

Andrew F. Hayes, Ph.D.

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EDUCATION

Ph.D., Psychology
CORNELL UNIVERSITY
January 1996

B.A. (Honors), Psychology
SAN JOSE STATE UNIVERSITY
December 1990
Communication Studies minor

RELEVANT EMPLOYMENT HISTORY

Haskayne School of Business
University of Calgary, Alberta, Canada
Distinguished Research Professor (2021-present)

The Ohio State University
Columbus, Ohio, USA
Department of Psychology
Professor (2014-2020)
School of Communication (by courtesy)
Professor (2016-2020)

The Ohio State University
Columbus, Ohio, USA
School of Communication
Professor (2013-2014)
Associate Professor (2007-2013)
Assistant Professor (2001-2007)

Dartmouth College
Hanover, New Hampshire, USA
Amos Tuck School of Business Administration
Statistical Research Computing Associate (1998-2001)

University of New England
Armidale, New South Wales, Australia
School of Psychology
Assistant Professor (1996-1998)

RESEARCH AND PUBLICATIONS

(* Denotes a collaborator who was a graduate student at the time of the research or writing)

Books

Hayes, A. F., Montoya, A. K.*, Preacher, K. J., & Page-Gould, E. (under contract). *Statistical mediation analysis: Within-subject designs*. New York: The Guilford Press.

Hayes, A. F. (2018). *Introduction to mediation, moderation, and conditional process analysis: A regression-based approach* (2nd Ed.) New York: The Guilford Press.

Darlington, R. B., & **Hayes, A. F.** (2017). *Regression analysis and linear models: Concepts, applications, and implementation*. New York: The Guilford Press.

Hayes, A. F., Slater, M. D., & Snyder, L. (2008). *The SAGE sourcebook of advanced data analysis methods for communication research*. Thousand Oaks, CA: Sage Publications. (Lead Editor)

Hayes, A. F. (2005). *Statistical methods for communication science*. New York: NY: Routledge.

Journal Articles and Book Chapters (published, in press, or recently invited)

Rockwood, N. J.*, & **Hayes, A. F.** (in press). Multilevel mediation analysis. To appear in A. A. O'Connell, D. B. McCoach, and B. Bell (Eds). *Multilevel modeling methods with introductory and advanced applications*. Information Age Publishing.

Hayes, A. F., & Coutts, J. J.* (2020). Use omega rather than Cronbach's alpha for estimating reliability. But.. ...” *Communication Methods and Measures*, 14, 1-24.

Hayes, A. F., & Rockwood, N. J.* (2020). Conditional process analysis: Concepts, computation, and advances in the modeling of the contingencies of mechanisms. *American Behavioral Scientist*, 64, 19-54.

Rockwood, N. J.*, & **Hayes, A. F.** (2020). Mediation, moderation, and conditional process analysis: Regression-based approaches for clinical research. In A. G. C. Wright and M. N. Hallquest (Eds), *Handbook of research methods in clinical psychology*. Cambridge University Press.

Coutts, J. J.*, **Hayes, A. F.**, & Jiang, T.* (2019). Easy statistical mediation analysis with distinguishable dyadic data. *Journal of Communication*, 69, 612-649.

Hayes, A. F. (2018). Partial, conditional, and moderated moderated mediation: Quantification, inference, and interpretation. *Communication Monographs*, 85, 4-22.

Hayes, A. F., & Rockwood, N. J.* (2017). Regression-based statistical mediation and moderation analysis in clinical research: Observations, recommendations, and implementation. *Behaviour Research and Therapy*, 98, 39-57.

Hayes, A. F., Montoya, A. K.* & Rockwood, N. J.* (2017). The analysis of mechanisms and their contingencies: PROCESS versus structural equation modeling. *Australasian Marketing Journal*, 25, 76-81.

Montoya, A. K.*, & **Hayes, A. F.** (2017). Two condition within-participant statistical mediation analysis: A path analytic framework. *Psychological Methods*, 22, 6-27.

Hayes, A. F., & Montoya, A. K.* (2017). A tutorial on estimating, visualizing, and probing interactions involving a multicategorical variable in linear regression analysis. *Communication Methods and Measures, 11*, 1-30.

Deery, S., Walsh, J., Zatzick, C., & **Hayes, A. F.** (2017). Exploring the relationship between compressed work hours, satisfaction, and absenteeism in front-line service work. *European Journal of Work and Organizational Psychology, 26*, 42-52.

Hanssen, M. M.*, Vancleef, L. M. G., Vlaeyen, J. W. S., **Hayes, A. F.**, Schouten, E. G. W., & Peters, M. L. (2015). Optimism, motivational coping and well-being: Evidence supporting the importance of flexible goal adjustment. *Journal of Happiness Studies, 16*, 1525-1537.

Slater, M. D., **Hayes, A. F.**, & Chung, A.* (2015). Injury news coverage, relative concern, and support for alcohol-control policies: An impersonal impact explanation. *Journal of Health Communication, 20*, 51-59.

Hayes, A. F. (2015). An index and test of linear moderated mediation. *Multivariate Behavioral Research, 50*, 1-22.

Hayes, A. F., & Agler, R. A.* (2014). On the standard error of the difference between independent regression coefficients in moderation analysis. *Multiple Linear Regression Viewpoints, 40*(2), 16-27.

Hayes, A. F., & Preacher, K. J. (2014). Statistical mediation analysis with a multicategorical independent variable. *British Journal of Mathematical and Statistical Psychology, 67*, 451-470.

Hayes, A. F., & Matthes, J. (2014). Self-censorship, the spiral of silence, and contemporary political communication. In K. H. Jamieson & K. Kenski (Eds), *Oxford Handbook on Political Communication*. Oxford, UK: Oxford University Press.

Vasey, M. W., Harbaugh, C. N., Fisher, L. J., Heath, J. H., **Hayes, A. F.,** & Bijttebier, P. (2014). Temperament synergies in risk for depressive symptoms: A prospective replication of a three-way interaction. *Journal of Research in Personality, 53*, 143-157.

