

SPSSI Research Summary on Media Violence

Craig A. Anderson*

Iowa State University

Brad J. Bushman

The Ohio State University & VU University Amsterdam

Edward Donnerstein

University of Arizona

Tom A. Hummer

Indiana University School of Medicine

Wayne Warburton

Macquarie University

Media use among children has increased sharply in recent years, due, in part, to a significant increase in multimedia portable devices. On average, U.S. children aged 8–18 spend more than 7 hours a day engaging with media. Governments, professional bodies, and citizens have become increasingly concerned about the social and personal impact of media with violent themes and depictions. This has been driven, in part, by a series of tragic mass killings in which it appears that media violence exposure may have been a contributing risk factor. Public health and child development professionals are increasingly convinced by converging scientific findings linking media violence exposure to increased aggression. Hundreds of scientific studies involving hundreds of thousands of participants and a wide range of empirical methods have investigated the effects of exposure to violent media. The studies show that: In experimental studies, even brief exposure to media can cause desensitization to real-world violence, increases in aggressive thoughts, feelings, and behaviors, and decreases in empathy and helping behavior. Short-term effects of media violence and basic psychological processes

*Correspondence concerning this article should be addressed to Craig A. Anderson, Department of Psychology, W112 Lagomarcino Hall, Iowa State University, Ames, IA 50011. [e-mail: caa@iastate.edu].

produce cumulative effects over time, as explained by well-established theories and research and social, developmental, and cognitive processes. Indeed, habitual exposure to media violence produces relatively stable changes in personality traits, such as trait aggression. Longitudinal research—studies that follow individuals over time—rule out plausible alternate explanations to these findings (for example, that the association between media violence and aggressive behavior is entirely the result of inherently aggressive people chasing more violent media). Media violence exposure is linked with physically hurting others, using words to hurt others, and deliberately damaging the relationships of others. Links have been found between violent media exposure and “real-world” violent behaviors such as assault, intimate partner violence, robbery, and gang fighting. A growing body of evidence suggests that media with helping and prosocial messages can lead to increases in empathy and helping behaviors, and decreases in aggressive behaviors. Changing a child’s media diet from aggressive/violent to prosocial, educational, and age-appropriate can reduce aggression, increase prosocial behavior, and improve educational outcomes. There is some consensus that a moderate amount of recreational screen time for school children is 1–2 hours per day, and that when screen media are covieved by and discussed with parents and teachers, children are somewhat less harmed by violent media. Media violence is only one of many risk factors for aggression, but it is one that policy makers, professionals, and parents can address at little cost. Policy makers and media producers would benefit from working cooperatively with media psychologists who have backgrounds in social, developmental, cognitive, and/or personality psychology to produce evidence-informed policies and media products. Policy makers should consider: (1) revising classification systems to be both evidence-based and parent-friendly, (2) including carefully constructed media literacy content in school curricula, and (3) creating a public education campaign on the impact of media violence.

Media violence has long been a controversial topic, especially since the widespread adoption of television in the 1950s. This statement was inspired by several factors: (1) a recognition that electronic media use now dominates the waking hours of many young people; (2) a growing knowledge base demonstrating that violent media can have multiple harmful effects on children, adolescents, and young adults; (3) more detailed and accurate theoretical models that explain these effects; and (4) a belief that public policies can be important for addressing this social issue.

In the wake of the 2012 Newtown, Connecticut, school shooting in which 20 young children and 6 school staff were gunned down, the American public and policymakers have expressed renewed concerns about the role of violent media consumption on aggressive and violent behavior. According to a recent 60 Minutes/Vanity Fair poll, 84% of Americans believe that depictions of violence in popular culture—through “movies and video games”—contribute either “some” or “a lot” to violence in society. Major newspapers and TV networks, including

the New York Times, the Washington Post, the Los Angeles Times, CNN, and NPR, have run stories or segments on violence in the media. President Obama has called for more research on media violence, and the Violent Content Research Act (S. 134, 113th Cong.) urges the National Academy of Sciences to study the impact of violent television and video games on children.

