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Engineering & Scientific Consulting

## Douglas Young, Ph.D.

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### Professional Profile

Dr. Young has over 30 years of experience examining issues related to human performance, human factors, biomechanics, and ergonomics in accidents, injuries, and safety. He has evaluated the human behavior and safety of operation for products manufactured in the automotive and other consumer-product industries and has studied factors that cause human error and accidents. His scientific expertise includes the analysis of human movement control, coordination, gait, loss of balance, injury assessment, performance in sports and recreational activities, and analysis of accident patterns, as well as reaction time, vision, and the operation of vehicles and machinery. His research examines effectiveness of warnings, safety information, operation of controls, biomechanics, and accident and injury analyses, as well as human error and its determinants, including movement control, information processing, perception, memory, attention, stress, aging, and training.

Dr. Young is a Professor Emeritus in Kinesiology at the California State University in Long Beach (CSULB). He has served as Director of University Research and chair of the Institutional Review Board for the Protection of Human Subjects, and researcher with multi-year research grant awards sponsored by the National Institute of Health and National Highway Traffic Safety Administration. Dr. Young has received numerous awards for his scientific research and remains an active member of the Human Factors and Ergonomics Society and the Society of Automotive Engineers. In addition, he has served as a research consultant with the Veterans Affairs Medical Center in Long Beach, California, as a consultant with governmental emergency service agencies, including the Los Angeles Sheriff's Department and Long Beach Fire Department, and as an expert with the Association of Scientific Advisors, Inc.

### Academic Credentials & Professional Honors

Ph.D., Kinesiology, University of California, Los Angeles (UCLA), 1988

M.S., Kinesiology, University of California, Los Angeles (UCLA), 1987

B.S., Kinesiology, University of California, Los Angeles (UCLA), 1983

Award for Scholarly and Creative Research, California State University

Young Scholar Award, Western College Physical Education Society

Meritorious Performance and Professional Promise Award, California State University

## Academic Appointments

Professor, Department of Kinesiology, California State University, Long Beach

Director of Research Integrity and Compliance, California State University, Long Beach, 2016

## Professional Affiliations

Human Factors and Ergonomics Society (member)

North American Society for the Psychology of Sport and Physical Activity (member)

Society of Automotive Engineers (member)

## Publications

Crump C, Walenchok S, Johnson C, Pauszek J, Young D. Stress, operator error, and transportation accidents, 2021, Proceedings, Human Factors and Ergonomics Society 2021; 65(1): 1453-1458.

Brinkerhoff R, Crump C, Jonas R, Krake A, Cloninger C, Cades D, Young D. Driver visual errors in automobile crashes at four-way intersections. Transportation Research Board 2020 Annual Meeting, Paper 20-01474, Nov. 2020.

Hoyos C, Lester BD, Crump C, Cades DM, Young D. Consumer perceptions, understanding, and expectations of Advanced Driver Assistance Systems (ADAS) and vehicle automation. Proceedings, Human Factors and Ergonomics Society 2018; 61(1):1888-1892.

Jonas R, Crump C, Brinkerhoff R, Krake A. et al. Variability in circumstances underlying pedal errors: An investigation using the National Motor Vehicle Crash Causation Survey. SAE Technical Paper 2018-01-0493, 2018, doi:10.4271/2018-01-0493.

Crump C, Brinkerhoff R, Young D. Passenger seat belt usage rates on shuttle buses. Proceedings, Human Factors and Ergonomics Society 2017; 1674-1678.

Sharpe S, Crump C, Brinkerhoff R, Young D. Accelerator-to-brake pedal transition movements during on-road stopping in an older population. SAE Technical Paper 2017-01-1396, 2017.

Moorman H, Niles A, Crump C, Krake A, Lester B, Milan L, Cloninger C, Cades D, Young D. Lane-Keeping Behavior and Cognitive Load with Use of Lane Departure Warning. SAE Technical Paper 2017-01-1407, 2017.

Crump C, Krake A, Lester B, Moorman H, Cades D, Young D. Driver behavior with passive and active vehicle safety systems. Transportation Research Board (TRB), 2017 Annual Meeting, 2017.