Berndt, N. C., **Hayes, A. F.,** Verboon, P., Lechner, L., Bolman, C., & De Vries, H. (2013). Self-efficacy mediates the impact of craving on smoking abstinence in low to moderately anxious patients: Results of a moderated mediation approach. *Psychology of Addictive Behaviors, 27*, 113-124.

Hayes, A. F., & Scharkow, M. (2013). The relative trustworthiness of inferential tests of indirect effects in statistical mediation analysis: Does method really matter? *Psychological Science, 24*, 1918-1927.

Hayes, A. F., Matthes, J., & Eveland, W. P. Jr. (2013). Stimulating the quasi-statistical organ: Fear of social isolation motivates the quest for knowledge of the opinion climate. *Communication Research, 40*, 439-462.

Hayes, A. F., & Preacher, K. J. (2013). Conditional process modeling: Using structural equation modeling to examine contingent causal processes. In G. R. Hancock & R. O. Mueller (Eds.) *Structural equation modeling: A second course* (2nd Ed), pp. 219-266. Greenwich, CT: Information Age Publishing.

- Matthes, J., & **Hayes, A. F.** (2013). Methodological conundrums in spiral of silence research. In W. Donsbach, C. Salmon, and Y. Tsfati (Eds). *The spiral of silence: New perspectives on communication and public opinion*. New York: Routledge.
- Hayes, A. F.**, Glynn, C. J., & Huge, M. E. (2012). Cautions regarding the interpretation of regression coefficients and hypothesis tests in linear models with interactions. *Communication Methods and Measures*, 6, 1-11.
- Matthes, J., **Hayes, A. F.**, Rojas, H., Shen, F., Min, S. J., & Dylko, I. (2012). Exemplifying a dispositional approach to cross-cultural spiral of silence research: Fear of social isolation and the inclination to self-censor. *International Journal of Public Opinion Research*, 24, 287-305.
- Pollack, J., VanEpps, E. M, & **Hayes, A. F.** (2012). The moderating role of social ties on entrepreneurs' depressed affect and withdrawal intentions in response to economic stress. *Journal of Organizational Behavior*, 33, 789-810.
- Slater, M. D., **Hayes, A. F.**, Goodall, K., & Ewoldsen, D. (2012). Increasing support for alcohol-control enforcement through news coverage of alcohol's role in injuries and crime. *Journal of Studies on Alcohol and Drugs*, 73, 311-315.
- Parker, R., Nouri, H., & **Hayes, A. F.** (2011). Distributive justice, promotion instrumentality, and turnover intentions in public accounting firms. *Behavioral Research in Accounting*, 23, 169-186.
- Hayes, A. F.**, Preacher, K. J., & Myers, T. A. (2011). Mediation and the estimation of indirect effects in political communication research. In E. P. Bucy & R. L. Holbert (Eds), *Sourcebook for political communication research: Methods, measures, and analytical techniques*. (p. 434-465). New York: Routledge.
- Hayes, A. F.**, & Preacher, K. J. (2010). Quantifying and testing indirect effects in simple mediation models when the constituent paths are nonlinear. *Multivariate Behavioral Research*, 45, 627-660.
- Hayes, A. F.**, Uldall, B.*, & Glynn, C. J. (2010). Validating the willingness to self-censor scale II: Inhibition of opinion expression in a conversational setting. *Communication Methods and Measures*, 4, 256-272
- Myers, T. A.*, & **Hayes, A. F.** (2010). Reframing the casualties hypothesis: (Mis)perception of troop loss and public opinion about military intervention. *International Journal of Public Opinion Research*, 22, 256-275.
- Slater, M. D., & **Hayes A. F.** (2010). The influence of youth music television viewership on changes in cigarette use and association with smoking peers: A social identity, reinforcing spirals perspective. *Communication Research*, 37, 751-773
- Hayes, A. F.** (2009). Beyond Baron and Kenny: Statistical mediation analysis in the new millennium. *Communication Monographs*, 76, 408-420.
- Hayes, A. F.**, & Matthes, J. (2009). Computational procedures for probing interactions in OLS and logistic regression: SPSS and SAS implementations. *Behavior Research Methods*, 41, 924-936.
- Hayes, A. F.**, & Myers, T. A.* (2009). Testing the "proximate casualties hypothesis": Local troop loss, attention to war news, and support for military intervention. *Mass Communication and Society*, 12, 379-402.

- Slater, M. D., Goodall, C. E.*, & **Hayes, A. F.** (2009). Self-reported news attention does assess differential processing of media content: An experiment on risk perceptions utilizing a random sample of U.S. local crime and accident news. *Journal of Communication*, 59, 117-134.
- Slater, M. D., **Hayes, A. F.**, Reineke, J. B.*, Long, M. A., & Bettinghaus, E. (2009). Newspaper coverage of cancer prevention: Multilevel evidence for knowledge-gap effects. *Journal of Communication*, 59, 514-533.
- Preacher, K. J., & **Hayes, A. F.** (2008a). Asymptotic and resampling strategies for assessing and comparing indirect effects in multiple mediator models. *Behavior Research Methods*, 40, 879-891.
- Preacher, K. J., & **Hayes, A. F.** (2008b). Contemporary approaches to assessing mediation in communication research. In A. F. Hayes, M. D. Slater, and L. B. Snyder (Eds), *The Sage sourcebook of advanced data analysis methods for communication research* (pp. 13-54). Thousand Oaks, CA: Sage Publications.
- Cai, L.*, & **Hayes, A. F.** (2008). A new test of linear hypotheses in OLS regression under heteroscedasticity of unknown form. *Journal of Educational and Behavioral Statistics*, 33, 21-40.
- David, P., Song, M.*, **Hayes, A. F.**, & Fredin, E. S. (2007). A cyclic model of information seeking in hyperlinked environments: The dynamics of motivation, goals, and self-efficacy. *International Journal of Human-Computer Studies*, 65, 170-182.
- Hayes, A. F.**, & Cai, L.* (2007). Using heteroscedasticity-consistent standard error estimators in OLS regression: An introduction and software implementation. *Behavior Research Methods*, 39, 709-722.
- Hayes, A. F.**, & Cai, L.* (2007). Further evaluating the conditional decision rule for comparing two independent means. *British Journal of Mathematical and Statistical Psychology*, 60, 217-244.
- Hayes, A. F.**, & Krippendorff, K. (2007). Answering the call for a standard reliability measure for coding data. *Communication Methods and Measures*, 1, 77-89.
- Hayes, A. F.** (2007). Exploring the forms of self-censorship: On the spiral of silence and the use of opinion expression avoidance strategies. *Journal of Communication*, 57, 785-802.
- Hayes, A. F.**, & Reineke, J. B.* (2007). The effects of government censorship of war-related news coverage on interest in the censored coverage: A test of competing theories. *Mass Communication and Society*, 10, 423-438.
- Preacher, K. J., Rucker, D. D., & **Hayes, A. F.** (2007). Addressing moderated mediation hypotheses: Theory, methods, and prescriptions. *Multivariate Behavioral Research*, 42, 185-227.
- Shanahan, J., Glynn, C. J., & **Hayes, A. F.** (2007). The spiral of silence: A meta-analysis and its impact. In R. Preiss, B. Gayle, N. Burrell, M. Allen, & J. Bryant. (Eds.). *Mass media effects research: Advances through meta-analysis* (pp. 415-427). Mahwah, NJ: Erlbaum
- Slater, M. D., **Hayes, A. F.**, & Ford, V. (2007). Examining the moderating and mediating roles of news exposure and attention on adolescent judgments of alcohol-related risks. *Communication Research*, 34, 355-381.