Media Exposure

According to the most recent comprehensive poll by the Kaiser Foundation, media represent the leading leisure-time activity for both children and adolescents. Young people average more than 7 hours a day using a variety of different media, with electronic media (i.e., television, music, computers and gaming platforms, and movies) far outweighing everything else (Rideout, Foehr, & Roberts, 2010). American youth aged 8–18, on average, watched 30 hours of DVDs and television, listened to over 17 hours of music, spent more than 10 hours on a computer, and played 8 hours of video games each week. Although music use increases steadily with age, other media use (including video game playing) is heaviest in the 11–14 age group. Almost all American children play video games (99% of teen boys and 94% of teen girls; Lenhart et al., 2008), with boys playing about twice as much as girls. Youth commonly play more than 20 hours per week, and some males play 40 hours or more per week (Bailey, West, & Anderson, 2011).

In the few years since these reports, smart phones, tablet computers, and other mobile devices have further evolved in their capacity to allow online gaming and streaming media. A very high proportion of entertainment media contain violence, defined as behavior in which one character intentionally harms another character, such as killing (physical aggression), verbally assaulting (verbal aggression), or sabotaging important interpersonal relationships by gossiping or lying (relational aggression). For example, over 90% of video games rated as appropriate for children age 10 and older contain violence (Gentile, 2008).

Media Violence as a Risk Factor

It is both common sense and empirical fact that no single risk factor causes a child or adolescent to act aggressively (defined as behavior intended to harm another person) or with violence (defined as aggressive actions that are likely to yield serious injury or death). Instead, the accumulation of multiple risk factors contributes to such behavior. Although no individual risk factor is necessary or sufficient to cause aggression or violence on its own, each factor increases the likelihood, especially in response to some provocation. This model is known as the risk and resiliency model (e.g., Gentile & Bushman, 2012). The existing evidence shows that even after taking into consideration numerous characteristics

of the child and the environment, media violence exposure increases the relative risk of aggression.

This report focuses primarily on the potential effects of violent screen media (as opposed to other forms of media) for three reasons. First, there exists a huge research literature on the effects of television, movie, and video game violence. Second, screen media usage accounts for the largest portion of leisure time in the lives of most youth in modern industrialized societies, in many cases more than the amount of time spent in school. Third, there are good theoretical reasons to expect that screen media have a greater impact on social (and antisocial) behavior than nonscreen media.

History of Scientific Statements by Various Groups

There have been many previous scientific statements on media violence including by the U.S. Surgeon General (1972), representatives of six major professional health societies such as the American Psychological Association, and the American Medical Association (2000), a panel of media violence experts originally convened by the National Institute of Mental Health (2003), the American Academy of Pediatrics (2009), and the International Society for Research on Aggression (2012). All of these statements conclude that exposure to media violence is a risk factor for aggression and violence.

This review and report by SPSSI builds on these earlier statements, reflecting the unique interests and expertise of a large group of psychological scholars dedicated to the study of societal issues from a scientific psychological perspective. It jointly emphasizes understanding the underlying psychological processes and the broader societal impact, and therefore brings the best psychological science to bear on practical societal problems. This report also benefits from several high quality studies on media violence effects published since the last major report.

Overview of the Research

Consistency of Media Violence Effects

This report is based on six decades of research, which has yielded hundreds of original empirical studies, dozens of narrative reviews, and several comprehensive meta-analyses (see bolded references in the Bibliography for major reviews and meta-analyses). Studies published in the last 10 years confirm, strengthen, and expand the conclusions drawn by the earlier reviews mentioned above (see the three most recent comprehensive edited handbooks: Dill, 2013; Singer & Singer, 2012; Strasburger, Wilson, & Jordan, 2013). These reviews make it clear that media violence research has provided one of the largest and most well-understood bodies of scientific evidence in all of social and behavioral science.

Of course, not every study yields identical results. But when viewed as a whole, the results have been remarkably consistent across study design (experimental, cross-sectional/correlational, and longitudinal), culture, and participant population (e.g., Anderson et al., 2003, 2010; Bushman & Huesmann, 2006; Comstock & Scharrer, 2007; Paik & Comstock, 1994). Violent media increase the likelihood of later aggressive and violent behavior, and of factors known to increase aggressive and violent behavior, such as hostile feelings and thoughts.