Lester B, Hashish R, Kim R, Moorman H, Hildebrand E, Schwark J, Rauschenberger R, Young D. Mobile device usage influences gaze patterns to obstacles during locomotion. Proceedings of the Industrial and Systems Engineering Research Conference, 2016.

Cades D, Crump C, Lester B, Young D. Driver distraction and Advanced Vehicle Assistive Systems (ADAS): Investigating the effects on driver behavior. In NA Stanton et al (Eds.) Advances in Human Aspects of Transportation, 2016.

Crump C, Cades D, Lester B, Reed S, Barakat B, Milan L, Young D. Driver distraction and Advanced Vehicle Assistive Systems (ADAS): Investigating the effects on driver behavior. Presented at the Applied Human Factors and Ergonomics Conference, July, 2016.

Crump C, Cades D, Lester B, Reed S, Barakat B, Milan L, Young D. Differing perceptions of Advanced Driver Assistance Systems (ADAS). Proceedings, Human Factors and Ergonomics Society, 60(1), 861-865, 2016.

Kim R, Lester B, Schwark J, Cades D, Hashish R, Moorman H, Young, D. Gaze behavior during curb approach: The effect of mobile device use. Proceedings of the Human Factors and Ergonomics Society Annual Meeting, Sept; 60(1):1580-1584, 2016.

Barakat B, Crump C, Cades D, Rauschenberger R, Schwark J, Hildebrand E, Young D. Eye tracking evaluation of driver visual behavior with a forward collision warning and mitigation system. Proceedings of the Human Factors and Ergonomics Society Annual Meeting, 59(1), 1321-1325, 2015.

Crump C, Cades D, Rauschenberger R, Hildebrand E, Barakat B, Young D. Driver reactions in a vehicle with collision warning and mitigation technology. SAE Technical Paper 2015-01-1411, 2015. doi:10.4271/2015-01-1411.

Crump C, Cades D, Rauschenberger R, Hildebrand E, Young D. Dynamic on-road method for evaluation of Advanced Driver Assistance System (ADAS). Proceedings, 3rd Annual World Conference of the Society for Industrial and Systems Engineering, pp. 77-81, San Antonio, TX, October 20-22, 2014. ISBN: 97819384960-2-8.

Cades D, Young D, Glazek, K, Nauhaus, G, Alper S. Motorcoach seat belt use rates in the United States. Proceedings, 2nd Annual World Conference of the Society for Industrial and Systems Engineering, pp. 283-288, ISBN: 97819384960-1-1, Las Vegas, NV, November 5-7, 2013.

Kim R, Nauhaus G, Glazek K, Young D, Lin S. Development of coincidence-anticipation timing in a catching task. Perceptual & Motor Skills: Physical Developmental & Measurement 2013; 117(1):1-20.

Heckman G, Kim R, Lin S, Rauschenberger R, Young D, Lange R. Drivers' visual behavior during backing tasks: Factors affecting the use of rearview camera displays. Proceedings, Human Factors and Ergonomics Society Annual Meeting 2012; 56:2236-2240.

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Heckman G, Harley E, Scher I, Young D. Helmet use in sledding: Do users comply with manufacturer warnings? Proceedings, Human Factors and Ergonomics Society 54th Annual Meeting, 2010.

Schmidt, R, Young, D. Cars gone wild: the major contributor to unintended acceleration in automobiles is pedal error. Frontiers in Psychology 2010, doi: 10.3389/fpsyg.2010.00209.

Droll, J, Kubose, T, Huang, S, Aharoni, D, Young, D. An analysis of low-speed pedestrian crashes involving electric-powered and combustion-powered vehicles. Proceedings, Human Factors and Ergonomics Society 53rd Annual Meeting, 2009.

Heckman G, Jackson G, Keefer R, Ray R, Harley E, Young D. Mechanisms of automatic transmission

console shift selection and driver egress. Society of Automotive Engineers World Congress, April 2009.

Harley E, Trachtman D, Heckman G, Young D. Driver gear-shifting behaviors and errors. Proceedings, Human Factors and Ergonomics Society 52nd Annual Meeting, 2008.

Huntley-Fenner G, Harley E, Trachtman D, Young D. ANSI Z535.6 and conspicuity: A test of the new state of the art format for instructions. Proceedings, Human Factors and Ergonomics Society 51st Annual Meeting, 2007.