Frost, C. A., Gordon, E. A., & **Hayes, A. F.** (2006). Stock exchange disclosure and market development: An analysis of 50 international exchanges. *Journal of Accounting Research*, *44*, 437-483.

Hayes, A. F. (2006). A primer on multilevel modeling. *Human Communication Research*, *32*, 385-410.

Hayes, A. F., Scheufele, D. A., & Huges, M. E.* (2006). Nonparticipation as self-censorship: Publicly-observable political activity in a polarized opinion climate. *Political Behavior*, *28*, 259-283.

Slater, M. D., Snyder, L., & **Hayes, A. F.** (2006). Thinking and modeling at multiple levels: The potential contribution of multilevel modeling to communication theory and research. *Human Communication Research*, *32*, 375-384.

Schnurr, P. P., **Hayes, A. F.**, Lunney, C. A., McFall, M., & Uddo, M. (2006). Longitudinal analysis of the relationship between symptoms and quality of life in veterans with posttraumatic stress disorder. *Journal of Consulting and Clinical Psychology*, *74*, 707-713.

Eveland, W. P., **Hayes, A. F.**, Shah, D. V., & Kwak, N. (2005). Understanding the relationship between communication and political knowledge: A model-comparison approach using panel data. *Political Communication*, *22*, 423-446.

Eveland, W. P., **Hayes, A. F.**, Shah, D. V., & Kwak, N. (2005). Observations on the estimation of communication effects on political knowledge and a test of intracommunication mediation. *Political Communication*, *22*, 505-510.

Hayes, A. F., Glynn, C. J., & Shanahan, J. (2005). Validating the willingness to self-censor scale: Individual differences in the effect of the climate of opinion on opinion expression. *International Journal of Public Opinion Research*, *17*, 443-455.

Hayes, A. F., Glynn, C. J., & Shanahan, J. (2005). Willingness to self-censor: A construct and measurement tool for public opinion research. *International Journal of Public Opinion Research*, *17*, 298-323.

Farley, J. U., **Hayes, A. F.**, & Kopalle, P. K. (2004). Choosing and upgrading financial services dealers in the U.S. and U.K. *International Journal of Research in Marketing*, *21*, 359-375.

Kocsis, R. N., & **Hayes, A. F.** (2004). Believing is seeing?: Investigating the perceived accuracy of criminal psychological profiles. *International Journal of Offender Therapy and Comparative Criminology*, *48*, 149-160.

Preacher, K. J.*, & **Hayes, A. F.** (2004). SPSS and SAS procedures for estimating indirect effects in simple mediation models. *Behavior Research Methods, Instruments, and Computers*, *36*, 717-731.

Knott, A., **Hayes, A. F.**, & Neslin, A. (2002). Next-product-to-buy models for cross-selling applications. *Journal of Interactive Marketing*, *16*(3), 59-75.

Kocsis, R. N., **Hayes, A. F.**, & Irwin, H. (2002). Investigative experience and accuracy in psychological profiling of a violent crime. *Journal of Interpersonal Violence*, *17*, 811-823.

Hayes, A. F., Shanahan, J., & Glynn, C. J. (2001). Willingness to express one's opinion in a realistic situation as a function of perceived support for that opinion. *International Journal of Public Opinion Research*, *13*, 45-58.

Kocsis, R. N.*, Irwin, H. J., **Hayes, A. F.**, & Nunn, R. (2001). Criminal psychological profiling in violent crime investigations: A comparative assessment of expertise. In Godwin, M.G. (Eds.) *Criminal psychology and forensic technology: A collaborative approach to effective profiling*. New York: CRC Press.

Darlington, R. B., & **Hayes, A. F.** (2000). Combining independent p -values: Extensions of the Stouffer and binomial methods. *Psychological Methods*, 5, 496-515.

Hayes, A. F. (2000). Randomization tests and the equality of variance assumption when comparing group means. *Animal Behaviour*, 59, 653-656.

Kocsis, R. N.*, Irwin, H. J., **Hayes, A. F.**, & Nunn, R. (2000). Expertise in psychological profiling: A comparative assessment. *Journal of Interpersonal Violence*, 15, 311-331.

Hayes, A. F. (1998). SPSS procedures for approximate randomization tests. *Behavior Research Methods, Instruments, and Computers*, 30, 536-543.

Hayes, A. F. (1998). Within-study meta-analysis: Pooling the significance of doubly-nonindependent ("nonoverlapping") correlations. *Psychological Methods*, 3, 32-45.

Kocsis, R. N.*, Irwin, H., & **Hayes, A. F.** (1998). Organised and disorganised criminal behaviour syndromes in arsonists: A validation study of a psychological profiling concept. *Australian and New Zealand Journal of Psychiatry, Psychology, and Law*, 5, 117-131.

Glynn, C. J., **Hayes, A. F.**, & Shanahan, J. (1997). Perceived support for one's opinions and willingness to speak out: A meta-analysis of survey studies on the "spiral of silence." *Public Opinion Quarterly*, 61, 452-461.