Size of Media Violence Effects

The average effect sizes found in these and other well-conducted comprehensive meta-analyses tend to be in the range of $r = .15$ to $.40$. This is generally described as statistically small to medium in size. However, it is the same as or larger than the effect sizes of many other commonly accepted risk and protective factors in public health, such as condom use and sexually transmitted HIV, passive smoking and lung cancer, and calcium intake and bone mass (Bushman & Huesmann, 2001). Furthermore, using Rosenthal's (1986) binomial effect size display, Paik and Comstock (1994) noted that an effect size of only $r = .10$ increases a person's risk of becoming aggressive by 10%, further noting that, "This 10% increase . . . or 10 viewers out of 100 being affected by television violence, cannot be dismissed as an insignificant effect" (p. 535). Subsequent research (Thompson & Schumacker, 1997) has shown that this degree of change holds true when base-rates approach 50%, which is often the case in studies of some groups' aggressive behaviors.

At-Risk Populations

There is some evidence that initially aggressive individuals, younger children, or males might be more affected than relatively nonaggressive individuals, older children, or females, at least in some contexts. But these "at-risk population" findings are not consistent, and many studies find significant effects of media violence on nonaggressive individuals, older individuals (including college-age adults), and females. In other words, no specific group has consistently demonstrated immunity to aggression-related effects of exposure to media violence (Anderson et al., 2003).

Types of Studies

Experimental. Experimental studies have shown that even brief exposure to media violence can teach the observer how to behave aggressively, and can cause increases in aggressive thinking (e.g., aggressive attitudes, expectations, and beliefs), emotions (e.g., anger), and behavior (e.g., attempts to hurt others;

see references in bold for major reviews). Experimental studies have also causally linked media violence exposure to desensitization, defined as a decrease in empathy, prosocial behavior, and physiological reactivity to violence in the real world (e.g., Bushman & Anderson, 2009; Carnagey, Anderson, & Bushman, 2007).

Participants in lab-based research have been asked to provide conclusions to vignettes that describe interpersonal conflict; those exposed to media violence are more likely to provide aggressive finales (e.g., Bushman & Anderson, 2002). Exposure has also been shown to lead to an increased willingness to deliver extremely loud noise blasts in a “punishment” regime that participants believe may cause hearing damage (Konijn, Bijvank, & Bushman, 2007). Moreover, experimental findings are not limited to the laboratory. For instance, juvenile offenders exposed to violent films engaged in more subsequent physical assaults than those who viewed nonviolent films (Leyens et al., 1975). After watching a violent movie, adult moviegoers were slower to help an injured stranger who dropped her crutches, whereas those who watched a nonviolent film were equally helpful before and after the movie (Bushman & Anderson, 2009).

Cross-sectional. Although it is more difficult (and riskier) to draw causal conclusions based on cross-sectional/correlation studies (typically, surveys in which all variables are measured at one point in time), this methodology can be utilized to test concepts which are difficult or impossible to examine experimentally. For example, cross-sectional studies have been used to (i) test hypotheses derived from causal models; (ii) test alternative explanations for the association between media violence and aggressive and violent behavior; (iii) examine media violence effects while accounting for the impact of a range of other relevant factors such as family background; and (iv) examine the link between media violence and real-world aggression and violence (Prot & Anderson, 2013). Such studies yield clear results that are consistent with the experimental data: Media violence exposure is associated with higher levels of aggressive and violent behavior, even after statistically controlling for possible confounding variables such as participant sex, total media exposure, age, family background, and a host of other individual differences (e.g., DeLisi, Vaughn, Gentile, Anderson, & Shook, 2013).

Longitudinal. There are fewer well-conducted longitudinal studies (which assess participants repeatedly over time), but the growing body of such research also yields consistent effects of media violence from a meta-analytic standpoint. These studies measure aggressiveness at both the beginning and the end of the study, and statistically control for earlier levels of aggression while predicting later aggressive and violent behavior. This procedure rules out many alternative explanations, thus allowing stronger causal conclusions. For example, another explanation for the link between media violence and aggressive/violent behavior is that “naturally” aggressive children (by virtue of their biological or other

unspecified characteristics) are more likely to both behave more aggressively and to consume more violent media. This alternative explanation predicts that longitudinal studies, in which level of innate aggression is statistically controlled (by partialling out Time 1 aggression level), will find no association between media violence consumption and later aggression/violence. The data consistently contradict this alternative possibility.

