

## Overview

Craig A. Anderson is a Distinguished Professor of Liberal Arts and Sciences in the Department of Psychology at Iowa State University. He currently is Director of Iowa State University's Center for the Study of Violence, and Past-President of the International Society for Research on Aggression. He serves as an Associate Editor for the journals *Aggressive Behavior* and *Personality and Social Psychology Bulletin*. He also serves on the editorial boards of *Journal of Experimental Social Psychology*, *Psychology of Violence*, and the *Journal of Adolescence*.

He received his Ph.D. from Stanford University in 1980 and served on the faculties of Rice University, Ohio State University, and the University of Missouri—Columbia before joining Iowa State University as Chair of the Department of Psychology in 1999. He has been awarded Fellow status by the Association for Psychological Science, the Society of Experimental Social Psychologists, and the American Psychological Association, among others. Anderson's 200+ publications span a wide range of areas, including judgment and decision making; depression, loneliness, and shyness; personality theory and measurement; attribution theory; and human aggression.

Professor Anderson is one of the most widely cited scholars in social psychology, in textbooks and in the psychological science literature in general. Since the 1990s, most of his work has focused on the development of a General Aggression Model (GAM) designed to integrate insights from cognitive, developmental, personality, and social psychology. This model is now widely used by scholars in psychology, communications, and criminology. His 2002 *Annual Review of Psychology* article on "Human Aggression" (with Brad Bushman) has received over 1700 Google Scholar citations, and ranks 4<sup>th</sup> among the 22 *Annual Review* articles published that year. Later elaborations on GAM also have been well received. For example, his 2001 *Psychology of Violence* article (Nathan DeWall and Brad Bushman) was chosen in 2012 as one of the "Best of 2011 Violence Research" articles. Overall, in June, 2014, Google Scholar reported over 21,000 citations to his scholarly publications, with an h-index of 73. Google Scholar citations also ranked him 2<sup>nd</sup> among Aggression scholars and 2<sup>nd</sup> among Violence scholars.

Dr. Anderson's pioneering work on video-game violence and his countless outreach efforts have advanced the science of media effects in theory, research methods, and public policy discussions concerning media effects worldwide. It also has led to numerous consultations with educators, government officials, child advocates, and news organizations, again worldwide. His General Aggression Model is so integral to present day study of media violence effects that it sometimes is misidentified by media researchers as being a "theory of media effects," instead the *general* model that social, cognitive, and developmental scholars know it to be. His early empirical studies set the standard for experimental and cross-sectional studies (e.g., Anderson & Dill, 2000, over 1300 citations), and for longitudinal studies (Anderson, Gentile, & Buckley, 2007, over 400 citations). He has co-authored and/or consulted on public policy statements on media violence for the American Academy of Pediatrics, the International Society for Research on Aggression, the American Psychological Association, and the Society for the Psychological Study of Social Issues. He also has published key works describing the relationship of science to public policy, and outlining the pluses and minuses of various public policy options. His 2007 book on *Violent Video Game Effects on Children and Adolescents* (with Doug Gentile and Katherine Buckley, Oxford University Press) describes the effects of playing violent video games, explains how these effects occur, and explores possible actions that parents, educators, and public policy creators can take to deal with this important social issue. Other works with a public policy focus have appeared in key handbooks (e.g., a 2006 chapter with Doug Gentile), a

widely cited book on psychological science in the courtroom (2006), and the inaugural issue of the journal *Social Issues and Policy Review* (2007, with Doug Gentile and Muniba Saleem).

Dr. Anderson's meta-analyses of violent video game effects have had dramatic effects on both the scientific community and public policy discussions. His 2001 *Psychological Science* article with Brad Bushman reported the first comprehensive meta-analysis of violent video game effects; it has been cited over 1400 times. That article identified the lack of longitudinal studies as one of the key weaknesses in the area. By the time his 2010 meta-analysis article was published in *Psychological Bulletin* (psychology's top review journal), that weakness had been addressed. The 2010 meta-analysis combined the results of all relevant empirical studies (over 130,000 participants), and conclusively demonstrated the harmful effects violent video games in experimental, cross-sectional, *and* longitudinal studies.