Hayes, A. F. & Dunning, D. (1997). Construal processes and trait ambiguity: Implications for self-peer agreement in personality judgment. *Journal of Personality and Social Psychology*, 72, 664-677.

Hayes, A. F. (1997). Cautions in testing variance equality with randomization tests. *Journal of Statistical Computation and Simulation*, 59, 25-31.

Dunning, D., & **Hayes, A. F.** (1996). Evidence for egocentric comparison in social judgment. *Journal of Personality and Social Psychology*, 71, 213-229.

Hayes, A. F. (1996). The permutation test is not distribution-free: Testing $H_0: \rho = 0$. *Psychological Methods*, 1, 184-198.

Hayes, A. F. (1996). PERMUSTAT: Randomization tests for the Macintosh. *Behavior Research Methods, Instruments, and Computers*, 28, 473-475.

Barnes, J., & **Hayes, A. F.** (1995). Integration of the language arts and teacher training: An examination of speech communication instruction in high school English classes. *Communication Education*, 44, 307-320.

Barnes, J., & **Hayes, A. F.** (1995). Language arts practices in the instruction of oral communication in California high schools. *Communication Reports*, 8, 61-68.

Hayes, A. F. (1995). Age preferences for same and opposite-sex partners. *Journal of Social Psychology, 135*, 125-133.

Encyclopedia Entries

Hayes, A. F. (2008). Sampling, Nonrandom. In W. Donsbach (Ed.), *International encyclopedia of communication* (Vol. 10, pp. 4447-4452). Oxford, UK: Blackwell.

Hayes, A. F. (2008). Sampling, Random. In W. Donsbach (Ed.), *International encyclopedia of communication* (Vol. 10, pp. 4453-4459). Oxford, UK: Blackwell

Hayes, A. F., & Reineke, J. B.* (2008). Perceived reality: Meta-analyses. In W. Donsbach (Ed.), *International encyclopedia of communication* (Vol. 8, pp. 3553-3557). Oxford, UK: Blackwell).

Hayes, A. F. (2005). Self-censorship. In B. Radcliff & S. Best (Eds.) *Polling America: An encyclopedia of public opinion*. (pp. 737-740). Westport, CT: Greenwood Press.

Hayes, A. F. (2005). Oneway designs: Nonparametric and resampling approaches. In B. Everitt & D. Howell (Eds.) *Encyclopedia of statistics in behavioral science* (pp. 1468-1474). Chichester, UK: Wiley & Sons.

Conference Presentations (past and scheduled)

Hayes, A. F. (2019, May). *Easy statistical mediation analysis with distinguishable dyadic data*. Invited presentation delivered at the annual conference of the Association for Psychological Science, Washington DC

Hayes, A. F., Coutts, J., & Jiang, T. (2019, April). *Easy statistical mediation analysis with distinguishable dyadic data*. Invited presentation delivered at the annual conference of the Midwestern Psychological Association, Chicago, IL.

Hayes, A. F., & Montoya, A. K. (2018, March). *Understanding PROCESS v3: New features, building, and editing models*. Presented at the annual conference of the Society for Personality and Social Psychology, Atlanta, GA.

Hayes, A. F. (2017, May). *What's coming in PROCESS v3*. Invited presentation delivered at the annual conference of the Association for Psychological Science, Boston, MA.

Rockwood, N. J., & **Hayes, A. F.** (2017, May). *MLMED: An SPSS macro for multilevel mediation and conditional process analysis*. Presented at the annual conference of the Association for Psychological Science, Boston, MA.

Creedon, P. J., **Hayes, A. F.,** & Preacher, K. J. (2016, January). *Omnibus tests of the indirect effect in statistical mediation analysis with a multicategorical independent variable*. Paper presented at the Society for Personality and Social Psychology, San Diego, CA.

Hayes, A. F. (2016, January). *Estimating and inference about indirect effects in within-subjects mediation analysis: A path analytical perspective*. Presented as part of symposium at the Society for Personality and Social Psychology, San Diego, CA.

Creedon, P. J., & Hayes, A. F. (2015, May). *Small sample mediation analysis: How far can you push the bootstrap?* Paper presented at the Annual conference of the Association for Psychological Science, New York, NY.

Montoya, A. K., & Hayes, A. F. (2015, May). *Estimating and testing indirect effects in within-subject mediation analysis: A path-analytic framework.* Paper presented at the Annual conference of the Association for Psychological Science, New York, NY.

Hayes, A. F., & Scharkow, M. (2013, June). *The relative trustworthiness of popular inferential approaches to testing indirect effects in statistical mediation analysis: Does method really matter?* Paper presented at the annual meeting of the International Communication Association, London, UK.

Slater, M. D., Hayes, A. F., Ewoldsen, D. & Goodall, K. (2013, June). Injury news coverage, relative concern, and support for alcohol-control policies: An impersonal impact explanation. Paper presented at the annual meeting of the International Communication Association, London, UK.

Hayes, A. F. (2012, May). *Integrating moderation and mediation analysis.* Symposium organizer, co-chair, and presenter at the annual conference of the Association for Psychological Science, Chicago, IL.

Hayes, A. F., Matthes, J., & Eveland, W. P. Jr. (2011, May). *Stimulating the quasi-statistical organ: Fear of social isolation and the quest for knowledge of the opinion climate.* Paper presented at the annual meeting of the International Communication Association, Boston.

Slater, M. D., Hayes, A. F., Ewoldsen, D., & Goodall, K. (2011, May). *Increasing support for alcohol-control enforcement through news coverage of alcohol's role in injuries and crime: An experiment using representative U.S. news stories and people.* Paper presented at the annual meeting of the International Communication Association, Boston.

Matthes, J., Hayes, A. F., Rojas, H., Shen, F., Min, S. J., & Dylko, I. (2010, June). *Testing the spiral of silence theory in nine countries: An individual difference perspective.* Paper presented at the annual meeting of the International Communication Association, Singapore.

Dossett, A., & Hayes, A. F. (2009, May). *Hypocrites and excuse makers: The promises or perils of a mass mediated hypocrisy induction paradigm for behavior modification.* Paper presented at the annual meeting of the International Communication Association, Chicago, IL.