Longitudinal studies typically find that violent media exposure at one point in time leads to a relative increase in aggression (and, in several studies, violence) at a later point in time (e.g., Anderson, Gentile, & Buckley, 2007; Graber, Nichols, Lynne, Brooks-Gunn, & Botvin, 2006). Longitudinal studies have also revealed that media violence exposure increases aggressive thoughts, aggressive affect, and desensitization, and decreases prosocial behavior (e.g., Anderson et al., 2010; Huesmann, Moise-Titus, Podolski, & Eron, 2003; Krahe & Möller, 2010). Most recently, a three-wave longitudinal study found that violent video game playing in Wave 1 led to increased aggressive thinking a year later, which in turn led to increased aggression at Wave 3 (Gentile, Li, Khoo, Prot, & Anderson, 2014).

Intervention. Over the last three decades, there have been several experimental studies that induced a decrease in exposure to screen media, several of which specifically tried to reduce violent screen media exposure. Participants who view less screen media have generally shown a greater decrease in aggression than those in a control condition. For instance, a 5-week intervention aimed at reducing media violence use (and promoting critical consumption skills) reduced aggressive behavior in highly aggressive teens (Möller, Krahe, Busching, & Krause, 2012; see also Christakis et al., 2013; Huesmann, Eron, Klein, Brice, & Fischer, 1983). These findings further support a causal interpretation of media violence effects on aggression and violence.

Type of Aggressive/Violent Behaviors Linked To Media Violence

A wide array of aggressive and violent behaviors has been linked to media violence. These behaviors include physical aggression, verbal aggression, relational aggression, proactive (cold, calculated) aggression, and reactive (hot, impulsive) aggression (see Bibliography references in bold). Many studies have found cross-over effects, but some have found specificity of media violence effects, showing that media that model mostly one type of aggression (e.g., relational, as in much teen television) tend to have bigger effects on that type of aggression (e.g., Coyne et al., 2008; Linder & Gentile, 2009; Martins, 2013).

Ethically, one cannot conduct experimental studies, which might increase the likelihood of actual violence or serious injury to others. Hence, the few experimental studies on violent behavior do not allow participants to actually cause serious injury to others; rather, participants enact behaviors that they believe could cause

serious injury (e.g., noise blasts creating permanent hearing loss). Such studies do find significant media violence effects on such moderately violent behaviors (e.g., Konijn, Bijvank, & Bushman, 2007; Paik & Comstock, 1994).

Practically, extreme violence is relatively rare among the populations typically accessible for study (e.g., school children, college students). Thus, prohibitively large sample sizes are required for cross-sectional, longitudinal, and intervention studies if the outcome measure is to consist of the most serious forms of violence; such studies are needed. Nonetheless, some cross-sectional and longitudinal studies have included seriously violent behaviors as outcome measures, such as assault, beating, gang fighting, sexual aggression, and robbery. These studies also tend to find significant long-term effects of media violence exposure (e.g., DeLisi, Vaughn, Gentile, Anderson, & Shook, 2013; Huesmann, Moise-Titus, Podolski, & Eron, 2003; Ybarra et al., 2011).

Recent Findings, Shifts in Research

Behavioral Studies of Media Effects on Attention and Academic Performance

Somewhat more speculative at this point in history are newer studies examining the potential effects of screen media on brain function, attention, and school performance. Several major cross-sectional studies have linked excessive screen time to poor performance in school, attention problems, and diagnosed issues, such as attention deficit hyperactivity disorder (e.g., Anderson & Dill, 2000; Anderson et al., 2007; Bailey, West, & Anderson, 2011; Chan & Rabinowitz, 2006; Gentile, 2009; Kronenberger et al., 2005; Sharif & Sargent, 2006; Swing, Gentile, Anderson, & Walsh, 2010). Longitudinal studies have provided a stronger foundation for asserting that exposure to screen media causes these issues (e.g., Anderson et al., 2007; Christakis, Zimmerman, DiGiuseppe, & McCarty, 2004; Gentile et al., 2012; Swing et al., 2010). One experimental study shows that providing elementary school children with a video game system causes a decline in academic performance (Weis & Cerankosky, 2010), and others suggest that training nongamers on fast-paced violent games can cause a decrease in proactive cognitive control (Swing & Anderson, 2012).