In addition to continuing work in the media violence domain, Dr. Anderson's more recent work with talented graduate students and worldwide collaborators addresses issues such as global climate change effects on violence and war; media effects on stereotyping of Arabs/Muslims and on anti-Arab/Muslim public policy positions; media effects on impulsivity, attention deficits, brain function, and aggression; and re-appraisal training as a tool to reduce aggression. He also continues to serve as an associate editor of two journals, is on the editorial boards several other journals, serves as an officer of an international scholarly society, and consults with numerous groups on public policy issues.

### **By the Numbers** (as of June 30, 2014)

1. Publications (includes in press)
  - a. Refereed journal articles: 120 (63 1<sup>st</sup> author)
    - i. Top APA, APS, & American Academy of Pediatrics articles: 38 (17 1<sup>st</sup> author)
    - ii. 1<sup>st</sup> author on 2 *Advances in Experimental Social Psychology* articles
    - iii. 1<sup>st</sup> author on 1 *Annual Review of Psychology* article
    - iv. 1<sup>st</sup> author on 2 *Psychological Bulletin* review articles
  - b. Chapters in edited books, handbooks, encyclopedia: 55 (25 1<sup>st</sup> author)
  - c. One book, 1<sup>st</sup> author, with Oxford University Press (440 Google Scholar citations)
  - d. Other (book reviews, invited journal articles, policy papers for scientific organizations, online magazines...): 27
2. Impact
  - a. Total Citations, Google Scholar: 21,807
    - i. h-index: 73
    - ii. h-index for publications since 2009: 50
    - iii. Publications with more than 1000 citations: 3
    - iv. Publications with more than 500 citations: 9
    - v. Publications with more than 100 citations: 58
    - vi. Rank among *aggression* scholars: 2<sup>nd</sup> out of 101
    - vii. Rank among *violence* scholars: 2<sup>nd</sup> out of 196
    - viii. Rank among *social psychology* scholars: 22<sup>nd</sup> out of 848
    - ix. Rank among *psychology* scholars: 43 out of 1000+
  - b. Web of Science Core Collection (does not include book chapters)
    - i. h-index: 45
    - ii. Publications with more than 500 citations: 1
    - iii. Publications with more than 100 citations: 15

- c. One of only 31 social psychology scholars identified as being in the top 10% of both *career* and *recent* citations, in a 2010 *Personality and Social Psychology Bulletin* article (out of 611).
  - d. Identified as one of the top 30 cited scholars in social psychology textbooks in a 2006 *Dialogue* article (ranked 2<sup>nd</sup> out of over 3000 scholars, and was the most recent Ph.D. among the top 10).
  - e. Policy, position, and review summary statements by major scientific organizations
    - i. 1<sup>st</sup> author of the *Society for the Psychological Study of Social Issues* statement on media violence effects, 2014
    - ii. Co-author of the *American Psychological Association* 2005 "Resolution on Violence in Video Games and Interactive Media"
    - iii. Co-author of the *American Academy of Pediatrics* 2009 "Policy statement—Media Violence"
    - iv. Consultant on the revisions of the AAP statement, 2013-2014
    - v. Appointed the "Media Violence Commission" as the President of the *International Society for Research on Aggression*. Statement was issued in 2013.
    - vi. Served on the NIMH expert panel on media violence, for the 2001 Surgeon General's Report on Youth Violence.
3. Research & Teaching Awards
- a. Research Awards
    - i. Center for Successful Parenting Article Award, Grand Prize, 2002
    - ii. Chapter by Saleem & Anderson (2012) part of book that received the 2013 American Psychology-Law Society Book Award
    - iii. Iowa State University Foundation Outstanding Achievement in Research Award, 2004
    - iv. Iowa State University, named Distinguished Professor of Liberal Arts and Sciences, 2005
    - v. American Psychological Association *G. Stanley Hall Distinguished Scientist Lecturer*, 2010
  - b. Teaching, advising, & mentoring awards
    - i. Psi Chi "Certificate of Appreciation--in recognition of outstanding service as Psi Chi Faculty Advisor": 1992
    - ii. Psi Chi "Professor of the Year" Award, University of Missouri, 1994
    - iii. Gold Chalk Award for "Outstanding Mentorship & Contributions to Graduate Education," University of Missouri, 1996
    - iv. Psi Chi "Certificate of Appreciation--in recognition of outstanding service as Psi Chi Faculty Advisor": 1996