Hayes, A. F., & Matthes, J. (2009, May). *A primer for communication researchers on probing single-degree-of-freedom interactions in regression models, with SPSS and SAS implementations.* Paper presented at the annual meeting of the International Communication Association, Chicago, IL. **(Top 4 paper in the Information Systems division)**

Matthes, J., Hayes, A. F., & Shen, F. (2009, May). *Dispositional fear of social isolation and willingness to self-censor: A cross-cultural test of spiral of silence theory.* Paper presented at the annual meeting of the International Communication Association, Chicago, IL.

Slater, M. D., & Hayes, A. F. (2009, May). *The influence of youth MTV/VH-1 viewership on increasing rates of cigarette use and association with smoking peers: A parallel process model.* Paper presented at the annual meeting of the International Communication Association, Chicago, IL.

Lunney, C. A., Glynn, C. J., & **Hayes, A. F.** (2008, November). *Voting outside the booth: Absentee voting as a form of self-censorship*. Paper presented at the annual meeting of the Midwestern Association for Public Opinion Research, Chicago, IL.

Slater, M. D., **Hayes, A. F.**, Reineke, J. B., Long, M. A., & Bettinghaus, E. (2008, November). *Newspaper coverage of cancer prevention and prevention knowledge: Multilevel evidence for knowledge gap effects*. Paper presented at the annual meeting of the National Communication Association, San Diego, CA.

Hayes, A. F., Matthes, J., Hively, M. H., & Eveland, W. P. Jr. (2008, August). *In search of the climate of opinion: A new (and novel) test of spiral of silence theory*. Paper presented at the annual meeting of the Association for Education in Journalism and Mass Communication, Chicago, IL.

Hayes, A. F., & Myers, T. A. (2008, May). *Testing the “proximate casualties” hypothesis: Local troop loss, attention to news, and support for military intervention*. Paper presented at the annual meeting of the International Communication Association, Montreal, Canada.

Hayes, A. F., Glynn, C. J., & Huges, M. A. (2008, May). *Cautions in the interpretation of coefficients and hypothesis tests in linear models with interactions*. Paper presented at the annual meeting of the International Communication Association, Montreal, Canada

Reineke, J. B., **Hayes, A. F.**, & Richey, G. (2007, November). *Reporting on campaign finance success: Effects on perceptions of political candidates*. Paper presented at the annual meeting of the National Communication Association, Chicago, IL.

Nisbet, M. C., **Hayes, A. F.**, & Myers, T. (2006, November). *Testing the casualties hypothesis: Re-examining the impact of troop loss on public support for military action*. Paper presented at the annual meeting of the Midwestern Association for Public Opinion Research, Chicago, IL.

Hayes, A. F., & Preacher, K. J. (2006, August). *Bootstrapping indirect effects in multiple mediator models of media effects*. Paper presented at the annual meeting of the Association for Education in Journalism and Mass Communication, San Francisco, CA. **(Top 3 paper in the Communication Theory and Methodology division)**

Hayes, A. F., Uldall, B., & Glynn, C. J. (2006, August). *“Real talk” for real: Individual differences in the effect of the climate of opinion on opinion expression in a real conversational setting*. Paper presented at the annual meeting of the Association for Education in Journalism and Mass Communication, San Francisco, CA.

Slater, M. D., **Hayes, A. F.**, & Ford, V. (2006, August). *Examining the moderating and mediating effects of media and individual differences on adolescent perceptions of alcohol-related risks*. Paper presented at the annual meeting of the Association for Education in Journalism and Mass Communication, San Francisco, CA.

Preacher, K. J., Rucker, D. D., & **Hayes, A. F.** (2006, February). *Demystifying moderated mediation: A unified framework for investigating conditional mediation effects in psychological research*. Paper presented at the annual meeting of the Society for Personality and Social Psychology, Palm Springs, CA.

Hayes, A. F. (2005, November). *A computational tool for survey shortening applicable to composite attitude, opinion, and personality measurement scales*. Paper presented at the annual meeting of the Midwestern Association for Public Opinion Research, Chicago, IL.

Schnurr, P. P., **Hayes, A. F.**, Lunney, C. A., McFall, M., & Uddo, M. (2005, November). *Longitudinal analysis of the relationship between symptoms and quality of life in veterans with posttraumatic stress disorder*. Paper presented at the annual meeting of the International Society for Traumatic Stress Studies, Toronto, Canada.

Hayes, A. F., & Reineke, J.* (2005, August). *The effects of government censorship of media coverage on interest in the censored coverage: A comparison of theoretical explanations*. Paper presented at the annual meeting of the Association for Education in Journalism and Mass Communication, San Antonio, TX.

Hayes, A. F., & Huges, M. E.* (2004, November). *Self-censorship through nonparticipation in public political activity: Results from a national poll*. Paper presented at the annual meeting of the Midwestern Association for Public Opinion Research, Chicago, IL

Hayes, A. F. (2004, August). *Exploring the forms of self-censorship: An experimental investigation of the effects of the climate of opinion on strategies of opinion expression avoidance*. Paper presented at the annual meeting of the Association for Education in Journalism and Mass Communication, Toronto, Canada (**Top 3 paper in Communication Theory and Methodology division**).

Hayes, A. F. (2004, August). *Variable splitting, statistical interaction, and the efficient use of data in communication research*. Paper presented at the annual meeting of the Association for Education in Journalism and Mass Communication, Toronto, Canada.

David, P., Song, M.*, **Hayes, A. F.**, & Fredin, E. S. (2004, May). *A cyclical model of browsing: The dynamics of motivation, goals, and self-efficacy*. Paper presented at the annual meeting of the International Communication Association, New Orleans, LA.

Frost, C. A., Gordon, E. A., & **Hayes, A. F.** (2004, May). *Stock exchange disclosure and market liquidity: An analysis of 50 international exchanges*. Paper presented at the Journal of Accounting Research Conference. Chicago, IL.

