* issued a press release about the study, which resulted in television coverage and scores of articles in major newspapers- examples: *Toronto Star* Gannett newspaper chain, *The Arizona Republic*.)

Los Angeles Times, July 25, 1989. Cited extensively (with interview) in article by Kathleen Doheny: "Nature Has Charms That Can Reduce Stress," p.II-1.

Psychology Today, June, 1989, p.23. Research on stress-reducing effects of nature subject of short article.

The New Yorker, August 28, 1989. Healthcare research cited prominently (p.40) in cover story by Tony Hiss.

American Forests, September/October, 1989, pp.37-41. Research on human responses to nature described throughout feature article by Deborah Boerner, "Trees and Your Health."

American Horticulturist, October, 1989, pp.10-15. Quoted and research cited throughout cover story by Kathleen Fisher: "People Love Plants: Plants Heal People."

Interior Landscape Industry, July, 1990. Quoted and research cited throughout featured article on human benefits of plants and nature by Ross Brown, "Better Business Through Science," pp.32-39.

The Denver Post, November, 21, 1990, p. E1. Research subject of article by Nancy Bruning, "Nature: One Tonic for Stress."

Atlanta Constitution, December 20, 1990. Feature article by Alan Patureau mainly about my research (with interview): "Rx for Stress: Nature," pp. E1, E6.

U.S. News & World Report, July 22, 1991. Research cited extensively in feature article by Miriam Horn, "Hospitals Fit for Healing," pp. 48-50.

Sierra de Madrid, August 29, 1991, pp.1, 4. (In Spanish.) Quoted extensively, and studies on emotional influences of landscapes described, in front page article by Ana Manzano on negative aesthetic impacts of visible air pollution in Madrid region, Spain.

U.S. News & World Report, February 3, 1992, p.54. Research referred to by Lionel Tiger in published interview: "The Origins of Pleasure - Anthropologist Lionel Tiger argues that many of our basic sources of enjoyment can be traced to our ancestral past on the savannas of Africa."

Contemporary Senior Health, Winter 1992, No. 3, p. 9. Article (with interview) focusing solely on my healthcare work.

U.S. News & World Report, November 30, 1992. Article by Bob Holme focusing on my research: "Nature Soothes Body and Soul" (p.67). This article was companion to cover story on E.O.Wilson (pp. 60-62, 64, 66-67).

American Health, May, 1993, p. 36. Research described, and interview quoted, in article by Eleanor Gilman, "The Power of Plants: When Your Stress Level Soars, Head Outdoors."

New York Times, November 30, 1993, pp.B1, B5. My research on the "biophilia hypothesis" cited (and interview remarks quoted) throughout feature article on front page of science section by William.K.Stevens: "Want a Room With a View? It May Be in the Genes."

Longevity, December, 1993, pp.44-46, 62-66. Research discussed prominently in feature article by Linda Gutstein: "Designed To Heal: A Touch of Home in a Hospital Can Be Powerful Medicine."

American Health, September, 1994, pp.60-65. Research discussed prominently (and interview quoted) in feature article by Gini Kopecky on alternative medicine.

New York Times, December 29, 1994, pp.B1, B6. Research cited prominently in article by Anne Raver: "When Hope Falts, Balm for the Soul: Patients Discover the Power of Gardens."

Landscape Architecture, January 1995, pp. 56-79. Research cited (with quotes from interviews) throughout 24-page special cover story on "Healing Gardens" by Molly Dannenmaier, Michael Leccese, and others.

Healthcare Forum Journal, March/April, 1995, pp..39-51. Healthcare studies discussed prominently in special feature article by David Webber, "Environments That Heal."

NPR's nationally syndicated program, Our Living Earth. March 24, 1995. Featured

interview on the biophilia Hypothesis. Reporter: Peter Thompson of Boston Public Radio. (This interview has been rerun at various times.)

Mirabella, May, 1995, pp. 82-84. Healthcare and nature studies discussed prominently in article by Erica Goode, "The Nature of Health."

ABC World News Tonight with Peter Jennings, September 27, 1995. Videotaped interview about research on human benefits of trees. Reporter: Kevin Newman.

Community Greening Review, Vol.5, 1995, pp.4-II. Quoted and research discussed in cover story by David Malakoff, "What Good Is Community Greening?"

Washington Post, June 18, 1995, pp. B1, B4. Research (with L. Tassinasy and R. Parsons) on stressful effects on motorists of roadside blight subject of feature story in Sunday edition by Anna Borgman: "Suburban Sprawl: A Health Hazard?"

Washington Post, July 1, 1995. Article in *Washington Post* (June 18) on our research on stressful effects of roadside blight focus of entire *Letters to the Editor* section-including critical letters sent by outdoor advertising lobbyists.

Washington Post, July 15, 1995, pp. E12-E13. Research on stressful effects of roadside blight subject of Op-Ed article by Roger K. Lewis, "Motorists Are Blinded by the Blight, Driven to Distraction by Strip Malls."

Health, October, 1995, p.41. Healthcare research focus of article in "Medical Notes."

CNN International, November, 1995. Videotaped segments of lecture (on human benefits of nature) I gave in the European Congress Hall, The Hague, Netherlands, and videotaped interview.

Wall Street Journal, December 8, 1995, pp. B1-B8. Research cited prominently in article by John Pierson, "If Sun Shines In, Workers Work Better, Buyers Buy More."

The Daily Telegraph (London), December 30, 1995, p. A3. Research on effects of art on health outcomes described prominently in full-page article by Lesley Garner, "Hale and Arty - The New NIIS Cure."

Austin American-Statesman, March 4, 1996, p. A7. Research (with L. Tassinary and R. Parsons) on stressful effects of urban visual blight discussed in nationally syndicated editorial article by Neal Pierce.

Health Facilities Management, June, 1996, pp.21-28. Research cited prominently in cover story by Susan EdgeGumbel, "Flower Power - The Proper Garden Can Cultivate a Wealth of Hospital Benefits."

New Woman, September, 1996, pp.109-111, 143. Three studies described in feature article by Barbara Jones, "The Power of the Natural World."

Healthcare Marketing Report-The National Newspaper of Healthcare Marketing, April, 1997, pp. 10-11. Healthcare design studies singled out for discussion in article by Richard L. Cohen, "Environmental Features Can Affect Medical Outcomes."

Facilities Design & Management, July 1997, pp. 44-47. Healthcare design research described prominently in feature article by Sara Marberry, "How Healthcare Design Joined the Mainstream."

American Forests, Summer, 1997, pp. 22-25. Studies on beneficial effects of trees

featured in article by Roger K. Lewis, "Urban Trees: Saving the Eye, Environment, Pocketbook, and Psyche."

Contract Design, October, 1997, p. 65. Interview quoted in article by Roger Yee on design research, "Is This A Test?"

National Wildlife, April/May, 1998, p. 70. Research on human interactions with nature featured in editorial by Mark Wexler, Editor, "Money Does Grow on Trees - and So Does Better Health and Happiness."

Conde Nast Traveler, May, 1998, pp. 130-132. My work on the partly innate importance of nature to human well-being discussed prominently in feature article by Perri Knize, "Nurture by Nature."

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