Brain Studies of Media Effects on Attention

Similarly, brain imaging studies suggest that certain types of screen media affect brain regions involved in cognitive, behavioral, and affective control (e.g., Bailey et al., 2011; Bartholow, Sestir, & Davis, 2005; Hummer et al., 2010; Mathews et al., 2005). These and other experimental and cross-sectional studies provide evidence that media violence exposure modifies children's, adolescents',

and young adults' brains over both short- and long-term durations, in a manner consistent with greater desensitization and reduced cognitive, behavioral, and affective control (e.g., Gentile, Swing, Anderson, Rinker, & Thomas, 2015; Hummer, 2012; Swing & Anderson, 2012). These and other studies suggest that playing violent video games or watching violent film clips reduces the brain's response to negative or violent stimuli, and that playing a violent video game reduces subsequent prefrontal cortex activity during tasks measuring behavioral or emotional control.

Positive Effects of Entertainment Screen Media

Another recent trend has been to study potential positive effects of various types of screen media. For example, there is a growing body of research suggesting that prosocial media can produce increases in helping behavior (e.g., Gentile et al., 2009; Greitemeyer, 2011). There is also a long history of research demonstrating positive uses of screen media in education and socialization. Such effects include positive educational and socialization effects of widely available television shows specifically designed to have such effects, such as *Sesame Street*, *Barney & Friends*, *Blues Clues*, *Dora the Explorer*, and *Mr. Rogers Neighborhood* (e.g., Anderson et al., 2000; Linebarger & Walker, 2005). Use of educational and socialization screen media specifically designed for classroom or individual use have also been well documented (for reviews, see Murphy et al., 2002; Prot, Anderson, Gentile, Brown, & Swing, 2014; Singhal, Cody, Rogers, & Sabido, 2004). Several video games designed to improve health behaviors of young patients with diseases such as diabetes and cancer have been shown to have positive effects (e.g., Brown et al., 1997; Kato, Cole, Bradlyn, & Pollock, 2008).

Possible Courses of Action by Parents, Industry, Child Advocacy Groups, and Policy Makers

Most public policy attention has focused on restricting children's access to violent media. This approach has significant political and legal challenges in many countries, especially the U.S. It might be more fruitful at this point in time to put efforts into strengthening media ratings and classifications, implementing media literacy programs for children, and improving public education about the effects of media on children (Anderson & Gentile, 2008; Gentile, Humphrey, & Walsh, 2005; Gentile, Saleem, & Anderson, 2007).

Improve Media Rating Systems

Several studies have demonstrated that most countries' current age-based ratings have serious problems (e.g., Gentile, 2008; Gentile, Maier, Hasson, &

de Bonnetti, 2011; Thompson & Haninger, 2001; Thompson, Tepichin, & Haninger, 2006). For example, the rating systems assume that cartoonish, blood-free media violence has no harmful effects on children and adolescents, an assumption that has been proven false many times. Part of this problem, at least in the U.S., is that the rating systems were created and are controlled by the media industries themselves, rather than by unbiased experts from the research community.

Furthermore, the ratings systems used in the U.S. for different types of media are confusing to parents. They become a kind of alphabet soup, with different letters and criteria used for different types of media: Television: TV-Y, TV-G, TV-PG, TV-14, TV-MA; FV, V, S, L, D. Pay television: AC, AL, GL, MV, V, GV, BN, N, SSC, RP. Movies: G, PG, PG-13, R, NC-17. Video games: EC, E, E10+, T, M, AO. In addition, age-based systems may act as magnets to attract older children to violent media (Bushman & Cantor, 2003). By way of contrast, some countries (e.g., the Netherlands) utilize a Board comprised of media researchers and professionally trained raters to assign ratings. The resulting systems typically have clear ratings indicators, are uniform across different types of media, base the ratings on known impacts on child development, and are well-regarded by parents. U.S. ratings, if based on a similar system, could become clearer, more accurate, more reliable, and more accessible. Especially if linked to increased public education about the importance of ratings, an improved system could be greatly beneficial to parents and to U.S. society in general.

Expand Media Literacy Programs

The American Academy of Pediatrics (2009) has recommended that parents allow no screen time for infants up to at least 2 years of age, limit school children's recreational screen time to no more than 2 hours per day, and both monitor and coview content with their children. However, coviewing by itself has been shown to be insufficient. More active forms of coviewing by the parent, sometimes called "mediation," seem to reduce viewing time and the harmful effects of violence media. Parents can explore nonviolent solutions, teach prosocial and nonviolent values, and explain why violence is undesirable, impractical, and does not work well in the real world.