Hayes, A. F., & Huges, M. E.* (2003, November). *Nonparticipation in public political activity as self-censorship*. Paper presented at the annual meeting of the Midwestern Association for Public Opinion Research, Chicago, IL

Eveland, W. P., **Hayes, A. F.**, Shah, D. V., & Kwak, N. (2003, July). *Understanding the relationship between communication and political knowledge: A model-comparison approach using panel data*. Paper presented at the annual meeting of the Association for Education in Journalism and Mass Communication, Kansas City, MO. (**Top 3 paper in Communication Theory and Methodology division**)

Farley, J. U., **Hayes, A. F.**, & Kopalle, P. (2003, June). *Cross-national, cross-market marketing mix response: Combining meta-analysis and 'best practice' modeling of consumer choice*. Paper presented at the conference of the Marketing Science Institute, Noordwijk, The Netherlands. (**Winner of the Marketing Science Institute research competition on global marketing**)

Hayes, A. F., Shanahan, J., Glynn, C. J., & Uldall, B.* (2003, May). *Individual differences in willingness to self-censor*. Poster presented at the annual meeting of the American Association of Public Opinion Research, Nashville, TN.

Frost, C. A., Gordon, E. A., & **Hayes, A. F.** (2002, December). *Stock exchange disclosure and market liquidity: An analysis of 50 international exchanges*. Paper presented at the World Federation of Exchanges' Forum on Managing Exchanges in Emerging Economies, Kuala Lumpur, Malaysia.

Hayes, A. F., Glynn, C. J., Shanahan, J., Scheufele, D., Moy, P., Domke, D., & Stamm, K. (2002, August). *Fear of isolation and the climate of opinion: Moderating the spiral of silence?* Paper presented at the annual meeting of the Association for Education in Journalism and Mass Communication, Miami, FL.

Frost, C. A., Gordon, E. A., & **Hayes, A. F.** (2002, August). *Stock exchange disclosure and market liquidity: An analysis of 50 international exchanges*. Paper presented at the annual meeting of the American Accounting Association, San Antonio, TX.

Hayes, A. F., Glynn, C. J., & Shanahan, J. (2002, August). *Individual Differences in Willingness to Self-Censor*. Paper presented at the annual meeting of the American Psychological Association, Chicago, IL.

Gwiasda, G. W.*, Glynn, C. J., & **Hayes, A. F.** (2001, November). *The normative influence of perceived in-group support on expressed opinions*. Paper presented at the annual conference of the Midwestern Association for Public Opinion Research, Chicago, IL.

Horner, L., Fredin, E. S., & **Hayes, A. F.** (2001, November). *The effect of pro and con information on an issue: A survey experiment and quandaries for journalists and survey researchers*. Paper presented at the annual conference of the Midwestern Association for Public Opinion Research, Chicago, IL.

Hayes, A. F., Glynn, C. J., & Shanahan, J. (2001, May). *The role of personality factors and accuracy in predicting opinion expression*. Paper presented at the annual conference of the International Communication Association, Washington, D.C.

Dunning, D., & **Hayes, A. F.** (1996, April). *The role of the self in social judgment*. Paper presented at the Empire State Social Psychology Conference, Blue Mountain, NY.

Glynn, C. J., **Hayes, A. F.**, & Shanahan, J. (1996, August). *Willingness to speak and the spiral of silence: A meta-analysis*. Paper presented at the annual conference of the Association for Education in Journalism and Mass Communication, Anaheim, CA.

Barnes, J. A., & **Hayes, A. F.** (1995). *Teacher training and integration of the language arts in high school English classes*. Paper presented at the annual conference of the Speech Communication Association, New Orleans, LA

INVITED COLLOQUIA AND STATISTICAL METHODS WORKSHOPS

Global School in Empirical Research Methods, University of St. Gallen, Switzerland, June 2020 (online)

Johnson School of Management, Cornell University, November 2019

Global School in Empirical Research Methods, University of St. Gallen, Switzerland, June 2019

Curry School of Education, University of Virginia, May 2019

Association for Psychological Science, Washington DC, May 2019

Midwestern Psychological Association, Chicago, April 2019

Smith School of Business, Queen's University, Kingston Canada, March 2019

Sauder School of Business, University of British Columbia, December 2018

School of Business, University of Mississippi, October 2018

Harrah College of Hospitality, University of Nevada at Las Vegas, September 2018

Culverhouse College of Business, University of Alabama, September 2018
University of Haifa, Israel, June 2018
Global School in Empirical Research Methods, University of St. Gallen, Switzerland, June 2018
National Chengchi University, Taiwan, May 2018
Asper School of Business, University of Manitoba, April 2018
Sauder School of Business, University of British Columbia, March 2018
Association for Psychological Science, Atlanta, March 2018
College of Business, Mississippi State University, March 2018
Questrom School of Business/Carroll School of Management, Boston University/Boston College, Sept 2017
Global School in Empirical Research Methods, University of St. Gallen, Switzerland, June 2017
Cleveland State University, May 2017
Asper School of Business, University of Manitoba, April 2017
University of Cologne, Germany, October 2016
Global School in Empirical Research Methods, University of St. Gallen, Switzerland, June 2016
Business School, Monash University, Melbourne, Australia, June 2016
Business School, Queensland University of Technology, Brisbane, Australia, June 2016
Research Methods Center, The Ohio State University, April 2016
University of Pittsburgh and Carnegie Mellon University, October 2015
Platform for Psychological Science, University of Limerick, Limerick, Ireland, October 2015
Department of Psychology, University of Manitoba, September 2015
Curry School of Education, University of Virginia, June 2015
School of Social Welfare, University of California-Berkeley, May 2015
Department of Psychology, San Jose State University, May 2015
Association for Psychological Science, New York, May 2015
Consortium for Advancement of Research Methods and Analysis, April 2015
Department of Human Sciences, The Ohio State University, February 2015
Department of Psychology and Human Development, Vanderbilt University, October 2014
Department of Psychology, Indiana University Purdue University Indianapolis, September 2014
School of Business, University of Adelaide, Australia, August 2014
Research Society on Alcoholism, Bellevue, Washington, June 2014
Association for Psychological Science, San Francisco, May 2014
Midwestern Psychological Association, Chicago, May 2014
Cole School of Business, Kennesaw State University, April 2014
Department of Political Science, University of Toronto, Canada, March 2014
Department of Consumer Behavior, University of Bern, Switzerland, October 2013
Association for Education in Journalism and Mass Communication, Washington DC, August 2013
Fisher College of Business, The Ohio State University, May 2013
Association for Psychological Science, Washington DC, May 2013
National Institute for Occupational Safety and Health, Morgantown, WV, April 2013
Department of Human Development and Family Science, Purdue University, April 2013
Centre for Multidisciplinary Behavioral Business Research, Concordia Univ., Montreal, March 2013
Centre for Entrepreneurship, University of Oslo, January 2013
Norwegian Center on Violence and Traumatic Stress Studies, University of Oslo, January 2013
Institute for Population Research, The Ohio State University, December 2012
International Society for Traumatic Stress Studies, Los Angeles, November 2012
Amsterdam School of Communication Research, University of Amsterdam, July 2012
University Medical Center, University of Groningen, The Netherlands, July 2012
Hispanic Health Disparities Research Center, University of Texas at El Paso, June 2012
International Society for Traumatic Stress Studies, Baltimore, November 2011
Marshall School of Business, University of Southern California, June 2011