## Research Domains and Contributions

1. **Belief perseverance.** Dr. Anderson published the first studies to show that social theories—beliefs about how variables in the social world are related to each other—tend to persist even when the total evidential base of the theory is convincingly destroyed. The first article appeared in the *Journal of Personality and Social Psychology* in 1980 (Anderson, Lepper, & Ross). Subsequent articles on theory perseverance appeared in *Social Cognition* (1982, 1985, 1995, 1998), *Journal of Experimental Social Psychology* (1983), *Personality and Social Psychology Bulletin* (1992), *Journal of Personality and*

*Social Psychology* (1986), and the *Journal of Educational Psychology* (1996). Key findings of these and related studies included that: (a) beliefs that are based on some type of causal explanation are especially resistant to change; (b) the process of generating a causal explanation for some event, even hypothetical ones, can generate a belief or theory that becomes resistant to change; (c) inducing people to generate causal explanations that contradict their initial belief leads to belief change, and can reduce or eliminate the perseverance effect. This work led to an explanation-based persuasion communication intervention that successfully debunked mistaken beliefs about HIV transmission and that increased participants' willingness work with persons with AIDS. Dr. Anderson published over half a dozen additional book chapters and encyclopedia articles on this general topic, including applications to the clinical domain. His most recent paper on this topic was published in 2007.

2. **Attribution theory.** Throughout the 1980s and 1990s, Dr. Anderson was a leading scholar on three of the major thrusts of attribution theory, the attribution process (when, how, and why do people generate attributions?), the structure of attributions (how do various attributions cluster, what dimensions distinguish them?), and the attribution effects literature (what impact do attributions have on behavior, affect, and cognition?). He was the first to note the importance of *strategy* attributions (1980) and their role in protecting a person's motivation level even in the face of initial failure, and their role in directing future efforts in thoughtful (i.e., strategic) ways. His work with Bernie Weiner, Douglas Krull, and many others led to the development of a two-stage processing model, the first of which was largely automatic (and thereby subject to momentary priming effects), the second of which was more thoughtful and controlled. His general explanation process model was useful not only in the attribution domain, but it later played a key role in his work to develop what now is known as the General Aggression Model. He developed and tested these theoretical notions in multiple domains, including work on motivation, overcoming failure, and the clinical contexts of loneliness, shyness, and depression. For example, in a series of experimental and correlational studies, he showed that the most important attribution dimension in terms of predicting depression was personal controllability. His work with Sedikides further showed that people normally think about attributions in categorical terms (e.g., effort, ability, strategy), not dimensional terms. This work also was found to have implications for person memory and implicit personality theory, and memory distortions. His attributional style work was found to generalize to Chinese studies, and that difference between average levels of depression and loneliness between Chinese and American college students was fully accounted for by culturally-based differences in attributional style. His work in this domain appeared in numerous journals, including the *Journal of Personality* (1980), *Journal of Experimental Social Psychology* (1983), *Journal of Personality and Social Psychology* (twice in 1983, 1988, 1991, 1994), *Social Cognition* (1985, 1986, 1991, 1995, 1998), *Basic and Applied Social Psychology* (1989, 1995), *Personality and Social Psychology Bulletin* (1991, 1998, 1999) and *Current Directions in Psychological Science* (1997). Several book chapters applied the findings to clinical and other judgment domains.
3. **Imagination effects.** Overlapping many of Dr. Anderson's research interests and studies is a longstanding interest in how merely thinking about or imagining an event influences subsequent thoughts, emotions, motivations, and behaviors. This ties together his interests in individual differences and personality theory, his work on knowledge structure approaches to social cognitive theory, and his work on situational effects across many domains. The belief perseverance work, the attribution theory work, and all of his