Scher I, Young D, Trachtman D. The influence of age on the forces produced during normal seat belt buckling. Proceedings, ASME 2007 Summer Bioengineering Conference (SBC2007), Keystone Resort and Conference Center, Keystone, CO, June 20-24, 2007.

Young D, Trachtman D, Scher I, Schmidt R. High school and college baseball pitchers' response and glove movements to line drives. Journal of Applied Biomechanics 2006; 22(1):25-32.

Vijayakumar V, Scher I, Pierce J, Bove R, Gloeckner D, Young D, Cargill R. Head kinematics and upper neck loading during simulated low-speed rear-end collisions: A comparison with vigorous activities of daily living. Society of Automotive Engineers, SAE 2006-01-0247.

Young D, Trachtman D, Krauss D. Human performance issues in auditory collision-avoidance systems. 10th Annual International Conference on Industrial Engineering, Clearwater, FL, 2005.

Scher I, Young D, Trachtman D, Dubey A. Falling objects: Is there really a potential for head injury? 2005 Summer Bioengineering Conference, American Society of Mechanical Engineers, Vail, CO, 2005.

Trachtman D, Schmidt R, Young D. The role of pedal configuration in unintended-acceleration and pedal-error accidents. Proceedings, Human Factors and Ergonomics Society, 49th Annual Meeting, Orlando, FL, 2005.

Keetch K, Schmidt R, Lee T, Young D. Especial skills: Their emergence with massive amounts of practice. Journal of Experimental Psychology: Human Perception and Performance 2005; 31(5):970-978.

Ayres T, Li L, Trachtman D, Young D. Passenger-side rear-view mirrors: Driver behavior and safety. International Journal of Industrial Ergonomics 2005; 35:157-162.

Young D, Trachtman D, Dracup B, Al-Tarawneh I. Are seat belt usage rates lower than we think? Proceedings, Human Factors and Ergonomics Society 48th Annual Meeting, New Orleans, LA, 2004.

Arndt S, Ayres TJ, Li L, Wood CT, Young D. Human factors in product recall planning. Proceedings, 6th Annual International Conference on Industrial Engineering — Theory, Applications and Practice, 2001.

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Schmidt R, Young D. Methodology for motor learning: A new paradigm for kinematic feedback. Journal of Motor Behavior 1991; 23:13-24.

Young D. Motor learning for physical education. In: Western College Physical Education Society Monograph Series. Peavy RD (ed), Pullman, Washington, Department of Physical Education, p. 26-31, 1991.

Swinnen S, Young D, Walter C, Serrien D. Control of asymmetrical bimanual movements. Experimental Brain Research 1991; 85:163-173.

Husak W, Young D. Motor learning: How to teach skills. Science of Coaching Swimming, L.K. Garnett (ed), Champaign, Illinois, Human Kinetics, p. 1-22, 1991.

Butler S, Young D. Promotion of ethnic and cultural diversity in educational institutions and systems. CAHPERD Journal Times 1990; 52(8):13-15.

Schmidt R, Lange C, Young D. Optimizing summary knowledge of results for skill learning. *Human Movement Science* 1990; 9:13-25.

Schmidt R, Young D, Swinnen S, Shapiro D. Summary knowledge of results for skill acquisition: Support for the guidance hypothesis. *Journal of Experimental Psychology: Learning, Memory, and Cognition* 1989; 15:152-159.

## **Books**

Young D. *Advanced motor control concepts* (2nd Edition). Palos Verdes, CA: Feedforward Press, 2014.

Young D. *Motor control and learning principles*. Palos Verdes, CA: Feedforward Press, 2011.

Young D, Lacourse M, Husak W. *Motor learning: A practical guide laboratory manual*, 2nd Edition. Dubuque, Iowa: E. Bowers Publishing, 1999.

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Young D, Husak W. *Motor learning: A practical guide laboratory manual*. Dubuque, Iowa, E. Bowers Publishing, 1995.

Husak W, Young D. *Motor control and learning: Laboratory experiments*, Dubuque, Iowa, E. Bowers Publishing, 1988.