Institute of Social Sciences, University of Hohenheim, Germany, May 2011
Institute for Mass Communication and Media Research, University of Zurich, May 2011
Midwestern Psychological Association, Chicago, May 2011
Department of Psychology, Purdue University, April 2011
Nisonger Center, The Ohio State University, April 2011
College of Public Health, The Ohio State University, March 2011
Center for Research Methods and Data Analysis, University of Kansas, March 2011
Department of Communication, University of Haifa (Israel), February 2011
Department of Communication and Journalism, Hebrew University of Jerusalem, February 2011
American Psychological Association, San Diego, August 2010
Association for Education in Journalism and Mass Communication, Denver, August 2010
Association for Psychological Science, Boston, May 2010
Nisonger Center, The Ohio State University, February 2010
Fisher College of Business, The Ohio State University, January 2010
American Psychological Association, Toronto, August 2009
Behavioral Science Institute, Radboud University Nijmegen, The Netherlands, April 2009
Institute for Mass Communication and Media Research, University of Zurich, April 2009
Amsterdam School of Communications Research, University of Amsterdam, September 2008
Morrell Centre for Toleration, Department of Politics, University of York, UK, September 2008
Department of Telecommunication, Indiana University, November 2006
Kentucky Conference on Health Communication, April 2006
Department of Communication, Cornell University, March 2003

EVIDENCE OF IMPACT (as of November 2020)

Identified as a 2019 and 2020 Web of Science/Publons/Clarivate Analytics Highly Cited Researcher (Top 1% of scholars for citations in Psychology/Psychiatry category, 2008-2018, 2009-2019)

Google Scholar citation count: **121,324; h=55**

(<http://scholar.google.com/citations?user=qRrkCbkAAAAJ>)

Web of Science (WoS) citation count: **42,597; h=36**

(<https://publons.com/researcher/2894032/andrew-f-hayes/publications/>)

According to the Web of Science:

Preacher and Hayes (2008) and Preacher and Hayes (2004) are the 2st and 3rd most highly cited papers in the history of *Behavior Research Methods [Instruments, and Computers]*, respectively.

Preacher, Rucker, and Hayes (2007) is the 2nd most highly cited paper in the history of *Multivariate Behavioral Research* and the most highly cited paper published in this journal this century.

Hayes (2009) is the most highly cited paper in the history of *Communication Monographs/Speech Monographs*.

Hayes (2018) is the 2nd most highly cited paper published in *Communication Monographs* in the last 10 years.

Hayes and Matthes (2009) is the 8th most highly cited paper published this century in *Behavior Research Methods* and the 10th most highly cited in the history of this journal.

Hayes and Preacher (2014) is the most highly cited paper published this century in *British Journal of Mathematical and Statistical Psychology* and the 3rd most highly cited in the history of this journal.

Hayes (2015) is the 6th most highly cited paper published this century in *Multivariate Behavioral Research*. It is the 12th most highly cited paper published in the history of this journal.

Hayes, Montoya, and Rockwood (2017) is the most highly cited paper published in *Australasian Marketing Journal* since 2015 (the earliest year of available records)

Hayes and Montoya (2017) is the most highly cited paper published in *Communication Methods and Measures* since 2015 (the earliest year of available records).

Hayes and Rockwood (2017) is the second most highly cited paper published in the last 8 years in *Behaviour Research and Therapy*.

According to Google Scholar:

Three articles and books cited over 10,000 times

Twelve articles and books cited over 1,000 times

Thirty nine articles and books cited over 100 times

Since its publication, *Introduction to Mediation, Moderation, and Conditional Process Analysis* has sold over **25,000** copies. It has been cited more than **34,000** times according to Google Scholar.

MAJOR AWARDS AND RECOGNITION

Recognized as a Fellow of the Association for Psychological Science for “sustained and outstanding distinguished contributions to psychological science,” 2017

Sir Robert Worcester Prize, 2005, awarded by World Association for Public Opinion Research for the best article published in the *International Journal of Public Opinion Research* in 2005.

EXTERNAL GRANTS (CURRENT, PENDING APPLICATIONS, AND PAST AWARDS)

Alcohol-related News and Ads: Effects and Mechanisms.

PI: Michael D. Slater; Key Personnel: Andrew F. Hayes, David Ewoldsen, Russell Fazio
R01AA010377

National Institute of Alcohol Abuse and Alcoholism

Funded: \$2,280,000; Award period: 2010-2014

TEACHING EXPERIENCE

Courses taught

Statistics in Psychology I: Introductory Statistics (OSU)

Statistics in Psychology II: Linear Regression Analysis (OSU)

Mediation, Moderation, and Conditional Process Analysis (OSU)

Statistical Applications in Communication I: Introductory Statistics (OSU)

Statistical Applications in Communication II: Multiple Regression (OSU)

Advanced Research Methods in Communication (OSU)

Advanced Seminar in Linear Models

Statistical Moderation and Mediation Analysis

Applied Structural Equation Modeling

Applied Generalized Linear Models
Experimental Design and Analysis
Quantitative Reasoning for Journalism and Communication (OSU)
Communication Research Methods (OSU)
Honors Communication Research Methods (OSU)
Psychological Tests and Measurement (SUNY-Cortland)
Research Methods and Statistics (University of New England)
Multivariate Analysis (University of New England)