Children and adolescents can be taught "critical viewing skills" in schools so that they learn to better interpret what they see in the media. They can also be taught that, as with food's impact on the body, media has an impact on every person's thoughts, feelings, and behaviors, and that a "healthy" and moderate media diet is optimal. Rather than simply focusing on media skills, active teaching of nonviolent values and prosocial problem-solving skills is more likely to yield positive benefits.

Develop More Prosocial Programming

We recommend that the media industry create more programs that show alternatives to aggressive interactions, or place more emphasis on the negative consequences of aggressive, violent, and other forms of antisocial behavior. The industry should cooperate with media violence experts for assistance in producing interesting products that promote the public good, as exemplified by Albert Bandura's work with serial dramas (Smith, 2002).

Fund Public Education Programs

Our professional organizations must continue educating the public. Policy statements on media effects are essential to informing the public and the press about media violence as a potential risk factor for real-world aggression. However, considerably more must be done; numerous studies show that the message is not having sufficient impact on parental behavior. Frequent public service announcements would be one way that media industries and scientific societies could aid in educating the general public about this public health issue.

Government Intervention and Industry Cooperation

To date, media industries in the U.S. (and in some other countries) have consistently resisted efforts to reduce exposure of children and adolescents to known harmful media products. The existing rating systems described earlier came into being only after Congress threatened governmental action. Certainly, there are people of conscience in each industry who actively work to improve their products and their rating systems, and there are excellent examples of cooperation between small segments of the industry and child development experts (e.g., Sesame Street). But the pressure for profits makes it difficult for them to have much success. We believe that public policy makers must work with the video game, television, music, and film industries to create a nongovernmental body of child and adolescent development experts to oversee the creation and implementation of the policy recommendations described in this section. Such a body could be funded either by general taxes, or by a special entertainment media tax. This group should be overseen by the major scientific research organizations that have expertise in this domain.

If the media industries do not choose to cooperate in such an endeavor, then we would urge public policy makers to create such an organization without industry assistance or input. The basic tasks would remain the same: to create and implement a scientifically based media products rating system, to expand media literacy programs, to promote the development and distribution of more prosocial

products, and to develop and fund public education programs concerning media effects on youth and society.

Summary

Basic psychological theory, from the cognitive, developmental, educational, neuroscience, social, and personality domains, as well as decades of empirical studies, show that every consumer of media is likely affected in some way. It is indefensible to claim that there is no good evidence for any effects of violent media, but neither do we claim that violent media are the primary cause of violent and antisocial behavior. What is supported by the vast body of research is the following: Media violence is an important causal risk factor for increased aggression and violence in both the short and long term. Moreover, media violence is one of the few known risk factors that parents, caregivers, and society in general can reduce at very little cost.

Therefore, Be It Resolved that Society for the Psychological Study of Social Issues

1. Encourages policy makers to create and implement a scientifically based media products rating system.
2. Encourages the expansion of scientifically based media literacy programs.
3. Encourages the media industries to promote the development, evaluation testing, and distribution of more prosocial products.
4. Encourages the media industries to develop and fund public education programs concerning media effects on youth and society.
5. Encourages federal and private not-for-profit funding for:
 - Large-scale longitudinal studies investigating how media violence combines with other risk and protective factors to influence the likelihood of extreme violent behavior and its precursors.
 - Randomized controlled studies of intervention programs designed to reduce the harmful effects of media violence.

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Note: This bibliography is intended to be a representation of the primary sources used by the committee in preparing this report. References in **bold** typeface are general reviews.

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CRAIG A. ANDERSON, Ph.D., Stanford University, 1980, is a Distinguished Professor of Psychology at Iowa State University; Director, Center for the Study of Violence; and former President of the International Society for Research on Aggression. His 200+ publications have been cited over 25,000 times. His 2007 book *Violent Video Game Effects on Children and Adolescents* included the first longitudinal study of this topic. He is considered by many to be the world's leading expert violent video game effects. His General Aggression Model has been applied to clinical, social, personality and developmental psychology; pediatrics; criminology; war and climate change, among other fields.