## **Book Chapters**

Young D, Schmidt R, Lee T. Skill learning: Augmented feedback. In: *International Encyclopedia of Ergonomics and Human Factors*. Karwowski W (ed), pp. 583-587, London, Taylor and Francis, 2001.

Lee T, Schmidt R, Young D. Skill learning: Conditions of practice. In: *International Encyclopedia of Ergonomics and Human Factors*. Karwowski W (ed), pp. 588-592, London, Taylor and Francis, 2001.

Schmidt R, Lee T, Young D. Principles of simple movement. In: *International Encyclopedia of Ergonomics and Human Factors*. Karwowski W (ed), pp. 293-297, London: Taylor and Francis, 2001.

Schmidt R, Heuer H, Ghodiason D, Young D. Units of behavior in bimanual coordinated tasks. In: *Bernstein's Tradition in Motor Control*. Latash M (ed), New Jersey, Elsevier Publishers, 1998.

Young D, Schmidt R. Augmented feedback for enhanced skill acquisition. *Tutorials in Motor Behavior II*. Stelmach G and Requin J (eds), Amsterdam: Elsevier Science Publishers, p. 677-693, 1992.

Young D, Schmidt R. Units of motor behavior: Modifications with practice and feedback. *Attention and Performance XIII*. M. Jeannerod (ed), Hillsdale, New Jersey, Lawrence Erlbaum, p. 763-795, 1991.

Young D, Schmidt R. Motor programs as units of movement control. *Making Them Move: The Mechanics, Control, and Animation of Articulated Figures*. Badler N, et al. (eds), New York, New York, Morgan Kaufman, p. 129-156, 1990.

Schmidt R, Young D. Transfer of motor skills, transfer of training. *Cormier S and Hagman J (eds)*, Orlando, Florida, Academic Press, p. 47-79, 1987.

## **Reports**

Young D, Lacourse M. A talent identification model for junior tennis players. Technical Report No. 1/95. Motor Behavior Laboratory, California State University, Long Beach, CA, 1995.

## Presentations and Published Abstracts

Meir G, Perez J, Judy, R, Young D, Cohen M. Contextual interference and augmented feedback in young and old adults. Proceedings, North American Society for the Psychology of Sport and Physical Activity, Phoenix, AZ, 2010.

Meaders K, Young D. The scientific method and warnings expert. DRI Product Liability Conference, New Orleans, LA, 2007.

Meaders K, Young D. Scientific method and warnings analysis. DRI Product Liability Conference, Las Vegas, NV, 2006.

Young D, Schmidt R. In-vehicle technology: Safety, automation, and driver behavior. Society of Automotive Engineers In-Car Electronics and Telematics TOPTEC, Long Beach, CA, 2000.

Dzikowski S, Lacourse M, Young D. Perceptual and reproduction scaling of peak movement velocities presented on videotape at different playback speeds. Proceedings, North American Society for the Psychology of Sport and Physical Activity, Monterey, CA, 1995.

McClelland J, Lacourse M, Young D. Perception and modeling in motor behavior. Proceedings, Long Beach Research Symposium, Long Beach, CA, 1994.

Serr R, Lavay B, Young D, Greene G. Work productivity in adults with mild retardation. Proceedings, American Alliance for Health, Physical Education, Recreation, and Dance, San Diego, CA, 1994.

Zafiroglu N, Young D, Lacourse M. The control of the force-time impulse and variability in sequential limb movements. College of Health and Human Services Research Poster Communications Session, Long Beach, CA, 1994.

Serr R, Lavay B, Young D, Greene G. Dexterity and beach assembly work productivity in adults with mental retardation. College of Health and Human Services Research Poster Communications Session, Long Beach, CA, 1994.

Dzikowski S, Lacourse M, Young D. Perceived velocity of golf swings demonstrated in slow motion and fast forward on videotape. College of Health and Human Services Research Poster Communications Session, Long Beach, CA, 1994.

McClelland J, Lacourse M, Young D. Perception of velocity in videotapes demonstrations. College of Health and Human Services Research Poster Communications Session, Long Beach, CA, 1994.