subsequent work on the General Aggression Model are highly interrelated to his developing knowledge structure of the dynamics between what a person brings with them to a situation and what the situation both enables and restricts. For example, simply imagining how or why a risky person might be a better fire fighter than a person who typically makes safe (conservative) decisions changes one's implicit personality theory about fire fighters, their interpretations of new data on the topic, and their willingness to change their mind about who would or would not be good at this job. Similarly, the ease with which one can imagine oneself returning for a minimum number of therapy sessions influence one's intentions to do so; inducing a person to imagine such scenes actually increases such return behavior. Similar imagination effects have been shown by Dr. Anderson's team for multiple behaviors, including blood donation. Similar imagination processes have been found to produce stereotype-based biases in a host of domains, including reality monitoring failures. In addition to the many studies mentioned in the perseverance and attribution sections, other articles on this general topic have appeared in *Journal of Personality and Social Psychology* (1983, 1987), *Social Cognition* (1987), *Journal of Experimental Social Psychology* (1983), and the *Journal of Clinical and Social Psychology* (1987).

4. **Temperature and aggression.** Dr. Anderson's first empirical psychology publication was essentially a methodological correction article published with J. Merrill Carlsmith in 1979 in *Journal of Personality and Social Psychology*. In that article, the authors challenged earlier empirical work that had suggested that aggressive behavior increased in likelihood as ambient temperature increased from cool to uncomfortably warm (i.e., 80°F or so), and then sharply decreased as temperature further increased. Carlsmith and Anderson created a better defined population of temperature-days than had been used in the past, and applied a sampling procedure that allowed them to get a reasonable estimate of the temperature distribution in the U.S. over a several year period, and then applied this to previously published data on riots in the U.S. during the 1960s and early 1970s. Their results clearly showed that the likelihood of a riot breaking out did not decline during hot days, but instead continued to climb well past the previously-believed peak. Since that initial article, Dr. Anderson became the foremost authority on temperature effects on aggression, based on his many field studies, several key laboratory experiments, and theoretical developments made by him and his colleagues. His key articles have been published in *Psychological Bulletin* (1989, 1992), *Journal of Personality and Social Psychology* (1979, 1984, 1987, 1996, 1997, 2005), *Personality and Social Psychology Bulletin* (1995, 1996), *Advances in Experimental Social Psychology* (2000), and *Current Directions in Psychological Science* (2001). More recently, Dr. Anderson has expanded the temperature/aggression domain to the study of the implications of global warming on violence. In one recent chapter, for example, Anderson and DeLisi (2011) showed that there are at least three separate ways that rapid global warming will likely increase violence rates around the world, some of which has already been documented. The three are: (a) the standard heat-aggression effect; (b) increased war and fighting resulting from resource competition and eco-migration; and (c) increased proportion of the adolescent and adult population with known violence risk factors, the result of poor childhood nutrition and a wide array of environmental factors at play during pregnancy and childhood.
5. **General Aggression Model (GAM).** In the late 1980s and throughout the 1990s, Dr. Anderson began attempting a broad theoretical integration of the many mini-theories of human aggression. The social-cognitive revolution as well as developments in biological and neurological psychology set the stage for this development. Many scholars in various

domains were often discussing the same basic aggression phenomena, but using different language. Dr. Anderson's team conducted a number of studies designed to test some of these ideas about automatic versus controlled cognitive processes, their relationship to anger and other aggression related emotions, and on how personality and situational combine to create conditions that elicit behavior intended to harm another person, i.e., aggression. Their studies included situational manipulations such as pain (versus no pain), uncomfortable temperatures (versus comfortable), insults vs. no insults or praise, images of guns versus mountains, and violent versus nonviolent media. Individual difference variables included trait aggression, Big 5, and others. Initially, they put together a model called the "General Affective Aggression Model," but it became apparent that some standard aggression manipulations increased aggression without directly influencing aggressive affect. Therefore, when in 2002 Anderson and Bushman published their *Annual Review of Psychology* article on human aggression literature they called the integrated model the "General Aggression Model." It was an integration of social learning theory (e.g., Bandura, social cognitive theory (e.g., Mischel), cognitive neoassociation theory (e.g., Berkowitz), script theory (e.g., Huesmann), social information processing theory (e.g., Dodge), excitation transfer theory (e.g., Zillmann), and a host of other personality, social, and biological models too numerous to mention. As noted earlier, one key aspect of GAM was borrowed directly from Dr. Anderson's earlier work on attribution theory and explanation processes, heavily influence by other attribution scholars as well as appraisal and emotion scholars. One key advantage of GAM is that by putting individual differences, personality traits, and environmental (situational) factors all into a common language, it becomes clearer to theorists just how different types of factors may interact in producing various aggression-related outcomes. For example, in one set of studies Dr. Anderson and colleagues showed that different developmental experiences (growing up in a hunting versus nonhunting family) result in different knowledge structures about hunting and assault guns, and that such knowledge structure individual differences determine whether pictures of a hunting gun or of an assault gun are likely to increase aggressive thoughts and later aggressive behavior (with Bartholow, Benjamin, Carnagey, 1998, 2005). In other words, GAM is able to theoretically link developmental processes, personality differences, and aggressive cognition responses to a specific stimulus type, in order to predict aggressive responses to a minor provocation. Subsequent articles and book chapters have expanded GAM, applying it to topics such as aggressive personality disorders, violent crime and delinquency, intimate partner violence, global warming consequences on violence, development of violence-prone (and nonviolent) children and adolescents, the cycle of violence at dyadic as well as group and nation levels. And of course, it has been used to integrate the voluminous literature on media violence effects. Additional ways of how genetic and other biological factors interact with environmental factors have been discussed in more recent theoretical papers (e.g., with DeLisi in 2011; with DeWall & Bushman in 2011 & 2012). Articles that report the development, testing, refinement, and application of GAM range from psychology to medicine, include top journals, edited volumes, and a book focused on violent video game effects (with Gentile & Buckley, 2007).