Invited Instructor

StatsCamp (Yhat Enterprises, LLC), 2016, 2017
Global School in Empirical Research Methods, University of St.Gallen, Switzerland, 2016 - present
Statistical Horizons LLC, Philadelphia, 2012 - present
University of Kansas, Center for Research Methods and Data Analysis, Summer Institutes in Statistics, 2012

Ph.D. dissertation advisor

Nicholas J. Rockwood, OSU Department of Psychology, graduated in 2019
Current: *Loma Linda University, Assistant Professor*
Amanda K. Montoya, OSU Department of Psychology, graduated in 2018
Current: *University of California at Los Angeles, Department of Psychology, Assistant Professor*
Teresa Myers, OSU School of Communication, graduated in 2010
Current: *George Mason University, Center for Climate Change Communication, Research Assistant Professor*
Jason Reineke, OSU School of Communication, graduated in 2008
Current: *Middle Tennessee State University, School of Journalism, Associate Professor*
Nancy Briggs, OSU Department of Psychology, graduated in 2006
Current: *University of New South Wales, Australia; Senior Statistical Consultant*

MA/MS thesis advisor

Jacob J. Coutts, OSU Department of Psychology, graduated in 2020
Nicholas Rockwood, OSU Department of Psychology, graduated 2017
Amanda Montoya, OSU Department of Psychology, graduated in 2016
Angela Dossett, OSU School of Communication, graduated in 2009
Teresa Myers, OSU School of Communication, graduated in 2007
Jason Reineke, OSU School of Communication, graduated in 2005
Michael Huges, OSU School of Communication, graduated in 2004
Li Cai, OSU School of Communication, graduated in 2003

Ph.D. dissertation committee member

Jack DiTrapani, Data Analyst, Munich Re, Princeton, NJ
Robert Agler, Postdoctoral Research Associate, Ohio State University
Sean Garguilo, Market Analyst, JP Morgan Chase
Michael Beam, Assistant Professor, Kent State University
Myiah Hutchens, Assistant Professor, University of Florida
Fei Shen, Assistant Professor, City University of Hong Kong
Lindsay Hoffman, Associate Professor, University of Delaware
Andy Merolla, Associate Professor, University of California Santa Barbara
Mihye Seo, Associate Professor, Sungkyunkwan University, South Korea
Mong-Shan Yang, Professor, Endicott College

SERVICE

Editorial Service

- * *Journal of Business Logistics*, Editorial Board Member, 2016-present
- * *Journal of Communication*, Editorial Board Member, 2009 – 2015, 2019-present
- * *Organizational Research Methods*, Editorial Board Member, 2013 - present
- * *Communication Methods and Measures*, Editor in Chief, 2011 - 2015
Associate Editor, 2006 - 2010
- * *Human Communication Research*, Editorial Board Member, 2009 - 2010
Guest Editor, special issue on multilevel modeling, 2006
- * *Journal of Social and Personal Relationships*, Editorial Board Member, 2006 - 2015
- * *Media Psychology*, Editorial Board Member, 2006 - 2014

Ad hoc reviewer: *Psychological Methods*, *Multivariate Behavioral Research*; *Behavior Research Methods*; *Psychological Science*; *Journal of Personality and Social Psychology*; *Journal of Experimental Social Psychology*; *Journal of Pediatric Psychology*; *Political Communication*; *Mass Communication and Society*; *Communication Research*; *International Journal of Public Opinion Research*; *Personal Relationships*; *Journal of Family Communication*; *Journal of Clinical Epidemiology*; *Communication Theory*; *Journal of Traumatic Stress*; *Communications in Statistics—Simulation and Computation*; *Animal Behaviour*; *BMC Medical Research Methodology*; *Field Methods*; *Communication Monographs*; *Conflict and Negotiation Research*; *Journalism and Mass Communication Quarterly*; *Behavioral Ecology and Sociobiology*; *National Science Foundation*

OSU Administration

- * Co-Chair of the Outreach Committee, Department of Psychology, 2019-present
- * Member of the Graduate Studies Committee, Department of Psychology, 2014-present
- * Graduate School University Fellowship Committee, 2014-2018
- * Co-Director of Graduate Studies, Department of Psychology, 2017-2018
- * College Promotion and Tenure Committee, Division of Social and Behavioral Sciences, 2017-2018
- * Senator for the OSU College of Arts and Sciences, SBS division on the Faculty Council, 2015-2018
- * University Senate Council on Enrollment and Student Progress, 2015-2018
- * Member of the Admissions Committee, Department of Psychology, 2014-2015
- * Member of the Stipends Committee, Department of Psychology, 2014-2017
- * Promotion and Tenure Procedural Oversight Designee, School of Communication, 2013
- * Member of the University Senate Committee on Academic Misconduct, 2007-2014
- * Member of the Publications Committee, School of Communication, 2012-2014
- * Chair of the Research Committee, School of Communication, 2009-2010
- * Member of the Graduate Studies Committee, School of Communication, 2001- 2009
- * Alternate to the University Senate and Faculty Council, 2007-2010
- * Member of the Faculty Search Committee, School of Communication, 2006-2007
- * Colloquium coordinator, School of Communication, 2002-2005

Miscellaneous

Professional Freedom and Responsibility Chair, Program Chair, and Member of the Executive Committee for the Communication Theory and Methodology Division of the Association for Education in Journalism and Mass Communication, 2005-2007

STATISTICAL SOFTWARE SKILLS

Inventor of the PROCESS macro for SPSS, SAS and R that is widely used in many disciplines to simplify mediation, moderation, and conditional process analysis. Freely available from www.processmacro.org

SPSS (including custom macro and script programming using MATRIX), SAS (including custom macro programming using PROC IML), R, MPLUS, STATA, HLM, GAUSS. Comfort with modern methods of data analysis including multilevel modeling, latent growth modeling, structural equation modeling, applications of the general linear model, and resampling methods of inference.

AFFILIATIONS

Academy of Management

Association for Psychological Science (Fellow as of 2017)