McClelland J, Lacourse M, Young D. Optimizing the display features of videotaped demonstrations. Proceedings, North American Society for the Psychology of Sport and Physical Activity, Minneapolis, MN, 1993.

Saw L, Lacourse M, Young D. Neuromotor control strategies for complex limb movements. Proceedings, Long Beach Research Symposium, Long Beach, CA, 1992.

Sinclair W, Young D. On the management of academic programs. Presentation at the Annual Western College Physical Education Society Meeting, Reno, NV, 1992.

Young D. Motor learning research for physical education. Paper presented at the Annual Western College Physical Education Society Meeting, Reno, NV, 1991.

Young D, Cohen M, Husak W. Degraded acquisition conditions that enhance skill learning. Paper presented at the annual Long Beach Research Symposium, Long Beach, CA, 1991.

Young D, Husak W, Cohen M. Schedules of contextual interference and augmented feedback for skill acquisition. Paper presented at the Annual North American Society for the Psychology of Sport and Physical Activity Conference, Asilomar, CA, 1991.

Young D, Swinnen S, Beukers M. Temporal constraints and invariant relative time. Paper presented at the Annual North American Society for the Psychology of Sport and Physical Activity Conference, Asilomar, CA, 1991.

Carlson R, Young D. Selective recruiting: Marketing your programs to potential majors and minors. Paper presented at the Annual Western College Physical Education Society Meeting, Reno, NV, 1991.

Anderson D, Young D, Husak W, Cohen M. Post-KR delay activities that degrade skill learning. Paper presented at the Annual American Alliance for Health, Physical Education, Recreation, and Dance Conference, San Francisco, CA, 1991.

Young D. Augmented feedback for motor learning: theoretical and practical applications. Paper presented at the Annual North American Society for the Psychology of Sport and Physical Activity Conference, Houston, TX, 1990.

Young D, Cohen M, Husak W, McAurthur D, Anderson D. The contextual interference effect: A test of theoretical notions. Paper presented at the Annual North American Society for the Psychology of Sport and Physical Activity Conference, Houston, TX, 1990.

Lew D, Young D, Husak W. Contextual interference and amounts of practice. Paper presented at the California Alliance for Health, Physical Education, Recreation, and Dance Conference, Long Beach, CA, 1990.

Anderson D, Young D, Cohen J, Husak W, McAurthur D, Shandler S. Maximizing learning with contextual interference. Paper presented at the California Alliance for Health, Physical Education, Recreation, and Dance Conference, San Diego, CA, 1990.

Cohen M, Husak W, Young D, McAurthur D, Shandler S. Contextual interference: Elaboration or reconstruction. Paper presented at the Annual Western Psychological Association Convention, Los Angeles, CA, 1990.

Young D, Schmidt R. Motor programs as units of movement control. Presentation at the Workshop on Mechanics, Control, and Animation of Articulated Figures, Massachusetts Institute of Technology, 1989.

Young D, Schmidt R. The examination of knowledge of performance for insight into information feedback. Presentation at the Annual North American Society for the Psychology of Sport and Physical Activity Conference, Kent, OH, 1989.

Lange C, Young D, Schmidt R. Differences in movement pattern variables with extended practice. Presentation at the Annual North American Society for the Psychology of Sport and Physical Activity Conference, Kent, OH, 1989.

Swinnen S, Young D, Walter C, Serrin D. The role of interlimb interference in the control of bimanual movements. Presentation at the Annual North American Society for the Psychology of Sport and Physical Activity Conference, Kent, OH, 1989.

Young D, Schmidt R. The provision of information feedback. Paper presented at the California Alliance for Health, Physical Education, Recreation, and Dance Conference, Los Angeles, CA, 1988.

Young D, Magill R, Schmidt R, Shapiro D. Motor programs as control structures for reversal movements: An examination of rapid movements and unexpected perturbations. Presentation at the Annual North American Society for the Psychology of Sport and Physical Activity Conference, Knoxville, TN, 1988.



## Editorships & Editorial Review Boards

California Alliance for Health, Physical Education, Recreation and Dance Journal/Times (associate editor)

Human Factors, Journal of Motor Behavior, Research Quarterly for Exercise and Sport Sciences,  
Perceptual and Motor Skills, Psychological Reports (reviewer)