6. **Media effects.** In recent years, Dr. Anderson's most visible work has been his team's research on media violence effects. Dr. Anderson published the first comprehensive meta-analysis on violent video game effects in 2001, with Brad Bushman, in *Psychological Science*. That article is now a citation classic (over 1400 in Google Scholar), and is still downloaded/read more than most articles each month. For example,

in May of 2014, it was the 18<sup>th</sup> most frequently downloaded/viewed article, even though it is over 13 years old. Interestingly, Dr. Anderson wasn't trained in media effects research, and his early interest in it was primarily as a means to test hypotheses (both individual differences and short term priming effects) related to GAM. Since his initial video game (1995) and movie (1997) studies, he has published dozens of original empirical articles, several major reviews, and numerous other papers on the topic. In 2003, he and the expert NIMH panel published their finding in *Psychological Science in the Public Interest*, mainly because the Surgeon General's office revised their original report and buried much of it in an appendix. That article has now garnered over 700 citations. Dr. Anderson's research team has involved scholars from many countries, including Japan, China, Singapore, Germany, Romania, Croatia, and Australia. For example, in 2008 his team published the first cross-cultural comparative longitudinal study of violent video game effects, which found similar effects on Japanese and American children. In 2010, his team published the most recent comprehensive meta-analysis of violent video game studies, which found consistent harmful effects on aggressive behavior, aggressive thinking, and aggressive affect, among other findings (in *Psychological Bulletin*). That study found these effects across research design (experimental, cross-sectional, longitudinal) and across Eastern and Western cultures. That article already has over 500 citations. In recent years Dr. Anderson's research team also has pioneered work on the potential positive effects of playing prosocial video games (2009, *Personality and Social Psychology Bulletin*); effects of anti-Arab/Muslim media exposure on anti-Arab/Muslim attitudes, feelings, and beliefs 2013, (*Psychology of Violence*); and potential harmful effects of fast-paced violent media on attention, executive control, and aggression (2010, *Psychophysiology*; 2014, *Aggressive Behavior*). Other outlets for his media effects work have included *Science*, top APA journals (e.g., *Journal of Personality and Social Psychology*, *American Psychologist*), top APS journals (*Current Directions in Psychological Science*, *Psychological Science*), and top medical journals (*Pediatrics*).

### **Consultant on violence issues**

1. Testified at the U.S. Senate Commerce, Science, and Transportation Committee Hearing on "The Impact of Interactive Violence on Children." March 21, 2000.
2. Consulted with numerous U.S. State Government officials on media violence, including Washington, Illinois, California, Iowa, Michigan, Minnesota.
3. Advised, consulted, and/or gave presentations to governmental officials and NGOs in Canada, Australia, Japan, and Romania.
4. Since 2002, over 500 talks, interviews, and consultations worldwide on violence issues, especially media violence and more recently, implications of global warming for violence and war.